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# HAND-BOOK

OF

# THE INDIAN FLORA;

BEING A GUIDE TO ALL THE

FLOWERING PLANTS

HITHERTO DESCRIBED AS INDIGENOUS TO THE

CONTINENT OF INDIA.

By

Lieut.-Colonel Heber Drury,

AUTHOR OF THE

USEFUL PLANTS OF INDIA.

VOL. I.

Sold by Mr. J. HIGGINBOTHAM, Mount Road, Madras.

Travancore Sircar Press.

1864

To

HIS HIGHNESS

RAMAH VURMAH

MAHARAJAH OF TRAVANCORE

A PRINCE

WHO

WITH A MIND ENLIGHTENED BY EDUCATION

AND

GUIDED BY TASTE AND FEELING

HAS ALWAYS EVINCED A DESIRE

FOR THE DIFFUSION OF KNOWLEDGE

BOTH IN AND BEYOND THE LIMITS OF HIS OWN

BEAUTIFUL COUNTRY

This Work is

WITH PERMISSION

Dedicated

BY HIS HIGHNESS' FAITHFUL AND

OBEDIENT SERVANT

THE AUTHOR.

# PREFACE.

The increasing interest taken in Botanical pursuits in this country will, it is hoped, be a sufficient guarantee for the favourable reception of the present work. It is intended to offer to the student a manual of the Flora of the Continent of India south of the Himalayas, including the countries of Silhet, Assam and Chittagong to the eastward. A work of so comprehensive a character is at present a great desideratum, though we possess several local Floras of much value; and however premature it might be considered, even now, to announce a complete descriptive catalogue of plants growing over so extensive an area as that contemplated, yet certainly there exist ample materials, which when carefully sifted and brought together, will make up a very considerable collection.

The descriptions are limited to those Plants which are purely indigenous to the country, all those which have been introduced and naturalized, being purposely omitted. In all cases the synonyms have been included, though it has not been deemed necessary to give more than one or two references of identification, and the selection whenever practicable, both in this as in the case of the engravings, has been from the works of writers on Indian Botany.

As the work is intended to be practically useful to all classes and localities, an index of vernacular synonyms in five different languages is added, since the identification of a plant by the method of first ascertaining its native name, if not invariably successful in practice, will in most cases be so, and thus afford the greatest assistance to beginners.

Every one must be aware how great are the disadvantages of a remote station in India where no libraries are available for

reference, and where rarely one can enjoy any personal communication with those whose pursuits are congenial to his own. Under these circumstances the Author would here claim indulgence for the faults and omissions which must necessarily be discovered in a work of this character.

H. D.

*Trevandrum,*
*March*, 1864.

# PRINCIPAL ABBREVIATIONS USED IN THIS VOLUME.

*Andr. bot. rep.*—The Botanist's Repository, by Henry Andrews.

*Benth.*—Bentham's elaboration of Dr. Wallich's Melastomaceæ and other orders.

*Blume.*—The author of the Flora Java and Bijdragen. tot. ded. Flora. van Nederlandsche Indie.

*Bot. Mag.*—Curtis's Botanical Magazine.

*Bot. reg.*—Ker's Botanical register.

*Br. or R. Br.*—Robert Brown, the famous English Botanist.

*Burm. Ind.*—Burmann's Flora Indica.

*Burm. Zeyl* —Burmann's Thesaurus Zeylanicus.

*Cav. diss.*—Monadelphiæ classis dissertationes decem. by A. J. Cavanilles.

*Cham. & Schlecht* —A. v. Chamisso and Dietr. v. Schlechtendal who published conjointly some Botanical papers in a Journal called the Linnæa.

*Chois* —J. D. Choisy who elaborated several orders in De Candolle's Prodromus.

*Colebr.*—H. T. Colebrooke, who published several Memoirs in the Linnæan Society's Transactions and in the Asiatic Researches.

*Coult* —Thomas Coulter, who elaborated the Dipsaceæ for De Candolle's Prodromus.

*Dalz. Bomb. flor.*—The Bombay Flora, by N. A. Dalzell, and A. Gibson.

*Dec.*—Prof. Aug. Pyr. De Candolle, author of the Prodromus Systematis Naturalis Regni Vegetabilis and other works.

*Desr.*—Desrousseaux, a writer in Lamarck's Encyclopedie.

*Desv.*—N. A. Desvaux, author of the Journal de Botanique, &c.

*Don. prod. flor. Nep.*—D. Don, author of the Prodromus Floræ Nepaulensis.

*Don's Mill* —G. Don, author of an edition of Miller's Dictionary.

*Dun.*—M. F. Dunal, author of a Monograph of the Family of Anonas and other Memoirs.

*Gærtn. fr.*—Jos. Gærtner, who wrote a work De Fructibus et Seminibus Plantarum, in 2 vols. 4to.

*Grah.*—Dr. Robert Graham, who described Dr. Wallich's Leguminosæ.

*Ham.*—Dr. Francis Hamilton (formerly Buchanan) who published papers in the Linnæan Society's Transactions and elsewhere, besides a Journey to Mysore.

*Herb. Banks.*
*Klein.* (or *Madras*)
*Rottler.*
*Smith.*
} These allude to the names given to the plant in the Herbaria of the respective Botanists mentioned or to the species named by them.

*Hook bot. Misc.*—Hooker's Botanical Miscellany, 3 vols., afterwards continued under the title of Journal of Botany.

*H. F. & T.*—Dr. J. D Hooker and T. Thomson, authors of the Flora Indica and Præcursores ad Floram Indicam in the Journal of the Proceedings of the Linnæan Society.

*Jack* —Dr. W. Jack, author of valuable papers in the L. S. Transactions.

*Jacq.*—Professor N. V. von Jacquin, author of Icones Plantarum Rariorum and other works.

*Juss* —Bernard de Jussieu, author of Genera Plantarum and Adrian de Jussieu, who elaborated several Natural Orders.

*Koen* —J. G Koenig, one of the earliest of Indian scientific Botanists, who was Physician to the Tranquebar Missions.

*Lam* —J. B. M de Lamarck, Editor of the Botanical section of the Encyclopedie Methodique. The Plates accompanying that work are usually styled Illustrations de Genres (*Lam ill.*)

*L'Her.*—C. L. L'Heritier, author of Stirpes Novæ aut Minus Cognitæ.

*Lour.*—J. de Loureiro, author of the Flora Cochinchinensis.

*Pers. syn.*—C. H. Persoon, author of Synopsis Plantarum.

*Pluk* —Leonard Plukenet, whose works are, Phytographia, Almagestum Botanicum, Mantissa, and Amaltheum.

*Poir.*—J. L. M Poiret, one of the principal writers in Lamarck's Encyclopedie.

*Retz. Obs.*—A. J. Retz, author of Fascienlus Observationum Botanicarum.

*Rheede Mal* —Rheede's Hortus Malabaricus, 12 vols. folio.

*Roem. & Schult* —J J. Roemer and J A. Schultes, authors of the Linnæi Systema Vegetabilium.

*Roth. nov. sp.*—A. W. Roth, Novæ Plantarum Species, Præsertim Indiæ Orientalis.

*Roxb.*—Roxburgh, (Dr. W.) Plants of the Coast of Coromandel, Flora Indica and Hortus Bengalensis, a Catalogue of the Calcutta Garden.

*Rumph. Amb.*—Rumphii Herbarium Amboynense, 6 vols. folio.

*Sm. in Rees' Cycl.*—Sir James Edward Smith, who published some valuable notes on Indian Plants in Rees' Cyclopædia.

*Spr.*—Sprengel's Systema Vegetabilium.

*Vahl.*—Professor Martin Vahl, author of Symbolæ Botanicæ and Enumeratio Plantarum.

*Voigt.*—C. J. Voigt's Hortus Suburbanus Calcuttensis, 8vo.

*Wall.*—Wallich, (Dr. N.) late Superintendent of the Botanic Garden of Calcutta. His works are Plantæ Asiaticæ Rariores and List of East India Plants.

*Walp. Rep. & Ann.*—G. G. Walper's Repertorium Botanicæ Systematicæ and Annales Botanices Systematicæ, xi. vols., 8vo.

*W. & A.*—Wight and Arnott's Prodromus Floræ Peninsulæ Indiæ Orientalis, 8vo., vol. I. all published.

*Willd.*—Professor C. L. Willdenow, author of Linnæi Species Plantarum and other works.

# ORDER I. RANUNCULACEÆ.

Herbaceous, rarely shrubby plants: leaves alternate, or opposite, usually divided: petiole dilated, forming a sheath half-clasping the stem: sepals distinct, usually 5, generally imbricate in æstivation, sometimes valvate: petals 3–15, distinct, sometimes wanting: stamens indefinite, distinct, hypogynous: anthers adnate: carpels numerous, consisting of achenia sometimes baccate or follicular, 1–2-valved: seeds albuminous.

## GENUS I. CLEMATIS.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Klema*, a vine branch, because most of the species have a climbing habit.

Gen. Char. Perennial plants with opposite simple or trifoliolate leaves, with a terminal leaflet: involucre none, or calyciform: sepals 4–8, valvate in æstivation, coloured and petal-like: petals wanting: stamens numerous, 1-seeded, terminated by a long feathery tail: flowers panicled.

### (1) C. Gouriana. (*Roxb.*)

*Ident.* Dec. prod. I. p. 3.—Roxb. fl. Ind. II. p. 670.—W. & A. prod. I. p. 2.

*Syn.* C. Indica, *Heyne.*

*Engrav.* Wight's Icon. t. 933–4.—Spicil. I. t. 1–2.

Spec. Char. Stem climbing: leaves pinnate or bipinnate: leaflets ovate-lanceolate, acuminated, cordate at the base, entire or coarsely serrated: peduncles and achenia pubescent: flowers smallish, white.

Neilgherries and other mountain ranges throughout India. Mysore. Flowering towards the end of the year.

### (2) C. triloba. (*Heyne.*)

*Ident.* Dec. prod. I. p. 8.—W. & A. prod. I. p. 2.—Roth, nov. sp. p. 251.

Spec. Char. Stem climbing: lower leaves simple, middle ones 3-lobed, upper of 3 leaflets: segments ovate-lanceolate: young branches and peduncles covered with silky down: sepals oblong-lanceolate: flowers largish, white.

Mountains of the Deccan in the Mawul district, flowering in September.

(3) C. WIGHTIANA. (*Wall.*)

*Ident.* W. & A. prod. I. p. 2.

*Engrav.* Wight's Icon. t. 935.—Spicil. I. t. 3.

SPEC. CHAR. Stem climbing, pubescent: leaflets softly villous on both sides, coarsely serrated, cordate at the base, 3-lobed, middle one the largest, or again divided into lanceolate segments: achenia very pubescent, compressed: sepals very pubescent on the outside: filaments hairy: flowers greenish.

Neilgherries. Mahableshwur. Low hills in the Northern Circars.

(4) C. SMILACIFOLIA. (*Wall.*)

*Ident.* Dec. prod. I. p. 10.—Wall. in As. Res. XIII. p. 414.

*Syn.* C. Munroiana, *Wight.*—C. affinis, *do.*—C. subpeltata, *Wall.*—C. smilacina, *Blume.*—C. glandulosa, *Blume.*

*Engrav.* Wight's Ill. I. t. 5.—Wall. pl. As. Rar. t. 20.—Blume Bidjr. I.—Hook. Bot. Mag. No. 4259.

SPEC. CHAR. Climbing, glabrous: leaves simple or ternate, cordate-ovate, entire, purple beneath: panicles axillary, many-flowered: sepals oblong, acute, spreading or reflexed, rusty brown externally: styles long, feathery: flowers largish, white.

Khasia mountains. Neilgherries. Travancore Hills and Western ghauts. Flowering in September.

(5) C. CADMIA. (*Ham.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 5.

*Syn.* Thalictrum bracteatum, *Roxb. fl. Ind.* II. *p.* 671.

SPEC. CHAR. Climbing: leaves opposite, 2–3-ternate: leaflets cordate, ovate, entire: peduncles axillary, solitary, 1-flowered, with two opposite cordate bracts above the base: sepals 5–6, oblong, acutish: petals lanceolate, expanding: seeds with a sharp stiff back: stamens much shorter than the sepals: flowers pale blue.

Bengal and Assam, flowering in the cold season.

(6) C. ACUTANGULA. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 5.

SPEC. CHAR. Branches sparingly clothed with bristly hairs, deeply furrowed, ribs very acute: leaves pinnately decompound: segments ovate-lanceolate, rounded at the base or cuneate, coarsely serrated: pedicels shorter than the leaves, bibracteate at the base: bracts somewhat leafy, 3-partite or simple: sepals oblong, acutish, pubescent outside, glabrous within: filaments membranaceous, strongly 1-nerved, hairy at the back: hairs forming a thick fascicle

above the linear introrse anthers: connectivum not dilated: achenia compressed, oval, clothed with silky hairs.

Khasia mountains, flowering in August.

(7) C. MONTANA. *(Ham.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 6.—Dec. prod. I. p. 9.

*Syn.* C. anemoniflora, *Don. prod.* 192.

*Engrav.* Wall. pl. As. Rar. III. t. 217.

SPEC. CHAR. Branches glabrous, rarely silky: leaves long-petioled, tripartite; leaflets ovate, acute or acuminated, coarsely toothed or lobed: sepals elliptic or ovate, white, glabrous or hairy outside: pedicels equalling or longer than the leaves: stamens shorter than the sepals: filaments smooth, narrow-ligulate, glabrous: achenia silky, with long tails: flowers largish, fragrant.

Khasia mountains, flowering in April and May.

(8) C. NUTANS. *(Royle.)*

*Ident.* Royle's Ill. p. 51.—Hook. & Thoms. Flor. Ind. I. p. 10.

SPEC. CHAR. Branches angled, silky: leaves pinnately decompound: segments ovate, oblong or lanceolate, quite entire, toothed or variously lobed: panicles many-flowered, branched, with small bracts: sepals oblong-acute, pubescent outside: filaments somewhat hairy at the base, filiform above the middle: achenia ovate, compressed, silky.

Khasia mountains, flowering from July to September.

## GENUS II. NARAVELIA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Narawael*, the Singhalese name.

GEN. CHAR. Perennial climbing plants with opposite leaves consisting of two leaflets with an intermediate tendril: involucre none: sepals 4–5, valvate in æstivation: petals 6–12, linear, longer than the calyx: achenia several in each flower, thick stalked: seed erect.

N. ZEYLANICA. (*Dec.*)

*Ident.* Dec. prod. I. p. 10.—W. & A. prod. I. p. 2.

*Syn.* Atragene Zeylanica, *Linn. Roxb. fl. Ind.* II. *p.* 670.

*Engrav.* Roxb. Cor. II. t. 188.—Rheede Mal. VII. t. 52.

SPEC. CHAR. Leaflets broadly-ovate, shortly acuminated: achenia spirally twisted, hairy, with a long feathery tail: leaves usually

densely pubescent on the under side: flowers middle sized, yellowish.

Southern Ghauts. Travancore. Assam. Silhet. Bengal. Flowering in the rainy season.

## GENUS III. THALICTRUM.

**Polyandria Polygynia.** *Sex. Syst.*

*Deriv.* From *Thallo*, to grow green, alluding to the bright colour of the young shoots.

Gen. Char. Herbaceous, never climbing: leaves alternate, generally much divided: petiole dilated at the base: sepals 4–5, imbricated in æstivation: petals none: achenia several, without a tail, stalked, sometimes furrowed: seed pendulous.

### (1) T. GLYPHOCARPUM. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 2.

*Engrav.* Wight's Icon. t. 48.

Spec. Char. Flowers bisexual: leaves triternate, fringed at the base: leaflets wedge-shaped, glabrous coarsely toothed: panicles few-flowered: achenia stalked, deeply furrowed, terminated by the hooked style.

Neilgherries. Khasia mountains. Flowering from July to September.

### (2) T. Dalzellii. (*Hook.*)

*Ident.* Dalz. Bomb. flor. p. 2.

*Engrav.* Hook. Ic. Pl. t. 856.

Spec. Char. Height one foot: leaves ternately divided: leaflets large, rounded, kidney-shaped, deeply cordate, crenato-lobate: panicle small, flowers in clusters: seeds oblong, furrowed.

East side of Hurrychunder, Bombay.

### (3) T. Chelidonii. (*Dec.*)

*Ident.* Dec. prod. I. p. 11.—Hook. & Thoms. Flor. Ind. I. p. 13.

Spec. Char. Herbaceous: leaves ternately decompound: leaflets roundish, crenato-lobate, cordate at the base, glaucous beneath: sepals elliptic, obtuse: filaments filiform, scarcely dilated at the apex: anthers mucronate: panicles large, terminal, branches at length elongated, racemiform, almost leafless: stipules of the lower leaves large, adhering to the petioles: flowers long-pedicelled, largish, purplish, or often a beautiful purple: achenia numerous, dolabriform long-stalked, 3-nerved on either side, and apiculated with the straight or incurved style.

Khasia mountains, flowering in July and August.

(4) T. FOLIOLOSUM. (*Dec.*)

*Ident.* Dec prod. I. p. 12.—Hook. & Thoms. Flor. Ind. I. p. 16.—Don. prod. 192.—Royle's Ill. 51.

SPEC. CHAR. Polygamo-dioecious: erect, branched: leaves large, supra-decompound; leaflets very numerous, small, oval, cut and lobed: petioles auricled at the base: sepals oblong, obtuse, 5–7-nerved, pale green, or brownish-purple: stamens numerous: filaments filiform: anthers mucronate: panicles much branched, leafless: bracts small: achenia few, oval-oblong, acute at both ends, narrowly ribbed.

Khasia mountains, flowering in August and September.

(5) T. PUNDUANUM. (*Wall.*)

*Ident.* Wall. pl. As. Rar. II. p. 26.—Hook. & Thoms. flor. Ind. I. p. 18.

SPEC. CHAR. Herbaceous, erect: leaves biternate, lower ones long-petioled, middle ones often irregularly divided: leaflets large, roundish, crenated, somewhat 5-lobed: petioles auricled at the base: sepals 4, elliptic-oblong: filaments filiform: anthers scarcely apiculated: panicles terminal, divaricately branched, almost leafless: achenia numerous, oblong, sessile, furrowed, with glandular hairs or quite glabrous and beaked with the straight or hooked style.

Khasia mountains, flowering in August and September.

## GENUS IV. ANEMONE.

**Polyandria Polygynia.** *Sex. Syst.*

*Deriv.* From *Anemos*, the wind, as many species are said to inhabit open and windy localities.

GEN. CHAR. Herbaceous, with perennial root: leaves radical, more or less cut or divided: scape when branched bearing involucres at each division: involucre 3-leaved, distant from the flower: sepals 5–15: petals none: seed pendulous.

(1) A. RIVULARIS. (*Ham.*)

*Ident.* Hook. & Thoms. flor. Ind. I. p. 23.—Dec. prod. I. p. 21.

*Syn.* A. Wightiana, *Wall. W. & A. prod.* I. p. 13.

*Engrav.* Hook. Ic. t. 176.—Wight's Icon. t. 936.—Spicil. I. t. 4.

SPEC. CHAR. Clothed with silky hairs: leaves long-petioled, tripartite: divisions deeply 3-cleft: segments deeply 3-lobed: lobes irregularly cut and serrated: involucral leaves deeply 3-cleft: divisions 3-cleft: segments linear-oblong, cut and serrated: sepals

6–8: achenia glabrous: style hooked, persistent: flowers white, purple outside.

Khasia mountains. Neilgherries. Flowering from May to August.

(2) A. ELONGATA. (*Don.*)

*Ident.* Don. prod. 194.—Hook. & Thoms. flor. Ind. I. p. 25.

SPEC. CHAR. Stem erect, glabrous or slightly pubescent: leaves tripartite, long-petioled: middle segment 3-lobed, lateral ones 2-lobed, coarsely cut and serrated: involucres small, 3-leaved: peduncles dichotomous or imperfectly umbellate, the terminal one without involucels, the lateral ones with a small 1–3-leaved involucel, simple or umbellate: achenia few, oval or orbiculate, somewhat oblique, narrow-winged and beaked with the short straight style.

Khasia mountains.

## GENUS V. RANUNCULUS.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Rana*, a frog, many species being found in moist places where those reptiles live.

GEN. CHAR. Herbaceous plants, with annual or perennial roots: leaves mostly radical, cauline ones seated at the base of the branches or peduncles: sepals 5, not free at the base, deciduous: petals 5, rarely 10: achenia ovate, pointed, somewhat compressed: seed erect.

(1) R. RENIFORMIS. (*Wall.*)

*Ident.* W. & A. prod. I. p. 3.—Hook. & Thoms. flor. Ind. I. p. 30.

*Engrav.* Wight's Ic. t. 75.—Ill. I. t. 2.

SPEC. CHAR. Erect, hairy: radical leaves roundish-ovate, coarsely crenated: lower scape-leaf toothed, narrowed at the base into a petiole, upper ones nearly linear: petals 10–13, twice as long as the calyx: heads of fruit globose: achenia oblong, tumid: style nearly straight: flowers yellow.

Pulney Hills. Neilgherries. Flowering in September.

(2) R. SUBPINNATUS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 4.

*Engrav.* Wight's Ic. t. 49.

SPEC. CHAR. Diffuse, branched, hairy: radical leaves tripartite: lateral divisions, sessile, middle one stalked, all deeply 3-cleft: segments cut and serrated: petals twice as long as the villous calyx:

heads of fruit globose: achenia roundish, lenticular: style short, straight: flowers yellow.

Neilgherries.

(3) R. Wallichianus. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 4.

*Syn.* R. pinnatus, *Wight's Ill.* I. *p.* 6.

*Engrav.* Wight's Ic. t. 937.—Spicil. I. t. 5.

Spec. Char. Perennial, glabrous, prostrate, with a tendency to root at the joints: leaves and petioles hairy: radical leaves trifoliate: leaflets 3-cleft: segments cut and serrated: peduncles hairy, scarcely longer than the petioles: petals as long as the calyx: heads of fruit globose: achenia roundish, compressed-lenticular, tuberculated: style hooked: flowers yellow.

Moist woods on the Neilgherries, flowering in May and June.

(4) R. sceleratus. (*Linn.*)

*Ident.* Dec. prod. I. p. 34.

*Syn.* Hecatonia palustris, *Lour. fl. Coch. p.* 371.—R. Indicus, *Roxb. fl. Ind.* II. *p.* 671.

*Engrav.* Curt. Lond. II. f. 45.—Engl. Bot. X. f. 681.

Spec. Char. Annual, 1–2 feet: stem erect, very ramous above: leaves glabrous, radical ones petioled, 3-partite: leaflets 3-lobed, obtusely cut: upper ones 3-partite: lobes oblong-linear, entire, floral ones oblong: calyx glabrous: carpels minute, arranged on an oblong spike: achenia oval, compressed: flowers small, yellow.

Moist places in Bengal, flowering in the cold season.

(5) R. aquatilis. (*Linn.*)

*Ident.* Dec. prod. I. p. 26.—Don. in Royle Ill. 54.

*Syn.* R. divaricatus *et* fluitans, *Ledeb. Fl. Ross.*—R. Pantothrix *et* fluviatilis, *Auct.*

*Engrav.* Engl. Bot. II. f. 101.

Spec. Char. Stem floating: submerged leaves many-cleft, emerged ones 3-partite: lobes wedge-shaped toothed at the apex: petals obovate, larger than the calyx: flowers white.

A variety of this species has been found about Saharunpoor.

## GENUS VI. DELPHINIUM.

**Polyandria Trigynia.** *Sex: Syst:*

*Deriv.* From *Delphin*, a dolphin, from a supposed resemblance to that animal in the nectary.

Gen. Char. Stems herbaceous: leaves alternate, palmately-multifid: flowers racemose, each pedicel with one bract at its base, and two between that and the flower: calyx irregular, the upper sepal produced downwards into a kind of spur: petals 4, sometimes united: capsules follicular, 1–5 in each flower, distinct, 1-valved: seeds several.

(1) D. altissimum. (*Wall.*)

*Ident.* Hook & Thoms. flor. Ind. I. p. 51.

*Engrav.* Wall. pl. As. Rar. II. t. 128.

Spec. Char. Stem slender, hirsute with hairs, branched, few-leaved, rarely glabrescent at the base: radical leaves very long-petioled, sparingly pubescent or somewhat glabrous on both sides, 5–7-lobed; lobes broadly-cuneate, 3-lobed and sharply toothed: floral leaves subsessile, 3-lobed, upper ones linear bracteæform: sepals oval, hairy outside: posterior petals with a subulate spur obliquely angular, 2-toothed, dark-purple, anterior ones 2-lobed, hairy: racemes lax, few-flowered: flowers large, long-pedicelled: follicles 3, pubescent.

Khasia mountains, flowering in the autumn. The flowers which are violet-coloured are very fœtid.

(2) D. dasycaulon. (*Fresen.*)

*Ident.* Fresen. Mus. senkenb. II. p. 272.—Dalz. Bomb. flor. p. 2.

Spec. Char. Stem branched: radical leaves large, kidney-shaped, 5 lobed: segments 3-lobed and deeply cut, cauline leaves 5-cleft: racemes lax, elongated: flowers blue.

Jooneer, Bombay. Flowering in August and September.

## ORDER II. DILLENIACEÆ.

Trees, shrubs, or under-shrubs, with alternate rarely opposite, ex-stipulate leaves: sepals 5, persistent, 2 exterior, 3 interior: petals 4, hypogynous, in a single row: stamens 5–10, or numerous, hypogynous: filaments dilated either at the base or apex: anthers adnate, bursting lengthwise, or by two terminal pores: ovaries definite, with a terminal style, and simple stigma: fruit of 1–5 distinct carpels, or of a similar number cohering together, either baccate, or capsular and surmounted by the

style: seeds several in each carpel, or solitary by abortion, surrounded by an aril: testa hard: embryo minute situated at the base of fleshy albumen.

## GENUS I. TETRACERA.

**Polygamia Dioecia.** *Sex: Syst:*

*Deriv.* From *Tetras*, four, and *Keras*, a horn, from the fourfold capsules resembling horns.

GEN. CHAR. Climbing shrubs, or small trees: leaves entire, alternate or toothed: flowers panicled: stamens numerous: filaments dilated at the apex: cells of the anther distinct, roundish: capsules 3–5, surrounded by the sepals: seeds 1–5, shining, arillate.

### (1) T. RHEEDII. *(Dec.)*

*Ident.* W. & A. prod. I. p. 5.—Dec. prod. I. p. 68.

*Syn.* Calophyllum Akara, *Burm. Ind. p.* 121.—T. lævis, *Vahl.*—T. Malabarica, *Lam.*

*Engrav.* Rheede Mal. V. t. 8.—Wight's Ic. t. 70.

SPEC. CHAR. Climbing: leaves oblong, quite entire, or with a few distant teeth, glabrous, smooth: nerves and veins rather prominent beneath: panicle somewhat corymbose: sepals 4, glabrous outside, silky within, ciliated: capsules shining, 1-seeded by abortion: flowers whitish, fragrant.

Travancore. South Concans. Flowering in July.

### (2) T. ASSA. *(Dec.)*

*Ident.* Dec. prod. I. p. 68.—Hook. & Thoms. flor. Ind. I. p. 63.

*Syn.* T. dichotoma, *Blume.*—T. trigyna, *Roxb. fl. Ind.* II. 645.

SPEC. CHAR. Scandent: young branches clothed with rigid hairs, rarely glabrescent: leaves oblong, acute at both ends, remotely dentato-serrate: panicles 3–12-flowered covered with rigid hairs: seeds black, shining: aril fimbriated with filiform segments covering the seeds.

Chittagong.

## GENUS II. DILLENIA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* Named after Dillenius, Professor of Botany at Oxford, and Author of the "Hortus Elthamensis."

GEN. CHAR. Trees with oblong leaves: lateral nerves parallel, usually forming sharp serratures at the margin: petioles broad at the base, half stem-clasping; stipules none: stamens numerous; anthers adnate, elongated: carpels 5–20, crowned by the styles and stigmas: seeds immersed in pulp.

(1) D. PENTAGYNA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 5.—Roxb. fl. Ind. II. p. 652.

*Syn.* Colbertia Coromandeliana, *Dec. prod.* I. *p.* 75.—Wormia Coromandeliana, *Spr. syst.* II. *p.* 631.—D. augusta and pilosa, *Roxb.*

*Engrav.* Roxb. Cor. I. t. 20.

SPEC. CHAR. Leaves broadly lanceolate, sharply toothed, appearing after the flowers: peduncles from the axils of the scars of the former year's leaves, several together, 1-flowered: inner row of stamens longer than the others: styles 5: flowers small, yellow.

Malabar. Mahratta Country. Assam. Flowering in April.

(2) D. SPECIOSA. (*Thunb.*)

*Ident.* W. & A. prod. I. p. 5.—Dec. prod. I. p. 76.—Roxb. fl. Ind. II. p. 650.

*Syn.* D. Indica, *Linn.*—D. elliptica, *Thunb. Dec l. c.*

*Engrav.* Rheede Mal. III t. 38, 39.—Wight's Icon. t. 823.—Rumph. Amb. II. 45.—Sm. Ex. Bot. t. 2, 3.

SPEC. CHAR. Middling-sized tree: leaves oblong, serrated, glabrous, appearing with the flowers: peduncles solitary, terminal, 1-flowered: flowers 6–9 inches in diameter: styles and carpels about 20: fruit large, round, smooth, size of a cocoanut: seeds hairy: petals white: anthers yellow.

Concans. Silhet. Bengal. Chittagong. Flowering in July.

(3) D. SCABRELLA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 653.

*Syn.* D. pilosa, *Ham. in Linn. Trans.* XV. *p.* 102.—Colbertia scabrella, *Don. prod. Nep.* 226.

*Engrav.* Wal. pl. As. Rar. I. t. 22.

SPEC. CHAR. Leaves petioled, wedge-shaped, lanceolate, acutely serrated, ribbed, rigid with hairs on both sides: flowers gold-coloured, fragrant: carpels 5–7, verticilled round a fleshy axis: seeds few.

Mountains eastward of Bengal, flowering in January.

## GENUS III. ACROTREMA.

**Polyandria Trigynia.** *Sex. Syst:*

*Deriv.* From *Akros*, summit, and *Trema*, a hole, alluding to the terminal pores of the anthers.

Gen. Char. Herbaceous low plants: leaves radical, oblong-ovate, toothed, with rough hairs on both sides: petioles dilated at the margin: peduncles radical, hairy, 8–12-flowered: flowers pedicellate, racemose: stamens 15: anthers adnate, opening by pores at the summit: ovaries 3, distinct, each terminated with a style and stigma: ovules 2 in each cell: carpels 3, capsular.

(1) A. costatum. (*Jack.*)

*Ident.* Jack. Mal. Misc.—Hook. Bot. Misc. II. 82.—Hook. & Thoms. fl. Ind. I. p. 65.

*Syn.* A. Wightianum, *W. & A. prod.* I. *p.* 6.—*Ill.* I. *p.* 9.

Spec. Char. Leaves sprinkled with rigid hairs, otherwise glabrous, dentato-serrate, pale beneath: petioles very short, auricled, sheathing: scapes (with the pedicels and calyxes) hairy, flower-bearing above the middle: flowers yellow.

Padenaveram, in Travancore.

(2) A. Arnottianum. (*R. W.*)

*Ident.* Wight's Ill. p. 9.—Hook. & Thoms. flor. Ind. I. p. 64.

*Engrav.* Wight's Ill. t. 3.

Spec. Char. Leaves sprinkled with rigid hairs, obovate, sharply toothed, cordate at the base, long-ciliated and covered with lax hairs on both sides especially above the nerves, otherwise glabrous: petioles broad-winged, sheathing: racemes axillary or in the axils of the fallen leaf: bracts ovate, entire or 2-lobed, membranaceous, brown, with lax hairs, at length nearly glabrous: pedicels with the calyxes slightly hirsute: flowers yellow.

Malabar and Courtallum, flowering in August.

## GENUS IV. DELIMA.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Delimo*, to file. The leaves are used for polishing wood.

Gen. Char. Flowers hermaphrodite: sepals 5: petals 4–5: ovary solitary, somewhat globose, depressed, attenuated into a subulate style: ovules 2–3, ascending from the base: follicle oval, dehiscing from the inner angle: seed solitary, surrounded with a denticulate cup-shaped aril.

(1) D. SARMENTOSA. *(Linn.)*

*Ident.* Hook. & Thoms. flor. Ind. I. p. 61.—Dec. prod. I. p. 69.

*Syn.* D. intermedia, *Blume.*—Actæa aspera, *Lour.*—Tetracera sarmentosa, *Willd. Roxb. fl. Ind.* II. *p.* 645.—Trachytella actæa, *Dec. prod.* I. *p.* 70.—Leontoglossum scabrum, *Hance. in Walp. Ann.* II. *p.* 18 and III. *p.* 812.

*Engrav.* Burm. Flor. Ind. t. 37. f. 1.—Bot. Mag. t. 3058.

SPEC. CHAR. Climbing shrub: leaves obovate, oval-oblong or broad-lanceolate, obtuse or acute with somewhat prominent parallel numerous nerves, very scabrous and on both sides together with the branches sparingly covered with adpressed hairs, entire, somewhat crenated or serrated: serratures mucronate: sepals reflexed: panicles divaricately branched, hairy or tomentose, many-flowered.

Chittagong. Silhet and Assam.

## GENUS V. WORMIA.

**Polyandria Pentagynia.** *Sex: Syst:*

*Deriv.* Named after Olaus Wormius, a famous Danish Philosopher and Naturalist.

GEN. CHAR. Sepals 5, coriaceous: petals 5: anthers adhering by the base, linear, dehiscing by pores at the apex, all equal in size, or the inner ones elongated, recurved: ovaries 5–10, many-ovuled, scarcely cohering at the axis, terminated by the long subulate styles: carpels at length dehiscing at the ventral suture: seeds arillate.

(1) W. BRACTEATA. *(H. F. & T.)*

*Ident.* Hook. & Thoms. flor. Ind. p. 68.

*Syn.* Dillenia bracteata, *Wight.*

*Engrav.* Wight's Icon. t. 358.

SPEC. CHAR. Tree: branchlets and young parts silky: leaves collected at the ends of the branches, with frequent oblique parallel nerves, glabrous and shining above, pale beneath, pubescent and at length almost glabrous: racemes leaf-opposed: bracts obovate-spathulate: sepals oval, silky at the back: petals obovate: ovaries 5: follicles 5, membranaceous: seeds obovate: aril small, fleshy: flowers yellow.

Balaghaut mountains, in Mysore.

## ORDER III. MAGNOLIACEÆ.

Trees or shrubs with alternate coriaceous leaves: stipules deciduous: sepals 3–6, deciduous: petals hypogynous, 3–27, in several rows: stamens hypogynous, distinct: anthers adnate, bursting lengthwise: flowers solitary, usually very fragrant: carpels several: ovules one or more, ascending or suspended: fruit consisting of several carpels, dry or succulent, dehiscent or indehiscent, collected upon a lengthened axis, and sometimes ending in a wing: seeds solitary, often with an aril, and occasionally suspended by a slender cord: embryo minute: albumen fleshy.

### GENUS I. MICHELIA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Micheli*, a Florentine Botanist.

Gen. Char. Trees with entire petioled leaves and axillary flowers: carpels arranged on a loose spike, 2-valved, opening downwards from the apex: seeds several, externally fleshy.

#### (1) M. Nilagirica. *(Zenker.)*

*Ident.* Wight's Ill. I. p. 14.—Zenker. pl. Ind. p. 20.

*Syn.* M. Pulneyensis, *Wight. Ill.* I. *p.* 14.—M. ovalifolia, *Wight. l. c. p.* 13.

*Engrav.* Wight's Spicil. I. t. 6.—Ic. t. 938.—Ill. I. t. 5.

Spec. Char. Leaves elliptic, glabrous, acuminated: stipules and spathes silky: petals 8, in two rows: stamens shorter than the column of fructification: carpels 1-seeded, warty: ovaries numerous, 1-ovuled: flowers white, sometimes with a tinge of yellow.

Neilgherry Hills, flowering during the rains.

#### (2) M. excelsa. *(Blume.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 80.—Wight's Ill. I. p. 14.

*Syn.* Magnolia excelsa, *Wall. tent. Flor. Nep. p.* 5.

*Engrav.* Wall. l. c. t. 2.

Spec. Char. Large tree: branchlets wrinkled and scattered with callous points: leaf-buds brown-pubescent: leaves coriaceous, acute or acuminate, shining above, covered with silky reddish to-

mentum below: stipulary areolæ extended a little beyond the middle of the petiole: flower-buds subsessile, densely covered with brown tomentum, involute with many deciduous spathes: sepals 3, obovate, coriaceous: petals 9–10, narrow-obovate, inner ones by degrees narrower and shorter: carpels loosely disposed towards the rachis, subsessile: seeds 1–4: flowers white.

Khasia hills, flowering in April and May.

(3) M. LANUGINOSA. *(Wall.)*

*Ident.* Wall. tent. Flor. Nep. p. 8.—Hook. & Thoms. Flor. Ind. I. p. 80.

*Syn.* M. velutina, *Dec. prod.* I. *p.* 79.

SPEC. CHAR. Younger branchlets tomentose, new ones with the leaf-buds and petioles densely straw or ashy-tomentose: leaves lanceolate or oblong: peduncles short, densely tomentose: exterior sepals and petals narrow obovate-oblong, obtuse, inner ones somewhat narrower, mucronate or acute: ovary densely tomentose: style filiform: carpels arranged on a spike, pedicelled, obovate, verrucose: seeds 1–3: flowers white.

Khasia hills, flowering in April and May.

(4) M. OBLONGA. *(Wall.)*

*Ident.* Hook. &. Thoms. Flor. Ind. I. p. 81.

*Syn.* M. lactea, *Ham. Mss.*

SPEC. CHAR. Branchlets minutely tubercled: leaves obovate-oblong, narrowed at the base, obtusely acuminated at the apex, quite glabrous on both sides, shining above, pale or glaucescent below: flowers axillary, very shortly-pedicelled, involute with many spathes: flower-buds oblong, elongated, glabrous, brown: sepals and petals 12, exterior ones narrow-obovate, interior ones lanceolate.

In woods towards the base of the Khasia hills.

(5) M. PUNDUANA. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 81.

*Syn.* Liriodendron liliifèrum, *Roxb. fl. Ind.* II. *p.* 564.

SPEC. CHAR. Lofty tree: leaves oblong, obtuse or acute at the base, abruptly acuminated at the apex, glabrous, paler beneath: stipulary cicatrix almost as long as the petiole: flower-buds ovate, short-peduncled, brown-silky: spathes 2, involucrate, outer one very deciduous, deeply 2-cleft, apiculated at the fork, never leaf-bearing: carpels loosely collected on an oblong spike, compressed, roundish: seeds 1–2.

Khasia hills, flowering in November.

## GENUS II. ILLICIUM.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Illicio*, to allure, on account of the agreeable aromatic smell and taste of the species.

Gen. Char. Flowers hermaphrodite: sepals and petals 12–36 in many rows: stamens numerous, anthers adnate: ovaries 6–15 apiculated with the subulate style: ovules solitary, ascending from the base of the cell.

### (1) I. Griffithii. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 74.

Spec. Char. Shrub 10–15 feet: younger branches angled: leaf-buds involute with numerous imbricated scales: leaves elliptic or lanceolate, acute at both ends, shining: sepals subciliated: exterior petals broad-ovate, larger than the sepals, inner ones gradually lesser and narrower: anthers oval-oblong, introrse: carpels fleshy, 12–15 with an erect or somewhat curved beak: seed solitary.

Khasia hills, flowering in April and May.

## GENUS III. TALAUMA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* The native name in Guadaloupe of one of the species.

Gen. Char. Sepals 3: petals 6 or more: gynophore sessile: ovaries 2-ovuled: carpels woody combined into a cone-shaped fruit, irregularly dehiscing: seeds pendulous in the cells of the central persistent receptacle.

### (1) T. Rabaniana. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 75.

Spec. Char. Large tree: leaves lanceolate, coriaceous, quite glabrous: stipulary areola shorter than the petiole: peduncles terminal, solitary, 1-2-annulate: fruit oval: carpels irregularly obovate, tuberculated with small pustules at the back, obtusely beaked: flowers unknown.

Khasia hills.

## GENUS IV. MANGLIETIA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* The Javanese name latinized.

Gen. Char. Sepals 8: petals 6 or more: gynophore sessile: ovaries 6 or many-ovuled: carpels somewhat woody cohering among

themselves into an oval or oblong fruit, afterwards loosening, and longitudinally dehiscing in the middle of the back.

(1) M. INSIGNIS. *(Dec.)*

*Ident.* Blume. fl. Nep.—Hook. & Thoms. Flor. Ind. I. p. 76.

*Syn.* Magnolia insignis, *Wall. tent. Fl. Nep.*

*Engrav.* Wall. l. c. t. I.—Pl. As. Rar. II. t. 182.

SPEC. CHAR. Tree: branches glabrous: leaves lanceolate, coriaceous, acute or acuminated, glabrous, paler beneath: stipulary areola equalling the petiole: peduncle terminal, short, thick: flower-buds ovate-oblong: sepals reddish, oblong, obtuse: petals 9, of various shapes, inner ones gradually less: carpels purple, densely compacted into an oblong shape, cuneate towards the axis, tuberculately wrinkled at the back: seeds 3–6.

Khasia hills, flowering in April and May.

(2) M. CAVEANA. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 76.

SPEC. CHAR. Large tree: leaves approximated towards the ends of the branches, oblong, rounded at the apex and produced into a short acute or obtuse acumen, glaucous beneath: peduncle terminal, solitary, glabrous: carpels coalescing in fruit, rounded at the back, warty when dry with small white tubercles.

Khasia hills.

## GENUS V. MAGNOLIA.

**Polyandria Polygynia.** *Sex. Syst.*

*Deriv.* In honor of Pierre Magnol, a Freneh Botanical Author.

GEN. CHAR. Sepals 3: petals 6–12: gynophore sessile: ovaries 2-ovuled: carpels coriaceous, free, imbricately spiked, longitudinally dehiscing at the back.

(1) M. SPHENOCARPA. *(Roxb.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 78.

*Syn.* Liriodendron grandiflorum, *Roxb. flor. Ind.* II. *p.* 65.—Michelia macrophylla, *Don. prod. Nep. p.* 226.—Talauma Roxburghii, *G. Don. Gen. Syst.* I. 85.

*Engrav.* Roxb. Cor. III. t. 266.

SPEC. CHAR. Midding sized tree: adult branches glabrous, younger ones ashy-white or tomentose: leaves oblong, obtuse or scarcely acute, coriaceous, glabrous or slightly puberulous beneath: peduncles terminal, solitary, hoary-tomentose, marked with many approximated rings: sepals herbaceous externally: petals thick,

fleshy, undulated on the margins: ovaries several, imbricated into a cone, beak ensiform villous: carpels densely imbricated into a cylindric cone, tubercled externally, beak wrinkled, laterally compressed: flowers large white, fragrant, wrapped in several very deciduous spathes.

Hills near Chittagong. Khasia hills. Flowering in April and May.

## ORDER IV. ANONACEÆ.

Trees or shrubs with alternate simple, almost always entire exstipulate leaves: sepals 3–4, persistent, generally partly cohering: petals 6, hypogynous, in two series, occasionally united, and forming a monopetalous corolla: æstivation valvate: stamens indefinite, or very rarely definite, closely packed together on a torus: anthers adnate, extrorse, with a large 4-angled connective: fruit consisting of numerous carpels, succulent or dry, 1 or many-seeded, distinct, or concrete into a fleshy mass: ovules solitary: seeds sometimes arillate: testa brittle: embryo situated at the base of hard fleshy ruminated albumen: flowers green or brown, axillary, solitary or 2–3 together, shorter than the leaves.

### GENUS I. LOBOCARPUS.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Lobos*, a lobe, or division, and *Carpos*, fruit.

Gen. Char. Calyx tubular, 3-cleft, persistent, enclosing the fruit: carpels 5, 1-celled, united into a 5-celled oblong cartilaginous fruit, shortly 5-lobed at the apex: cells 2-seeded.

L. Candolleanus. (*W. & A.*)

*Ident.* . W. & A. prod. I. p. 7.

Spec. Char. Leaves short-petioled, lanceolate, acuminated, glabrous: flowers 1–3-together, small, nearly sessile in the axils of the leaves: persistent floral-covering externally pubescent with 2–3 lanceolate bracts at its base.

Peninsula.

## GENUS II. UVARIA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Uva*, a bunch of grapes, as the fruit grows in clusters.

Gen. Char. Trees or shrubs: stems erect or climbing: peduncles 1-flowered, solitary, or several together: sepals 3, united at the base: petals 6, in a double row, distinct or else joined quite at the base: stamens distinct: ovaries distinct: ovules arranged in two rows: carpels baccate, more or less stalked, ovate, oblong or elongated, indehiscent, even, or very slightly torulose, pulpy within: seeds several, without aril.

### (1) U. Zeylanica. (*Linn.*)

*Ident.* Dec. prod. I. p. 88.

*Syn.* U. Heyneana, *W. & A. prod.* I. *p.* 8.—U. coriacea, *Vahl.*—Guatteria montana, *Dec.*—G. Malabarica, *Dun.*

*Engrav.* Rheede Mal. V. t. 17.

Spec. Char. Leaves almost sessile, oblong-lanceolate, coriaceous: flower-bearing shoots lateral, leafy: peduncles terminal, solitary: sepals oblong, nearly the length of the corolla: carpels subglobose, very shortly stalked, pubescent: seeds about 4, surrounded by pulp.

Malabar and Travancore.

### (2) U. Narum. (*Wall.*)

*Ident.* W. & A. prod. I. p. 9.

*Syn.* U. Zeylanica, *Lam.*—Unona Narum, *Dun. Dec. prod.* I. *p.* 89.

*Engrav.* Rheede Mal. II. t. 10.—Wight's Ill. I. t. 5.

Spec. Char. Climbing shrub: leaves oblong-lanceolate, glabrous: flower-bearing shoots lateral, leafy: peduncles solitary, terminal: sepals roundish-ovate: petals equal, roundish-ovate, concave, incurved: carpels numerous, between ovoid and globose, glabrous, slightly torulose, long-stalked: seeds about 4, smooth, shining, separated by membranous dissepiments: flowers dullish-red.

Malabar. Travancore. Mysore.

### (3) U. [illegible]. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 660.—Hook. & Thoms. flor. Ind. I. p. 100.

*Syn.* U. Gomeziana, *Alph. Dec. Mem. p.* 27.

Spec. Char. Climbing: young shoots downy: leaves short-petioled, from lanceolate to oblong, downy: peduncles lateral, between the leaves, very downy, 2-flowered: bracts large, downy: sepals 3, downy: petals 6, much larger than the calyx, oval, concave: stigma bidentate: carpels few, pendulous, smooth, yellow when ripe: flowers small, drooping, yellowish-white.

Silhet, flowering in May.

(4) U. macrophylla. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 663.—Hook. & Thoms. Flor. Ind. I. p. 91.

*Syn.* U. rufescens, *Alph. Dec. Mem.* 26.—Guatteria cordata, *Dun. Dec. prod.* I. *p.* 93.

*Engrav.* Wall. pl. As. Rar. II. t. 122.

Spec. Char. Shrubby: leaves oblong, cordate at the base, obtusely acuminate, often a foot long, villous beneath: branchlets clothed with rusty pubescence: peduncles short, few-flowered: flowers an inch and a half in diameter, dullish-red.

Silhet. Chittagong. Flowering in July and August.

(6) U. Hamiltonii. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 96.

Spec. Char. Climbing: leaves obovate-oblong, narrowed above and produced into a slender acumen, membranaceous, pubescent on both sides: peduncles leaf-opposed, 1–2-flowered: bracteoles small in the middle of the pedicel: petals broad-obovate: carpels long-pedicelled, oval-subglobose, tomentose.

Behar mountains near Monghyr. Assam.

(7) U. lurida. (*Hook.*)

*Ident.* Hook. & Thoms. Fl. Ind. I. p. 101.—Dalz. Bomb. Flor. p. 3.

Spec. Char. Climbing shrub: leaves 6–9 inches long, oblong-lanceolate, shining above, paler beneath: flowers at the tops of the branchlets solitary or twin, luridly purple, 2 inches in diameter.

Southern Ghauts, flowering in November.

## GENUS III. UNONA.

**Polyandria Polygynia.** *Sex. Syst.*

*Deriv.* From *Uno*, to unite, because the stamens are united with the germen.

Gen. Char. Trees or shrubs: peduncles 1-flowered, solitary, springing from a leafy or leafless extremity: sepals 3, united at the

base: petals 6, in two rows, or 3, increasing after expansion: stamens numerous, distinct: carpels elongated, usually moniliform, many-celled, indehiscent: seeds numerous, usually solitary in each articulation, shining, without an aril.

(1) U. DISCOLOR. (*Vahl.*)

*Ident.* W. & A. prod. I. p. 9.—Roxb. fl. Ind. II. p. 669.

*Syn.* U. Lessertiana, *Dec. prod.* I. p. 90.—U. Chinensis, *Dec.*—Uvaria monilifera, *Gaertn.*—U. Amherstiana, *Dec.*—U. biglandulosa, *Blume.*—U. undulata, *Wall.*—Desmos Chinensis, *Lour.*

*Engrav.* Lam. Enc. t. 495 —Dun. Anon. t. 26.—Vahl. Symb. II. t. 36.—Wall. pl. As. Rar. t. 265.

SPEC. CHAR. Tree: leaves ovate, or lanceolate, somewhat cordate at the base, glabrous above, slightly hairy and glaucous below: flower-bearing shoots short, with a small bract-like leaf at the apex: sepals lanceolate, long-acuminated: petals 6, lanceolate, inner ones smaller: carpels regularly moniliform: flowers large, yellowish, very fragrant.

Circars. Chittagong. Western Ghauts.

(2) U. LONGIFLORA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 66.—Hook. & Thoms. Flor. Ind. I. p. 134.

*Engrav.* Roxb. Cor. t. 290.

SPEC. CHAR. Shrub or small tree: leaves linear-oblong, glaucous beneath, 6–12 inches long: peduncles axillary, solitary, 1-flowered: sepals 3, reniform, cordate, very minute, hairy: petals 2, rarely 3, ensiform, thick and fleshy, 6–8 inches long: carpels 2–4, moniliform: flowers pendulous, yellow-orange.

Silhet, flowering in April and May.

(3) U. DUMOSA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 670.—Hook. & Thoms. Flor. Ind. I. p. 131.

SPEC. CHAR. Climbing: leaves ovate or oval, cordate at the base, downy beneath: petals 6, very large: carpels 2–3 jointed: flowers pendulous.

Silhet, flowering in April and May.

(4) U. DUNALII. (*Wall.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 131.—Dalz. Bomb. Flor. p. 3.

SPEC. CHAR. Climbing: leaves oblong or oblong-lanceolate, smooth on both sides or slightly pubescent beneath: peduncles

axillary and terminal: sepals broad-ovate: petals lanceolate, broad at the base: carpels 1–3-articulated: flowers pale yellow.

Concans. Chittagong.

(5) U. Lawii. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 132.—Dalz. Bomb. Flor. p. 3.

Spec. Char. Leaves oblong-lanceolate, thinly coriaceous, puberulous or smooth above, glaucous and pubescent beneath: peduncles slender, nearly opposite to the leaves: outer petals long, pubescent, linear.

Concans. Malabar.

(6) U. pannosa. *(Dalz.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 135.—Dalz. Bomb. Flor. p. 3.—Hook. Jour. Bot. III. p. 207.

*Syn.* Uvaria mollis, *Wall.*

Spec. Char. Tree: leaves 2–4 inches long, ovate, lanceolate, coriaceous, sparingly pubescent beneath: flowers axillary, subsessile: petals oblong-lanceolate, villous, feeling like woollen cloth: carpels 5–6, oval, obtuse.

Parwar Ghaut. Tullawaree. Flowering in August.

(7) U. præcox. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 136.

Spec. Char. Small tree: leaves lanceolate acuminated: flowers in the axils of the fallen leaves, solitary, longish-pedicelled, nodding: petals linear, elongated, somewhat glabrous.

Assam, flowering in February.

## GENUS IV. ARTABOTRYS.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Artao*, to suspend, and *Botrys*, a bunch of grapes, alluding to the cirrhiferous peduncle which serves to support the fruit.

Gen. Char. Climbing shrubs: peduncles 1-flowered, arranged on one side of short hooked branchlets: sepals 3, united at the base: petals 6, slightly contracted above the base: ovaries 3, or numerous, distinct: stigmas united: carpels few, baccate, indehiscent, 2-seeded: seeds erect, without an aril.

(1) A. CAUDATUS. *(Wall.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 129.

SPEC. CHAR. Climbing: leaves oblong-lanceolate, acute at the base, abruptly acuminated into a long obtuse acumen, quite glabrous on both sides: peduncles many-flowered: petals covered with brown strigæ.

Silhet mountains.

(2) A. SUAVEOLENS. *(Blume.)*

*Ident.* Bl. Flor. Javæ Anon. p. 62.—Hook. & Thoms. Flor. Ind. I. p. 129.

*Syn.* Anona suaveolens, *Bl. Bidjr. p.* 17.

*Engrav.* Rumph. Amb. V. t. 14.

SPEC. CHAR. Climbing: leaves oblong-lanceolate, acuminated, acute at the base, glabrous: peduncles many-flowered: flowers fascicled; yellow, fragrant.

Silhet.

## GENUS V. GUATTERIA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From Guatteri, an Italian Botanist.

GEN. CHAR. Trees or shrubs: peduncles 1-flowered, springing from an axillary or lateral leafy or leafless branchlet: sepals 3, united at their base: petals 6: anthers numerous, nearly sessile: carpels distinct, numerous, somewhat baccate, ovate or globose, stalked, 1-seeded.

(1) G. LONGIFOLIA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 10.

*Syn.* Uvaria longifolia, *Lam. Roxb. fl. Ind.* II. *p.* 664.—Unona longifolia, *Dun. Dec. prod.* I. *p.* 90.

*Engrav.* Wight's Icon. I. t. 1.

SPEC. CHAR. Tree: leaves linear-lanceolate, acuminated, undulated at the margin, glabrous: peduncles long and slender, fascicled along the lateral leafless shoots: petals equal, narrow-lanceolate, acuminated, undulated: carpels ovoid: flowers small, green.

Patna. Tanjore. Travancore. Flowering in February.

(2) G. CERASOIDES. (*Dun.*)

*Ident.* W. & A. prod. I. p. 10.—Dec. prod. I. p. 93.

*Syn.* Uvaria cerasoides, *Roxb. fl. Ind.* II. *p.* 666.

*Engrav.* Roxb. Cor. I. t. 33.

Spec. Char. Tree: leaves oblong or lanceolate, acute, pubescent beneath: flower-bearing shoots almost abortive, leafless: peduncles solitary, terminal, with one or two bracts at the base: sepals nearly as long as the corolla: petals equal, oval-oblong, thick: carpels globose, on stalks nearly twice their length.

Behar. Circars. Tull Ghaut, Bombay. Flowering in February.

(3) G. suberosa. (*Dun.*)

*Ident.* W. & A. prod. I. p. 10.—Dec. prod. I. p. 93.

*Syn.* Uvaria suberosa, *Roxb. fl. Ind.* II. p. 667.

*Engrav.* Roxb. Cor. I. t. 34.

Spec. Char. Tree: leaves nearly sessile, oblong or elliptic-oblong, glabrous, undulated at the margin: flower-bearing shoots leafy: peduncles solitary, drooping: outer petals ovate, resembling the calyx: inner ones twice as long, oblong-lanceolate: carpels globose, mucronate, on stalks about twice their length: flowers small, greenish-white.

Bengal. Assam. Peninsula. Flowering throughout the year.

(4) G. Korinti. (*Dun.*)

*Ident.* W. & A. prod. I. p. 10.—Dec. prod. I. p. 94.

*Syn.* G. acutiflora, *Wall.*

*Engrav.* Rheede Mal. V. t. 14.—Wight's Ic. t. 398.

Spec. Char. Climbing shrub: leaves ovate-oblong, glabrous, shining above: flower-bearing shoots leafy, several-flowered: peduncles axillary, solitary, pubescent: petals equal, twice as long as the calyx, with recurved margins: carpels 6–12, globose.

Malabar. Tanjore. Courtallum.

(5) G. fragrans. (*Dalz.*)

*Ident.* Dalz. in Hook. Jour. Bot. III. p. 206.—Bomb. flor. p. 4.

Spec. Char. Tree: leaves oblong-lanceolate or obovate, 4–9 inches long, strongly-nerved: peduncles short, much branched, many-flowered: petals narrow-linear, yellow, very fragrant: carpels ovoid, hoary, ash-coloured, long stalked.

Jungles at Sivapore, Warree country. Malabar.

(6) G. Jenkinsii. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 141.

Spec. Char. Tree much branched: leaves oblong-lanceolate, quite glabrous, acute or acuminate, rounded at the base, paler beneath: pedicels axillary, usually solitary, tawny-tomentose, with 2–3 small scale-like bracts at the base and bearing in the middle and

near the apex a round or oblong deciduous bracteole: sepals tomentose outside: petals narrowed at the base: disk globose, tomentose: carpels numerous, oblong, apiculated, glabrous, minutely granular.

Assam. Silhet.

(7) G. SIMIARUM. *(Ham.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 142.

SPEC. CHAR. Tree: leaves oval or ovate, strongly ribbed, quite glabrous: pedicels axillary, 2–3-fascicled, naked, hoary-pubescent: petals linear-oblong, obtuse, inner ones longer.

Silhet. Assam.

## GENUS VI. SAGERÆA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Sageeree*, the native name.

GEN. CHAR. Sepals 3: petals 6, hypogynous, distinct, in two series, thick, fleshy, concave, imbricate in æstivation: stamens 12, in two rows: filaments none: anthers 2-celled: cells linear, dehiscing lengthwise: ovaries 3–5, linear, sessile at the apex of a convex receptacle, 1-celled: ovules 10, in two rows: stigmas sessile: carpels globose, glabrous, 6-seeded, size of a cherry.

(1) S. LAURINA. (*Dalz.*)

*Ident.* Dalz. in Hook. Jour. Bot. III. p. 207.—Bomb. Flor. p. 2.

*Syn.* Guatteria laurifolia, *J. Grah. Cat.*

SPEC. CHAR. Middling-sized tree: leaves 5–7 inches long, linear-oblong, shining above: peduncles axillary, 3–5-fascicled: carpels globose: flowers white.

Concans. Flowering in October and November.

## GENUS VII. GONIOTHALAMUS.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Gonia*, an angle, and *Thalamos*, a receptacle, in allusion to the structure of that part of the flower.

GEN. CHAR. Small trees or shrubs: leaves with the veins conspicuously connected by loops near the margin: peduncles axillary or supra-axillary, 1-flowered: sepals 3: petals 6, valvate in æstivation, outer ones thickly coriaceous, inner ones with broad claws, thickly coriaceous, with the laminæ incurved and cohering into a conical mitre: connectivum produced beyond the 2-celled linear-oblong anthers into an oval or capitate process: disk slightly elevat-

ed, truncated, often excavated in the middle: ovaries indefinite, linear-oblong, strigose, 2-ovuled: ovules nestling in mucilage: style often elongated, furrowed within: carpels oblong: seed solitary.

(1) G. Wightii. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 106.

Spec. Char. Tree (?) young branchlets brown-pubescent: leaves lanceolate, pale beneath, glabrous, very minutely pellucid-dotted; peduncles axillary, solitary, furnished at the base with several oblong bracts and a small round bracteole above the middle: sepals scarcely acute, puberulous outside: petals oval or ovate, obtuse, shortly and broadly clawed, marked at the base within with an oblong areola, brownish-silky on both sides: inner ones ovate, broadly unguiculate, coalescing into a mitre, the laminæ broadly trapezoid, brownish-silky without, silky within towards the apex, otherwise glabrous: disk truncated: ovaries densely clothed with golden strigæ, longer by half than the oblong style which is dilated at the apex: carpels crowned with the persistent calyx, dark-brown, glabrous.

Courtallum mountains.

(2) G. Thwaitesii. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 106.

Spec. Char. Leaves oblong, shortly and obtusely acuminated: peduncles axillary, with many small scale-like bracts at the base: sepals broad-ovate, persistent in fruit; outer petals ovate-lanceolate, narrowed at the base into a short broad claw, inner ones forming an ovate acute mitre: ovaries linear-oblong, strigose: style subulate, disk smooth: carpels numerous or few by abortion, very shortly-pedicelled, oval, obtuse at both ends.

Courtallum mountains.

(3) G. cardiopetalus. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 107.

*Syn.* Polyalthia cardiopetala, *Dalz. in Hook. Journ. Bot.* II. *p.* 39.—Uvaria obovata, *Heyne.*

Spec. Char. Small tree: leaves ovate-oblong or linear-oblong, acute at the base, abruptly acuminated at the apex, waved at the margin: peduncles supra-axillary, 1–3, shorter than the petiole: sepals reniform-rounded, very short, velvety-puberulous: outer petals oval, tomentose on both sides, inner ones combining into an oval mitre: ovaries linear-oblong, with a style of equal length.

Mountains in Canara, flowering in April.

(4) G. sesquipedalis. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 108.

*Syn.* Guatteria sesquipedalis, *Wall. Pl. As. Rar. vol.* III.—G. macrophylla, *Alph. Dec. Mem. p.* 42. (not *Blume.*)

Spec. Char. Shrub, 2–4-feet: leaves lanceolate or linear-oblong, abruptly and obtusely acuminated, quite glabrous: peduncles supra-axillary, shorter than the petiole; outer petals oblong, long-acuminated, obscurely keeled within and marked with an oblong tomentose scar at the base, inner ones combined into an elongated mitre, pubescent outside and densely silky within: disk truncated; ovaries linear, densely clothed with golden strigæ, furrowed within: style cylindrical, recurved: carpels 8–10, or less by abortion, oval, mucronate at the apex, minutely granulated.

Khasia mountains, flowering in April and May.

(5) G. Simonsii. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 108.

Spec. Char. Small erect tree: young branchlets rusty-tomentose: leaves linear-oblong or narrow obovate-oblong, paler beneath and with the petiole and nerves rusty-tomentose: peduncles axillary, shorter than the petiole, furnished with oblong bracteoles at the base: sepals pubescent: outer petals oblong-lanceolate, densely pubescent, inner ones combined into a tall densely tomentose mitre: disk of the fruit dilated, depresso-globose.

Khasia mountains, flowering in June.

## GENUS VIII. SACCOPETALUM.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Saccus*, a bag, and *Petalon*, a petal.

Gen. Char. Sepals 3, small: petals 6, outer ones nearly agreeing with the sepals, inner ones much larger, velvety, cohering by the margins, afterwards free, saccate at the base: disk somewhat globose: stamens in many rows: anthers subsessile, dorsal, 2-celled, apiculated with a connectivum: ovaries oval-oblong: ovules 6 or more in two rows.

(1) S. longiflorum. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 151.

Spec. Char. Tree: branchlets wrinkled, young parts pubescent: leaves oval-oblong, acuminated, glabrous above, puberulous beneath: sepals oblong: inner petals oblong-lanceolate, obtuse, puberulous, somewhat saccate at the base: disk densely covered with white villi: ovaries numerous, strigose: ovules about 10: styles nearly twice as long as the ovary, exuding gum: carpels inserted on the globose disk, subglobose, slightly granular, dark-brown: flowers solitary in the axils of the fallen leaves.

At Purneah in Upper Bengal.

(2) S. TOMENTOSUM. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 152.

*Syn.* Uvaria tomentosa, *Roxb. fl. Ind.* II. *p.* 667.—*Dec. prod.* I. *p.* 88.—*W. & A. prod.* I. *p.* 8.

*Engrav.* Roxb. Cor. I. t. 35.

SPEC. CHAR. Tree: leaves oblong, acute, pubescent on both sides: flower-bearing shoots usually leafy, 1–2-flowered: peduncles opposite the leaves and half as long, very pubescent: sepals triangular, acute; 3 exterior petals very small, tomentose inside: carpels 10–15, subglobose, one inch long, fulvous, tomentose: seeds about 4, nestling in pulp.

Circar and Western Ghauts. Orissa. Behar. Flowering in April and May.

## GENUS IX. ALPHONSEA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* Named after Mons. Alphonse de Candolle.

GEN. CHAR. Sepals 3, roundish: petals 6, nearly equal, valvate in æstivation in two rows, ovate: disk deeply hemispherical: stamens in many rows: ovaries 1–10 (very rarely solitary), usually forming a cone stretching beyond the stamen, linear-oblong, somewhat angled, strigosely pubescent: ovules indefinite, in 2 rows: style oblong or depressed.

(1) A. LUTEA. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 153.

*Syn.* Uvaria lutea, *Roxb. fl. Ind.* II. *p.* 666.—*Dec. prod.* I. *p.* 88.

*Engrav.* Roxb. Cor. I. t. 36.

SPEC. CHAR. Tree: leaves oblong or ovate, coriaceous: flower-bearing shoots opposite the leaves, leafless, very short: peduncles short, terminal: petals much longer than the calyx: carpels 4–6, ovoid, pubescent: seeds 3–6, nestling in pulp.

Circar mountains. Silhet. Flowering in the hot season.

(2) A. VENTRICOSA. *(H. F. & T.)*

*Ident.* Hook. &. Thoms. Flor. Ind. I. p. 152.

*Syn.* Uvaria ventricosa, *Roxb. fl. Ind.* II. *p.* 658.

SPEC. CHAR. Tree: leaves ovate-lanceolate, shining: peduncles solitary, nearly leaf-opposed, very short, bearing 10–15 long-pedicelled pitcher-shaped flowers: bracts solitary at the base of each pedicel, with a smaller one near the middle: sepals triangular: exterior 3 petals revolute, inner 3 convergent, villous on the outside: carpels 4–8, smooth, yellow: seeds surrounded by pulp: flowers greenish-white, fragrant.

Chittagong, flowering in the hot season.

(3) A. Zeylanica. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 153.

*Syn.* Uvaria lutea, *W. & A. prod.* I. *p.* 8. *(Excl. Syn.)*—Guatteria acutiflora, *Wall.*

Spec. Char. Tree: leaves lanceolate or elliptic-lanceolate, often long-acuminated, coriaceous, glabrous, shining above: petiole and rib pubescent beneath: peduncles sometimes leaf-opposed, tomentose: pedicels 1–3, pubescent, with a minute ovate bract at the base: ovaries 5: style depressed: disk of the fruit large, globose: carpels subglobose: seeds 4–6, in one series: flowers heaped in few-flowered fascicles.

Courtallum, flowering in the hot season.

## GENUS X. OROPHEA.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Orophe*, the top of anything, alluding to the cohesion of the petals at the apex.

Gen. Char. Trees or shrubs, with axillary, fascicled or cymose flowers: sepals 3: petals 6, valvate in æstivation, outer ones oval, inner ones clawed; laminæ cohering into a mitre: stamens 6–12, fleshy, oval, bearing a 2-celled anther: disk scarcely convex: ovaries 3–15, oblong or obovate: ovules 2–4: stigma sessile, capitate or oblong.

(1) O. Heyneana. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 110.

*Syn.* Uvaria Heyneana, *Wall.*—U. lutea, *Wight. Cat.*—U. lutea, var. *W. & A. prod.* I. *p.* 8.

Spec. Char. Small tree: younger branchlets pubescent with brown tomentum: leaves ovate-lanceolate, obtuse, often long and narrow at the apex, quite glabrous, pale beneath: peduncles leaf-opposed, 1–2-flowered, slightly tomentose, with small alternate bracts: sepals deciduous in fruit: outer petals cuneate-lanceolate, long-acuminated at the apex, puberulous on both sides, parallel-nerved, inner ones trapezoid, acute, long-clawed, densely villous within: disk densely strigose: stamens broad-cuneate: carpels 4–8, furnished with a very short pedicel, ovoid or subglobose, obtuse at both ends: seeds 1–3.

Courtallum.

(2) O. uniflora. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 111.

Spec. Char. Leaves slightly coriaceous, elliptic or oblong-lanceolate, glabrous, short-petioled: peduncles axillary, 1-flowered,

slender, bracteated with many scales at the base: sepals ciliated; outer petals roundish, inner ones trapezoid, with the claw as long as the outer petal: stamens 12, in 2 rows, nearly round: stigmas linear-oblong, longer than the ovaries: carpels 6, globose, dark, brown, glabrous.

Courtallum mountains.

(3) O. ŻEYLANICA. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 111.

SPEC. CHAR. Leaves oval-oblong, obtusely acuminated, younger ones ciliated with white hairs, afterwards glabrous: peduncles various in length, slender, often many-flowered, solitary or fascicled, with minute bracts at the base of the pedicels: sepals orbicular, tomentose; outer petals roundish, pubescent, hoary at the margin, inner ones trapezoid, thickened at the apex, pubescent at the margin: stamens 6: ovaries about 15, glabrous, obovate: stigma capitate: carpels globose, baccate, smooth, glabrous, short-pedicelled.

Canara.

## GENUS XI. MITREPHORA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Mitra*, a mitre, and *Phoreo*, to bear.

GEN. CHAR. Trees: sepals 3, roundish: petals 6, in two rows, valvate in æstivation, outer ones ovate, with somewhat conspicuous nerves, inner ones clawed: laminæ vaulted: disk depressed-conical, somewhat truncated, slightly excavated in the middle, hairy: stamens numerous, oblong-cuneate: anthers dorsal, remotely 2-celled; connectivum truncately capitate: ovaries oblong, glabrous: ovules numerous: style oblong, furrowed within.

(1) M. TOMENTOSA. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 113.

SPEC. CHAR. Leaves ovate or oblong-lanceolate, acute or acuminated, rounded at the base, partly hairy above, below with the petiole tomentose with rough tawny hairs: peduncles leaf-opposed, tomentose, 2–4-flowered: bracts stem-clasping, thick, tomentose, deciduous: pedicels bracteolate above the middle; flower-buds tawny tomentose: sepals broad-ovate, acute: outer petals ovate, acute, inner ones broadly clawed: ovaries glabrous: disk tomentose: carpels 10–20, broad-ovoid or subglobose with granular tubercles.

Assam and Chittagong.

## GENUS XII. MELODORUM.

**Polyandria Polygynia.** *Sex. Syst:*

*Deriv.* From *Mel*, honey, and *Odor*, smell, alluding to the fragrance of some of the species.

Gen. Char. Shrubs, usually climbing: inflorescence terminal or leaf-opposed: flower-buds triquetrous, tomentose: sepals 3, more or less combined at the base: petals 6, in two rows, valvate in æstivation, outer ones convex, inner ones triquetrous above: stamens in many rows: connectivum produced into an oval or oblong fleshy process beyond the linear extrorse cells of the anthers: disk convex-conical: ovaries numerous, oblong, many-ovuled: styles oblong.

(1) M. rubiginosum. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 116.

*Syn.* Uvaria rubiginosa, *Alph. Dec. Mem.* 26.—U. nervosa, *Wall.*

Spec. Char. Climbing: young parts densely tawny-tomentose: leaves oblong, obtuse, acute at the apex, sometimes narrowed into a short subulate acumen, sparingly pubertulous above, villous beneath, with minute tawny pubescence: flowers axillary, solitary or generally collected into a 5–6-flowered terminal panicle, densely tawny-tomentose: pedicels with 1–2 small ovate bracteoles below the middle: outer petals oval-oblong, tomentose outside, inner ones shorter, narrower, concave from an oval base, produced into a long triquetrous beak, ash-grey at the back: disk densely strigose between the ovaries: ovaries densely strigose: carpels 5–10 or more, tawny-tomentose: seeds in two rows, separated by thin partitions.

Silhet. Chittagong.

(2) M. Wallichii. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 118.

*Syn.* Uvaria bicolor, *Wall.* (not *Roxb.*)

Spec. Char. Climbing shrub: leaves narrow, oblong-lanceolate, usually long-acuminated, rounded at the base, glabrous above, somewhat puberulous beneath: peduncles leaf-opposed, very short: pedicels tomentose, furnished with small ovate bracteoles at the base: sepals tomentose outside: petals ovate-lanceolate, outer ones tawny-tomentose outside: carpels densely tomentose when unripe, seated on a globose torus.

Silhet. Khasia hills.

(3) M. verrucosum. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 119.

Spec. Char. Climbing: leaves oblong or lanceolate, much nerved, shining above, somewhat tomentose towards the rib, covered beneath with tawny-pubescence and silky-villous on the nerves: flowers 1–5 at the tops of the branchlets, lower ones leaf-opposed: pedicels tawny-tomentose, with many bracts at the base and 1–2 oval bracteoles towards the middle: flower-buds broad: sepals broad-ovate, ribbed: outer petals broad-ovate, densely-tomentose outside, white ash-grey inside, obscurely keeled in the middle, inner ones

triangular-oblong, marked with the impressions of the stamens, triquetrous above: ovaries covered with brown hairs: disk globose: carpels somewhat globose, oblique, irregularly covered with warty tubercles: seeds separated by cellulose partitions, transversely wrinkled and surrounded on the margin with a prominently-tubercled broad ring,

Khasia hills, flowering in July.

(4) M. BICOLOR. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 119.

*Syn.* Uvaria bicolor, *Roxb. fl. Ind.* II. *p.* 662.

SPEC. CHAR. Climbing: leaves oblong, obtuse or acute or long-acuminate at the apex, tawny-pubescent above and covered below with ash-grey or tawny silky hairs: flowers fascicled: sepals ovate; outer petals ovate-lanceolate, inner ones glabrous on both sides; carpels globose, short-pedicelled, tomentose.

Silhet. Assam.

(5) M. POLYANTHUM. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 121.

*Syn.* Uvaria polyantha, *Wall.*

SPEC. CHAR. Climbing.(?): leaves broad-lanceolate or oblong-lanceolate or linear-oblong, slightly pubescent below: petioles deeply furrowed above: cymes numerous, leaf-opposed: flowers 3–7: pedicels very short, with one bracteole at the middle and small bracts at the base: outer petals oval, inner ones shortly triquetrous at the apex: ovary strigose: stamens apiculated with the cuneate-oblong process of the connectivum.

Silhet. Assam.

(6) M. RUFINERVE. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 121.

SPEC. CHAR. Climbing: leaves oblong, acute or obtuse at the apex, quite glabrous, rufescent below in drying: flowers leaf-opposed, fascicled, 2–7-together: pedicels with a scale-shaped bracteole below the middle: sepals united at the base, pubescent outside: flower-buds small, triquetrous, silky: ovaries many-ovuled: disk convex-conical.

Silhet.

## GENUS XIII. OXYMITRA.

**Polyandria Polygynia.** *Sex. Syst.*

*Deriv.* From *Oxys*, sharp, and *Mitra*, a mitre.

Gen. Char. Climbing shrubs: sepals 3: petals 6, valvate in two series, outer ones larger, elongated, smooth, thin, inner ones ovate or oblong, connivent, sometimes narrowed at the base: stamens linear-oblong, truncato-capitate at the apex: cells of the anthers linear, dorsal: disk deeply conical or somewhat truncate: ovaries oblong, densely strigose: ovules 1–2, ascending, with an elongated cord: style obovate; carpels 1-seeded.

(1) O. fornicata. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 146.

*Syn.* Uvaria fornicata, *Roxb. fl. Ind.* II. *p.* 662.—U. Roxburghiana, *Wall.*

Spec. Char. Climbing: leaves lanceolate or oblong-lanceolate, glaucous above and ashy-pubescent: nerves conspicuous beneath: peduncles brown-tomentose, bracteated at the middle: sepals ovate-lanceolate, thin, pubescent: outer petals pubescent, inner ones ovate, acute, connivent, the margins broad and smooth above: carpels tawny-tomentose, narrow-oblong, mucronate.

Silhet. Assam. Flowering in May.

## GENUS XIV. MILIUSA.

**Polyandria Polygynia.** *Sex. Syst.*

Gen. Char. Trees or shrubs: peduncles axillary, solitary or fascicled: flowers dicœcious or hermaphrodite: sepals 3, minute: petals 6, outer ones minute, nearly agreeing with the sepals, inner ones much greater, slightly coriaceous, valvate in æstivation, afterwards cohering: stamens inserted on a cylindric disk, covering the whole disk in the dicœcious flowers and imbricated round the ovaries in many rows in the hermaphrodite ones: anthers extrorse, oval, somewhat didymous, 2-celled, scarcely apiculated with the connectivum: ovaries linear-oblong, terminated by the oblong style: ovules 1–2, rarely more, attached to the ventral suture.

(1) M. montana. *(Gardn.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 148.

*Syn.* Guatteria Montana, *Moon. Cat.*

Spec. Char. Shrub: leaves ovate, various in size and shape: petiole very short: peduncles solitary, with many bracts at the base: sepals acute, a half shorter than the outer petals, ciliated: petals acute, somewhat glabrous: ovaries broad-oval: disk covered with white hairs round the base of the ovaries: ovules 2: stigma oval: carpels globose, sessile, dark-brown, minutely granulated, the size of a pea.

Malabar. Mysore.

(2) M. Indica. *(Lesch.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 148.—W. & A. Prod. I. p. 10.

Spec. Char. Shrub, with tomentose branches: leaves elliptic, shining above, pubescent below: flowers hermaphrodite: sepals and outer petals hoary, inner petals ovate, pubescent: disk densely strigose: ovaries covered with white hairs, linear-oblong, usually 2-ovuled: carpels numerous, subglobose, size of a pea, apiculated, densely covered with grey ashy tomentum: stigmas oblong.

Courtallum hills, flowering in April.

(3) M. Wightiana. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 149.

Spec. Char. Small tree: leaves narrow, oblong-lanceolate or linear-oblong, obtusely acuminated, acute at the base, glabrous on both sides: peduncles slender, twice as long as the flowery, furnished at the base with a few remote scales: sepals and outer petals remote, reflexed: disk glabrous: stamens in one row, longer and greater than in other species: ovaries numerous, glabrous, oval-oblong: ovule 1, attached to the ventral suture: style oblong: carpels globose, granulated, glabrous.

Courtallum hills, flowering in July and August.

(4) M. Wallichiana. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 149.

Spec. Char. Small tree: leaves elongated-oblong, long-acuminated, glabrous, shining: peduncles elongated, furnished with many linear-subulate bracts: flowers polygamo-dicœcious: sepals and outer petals somewhat equal, long-linear, pubescent: fruit-bearing disk bearing the carpels at the apex, strigose: carpels numerous, transversely oval, size of a small bean: seeds 1–2.

Assam. Silhet. Khasia hills. Flowering from September to November.

(5) M. Roxburghiana. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 150.

*Syn.* Hyalostemma Roxburghianum, *Wall.*—Guatteria globosa, *Alph. Dec. mem.* 43.

Spec. Char. Small tree: leaves oblong or oblong-lanceolate, abruptly acuminated, softly tomentose below: peduncles pubescent, furnished with 2–3 linear-subulate bracts: flowers dicœcious, axillary, often fascicled: carpels quite covering the oval, tomentose disk, furnished with long pedicels, somewhat oblique: seeds 1–2.

Assam. Khasia. Silhet. Chittagong.

(6) M. VELUTINA. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 151.

*Syn.* Uvaria velutina, *Dun. Anon.* 91.—*Dec. prod.* I. *p.* 88.—U. villosa, *Roxb. flor. Ind.* I. *p.* 664.—Guatteria velutina, *Alph. Dec. mem.* 42.

SPEC. CHAR. Tree, with densely tomentose branches: leaves small, ovate or oblong, acuminated, cordate at the base, densely velvety beneath: peduncles branched: pedicels 3–6, slender, elongated, densely tomentose, without bracts: sepals tomentose: outer petals resembling the sepals, inner ones broad-ovate, tomentose without, dark-brown and somewhat glabrous within: ovaries velvety: carpels pubescent, short-pedicelled, baccate, black: seeds 1–2.

Western Bengal and Behar, towards the base of the mountains, flowering in March and April.

## ORDER V. MENISPERMACEÆ.

Climbing shrubs, with alternate entire leaves: flowers diœcious, very small. MALE. Sepals and petals in several rows, each being composed of 3 or 4 parts, hypogynous, deciduous: stamens monadelphous, occasionally distinct, sometimes opposite the petals, and equal to them in number, or 3–4 as many: anthers adnate. FEMALE. Sepals and petals as in the male, or merely one sepal and one petal on the same side of the carpels: carpels solitary or in whorls: styles simple or 3-cleft: ovule solitary: drupe baccate, 1-seeded, oblique: embryo curved: albumen fleshy.

### GENUS I. ANAMIRTA.

**Diœcia Monadelphia.** *Sex: Syst:*

*Deriv.* Meaning unknown.

GEN. CHAR. Twining shrubs: calyx of 6 sepals in two rows, bibracteolate: corolla wanting. MALE. Stamens united into a column, dilated at the apex: anthers numerous, covering the apex of the column. FEMALE. Flowers unknown: drupes 1–3, 1-celled, 1-seeded.

(1) A. COCCULUS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 446.

*Syn.* Cocculus suberosus, *W. & A. prod.* I. *p.* 11.—*Dec. prod.* I. *p.* 97.—C. orbiculatus, *Dec. prod.* I. *p.* 98.—C. lacunosus, *Dec.*

*prod.* I. *p.* 97.—C. flavescens, *do.*—Menispermum cocculus, *Linn.* —M. orbiculatum, *Linn.*—M. lacunosum, *Lam.*—M. heteroclitum, *Roxb. Hort. Beng. p.* 105.—Anamirta paniculata, *Colebr. in Linn. S. Trans.* XIII. *p.* 52.

*Engrav.* Rheede Mal. VII. t. 1., and XI. t. 62.—Rumph. Amb. V. t. 22.

Spec. Char. Twining shrub with a corky bark: leaves broadly ovate, somewhat cordate at the base, younger ones more or less pubescent: flowers in lateral compound racemes: drupes 2–3, globose: seed globose, deeply excavated at the hilum: flowers small, greenish.

Peninsula. Assam. Orissa. Khasia.

## GENUS II. COCCULUS.

**Dicœcia Hexandria.** *Sex: Syst:*

*Deriv.* From *Coccus*, cochineal, alluding to the scarlet colour of the berries of most species.

Gen. Char. Calyx 6: sepals in two rows, with 2–3 bracteoles: petals 6. Male. Stamens 6, opposite the petals, distinct. Female. Ovaries 3–6 or numerous: drupes 1–6 or many, 1-celled, 1-seeded: peduncles usually axillary: males many-flowered: females generally few-flowered, without bracts, or very small ones, if present.

### (1) C. macrocarpus. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 13.—Dalz. Bomb. flor. p. 5.

*Syn.* Diploclisia macrocarpa, *Miers. in Taylor's Ann. Ser.* II. VII. 42.

*Engrav.* Wight's Ill. I. t. 7.—Rheede Mal. XI. t. 62.

Spec. Char. Shrubby, climbing: bark wrinkled: leaves rounded or kidney-shaped, cordate, or truncate at the base, shining, quite smooth, glaucous beneath: panicles many-flowered: drupes obovate-oblong, almost sessile, an inch in length.

Concan jungles. Malabar.

### (2) C. villosus. *(Dec.)*

*Ident.* W. & A. prod. I. p. 13.—Dec. prod. I. p. 98.

*Syn.* C. sepium, *Colebr.*—Menispermum villosum, *Lam.*—M. hirsutum, *Roxb. fl. Ind. p.* 814.—M. myosotoides, *Linn.*—C. hastatus, *Dec. prod.* I. *p.* 98.

*Engrav.* Pluk. t. 384. f. 3.

Spec. Char. Twining: leaves oval-oblong, villous: male panicles axillary, not half the length of the leaves, branched: females

simple, 1–3-flowered: petals cuneate-oblong, emarginate: nuts of the drupes reniform, compressed: drupes dark-purple when ripe: flowers small, greenish-yellow.

Peninsula. Hurdwar. Behar. Malabar. Flowering in the rainy season.

(3) C. LEABA. *(Dec.)*

*Ident.* Dec. prod. I. p. 99.—Hook. & Thoms. Flor. Ind. I. p. 192.

*Syn.* C. Sebatha, *Dec.*—C. ellipticus, *do.*—C. epibaterium, *do.*—C. lævis, *Wall.*—C. glaber, *W. & A. prod.* I. p. 13.—Menisperm um Leaba, *Del. p. Æg.*—M. edule, *Vahl.*—M. ellipticum, *Poir.*

SPEC. CHAR. Twining, glabrous: branches twiggy, pendulous: leaves ovate, mucronate; male flowers numerous, axillary, sessile, shorter than the petiole, forming a spike by the falling of the leaves: female pedicels usually solitary, 1-flowered, as long as the petiole: petals roundish-ovate, concave: nuts kidney-shaped, compressed.

Alpine valleys in the Madura district. Coimbatore. Flowering all the year.

(4) C. MOLLIS. *(Wall.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 193.

SPEC. CHAR. Climbing shrub: leaves ovate, acute or acuminated, cordate or truncate at the base, pubescent with scattered hairs above, softly tomentose below: peduncles axillary, the males irregularly cymose, 4–7-flowered, with a few filiform bracts, the females 1–3-flowered: calycine bracts 2: sepals oval: petals emarginate: drupes compressed, pea-shaped: putamen keeled at the back.

Khasia mountains.

## GENUS III. CISSAMPELOS.

**Dicœcia Monadelphia.** *Sex: Syst:*

*Deriv.* From *Kissos*, ivy, and *Ampelos*, the vine. The species climbing like ivy, with clusters of grape-like fruit.

GEN. CHAR. Twining shrubs with peltate or cordate leaves: racemes axillary, of the males trichotomously branched, of the females simple, bearing broad leafy bracts with 1-flowered pedicels in their axil. MALE. Sepals 4, in a double series; corolla cup-shaped: petals 4: stamens united into a column, dilated at the apex: cells forming a 4-lobed ring round the top. FEMALE. Calyx of one lateral sepal: corolla of one petal in front of the sepal: stigmas 3: drupe obliquely kidney-shaped: nut compressed: seed solitary.

(1) C. PAREIRA. (*Linn.*)

*Ident.* Linn. Sp. pl. 1473.—Hook. & Thoms. Flor. Ind. I. p. 198.—Dec. prod. I. p. 100.

*Syn.* C. orbiculata, *Dec. prod.* I. *p.* 101.—C. hirsuta, *do.*—C. Caapeba, *Linn. Roxb. fl Ind.* III. *p.* 842. *Dec. prod.*—C. cocculus, *Poir* —C. convolvulacea, *Willd. W. & A. prod. Roxb. l. c.*—C. Mauritiana, *Pet. Thouars.*—C. tomentosa, *Dec.*—C. microcarpa, *do.*—C. acuminata, *Benth.*—Menispermum orbiculatum, *Linn.*—Cocculus orbiculatus, *Dec.*

SPEC. CHAR. Stem pubescent: leaves cordate, more or less pubescent: male racemes 3–4, shorter than the petiole: sepals orbicular, clawed: corolla hairy externally: female racemes usually in pairs, sometimes solitary and forked, in flower scarcely as long as the petiole, in fruit often longer than the leaf: drupes hairy: flowers very small, greenish.

Everywhere throughout India, flowering all the year.

## GENUS IV. COSCINIUM.

**Dicœcia Hexandria.** *Sex: Syst.*

*Deriv.* From *Koskinon*, a little sieve, in allusion to the seeds being pierced.

GEN. CHAR. Sepals 6, roundish, with one bract of the same form: petals 3, larger than the sepals, patent, elliptic, slightly imbricated in æstivation. MALE. Stamens 6, outer ones free, inner ones monadelphous to the middle: anthers adnate, oval, outer ones 1-celled, inner ones didymous, 2-celled. FEM. Stamens 6, abortive: ovaries 3–6, subglobose: styles subulate, reflexed: drupes globose, fleshy: putamen thick, bony: seed externally appearing subglobose, within hollow and convolute round a condyliform process: albumen oily, fleshy, irregularly ruminated: embryo nearly erect: radical small, superior: cotyledons very thin, round, irregular at the margin, divaricate, undulated.

(1) C. FENESTRATUM. (*Colebr.*)

*Ident.* Colebr. in Linn. Trans. XIII. p. 65.—Hook. & Thoms. Flor. Ind. I. p. 178.

*Syn.* C. Wallichianum, *Miers. in Tayl. Ann. Ser.* II. VII. *p.* 87.—Menispermum fenestratum, *Gaertn. fr.* I. *t.* 46. *f.* 5.—*Dec. prod.* I *p.* 103.—*Roxb. fl. Ind.* III. *p.* 809.

SPEC. CHAR. Climbing shrub: younger branchlets densely hoary-tomentose: leaves somewhat cordate at the base, roundish, 7–9-nerved, hoary beneath, younger ones oblong-deltoid, acuminated, peltate: petioles hoary, twisted and dilated at the base: capitules

fascicled in the axils of the fallen leaves: flowers subsessile, green, yellow-tomentose: petals round, acute, patent: drupes 1–3, surrounded by the calyx and persistent petals, subglobose, villous.

Courtallum hills, flowering in November.

## GENUS V. PARABÆNA.

**Diœcia Hexandria.** *Sex: Syst:*

Gen. Char. Sepals 6, oblong, nearly equal: petals 6, shorter than the sepals, cuneately 3-lobed or obovate. Male. Stamens monadelphous: anthers 6, combined into a subglobose head, transversely dehiscing. Fem. Stamens sterile, 6: ovaries 3: styles recurved: drupes oval: putamen beaked above, rough at the back with tubercles, deeply excavated in front: seed peltate, involute round the internal process of the putamen: albumen copious, fleshy: embryo curved, radical, superior, long: cotyledons ovate, divaricate.

### (1) P. sagittata. *(Miers.)*

*Ident.* Miers. in Tayl. Ann. Ser. II. VII. p. 39.—Hook. & Thoms. Flor. Ind. I. p. 181.

*Syn.* P. oleracea, heterophylla *et* ferruginea, *Miers. l. c.*—Cissampelos sagittata, *Ham. in Wall. Cat* —C. oleracea, *Wall.*

Spec. Char. Climbing shrub: leaves at first sharply sinuately-toothed, afterwards quite entire, deeply cordate or sagittate, 5–7-nerved at the base, glabrous or slightly pubescent on both sides or loosely and softly tomentose below: cymes axillary, usually twin, equalling or shorter than the petioles, many times dichotomous, many-flowered, with filiform bracts at the ramifications: flowers minute, pale, pubescent: petals obovate-cuneate, 3-lobed above, middle lobe emarginate, lateral ones inflexed, sometimes scarcely lobed: drupes pulpy, becoming green, filled with viscid juice, oval, smooth.

Assam. Khasia. Chittagong. Flowering in June and July.

## GENUS VI. TINOSPORA.

**Diœcia Hexandria.** *Sex: Syst:*

*Deriv.* From *Tino*, to extend, and *Spora*, a seed, alluding to the elongated seeds.

Gen. Char. Climbing shrubs, with axillary or terminal racemes: sepals 6, in two rows, the inner ones larger: petals 6, smaller than the inner sepals. Male. Stamens 6: filaments thick, somewhat club-shaped at the apex: anthers 2-celled: cells obliquely

adnate. Fem. Stamens sterile, elavate: ovaries 3, seated on a convex gynophore: stigmas irregularly cleft; drupes 1–3, convex at the back, fleshy: putamen wrinkled, keeled at the back, lightly excavated in the front: podosperm projected into the hollow, slightly 2-lobed, hollow within: seed convolute round the podosperm: albumen fleshy, oily, ruminated: embryo somewhat curved: radical superior: cotyledons ovate.

(1) T. TOMENTOSA. (*Miers.*)

*Ident.* Miers. in Tayl. Ann. Ser. II. VII. p. 38.—Hook. & Thoms. Flor. Ind. I. p. 183.

*Syn.* Cocculus tomentosus, *Colebr. in Linn. Trans.* XIII. *p.* 39.—Menispermum tomentosum, *Roxb. fl. Ind.* III. *p.* 813.

Spec. Char. Leaves round-cordate, repand or more or less 3-lobed, tomentose on both sides, especially beneath: petioles nearly as long as the leaves, tomentose: racemes solitary or fascicled, usually simple: flowers fascicled in the axils of minute deciduous bracts: anthers 2-lobed: drupes 1–3, size of a large pea, subglobose, smooth, orange-coloured.

In thickets in Bengal, flowering in February and March.

(2) T. MALABARICA. (*Miers.*)

*Ident.* Miers. in Tayl. Ann. Ser. II. VII. p. 38.—Hook. & Thoms. Flor. Ind. I. p. 183.

*Syn.* Menispermum Malabaricum, *Willd.*—Cocculus Malabaricus, *Dec. prod.* I. *p.* 97.

*Engrav.* Rheede Mal. VII. t. 19.

Spec. Char. Climbing: young parts beset with whitish hairs: petioles terete, thickened at the base, hairy: leaves heart-shaped, acuminated, downy beneath, roughish with hairs above, 7-nerved: racemes as long as the leaf: flowers green: ripe drupes coral-red.

Malabar. Khasia hills. Chittagong.

(3) T. CRISPA. (*Miers.*)

*Ident.* Miers. in Tayl. Ann. Ser. II. VII. p. 38.—Hook. & Thoms. Flor. Ind. I. p. 183.

*Syn.* Menispermum crispum, *Linn.*—M. verrucosum, *Roxb. fl. Ind.* III. *p.* 808.—Cocculus crispus, *Dec. prod.* I. *p.* 97.—C. coriaceus, *Blume.*

Spec. Char. Climbing: young parts glabrous: leaves oval-oblong, acuminated, slightly cordate at the base, quite entire or repand, glabrous on both sides: lobes sometimes subsagittate: racemes solitary or fascicled at the axils of the fallen leaves, elongated:

flowers 2–3, in the axils of a fleshy ovate bract, pedicelled, green, campanulate: drupes pale-orange or yellow, size of an olive.

Silhet.

(4) T. CORDIFOLIA. (*Miers.*)

*Ident.* Miers. in Tayl. Ann. Ser. II. VII. p. 38.—Hook. & Thoms. Flor. Ind. I. p. 184.

*Syn.* Menispermum Malabaricum, var. *Lam.*—M. cordifolium, *Willd. Roxb. fl. Ind.* III. *p.* 811.—Cocculus cordifolius, *Dec. prod.* I. *p.* 97.—*W. & A. prod.* I. *p.* 12.—C. convolvulaceus, *Dec. l. c.*

*Engrav.* Wight's Icon. t. 485 and 486.

SPEC. CHAR. Climbing: bark corky and slightly warty: young parts glabrous: leaves broad-cordate, acute, or terminating in a slender acumen: racemes axillary, rarely terminal, or solitary from the axils of the fallen leaves, often much longer than the leaves, simple or somewhat compound at the base: bracts subulate, lower ones rarely somewhat leafy: flowers yellow, males fascicled, females usually solitary: petals cuneate, triquetrous or somewhat 3-lobed, afterwards reflexed: drupes the size of a small cherry, red, filled with glutinous pulp.

Common in most parts of India, flowering all the year.

## GENUS VII. TILIACORA.

**Dioecia Hexandria.** *Sex. Syst.*

*Deriv.* The Bengalee name latinized.

GEN. CHAR. Sepals 6, in two rows; outer ones much smaller, inner ones oval: æstivation scarcely imbricated: petals 6, minute, cuneate. MALE. Filaments cylindric: anthers adnate introrse, 2-celled. FEM. Ovaries 9–12, apiculated with a short subulate style and seated on a short gynophore: drupes pedicelled, obovate, laterally subcompressed: putamen thin, woody, obscurely ribbed, furrowed on both sides: seed curved like a hook: albumen oily, ruminated: cotyledons fleshy.

(1) T. ACUMINATA. (*Miers.*)

*Ident.* Miers. in Tayl. Ann. Ser. II. VII. p. 39.—Hook. & Thoms. Flor. Ind. I. p. 187.

*Syn.* T. racemosa, *Colebr. in Linn. Trans.*—Menispermum acuminatum *et* radiatum, *Lam.*—M. polycarpum, *Roxb. fl. Ind.* III. *p.* 816.—Cocculus acuminatus, *Dec. prod.* I. *p.* 99.—*W. & A. prod.* I. *p.* 12.—C. radiatus, *Dec. l. c.*

*Engrav.* Rheede Mal. VII. t. 3.—Deless. Icon. sel. I. t. 35.

Spec. Char. Climbing shrub: leaves ovate, acuminated, sometimes acute but more often truncated at the base, rounded or slightly cordate, undulating at the margin, glabrous on both sides: panicle axillary, scarcely equalling or much longer than the leaves, hoar or at length glabrescent: females somewhat simple, 1-flowered males 3–7-flowered at the apex: bracts oblong or subulate: flower yellow: drupes reddish.

Throughout India.

## GENUS VIII. LIMACIA.

**Dioecia Hexandria.** *Sex. Syst.*

*Deriv.* From *Limax*, a snail-shell, alluding to the form of the nut.

Gen. Char. Sepals 6, in two rows, outer ones smaller: petals 6, much less than the inner sepals, auricled, embracing the stamens. Male. Stamens 3–9, with cylindric or club-shaped filaments: anthers 2-celled: cells adnate, dehiscing lengthwise. Fem. Stamens 6, sterile, club-shaped: ovaries 3: styles short, compressed: drupe obovate or reniform: seed elongated; putamen convex at the sides containing within, besides a seed-bearing cavity, 2 lateral empty cells; cotyledons semi-cylindric.

(1) L. cuspidata. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 189.

*Syn.* Cocculus cuspidatus, *Wall.*—Hypserpa cuspidata, *Miers in Tayl. Ann. Ser.* II. VII. *p.* 10.

Spec. Char. Climbing shrub: leaves ovate-lanceolate, acuminated, rounded at the base, younger ones pubescent beneath: petioles thickened above, pubescent, afterwards glabrous: panicle pubescent, axillary or supra-axillary, solitary or twin, inserted on a tomentose tubercle; males twice as long as the petioles, sparingly branched, females simple, scarcely equalling the petiole, few-flowered: drupes subglobose.

Silhet. Khasia.

## GENUS IX. PERICAMPYLUS.

**Dioecia Hexandria.** *Sex. Syst.*

*Deriv.* From *Peri*, around, and *Kampulos*, twisted.

Gen. Char. Sepals 6, imbricated in two rows; outer ones less petals 6. Male. Stamens 6: anthers adnate, oval, 2-celled: cells laterally dehiscing. Fem. Stamens sterile, 6: ovaries 3: styles bipartite to the base, the segments reflexed: drupes subglobose

putamen horse-shoe-shaped, crested on the back, laterally excavated on both sides, imperforated: cotyledons elongated.

(1) P. INCANUS. (*Miers.*)

*Ident.* Miers. in Tayl. Ann. Ser. II. VII. p. 40.—Hook. & Thoms. Flor. Ind. I. p. 194.

*Syn.* Cocculus incanus, *Colebr. in Linn. Trans.* XIII. *p.* 57.—Clypea corymbosa, *Blume.*—Cissampelos Mauritiana, *Wall.* (not *Dec.*)—Menispermum villosum, *Roxb. fl. Ind.* III. *p.* 812.

SPEC. CHAR. Climbing shrub: leaves very broad, slightly cordate at the base, subpeltate, mucronated, sometimes retuse, glabrous above, ashy-tomentose or hoary below, 5-nerved: cymes bi-trichotomous, shorter than the leaf. bracts subulate at the ramifications: sepals villous on the back: petals trapezoid, inflexed at the margins: drupes red: putamen marked at the back with 3 rows of obtuse tubercles.

Assam. Khasia. Silhet. Chittagong.

## GENUS X. STEPHANIA.

**Dioecia Monandria.** *Sex. Syst.*

*Deriv.* From *Stephane*, a crown, alluding to the anthers surrounding the tops of the filaments in the form of a golden crown.

GEN. CHAR. Climbing shrub. MALE. Sepals 6–10, in two rows, oval or obovate: petals 3–5, obovate, fleshy. FEM. Sepals 3–5: petals as many: drupe solitary putamen compressed, horse-shoe-shaped, tubercled at the back, excavated at the sides and perforated with a circular hole.

(1) S. ELEGANS. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 195.

SPEC. CHAR. Leaves deltoid, acuminated, truncated or cordate at the base, quite glabrous: peduncles very slender, usually longer than the petioles: umbels many-rayed, sometimes twice-divided: sepals broad-ovate, acuminated: drupes subglobose, red: flowers purple or green.

Khasia. Assam. Flowering in June and July.

(2) S. HERNANDIFOLIA. (*Walp.*)

*Ident.* Walp. Rep. I. p. 96.—Hook. & Thoms. Flor. Ind. I. p. 196.

*Syn.* Cissampelos hernandifolia, *Willd.*—Clypea hernandifolia,

*W. & A. prod.* I. *p.* 14.—Cissampelos discolor, *Dec. prod.* I. *p.* 101.—C. hexandra, *Roxb. fl. Ind.* III. *p.* 842.—C. hernandifolia, *Roxb. l. c.*

*Engrav.* Wight's Icon. t. 939.—Spicil. I. t. 7.

Spec. Char. Leaves ovate or somewhat deltoid, acute or obtuse, paler and sometimes pubescent below: peduncles axillary, umbelled at the apex: rays various in length, beset with subulate bracts, 8–12 or many-flowered: sepals obovate: petals 3–4.

Malabar. South Carnatic. Chittagong. Assam. Bengal. Flowering all the year.

(3) S. rotunda. (*Lour.*)

*Ident.* Lour. fl. Coch. Chin. p. 747.—Hook. & Thoms. Flor. Ind. I. p. 197.

*Syn.* Cocculus Roxburghianus, *Wall. W. & A. prod.* I. *p.* 450, annot.—Cissampelos glabra, *Roxb. fl. Ind.* III. *p.* 840.—Clypea Wightii, *Arn. in Wight's Ill.* I. *p.* 22.

Spec. Char. Leaves broad-ovate, obtuse or acute, irregularly sinuately-lobed or repand, glabrous, long-petioled: peduncles various in length, axillary, very slender: rays of the umbel short or elongated, cymose, beset with subulate bracteoles at the base: sepals in male flowers narrow-cuneate, scurfy or puberulous at the back: petals broad-cuneate, shorter than the sepals: drupes glabrous: flowers largish, yellow, fleshy.

Khasia hills. Assam. Courtallum. Flowering from April to June.

## GENUS VI. CYCLEA.

**Dioecia Monandria.** *Sex. Syst.*

Gen. Char. Climbing shrubs, with panicled inflorescence. Male. Sepals 4–8, combined into a campanulate calyx: petals as many, more or less combined: anthers horizontal, equal in number to the sepals, 1-celled, transversely dehiscing. Fem. Sepals 2, lateral, furnished with an anterior bract: ovary solitary: stigma cleft into 3–5 subulate segments, radiately diverging: drupes subglobose: putamen horse-shoe-shaped, variously tuberculed at the back, convex at the sides.

(1) C. Burmanni. (*Miers.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 201.

*Syn.* Cocculus Burmanni, *Dec. prod.* I. *p.* 96.—Clypea Burmanni, *W. & A. prod.* I. *p.* 14.

*Engrav.* Burm. Zeyl. t. 101.—Pluk. t. 24. f. 6.

Spec. Char. Stems furrowed, slightly hairy or glabrescent; leaves peltate, long-deltoid, acuminated, cordate at the base, sagittately-lobed, densely pubescent beneath: calyx inflated, subglobose, 6–8-lobed: corolla urceolate, scarcely lobed: panicles equalling or longer than the leaves, loosely branched, many-flowered, pubescent: flowers somewhat globose, slightly hispid.

Concans, flowering in January.

(2) C. peltata. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 201.

*Syn.* Menispermum peltatum, *Lam.*—Cocculus peltatus, *Dec. prod.* I. *p.* 96.—C. barbata, *Wall.*—Clypea Burmanni, *W. & A. prod. (ex parte.)*

*Engrav.* Rheede Mal. VII. t. 49.

Spec. Char. Leaves broad-deltoid, somewhat repand at the margin, mucronate, glabrous above or with a very few scattered hairs, pubescent beneath: calyx campanulate, 4-lobed: petals shorter than the sepals and combined into an irregularly 4-lobed cup: panicles somewhat supra-axillary, puberulous. males usually longer, slender, many-flowered; females straighter, scarcely equalling the leaves. drupes reniform, laterally compressed, hairy.

Malabar and South Carnatic. Assam. Khasia. Chittagong. Flowering in January.

(3) C. populifolia. (*H. F. & T.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 202.

Spec. Char. Leaves broad-cordate, 7–9-nerved, glabrous above, pubescent with stiffish hairs beneath: petiole pubescent, thickened at the base and apex: panicles axillary, tomentose, many from the same axil: males decompound, many-flowered: calyx campanulate, 4-lobed: anthers peltate, disk-shaped, 4-celled: sepals 2, glabrous, lateral, somewhat cucullate.

Khasia.

## GENUS XII. PACHYGONE.

**Dioecia Hexandria.** *Sex. Syst.*

*Deriv.* From *Pachys*, thick, and *Gone*, a seed.

Gen. Char. Sepals 6, in two rows, outer ones lesser: petals 6, auricled, a half shorter than the sepals, embracing the stamens.

Male. Filaments incurved at the apex: anthers subglobose, didymous, 2-celled, rudimentary ovaries 3, very small. Fem Stamens 6, without anthers, shortly clavate: ovaries 3: styles thick, horizontal: drupes reniform, slightly excavated at the sides: seed horse-shoe-shaped.

(1) P. ovata. (*Miers.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 203.

*Syn.* Cissampelos ovata, *Poir. Dec. prod.* 1. *p.* 102.—Cocculus leptostachyus, *Dec. prod.* 1. *p.* 99.—C. Plukenetii, *Dec. prod.* 1. *p.* 97.—*W. & A. prod.* I. *p.* 14.

*Engrav.* Wight's Icon. t. 824 and 825.

Spec. Char. Climbing shrub, much branched: branchlets covered with yellowish tomentum: leaves ovate-oblong, cuneate or rounded at the base, obtuse at the apex or retuse with a mucro, 3–5-nerved, glabrous on both sides, thickly coriaceous: petiole white-pubescent, thickened at the apex and somewhat jointed: petioles and racemes surrounded at the base with a bundle of hairs: racemes slender, pubescent or tomentose, the males longer than the leaves, the females scarcely equalling them or shorter: flowers minute, the males fascicled in the axils of bracts, females solitary. inner sepals oval or obovate petals acutely or obtusely 2-toothed: drupes somewhat compressed, the size of a pea, smoothish: putamen wrinkled.

In sandy parts of the Carnatic near the sea.

## ORDER VI. BERBERIDACEÆ.

Shrubs or herbaceous plants, often spiny: leaves alternate, without stipules: flowers racemose or panicled: sepals 3–6, in a double row, surrounded by scales: petals hypogynous, either equal in number to the sepals and opposite them, or double the number, sometimes furnished with an appendage in the inside at the base: stamens hypogynous, equal in number to the petals and opposite them: anthers 2-celled: carpel solitary, 1-celled: style somewhat lateral: stigma orbicular: fruit baccate or capsular, indehiscent: albumen fleshy or horny.

## GENUS I. BERBERIS.

**Hexandria Monogynia.** *Sex Syst:*

*Deriv.* From *Berberys*, the Arabic name.

GEN. CHAR. Shrubs . the primary leaves abortive and generally changed into thorns, the secondary ones fascicled in the axils of the others: sepals 6, tribacteate: petals 6: stigma depressed, sessile, or very rarely with a style: berry 1–9-seeded.

### (1) B. TINCTORIA. *(Lesch.)*

*Ident.* W. & A. prod. I. p. 16.

*Syn.* B. aristata, *Dec. prod.* I. *p.* 106. *Hook. & Thoms. Flor. Ind.* I. *p.* 222.—B. chitria, *Ham. Mss. Don. prod. p.* 204.—B. angustifolia, *Roxb. Hort. Beng. p.* 87.

*Engrav.* Deless. Ic. II. p. 1. t. 2.—Wight's Ill. I. t. 8.—Bot. Reg. t. 729.—Hook. Ex. flor. t. 98.

SPEC. CHAR. Spines deeply divided into three sharp segments: leaves oboval, quite entire, or with distant, small, spiny teeth, glaucous: nerves and veins prominent beneath: racemes stalked, longer than the leaves: petals distinctly biglandular: flowers yellow.

Neilgherries. Pulney Mountains. Flowering from January to April.

### (2) B. LESCHENAULTII. *(Wall.)*

*Ident.* W. & A. prod. I. p. 16.

*Syn.* Mahonia Nepaulensis, *Dec. prod.* I. *p.* 109. *Hook. & Thoms. Flor. Ind.* I. *p.* 219.—Berberis pinnata, *Roxb. fl. Ind.* II. *p.* 184.—B. miccia, *Don. prod.* 205.—B. acanthifolia, *Wall., Mss. Don's Mill.* I. *p.* 118.

*Engrav.* Wight's Icon. t. 9. 40.—Spicil. I. t. 8.—Deless. Ic. sel. II. t. 4.

SPEC. CHAR. Leaves pinnate: leaflets about six pair, ovate, slightly cordate at the base with 6–8 thorny teeth at each side: lower pair of leaflets close to the stem: racemes elongated, slender: petals with two distinct glands: berry globose, crowned with the style and stigma: flowers smallish, bright-yellow.

Neilgherries. Khasia hills. Travancore mountains. Flowering from October to March.

(3) B. WALLICHIANA. (*Dec.*)

*Ident.* Dec. prod. I. p. 107.—Hook. & Thoms. Flor. Ind. I. p. 225.—Don. prod. 204.

*Engrav.* Wall. Pl As. Rar. III. t. 243.—Paxt. fl. Gard. I. f. 58.

SPEC. CHAR. Spines slender 3–5-cleft: branches angled or deeply furrowed: leaves fascicled, broadly-orbicular or oblong-elliptic or lanceolate, acuminated at both ends, variously and coarsely serrated with spines or sometimes quite entire, shining on both sides pedicels many aggregated, short: berries small, elliptic-oblong, scarcely pulpy, terminated by the short style and small stigma.

Khasia hills, flowering in April and May.

## ORDER VII. NYMPHÆACEÆ.

Aquatic herbs, with peltate or cordate leaves: sepals 4–5. petals and stamens numerous, arranged in several rows: anthers adnate, opening lengthwise: torus large, bearing numerous ovaries and carpels, or enclosing them: carpels 1–2, or many-seeded.

### GENUS I. NELUMBIUM.

**Polyandria Polygynia.** *Ser Syst.*

*Deriv.* From *Nelumbo*, the Singhalese name of the plant.

GEN. CHAR. Torus containing within itself the separate ovaries; each of the latter have a simple style and stigma: nuts loose in the cavities of the torus, 1–2-seeded.

(1) N. SPECIOSUM. *(Willd.)*

*Ident.* W. & A. prod. I. p. 16.—Dec. prod. I. p. 113.—Roxb. fl. Ind. II. p. 647.

*Syn.* Nelumbo nucifera, *Gaertn.*—Nymphæa Nelumbo, *Linn.*

*Engrav.* Rheede Mal. XI. t. 30, 31.—Rumph. Amb. VI. t. 73.—Wight's Ill. I. t. 9.—Bot. Mag. t. 903.

SPEC. CHAR. Leaves orbicular, 1–2 feet in diameter, peltate, paler beneath, margins slightly waved: anthers drawn out beyond the cells into a club-shaped appendage fruit turbinate, flattened

at the top, containing several nuts: flowers white, or rose-coloured, very large

Common everywhere in tanks. Flowering nearly all the year.

## GENUS II. NYMPHÆA.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From the Greek term for a water-nymph, in allusion to the habitat of the plants.

Gen. Char. Floating plants with cordate or peltate leaves: sepals usually 4: petals numerous: stamens numerous, inserted with the petals on the torus, but above them: torus bottle-shaped, surrounding the ovaries: carpels 16–20, many-seeded.

### (1) N. stellata. *(Willd.)*

*Ident.* W. & A. prod. I. p. 17.—Dec. prod. I. p. 115.—Roxb. fl. Ind. II. p. 579.—Hook. & Thoms. Flor. Ind. I. p. 243.

*Syn.* N. cyanea, *Roxb. fl. Ind.* II. *p.* 577 —N. versicolor, *Roxb. l. c.*—N. punctata, *Edgew. in Linn. Trans.*—N. Hookeriana, *Lehmann.*

*Engrav.* Rheede Mal. XI. t. 27 —Wight's Icon. t. 178.—Bot. Mag. t. 2058.—Sim's Bot. Mag. t. 1189.

Spec. Char. Perennial: leaves quite entire, margins waved: lobes diverging at the base: petiole attached within the margin: stigma 8–12-rayed: flowers blue.

Throughout India, flowering all the year.

### (2) N. rubra. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 17.—Dec. prod. I. p. 115.—Roxb. fl. Ind. II. p. 576.

*Syn.* N. Lotus, *Linn. Hook. & Thoms. Flor. Ind.* I. *p.* 241.—N. Devoniensis, *Hook. Bot. Mag. t.* 4665.—N. edulis, *Roxb. l c. p.* 578.—N. pubescens, *Willd. Dec. l. c.—W. & A. prod. l. c.*—N. sagittata, *Edgew. in Linn. Trans.*

*Engrav.* Wight's Ill. I. t. 10.—Bot. Mag. t. 1189, 1280 and 1364.—Rheede Mal. XI. t. 26.

Spec. Char. Perennial: leaves sharply toothed, downy beneath: lobes diverging: petiole within the margin: connectivum not prolonged into an appendage: stigma 10–20-rayed flowers large, intensely red or rose-coloured.

Throughout India, flowering all the year.

(3) N. PYGMÆA. (*Ait.*)

*Ident.* Ait. Hort. Kew. III. 293.—Hook. & Thoms. Flor. Ind. I. p. 244.—Dec. prod. I. p. 116.

*Engrav.* Bot. Mag. t. 1525.

SPEC. CHAR. Rhizome woolly with white hairs: leaves oblong-orbiculate, quite entire: lobes acute, diverging: sepals linear-oblong: petals somewhat longer: stamens in 3–4 rows: filaments broadly dilated: rays of the stigma short, obtuse, broad-ovate, shell-shaped: flowers white, not fragrant.

Assam. Khasia hills. Flowering in August.

## GENUS III. EURYALE.

**Polyandria Polygynia.** *Sex: Syst:*

*Deriv.* From *Euryale*, one of the Gorgons, alluding to the thorny and formidable appearance of the plant.

GEN. CHAR. Leaves peltate: sepals 4, inserted in the torus: petals numerous, in several rows: carpels 16–20: fruit appearing half inferior, from the sepals and petals adhering half-way up.

(1) E. FEROX. (*Salisb.*)

*Ident.* Dec. prod. I. p. 114.—Salisb. Ann. Bot. II. p. 73.

*Syn.* Anneslea spinosa, *Andr. Roxb. fl. Ind.* II. *p.* 573.

*Engrav.* Bot. Rep. t. 618.

SPEC. CHAR. Stemless, floating plant: leaves about a foot in diameter, from orbicular to oval, entire, dark-green above, with rusty-coloured veins, armed with few slender prickles above, spinous beneath: petioles and calyx hispid with stiff prickles: carpel the size of a pea, inclosed within the torus: flowers bluish-purple, small.

Chittagong. Lucknow. Flowering nearly all the year.

## GENUS IV. BRASENIA.

**Polyandria Polygynia.** *Sex: Syst:*

GEN. CHAR. Sepals 3: petals 3, sessile, linear, alternate with the sepals: stamens 12–18: anthers linear, laterally dehiscing: ovaries 6–18, cylindric, shortly narrowed at the apex, afterwards somewhat dilated into stigmas which are villous within.

(1) B. PELTATA. (*Pursh.*)

*Ident.* Pursh. fl. Bor. Ann. II. p. 389.—Hook. & Thoms. Flor. Ind. I. p. 246.

*Syn.* Hydropeltis purpurea, *Dec. prod.* I. *p.* 112.

*Engrav.* Bot. Mag. t. 1147.

Spec. Char. Aquatic herb: peduncle pubescent, thickened at the apex below the flower: sepals linear-oblong, pubescent at the back with fleshy bristles, concave: petals 4, longer than the sepals, rose-coloured, narrow linear-oblong, incurved at the apex: stamens about 12, obscurely 2-rowed, hypogynous: anthers linear: carpels 10, 2-rowed, sessile, linear, puberulous: ovules 2, pendulous: seed large, ovoid: leaves alternate, peltate, elliptic-oblong.

Khasia hills, flowering in July and August.

## ORDER VIII. FUMARIACEÆ.

Herbaceous plants with a watery juice: leaves usually alternate, many-cleft and often furnished with a tendril: sepals 2, deciduous: petals 4, cruciate, very irregular: stamens hypogynous, opposite the outer petals, diadelphous, very seldom separate: ovary 1-celled: stigma with two or more points: fruit either a 1-seeded utricle, a 2-valved, 2-seeded, indehiscent capsule, or a 2-valved, many-seeded pod: seeds with an aril: albumen fleshy.

### GENUS I. FUMARIA.

**Diadelphia Hexandria.** *Sex: Syst:*

*Deriv.* From *Fumus*, smoke, alluding to the peculiar odour of the plants.

Gen. Char. Smooth, branched herbs: flowers racemose: peduncles terminal or leaf-opposed: lower petal distinct, linear, the three upper united, the middle one spurred downwards: fruit globose, 1-seeded.

(1) F. parviflora. (*Lam.*)

*Ident.* W. & A. prod. I. p. 18.—Dec. prod. I. p. 130.—Roxb. fl. Ind. III. p. 217.

*Syn.* F. Vaillantii, *Loisel. Dec. Syst.* II. 137.

*Engrav.* Wight's Ill. I. t. 11.—Engl. Bot. IX. t. 590.

Spec. Char. Annual, 1–2 feet high: leaves much divided, linear, channelled: sepals minute: fruit slightly pointed: flowers very small, pale rose-coloured, tipped with dark-purple.

Neilgherries. Deccan. Flowering in the cold weather.

## GENUS II. CORYDALIS.

**Diadelphia Hexandria.** *Sex: Syst:*

*Deriv.* From *Korydalos*, a lark, because the spur of the flower resembles the spur of that bird.

Gen. Char. Sepals 2, deciduous: petals 4, the front ones smooth or concave, posterior ones gibbous or spurred at the base, two lateral inner ones slightly agreeing with the front ones: the posterior staminal column increased by a spur-shaped process: ovules many: stigma 2-lobed: capsules siliquose, 2-valved: seeds lenticular, rostellate, with fleshy aril or none.

### (1) C. Sibirica. *(Pers.)*

*Ident.* Pers. II. p. 70.—Hook. & Thoms. Flor. Ind. I. p. 268. —Dec. prod. I. p. 128.

*Syn.* C. impatiens, *Dec. l. c.*—C. longipes, *Dec. l. c.*—C. filiformis, *Royle. Ill.* 65.

*Engrav.* Wall. tent. flor. Nep. t. 42.

Spec. Char. Herbaceous, diffuse: stem divaricately branched: leaves long-petioled, variously cut: segments broad-linear, or cuneate-obovate, 3–5-cleft: lobes obtuse or apiculated, quite entire or 2–3-crenated: bracts lobate or cut: spur slowly or abruptly ascending, with a short or elongated appendage: silicles narrow-linear, with shining seeds.

Khasia hills, flowering in June and July.

## GENUS III. DICENTRA.

**Diadelphia Hexandria.** *Sex: Syst:*

*Deriv.* From *Dis*, double, and *Kentron*, a spur.

Gen. Char. Sepals 2, deciduous: petals 4, free, saccate or spurred at the base: filaments free or distinct at the base, cohering above: the staminal column increased at the base by a spur-shaped process: ovules several: stigma 2-lobed: capsules siliquose or bacate: valves linear, membranaceous, or ovate and fleshy.

(1) D. TORULOSA. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 272.

SPEC. CHAR. Herbaceous: stems climbing, angled: leaves 2–3-pinnatisect; primary pinnæ long-petioled, divaricate; pinnulæ few, remote, elliptic, acute; petiole often divided at the apex dichotomously into tendrilled capillary branches: peduncles leaf-opposed, somewhat umbellately corymbose: flowers pendulous, golden-coloured.

Khasia hills, flowering in August.

(2) D. ROYLEI. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 273.

SPEC. CHAR. Herbaceous, decumbent or somewhat climbing: corymbs 2–3-flowered: sepals ovate-subulate; outer petals broad, with a short spur, very shortly acuminated; stigma lunate: seeds in two rows, black shining.

Khasia hills, flowering from May to July.

## ORDER IX. CRUCIFERÆ.

Annual, biennial, or perennial, herbaceous plants, rarely under shrubs: leaves alternate: sepals 4, two narrower than the others: petals 4, cruciform, alternate with the sepals; stamens 6, hypogynous, two of which are shorter, solitary, and opposite the sepals, sometimes toothed; the four longer ones are in pairs, and sometimes furnished with a tooth inside; flowers in terminal racemes, lengthening out after expansion, usually yellow or white, seldom purple, without bracts: anthers introrse, 2-celled: receptacle furnished with glands between the stamens and petals: ovary superior, usually 2-celled; fruit a siliqua or silicule, 1 or 2-celled, 1 or many-seeded, rarely indehiscent: seeds attached by a funiculus to each side alternately of the partitions; albumen none; radicle folded up on the cotyledons.

### GENUS I. NASTURTIUM.

**Tetradynamia Siliquosa.** *Sex. Syst.*

*Deriv.* From *Nasus*, the nose, and *Tortus*, twisted, the acrid taste

Gen. Char. Herbaceous, generally aquatic plants: leaves often pinnate: calyx equal at the base: petals entire, obovate: stamens not toothed: stigma 2-lobed: siliqua sessile, dehiscing lengthwise usually curved upwards, valves convex on the outside: seeds several, irregular, in a double series, without a border: radicle applied to the edge of the cotyledons: flowers yellow or white.

(1) N. Madagascariense. *(Dec.)*

*Ident.* W. & A. prod. I. p. 19.—Dec. prod. I. p. 138.

*Syn.* N. montanum, *Wall.*—N. Gangeticum, *Wall in Ham.*—N. micranthum, *Dec. prod.* I. *p.* 138.

*Engrav.* Wight's Ill. I. t. 13.

Spec. Char. Annual, branched: leaves lyrate-pinnatifid, unequally toothed: pedicels short, very patent: petals scarcely longer than the calyx: siliqua much longer than the pedicel: flowers yellow.

Neilgherries.

(2) N. Bengalense. *(Dec.)*

*Ident.* Dec. prod. I. p. 139.

*Syn.* Sinapis Bengalensis, *Roxb. in Herb. Lamb.*

Spec. Char. Leaves obovate, cuneate, dentate at the apex: siliqua somewhat swelling: pedicels bracteated, a little shorter than the pod.

Bengal.

## GENUS II. CARDAMINE.

**Tetradynamia siliquosa.** *Sex: Syst.*

*Deriv.* From *Kardia*, the heart, and *damao*, to subdue, alluding to the stomachic quality of the species, or else from *Kardamon*, a watercress.

Gen. Char. Calyx connivent, or slightly patent, equal at the base: petals clawed: stamens without teeth: siliqua sessile, linear elongated, compressed, valves flat: style short, or wanting: stigma nearly simple: seeds in a single series: radicle applied to the edge of the cotyledons: leaves entire, petioled, lobed, or variously divided, often different on the same plant. Flowers white or rose-coloured.

(1) C. Borbonica. *(Pers.)*

*Ident.* W. & A. prod. I. p. 20.—Dec. prod. I. p. 150.

*Syn.* C. Wightiana, *Wall.*

*Engrav.* Wight's Spicil. t. 9.—Ic. t. 941.

Spec. Char. Herbaceous, leaves trifoliolate: leaflets hairy on both sides, ovate-acuminated, unequal at the base, sharply toothed, terminal one sometimes 3-lobed or divided into 3 leaflets: siliqua erect: flowers white.

Neilgherries, in moist marshy places.

(2) C. hirsuta. *(Linn.)*

*Ident.* Dec. prod. I. p. 152.—W. & A. prod. I. p. 20.

*Engrav.* Curt. Lond. II. t. 37.—Bot. VII. t. 492.

Spec. Char. Herbaceous, leaves pinnated, upper leaves of the stem oblong, nearly sessile: stamens 4–6, equal in length to the petals: petals as long as, occasionally longer than the calyx: stigma nearly sessile: flowers yellow.

Neilgherries. Found all over the world, and varying according to soil, moisture, and exposure. A variety is found on hills in Belgaum. Flowering in July.

## ORDER X. CAPPARIDACEÆ.

Herbaceous plants, shrubs, or even trees, sometimes spinescent: leaves alternate, undivided, or palmate: flowers solitary or racemose: sepals 4: petals 4, cruciate, usually clawed, and unequal: stamens hypogynous, almost perigynous, definite, or indefinite, but generally some high multiple of four: receptacles often glandular: ovary stalked or sessile, 1-celled: style 1, or wanting: anthers introrse, opening lengthwise: fruit pod-shaped, or baccate, dehiscent or indehiscent, 1-celled, rarely 1-seeded, usually with two many-seeded placentæ: seeds generally kidney-shaped, exalbuminous, with a tumid testa: embryo curved inwards: cotyledons foliaceous, flattish.

### GENUS I. GYNANDROPSIS.

**Monadelphia Hexandria.** *Sex: Syst:*

*Deriv.* From *Gyne*, female, *Aner Andros*, male, and *Opsis*, resemblance, the stamens appearing as if inserted on the ovary.

Gen. Char. Sepals 4, spreading: petals 4: torus elongated, linear: filaments united with the torus at their extremities, free above: siliqua stalked.

(1) G. PENTAPHYLLA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 21.—Dec. prod. I. p. 238.

*Syn.* G. affinis, *Blume.*—Cleome pentaphylla, *Linn.*—*Roxb. fl. Ind.* III, *p.* 126.

*Engrav.* Rheede Mal. IX. t. 24.—Rumph. Amb. V. t. 96. f. 3.—Bot. Mag. XL. t. 1681.

SPEC. CHAR. Annual, erect: stem more or less covered with glandular pubescence or hairs: middle leaves 5-foliolate, lower and floral leaves trifoliolate: leaflets obovate, quite entire, or slightly serrulated: flowers white with crimson filaments.

Common weed in waste places. Flowering nearly all the year.

## GENUS II. CLEOME.

**Tetradynamia siliquosa.** *Sex. Syst.*

*Deriv.* From *Kleio*, to close, alluding to the flowers.

GEN. CHAR. Sepals 4, spreading, petals 4: torus short, nearly hemispherical: stamens 6, or rarely 4: siliqua stalked or almost sessile.

(1) C. MONOPHYLLA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 21.—Dec. prod. I. p. 239.

*Syn.* C. cordata, *Burch.*—*Dec. prod.* I. *p.* 239.

*Engrav.* Rheede Mal. IX. t. 34.—Burm. Zeyl. t. 100. f. 2.

SPEC. CHAR. Herbaceous, pubescent: leaves simple, lanceolate: peduncles solitary: siliqua puberulous, striated, almost quite sessile: flowers small, pale rose-coloured.

A common weed, in waste places. Flowering nearly all the year.

(2) C. TENELLA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 21.—Dec. prod. I. p. 240.

*Engrav.* Pluk. t. 224. f. 3.

SPEC. CHAR. Herbaceous, glabrous: leaves trifoliolate: leaflets linear, twice the length of the petiole: flowers hexandrous. siliqua sessile.

Courtallum.

(3) C. ASPERA. *(Koen.)*

*Ident.* W. & A. prod. I. p. 241.

*Syn.* C. aspera, *Dec. prod.* I. *p.* 22.

*Engrav.* Wight's Ic. t. 287.

SPEC. CHAR. Herbaceous, rough with prickles on both stem

and leaves: leaves trifoliolate: leaflets oblong, longer than the petiole: stamens 6: siliqua glabrous, attenuated at the base, but quite sessile.

In cultivated soil in the Peninsula, but not very common.

(4) C. BURMANNI. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 22.

*Syn.* C. dodecandra, *Herb. Banks.*—Polanisia dodecandra, *Dec. prod.* I. *p.* 42.

*Engrav.* Burm. Zeyl. t. 100. f. 1.

SPEC. CHAR. Herbaceous: stem prickly: leaves trifoliolate: leaflets obovate, much longer than the petiole: stamens 6: siliqua terete, glabrous, attenuated at the base.

Common weed in cultivated soil.

## GENUS III. POLANISIA.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Polys*, many, and *anisos*, unequal, the stamens being numerous, and of various lengths.

GEN. CHAR. Sepals 4, spreading: filaments dilated below the anthers, or filiform: torus minute: siliqua sessile, within the calyx.

(1) P. CHELIDONII. *(Dec.)*

*Ident.* W. & A. prod. I. p. 22.—Dec. prod. I. p. 242.

*Syn.* P. Schraderi, *Dec.*—P. Leschenaultii, *Dec.*—Cleome chelidonii, *Linn.*—Corynandra pulchella, *Schrad.*

*Engrav.* Wight's Ic. t. 319.

SPEC. CHAR. Stem hispid with prickly hairs: leaves 7–9 foliolate: leaflets obovate or oblong, wedge-shaped, rigidly pubescent, upper floral leaves minute: filaments club-shaped: siliqua terete, sessile: flowers rose-coloured.

Moist soil by the borders of rice-fields. Flowering in the rainy season.

(2) P. ICOSANDRA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 22.—Roxb. fl. Ind. III. p. 128.

*Syn.* P. viscosa, *Dec. prod.* I. *p.* 242.—Cleome icosandra, *Linn.*—C. dodecandra, *Linn.*—C. viscosa, *Linn.*

*Engrav.* Rumph Amb. V. t. 96. f. 2.—Burm. Zeyl. t. 99.—Wight's Ic. t. 2.

SPEC. CHAR. Stem covered with viscid hairs: leaves 3–5 foliolate: leaflets obovate, cuneate or oblong, pubescent: siliqua

terete, rough with hairs, sessile: acuminated flowers smallish, yellow.

A common weed among rubbish. Flowering nearly all the year.

(3) P. FELINA. *(Dec.)*

*Ident.* W. &. A. prod. I. p. 22.—Dec. prod. I. p. 242.

*Syn.* Cleome felina, *Linn.*

*Engrav.* Rheede Mal. IX. t. 23.

SPEC. CHAR. Thickly covered with prickly hairs: leaves trifoliolate, hairy: leaflets broadly obovate, wedge-shaped, shorter than the petiole: siliqua compressed, glabrous, sessile, about the length of the peduncle.

Courtallum.

(4) P. SIMPLICIFOLIA. *(Camb.)*

*Ident.* Dalz. Bomb. flor. p. 8.—Camb. in Jacq. Voy. IV. p. 20.

*Engrav.* Jacq. Voy. IV. t. 20.

SPEC. CHAR. Branches spreading, covered with rough hairs: leaves obovate, simple: siliqua subcylindric, glabrous, acuminated with the style: flowers axillary, solitary, purple.

Poona, flowering in July and August.

(5) P. BHURTPORENSIS. *(Monro.)*

*Ident.* Monro Hort. Agrensis, p. 35.—Wight's Ic. III. p. 5.

*Engrav.* Wight's Ic. t. 1072.

SPEC. CHAR. Stem and leaves covered with prickly hairs: leaves simple, oblong-lanceolate, acuminated, radical ones attenuated into a petiole, cauline ones sessile: stamens 10–12: siliqua linear, not compressed, about the length of the peduncle: flowers rose-coloured.

Plains of Roobass, near Bhurtpore, flowering in September.

## GENUS IV. CRATÆVA.

**Polyandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Cratævus*, an early Greek Botanist.

GEN. CHAR. Shrubs, without thorns: leaves trifoliolate: sepals 4: petals 4, unguiculate, larger than the calyx: torus elongated: berry stalked, pulpy within.

(1) C. ROXBURGHII. *(Br.)*

*Ident.* W. & A. prod. I. p. 23.

*Syn.* C. odora, *Ham. in Linn. Soc. Trans.*—C. Tapia, *Vahl, Symb.* III. *p.* 61.—Capparis trifolia, *Roxb. fl. Ind.* II. *p.* 571.

*Engrav.* Hook. Ic. II. t. 178.

Spec. Char. Shrub: leaflets ovate, tapering at the base, trifoliolate, lateral ones unequal at the base: berry globose, scurfy: flowers large, white, becoming cream-coloured, with purple filaments.

Coromandel Coast. Banks of the Nerbudda. Malabar. Flowering in February and March.

(2) C. Nurvala. *(Ham.)*

*Ident.* W. & A. prod. I. p. 23.—Ham. in Linn. Soc. Trans.

*Syn.* C. Tapia, *Burm.*—C. Inermis, *Linn.*

*Engrav.* Rheede Mal. III. t. 42.

Spec. Char. Shrub, or small tree: leaflets ovate, lanceolate, acuminated, lateral ones unequal at the base: berry ovoid: flowers whitish, or cream-coloured.

Malabar Coast. Mysore. Flowering in February.

## GENUS V. NIEBUHRIA.

**Polyandria Monogynia.** *Sex. Syst*

*Deriv.* From *Niebuhr*, the African traveller.

Gen. Char. Unarmed shrubs: sepals 4, valvate in æstivation: petals none, or 4, alternate with, and shorter than the segments of the calyx: torus cylindrical, very short: filaments below, united with the torus, free above: berry ovate, stalked. The apetalous species have trifoliolate leaves, the tetrapetalous, simple ones.

(1) N. linearis. *(Dec.)*

*Ident.* W. & A. prod. I. p. 23.—Dec. prod. I. p. 244.

*Syn.* Capparis apetala, *Roth. Nov. Sp. p.* 238.—C. linifolia, *Roxb. Hort. Beng. p.* 41.—Cratæva apetala, *Spr. Syst.* II. *p.* 448.

*Engrav.* Hook. Ic. t. 124.—Wight's Ic. t. 174.

Spec. Char. Leaves trifoliolate: leaflets ovate, oblong or linear, with a recurved mucro, wrinkled, shorter than the petiole. racemes terminal: calyx tube campanulate: petals none, ovary and fruit ovoid: flowers small, greenish-dark purple.

Various parts of the Peninsula, flowering in April.

(2) N. oblongifolia. *(DC.)*

*Ident.* W. & A. prod. I. p. 23.—Dec. prod. I. p. 244.

*Syn.* N. arenaria, *Dec. prod.* I. *p.* 244.—Capparis heteroclita *Roxb. fl. Ind.* II. *p.* 570.—Cratæva oblongifolia, *Spr. Syst.* II. *p* 418.

*Engrav.* Hook. Ic. II. t. 127.

Spec. Char. Climbing shrub: leaves simple, oval-oblong: petals equal, lanceolate, waved, acute, scarcely half the length of the divisions of the calyx: fruits constricted between the seeds, resembling a necklace: flowers small, pale-green.

Courtallum. Cuddalore. In hedges in Guzerat and the Deccan. Flowering from December to February. The leaves vary on the same individual.

## GENUS VI. CADABA.

**Tetrandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Kadhab*, the Arabic name of one of the species.

Gen. Char. Shrubs with simple, or rarely trifoliolate leaves, usually without thorns: sepals 4, two interior ones smaller, and more coloured than the others: petals 4, or 2, with long claws, or none: torus erect, bearing the fruit-stalk at its base on the opposite side from the two middle petals: filaments united below, cohering with the fruit-stalk for nearly half its length: berry many-seeded.

### (1) C. Indica. *(Lam.)*

*Ident.* W. & A. prod. I. p. 24.—Dec. prod. I. p. 244.

*Syn.* Cleome fruticosa, *Linn.*—Stræmia tetrandra, *Vahl.*—*Roxb. fl. Ind.* II. *p.* 78.

*Engrav.* Burm. flor. Ind. t. 46. f. 3.

Spec. Char. Shrub, without thorns: leaves elliptic-oblong, or broad lanceolate: petals 4, immersed in firm pulp: siliqua linear: flowers terminal, whitish.

Common in dry soil. Guzerat and the Deccan. Flowering nearly all the year.

### (2) C. trifoliata. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 24.

*Syn.* C. triphylla, *Wight.*—Stræmia trifoliata, *Roxb. fl. Ind.* II. *p.* 79.

*Engrav.* Wight in Hook. Bot. Misc. t. 37.

Spec. Char. Shrub, without thorns: leaves trifoliolate: leaflets ovate-oblong, glabrous: calyx of two opposite pairs of ovate-oblong veined leaflets, the outer pair larger, the inner more deeply coloured: petals 2, large, round, pure white, beautifully veined, and elevated on claws, which ascend opposite the pedicel of fructification: torus horn-shaped, curving, with a perforated apex, border reflected, the whole of a bright-yellow colour: stamens 6, elevated on a long pedicel, opposite the petals.

Courtallum, flowering in July and August.

## GENUS VII. CAPPARIS.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Kabir*, the Arabic name of the species producing the capers of commerce.

GEN. CHAR. Shrubs, with simple, entire leaves: sepals 4: petals 4, sessile: stamens distinct: siliqua more or less baccate, stalked.

### (1) C. BREVISPINA. (*Dec.*)

*Ident.* W. & A. prod I. p. 24.—Dec. prod. I. p. 246.

*Syn.* C. acuminata, *Roxb. fl. Ind.* II. *p.* 566.—C. Rheedii, *Dec. prod.* I. *p.* 246.—C. Wightiana, *Wall.*—C. rotundifolia, *Dec. prod.* I. *p.* 245.

*Engrav.* Hook. Ic. t. 126.

SPEC. CHAR. Shrub, armed with thorny stipules: leaves short-petioled, from broad-lanceolate to oval, more or less acute, mucronate, paler beneath: pedicels axillary, solitary, 1-flowered, nearly as long as the leaves: ovary oblong, densely pubescent: flowers largish, the two upper petals tinged yellow: anthers blue: berry smooth, red when ripe.

Malabar. Common on dry rocky ground, flowering about the end of the cold season.

### (2) C. PYRIFOLIA. (*Lam.*)

*Ident.* W. & A. prod. I. p. 25.—Dec. prod. I. p. 246.

*Syn.* C. grandiflora, *Wall.*

*Engrav.* Deless. Ic. III. t. 11.—Wight's Ic. t. 1047.

SPEC. CHAR. Stipules thorny, hooked: leaves ovate, or oval-lanceolate, mucronate, glabrous, young ones densely pubescent: pedicels short, axillary, solitary, 1-flowered, 2–3 times longer than the petiole: ovary narrow-oblong, glabrous, furrowed.

Mountainous districts in the Peninsula. Base of the Neilgherries. This is a low, thorny shrub, with large and handsome flowers.

### (3) C. STYLOSA. (*Dec.*)

*Ident.* W. & A. prod. I. p. 25.—Dec. prod. I. p. 246.

*Syn.* C. horrida, *Herb. Banks.*

*Engrav.* Wight's Ic. t. 889.

SPEC. CHAR. Ramous shrub, sometimes attaining the size of a small tree: stipules thorny, short, curved: leaves from linear-lanceolate to elliptical, mucronate: pedicels short, axillary, solitary, 1-flowered, 2–3 times longer than the petiole: ovary smooth, furrowed: berry globose, warted, with 6 ridges, scarlet: flowers red.

Coimbatore. Common all over the Deccan.

(4) C. Wallichiana. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 25.

Spec. Char. Stipules thorny, straight: leaves elliptic-oblong, glabrous, young ones tomentose beneath: pedicels axillary, solitary, 1-flowered, much longer than the petiole: ovary oblong, densely pubescent.

Peninsula.

(5) C. Heyneana. (*Wall.*)

*Ident.* W. & A. prod. I. p. 25.

*Engrav.* Rheede Mal. VI. t. 57.

Spec. Char. Stipules very minute, straight, thorny: leaves ovate, or obovate, lanceolate, 3-nerved at the base: pedicels axillary or terminal, solitary, 1–3-flowered, longer than the petiole: ovary oblong, densely pubescent: flowers white or pale-lilac.

Trichore, in Cochin. Trevandrum. Courtallum. Flowering in the hot season.

(6) C. Zeylanica. (*Linn.*)

*Ident.* W. & A. prod. I. p. 25.—Dec. prod. I. p. 247.

*Syn.* C. acuminata, *Willd.—Dec. prod.* I. *p.* 247.

*Engrav.* Bot. Reg. XVI. t. 1320.

Spec. Char. Stipules thorny, straight: leaves broadly-oval, acuminated at each end, glabrous, young ones tomentose beneath: pedicels supra-axillary, 2–4 in a line one above the other, about half the length of the leaf.

Peninsula.

(7) C. horrida. (*Linn.*)

*Ident.* W. & A. prod. I. p. 26.—Dec. prod. I. p. 246.

*Syn.* C. terniflora, *Dec. prod.* I. *p.* 247.—C. quadriflora, *do.* —C. Zeylanica, *Roxb. fl. Ind.* II. *p.* 567.

*Engrav.* Wight's Ic. t. 173.

Spec. Char. Shrubby, climbing, armed with stipulary, recurved thorns: leaves from elliptic-oblong to broadly-ovate, glabrous: young shoots, leaves and sepals covered with much rusty pubescence: pedicels 2–4 in a vertical line, upper ones longest: ovary globose, pointed: flowers, largish, white, afterwards rose-coloured.

Common in hedges in the Peninsula. Flowering in February and March.

(8) C. bisperma. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 26.—Roxb. fl. Ind. II. p. 568.

Spec. Char. Arboreous: stipules thorny, recurved, wanting on

the younger shoots: leaves oval-oblong: peduncles racemose, lower ones axillary, about half the length of the leaf, upper ones with bracts: berry nearly globose, 2-seeded.

Coromandel forests, in mountainous districts.

(9) C. Roxburghii. *(Dec.)*

*Ident.* W. & A. prod. I. p. 26.—Dec. prod. I. p. 247.

*Syn.* C. corymbosa, *Roxb. fl. Ind.* II. *p.* 569.

*Engrav.* Wight's Ic. t. 1048.

Spec. Char. Climbing shrub: branches diffuse: stipules thorny, recurved: leaves elliptic-oblong, obtuse, glabrous: racemes terminal, corymbiform: berry globose, dark-reddish purple when ripe, many-seeded: flowers large, white, slightly tinged with yellow.

Hedges and forests in the Peninsula. Western Ghauts. Flowering in February and March.

(10) C. sepiaria. *(Linn.)*

*Ident.* W. & A. prod. I. p. 26.—Dec. prod. I. p. 247.—Roxb. fl. Ind. II. p. 568.

*Engrav.* Jacq. Voy. Ind. t. 22.

Spec. Char. Shrubby: stipules thorny, recurved: leaves roundish-ovate, emarginate, glabrous, young ones pubescent beneath: branches pubescent: corymbs many-flowered, almost umbelliform: petals oblong: ovary globose: berry globose, 1-seeded: flowers small, white.

Coromandel, common in hedges. Flowering in April and May.

(11) C. pedunculosa. *(Wall.)*

*Ident.* W. & A. prod. I. p. 27.

*Engrav.* Hook. Ic. t. 128.

Spec. Char. Stipules thorny, hooked: leaves roundish-ovate, cordate at the base, nearly sessile: umbels sessile, terminal, 2-5-flowered: pedicels and calyx glabrous: fruit globose, with several seeds.

Near Point Calamere, in Tanjore. In dense jungles at Mahableshwur.

(12) C. grandis. (*Linn.*)

*Ident.* W. & A. prod. I. p. 27.—Dec. prod. I. p. 248.

*Syn.* C. racemifera, *Dec.*—C. obovata, *Spr. Syst.* II. *p.* 574.—C. maxima, *Heyne in Roth. Nov. Spr. p.* 237.—*Dec. prod. l. c.*

*Engrav.* Wight's Ic. t. 21.

Spec. Char. Shrub, or small tree, covered all over with greyish pubescence: stipules very short, and wart-like, wanting on the younger branches: leaves roundish-ovate, glabrous above, pubes-

cent beneath: corymbs terminal, almost umbelliform, many-flowered: ovary and berry globose, the latter 2-seeded.

Mysore and Travancore. Fort at Sholapore. Flowering in May.

(13) C. DIVERSIFOLIA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 27.

*Engrav.* Hook Ic. t. 181.

SPEC. CHAR. Shrubby: stipules short, hooked: leaves linear, on the younger branches oblong-lanceolate, acuminated, mucronate, glabrous: corymbs umbelliform, sessile at the extremities of the branches: pedicels and calyx somewhat downy: flowers largish, purple rose-colour.

Peninsula.

(14) C. APHYLLA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 27.—Roxb. Hort. Beng. p. 41.—Dec. prod. I. p. 246.

SPEC. CHAR. Stipules thorny, nearly straight: leaves on the young shoots only, linear-subulate, mucronate: flowers nearly sessile from the axils of the stipules: fruit globular: flowers red.

This is a large straggling shrub or small tree, common in waste places in the Deccan. Guzerat. Banks of the Jumna. Flowering in the rainy season.

(15) C. FLORIBUNDA. *(R. W.)*

*Ident.* Wight's Ill. I. p. 35.

*Engrav.* Wight's Ill. t. 14.

SPEC. CHAR. Shrub, unarmed: leaves ovate-oblong: glabrous: umbels axillary, numerous near the ends of the branches: calyx and petals ciliate on the margins: stamens 8, much longer than the petals, very few-seeded: flowers white.

Peninsula.

(16) C. MURRAYANA. *(J. Grah.)*

*Ident.* J. Grah. Cat. Bomb. pl.

*Engrav.* Wight's Ic. t. 379.

SPEC. CHAR. Diffuse prostrate shrub, with short, recurved, orange-coloured thorns: leaves small, roundish: upper sepal longer: berry oblong, many-seeded: flowers white, suffused with red, large and showy: anthers purple.

Ravines at Mahableshwur.

(17) C. FORMOSA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 9.—Hook. Jour. Bot. II. p. 40.

*Syn.* C. cærulea, *Heyne.*

Spec. Char. Shrubby, erect, unarmed: leaves ovate, oblong, or lanceolate, younger ones covered with tomentum, older ones glabrous: racemes corymbiform, few-flowered: flowers large, pale blue, with a round yellow spot in the middle.

Chorla Ghaut, in Canara. Flowering in April.

(18) C. tener. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 9.—Hook. Jour. Bot. II. p. 41.

Spec. Char. Shrubby, branched, glabrous: stipules thorny, hooked: leaves ovate-lanceolate, short-petioled, glabrous, transparent: pedicels axillary, solitary, filiform, 1-flowered, shorter than the leaf: flowers small.

Syhadree mountains, Bombay.

## ORDER XI. FLACOURTIACEÆ.

Shrubs, or small trees, with alternate, entire, simple exstipulate leaves: sepals 4–7, slightly adherent at the base: petals equal to, and alternate with the segments of the calyx, or none: stamens hypogynous, usually numerous: ovary sessile, or stalked, 1-celled: ovules attached to the surface, or sides of the placentæ: stigmas more or less distinct: fruit 1-celled, fleshy and indehiscent, or a 4–5-valved capsule: seeds indefinite, surrounded by pulp: albumen fleshy.

### GENUS I. FLACOURTIA.

**Dioecia Polyandria.** *Sex: Syst:*

*Deriv.* From *Etienne de Flacourt*, formerly one of the Directors of the French E. I. C. and one of the earliest investigators of the Natural History of Madagascar.

Gen. Char. Shrubs, usually with thorns: leaves occasionally serrated, toothed or crenated on the same individual: peduncles axillary, many-flowered: flowers apetalous. Male. Stamens arranged closely on the torus, not surrounded by a gland at the base: anthers nearly globose. Fem. Calyx deciduous: stigmas 4-9, radiating, linear, furrowed above, dilated at the apex.

(1) F. Ramontchi. *(L'Her.)*

*Ident.* W. & A. prod. I. p. 29.—Dec. prod. I. p. 256.—Roxb. fl. Ind. III. p. 834.—Dalz. Bomb. flor. p. 10.

*Syn.* F. sapida, *Roxb.*—Stigmarota Africana, *Lour.*

*Engrav.* Wight's Ic. I. t. 85.—Roxb. Cor. I. t. 69.—L'Herit. Stirp. Nov. t. 30.

Spec. Char. Tree: thorns few, naked: leaves roundish-ovate or oblong: flowers diœcious: stigmas 5–9: racèmes terminal: flowers minute, greenish.

Peninsula. Western Ghauts. Northern India. Flowering in the cold season.

(2) F. sepiaria. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 29.—Dec. prod. I. p. 256.

*Engrav.* Roxb. Cor. I. t. 68.—Rheede Mal. V. t. 39.

Spec. Char. Shrubby: thorns numerous, bearing leaves and flowers: leaves obovate-oblong: flowers diœcious: stigmas 3–4: flowers small, greenish.

Peninsula. Bengal. Common in the Deccan, towards the Ghauts. Flowering in the cold season.

(3) F. inermis. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 29.—Roxb. fl. Ind. III. p. 833.—Dec. prod. I. p. 256.

*Engrav.* Roxb. Cor III. t. 222.

Spec. Char. Tree: thorns none: leaves ovate: flowers bisexual: stigmas 4–5: flowers small, greenish.

Peninsula. Silhet. Flowering in February and March. The fruit is too sour to be eaten raw, but makes very good tarts.

(4) F. cataphracta. (*Willd.*)

*Ident.* Roxb. fl. Ind. III. p. 834.—Dec. prod. I. p. 256.—Dalz. Bomb. flor. p. 10.

*Engrav.* Rheede Mal. V. t. 38.

Spec. Char. Tree, armed with large multiple thorns: berry size of a small plum, purple, with very hard, sharp-edged seed: flowers small, greenish.

Warree country, on the banks of rivers. Assam. Flowering in the cold season. Fruit eatable.

(5) T. montana. (*J. Grah.*)

*Ident.* Dalz. Bomb. flor. p. 10.

Spec. Char. Middle-sized tree, armed: young shoots with axillary thorns: leaves ovate-oblong, crenate: fruit scarlet, size of a cherry.

Western Ghauts, flowering in the cold season. The fruit has an agreeable acid taste.

## GENUS II. PHOBEROS.

**Icosandria Monogynia.** *Sex. Syst.*

*Deriv.* From the Greek term meaning formidable, alluding to the prickles on the stem.

GEN. CHAR. Flowers without petals, bisexual: leaves alternate, crenato-serrate, with glands at the serratures: calyx 10–12-parted, persistent; segments in 2 series, inner ones unequal: anthers 2-celled, opening by clefts at the base: stigmas capitate, angled, furrowed above: berry 3–4-seeded.

(1) P. CRENATUS. (*Wight.*)

*Ident.* W. & A. prod. I. p. 29.

*Syn.* Flacourtia crenata, *Wall.*

SPEC. CHAR. Thorny shrub: leaves elliptic-oblong, lanceolate, acute, obtusely serrated.

Neilgherries. Western Ghauts.

(2) P. LANCEOLATUS. (*Wight.*)

*Ident.* W. & A. prod. I. p. 30.

SPEC. CHAR. Shrub without thorns (?). Leaves oblong-lanceolate, acuminated, slightly-serrated, without glands at the base, paler beneath.

Neilgherries.

(3) P. WIGHTIANUS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 30.

SPEC. CHAR. Very thorny shrub: leaves roundish-ovate, without glands at the base, scarcely serrate, very coriaceous.

Probably from the Neilgherries.

## ORDER XII. PANGIACEÆ.

Trees, with alternate, entire, somewhat lobed leaves: sepals 5: petals 5, rarely 6: flowers axillary, solitary, or fascicled, or racemose: female flowers with scales in the throat, opposite the petals and equal to them in numbers: ovary free, 1-celled: ovules numerous: placentæ parietal: capsules indehiscent, 1-celled, succulent: seeds numerous, with copious albumen.

## GENUS. HYDNOCARPUS.

**Diœcia Pentandria.** *Sex: Syst:*

*Deriv.* From *Hydnos*, a tuber, and *Karpos*, a fruit.

GEN. CHAR. Trees with poisonous fruit: sepals 5, three inner ones larger: æstivation twisted: petals 5: scales densely hairy. MALE. Stamens 5, in the centre of the flower: filaments hairy at the base. FEM. Stamens as in male: style none: stigmas peltate, flat, 5-cleft: berry globose, crowned with the stigmas.

### (1) H. INEBRIANS. *(Vahl.)*

*Ident.* W. & A. prod. I. p. 30.—Dec. prod. I. p. 257.

*Engrav.* Wight's Ill. I. t. 16.—Wight's Ic. t. 942.—Rheede Mal. I. t. 36.

SPEC. CHAR. Tree: leaves crenately-serrated, glabrous: inner sepals concave: petals fringed with soft white hairs: fruit globose, very hard: flowers small, white.

Malabar. South Concans. Flowering in October and November.

### (2) H. ALPINUS. *(R. W.)*

*Ident.* Wight's Spicil. p. 9.

*Engrav.* Wight's Spicil. t. 10.

SPEC. CHAR. Large tree: leaves entire: sepals all equal, reflexed: petals glabrous, ovate-lanceolate: scales as long as the petals, ciliated towards the apex: male stamens 5: filaments much shorter than the petals. FEM. Calyx corolla and stamens as in the male: stigma peltate, 5-cleft, crowning the ovary: fruit globose: clothed with short brown tomentum: seeds enclosed in white fleshy pulp: flowers whitish-green.

Neilgherries, near Coonoor and Kotagherry, usually growing on the banks of streams. Flowering in July and August.

### (3) H. ODORATUS. (*Lindl.*)

*Ident.* Wight's Ill. I. p. 37.

*Syn.* Gynocardia odorata, *Roxb.*—Chaulmoogra odorata, *Roxb. fl. Ind.* III *p.* 836.

*Engrav.* Roxb. Cor. t. 299.

SPEC. CHAR. Large tree: leaves lanceolate, entire, acuminate: petals oblong: scales ciliated. MALE. Calyx 4-5 cleft. FEM. Peduncles 1-flowered, flowers larger than the males: styles 5: stigmas large, sagittate-cordate: berry globular, size of a shaddock: seeds numerous, immersed in pulp; flowers large, pale-yellow, fragrant.

Assam. Silhet.

## ORDER XIII. VIOLACEÆ.

Herbaceous plants, or shrubs: leaves alternate, rarely opposite, stipulate: vernation involute: sepals 5, persistent, imbricated in æstivation: petals 5, usually unequal, hypogynous, withering: stamens alternate with the petals, occasionally opposite: anthers 2-celled bursting inwardly: filaments dilated, and elongated beyond the anthers, two, where the flowers are irregular, bearing an appendage at their base: ovary 1-celled, many-seeded, with three parietal placentæ: style with an oblique, hooded stigma: capsule 3-valved: seeds definite or indefinite, roundish, or winged: embryo straight, erect, albuminous.

### GENUS I. VIOLA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* The Latin name for the flowers.

GEN. CHAR. Low annual or perennial plants with alternate, withering leaves: peduncles solitary, 1-flowered, with 2 recurved, afterwards erect, bracteoles at the apex: sepals more or less auricled at the base: corolla irregular, the lowest petal produced into a spur at the base: stamens approximate, with very short and distinct filaments which are dilated at the base and bear the anthers low down in their inner side, the two lower ones produced into a spur at the base: capsule 3-valved: the valves elastic and scattering the ripe seeds.

#### (1) V. PATRINII. *(Dec.)*

*Ident.* W. & A. prod. I. p. 32.—Dec. prod. I. p. 293.

*Syn.* V. Chinensis, *G. Don.*—V. primulæfolia, *Linn.*—*Lour. fl. Cochin.* II. *p.* 628.

SPEC. CHAR. Root woody, with a hardish trunk: leaves oblong-lanceolate, crenated, truncate at the base: petioles winged, longer than the leaf: stipules adhering to the petiole for half their length: sepals lanceolate: stigma rostrate, triangular: valves of the fruit straightish: flowers yellow.

Neilgherries.

#### (2) V. WIGHTIANA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 32.

*Engrav.* Wight's Spicil. t. 11.—Wight's Ic. t. 943.

Spec. Char. Stoloniferous, slightly hairy: leaves cordate-ovate, crenated: sepals lanceolate: spur short and very blunt: stigma rostrate, convex but not hooked: flowers purple.

Neilgherries, flowering all the year.

## GENUS II. IONIDIUM.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Ion*, a violet, and *Eidos*, like.

Gen. Char. Low herbaceous plants or under-shrubs: peduncles solitary, 1-flowered, jointed, with 2 bracteoles above the middle: sepals and petals unequal, lower petal longer than the rest: stamens close together: filaments with the anthers low down, not terminated by bristles: capsule valves not elastic.

### (1) I. suffruticosum. (*Ging.*)

*Ident.* W. & A. prod. I. p. 32.—Dec. prod. I. p. 311.

*Syn.* 1. frutescens, *Ging.—Dec. prod. l. c.*—Solea enneasperma, *Spr. Syst.* I. *p.* 804.

*Engrav.* Wight's Ic. t. 308.—Rheede Mal. 9. t. 60.

Spec. Char. Stems pubescent, branched near the base: upper leaves oblong-lanceolate, more or less pubescent, toothed or serrated, lower ones broader: sepals strongly keeled: lower petal obtuse, orbicular, with a long claw: seeds 9, longitudinally furrowed: flowers small, pinkish.

Peninsula. Bengal. Flowering nearly all the year.

### (2) I. enneaspermum. (*Ventn.*)

*Ident.* W. & A. prod. I. p. 33.

*Syn.* I. heterophyllum, *Dec. prod.* I. *p.* 308.—I. capense, *do.* Viola enneasperma, *Roxb. fl. Ind.* I. *p.* 650.—V. suffruticosa, *Roxb. fl. Ind.* I. *p.* 649.—V. frutescens, *Roth. Nov. Sp. p.* 166.—Solea erecta, *Spr. Syst.* I. *p.* 804.

*Engrav.* Wight's Ill. I. t. 19.—Pluk. t. 120. f. 8.—Burm. Zeyl. t. 85.

Spec. Char. Suffrutescent: spreading, or half erect, with simple branches: upper leaves linear-lanceolate: sepals slightly keeled: lower petal nearly orbicular, acute at each end: seeds 9, furrowed: flowers pink.

South Concans. Peninsula. Flowering nearly all the year.

### (3 I. hexaspermum. (*Dalz.*)

*Ident.* Hook. Jour. Bot. IV. p. 342.

*Syn.* Viola erecta, *Roth. Nov. Sp. p.* 165.—I. erectum, *Dec. prod.* I. *p.* 311.

Spec. Char. Height half a foot: stem simple, pubescent: leaves linear, attenuated at both ends, roughish, remotely toothed: stipules ciliated: capsule 6-seeded: flowers deep orange-red.

Hills near Belgaum.

### GENUS III. ALSODEIA.

**Pentandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Alsodes*, leafy, alluding to the plant being thickly set with leaves.

Gen. Char. Shrubs or trees: leaves often alternate, stipulate: flowers racemose: racemes axillary and terminal: pedicels bracteate, jointed: sepals 5, three exterior, two interior: petals longer than the calyx, twisted in æstivation: stamens alternate with the petals: filaments dilated into ligulæ and bearing the anthers at the base of each ligula: lobes of the anthers often produced at the apex into bristly appendages: style clavate: capsule turbinate, obtusely 5-cornered: seeds 1–2 at each valve.

#### A. Roxburghii. *(Wall.)*

*Ident.* Roxb. fl. Ind. I. p. 648.—Ed. Car. II. p. 446.

*Syn.* Vareca heteroclita, *Roxb.*—Pentaloba Roxburghii, *Wall. Cat.*

Spec. Char. Small shrub: leaves alternate, sessile, broad-lanceolate, crenate, with a hollow gland in the axil of each vein on the under side: sepals 5, unequal, woolly: petals lanceolate, revolute above: filaments projecting beyond the bell-shaped part of the corolla, and enlarged with bearded appendages at the base: flowers crowded, sessile, small, white.

Lucknow, flowering in October.

## ORDER XIV. DROSERACEÆ.

Herbaceous plants, often covered with glandular hairs: leaves alternate, with stipulary fringes: peduncles circinate when young: sepals 5, equal, imbricated in æstivation: petals 5, hypogynous: stamens hypogynous, distinct, either equal to and alternate with the petals, or twice the number: anthers 2-celled, bursting lengthwise: ovary single: styles 3–5, distinct or slightly cohering at the base, 2-cleft, or branched: capsule 3–5 valved with the placentæ either in the middle or at the base: seeds with or without an aril: embryo erect, albuminous.

## GENUS I. DROSERA.

**Pentandria Pentagynia.** *Sex. Syst.*

*Deriv.* From *Drosos*, dew, alluding to the glands on the leaves resembling dew-drops.

Gen. Char. Herbaceous plants: leaves furnished with glanduliferous hairs: styles 2–3-parted or multifid: capsule globose, opening by valves at the apex: seeds numerous.

(1) D. Burmanni. (*Vahl.*)

*Ident.* W. & A. prod. I. p. 34.—Dec. prod. I. p. 318.—Roxb. fl. Ind. II. p. 113.

*Engrav.* Wight's Ic. t. 914.—Spicil. t. 12.—Ill. t. 20.—Burm. Zeyl. t. 94.

Spec. Char. Stemless: leaves all radical, obovate-cuneate, sessile: scapes erect: seed-coat not arilliform: flowers small, white.

Bengal. Silhet. Neilgherries. Madras. Mountains and plains of the Peninsula. Flowering in the rainy season.

(2) D. Indica. (*Linn.*)

*Ident.* Dec. prod. I. p. 319.—W. & A. prod. I. p. 34.—Roxb. fl. Ind. II. p. 113.

*Engrav.* Rheede Mal. X. t. 20.—Wight's Ill. t. 20. f. 3.—Burm. Zeyl. t. 94. f. 1.

Spec. Char. Stem branched: leaves linear, short petioled: racemes and calyx puberulous: seed-coat not arilliform.

Common in pastures in Canara, and various parts of the Peninsula.

(3) D. peltata. (*Sm.*)

*Ident.* W. & A. prod. I. p. 34.—Dec. prod. I. p. 319.

*Syn.* D. lunata, *Ham.—Dec. prod.* I. *p.* 319.

*Engrav.* Smith's Ex. Bot. t. 41.—Wight's Ill. t. 20.

Spec. Char. Stem erect, glabrous: leaves scattered, petioled, broadly lunate, peltate with two longish horns pointing upwards: styles many-cleft: testa not arilliform: flowers white.

Neilgherries.

## GENUS II. ALDROVANDA.

**Pentandria Pentagynia.** *Sex. Syst.*

*Deriv.* Named after Ulysses Aldrovandus, an early Italian Botanist.

Gen. Char. Styles filiform: stigmas obtuse: capsule globose, 5-valved: seeds 10, large.

(1) A. vesiculosa. *(Linn.)*

*Ident.* W. & A. prod. I. p. 34.—Dec. prod. I. p. 319.

*Syn.* A. verticillata, *Roxb. fl. Ind.* II. *p.* 112.

*Engrav.* Pluk. t. 41. f. 6.

Spec. Char. Floating: leaves verticelled: petioles wedge-shaped, ending in 4-5 long bristly horns, the limb being folded into a winged bladder: peduncles axillary, solitary, 1-flowered, about twice as long as the petioles: flowers small, white.

Bengal. Peninsula.

## GENUS III. PARNASSIA.

**Pentandria Trigynia.** *Sex: Syst:*

*Deriv.* The plants are feigned to have first sprung up on Mount Parnassus.

Gen. Char. Herbaceous, marshy plants, with radical, petioled leaves: scape with one sessile foliaceous bract dilated under the flower: capsule 4-valved: stigmas sessile.

(1) P. Mysorensis. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 35.

*Engrav.* Wight's Ill. t. 21.

Spec. Char. Leaves cordate, somewhat reniform: lobes overlapping: bract cordate, embracing the scape: 5 fertile and 5 sterile stamens: sepals broadly-oval: petals oval-oblong, entire or slightly toothed on the margin, unguiculate, longer than the sepals: sterile stamens about half the length of the fertile ones, cleft upwards into three thickish segments: stigmas 3: flowers yellow.

Mysore.

(2) P. Wightiana. *(Wall.)*

*Ident.* W. & A. prod. I. p. 35.

*Engrav.* Wight's Spicil. t. 13.—Ill. t. 21.—Ic. t. 945.

Spec. Char. Leaves cordate-ovate: bract leaf-like, embracing the scape: lower half of the petals cut into linear, simple or forked segments resembling a fringe: claw very short and broad: sterile stamens as long as the fertile ones, cleft upwards into 3–5 horn-like glanduliferous segments: flowers large.

Swampy places in the Neilgherries. Flowering in the rainy season.

## ORDER XV. POLYGALACEÆ.

Shrubs or herbaceous plants: leaves generally alternate or opposite, exstipulate: flowers usually in racemes: pedicels tri-bracteolate: sepals 5, irregular, distinct, 2 interior (wings) usually petaloid and alternate with the upper and lower ones, imbricated in æstivation: petals hypogynous, unequal, usually free, one being inferior and larger than the rest, the others being alternate with the upper and lateral sepals, occasionally there are 5, in which case the two additional ones are very small and situated between the wings and lower sepals: the keel is sometimes entire and crested, or else 3-lobed and without a crest: stamens hypogynous, usually united into a tube, unequal and ascending, occasionally 4, distinct: anthers 1-celled, opening by a terminal pore: ovary usually 2-celled, with axile placentæ: style sometimes curved, sometimes hooded at the apex: fruit occasionally indehiscent, fleshy, drupaceous, winged or wingless: seeds naked, or enveloped with hairs: embryo straight, surrounded with copious, fleshy albumen.

### GENUS I. POLYGALA.

**Monadelphia Octandria.** *Sex. Syst:*

*Deriv.* From *polys*, much, and *gala*, milk; the plants are said to yield much nourishment to cattle.

Gen. Char. Herbaceous, or shrubby plants: racemes terminal or axillary: sepals 5, persistent: wings large, petal-like: petals 3, their claws united with the staminiferous tube, the lower one keel-shaped: stamens united into a tube at the base: anthers opening by a pore: ovary 2-celled: ovules solitary: capsule 2-celled, compressed: seeds pubescent, furnished with a carunculate aril.

#### (1) P. TELEPHIOIDES. *(Willd.)*

*Ident.* W. & A. prod. I. p. 36.—Dec. prod. I. p. 332.

*Syn.* P. serpyllifolia, *Dec. prod.* I. *p.* 326.

Spec. Char. Stems herbaceous, diffuse, pubescent: leaves succulent, glabrous, oval-oblong, narrow at the base: racemes 4–5-flowered, scarcely half as long as the leaves: wings leafy, oval,

very sharp, a little longer than the capsule: keel crested: capsule nearly orbicular: flowers very small, greenish.

Peninsula. Bengal. Flowering in the rainy season.

(2) P. ARVENSIS. *(Willd.)*

*Ident.* W. & A. prod. I. p. 36.—Dec. prod. I. p. 326.

*Syn.* P. procumbens, *Dec. prod.* I. *p.* 326.

*Engrav.* Rheede Mal. IX. t. 61.

SPEC. CHAR. Stems herbaceous, procumbent, pubescent, angled upwards: leaves glabrous or slightly hairy, ciliated on the margin, paler beneath, obovate, narrower towards the base: racemes 4–8-flowered, about half the length of the leaves: wings leafy, oblong: keel crested: capsule roundish, oblique, ciliated, not margined: flowers yellow.

Deccan. Peninsula. Flowering in July and August.

(3) P. VAHLIANA. (*Dec.*)

*Ident.* W. &. A. prod. I. p. 36.—Dec. prod. I. p. 326.

SPEC. CHAR. Stems herbaceous, procumbent, angled: leaves softly hairy on both sides, oblong, very shortly petioled: racemes 3–5-flowered, shorter than the leaves, lateral or leaf-opposed: wings nearly membranaceous, elliptical, villous: keel crested: capsule oval, softly villous on the edge, not margined: flowers yellow.

Peninsula and Guzerat.

(4) P. ROTHIANA. (*W. &. A.*)

*Ident.* W. & A. prod. I. p. 37.

*Syn.* P. procumbens, *Roth. Nov. Sp. p.* 329.—*Dec. prod.* I. *p.* 326.—P. glaucoides, *Willd. Sp.* III. *p.* 896.

SPEC. CHAR. Stems herbaceous, pubescent, branched from the base, erect, angled towards the top: leaves glabrous, ciliated, narrow-oblong or linear, upper ones distinctly 3–5-nerved: racemes nearly capitate, 4–6-flowered, axillary or lateral, much shorter than the leaves: wings ovate, longer than the capsule: keel crested: capsule roundish, oblique, glabrous, ciliated, margined.

Island of Bombay.

(5) P. TRANQUEBARICA. *(Mart.)*

*Ident.* W. & A. prod. I. p. 37.

*Syn.* P. brachystachya, *Dec. prod.* I. *p.* 326.

SPEC. CHAR. Stems herbaceous, procumbent, branched from the base, pubescent, angled: leaves glabrous, pubescent along the margin, upper ones oblong-linear, narrow, lower ones oblong, or narrow-obovate: racemes 3–5-flowered, about half as long as the

leaves: wings with a membranaceous margin, ovate, glabrous, ciliated below the length of the capsule: keel crested: capsule roundish, oblique, glabrous, ciliated, not margined.

Peninsula.

(6) P. ROSMARINIFOLIA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 37.

SPEC. CHAR. Stems suffrutescent or herbaceous, branched, pubescent: branches long, twiggy, angled towards the top: leaves oblong-linear, glabrous or slightly pubescent on the margin: racemes axillary, 1–3-flowered, about half as long as the leaves: wings ovate, scarcely longer than the capsule: keel crested: capsule roundish, oblique, densely ciliated, not margined.

Dindigul Hills.

(7) P. TRIFLORA. (*Linn.*)

*Ident.* W. & A. prod I. p. 37.—Dec. prod. I. p. 333.

*Syn.* P. linarifolia, *Roth.*

SPEC. CHAR. Annual: stems erect, roughly pubescent: leaves glabrous, linear: racemes usually 3-flowered, axillary or above the axils, about half as long as the leaves: wings membranaceous, pubescent, ciliated: keel crested: capsule oblong, pubescent, ciliated, scarcely margined.

Sholapore. Common in Scinde.

(8) P. WIGHTIANA. (*Wall.*)

*Ident.* W. & A. prod. I. p. 38.

*Engrav.* Wight's Icon. t. 67.

SPEC. CHAR. Annual: glabrous, slightly glaucous: stems branched, diffuse: leaves linear, tapering downwards, acute, with a long mucro: racemes many-flowered, 3–4 times longer than the leaves, and opposite to them: wings oblong, somewhat leafy, a little longer than the capsule: keel crested: capsule oblong, nearly even, glabrous, not ciliated, scarcely margined.

Dindigul Hills.

(9) P. ELONGATA. (*Klein.*)

*Ident.* W. & A. prod. I. p. 38.—Dec. prod. I. p. 332.

SPEC. CHAR. Annual: stems branched from the base, pubescent, lateral branches procumbent: leaves oblong-linear, tapering downwards, with a few hairs on the midrib below, and on the margins: racemes many-flowered, supra-axillary or leaf-opposed, much longer than the leaves: wings oblong: keel crested: capsule roundish, oblique, not ciliated, slightly margined: flowers purple, with greenish-yellow wings.

Mysore.

(10) P. CILIATA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 38.

*Syn.* P. prostrata, *Willd.—Dec. prod.* I. *p.* 333.

SPEC. CHAR. Annual: stems branched, diffuse, angled, and covered with rigid hairs: leaves oblong, glabrous, ciliated below with rigid hairs: racemes hairy, many-flowered, twice as long as the leaves: wings membranaceous at the margins, glabrous, ovate: keel crested: capsule roundish, slightly oblique, not margined, rigidly ciliated: flowers greenish-white, with a tinge of rose.

Peninsula. Flowering in the rainy season.

(11) P. HEYNEANA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 38.

*Syn.* P. venosa, *Heyne.*

SPEC. CHAR. Suffrutescent: branches procumbent, pubescent: leaves linear-oblong, slightly pubescent: racemes lax, 5–8-flowered, twice the length of the leaves, supra-axillary, or leaf-opposed: wings leafy, ovate: keel crested: capsule nearly equal, margined.

Neilgherries.

(12) P. JAVANA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 38.—Dec. prod. I. p. 327.

*Engrav.* Comp. Bot. Mag. I. t. 7.

SPEC. CHAR. Suffrutescent, softly villous or tomentose, branches diffuse: leaves obovate or oblong, cuneate at the base: racemes many-flowered, leaf-opposed, nearly twice as long as the leaves: wings ovate-orbicular, membranaceous, softly pubescent: keel crested: capsule orbicular, softly pubescent, especially on the edge, slightly margined: flowers pinkish, with greenish-yellow wings.

Peninsula.

(13) P. ARILLATA. *(Ham.)*

*Ident.* W. & A. prod. I. p. 39.—Don fl. Nep. p. 199.

*Engrav.* Wall. pl. As. Rar. t. 100.—Wight's Icon. t. 946.

SPEC. CHAR. Shrubby, erect: branches pubescent: leaves oblong, on longish petioles, a little downy beneath: racemes many-flowered, lax, terminal, or leaf-opposed, drooping: bracteoles deciduous: wings obovate, glabrous: keel crested: capsule kidney-shaped, coriaceous: seeds globose.

Neilgherries.

(14) P. PERSICARIÆFOLIA. *(Dec.)*

*Ident.* Dec. prod. I. p. 326.—Dalz. Bomb. flor. p. 13.

*Syn.* P. Wallichiana, *R. W.*

*Engrav.* Wight's Ill. I. t. 22.

Spec. Char. Stem erect, bifid at the apex: leaves oblong, acuminated at both ends, paler beneath: racemes 10–15-flowered, rising from the divisions of the stem: wings obovate: capsule obcordate, ciliate, shorter than the wings: flowers rose-coloured.

Ghauts east of Bombay. Flowering in August.

(15) P. campestris. *(Dalz.)*

*Ident.* Dalz. in Hook. Jour. II. p. 40.

Spec. Char. Annual, 4–5 inches high: stem erect, pubescent, sparingly branched below: leaves linear, subsessile, glabrous, margins recurved: racemes supra-axillary or leaf-opposed, much longer than the leaf: lower flowers 1–2, outside the axils, upper ones racemed, numerous: wings obliquely ovate, longer than the capsule: capsule nearly round, ciliated on the margin: flowers yellow.

Malwan. Flowering in June and July.

(16) P. varians. *(Mart.)*

*Ident.* Dec. prod. I. p. 332.

Spec. Char. Stem herbaceous, branched, procumbent: lower leaves obcordate or ovate, upper ones lanceolate: racemes axillary: keel crested.

Bengal.

(17) P. umbrosa. *(Mart.)*

*Ident.* Dec. prod. I. p. 332.

Spec. Char. Leaves oblong, attenuated at the base racemes axillary: keel crested.

Bengal.

## GENUS II. SALOMONIA.

**Monadelphia Tetrandria.** *Sex Syst*

*Deriv.* Called after Solomon, king of the Hebrews, one of the first Botanists.

Gen. Char. Small, herbaceous plants: sepals 5, somewhat equal: petals 3, united below into a tube, cleft longitudinally on one side: filaments united their whole length: capsule 2-lobed, compressed, bristle-toothed on the margin.

(1) S. cordata. *(Arnott.)*

*Ident.* Wight's Ill. I. p. 49.

*Engrav.* Wight's Ill. I. t. 22.

Spec. Char. Small plant, 3–4 inches high, branched: leaves alternate, sessile, cordate, ovate, glabrous, ciliate on the margin: spikes elongated: capsules crested, pectinate: flowers red.

Vingorla. North Concan.

(2) S. OBOVATA. (*R. W.*)

*Ident.* Wight's Ill. I. p. 49.

*Engrav.* Wight's Ill. I. t. 22.

SPEC. CHAR. Small herbaceous plant, erect, branched: leaves alternate, subsessile, glabrous, obovate-obtuse, above from subor-bicular to cordate: racemes terminal, elongated: capsules bristle-toothed on the margins: flowers small, red.

Malabar Coast.

## GENUS III. XANTHOPHYLLUM.

**Octandria Monogynia.** *Sex Syst*

*Deriv.* From *Xanthos*, yellow, and *Phyllon*, a leaf. The leaves of several species turn yellow in drying.

GEN. CHAR. Trees with coriaceous, shining leaves: racemes axillary or terminal: sepals 5, 2 interior ones a little longer than the others: petals 5, distinct: keel boat-shaped, the 2 additional ones as large as the 2 upper: two lower filaments united with the claw of the keel, two distinct and inserted opposite the inner sepals, the others attached one to each of the claws of the upper and lateral petals: anthers opening by pores: ovary 1-celled, each bearing 2–6 ovules: fruit fleshy, globose, 1-celled: seed solitary, without a carunculus: albumen none.

(1) X. FLAVESCENS. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 39.—Roxb. fl. Ind. II. p. 222.

*Engrav.* Rheede Mal. IV. t. 23.

SPEC. CHAR. Large tree: leaves elliptic-oblong, shortly and bluntly acuminated, under side with two pores near the base: racemes axillary and terminal: ovules 8–12: flowers small yellowish-rose-coloured.

Hilly parts of Chittagong. Malabar Coast. Flowering in May.

(2) X. VIRENS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 221.

*Engrav.* Rox. Cor. t. 284.

SPEC. CHAR. Large tree: leaves from oblong to lanceolate: racemes terminal and axillary: flowers small, numerous, on longish pedicels, yellowish-rose-coloured.

Silhet and Assam. Flowering in March.

(3) X. ANGUSTIFOLIUM. (*R. W.*)

*Ident.* Wight's Ill. I. p. 50.

SPEC. CHAR. Tree: leaves narrow-lanceolate, glabrous: ra-

cemes terminal and axillary, shorter than the leaves: ovary 1-celled, 4-ovuled: flowers yellow.

Courtallum.

(4) X. UNDULATUM. *(R. W.)*

*Ident.* Wight's Ill. I. p. 50.

SPEC. CHAR. Leaves elliptic, oblong, undulated on the margin, acuminated: ovary 1-celled, 4-ovuled.

Courtallum.

(5) X. ROXBURGHIANUM. *(R. W.)*

*Ident.* Wight's Ill. I. p. 50.

SPEC. CHAR. Leaves broadly elliptical, acuminated: racemes axillary and terminal, shorter than the leaves, subsecund: ovary 1-celled, 4-ovuled.

Courtallum and Shevagherry Hills, in woods and thickets.

## ORDER XVI. TAMARICACEÆ.

Shrubs or herbs: leaves alternate, scale-like, entire: flowers racemose, or in dense spikes: calyx 4–5-parted, persistent, imbricated in æstivation: petals 4–5, withering, attached to the base of the calyx: stamens hypogynous, equal to or twice the number of the petals, distinct or monadelphous: ovary 1-celled: stigmas distinct or united: anthers turned inwards, opening lengthwise: capsule 3-valved, 1-celled, many-seeded: placentæ 3, either at the base of the capsule, or along the middle of the valves: seeds erect, comose: albumen none.

### GENUS I. TAMARIX.

**Pentandria Trigynia.** *Sex: Syst*

*Deriv.* From the river Tamaris, in the Pyrenees, where the species are abundant.

GEN. CHAR. Sepals 5, distinct: petals 4–5: stamens distinct, without any intermediate gland: torus fleshy, with twice as many teeth on the margin as there are stamens: seeds not beaked, comose at the extremity: flower-bearing branchlets usually panicled.

(1) T. GALLICA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 40.

*Syn.* T. indica, *Roxb. fl. Ind.* II. *p.* 100.—*Dec. prod.* III. *p.* 96.—T. epacroides, *Sm.*—T. articulata, *Wall.*

*Engrav.* Wight's Ill. I. t. 24.—Hook. Jour. 1841, t. 15.—Eng. Bot. XIX. t. 1318.

Spec. Char. Small shrub: young branches glabrous: leaves stem-clasping: torus 10-toothed: flowers very small, rose-coloured.

Coromandel. Banks of the Indus and Ganges. Flowering in the rainy season.

(2) T. dioica. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 40.—Roxb. fl. Ind. II. p. 101.—Dec. prod. III. p. 96.

Spec. Char. Small under-shrub: young branchlets glabrous: leaves sheathing: flower-bearing branchlets about as long as the terminal spikes: flowers diœcious: styles elongated beyond the corolla: flowers very small, rose-coloured.

Soonderbunds. Beds of the Concan and Deccan rivers. Upper India. Flowering nearly all the year.

## GENUS II. TRICHAURUS.

**Decandria Trigynia.** *Sex Syst*

*Deriv.* From *Thrix*, hair, and *Ouros*, a tail, alluding to the feathery tails of the seeds.

Gen. Char. Sepals 5: petals 5, slightly unequal: stamens inserted between and alternating with the teeth of the torus: filaments distinct: torus fleshy, surrounding the base of the ovary, its teeth equal in number to the stamens: seeds beaked: beak straight, covered with long spreading hairs.

(1) T. ericoides. (*Arn.*)

*Ident.* W. & A. prod. I. p. 40.

*Syn.* Tamarix ericoides, *Rottl. & Willd.*—*Dec. prod.* III. *p.* 97.—T. mucronata, *Sm.*—Myricaria vaginata, *Desv.*—*Dec. prod.* III. *p.* 98.

*Engrav.* Wight's Ill. I. t. 24.—Icon. t. 22.—Jacq. Ind. t. 70.

Spec. Char. Shrub: leaves oblong, stem-clasping: spikes terminal: bracts equalling the pedicel: flowers largish, rose-coloured.

Concan and Deccan rivers.

## ORDER XVII. ELATINACEÆ.

Annual, marshy plants with opposite leaves and minute stipules: sepals 3–5, distinct or slightly connate below: petals hypogynous, alternating with the sepals: ovary 3–5-celled: styles 3–5: stigmas capitate: placentæ axillary: capsules 3–5-celled, 3–5-valved: seeds numerous: albumen none.

### GENUS I. ELATINE.

**Octandria Trigynia.** *Sex. Syst.*

*Deriv.* From *Elate*, a fir-tree, to which the leaves of the species have been compared.

GEN. CHAR. Styles distinct at the base, very short or wanting.

(1) E. AMBIGUA. (*Wight.*)

*Ident.* W. & A. prod. I. p. 41.

*Engrav.* Hook. Bot. Misc. vol. II. t. 5.—Wight's Ill. I. t. 25.

SPEC. CHAR. Stems diffuse, rooting: leaves oblong, attenuated towards the base: flowers pedicellate, axillary, opposite or alternate, with 3 sepals, petals and stamens: stigmas sessile.

Peninsula.

(2) E. VERTICILLATA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 41.

*Syn.* E. luxurians, *Delile.*—Bergia verticillata, *Willd.*—*Dec. prod.* I. *p.* 390.—*Roxb. fl. Ind.* II. *p.* 456.—B. aquatica, *Roxb. Cor.*—B. capensis, *Linn.*

*Engrav.* Roxb. Cor. II. t. 142.—Rheede Mal. IX. t. 78.—Pluk. t. 132. f. 6.

SPEC. CHAR. Annual: stems branched, rooting from the lower joints: leaves lanceolate, attenuated below into a longish petiole and serrated, particularly towards the point: flowers densely capitate, sessile, axillary: sepals and petals 5: stamens 10: styles short: flowers very small, white.

Banks of rivers and rice fields all over India, flowering in the rainy season.

(3) E. AMMANNOIDES. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 41.

*Syn.* Bergia ammannoides, *Roxb. fl. Ind.* II. *p.* 457.—*Dec. prod.* I. *p.* 390.—B. pentandra, *Camb.*—Lechea verticillata, *Willd.*—*Dec. prod.* I. *p.* 286.

*Engrav.* Wight's Ill. I. t. 25.—Hook. Bot. Misc. III. t. 28.

Spec. Char. Annual: stems branched, erect, or with the lower branches procumbent, usually rough with hairs, but sometimes glabrous: leaves oblong-lanceolate, acute, sharply serrated: flowers pedicellate, aggregate in the axils of the leaves: sepals, petals and stamens equal in number: flowers very small, rose-coloured.

Banks of rivers and rice fields all over India, flowering in the rainy season.

(4) E. æstivosa. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 41.

*Syn.* Spergula æstivosa, *Koen.*

*Engrav.* Wight's Icon. t. 222.

Spec. Char. Stems much branched, glabrous: leaves obovate or oblong, those on the flower-bearing branches almost linear: flowers pedicellate, axillary, opposite, solitary: sepals and petals 5: stamens 10.

Peninsula.

(5) E. odorata. *(Edge.)*

*Ident.* Edgeworth in Hook. Jour. Bot. II. p. 283.—Dalz. Bomb. flor. p. 14.

Spec. Char. Pubescent: branches decumbent: leaves oblong, sessile, serrated: cymes axillary, few-flowered: petals and sepals 5: stamens 10: flowers pink.

Guzerat.

## ORDER XVIII. CARYOPHYLLACEÆ.

Herbaceous plants, occasionally becoming suffrutescent: leaves opposite, entire, often connate at the base: sepals 4–5, distinct, or cohering in a tube, persistent: petals 4–5, unguiculate, often split into two parts, occasionally deficient: stamens usually twice as many as the petals, or if equal, alternate with them, hypogynous: filaments sometimes monadelphous, subulate: anthers 2-celled, erect, opening lengthwise: ovary single, consisting of 2–5 united carpels, often stalked: stigmas 2–5, sessile, filiform, papillose inside: capsule 2–5-valved, 1-celled: placentæ axillary: seeds indefinite: albumen mealy.

## GENUS I. GYPSOPHILA.

**Decandria Digynia.** *Sex Syst.*

*Deriv.* From *Gypsos*, chalk, and *Philco*, to love, referring to the habitat of the plants.

GEN. CHAR. Calyx tubular, 5-toothed, angled: petals 5: stipules none.

(1) G. VACCARIA. *(Smith.)*

*Ident.* W. & A. prod. I. p. 42.—Spr. Syst. II. p. 371.

*Syn.* Saponaria vaccaria, *Linn.—Dec. prod.* I. *p.* 365.—S. perfoliata, *Roxb. fl. Ind.* II. *p.* 445.

*Engrav.* Bot. Mag. vol. XLIX. t. 2290.

SPEC. CHAR. Annual, glabrous: leaves ovate and oblong-lanceolate, sessile, connate at the base: flowers bisexual, panicled: calyx smooth, pyramidal: petals with long claws, erose at the apex: flowers largish, rose-coloured.

Peninsula. Bengal. Flowering in the cold season.

## GENUS II. SILENE.

**Decandria Trigynia.** *Sex. Syst.*

*Deriv.* From *Sialon*, saliva, alluding to the viscid moisture on the stems.

GEN. CHAR. Calyx tubular, 5-toothed, not angled: petals 5, with long claws: claw often scaly at the top: limb 2-cleft: capsule 3-celled at the base, opening at the top by six teeth.

(1) S. INTRUSA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 42.

*Engrav.* Wight's Ill. I. t. 26.

SPEC. CHAR. Viscidly pubescent: stems dichotomously branched: upper leaves broadly lanceolate: pedicels alternate, 1-flowered, much longer than the floral leaf: calyx long, club-shaped, with longish teeth, truncate and slightly hollow at the insertion of the pedicel, with ten connected ribs: petals deeply 2-cleft: flowers cream-coloured, tinged with red.

Neilgherries.

## GENUS III. STELLARIA.

**Decandria Trigynia.** *Sex Syst*

*Deriv.* From *Stella*, a star, alluding to the appearance of the flowers.

Gen. Char. Calyx 5-parted: petals 5, 2-cleft: capsule 1-celled, opening at the apex by six valves, many-seeded.

(1) S. media. *(Smith.)*

*Ident.* W. & A. prod. I. p. 42.—Dec. prod. I. p. 396.

*Syn.* S. monogyna, *Don.*

*Engrav.* Engl. Bot. VIII. t. 537.—Wight's Ic. t. 947.

Spec. Char. Stems procumbent, with an alternate line of hairs on one side: lower leaves ovate: upper ones lanceolate: petals deeply divided: capsules deeply divided: flowers small, white.

Neilgherries, flowering in the cold season.

## GENUS IV. CERASTIUM.

**Decandria Tetragynia.** *Sex: Syst:*

*Deriv.* From *Keras*, a horn, the capsules resembling the horns of an ox.

Gen. Char. Sepals 5: petals 5, 2-cleft: styles 5: capsule 1-celled, cylindrical, or globose, bursting at the apex with 10, rarely 5 teeth.

(1) C. Indicum. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 43.

*Engrav.* Wight's Ill. t. 26.

Spec. Char. Stems, leaves and calyx covered with viscid pubescence: stems angled: leaves ovate or oblong, lanceolate: flowers much shorter than the pedicels, in a somewhat dichotomous panicle: petals scarcely longer than the sepals which are oblong-acute: capsules ovoid: teeth 10, rolled backwards, their margins flat: flowers small, white.

Peninsula.

(2) C. vulgatum. *(Linn.)*

*Ident.* W. & A. prod. I. p. 43.—Dec. prod. I. p. 415.

*Engrav.* Wight's Icon. t. 948.—Engl. Bot. XI. t. 789.

Spec. Char. Annual, hairy, nearly erect, upper parts viscid: leaves ovate, obtuse: bracts herbaceous: flowers longer than the pedicels in a somewhat capitate panicle: petals as long as the oblong calyx: capsule cylindrical, curved upwards: teeth 10, straight, their margins rolled backwards: flowers small, white.

Peninsula, flowering in February and March.

(3) C. cordifolium. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 458.

Spec. Char. Annual, flaccid, branched: upper leaves stem-clasping: peduncles solitary, 1-flowered, hairy.

Bengal, flowering in the cold season.

## GENUS V. ARENARIA.

**Decandria Trigynia.** *Sex: Syst.*

*Deriv.* From *Arena*, sand, alluding to the habitat of the species.

Gen. Char. Sepals 5: petals 5, entire: styles 2–4: capsule 3-valved: seeds numerous, roundish.

### (1) A. Neilgherrense. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 43.

*Engrav.* Wight's Spicil. I. t. 15.—Icon. t. 940.

Spec. Char. Annual: stems much branched, with an alternate line of hairs on one side: leaves distant, obovate, glabrous: margins thickened, ciliated towards the petiole: flowers axillary, or in terminal panicles: pedicels slender, viscidly pubescent: sepals oblong, acute, with one dorsal, hairy nerve: petals longer than the calyx: capsules ovate: flowers small, white.

Neilgherries. Belgaum and Dharwar.

## GENUS VI. MOLLUGO.

**Pentandria Trigynia.** *Sex: Syst*

*Deriv.* A name applied by Pliny to a plant to which these have a supposed resemblance.

Gen. Char. Calyx 5-parted: petals usually none or 5 very small, 2-cleft and alternating with the sepals: leaves opposite, with a verticillate appearance: capsule 3-valved, 3-celled, many-seeded.

### (1) M. nudicaulis. *(Linn.)*

*Ident.* W. & A. prod. I. p. 43.—Dec. prod. I. p. 391.

*Syn.* M. bellidifolia, *Ser. in Dec. prod.* I. *p.* 391.—Pharnaceum spathulatum, *Sw.—Spr. Syst.* I. *p.* 948.

*Engrav.* Burm. Zeyl. t. 8. f. 2.

Spec. Char. Leaves radical, numerous and crowded, obovate or oblong, obtuse: flowering scapes trichotomous, decumbent, leafless: stamens usually 3: petals wanting: seeds roughish, minutely tubercled.

Peninsula.

### (2) M. pentaphylla. *(Linn.)*

*Ident.* W. & A. prod. I. p. 44.—Dec. prod. I. p. 391.—Roxb. fl. Ind. I. p. 359.

*Syn.* Pharnaceum pentaphyllum, *Spr. Syst.* I. *p.* 949.

*Engrav.* Burm. Zeyl. t. 8. f. 1.

Spec. Char. Annual, glabrous: stems decumbent, leafy, angled: leaves slightly glaucous, obovate, obtuse, tapering at the base: panicles elongated, many-flowered: stamens usually 3: petals wanting: seeds rough, minutely tubercled: flowers small, white.

Peninsula. Hindostan. Flowering in February.

(3) M. triphylla. *(Lour.)*

*Ident.* W. & A. prod. I. p. 44.—Dec. prod. I. p. 392.—Roxb. fl. Ind. I. p. 360.

*Syn.* M. Linkii, *Ser. in Dec. prod.* I. *p.* 392.—M. paniculata, *Burm.*—M. radiata, *Ruiz. & Pav.*—Pharnaceum triphyllum, *Spr. Syst.* I. *p.* 949.

*Engrav.* Burm. Zeyl. t. VI. f. 2.—Pluk. t. 118. f. 1.—Rheede Mal. X. t. 26.

Spec. Char. Annual, glabrous: stems diffuse, leafy, angled: leaves green, obovate or oblong, tapering at the base: panicles elongated, many-flowered: stamens 3–5: petals wanting: seeds rough, minutely tubercled: flowers small, white.

Hindostan. Peninsula. Flowering nearly all the year.

(4) M. stricta. (*Linn.*)

*Ident.* W. & A. prod. I. p. 44.—Dec. prod. I. p. 391.

*Syn.* Pharnaceum strictum, *Spr. Syst.* I. *p.* 949.

*Engrav.* Burm. Ind. t. 5. f. 3.—Pluk. t. 257. f. 2.

Spec. Char. Annual, glabrous: stems diffuse at the base, afterwards erect, angled: leaves linear-lanceolate, pointed: panicles elongated, many-flowered: stamens 3: petals wanting: seeds minutely tubercled: flowers small, white.

Peninsula.

(5) M. cerviana. *(Ser.)*

*Ident.* W. & A. prod. I. p. 44.—Dec. prod. I. p. 392.

*Syn.* Pharnaceum cerviana, *Linn.*

*Engrav.* Lam. Ill. t. 214. f. 2.—Pluk. t. 128. f. 3. and t. 332. f. 9.

Spec. Char. Glabrous: stems ascending, leaves linear, very narrow, bluntish, glaucous: peduncles elongated, bearing 3 umbellate flowers: stamens usually 5: petals wanting: seeds without tubercles.

Peninsula.

(6) M. DISTICHA. *(Ser.)*

*Ident.* W. & A. prod. I. p. 44.—Dec. prod. I. p. 392.

*Syn.* Pharnaceum distichum, *Linn.*

*Engrav.* Wight's Icon. t. 3.—Pluk. t. 130. f. 6. & t. 332. f. 9.

SPEC. CHAR. Pubescent: stems diffuse, angled: leaves thickish, nearly linear: panicles stiff, slightly branched: stamens usually 5: petals wanting: seeds inconspicuously dotted.

Peninsula. Palaar.

(7) M. SPERGULA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 44.—Dec. prod. I. p. 391.

*Syn.* M. verticellata, *Roxb. fl. Ind.* I. *p.* 360.—M. parviflora, *Dec. prod.* I. *p.* 391.—Pharnaceum mollugo, *Linn.*—*Roxb. fl. Ind.* II. *p.* 102.—P. parviflorum, *Roth.*

*Engrav.* Rheede Mal. X. t. 24.—Burm. Zeyl. t. 7.—Pluk. t. 130. f. 5.—Burm. Ind. t. 5. f. 4.

SPEC. CHAR. Annual: stems straggling, branched: leaves oblong, or obovate, more or less succulent: pedicels 1-flowered, several together, forming a somewhat sessile umbel: stamens 3–5, or 10: petals narrow, cleft to the middle or wanting: seeds rough, minutely tubercled: flowers small, white.

Peninsula, flowering nearly all the year.

## ORDER XIX. MALVACEÆ.

Herbs, trees or shrubs: leaves alternate, stipulate, often divided: sepals 5, rarely less, more or less cohering at the base, and often with an outer calyx or involucel: æstivation valvate: petals 5, hypogynous, twisted in the bud, either distinct or cohering to the staminiferous tube: stamens numerous, with monadelphous filaments: anthers 1-celled, opening transversely: ovaries forming a ring of several carpels round a common axis, distinct or united: styles free or united, entire or divided, as many as the carpels: fruit capsular or baccate, each carpel being 1 or many-seeded, united or dehiscing in separate follicles: seeds sometimes hairy: albumen little or none: embryo curved.

## GENUS I. MALVA.

**Monadelphia Polyandria.** *Sex: Syst.*

*Deriv.* From *Malasso*, to soften, alluding to the mucilaginous properties of the plants.

Gen. Char. Calyx 5-cleft, persistent, surrounded by an involucel of several setaceous bracteoles: ovary many-celled: cells 1-seeded: carpels capsular, indehiscent, circularly arranged round the axis.

### (1) M. Mauritiana. (*Linn.*)

*Ident.* W. & A. prod. I. p. 45.—Dec. prod. I. p. 432.

*Syn.* M. Mauritianica, *Spr. Syst.* III. *p.* 90.

*Engrav.* Cav. Diss. II. t. 25. f. 2.

Spec. Char. Annual: stems erect: leaves cordate, with five obtuse lobes: petioles somewhat tomentose on their upper side: pedicels several, axillary, 1-flowered: bracteoles 3, ovate: carpels wrinkled on the back: flowers largish, dark-purple.

Peninsula.

### (2) M. rotundifolia. (*Linn.*)

*Ident.* W. & A. prod. I. p. 45.—Dec. prod. I. p. 433.

*Engrav.* Cav. Diss. II. t. 26. f. 3.—Engl. Bot. XVI. t. 1092.

Spec. Char. Annual: stems herbaceous, spreading: leaves cordate, roundish, shortly and obtusely lobed, crenated: petioles elongated, sometimes with a line of hairs on their upper side: pedicels several, unequal, axillary, 1-flowered: bracteoles 3: carpels much wrinkled: flowers middle-sized, pale-purple.

Madura. Mysore. Flowering in February and March.

### (3) M. Neilgherrensis. (*R. W.*)

*Ident.* Wight's Spicil. I. p. 15.

*Engrav.* Wight's Spicil. I. t. 16.

Spec. Char. Annual, covered with hairs: branches somewhat angular: leaves long-petioled, cordate, 5-lobed: lobes ovate, doubly serrated: flowers numerous, densely aggregated in the axils: bracteoles 3, linear-lanceolate, acute, shorter than the calyx: petals deeply emarginate: carpels 10, wrinkled, pubescent: flowers rose-coloured, nearly twice the length of the calyx.

Kotagherry. Flowering during the rainy season.

## GENUS II. URENA.

**Monadelphia Polyandria.** *Sex. Syst:*

*Deriv.* The Malabar name Latinized.

Gen. Char. Calyx persistent, surrounded by a 5-10-cleft in-

volucel: style 10-cleft at the apex: carpels 5, capsular, connivent, indehiscent, 1-seeded, usually prickly externally, the prickles being furnished with many cleft, reflexed points: leaves generally having glandular pores at the base of the nerves.

(1) U. LOBATA. (*Linn.*)

*Ident.* W. &. A. prod. I. p. 46.—Dec. prod. I. p. 441.

*Engrav.* Dill. Elth. t. 319. f. 412.—Rumph. Amb. VI. t. 25. f. 2.—Bot. Mag. 58. t. 3043.

SPEC. CHAR. Herbaceous: leaves roundish, with three or more short, acute, or obtuse lobes, more or less velvety, 1–3-glandular: segments of the involucel 5, oblong-lanceolate, equalling the calyx: carpels densely pubescent, echinate: flowers middle-sized, rose-coloured.

Peninsula. Flowering in the rainy season.

(2) U. SCABRIUSCULA. (*Dec.*)

*Ident.* W. & A. prod. I. p. 46.—Dec. prod. I. p. 441.

SPEC. CHAR. Herbaceous: leaves roundish, scarcely lobed, harshly pubescent on both sides, 1–3-glandular beneath: involucel segments 5, linear, acuminated: carpels pubescent, echinated: flowers rose-coloured.

Peninsula. Phoonda and Ram Ghauts.

(3) U. REPANDA. (*Smith.*)

*Ident.* W. & A. prod. I. p. 46.—Dec. prod. I. p. 441.—Roxb. fl. Ind. III. p. 182.

*Syn.* Pavonia repanda, *Spr. Syst.* III. *p.* 98.

SPEC. CHAR. Herbaceous: stem downy: leaves broadly-ovate, waved, serrated, scarcely lobed, longer than the petioles, upper side rough with stellate hairs, under, with a solitary gland: involucel segments subulate, the tube at length strongly ribbed: carpels unarmed.

Coromandel. Goomsoor. Flowering in September.

(4) U. SINUATA. (*Linn.*)

*Ident.* W. & A. prod I. p. 46.—Dec. prod. I. p. 442.—Roxb. fl. Ind. III. p. 182.

*Syn.* U. morifolia, *Dec.*—U. muricata, *Dec.*—U. lappago, *Smith in Dec. prod.*—U. heterophylla, *do.*

*Engrav.* Pluk. t. 5. f. 3.—Rheede Mal. X. t. 2.—Rumph. Amb. VI. t. 25. f. 2.—Burm. Zeyl. t. 69. f. 2.

SPEC. CHAR. Shrubby: leaves deeply 3–5-lobed, serrated, with 1–3 glands on the nerves beneath and pale with hoary pubescence: lobes dilated upwards: sinuses rounded: involucel segments linear-

oblong, equalling the calyx : carpels pubescent, echinated : flowers rose-coloured.

Common in the Southern parts of the Peninsula, flowering in the rainy season.

## GENUS III. PAVONIA.

**Monadelphia Polyandria.** *Sex · Syst ·*

*Deriv.* In honour of John Joseph Pavon, a traveller in Peru, and associate with Ruiz, in the publication of the "Flora Peruviana."

Gen. Char. Calyx 5-cleft, persistent, surrounded by a 5–15-leaved involucel : ovary 5-celled : cells 1-ovuled : style 8–10-cleft at the apex : stigmas 8–10 : carpels 5, capsular, 2-valved, 1-seeded.

### (1) P. odorata. *(Willd.)*

*Ident.* W. & A. prod. I. p. 47.—Dec. prod. I. p. 444.—Roxb. fl. Ind. III. p. 214.

*Syn.* P. sidoides, *Horn. Dec. prod.* I. *p.* 444.—Hibiscus odoratus, *Roxb. Hort. Beng.*

Spec. Char. Perennial : stems herbaceous, viscidly hairy : leaves cordate, roundish-ovate, upper ones shortly 3-lobed, toothed, more or less hairy and viscid : pedicels axillary, 1-flowered : involucel leaves about 12, ciliated, longer than the calyx : carpels not prickly : flowers middle-sized, rose-coloured.

Gingie and Dindigul Hills. Vendaloor. Flowering nearly all the year.

### (2) P. Zeylanica. *(Cav.)*

*Ident.* W. & A. prod. I. p. 47.—Dec. prod. I. p. 444.—Roxb. fl. Ind. III. p. 214.

*Syn.* Hibiscus Zeylanicus, *Linn.*

*Engrav.* Pluk. t. 125. f. 3.—Burm. Ind. t. 48. f. 3.

Spec. Char. Annual : lower leaves somewhat roundish-cordate, crenated, upper ones deeply 3–5-lobed, coarsely toothed : pedicels axillary, 1-flowered : involucel leaves 10, ciliated, longer than the calyx : carpels unarmed : flowers middle-sized, whitish.

Trichinopoly, flowering in the rainy season.

## GENUS IV. LEBRETONIA.

**Monadelphia Polyandria.** *Sex · Syst :*

*Deriv.* Called after Manuel Le Breton, a French Botanist.

Gen. Char. Calyx 5-partite, surrounded by a 5-cleft involu-

cel: petals 5, protruding beyond the calyx, and there with a twisted æstivation: styles 5, each 2-cleft: stigmas 10: carpels 5, unarmed, 1-seeded, indehiscent.

L. PROCUMBENS. (*Wight.*)

*Ident.* W. & A. prod. I. p. 47.

*Engrav.* Wight's Icon. I. t. 4.—Pluk. t. 352. f. 5.

SPEC. CHAR. Procumbent, more or less pubescent: leaves roundish, cordate, serrated, 3-lobed, middle one the longest: pedicels axillary, solitary, 1-flowered: involucel much shorter than the corolla: carpels wrinkled: flowers yellow.

Peninsula.

## GENUS V. HIBISCUS.

**Monadelphia Polyandria.** *Sex. Syst.*

*Deriv.* From *Hibiscos*, the Greek term for the mallow.

GEN. CHAR. Calyx 5-cleft, surrounded by an involucel, with its leaves usually distinct, and sometimes united at their base, or far as their middle: petals not auricled on the one side: ovary 5-celled: cells with three or more ovules: style 1, 5-cleft at the apex: stigmas 5: carpels united into a 5-celled, 5-valved, loculicidal capsule: cells usually many-seeded.

(1) H. VESICARIUS. (*Cav.*)

*Ident.* W. & A. prod. I. p. 48.—Dec. prod. I. p. 453.

SPEC. CHAR. Annual: leaves toothed, lower ones undivided, upper ones 5-cleft: lobes oblong, nearly equal: flowers large, cream-coloured, with a dark-purple eye.

Peninsula, flowering in the cold season.

(2) H. TRIONUM. (*Linn.*)

*Ident.* Dec. prod. I. p. 453.

*Engrav.* Cav. Diss. III. t. 64. f. 1.—Bot. Mag. t. 209.

SPEC. CHAR. Annual: leaves toothed, lower ones undivided, upper ones 3-lobed: lobes lanceolate, middle one the longest: calyx inflated: flowers cream-coloured, with dark-purple eye.

Cuddapah, flowering in the cold season.

(3) H. SURATTENSIS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 48.—Dec. prod. I. p. 449.—Roxb. fl. Ind. III. p. 205.

*Engrav.* Rheede Mal. VI. t. 44.—Rumph. Amb. IV. t. 16.—Pluk. t. 5. f. 4.—Cav. Diss. III. t. 33. f. 1.—Wight's Icon. t. 197.—Bot. Mag. XXXIII. t. 1356.

Spec. Char. Perennial: stem herbaceous: whole plant covered with small, recurved prickles: stipules broad, leafy; leaves 3–5-lobed, long-petioled: pedicels shorter than the petioles: involucel leaves linear, incurved, furnished on their back about the middle with a leafy appendage: flowers large, pale-sulphur, with a dark-purple eye.

Peninsula. Flowering nearly all the year.

(4) H. furcatus. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 48.—Roxb. fl. Ind. III. p. 204.—Dec. prod. I. p. 449.

Spec. Char. Under-shrub: stem erect, softly pubescent: whole plant covered with numerous, recurved prickles: stipules oblong or lanceolate: leaves 3–5-lobed, very pubescent beneath, and prickly on the nerves: involucel leaves about 10, incurved, with a leafy appendage at the back: flowers large, dark-sulphur, with a dark-purple eye.

Interior of Bengal. Southern Provinces. Flowering nearly all the year.

(5) H. sidoides. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 49.

Spec. Char. Suffrutescent: without prickles: leaves oblong, crenated, somewhat tomentose: peduncles 3–4-flowered, leafless: involucel leaves linear-lanceolate: fruit globose: seeds tubercled, glabrous.

Madura.

(6) H. lunarifolius. *(Willd.)*

*Ident.* W. & A. prod. I. p. 49.—Dec. prod. I. p. 451.

*Syn.* H. pruriens, *Roxb. fl. Ind.* III. *p.* 196.

*Engrav.* Wight's Icon. t. 6.

Spec. Char. Biennial: stems herbaceous, hairy: leaves roundish-cordate, acutely 3–5-lobed, serrated, hairy on both sides: pedicels very short, very hairy, thickened below the flower, axillary or racemose by the absence of leaves: involucel leaves about 10, linear: segments of the calyx linear: corolla tubular below, much longer than the calyx: capsule nearly globose: seeds glabrous, slightly tubercled: flowers large, sulphur with a dark-purple eye.

Dindigul. Flowering nearly all the year.

(7) H. rosa-sinensis. *(Linn.)*

*Ident.* W. & A. prod. I. p. 49.—Dec. prod. I. p. 448.—Roxb. fl. Ind. III. p. 194.

*Engrav.* Rheede Mal. II. t. 16.—Rumph. Amb. IV. t. 8.—Bot. Mag. V. t. 158.—Bot. Reg. XXI. t. 1826.

Spec. Char. Stem arborescent: leaves ovate, glabrous, or slightly sprinkled with a few hairs on the nerves beneath, coarsely toothed towards the apex, entire towards the base: pedicels axillary, jointed above their middle: involucel leaves 6–7, linear, half as long as the calyx, which is tubular and 5-cleft: flowers large, crimson.

Interior of Hindostan. In gardens throughout the Peninsula. Flowering all the year. The petals are astringent and are used for blackening shoes, whence the common name of shoe-flower. There are several varieties, with red, yellow, and flesh-coloured flowers.

(8) H. canescens. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 49.

Spec. Char. Stem shrubby: leaves roundish-cordate, slightly and acutely lobed, upper ones sometimes entire, repand, distantly toothed, harshly tomentose below: stipules long, bristly: pedicels short, angled, thickened below the flower: involucel leaves 5, linear-subulate, sharply pointed, striated lengthwise: calyx 5-cleft: sepals 3-nerved.

Mysore. Madura. Gingie Hills.

(9) H. panduriformis. *(Burm.)*

*Ident.* W. & A. prod. I. p. 50.—Dec. prod. I. p. 445.—Roxb. fl. Ind. III. p. 196.

*Syn.* H. tubulosus, *Dec. prod.* I. *p.* 447.

*Engrav.* Burm. Ind. t. 47. f. 2.—Cav. Diss. III. t. 68. f. 2.

Spec. Char. Annual: stem not prickly, pubescent and hairy: leaves cordate, unequally toothed, upper side hispid, under softly tomentose, lower ones slightly 5-lobed: pedicels axillary, 1-flowered, very short: involucel leaves 8, linear, slightly spathulate, spreading or recurved at the apex: calyx 5-cleft: capsule ovoid, pointed, very hairy: flowers large, sulphur, with a dark-purple eye.

Southern Provinces, flowering in October and November.

(10) H. cannabinus. (*Linn.*)

*Ident.* W. & A. prod. I. p. 50.—Dec. prod. I. p. 450.—Roxb. fl. Ind. III. p. 208.

*Engrav.* Roxb. Cor. II. t. 190.

Spec. Char. Annual: stem prickly: leaves 5-partite, segments narrow-lanceolate, serrated, with a gland beneath the middle nerve: flowers axillary, nearly sessile: involucel leaves usually 9, bristly: calyx divided beyond the middle: segments covered with a few prickles, with a large gland about the middle of each nerve: fruit nearly globose, very hairy: flowers large, sulphur, with a dark-brown eye.

Negapatam. Flowering in the rainy season.

(11) H. VITIFOLIUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 50.—Dec. prod. I. p. 450.—Roxb. fl. Ind. III. p. 200.

*Syn.* H. obtusifolius, *Willd.*—H. truncatus, *Roxb. Hort. Beng.*

*Engrav.* Rheede Mal. VI. t. 46.

SPEC. CHAR. Biennial: stem with very few prickles: leaves roundish-cordate, toothed or crenated, acutely 5-lobed, upper side smooth or tomentose, under softly tomentose: involucel leaves about 12, subulate: segments of the calyx triangular: carpels hairy, compressed at the back into a short wing: seeds slightly tubercled: flowers large, sulphur, with a dark-purple eye.

Negapatam. Malabar. Flowering nearly all the year.

(12) H. ERIOCARPUS. (*Dec.*)

*Ident.* W. & A. prod. I. p. 51.—Dec. prod. I. p. 452.—Roxb. fl. Ind. III. p. 198.

*Syn.* H. collinus, *Roxb. Hort. Beng.*—H. simplex, *G. Don.*

SPEC. CHAR. Small tree, without prickles: leaves glabrous or slightly hairy, cordate, 3-lobed: lobes toothed or entire: involucel leaves 8–9, oblong-acuminated, waved, slightly toothed, often split down the middle, corolla very spreading: claws with a tuft of hair on each side: capsule orbicular, slightly flattened, and very hairy both within and without: flowers very large, pale rose, with a dark blood-coloured eye.

Bengal. Circars. Flowering nearly all the year.

(13) H. HIRTUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 51.

*Syn.* H. Rosa Malabarica, *Kön.*—H. phoeniceus, *Willd.*—*Roxb. fl. Ind.* III. *p.* 194.—*Dec. prod.* I. *p.* 452.

*Engrav.* Rheede Mal. X. t. 1.—Pluk. t. 254. f. 3.—Cav. Diss. III. t. 67. f. 2.—Wight's Icon. t. 41.—Bot. Reg. IV. t. 337.

SPEC. CHAR. Shrubby: leaves ovate, acutely 3-lobed, serrated, harsh, slightly hairy, with a large gland beneath on the middle nerve: serratures in the young leaves bristly at the apex: petioles hairy: pedicels axillary, hairy, longer than the leaf, jointed a little below the flowers: involucel leaves 5–7, hairy, shorter than the calyx: calyx deeply cleft: segments linear-lanceolate, hairy: seeds covered with soft wool: flowers middle-sized, scarlet.

Coromandel and Malabar. Flowering nearly all the year.

(14) H. MICRANTHUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 51.—Dec. prod. I. p. 453.

*Syn.* H. rigidus, *Linn.*—*Roxb. fl. Ind.* III. *p.* 195.

*Engrav.* Cav. Diss. III. t. 66. f. 1.

Spec. Char. Shrubby: leaves ovate, entire, acutely serrated, rough with hairs: pedicels axillary, longer than the leaf: involucel leaves 7, bristly: corolla reflexed, seeds woolly: flowers small, white.

Peninsula. Deccan. Kattywar. Flowering nearly all the year.

(15) H. scandens. (*Dalz. MSS.*)

*Ident.* Dalz. Bomb. flor. p. 20.

Spec. Char. Stems subscandent, unbranched, slender: leaves palmately 7-lobed: lobes narrow, acute, dentate, glabrous: flowers axillary, solitary, small, pale-yellow, with a purple eye.

Coast of Kattywar.

(16) H. punctatus. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 20.

Spec. Char. Under-shrub, 3–4 feet high: leaves unequally 3-lobed, middle lobe very long, crenate-dentate: pedicels solitary, axillary, longer than the petiole: calyx divided to the middle: segments acuminate, all the younger parts glutinous and pubescent: capsule ovoid: seeds black, muricated: flowers very small, pale rose-coloured.

Broach Collectorate.

(17) H. heptaphyllus. (*Dalz. & Gibs.*)

*Ident.* Dalz. Bomb. flor. p. 20.

Spec. Char. Herbaceous, erect, 4–5 feet high, covered with prickly hairs: leaves long-petioled, palmately 5–7-divided: leaflets lanceolate, serrate: pedicels axillary, solitary: involucel leaves about 9, linear, subulate, bristly, rather longer than the segments of the calyx: capsule ovoid, pointed, covered with bristles: flowers large, yellow, with a purple eye.

Mountain valleys in Western India.

(18) H. scandens. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 200.

Spec. Char. Climbing shrub: leaves cordate, 3-lobed, downy beneath: stem hairy: involucel leaves 6, about as long as the calyx: flowers large, pale-sulphur, with dark-brown eye.

Chittagong, flowering in March.

## GENUS VI. PARITIUM.

**Monadelphia Polyandria.** *Sex: Syst.*

*Deriv.* The Malabar name Latinized.

Gen. Char. Trees or shrubs, with entire, crenated or lobed

leaves: peduncles 1-flowered, axillary or terminal, and furnished with two bracteoles: involucel 10–14-toothed or cleft, shorter than the calyx: petals not auricled: style 5-cleft: stigmas 5, exserted beyond the 5-toothed staminiferous tube: capsules 5-celled, 5-valved, appearing 10-celled by the introflexion of the valves: cells several-seeded.

(1) P. TILIACEUM. (*St. Hil.*)

*Ident.* W. & A. prod. I. p. 52.

*Syn.* Hibiscus tiliaceus, *Linn. Dec. prod.* I. *p.* 454.—*Roxb. fl. Ind.* III. *p.* 192.—H. similis, *Blume.*—H. elatus, circinnatus and guineensis, *Dec. l. c.*

*Engrav.* Rumph. Amb. II. t. 73.—Rheede Mal. I. t. 30.—Wight's Icon. I. t. 7.

SPEC. CHAR. Small tree: leaves crenulated, roundish-cordate, suddenly acuminated, hoary on the under side: stipules broad, ovate: involucel 10-lobed: flowers large, sulphur, with a dark blood-coloured eye.

Malabar and Travancore. Rutnagherry. Flowering all the year.

(2) P. MACROPHYLLUM. (*G. Don.*)

*Ident.* Don's Mill I. p. 485.

*Syn.* Hibiscus Macrophyllus, *Roxb. Hort. Beng. p.* 51.—*Dec. prod.* I. *p.* 455.

*Engrav.* Wall. pl. As. Rar. I. t. 51.

SPEC. CHAR. Tree, 40 feet: leaves roundish-cordate, acuminated, crenulated, pale and glandular beneath: petioles and peduncles tomentose: involucel leaves 12–14: seeds bearded on the margins: flowers terminal and axillary, solitary or twin, large, yellow, with a purple eye.

Bengal. Chittagong. Silhet.

## GENUS VII. DECASCHISTIA.

**Monadelphia Polyandria.** *Sex: Syst.*

*Deriv.* From *Deka*, ten, and *Schizo*, to split, alluding to the 10-valved capsules.

GEN. CHAR. Calyx 5-cleft: involucel leaves 10, more or less unequally united below: petals not auricled: style 10-cleft: stigmas 10: capsule 10-celled, 10-valved, the valves attached by the base to a 10-angled central column.

(1) D. CROTONIFOLIA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 52.

*Syn.* Hibiscus crotonifolius, *Wall.*

*Engrav.* Wight's Icon. t. 42.

Spec. Char. Shrub: leaves coriaceous, ovate entire or slightly lobed, coarsely toothed, covered on both sides with velvety down, whitish beneath: middle nerve beneath with a gland near its base: seeds solitary in each cell, naked.

Mysore and Madura, on high hills.

(2) D. trilobata. (*Wight.*)

*Ident.* Dalz. Bomb. flor p. 21.

*Engrav.* Wight's Icon. t. 88.

Spec. Char. Perennial, herbaceous, tomentose: leaves deeply 3-lobed: lobes narrow, serrate on the margin: stipules subulate, longer than the petioles.

Common on the Ram Ghaut. Belgaum. Flowering in October.

## GENUS VIII. ABELMOSCHUS.

**Monadelphia Polyandria.** *Sex. Syst:*

*Deriv.* From Habb-el-misk, the Arabic for a grain of musk.

Gen. Char. Calyx 5-toothed, spathaceous, surrounded by a 5–10 leaved involucel: ovary 5-celled: cells many-ovuled: style 1, 5-cleft at the apex, with 5 stigmas: capsule 5-celled, many-seeded.

(1) A. esculentus. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 53.

*Syn.* Hibiscus esculentus, *Linn. Dec. prod.* I. *p.* 450.—H. longifolius, *Willd. Roxb. Jl. Ind.* III. *p.* 210.

*Engrav.* Cav. Diss. III. t. 61. f. 2.

Spec. Char. Biennial: stem hairy, but without prickles: leaves long-petioled, cordate, 3–5-lobed, toothed, scabrous on both sides: pedicels very short: involucel leaves 10, deciduous: capsule pyramidal, elongated: flowers large, sulphur, with a dark blood-coloured eye.

A native both of the East and West Indies. The capsule which is known as the Bandikai, is a most nutritive and agreeable vegetable, and widely distributed throughout this country.

(2) A. angulosus. (*Wall.*)

*Ident.* W. & A. prod. I. p. 53.

*Engrav.* Wight's Icon. t. 951.—Spicil. t. 17.

Spec. Char. Annual: stems not prickly: leaves cordate, 5-lobed, unequally toothed, upper side softly pubescent, under, tomentose: pedicels about as long as the petioles, hairy: involucel very

caducous: calyx conical: capsule ovoid, very hispid: flowers large, sulphur, with a dark blood-coloured eye.

Neilgherries.

(3) A. RUGOSUS. *(Wall.)*

*Ident.* W. & A. prod. I. p. 53.

*Syn.* Hibiscus hirtus, *Burch. Roxb. fl. Ind.* III. *p.* 203.

SPEC. CHAR. Annual: hispidly hairy, except the pedicels: stem not prickly: leaves 5-lobed, toothed, tomentose: upper lobes lanceolate, acuminated, lower ones oblong, pointing downwards: pedicels arranged in a terminal, leafless raceme: involucel leaves 10, bristly, persistent: capsule ovoid, hairy: flowers large, sulphur, with a dark blood-coloured eye.

Madura Hills, flowering nearly all the year.

(4) A. MOSCHATUS. *(Moench.)*

*Ident.* W. & A. prod. I. p. 53.

*Syn.* Hibiscus moschatus, *Roxb.*—H. Abelmoschus, *Linn. Dec. prod.* I. *p.* 452.—*Roxb. fl. Ind.* III. *p.* 202.

*Engrav.* Rheede Mal. II. t. 38.—Rumph. Amb. IV. t. 15.—Wight's Icon. t. 399.

SPEC. CHAR. Annual: stem rough with hairs, not prickly: leaves hispid with rigid hairs, coarsely toothed, deeply 5–7-lobed: lobes oblong or lanceolate, acuminated: pedicels harshly pubescent, axillary, about as long as the petioles: involucel leaves 6–10, linear, hairy, somewhat persistent: capsule oblong, hairy: flowers large, sulphur, with a dark blood-coloured eye.

Madura and Courtallum. Bengal, extending northwards to the foot of the Himalayas. Flowering nearly all the year.

(5) A. FICULNEUS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 53.

*Syn.* Hibiscus ficulneus, *Linn. Dec. prod.* I. *p.* 448.—H. prostratus, *Roxb. fl. Ind.* III. *p.* 208.—Lagunea aculeata, *Cav. Dec. prod.* I. *p.* 474.

*Engrav.* Wight's Icon. t. 154.—Cav. Diss. III. t. 71. f. 1.—Lam. Ill. t. 577.

SPEC. CHAR. Annual: stem prickly, with small, sharp tubercles: leaves hispidly hairy, palmately 5-lobed, upper ones 3-lobed: lobes narrower towards the base, unequally toothed: upper pedicels arranged in a leafless raceme: involucel leaves 5, lanceolate, very caducous: calyx oblong, hispidly tomentose: fruit ovoid, covered with harsh tomentum: flowers white, with a rose-coloured eye.

Southern provinces of the Peninsula and the Northern Circars. Flowering nearly all the year.

(6) A. TETRAPHYLLUS. *(Wall.)*

*Ident.* Dalz. Bomb. flor. p. 19.

*Syn.* Hibiscus tetraphyllus, *Roxb. fl. Ind.* III. *p.* 311.—*Dec. prod.* I. *p.* 448.

SPEC. CHAR. Annual, erect: stems hairy: leaves long-petioled, palmately lobed, toothed: involucel leaves 4: capsule hairy: flowers yellow, with a dark-purple eye.

Woods about Calcutta. Girgam woods, Bombay. Meera Hills. Flowering in the rainy season.

(7) A. WARREENSIS. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 19.—Hook. Journ. Bot. III. p. 123.

SPEC. CHAR. Stem rough with bristles: leaves broadly cordate, acuminate, coarsely crenated, sprinkled with stiff hairs on both sides: involucel leaves 4, persistent: flowers fascicled, terminal, or on short axillary branches.

Warree country, Bombay. Flowers yellow, with a purple eye, appearing in January.

## GENUS IX. THESPESIA.

**Monadelphia Polyandria.** *Sex: Syst.*

*Deriv.* From *Thespesios*, divine, alluding to the species being planted near temples or sacred buildings.

GEN. CHAR. Trees or shrubs with cordate, acuminated, quite entire leaves: calyx truncated, surrounded by a caducous, 3-leaved involucel: style 5-furrowed towards the apex, and 5-pointed: carpels 5, united into a 5-celled capsule: cells about 4-seeded.

(1) T. POPULNEA. *(Corr.)*

*Ident.* W. & A. prod. I. p. 54.—Dec. prod. I. p. 456.

*Syn.* Hibiscus populneus, *Linn. Roxb. fl. Ind.* III. *p.* 190.—Malvaviscus populneus, *Gaertn.*

*Engrav.* Wight's Icon. I. t. 8.—Rheede Mal. I. t. 29.—Rumph. Amb. II. t. 74.

SPEC. CHAR. Tree: leaves roundish-cordate, acuminated, entire, smooth: pedicels about as long as the petioles: capsule spherical, depressed, indehiscent: flowers large, yellow, with a purple eye.

Peninsula, flowering nearly all the year.

(2) T. LAMPAS. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 19.

*Syn.* Hibiscus Lampas, *Cav. Dec. prod.* I. *p.* 447.—*Roxb. fl.*

*Ind.* III. *p.* 197.—*W. & A. prod.* I. *p.* 48.—Paritium Gangeticum, *G. Don.*

*Engrav.* Wight's Icon. I. t. 5.

Spec. Char. Shrubby, 3-4 feet high: leaves cordate, 3-lobed: lobes spreading, acuminated: upper sides slightly hairy, under tomentose: peduncles axillary, 3-flowered, with small bracts at the base of the pedicels: involucel leaves 5–7, springing from the thickened apex of the pedicel: calyx truncated, with 5 small teeth: capsule ovoid: flowers large, sulphur, with a purple eye.

Travancore, Concans and Western Ghauts, flowering nearly all the year. This species is also found in Bengal and Upper India, extending to the foot of the Himalayas.

## GENUS X. GOSSYPIUM.

**Monadelphia Polyandria.** *Sex. Syst.*

*Deriv.* A name applied by Pliny to a cotton-bearing shrub growing in Egypt.

Gen. Char. Shrubs: calyx cup-shaped, obtusely 5-toothed: involucel leaves 3: segments united, cordate at the base, deeply cut, or irregularly toothed: style 3–5-furrowed towards the apex: stigmas 3–5: capsules 3–5-celled, 3–5-valved at the apex, loculicidal: seeds numerous, imbedded in cotton.

### (1) G. album. (*Ham.*)

*Ident.* W. & A. prod. I. p. 54.

*Syn.* G. herbaceum, *Linn. Dec. prod.* I. *p.* 456.—G. hirsutum, *do.*—G. tricuspidatum, *Lam.*

*Engrav.* Rheede Mal. I. t. 31.—Wight's Icon. t. 911.—Royle. Ill. p. 98. t. 23. f. 1.—Rumph. Amb. IV. t. 12.

Spec. Char. Leaves 5-lobed: lobes roundish, mucronate: involucel serrated: stem smooth: flowers yellow, with purple spotted eye: seeds and cotton both white.

Guzerat and the Deccan. Extensively cultivated, though probably not indigenous to India.

### (2) G. obtusifolium. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 183.—Dalz. Bomb. flor. p. 21.—Royle's Ill. p. 98.

Spec. Char. Shrubby, branched, diffuse: leaves small, with 3, rarely 5, ovate, entire lobes: stipules falcate: exterior calyx with entire divisions: capsules ovate: cells 3-seeded: cotton greenish-grey.

Deccan, on dry soils. This species is supposed to be the parent of the common cultivated cotton. It is common on the limestone rocks of the Scinde coast.

## GENUS XI. LAGUNEA.

**Monadelphia Polyandria.** *Sex: Syst:*

*Deriv.* Named after Andreas Laguna, a Spanish Botanist of the sixteenth century.

GEN. CHAR. Calyx 5-cleft, persistent, without an involucel: ovary 5-celled: style 5-cleft at the apex: capsule 5-celled, 5-valved, loculicidal: cells 5–6-seeded.

### L. LOBATA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 55.—Dec. prod. I. p. 474.

*Syn.* Solandria lobata, *Murr.*—Triguera acerifolia, *Cav. Diss.* I. *p.* 41. *t.* 11.—Hibiscus solandra, *L'Her.*—Sida diversifolia, *Spreng. Syst.* III. *p.* 116.

*Engrav.* Lam. Ill. t. 580.—L'Her. Stirp. Nov. t. 49.

SPEC. CHAR. Annual: lower leaves cordate, upper palmate, uppermost trifid: pedicels 1-flowered, arranged in a terminal, leafless raceme: flowers smallish, white.

Dindigul and Gingie Hills. Coromandel. Monghur. Flowering in the rainy season.

## GENUS XII. ABUTILON.

**Monadelphia Polyandria.** *Sex · Syst:*

*Deriv.* From the Greek term for the Mulberry, owing to the resemblance to that plant in the leaves.

GEN. CHAR. Calyx 5-cleft, persistent, without an involucel: ovary 5 or many-celled: styles 5 or more: stigmas capitate: capsule composed of several-seeded, 2-valved cocci: peduncles axillary, solitary, rarely in pairs, 1 or many-flowered, sometimes forming terminal spikes by the abortion of the leaves.

### (1) A. POLYANDRUM. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 55.

*Syn.* Sida polyandra, *Roxb. fl. Ind.* III. *p.* 173.—S. persica, *Dec. prod.* I. 473.

*Engrav.* Burm. Ind. t. 47. f. 1.

SPEC. CHAR. Annual: leaves roundish-cordate, with a sudden longish acumination, repand-toothed: peduncles arranged in terminal racemes: carpels 5, twice as long as the calyx: flowers largish, yellow.

Neilgherries. Nundidroog. Hills about Khandalla. Flowering nearly all the year.

(2) A. CRISPUM. (*G. Don.*)

*Ident.* W. & A. prod. I. p. 56.

*Syn.* Sida crispa, *Linn. Dec. prod.* I. *p.* 469.—*Roxb. fl. Ind.* III. *p.* 177.

*Engrav.* Wight's Icon. I. t. 68.

SPEC. CHAR. Perennial, leaves cordate, acuminated, crenated, whitish and slightly velvety, upper ones nearly sessile: pedicels solitary: calyx reflexed: fruit globose, inflated: carpels 12–13, not awned, hairy on the back: flowers middle-sized, yellow.

Coromandel, Gingie Hills, flowering nearly all the year.

(3) A. INDICUM. (*G. Don.*)

*Ident.* W. & A. prod. I. p. 56.

*Syn.* Sida Indica, *Linn. Dec. prod.* I. *p.* 471.—S. populifolia, *Lam. Dec. prod.* I. *p.* 470.—A. Asiaticum, *G. Don.*—S. Asiatica, *Linn. Dec. prod.* I. *p.* 470.—*Roxb. fl. Ind.* III. *p.* 179.

*Engrav.* Wight's Icon. I. t. 12.—Rheede Mal. VI. t. 65.—Rumph. Amb. IV. t. 11.

SPEC. CHAR. Perennial: leaves cordate, somewhat lobed, tomentose, unequally toothed: stipules reflexed: pedicels erect, jointed near the flower: calyx segments ovate, acute: capsule truncated, hairy: carpels about 20, acute, not awned: flowers orange.

Peninsula, flowering nearly all the year.

(4) A. HIRTUM. (*G. Don.*)

*Ident.* W. & A. prod. I. p. 56.

*Syn.* Sida hirta, *Lam. Dec. prod.* I. *p.* 470.—S. pilosa, *L'Her.*

*Engrav.* L'Her. Stirp. Nov. p. 130.

SPEC. CHAR. Annual: branches pubescent, sprinkled with hairs: leaves cordate, acuminated, toothed, tomentose beneath: pedicels longer than the petioles, jointed near the flower: segments of the calyx ovate, pointed: capsule truncated, very hairy: carpels 15–20, acute: flowers pale yellow.

Peninsula, flowering in July and August.

(5) A. GRAVEOLENS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 56.

*Syn.* Sida graveolens, *Dec. prod.* I. *p.* 473.

*Engrav.* Rumph. Amb. IV. p. 29. t. 10.

SPEC. CHAR. Perennial: branches pubescent: leaves cordate, toothed, velvety on both sides: pedicels jointed near the flower: segments of the calyx ovate, with a long point: corolla at length

reflexed: capsule hairy: carpels 25–30, acute: flowers large, deep orange.

Peninsula. Bengal. Hindostan. Flowering in the cold season.

(6) A. TOMENTOSUM. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 56.

*Syn.* Sida tomentosa, *Roxb. fl. Ind.* III. *p.* 178.

SPEC. CHAR. Annual: branches pubescent and hairy: leaves round, cordate, tomentose, toothed: pedicels jointed near the flower, thickish, usually aranged in an axillary, leafless raceme: calyx very tomentose: segments short and broad, long-pointed: petals obliquely obcordate: capsule globose, depressed, very tomentose, shorter than the calyx: carpels kidney-shaped: flowers large, light orange.

Peninsula. Bengal. Flowering nearly all the year.

(7) A. SIDOIDES. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 18.

SPEC. CHAR. Fruticose, erect: leaves round-cordate, acutely 3-lobed, coarsely crenated, slightly ciliated on the margin: peduncles axillary, solitary, bearing 2 pedicels which are jointed in the middle: calyx cleft to the middle: segments suddenly acuminated: carpels 5–7, covered with glutinous pubescence, bicuspidate, twice as long as the calyx, 3-seeded: seeds tubercled: flowers very small, yellow.

Cambay.

## GENUS XIII. SIDA.

**Monadelphia Polyandria.** *Sex: Syst.*

*Deriv.* A name applied by Theophrastus to a malvaceous plant.

GEN. CHAR. Calyx 5-cleft, persistent, without an involucel: ovary 5, or many-celled, with one ovule in each cell: styles equal in number to the cells: stigmas capitate: capsules consisting of 5 or more 1-seeded, 2-valved cocci.

(1) S. ACUTA. (*Burm.*)

*Ident.* W. & A. prod. I. p. 57.—Dec. prod. I. p. 460.

*Syn.* S. lanceolata, *Retz.*—S. Stauntoniana, *Dec. prod.* I. *p.* 460.—S. coparia, *Lour.*

*Engrav.* Wight's Icon. I. t. 95.—Rheede Mal. X. t. 53.—Rumph. Amb. VI. t. 18.

SPEC. CHAR. Shrubby: leaves narrow-lanceolate, acuminated, slightly sprinkled above with hairs, coarsely serrated: stipules linear, acuminated, ciliated, often longer than the petiole: pedicels

axillary, solitary, jointed about the middle: carpels 5–9, birostrate: flowers smallish, yellow.

Peninsula, flowering nearly all the year.

(2) S. SCABRIDA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 57.

SPEC. CHAR. The whole plant sprinkled with hairs: leaves oblong-lanceolate, green on both sides: stipules subulate, striated, ciliated, longer than the petiole: pedicels axillary, solitary, 3–4 times as long as the stipules, jointed at the base: carpels 9–11, bicuspidate.

Peninsula.

(3) S. RHOMBOIDEA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 57.—Roxb. fl. Ind. III. p. 176.—Dec. prod. I. p. 462.

SPEC. CHAR. Shrubby: leaves rhomboid-lanceolate, serrated, under side tomentose: stipules subulate, longer than the petiole: pedicels jointed at the base, axillary, solitary, usually collected into leafy corymbs at the extremity of the branches: carpels 8–11, slightly bicuspidate: flowers smallish, pale, yellow.

Peninsula and Bengal, flowering nearly all the year.

(4) S. RETUSA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 58.—Roxb. fl. Ind. III. p. 175.—Dec. prod. I. p. 462.

*Engrav.* Rheede Mal. X. t. 18.—Rumph. Amb. VI. t. 19.

SPEC. CHAR. Shrub: leaves obovate, retuse, toothed towards the apex: tomentose beneath: stipules longer than the petiole: pedicels axillary, 1-flowered, jointed about the middle: carpels 7–10, birostrate: flowers small, yellow.

Peninsula and Malabar, flowering nearly all the year.

(5) S. PHILIPPICA. (*Dec.*)

*Ident.* W. & A. prod. I. p. 58.—Dec. prod. I. p. 462.

*Syn.* S. chinensis, *Retz.*

SPEC. CHAR. Shrub: leaves obovate, rounded and toothed towards the apex, cuneate at the base: stipules longer than the petiole: pedicels axillary, solitary, jointed above the middle: carpels 8–10, obtuse.

Negapatam. Coromandel.

(6) S. ALNIFOLIA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 58.—Dec. prod. I. p. 461.

*Engrav.* Dill. Elth. t. 172. f. 211.

Spec. Char. Shrub: lower leaves roundish-ovate, toothed, slightly cuneate at the base: pedicels axillary, several together, shorter than the petiole: carpels 5–7, bicuspidate.

Coromandel.

(7) S. alba. (*Linn.*)

*Ident.* W. & A. prod. I. p. 58.—Dec. prod. I. p. 460.—Roxb. fl. Ind. III. p. 174.

Spec. Char. Shrub: branches with one or two prickly tubercles below the leaves: leaves obovate, bluntly serrated, hoary beneath: pedicels solitary, as long as the petioles, or several together on an axillary, leafless branch, jointed near the flower: carpels 5, birostrate: flowers small, white.

Coromandel. Bengal. Flowering nearly all the year.

(8) S. cordifolia. *(Linn.)*

*Ident.* W. & A. prod. I. p. 58.—Dec. prod. I. p. 464.—Roxb. fl. Ind. III. p. 177.

*Syn.* S. herbacea, *Cav.*—S. rotundifolia, *Dec. prod.* I. *p.* 464.

*Engrav.* Rheede Mal. X. t. 54.—Pluk. t. 131. f. 2.

Spec. Char. Shrubby: perennial: leaves cordate, bluntly serrated, velvety or tomentose: pedicels axillary, solitary, jointed near the flower, occasionally arranged in short axillary, leafless branches: carpels 9–10, with two hairy, cetaceous beaks, pointing downwards and as long as the carpel: flowers middle-sized, yellow.

Peninsula, flowering nearly all the year.

(9) S. Mysorensis. *(Herb. Madr.)*

*Ident.* W. & A. prod. I. p. 59.

Spec. Char. Herbaceous, covered with glutinous hairs: leaves cordate-ovate, acuminated, coarsely toothed, velvety or tomentose beneath: pedicels jointed below the flower, axillary, shorter than the petioles, accompanied by an axillary raceme, which is usually shorter than the leaves: carpels 5, bicuspidate, somewhat tubercled at the margins, and slightly keeled on the back.

Coromandel. Mysore.

(10) S. humilis. (*Willd.*)

*Ident.* W. & A. prod. I. p. 59.—Dec. prod. I. p. 463.—Roxb. fl. Ind. III. p. 171.

*Syn.* S. pilosa, *Retz.*—S. unilocularis, *L'Her.*—S. multicaulis, *Dec. prod.* I. p. 463.

*Engrav.* L'Her. Stirp. Nov. t. 56.—Pluk. t. 132. f. 3.

Spec. Char. Perennial, diffuse: leaves roundish, cordate, acute, serrated, hairy: pedicels jointed above the middle, hairy,

axillary, solitary, shorter than the leaves, or arranged in longish racemes with small leaves shorter than the pedicels: calyx hairy: carpels 5, not beaked: flowers very small, yellow.

Common in the Peninsula, flowering nearly all the year.

(11) S. MICROPHYLLA. *(Cav.)*

*Ident.* Cav. Diss. I. p. 22.—Dec. prod. I. p. 461.—Roxb. fl. Ind. III. p. 170.

SPEC. CHAR. Under-shrub: leaves elliptic, toothed: pedicels axillary, solitary, a little longer than the petiole: carpels 7, birostrate: flowers small, yellow.

Bengal, flowering nearly throughout the year.

(12) S. URTICÆFOLIA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 59.

SPEC. CHAR. An erect under-shrub, covered with glutinous pubescence and otherwise hairy: leaves cordate, acuminated, serrated: pedicels arranged in an axillary, almost leafless corymb, rarely as long as the petiole: calyx hairy: carpels 5, bicuspidate.

Trichinopoly.

## ORDER XX. STERCULIACEÆ.

Trees or shrubs: leaves alternate, simple or compound, occasionally digitate, often toothed: stipules deciduous: flowers regular or irregular, sometimes unisexual from abortion: calyx naked or with an involucre: sepals 5, more or less united at the base, valvate in æstivation: petals 5, hypogynous, convolute in æstivation: stamens indefinite, monadelphous: anthers 2-celled, turning outwards: ovary of 5, rarely 3 carpels, distinct or otherwise: styles equal in number to the carpels, distinct or united: fruit a capsule, drupe, berry or follicle: seeds sometimes in wool, or covered with pulp: albumen fleshy, or none.

### GENUS I. HELICTERES.

**Monadelphia Decandria.** *Sex. Syst:*

*Deriv.* From *Helix*, a screw, in allusion to the twisted capsules.

GEN. CHAR. Shrubs and trees, usually tomentose: leaves unequally cordate: peduncles axillary, few-flowered: calyx somewhat

5-cleft: petals slightly toothed at the apex: stamens united into a column cleft at the apex, the fertile ones mixed with sterile filaments: styles 5: carpels 1-celled, many-seeded, dehiscing on the inside, usually twisted together spirally: albumen none.

(1) H. ISORA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 60.—Dec. prod. I. p. 475.—Roxb. fl. Ind. III. p. 143.

*Syn.* Isora corylifolia, *Schott. & Endl.*

*Engrav.* Rheede Mal. VI. t. 30.—Wight's Icon. I. t. 150.—Rumph. Amb. VII. t. 17. f. 1.—Bot. Mag. XLVI. t. 2061.

SPEC. CHAR. A small tree or shrub: leaves slightly cordate, roundish-obovate, suddenly acuminated, toothed, scabrous above and tomentose below: pedicels 2–4 together, forming an almost sessile corymb: petals reflexed: fruit spirally twisted, pubescent: flowers red-brick-coloured.

This species extends from one end of India to the other, especially along the foot of the Hills.

## GENUS II. SALMALIA.

**Monadelphia Polyandria.** *Sex: Syst:*

GEN. CHAR. Calyx ebracteolate, unequally 2–5-lobed: petals 5, united and somewhat connected with the staminiferous column: anthers inserted by the middle: capsule large, woody, 5-celled, 5-valved: seeds albuminous, embedded in silky cotton: flowers scarlet or white, usually springing from the trunk or branches, either singly or several together.

(1) S. MALABARICA. *(Schott. & Endl.)*

*Ident.* W. & A. prod. I. p. 61.

*Syn.* Bombax Malabaricum, *Dec. prod.* I. *p.* 479.—B. heptaphyllum, *Cav. Roxb. fl. Ind.* III. *p.* 167.—B. ceiba, *Burm. fl. Ind.*

*Engrav.* Wight's Ill. I. t. 29.—Roxb. Cor. III. t. 247.—Rheede Mal. III. t. 52.

SPEC. CHAR. Large tree: trunk prickly: leaves palmate: leaflets 5–7, quite entire, acuminated at both ends: fruit oblong: flowers very large, deep-red.

This species extends from one end of India to the other, flowering in February and March.

## GENUS III. ERIODENDRON.

**Monadelphia Polyandria.** *Sex: Syst:*

*Deriv.* From *Erion*, wool, and *Dendron*, a tree, the capsules being filled with cotton.

Gen. Char. Calyx irregularly 5-lobed: lobes usually in pairs: petals united at the base, and cohering to the staminiferous column: filaments jointed at the base, but collected upwards into 5 slender bundles, each bearing 2–3 bent anthers: style crowned by a 5–6-cleft stigma: capsule and seeds as in Salmalia.

(1) E. anfractuosum. *(Dec.)*

*Ident.* W. &. A. prod. I. p. 61.—Dec. prod. I. p. 479.

*Syn.* Bombax pentandrum, *Linn. Roxb. fl. Ind.* III. *p.* 165.—Ceiba pentandra, *Gaertn.*

*Engrav.* Wight's Icon. II. t. 400.—Rheede Mal. III. t. 49, 51. —Rumph. Amb. I. t. 80.

Spec. Char. Tree: trunk prickly at the base: leaves palmate: leaflets 5–8, quite entire or slightly serrate towards the apex, lanceolate, mucronate: flowers whitish.

Peninsula. Bengal. Hindostan. Flowering in February and March.

## GENUS IV. STERCULIA.

**Monœcia Monadelphia.** *Sex: Syst:*

*Deriv.* From the Latin word *Stercor*, in allusion to the fetid smell of the flowers of some of the species.

Gen. Char. Trees, with simple or compound leaves: calyx 5-lobed: anthers 10–20, in one or two rows, solitary or in threes: ovary stalked or sessile: follicles 5, distinct, 1-celled, 1 or many-seeded, dehiscent: seeds with oily albumen.

(1) S. alata. (*Roxb.*)

*Ident.* Don's Mill. I. p. 516.—Roxb. fl. Ind. III. p. 182.

*Syn.* Pterygota Roxburghii, *Schott. & Endl.*

*Engrav.* Roxb. Cor. III. t. 287.

Spec. Char. Tree: leaves broad, ovate, acuminated, quite entire, cordate at the base: sepals reflexed, long-lanceolate, rusty on the outside: racemes axillary, solitary, shorter than the petioles: flowers largish, rusty-coloured, streaked with crimson and yellow.

Silhet. Chittagong. Flowering in February and March.

(2) S. Balanghas. (*Linn.*)

*Ident.* W. & A. prod. I. p. 62.—Dec. prod. I. p. 482.

*Syn.* Southwellia Balanghas, *Schott. & Endl.*

*Engrav.* Wight's Ill. I. t. 30.—Rheede Mal. X. t. 49.

Spec. Char. Leaves elliptic-oblong, rounded at the base, entire: flowers panicled: calyx campanulate: segments long, linear, cohering at the apex: fruit stalked: carpels ovate, many-seeded: flowers small, flesh-coloured.

Peninsula, flowering in the hot season.

(3) S. fetida. (*Linn.*)

*Ident.* W. & A. prod. I. p. 63.—Dec. prod. I. p. 483.—Roxb. fl. Ind. III. p. 154.

*Engrav.* Wight's Icon. t. 181, 164.—Rumph. Amb. III. t. 107.

Spec. Char. Leaves compound, peltate: leaflets 7–9, oblong-lanceolate, young ones slightly pubescent: flowers panicled: calyx deeply divided: segments patent, lanceolate, slightly velvety inside: anthers 15: carpels oblong, many-seeded: flowers scarletish-sulphur, very fetid.

Peninsula. Bengal. Flowering in March.

(4) S. guttata. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 62.—Dec. prod. I. p. 482.—Roxb. fl. Ind. III. p. 148.

*Engrav.* Wight's Icon. t. 487.—Rheede Mal. IV. t. 61.

Spec. Char. Leaves broadly ovate or oblong, obtuse or suddenly acuminated, entire, upper side shining, young leaves densely pubescent beneath: racemes somewhat fascicled. calyx deeply 5-cleft, tomentose. segments lanceolate, distinct: flowers yellow, with purple glands inside.

Peninsula, flowering in December.

(5) S. populifolia. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 62.—Roxb. fl. Ind. III. p. 148.

*Syn.* Hildegardia populifolia, *Schott. & Endl.*

*Engrav.* Wall. pl. As. Rar. I. t. 3.

Spec. Char. Leaves roundish-cordate, acuminated, entire: racemes axillary, branched, shorter than the leaves: sepals linear, elongated, revolute: ovules numerous: carpels ovate, ventricose, terminated by a wing the shape of a pruning knife, long-stalked, villous inside: flowers large, scarlet.

Coromandel.

(6) S. COLORATA. (*Roxb.*)

*Ident.* W. & A. prod I. p. 63.—Dec. prod. I. p. 483.—Roxb. fl. Ind. III. p. 146.

*Syn.* Erythropsis Roxburghiana, *Lindl.*

*Engrav.* Roxb. Cor. I. t. 23.—Hook. Icon. II. t. 143.

SPEC. CHAR. Leaves palmately 5-lobed: segments acuminated: calyx cylindrical, clavate: carpels oblong, glabrous, long-stalked: calyx and carpels reddish-orange-coloured: flowers large, red.

Hurdwar. Circars and Courtallum. Flowering in the cold season.

(7) S. URENS. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 63.—Dec. prod. I. p. 483.—Roxb. fl. Ind. III. p. 145.

*Syn.* Cavallium urens, *Schott. & Endl.*

*Engrav.* Roxb. Cor. I. t. 24.

SPEC. CHAR. Leaves palmately 5-lobed, soft and velvety beneath, segments acuminated: calyx campanulate: carpels ovate, hispid with bristly hairs, pubescent within, with several seeds in each: flowers small, greenish.

Courtallum, flowering in the cold season.

(8) S. VILLOSA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 63.—Roxb. fl. Ind. III. p. 153.—Dec. prod. I. p. 483.

SPEC. CHAR. Leaves deeply 5–7-lobed, soft and velvety beneath: segments acuminated, deeply toothed: calyx patent: carpels rough with stellate pubescence: racemes of flowers yellow, very long, pendulous.

Coromandel. South Concans. Canara. Forests from Hurdwar to the Jumna. Flowering in December.

(9) S. COCCINEA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 151.—Dec. prod. I. p. 482.

*Syn.* Southwellia coccinea, *Salisb.*

SPEC. CHAR. Small tree: leaves oblong, lanceolate, acuminated: racemes axillary and lateral: calyx segments linear, patent: carpels scarlet: flowers largish, greenish-yellow, tinged with rose.

Silhet. Flowering in the cold season.

## GENUS V. CULLENIA.

**Monadelphia Polyandria.** *Sex: Syst.*

*Deriv.* In honor of Major-General Cullen, Resident of Tra-

Gen. Char. Calyx 5-toothed: corolla none: involucre 3-toothed, deciduous: filaments long-exserted, pentadelphous above: anthers 1-celled, echinate, aggregated: ovary 5-celled: cells 2–3-ovuled: style woolly: stigma capitate: capsule globose, echinate, 5-valved, 5-celled: seeds 1–2 in each cell, furnished with an aril: testa fleshy.

C. excelsa. (*R. W.*)

*Ident.* Wight's Icon. vol. V. part I. p. 23.

*Syn.* Durio ceylanicus, *Gardn. in Calc. Jour. Vol.* 8.

*Engrav.* Wight's Icon. t. 1761, 1762.

Spec. Char. Large tree, nearly a hundred feet in height: leaves elliptic, bright green above, silvery beneath from numerous adpressed scales: flowers clustered on the naked branches: pedicels jointed at the base: involucre and calyx clothed with brown scales: fruit the size of a large orange, covered with hard prickles, dehiscent.

Iyamally Hills and Malabar in dense forests. Flowering in February and March, and ripening its fruit in October and November.

## GENUS VI. HERITIERA.

**Monœcia Monadelphia.** *Sex: Syst:*

*Deriv.* Named after L'Heritier, the celebrated French Botanist.

Gen. Char. Trees with alternate entire leaves, the under sides of which are covered with silvery scales: flowers panicled: calyx 5-toothed: stamens in the male flowers 5–10, with the filaments jointed into a tube: anthers sessile on the top of the tube: in the bisexual flowers, anthers 10, sessile, 2 between each carpel: carpels 5, each with one style and a few ovules, at length becoming drupaceous, indehiscent, keeled and 1-seeded by abortion: albumen none.

(1) H. litoralis. (*Ait.*)

*Ident.* W. & A. prod. I. p. 63.—Dec. prod. I. p. 484.—Roxb. fl. Ind. III. p. 142.

*Syn.* Balanopteris Tothila, *Gaertn.*

*Engrav.* Rheede Mal. VI. t. 21.—Gaertn. IV. fr. II. t. 99.

Spec. Char. Leaves oval, rounded at the base: panicles axillary: flowers small, red.

Peninsula.

(2) H. minor. (*Lam.*)

*Ident.* Dec. prod. I. p. 484.—Roxb. fl. Ind. III. p. 142.

*Syn.* H. Fomes, *Willd.*—Balanopteris minor, *Gaertn.*

*Engrav.* Gaertn. fr. II. t. 98. f. 2.—Rumph. Amb. III. t. 63.

Spec. Char. Carpels with a longitudinal furrow above: flowers small, dull orange.

Sunderbunds, flowering in March and April.

## ORDER XXI. BYTTNERIACEÆ.

Trees or shrubs, usually covered with stellate hairs or scurf: leaves simple, alternate: stipules deciduous: flowers clustered, spiked or panicled: calyx 4–5-cleft, valvate in æstivation: corolla wanting, or else of petals equal in number to the segments of the calyx, twisted in æstivation, often adhering to the staminal tube: stamens hypogynous, definite and opposite the petals, or twice as many, half of which only are fertile, or indefinite, almost always cohering in a tube: anthers 2-celled, turned inwards and opening lengthwise: carpels 4–10, arranged round a central column: styles equal in number to the carpels: fruit a capsule: seeds sometimes winged: albumen fleshy or mucilaginous.

### GENUS I. KLEINHOVIA.

**Monadelphia Polyandria.** *Sex: Syst:*

*Deriv.* Called after Klienhoff, formerly Director of the Botanical Garden at Batavia.

Gen. Char. Trees: petals 5, one much broader than the others: stamens pentadelphous at the apex, each bundle bearing three anthers on the outside: style 1: stigma slightly crenated: capsule inflated, turbinate, 5-angled, 5-seeded.

#### K. hospita. (*Linn.*)

*Ident.* W. & A. prod. I. p. 64.—Dec. prod. I. p. 488.—Roxb. fl. Ind. III. p. 141.

*Engrav.* Rumph. Amb. III. t. 113.

Spec. Char. Small tree: leaves broad-cordate, acuminated, entire: panicles terminal: flowers small, pale rose-coloured.

Peninsula. South Concans.

## GENUS II. ABROMA.

**Monadelphia Decandria.** *Sex. Syst:*

*Deriv.* Greek term, meaning not fit for food.

Gen. Char. Small trees, with stellate pubescence: calyx 5-cleft: petals 5, saccate at the base, with a large clawed appendage: sterile stamens 5, petaloid, curved outwards, fertile ones united into 5–3-cleft filaments, each with 3 anthers: styles 5: capsule 5-celled, prominently angled, dehiscent, many-seeded: seeds with an aril: albumen fleshy.

### A. augustum. (*Linn.*)

*Ident.* W. & A. prod. I. p. 65.—Dec. prod. I. p. 485.—Roxb. fl. Ind. III. p. 156.

*Syn.* A. angulata, *Lam.*—A. Wheeleri, *Koën.*

*Engrav.* Lam. Ill. t. 636, 637.—Bot. Reg. VI. 518.—Rumph. Amb. IV. t. 14.

Spec. Char. Small tree: branches velvety: older leaves ovate-oblong, acuminated, serrulated, under side tomentose or stellately pubescent: lower leaves roundish-cordate, 3–5-angled: wings of the fruit truncated at the apex: flowers middle-sized, dark purplish-brown.

Interior of the Peninsula, flowering nearly all the year. This species, known as the Devil's Cotton, is a doubtful native of the Indian continent, though the above locality is given on the authority of Roxburgh.

## GENUS III. BYTTNERIA.

**Monadelphia Decandria.** *Sex: Syst:*

*Deriv.* Named after Byttner, Professor of Botany in the University of Gottingen.

Gen. Char. Shrubs, or rarely herbaceous plants, usually prickly, leaves entire: peduncles 1-flowered, axillary, several together: calyx 5-sepaled, deciduous: petals 5, concave at the base, produced upwards into a kind of strap-like appendage: anthers 5, solitary, nearly sessile between the sterile stamens: ovary 5-celled: cells 2-ovuled: style 1: capsule 5-coccous, muricated and slightly echinated: cocci 1-seeded, dehiscent.

### (1) B. herbacea. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 65.—Dec. prod. I. p. 486.—Roxb. fl. Ind. I. p. 619.

*Syn.* Commersonia herbacea, *G. Don.*

*Engrav.* Roxb. Cor. I. t. 29.—Wight's Icon. t. II. 488.

Spec. Char. Perennial: stem herbaceous, without prickles: leaves ovate, acuminated, rounded at the base, toothed: sepals linear-lanceolate, reflexed: the ligulated part of the petals erect, as long as the calyx: flowers small, yellowish-red.

Circars. Vellore. Bombay.

(2) B. pilosa. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 618.

Spec. Char. Twining shrub, hairy: leaves 3–5-lobed, dentate: posterior lobes large, rounded: sepals spreading, lanceolate: lower part of the petals linear, incurved: capsules covered with rigid bristles: flowers small, yellowish-red.

Silhet, flowering in September.

(3) B. aspera. (*Colebr.*)

*Ident.* Roxb. fl. Ind. ed. Car. II. p. 383.

*Syn.* B. grandifolia, *Dec. prod.* I. *p.* 486.

Spec. Char. Shrubby, twining, unarmed: leaves broad-cordate, entire, shortly acuminated, pubescent underneath: petioles pubescent: corymbs numerous on the younger branches, axillary, villous: bracts linear-ensiform: sepals lanceolate, dark-purple at the base: margins of the petals furnished with a recurved tooth: claws incurved: capsule very large, pubescent, armed with stout short prickles: flowers small, yellowish rose-coloured.

Chittagong. Silhet. Flowering nearly all the year.

## GENUS IV. RIEDLEIA.

**Monadelphia Pentandria.** *Sex. Syst.*

*Deriv.* In honour of Mons. Riedle, a French Naturalist.

Gen. Char. Herbs, or shrubs, with alternate, entire or serrated leaves: calyx 5-cleft: petals 5, attached by staminal tube: stamens united at the base: ovary 5-celled: cells 2-ovuled: styles 5, distinct or united at the base: capsule 5-coccous: cocci 1–2-seeded: seeds not winged.

(1) R. tiliæfolia. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 24.

Spec. Char. Small tree: leaves long-petioled, sub-cordate, serrate, young ones soft and velvety: panicles axillary and terminal, somewhat corymbose: flowers small, pink.

Khandalla and Belgaum.

(2) R. truncata. (*Dec.*)

*Ident.* W. & A. prod. I. p. 66.—Dec. prod. I. p. 491.

*Syn.* Melochia truncata, *Willd.*—Sida cuneifolia, *Roxb. Hort. Beng. p.* 50.

Spec. Char. Shrub: leaves wedge-shaped, truncated, toothed at the top, under side hoary with pubescence: flowers solitary, or 2–3 together, at the extremity of the branches: fruit flattened at the top.

Coromandel.

(3) R. supina. *(Dec.)*

*Ident.* W. & A. prod. I. p. 66.—Dec. prod. I. p. 491.

*Syn.* Melochia supina, *Linn.*—Visenia supina, *Spreng. Syst.*

*Engrav.* Pluk. t. 132. f. 4.

Spec. Char. An under-shrub with prostrate stem: leaves broadly ovate, serrated: flowers several together in the axils of the two or three uppermost leaves, sessile: fruit globose: flowers deep rose-coloured.

Coromandel, flowering throughout the year.

(4) R. corchorifolia. *D. C.)*

*Ident.* W. & A. prod. I. p. 66.—Dec. prod. I. p. 491.

*Syn.* Melochia corchorifolia, *Linn. Roxb. fl. Ind.* III. *p.* 139.—Visenia corchorifolia, *Spr. Syst.*—Mongeotia corchorifolia, *Kunth.*

*Engrav.* Rheede Mal. IX. t. 73.—Pluk. t. 44. f. 5.

Spec. Char. Herbaceous, erect: leaves ovate, cordate at the base, serrated: flowers terminal, in short, dense spikes: fruit globose: flowers deep rose-coloured, with a yellow centre.

Coromandel and Malabar. Bengal, extending to the most Northern parts of India. Flowering nearly all the year.

(5) R. concatenata. *(D. C.)*

*Ident.* W. & A. prod. I. p. 66.—Dec. prod. I. p. 492.

*Syn.* R. radiata, *Blume.*—Melochia concatenata, *Linn.*—Visenia concatenata, *Spr. Syst.*

*Engrav.* Pluk. t. 9. f. 5.

Spec. Char. Herbaceous, erect: leaves ovate-lanceolate, serrated: flowers arranged in spikes, which usually become elongated in fruit, and placed several together at the extremity of the branches; fruit globose.

Coromandel.

## GENUS V. WALTHERIA.

**Monadelphia Pentandria.** *Sex. Syst:*

*Deriv.* In honour of Dr. A. F. Walther, of Leipsic, a Botanical author.

Gen. Char. Herbaceous plants, shrubs or small trees: calyx 5-cleft: involucel 3-leaved, deciduous: petals 5, attached by claws to the staminal column: filaments united into an entire or 5-cleft tube: ovary oblique, 1-celled: ovules 2: style 1, slightly lateral: capsule consisting of one coccus, 1-seeded, 2-valved.

(1) W. Indica. *(Linn.)*

*Ident.* W. & A. prod. I. p. 67.—Dec. prod. I. p. 493.

*Syn.* W. Americana, *Linn. Dec. prod.* I. *p.* 492.—W. elliptica, and W. microphylla, *Cav. Dec. prod.* I. *p.* 493.

*Engrav.* Burm. Zeyl. t. 68.—Jacq. Icon. Rar. I. t. 130.—Pluk. t. 150. f. 5.

Spec. Char. Herbaceous plant: leaves ovate or lanceolate-oblong, serrated, more or less softly tomentose on both sides: heads of flowers terminal or axillary, sessile or pedunculated, sometimes elongated into an almost leafless, axillary spike: flowers small, lemon-coloured.

Peninsula. Bengal. South Concans. Flowering in the cold season.

## GENUS VI. PENTAPETES.

**Monadelphia Polyandria.** *Sex: Syst:*

*Deriv.* From *Pente*, five, alluding to the 5-celled fruit.

Gen. Char. Calyx 5-partite, surrounded by a 3-leaved, one-sided involucel: petals 5, deciduous: stamens 20, five of which are sterile and strap-shaped, and 15 fertile, arranged in threes between each of the sterile ones: style 5-furrowed, 5-pointed: capsule 5-celled, 5-valved, many-seeded: seeds not winged.

P. Phœnicea. *(Linn.)*

*Ident.* W. & A. prod. I. p. 67.—Dec. prod. I. p. 498.—Roxb. fl. Ind. III. p. 157.

*Syn.* P. angustifolia, *Blume.*—Dombeya Phœnicea, *Cav.*

*Engrav.* Rumph. Amb. V. t. 100. f. 1.—Rheede Mal. X. t. 1. and 56.—Bot. Reg. VII. p. 525.

Spec. Char. Annual: leaves linear-lanceolate, hostate, serrated: peduncles 1–2-flowered, axillary, drooping, red.

Peninsula. Bengal. Flowering in the rainy season.

## GENUS VII. MELHANIA.

**Monadelphia Pentandria.** *Sex: Syst:*

*Deriv.* From Mount Melhan, in Arabia Felix, the habitat of one of the species.

Gen. Char. Calyx 5-partite, surrounded by a 3-leaved involucel: petals 5: stamens united into an urceolus round the ovary, five of which are sterile, alternating with 5 filaments, each bearing 1–2-anthers: style 5-cleft at the apex: capsule 5-celled, 5-valved: seeds angled, but not winged.

(1) M. incana. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 68.

Spec. Char. Suffruticose: leaves elliptical or oblong-linear, slightly serrated, densely pubescent on the under side: involucel leaves linear: sepals lanceolate: petals obovate, longer than the calyx: fertile filaments with one anther: peduncles 1–2-flowered: capsule hairy: seeds 2–4 in each cell, tubercled.

Mysore. Palamcottah.

(2) M. abutiloides. (*Arn.*)

*Ident.* Wight's Ill. I. p. 77.

*Engrav.* Wight's Icon. I. t. 23.

Spec. Char. Shrub: branches villous: leaves broadly-ovate, pubescent above, tomentose beneath, crenately serrated: peduncles axillary and terminal, 2–3-flowered: involucel leaves broad-cordate, closely embracing the flower: calyx segments nearly twice the length of the involucel: petals oblong: capsule tomentose.

Rocky ravines among the Balaghaut Hills and in the beds of mountain streams.

## GENUS VIII. PTEROSPERMUM.

**Monadelphia Polyandria.** *Sex: Syst:*

*Deriv.* From *Pteron*, a wing, and *sperma*, a seed, in allusion to the winged seeds.

Gen. Char. Calyx 5-partite, somewhat tubular at the base: sepals linear, tomentose outside, hairy within: petals 5, oblique, shorter than the calyx: 5 stamens sterile: style club-shaped, slender: capsule 5-celled, 5-valved: seeds with a broad, membranaceous wing.

(1) P. rubiginosum. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 68.—Don's Mill. I. p. 538.

Spec. Char. Tree: leaves ovate, quite entire, oblique, very unequal sided: branches calyx and leaves covered with rusty tomentum: peduncles longer than the petioles.

The locality of this species is unknown.

(2) P. SUBERIFOLIUM. (*Lam.*)

*Ident.* W. & A. prod. I. p. 68.

*Syn.* P. canescens, *Roxb. fl. Ind.* III. *p.* 162.—Pentapetes suberifolia, *Linn.*

*Engrav.* Lam. Ill. t. 576. f. 1.—Cav. Diss. III. t. 43. f. 2.—Hook. Bot. Misc. t. 26.

SPEC. CHAR. Tree: leaves cuneate-oblong, obliquely cordate at the base, coarsely toothed, densely pubescent beneath: peduncles axillary, 3-flowered: involucel leaves 3, linear, entire, very caducous: capsule obovoid, acutish, covered on the outside with a dense, scurfy pubescence: flowers large, white, fragrant.

Southern districts of the Peninsula, flowering from March to May.

(3) P. RETICULATUM. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 69.

SPEC. CHAR. Tree: leaves cuneate-oblong, oblique, coarsely toothed towards the apex, under side covered with white mealy pubescence, reticulated with prominent veins: peduncles about 3-flowered, crowded towards the extremity of the branches: involucel leaves palmatifid: ovary with about six ovules in each cell: flowers large, white.

Peninsula.

(4) P. HEYNEANUM. (*Wall.*)

*Ident.* W. & A. prod. I. p. 69.

*Syn.* P. suberifolium, *Willd. Dec. prod.* I. *p.* 500.—*Roxb. fl. Ind.* III. *p.* 160.—Velago xylocarpa, *Gaertn. fr. t.* 133.

*Engrav.* Wight's Icon. II. t. 489.—Bot. Mag. XXXVII. t. 1526.

SPEC. CHAR. Tree: leaves cuneate-oblong, slightly cordate at the base, coarsely toothed or lobed towards the apex, slightly tomentose on the under side: petioles short, attached a little within the margin: peduncles axillary, very short: involucel leaves and bracteoles imbricated round the base of the flower-bud, palmatifid and laciniated, deciduous: capsule oblong, acute, covered with scurfy pubescence on the outside: seeds 8 in each cell: flowers large, white, fragrant.

Gingie Hills and Courtallum. Flowering nearly all the year.

(5) P. GLABRESCENS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 69.

*Engrav.* Rheede Mal. VI. t. 58.

Spec. Char. Leaves cuneate-obovate, entire equal, under side pubescent: petioles short, marginal: stipules palmate, persistent: peduncles axillary, the length of the petiole: capsule oblong, 5-angled: cells 10–12-seeded: flowers white.

Peninsula.

(6) P. acerifolium. (*Willd.*)

*Ident.* W. & A. prod. I. p. 69.—Dec. prod. I. p. 500.—Roxb. fl. Ind. III. p. 158.

*Syn.* Pentapetes acerifolia, *Cav. Diss.* III. *t.* 44.

*Engrav.* Bot. Mag. 17. t. 620.—Wight's Icon. t. 631.

Spec. Char. Tree: leaves entire or coarsely toothed, usually more or less peltate, the underside covered with rough tomentum: pedicels axillary, much shorter than the petiole: involucel leaves very caducous: petals linear-revolute: capsule oblong, 5-angled, covered with scurfy pubescence on the outside: flowers large, white, fragrant.

Peninsula. Silhet and Assam. Flowering from March to May.

(7) P. semisagittatum. (*Buch.*)

*Ident.* Roxb. fl. Ind. III. p. 160.—Dec. prod. I. p. 500.

*Syn.* Eriolæna Roxburghii, *Spr.*

Spec. Char. Tree: leaves oblong, entire, unequally lobed, one short and obtuse, the other elongated to a point: stipules palmate, fringed: flowers large, white, fragrant.

Assam, flowering from March to May.

(8) P. lanceæfolium. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 163.—Dec. prod. I. p. 500.

Spec. Char. Large tree: leaves unequal-sided, oblong-lanceolate, acuminated, quite entire, tomentose beneath: pedicels much longer than the petioles: flowers large, white, fragrant.

Assam, flowering in May and June.

(9) P. Lawianum. (*Nimmo.*)

*Ident.* Dalz. Bomb. flor. p. 24.

Spec. Char. Leaves 3-lobed, cordate, subpeltate, tomentose: involucel palmatifid.

Dharwar and the Southern Ghauts.

## GENUS IX. KYDIA.

**Monadelphia Polyandria.** *Sex: Syst.*

*Deriv.* Named in honour of Colonel Kyd, founder of the Botanical Gardens at Calcutta.

Gen. Char. Trees, with alternate leaves: calyx campanulate, 5-lobed, surrounded by a 4–6-leaved involucel: petals 5, obliquely obcordate, attached by claws to the base of the staminal column: staminiferous tube 5-cleft to about the middle: each stamen bearing 4 anthers: ovary single, 3-celled: ovules 2, erect at the base of each cell: style 1, 3-cleft: stigma dilated: capsule 3-valved, 3-celled: cells 1-seeded.

(1) K. calycina. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 70.—Dec. prod. I. p. 500.—Roxb. fl. Ind. III. p. 188.

*Syn.* K. fraterna, *Roxb.*

*Engrav.* Roxb. Cor. III. t. 215.—Wight's Icon. t. 879, 880.

Spec. Char. Middle-sized tree with broad-cordate, angled leaves: involucel at first shorter, afterwards much longer than the calyx: panicles terminal: flowers smallish, white.

Coromandel. Neilgherries. Flowering nearly all the year.

(2) K. Roxburghiana. (*R. W.*)

*Ident.* Wight's Icon. III.

*Engrav.* Wight's Icon. t. 881.

Spec. Char. Tree: involucel 4–5-leaved: leaves obovate, obtuse, about the length of the calyx, afterwards enlarging and becoming narrow-spathulate: filaments short, united at the base, free above: style exceeding the stamens: stigmas large, dilated: flowers small: tube purple: limb pale rose-colour.

No habitat given.

## GENUS X. ERIOCHLÆNA.

**Monadelphia Polyandria.** *Sex: Syst:*

*Deriv.* From *Erion*, wool, and *chlaina*, covering, alluding to the woolly calyx.

Gen. Char. Trees: involucel 3–5-leaved: leaves much cut and jagged: calyx 5-cleft: sepals linear, with 2 glands at the base on the inside: petals 5, shorter than the calyx: claws tomentose: stamens in several rows, outer ones gradually shorter: ovary ovate, 10-celled: ovules numerous, in a double row in each cell: stigma 10-lobed, stellate: capsule 10-celled, 10-valved: seeds terminated by a tapering wing.

(1) E. Hookeriana. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 70.

Spec. Char. Tree: leaves roundish-cordate, toothed, pubescent on the under side: peduncles axillary, 3-flowered, scarcely longer

than the petioles, slightly pubescent: involucel leaves much shorter than the calyx, pubescent: style densely pubescent: capsule ovate.

Columala.

(2) E. CANDOLLII. (*Wall.*)

*Ident.* Dalz. Bomb. flor p. 24.

*Engrav.* Wall. pl. As. Rar. I. t. 64.

SPEC. CHAR. Leaves ovate, cordate, toothed, tomentose beneath: capsule cone-shaped, pointed: flowers yellow.

Ram Ghaut. Western Coast.

(3) E. QUINQUELOCULARIS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 71.

*Syn.* Microchlæna quinquelocularis, *W. & A.*

*Engrav.* Wight's Icon. t. 882.

SPEC. CHAR. Middling-sized tree: involucel leaves minute, caducous, 3–5-lobed: ovary 5-celled: stigma 5-lobed.

Common on the slopes of the Neilgherries, flowering in July and August.

## ORDER XXII. TILIACEÆ.

Trees or shrubs, seldom herbaceous plants: leaves alternate, stipulate: sepals 4–5, valvate in æstivation: petals 4–5, hypogynous, sometimes wanting: stamens hypogynous, usually indefinite, distinct: anthers 2-celled, opening lengthwise: disk glandular at the base of the petals: ovary single, of 4–10 carpels: style 1: stigmas equal in number to the carpels: fruit dry or pulpy, many-celled, many-seeded, often prickly, and occasionally winged: albumen fleshy.

### GENUS I. CORCHORUS.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* From the Greek word for a pot-herb, which is from *koré*, a pupil, and *koreo*, to purge, in allusion to the laxative qualities of C. olitorius.

GEN. CHAR. Shrubs or herbaceous plants, with serrated leaves: the lower serratures usually terminated by a long bristle: calyx deeply 4–5 partite, deciduous; segments unequal: petals 4–5, in-

serted under the ovary, shorter than the calyx: ovary sessile, 2–5-celled: ovules in a double row, pendulous: style very short, deciduous: stigmas 2–5: capsule pod-like, or roundish, loculicidal, 2–5-celled: seeds numerous in each cell.

(1) C. FASCICULARIS. *(Lam.)*

*Ident.* W. & A. prod. I. p. 72.—Dec. prod. I. p. 505.—Roxb. fl. Ind. II. p. 582.

*Engrav.* Pluk. t. 439. f. 6.

SPEC. CHAR. Annual: leaves oblong or lanceolate, serrated: peduncles 3–5-flowered, opposite the leaves: capsules linear-oblong, many times longer than broad, villous, beaked, with 3 terminal points, 3-celled, 3-valved: stamens about 5: flowers small, yellow.

Peninsula. Bengal and Surat. Flowering nearly all the year.

(2) C. TRILOCULARIS. *(Linn.)*

*Ident.* W. & A. prod. I. p. 72.—Dec. prod. I. p. 504.—Roxb. fl. Ind. II. p. 582.

SPEC. CHAR. Annual: leaves oblong-lanceolate: peduncles 1–2-flowered, opposite the leaves: capsules equal, slender, 3–4-angled, covered with little prickly points, much longer than broad, rostrate and entire at the point, 3–4-celled, 3–4-valved: flowers small, yellow.

Southern Provinces of the Peninsula. Sholapore and Guzerat. Flowering in August and September.

(3) C. OLITORIUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 73.—Dec. prod. I. p. 504.—Roxb. fl. Ind. II. p. 581.

*Syn.* C. decemangularis, *Roxb. fl. Ind.* II. *p.* 582.

*Engrav.* Gaertn. fr. t. 64.—Pluk. t. 127. f. 3.—Bot. Mag. 55. t. 2810.

SPEC. CHAR. Annual: leaves ovate-acuminated: peduncles 1–2-flowered: capsules nearly cylindrical, 10-ribbed, many times longer than broad, rostrate, with sometimes 5 terminal points, 5-celled, 5-valved: flowers small, yellow.

Common in the Peninsula, flowering in the rainy season. Cultivated in Bengal for the fibres of its bark, which are employed in making a coarse kind of cloth, cordage for agricultural purposes, boats, and Bengalee paper.

(4) C. TRIDENS. *(Linn.)*

*Ident.* W. & A. prod. I. p. 73.—Dec. prod. I. p. 505.

*Syn.* C. Burmanni, *Dec. prod.* I. *p.* 505.

*Engrav.* Pluk. t. 127. f. 4.—Burm. Ind. t. 37. f. 2.

Spec. Char. Annual: leaves cuneate: oblong, linear or lanceolate: peduncles 1–4-flowered: capsules slender, 20–30 times longer than broad, rostrate, the beak 2–3-cleft, with patent segments: flowers small, yellow.

Peninsula, not uncommon.

(5) C. acutangulus. (*Lam.*)

*Ident.* W. & A. prod. I. p. 73.—Dec. prod. I. p. 505.

*Syn.* C. fuscus, *Roxb. fl. Ind.* II. *p.* 582.—C. æstuans, *Gaertn. fr. t.* 64.

*Engrav.* Wight's Icon. t. 739.—Pluk. t. 44. f. 1.

Spec. Char. Annual: leaves ovate: peduncles 1–2-flowered, opposite the leaves: capsules prismatical, about 10 times longer than broad, 6-angled, 2 or 3 of the angles winged, 3-celled, truncate, with 3–5 either entire or 2-cleft horns: flowers small, yellow.

Peninsula and Bengal. Flowering in the rainy season.

(6) C. capsularis. (*Linn.*)

*Ident.* W. & A. prod. I. p. 73.—Dec. prod. I. p. 50[illegible] Roxb. fl. Ind. II. p. 581.—Drury's Useful Plants, p. 158.

*Engrav.* Wight's Icon. t. 311.—Rumph. Amb V . 1.

Spec. Char. Annual: leaves oblong, acumina[illegible] capsules globose, truncated, wrinkled and muricated, 5-celled: flowers small, yellow.

Peninsula and Bengal, flowering in the rainy season. This species is extensively cultivated for the sake of its fibres, called Jute, from which gunny, or rice bags are made.

(7) C. humilis. (*Munro.*)

*Ident.* Munro's Hort. Agr. p. 35.—Dalz. Bomb. flor. p. 25.

*Syn.* Antichorus depressus, *Linn.*

*Engrav.* Wight's Icon. t. 1073.

Spec. Char. Shrubby, prostrate, lying flat on the ground: leaves small, long-petioled, ovate-crenate: peduncles 2-flowered: capsules linear-oblong, 6–8 times longer than broad, 4–5-celled, 4–5-valved: flowers small, yellow.

Kattywar. Guzerat and the Deccan.

## GENUS II. TRIUMFFETTA.

**Polyandria Monogynia.** *Sex: Syst.*

*Deriv.* In honor of Triumfetti, an Italian Botanist and author who died in 1707.

Gen. Char. Shrubs or herbaceous plants, with alternate leaves;

sepals 5, linear, coloured: petals 5, shorter than the calyx: disk 5-toothed, dilated at the apex: glands 5, attached round the disk and opposite the petals: ovary 2–4-celled: style 1, toothed at the apex: fruit globose, echinated, with hooked prickles.

N. B. In this genus it may be right to caution to place little or no reliance on the shape of the leaves or their pubescence or suppression of the parts of the flower. Linnæus characterized two species only, while modern Botanists swelled this number almost to fifty: but most of these are descriptions of so many *individuals*, not *species*. See W. & A. prod. I. p. 74.

(1) T. PILOSA. *(Roth.)*

*Ident.* W. & A. prod. I. p. 74.—Dec. prod. I. p. 506.—Roth. Nov. Sp. p. 223.

SPEC. CHAR. Herbaceous: stem hairy or tomentose: upper leaves ovate, acuminated, entire, lower ones somewhat 3-lobed, all unequally serrated, hairy, under side tomentose: peduncles several together, axillary, 3-flowered: stamens 10: fruit hairy, about the size of a cherry, 4-celled, 8-seeded: prickles ciliated below with hairs: flowers yellow.

Peninsula, [illegible] Warree, Bombay.
covered
and

(2) T. ANGULATA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 74.—Dec. prod. I. p. 507.

*Syn.* T. Bartramia, *Linn. Roxb. fl. Ind.* II. *p.* 463.

*Engrav.* Wight's Icon. t. 320.—Rumph. Amb. VI. t. 25. f. 2;—Pluk. t. 41. f. 5.

SPEC. CHAR. Stems herbaceous: uppermost leaves ovate, acuminate, lower ones cuspidately 3–5-lobed, hairy, serrated, peduncles 2–3 together, axillary, 3-flowered: stamens 10: fruit pubescent, 4–5-celled, 4–8 seeded: prickles glabrous: flowers yellow.

Peninsula and Bengal, flowering nearly all the year. It is common everywhere; the fruit is small, about the size of a vetch seed.

(3) T. ROTUNDIFOLIA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 75.—Dec. prod. I. p. 506.

*Syn.* T. suborbiculata, *Dec. prod.* I. *p.* 506.

SPEC. CHAR. Perennial: stems pubescent: leaves roundish, unequally and deeply toothed, underside tomentose: peduncles racemose by the abortion of the leaves: stamens numerous: fruit densely pubescent, the prickles slightly so: flowers small, yellow.

Circars and Bengal, flowering about September.

(4) T. NEGLECTA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 75.

Spec. Char. Annual: with a roughish stem: leaves roundish, 3–5-lobed, irregularly toothed, pubescent on both sides: upper ones hairy above, tomentose below: peduncles with several flowers, sometimes racemose by the abortion of the leaves: stamens 5–8: fruit hairy, 2–4-celled: cells 1-seeded: prickles ciliated: flowers yellow.

Peninsula.

(5) T. annua. (*Linn.*)

*Ident.* Dec. prod. I. p. 507.—Roxb. Hort. Beng. p. 36.

*Engrav.* Bot. Mag. t. 2296.

Spec. Char. Annual: leaves ovate, toothed, smooth above, somewhat hairy on the nerves beneath: peduncles axillary, 3-flowered: flowers small, yellow.

Bengal, flowering about January.

(6) T. trilocularis. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 462.—Dec. prod. I. p. 508.

Spec. Char. Shrub: leaves roundish-ovate, somewhat 3-lobed, coarsely serrated, covered with stellate hairs on both sides: lower serratures glandular: calyx pubescent: prickles hooked: peduncles aggregate, 2–4-flowered: flowers small, yellow.

Bengal, flowering in October.

(7) T. vestita. (*Wall.*)

*Ident.* Wall. MSS. in Linn. Soc. Herb.—Don's Mill. I. p. 547.

Spec. Char. Shrub, villous: leaves ovate, undivided, coarsely serrated, villous, pale beneath: peduncles aggregate, 2–3-flowered, opposite the leaves: flowers yellow.

Silhet.

## GENUS III. GREWIA.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* In honour of Dr. Grew, an English physician and vegetable physiologist.

Gen. Char. Shrubs or trees: sepals 5, coriaceous, coloured inside: petals 5, with a gland at the base on the inside, sometimes very small or none: stigma 2–4-lobed: ovary of 3–4 carpels, each carpel with 2 erect ovules: drupe with 1–4 stones: nuts 2-celled: cells 1-seeded: albumen fleshy: leaves usually serrated and often resembling those of the English elm: inflorescence axillary or terminal.

(1) G. orientalis. (*Linn.*)

*Ident.* W. & A. prod. I. p. 76.—Dec. prod. I. p. 510.—Roxb. fl. Ind. II. p. 586. ?

Spec. Char. Shrubby: leaves 3-nerved, ovate or oblong-lanceolate, sometimes slightly cordate at the base, crenulated, with a few scattered rough hairs beneath: peduncles axillary, solitary, about 3-flowered, longer than the petiole: bracts much shorter than the pedicels: petals lanceolate, entire: sepals linear, covered with tawny-coloured tomentum: disk elongated beyond the glands: style scarcely as long as the stamens: drupes nearly globose, flattish on the top, slightly 4-lobed, shortly tomentose and hairy: nuts 4, 2–3-celled: flowers small, white.

Peninsula and Bengal. Flowering in the hot season.

(2) G. bracteata. (*Roth.*)

*Ident.* W. & A. prod. I. p. 76.—Dec. prod. I. p. 508.

Spec. Char. Shrub: leaves ovate, shortly acuminated, serrulated, scabrous on the nerves beneath: peduncles axillary, solitary or paired, as short as the petiole, about 3-flowered: bracteoles longer than the pedicels: sepals linear, covered with golden-coloured down, much longer than the recurved petals: disk elongated beyond the glands: style longer than the stamens: drupe somewhat 2-lobed, tomentose: nuts solitary in each lobe, and 2–3-celled: stamens of deep orange-colour.

Peninsula?

(3) G. columnaris. (*Sm.*)

*Ident.* W. & A. prod. p. 77.—Dec. prod. I. p. 510.

*Syn.* G. orientalis, *Vahl. Symb.* I. *p.* 34.

*Engrav.* Wight's Icon. I. t. 44.—Pluk. t. 50. f. 4.

Spec. Char. Shrub: leaves ovate, oblong or lanceolate, rigid, crenated, scabrous on both sides: peduncles axillary, solitary, about twice as long as the petiole, 3–5-flowered: bracteoles half as long as the pedicels: sepals linear, covered with golden down, longer than the lanceolate, straight petals: disk elongated beyond the glands: style longer than the stamens: drupes turbinate, slightly 4-lobed, covered with bristly hairs: nuts 4, each 1–2-celled: flowers white.

Peninsula. Khassya mountains, flowering in the rainy season.

(4) G. lævigata. (*Vahl.*)

*Ident.* W. & A. prod. I. p. 77.—Dec. prod. I. p. 510.

*Syn.* G. didyma, *Roxb. fl. Ind.* II. *p.* 591.—G. disperma, *Rottl. in Spr. Syst.* II. *p.* 579.

Spec. Char. Tree: leaves oval, with a long attenuation, serrated, nearly glabrous on both sides: peduncles axillary, solitary, or several together, 2–3-flowered, longer than the petioles: bracteoles much shorter than the pedicels: sepals linear, much longer than the oblong, blunt petals: disk a little longer than the glands;

style filiform, longer than the stamens: stigma fringed: drupe deeply 2-lobed, glabrous: nuts 1–2 in each lobe, 1–2-celled: flowers smallish, white.

Peninsula. Hindostan and Upper Provinces. Flowering in September. The leaves are used as fodder for cattle.

(5) G. SALVIFOLIA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 77.—Dec. prod. I. p. 509.

*Syn.* Damine, *Gaertn.*

*Engrav.* Gaertn. fr. t. 106. f. 7.

SPEC. CHAR. Shrub: leaves oblong, oblique at the base, sharply serrulated, under side hairy with white tomentum: peduncles axillary, solitary, 1–3-flowered: pedicels somewhat longer than the peduncle: sepals linear-lanceolate, longer than the petals: drupe globose, 2-lobed, glabrous: nuts solitary in each lobe, 4-celled.

Peninsula.

(6) G. ROTHII. (*Dec.*)

*Ident.* W. & A. prod. I. p. 78.—Dec. prod. I. p. 509.

*Syn.* G. bicolor, *Roth.*—G. levigata, *Heyne.*—G. salvifolia, *Roxb. fl. Ind.* II. *p.* 587.

SPEC. CHAR. Shrub: leaves ovate-oblong, sharply serrulated, under side hoary, tomentose: peduncles 2–3, much longer than the petioles: sepals linear, twice the length of the petals: style filiform: stigma dilated: drupe globose, glabrous, with two 1–2-celled nuts.

Coromandel, flowering during the rainy season.

(7) G. HIRSUTA. (*Vahl.*)

*Ident.* W. & A. prod. I. p. 78.—Dec. prod. I. p. 509.—Roxb. fl. Ind. II. p. 587.

*Syn.* G. pilosa, *Roxb. fl. Ind.* II. *p.* 588.

*Engrav.* Wight's Icon. t. 76.

SPEC. CHAR. Shrub: leaves lanceolate, obliquely cordate at the base, acutely and unequally serrated, upper surface slightly tomentose, under densely so: peduncles about as long as the petioles, 2–4-flowered: sepals lanceolate, longer than the petals: the lower half of the petals villous on the back, and ciliated on the margins: style filiform, longer than the stamens: stigma large, 2–3-lobed: drupes hairy, 4-lobed: nuts 4, each 2-celled: flowers small, white, becoming yellow.

Jungles near Madras, and the interior parts of Bengal. Flowering in September.

(8) G. PILOSA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 78.—Dec. prod. I. p. 510.

*Syn.* G. carpinifolia, *Roxb. fl. Ind.* II. *p.* 587.—G. commutata, *Dec. prod.* I. *p.* 511.—G. flavescens, *Juss. Dec. prod.* I. *p.* 510.

SPEC. CHAR. Shrub: leaves short-petioled, cuneate-oblong, lanceolate, rounded at the base, unequally serrated, rough with hairs: hairs on the under side softer: peduncles 1–3, 3-flowered: sepals linear: petals linear, as long as the stamens and two-thirds the length of the calyx: style filiform: stigma 4-partite, the segments filiform: drupes 1–4-lobed, hairy: nuts 1–4, 1–3-celled: flowers small, whitish.

Circars, flowering in the rainy season.

(9) G. EMARGINATA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 79.

*Syn.* G. carpinifolia, *Roth.*

SPEC. CHAR. Shrub: leaves roundish-obovate, unequally toothed, upper side slightly pubescent, under palely tomentose: peduncles solitary, much longer than the petioles, 3–6-flowered: bracteoles unequal: sepals lanceolate, twice as long as the petals: style club-shaped at the apex: stigma 4-lobed: drupes at first hairy, afterwards glabrous: nuts usually 4, and 1-celled.

Peninsula.

(10) G. ABUTILIFOLIA. *(Juss.)*

*Ident.* W. & A. prod. I. p. 79.—Dec. prod. I. p. 511.

*Syn.* G. aspera, *Roxb. fl. Ind.* II. *p.* 591.—*Dec. prod.* I. *p.* 511.

SPEC. CHAR. Tree: leaves irregularly and coarsely toothed, roundish-cordate, occasionally lobed: peduncles about half as long as the petiole, 3–4-flowered: sepals oblong, longer than the petals: drupes 4-lobed, pubescent and hairy: nuts 4, 1–2-celled: flowers greenish-white.

Peninsula, flowering throughout the year.

(11) G. VILLOSA. *(Herb. Miss.)*

*Ident.* W. & A. prod I. p. 79.—Dec. prod. I. p. 512.

SPEC. CHAR. Shrub: leaves 5-nerved, roundish-cordate, toothed, the teeth terminated by a tuft of hairs: upper side rough, under tomentose and villous: inflorescence, petioles and young leaves very villous: peduncles scarcely any: pedicels umbellate, 5–6 in each axil: sepals linear-lanceolate, longer than the petals: style thickened at the apex: lobes of the stigma toothed: drupe globose, hairy: nuts 4, each 1-celled: flowers small, white.

Peninsula and the Deccan.

(12) G. ASIATICA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 79.—Dec. prod. I. p. 511.—**Roxb.** fl. Ind. II. p. 586.

*Syn.* G. subinequalis, *Dec. prod.* I. *p.* 511.

SPEC. CHAR. Tree: leaves 5-nerved, roundish-cordate, unequally serrated, under side pubescent or hoary: stipules lanceolate-subulate: peduncles 2–4, longer than the petiole, 3-flowered: sepals oblong-lanceolate, longer than the petals: stigma 4-lobed: drupes globose with 1–2, 1-celled nuts: flowers yellowish-orange.

A native of various parts of India, and often cultivated in gardens. The berries are palatable and used for making sherbet. It flowers about the end of the cold season.

(13) G. TILIÆFOLIA. *(Vahl.)*

*Ident.* W. & A. prod. I. p. 80.—Dec. prod. I. p. 511.—**Roxb.** fl. Ind. II. p. 587.

*Syn.* G. arborea, *Roth. Nov. Sp. p.* 247.

SPEC. CHAR. Tree: leaves 5-nerved, roundish-cordate, bluntly toothed, usually oblique at the base, under side sometimes pubescent: stipules auricled on one side at the base: peduncles numerous, 3–5-flowered: sepals twice as long as the petals: stigma 4-lobed: drupes 2-lobed: each lobe with 2 hemispherical 3-celled nuts.

Circar mountains, flowering during the hot season. The fruit is eatable.

(14) G. ROTUNDIFOLIA. *(Juss.)*

*Ident.* W. & A. prod. I. p. 80.—Dec. prod. I. p. 511.

*Syn.* G. orbiculata, *Roth. Nov. Sp. p.* 246.

*Engrav.* Wight's Icon. t. 45.

SPEC. CHAR. Shrub: leaves 5–6-nerved, roundish-cordate, or ovate, hoary and softly velvety on both sides, crenulated: peduncles several together, 3-flowered: sepals linear: petals slightly 2-toothed: style longer than the stamens: stigma 4-lobed, crenulated: drupes slightly 2-lobed, with 1–2-usually 2-celled nuts in each: flowers purple.

Coromandel Coast.

(15) G. POPULIFOLIA. *(Vahl.)*

*Ident.* W. & A. prod. I. p. 80.—Dec. prod. I. p. 511.

*Syn.* G. betulæfolia, *Roth. Nov. Sp. p.* 249.

SPEC. CHAR. Shrub: leaves 5-nerved, roundish, slightly cordate at the base, unequally crenated, pubescent beneath: peduncles solitary, 1-flowered, shorter than the leaf, with 2 opposite bracteoles

above the middle: sepals linear: petals bifid, narrow-linear: stigma 4-lobed: drupes deeply 2-lobed: lobes globose, with a shining epicarp and one 1-celled nut in each.

Peninsula.

(16) G. MICROCOS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 81.—Dec. prod. I. p. 510.

*Syn.* G. ulmifolia, *Roxb. fl. Ind.* II. *p.* 591.—Microcos paniculata, *Linn.*—Arsis rugosa, *Lour. fl. Coch. p.* 409.

*Engrav.* Wight's Icon. t. 84.—Burm. Zeyl. t. 74.—Rheede Mal. I. t. 56.

SPEC. CHAR. Shrub: leaves ovate or obovate-lanceolate, serrulated, under side of the young ones pubescent: inflorescence panicled, terminal, pubescent: flowers 2–3 together, within an involucre: petals broad oblong, shorter than the calyx, emarginate at the apex: petals with a nectariferous cavity with a pubescent margin, containing a small gland at the base: drupe with a single, hairy, 3-celled nut: flowers whitish.

Common in the hilly parts of the Concans. Silhet. Flowering in the rainy season. In Silhet, it grows to be a tree: the fruit is the size of a gooseberry, and eatable.

(17) G. POLYGAMA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 588.

SPEC. CHAR. Shrub: leaves lanceolate, serrated, 3-nerved, hairy on both sides: peduncles longer than the petioles, 2–6-flowered: drupes 2, each 2-lobed: each lobe containing a single 1-seeded nut: flowers white, polygamous.

Western Ghauts, and interior parts of Bengal, flowering in the rainy season.

(18) G. SCABROPHYLLA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 584.

*Syn.* G. sclerophylla, *Roxb. Hort. Beng. p.* 42.

*Engrav.* Wight's Icon. I. t. 89.

SPEC. CHAR. Shrub: leaves round-cordate, serrated, wrinkled, scabrous above, downy beneath: peduncles 2–3-flowered: drupes round: nuts 4, 1-celled, 1-seeded: flowers largish, white.

Upper Provinces of India, flowering about April.

(19) G. SEPIARIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 589.

*Syn.* G. serrulata, *Dec. prod.* I. *p.* 510.

Spec. Char. Shrub: leaves obovate, serrated: peduncles solitary, 3-flowered: berries twin, each 2-lobed, with one seed in each lobe: flowers middle-sized, white.

Found all over Bengal, where it is often used to make hedges. Flowering in the rainy season.

(20) G. sapida. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 590.

Spec. Char. Suffruticose: leaves 5-nerved, oblong, somewhat lobed, scabrous: peduncles much longer than the petioles, several together, 3-flowered: petals 2-toothed: drupes containing from one to three 1-seeded nuts.

Bengal, extending from Chittagong to the foot of the Himalayas, flowering in the hot season.

## GENUS IV. ERINOCARPUS.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Erinaceus*, a hedgehog, alluding to the bristly fruit.

(1) E. Nimmonii. (*J. Grah.*)

*Ident.* J. Grah. Cat. p. 21.—Dalz. Bomb. flor. p. 27.

Spec. Char. Small tree: leaves long-petioled, roundish-cordate, strongly nerved beneath: fruit triangular, bristly: angles winged: panicles terminal: flowers yellow.

Common on the Concan hills, flowering in September. The bark is used for making ropes.

## GENUS V. ELÆOCARPUS.

**Polyandria Monogynia.** *Sex · Syst:*

*Deriv.* From *Elaia*, an olive, and *Carpos*, fruit, from the fruit resembling an olive.

Gen. Char. Trees or large shrubs with laneeolate leaves: sepals 4–5: petals 4–5, ciliated below, cleft and divided towards the apex: ovary surrounded at the base by 5 large glands, 3-celled: ovules 2 in each cell: fruit a drupe: nut tubercled: seed solitary in each cell.

(1) E. serratus. *(Linn.)*

*Ident.* W. & A. prod. I. p. 82.

*Syn.* E. integrifolius, *Dec. prod.* I. *p.* 519.

*Engrav.* Lam. Ill. t. 459.

Spec. Char. Tree: leaves alternate, elliptical, bluntly serrated: nerves with glands in the axils: petioles with a small gland on each side near the apex: racemes axillary: anther-valves bearded: drupes oblong: nut very hard, indehiscent, tubercled: flowers white.

Malabar and Travancore.

(2) E. oblongus. *(Gaertn.)*

*Ident.* W. & A. prod. I. p. 82.—Dec. prod. I. p. 519.

*Syn.* E. Perim-kara, *Dec.*

*Engrav.* Rheede Mal. IV. t. 24.—Rumph. Amb. III. t. 102.—Burm. Zeyl. t. 40.—Wight's Icon. t. 46.

Spec. Char. Tree: leaves alternate, elliptic-oblong, pointed, with blunt serratures: nerves with glands in some of the axils, or none: petioles with a small gland on each side near the apex: racemes simple, short: anther-valves beardless: drupes oblong: nut very hard, tubercled: flowers white, beautifully fringed.

Neilgherries. Western Ghauts and Southern Provinces.

(3) E. Ganitrus. *(Rumph.)*

*Ident.* Roxb. fl. Ind. II. p. 592.—Wight's Ill. I. p. 83.

*Syn.* Ganitrus sphericus, *Gaertn.*

*Engrav.* Icon. I. t. 66.—Rumph. Amb. III. t. 101.

Spec. Char. Small tree: leaves lanceolate, serrulate: racemes simple, drooping: drupe spherical, smooth, purple: nut 5-grooved, tubercled: flowers middle-sized, white.

Western Ghauts and Assam, flowering about February. The hard grooved seeds are frequently worn as beads by Brahmins and Fakeers, and set in gold are sold as ornaments in England. *(Royle.)*

(4) E. cuneatus. (*R. W.*)

*Ident.* Wight's Ill. I. p. 83.

Spec. Char. Leaves cuneate-obovate, obtusely acuminated: anthers bearded: stamens bearded, the hairs at length reflexed: ovary 3-celled, elevated on a disk, and, with it, thickly clothed with white hairs.

Quilon. Malabar Coast.

(5) E. prinodes.

*Ident.* Roxb. fl. Ind. II. p. 596.

*Syn.* E. serratus, *Roxb.*

Spec. Char. Small tree: leaves broad-lanceolate, serrate: racemes solitary, simple: petals beautifully fringed: anthers bearded: drupe oblong: nut very hard, smooth; flowers very numerous, small, white, drooping.

Upper Provinces of Bengal, flowering during the hot season. The fruit is eaten by the natives in their curries, and as pickles.

(6) E. LANCEÆFOLIUS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 598.

*Engrav.* Wight's Icon. I. t. 65.

SPEC. CHAR. Middling-sized tree: leaves alternate, serrated, smooth on both sides: anthers somewhat bearded: stigma 3-toothed: racemes axillary: drupe turbinate, smooth, greenish-yellow: nut perforated at the base, 3-valved: flowers on longish pedicels, small, white.

Assam. Silhet. Flowering in the rainy season.

(7) E. ROBUSTUS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 597.

*Engrav.* Wight's Icon. I. t. 64.

SPEC. CHAR. Tree: leaves ovate-oblong, serrated, of a thickish texture: young shoots slightly villous: racemes simple, diverging with a curve, scarcely so long as the leaves: sepals hoary: anthers somewhat bearded: drupe oval: nut oblong, wrinkled, very hard, 3-valved, 3-celled: flowers large, white, drooping.

Silhet and Assam, flowering in June.

(8) E. LUCIDUS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 600.

SPEC. CHAR. Tree: leaves long-petioled, broad-lanceolate, remotely serrate, lucid, with 2 minute glands at the base.

Chittagong.

## GENUS VI. MONOCERA.

**Polyandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Monos*, single, and *Keras*, a horn, alluding to the anthers being terminated by a single bristle.

GEN. CHAR. Trees: sepals 5: petals 5, usually silky on the back, cleft and divided towards the apex: anther-valves unequal, outer one much longer than the inner one: ovary 2-celled, surrounded by 5 glands at the base: ovules in double rows in each cell: fruit a drupe: nut smoothish or tubercled, 1–2-celled: seed solitary in each cell.

(1) M. TUBERCULATA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 83.

*Syn.* Elæocarpus tuberculatus, *Roxb. fl. Ind.* II. *p.* 594.—E. serrulatus, *Roxb. Hort. Beng. p.* 42.

*Engrav.* Wight's Icon. t. 62.—Wight's Ill. I. t. 35.

Spec. Char. Tree: leaves cuneate-obovate, remotely serrulate: racemes lax, simple: pedicels slender, drooping: filaments hairy: drupe oval: nut compressed, much tubercled on each side, 1–2-celled: flowers largish, white.

Neilgherries. Travancore. Flowering in February and March. The nuts of this sacred tree are sold by holy men to the Hindoos, set in gold, and worn by them as religious ornaments.

(2) M. rugosa. *(Wight.)*

*Ident.* Wight's Ill. I. p. 83.

*Syn.* Elæocarpus rugosus, *Roxb. fl. Ind.* II. *p.* 596.

*Engrav.* Wight's Icon. I. t. 61.

Spec. Char. Large tree: leaves subsessile, obovate-oblong, serrated: racemes numerous, shorter than the leaves, spreading horizontally: drupe obovate, smooth: nut oblong, wrinkled, thickish at the margin: flowers large, long-pedicelled, drooping, white.

Chittagong and Assam, flowering in March.

(3) M. Roxburghii. (*Wight.*)

*Ident.* Wight's Ill. I. p. 83.

*Syn.* Elæocarpus aristatus, *Roxb. fl. Ind.* II. *p.* 599.

*Engrav.* Wight's Icon. I. t. 63.

Spec. Char. Large tree: leaves obovate-cuneate, obtusely serrulate: stamens awned: racemes axillary, drooping, somewhat hairy: petals very hairy, particularly on the outside: hairs white, depressed: drupe size and colour of a large olive: nut oblong, pointed at both ends, ribbed on each of the flat sides, surface slightly wrinkled: flowers large, yellow, fragrant.

Silhet, flowering in April.

(4) M. Munroii. *(R. W.)*

*Ident.* Wight's Ill. I. p. 84.

*Engrav.* Wight's Spicil. I. t. 18.

Spec. Char. Tree: leaves ovate-lanceolate, serrulate, acuminated, without glands on the underside: racemes about the length of the leaves, many-flowered: flowers drooping: anthers glabrous: ovary elevated on a disk, very hairy: drupe the size of an olive: flowers white.

Coorg and valleys near Coonoor, flowering in November. The fruit is eaten by the natives.

(5) M. ferruginea. (*R. W.*)

*Ident.* Wight's Icon. vol. I.

*Engrav.* Wight's Icon. t. 205.

Spec. Char. Tree: leaves oval, acute, at first villous, afterwards glabrous above, tomentose, rusty-coloured beneath: racemes axillary, shorter than the leaves, many-flowered: flowers drooping: sepals lanceolate: anthers glabrous: drupe oval.

Neilgherries.

## ORDER XXIII. DIPTERACEÆ.

Trees, abounding in resinous juice: leaves alternate: stipules deciduous, terminating the branches with a tapering point: calyx tubular, 5-lobed, usually unequal, afterwards becoming enlarged, imbricated in æstivation: petals hypogynous, sessile, often combined at the base, twisted in æstivation: stamens indefinite, hypogynous: filaments dilated at the base: anthers 2-celled, subulate, opening lengthwise towards the apex: ovary superior: ovules in pairs, pendulous: style and stigma simple: fruit 1-celled, 3-valved, or indehiscent, surrounded by the calyx: seed solitary, without albumen.

### GENUS I. VATERIA.

**Polyandria Monogynia.** *Sex: Syst.*

*Deriv.* From Vater, Professor of Botany in Wurtemberg.

Gen. Char. Trees: leaves oblong: panicles axillary or terminal: calyx 5-partite: segments sometimes afterwards enlarged, equal: petals 5: ovary 3-celled.

#### (1) V. Indica. *(Linn.)*

*Ident.* W. & A. prod. I. p. 83.—Roxb. fl. Ind. II. p. 602.

*Syn.* Elœocarpus copalliferus, *Retz.*

*Engrav.* Roxb. Cor. III. t. 288.—Rheede Mal. IV. t. 15.—Wight's Ill. I. t. 36.

Spec. Char. Large tree: panicles terminal: calyx segments oblong, not enlarged: petals oval, emarginate, scarcely longer than the calyx: style elongated: filaments produced beyond the anthers: stigma acute: flowers white.

Malabar and Travancore, flowering in the hot season. This is known as the Piny varnish, or dammer tree, and produces the resin called Indian Copal. When recent, it is found from pale-green to a deeper amber colour, with all the intermediate shades.

The resin is procured by cutting a notch in the tree, sloping inwards and downwards. On the Malabar Coast it is made into candles, which give a fine clear light, and diffuse an agreeable fragrance.

(2) V. LANCEÆFOLIA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 601.—Wight's Ill. I. p. 88.

SPEC. CHAR. Tree: leaves lanceolate, entire: panicles axillary: calyx segments ovate, acute, much increased as the seeds ripen: petals linear-falcate, obtuse, with their concave bases placed closely together, and forming a kind of tube round the ovary and stamens: filaments produced beyond the anther-cells, and terminating in an ovate, acute, coloured, glandular point: stigma clavate, 3-toothed: flowers largish, white, fragrant.

Silhet and Chittagong, flowering in May. Wight alludes to another species, V. Roxburghiana, of which he gives no description.

## GENUS II. VATICA.

**Polyandria Monogynia.** *Sex. Syst.*

GEN. CHAR. Trees, with entire leaves: sepals 5, afterwards enlarging into 5 long wings: petals 5: filament produced beyond the anther-cells into a long coloured bristle: ovary 3-celled, with 2 pendulous ovules in each cell: seed solitary.

(1) V. LACCIFERA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 84.

*Syn.* Shorea Talura, *Roxb. fl. Ind.* II. *p.* 618.—S. laccifera, *Heyne.*—S. robusta, *Roth.* (*not Roxb.*)

*Engrav.* Wight's Icon. I. t. 164.

SPEC. CHAR. Tree: leaves oblong, obtuse, often emarginate at the base: stamens 15: anther-bristle very long: panicles numerous, springing from the axils of the fallen leaves: flowers yellow.

Nundidroog and Palghaut Mountains.

(2) V. TUMBUGAIA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 84.

*Syn.* Shorea Tumbugaia, *Roxb. fl. Ind.* II. *p.* 617.

*Engrav.* Wight's Icon. I. t. 27.

SPEC. CHAR. Large tree: leaves ovate-cordate, long-petioled: stamens about 100, with bearded anthers: panicles terminal: flowers yellow.

Palghaut Mountains.

(3) V. ROBUSTA. (*W. & A.*)

*Ident.* Voigt. Hort. Calc. p. 124.

*Syn.* Shorea robusta, *Roxb. fl. Ind.* II. *p.* 615.

*Engrav.* Roxb. Cor. III. t. 212.

SPEC. CHAR. Large tree: leaves short-petioled, cordate-oblong: stipules falcate: stamens numerous: panicles terminal and axillary; flowers yellow.

Morung, flowering in the hot season.

## GENUS III. DIPTEROCARPUS.

**Polyandria Monogynia.** *Sex. Syst.*

*Deriv.* Compounded of Greek words, meaning two-winged fruit.

GEN. CHAR. Large trees: calyx of one piece, 5-cleft: 2 sepals afterwards expanding into long ligulate wings: petals 5: anthers long, linear: ovary 3-celled, with two pendulous ovules in each cell.

(1) D. LÆVIS. (*Ham.*)

*Ident.* W. & A. prod. I. p. 85.

*Syn.* D. turbinatus, *Roxb. fl. Ind.* II. *p.* 612.

*Engrav.* Roxb. Cor. III. t. 213.

SPEC. CHAR. Young branches compressed, 2-edged: leaves ovate or ovate-oblong, acute, shining on both sides, with straight parallel veins: tube of the enlarged calyx slightly gibbous: capsule ovate, even, covered with soft hairy down: flowers large, white, tinged with red.

Chittagong, flowering in the hot season. This tree yields abundance of good oil. The average produce of the best trees is said to be sometimes 40 gallons in the season.

(2) D. TURBINATUS. (*Gaertn.*)

*Ident.* W. & A. prod. I. p. 85.

*Engrav.* Gaertn. fr. III. p. 51. t. 188.

SPEC. CHAR. Young branches tapering: leaves ovate, acute, pubescent on both sides, particularly towards the margin: petioles pubescent: tube of the enlarged calyx turbinate, much contracted below the limb: capsule ovate, 6–8-furrowed.

Chittagong. This species yields scarcely any oil.

(3) D. ANGUSTIFOLIUS. (*W. & A.*)

*Ident.* Voigt. Hort. Calc. p. 125.

*Syn.* D. costatus, *Roxb. fl. Ind.* II. *p.* 613.

Spec. Char. Younger parts hairy: leaves linear, oblong, acuminate at the base, hairy underneath: stipules hirsute: calyx 5-furrowed about the middle, slightly hairy: flowers white, tinged with red.

Chittagong, flowering in the cold season. This species yields a great quantity of good oil.

(4) D. incanus. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 614.

Spec. Char. All the younger parts hairy: leaves ovate, somewhat tapering at the base, softly villous: racemes axillary, half the length of the leaves: calyx 5-angled about the middle.

Chittagong, flowering in November. This species furnishes the largest proportion of the best sort of wood oil. Roxburgh mentions another species, D. tuberculatus, also a native of Chittagong, which blossoms at the beginning of the hot season.

## GENUS IV. HOPEA.

**Polyandria Monogynia.** *Sex Syst*

*Deriv.* Called after Dr. John Hope, Professor of Botany in Edinburgh.

Gen. Char. Trees, with entire leaves: flowers secund and nearly sessile on the branches of the panicle: sepals 5, two or three of them afterwards enlarged into wings: corolla of one piece, with a campanulate tube: petals oblique, linear, oblong, spreading, twisted: filaments 10, alternately simple and bifid: anthers 15, with bristles at the apex: ovary 3-celled, with 2 pendulous ovules in each cell.

(1) H. Wightiana. (*Wall.*)

*Ident.* W. & A. prod. I. p. 85.

*Engrav.* Wight's Ill. I. t. 37.

Spec. Char. Leaves ovate-oblong, glabrous: 2 sepals expanding into wings, oblong, obtuse: capsule oblong-ovate, acute: flowers small, yellow, fragrant.

Peninsula. Travancore.

(2) H. odorata. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 609.

Spec. Char. Leaves ovate-oblong, with a hollow gland in the axils of the large veins: two sepals enlarging into wings: panicles terminal: flowers small, pale yellow, fragrant.

Chittagong, flowering in March.

### GENUS V. ANCISTROCLADUS.

**Decandria Trigynia.** *Sex. Syst.*

*Deriv.* From *Ankistron*, a hook, and *Klados*, a branch, alluding to the hooked tendrils on the branches.

(1) A. HEYNEANUS. (*Wall.*)

*Ident.* Wight's Icon. Vol. VI. p. 12.

*Engrav.* Wight's Icon. t. 1987–88.—Rheede Mal. VII. t. 47.

SPEC. CHAR. Climbing shrub: leaves sessile, oblong, obovate-lanceolate, glabrous: panicles towards the ends of the hook-bearing branches, dichotomous: calyx and corolla equal: stamens alternately long and short: filaments dilated at the base: style thick, conical: fruit 5-winged, 2 smaller: seed corrugated, globose, somewhat depressed above: flowers small, white.

Courtallum and Malabar forests, flowering in March.

## ORDER XXIV. TERNSTRŒMIACEÆ.

Trees or shrubs, with alternate exstipulate leaves: petioles jointed at the base: peduncles axillary and terminal: sepals 3–5, the inner ones often largest, imbricated in æstivation: petals 5, often combined at the base: stamens indefinite, hypogynous, with monadelphous or polyadelphous filaments, or distinct: anthers adnate, opening lengthwise: ovary superior, many-celled, ovate, usually sessile: styles 3–7, more or less combined: capsule 2–5-celled, dehiscent or indehiscent: seeds few, large, sometimes with an aril: albumen none or in very small quantities.

### GENUS I. EURYA.

**Polygamia Monœcia.** *Sex. Syst.*

*Deriv.* From *Eurys*, large, alluding to the large flowers.

GEN. CHAR. Shrubs: flowers polygamous or diœcious: calyx 5-cleft, with two bracteoles at the base: petals 5, more or less united at the base: stamens attached to the base of the corolla in a single series: filaments distinct: styles 3–5, distinct almost from the base or united to near the apex: stigmas 2–5, distinct: berry 2–5-celled, many-seeded: seeds several in each cell, with a shining dotted testa.

(1) E. WIGHTIANA. (*Wall.*)

*Ident.* W. & A. prod. I. p. 86.

*Syn.* E. fasciculata, *Wall.*

*Engrav.* Wight's Ill. I. t. 38.

SPEC. CHAR. Shrub: leaves cuneate-obovate, bluntly pointed, entire towards the base, sharply serrated upwards: peduncles axillary, 1–3 together, very short: styles 3, united to near the apex: stigmas 3: flowers small, white.

Peninsula. Neilgherries. E. tristyla, (*W. & A.*) is believed by Dr. Wight to be identical with the above species.

## GENUS II. CLEYERA.

**Polyandria Monogynia.** *Sex. Syst.*

*Deriv.* Called after Andrew Cleyer, a Dutch Botanist.

GEN. CHAR. Calyx of 5 sepals, with two bracteoles at the base: petals distinct, broad at the base: stamens distinct, adhering to the base of the petals: style single, crowned with 2–3 stigmas: berry 2–3-celled: seeds 2 in each cell.

(1) C. GYMANTHERA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 87.

*Engrav.* Wight's Spicil. I. t. 19.

SPEC. CHAR. Large tree: leaves cuneate-obovate, entire: peduncles axillary, twice as long as the petioles, 2-edged: anthers dotted with little points on the connectivum: flowers yellow.

Neilgherries, flowering nearly all the year.

## GENUS III. GORDONIA.

**Monadelphia Octandria.** *Sex. Syst.*

*Deriv.* Called after Alexander Gordon, a celebrated London nurseryman.

GEN. CHAR. Sepals 5, silky outsided: petals cohering at the base: filaments united at the base: anthers ovate, oscillatory: styles combined to the apex, crowned with the 4–5-lobed, peltate stigma: capsules 4–5-celled, 4–5-valved, loculicidal: seeds 2–4 in each cell, terminated by a leafy wing.

G. OBTUSA. (*Wall.*)

*Ident.* W. & A. prod. I. p. 87.

*Engrav.* Wight's Spicil. I. t. 20.—Ill. I. t. 39.

Spec. Char. Large tree: leaves cuneate-oblong, serrulated, glabrous: peduncles shorter than the petioles: petals obcordate, slightly united at the base: flowers white.

Neilgherries, flowering in the rainy season.

## GENUS IV. SARAUJA.

**Polyandria Monogynia.** *Sex. Syst:*

*Deriv.* From Saraujo, a Portuguese Botanist.

Gen. Char. Calyx 5-sepalled: petals united to their middle: styles 3–5: berry furrowed, filled with shining pulp, with as many cells as there are styles, many-seeded: seeds angular.

### (1) S. Roxburghii. *(Wall.)*

*Ident.* Voigt's Hort. Calc. p. 91.

*Syn.* Ternstrœmia serrata, *Roxb. fl. Ind.* II. *p.* 521.

Spec. Char. Small tree: leaves lanceolate, serrated, acuminate: peduncles lateral, aggregate, trichotomous, 1-flowered on each of the ultimate divisions: petals nearly round cordate: style 5-grooved: berries the size of a pea, smooth, 5-celled: seeds few in each cell, pulpy: flowers small, rose-coloured.

Silhet, flowering in April and May.

## GENUS V. COCHLOSPERMUM.

**Monadelphia Octandria.** *Sex: Syst:*

*Deriv.* From *Kochlo*, to twist, and *Sperma*, a seed, alluding to the somewhat twisted seeds.

Gen. Char. Sepals 5, oval-oblong, unequal, the 2 exterior smaller: petals 5, twisted in æstivation: anthers linear-acuminate, attached by the base, and opening by a pore at the apex: styles united to the apex: capsules 3–5-celled, 3–5-valved: seeds numerous, covered with cotton: albumen fleshy.

### (1) C. gossypium. *(Dec.)*

*Ident.* W. & A. prod. I. p. 87.—Dec. prod. I. p. 527.

*Syn.* Bombax gossypium, *Linn. Roxb. fl. Ind.* III. *p.* 169.

*Engrav.* Hook. Bot. Misc. II. Suppl. t. 18.—Cav. Diss. V. t. 157.

Spec. Char. Tree: sepals at length reflexed: petals emarginate, unequal-sided: leaves palmately 5-lobed: lobes acuminated, quite entire, tomentose beneath: flowers panicled, large, yellow with the peduncles jointed at the base.

Travancore. Coromandel. Hurdwar. Flowering in March and April. This tree yields the gum called Kuteera, which in the North West provinces is substituted for Tragacanth. This genus has been removed by modern Botanists to the natural order Cistaceæ.

## ORDER XXV. OLACACEÆ.

Trees or shrubs, often with spines: leaves simple, alternate, without stipules, occasionally wanting: calyx small, entire or slightly toothed, afterwards becoming enlarged: petals hypogynous, 3–6, valvate in æstivation, distinct or cohering in pairs: stamens 3–10, hypogynous, usually cohering with the petals, some fertile, some sterile: filaments compressed: anthers erect, 2-celled, bursting lengthwise: ovary 1–4-celled: cells 3–4-ovuled: style simple, with a 3–4-lobed stigma: fruit a drupe, indehiscent, often surrounded by the calyx, 1-celled, 1-seeded: seed pendulous: albumen large and fleshy.

### GENUS I. OLAX.

**Triandria Monogynia.** *Sex Syst.*

*Deriv.* From the Greek term for a furrow, alluding to the split flowers.

Gen. Char. Trees or shrubs, with quite entire leaves: calyx entire: petals 5, four united by pairs to the middle, the fifth distinct, or six and all in pairs: ovary 1-celled, with 3 pendulous ovules. stigma 3-lobed.

#### (1) O. Zeylanica. *(Linn.)*

*Ident.* W. & A. prod. I. p. 88.—Dec. prod. I. p. 532.

Spec. Char. Tree: young branches acutely angled: leaves glabrous, ovate-acuminate: racemes axillary, few-flowered: pedicels short: sterile filaments with their upper part bifid.

Concans.

#### (2) O. scandens. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 89.—Roxb. fl. Ind. I. p. 162.—Dec. prod. I. p. 532.

*Syn.* O. obtusa, *Blume.*—Roxburghia baccata, *Koen.*

*Engrav.* Roxb. Cor. II. t. 102.

Spec. Char. Climbing shrub, thorny: young branches pubescent: leaves oval, more or less pubescent beneath: racemes axillary, solitary, pubescent: petals 5–6: sterile stamens with the upper part bifid: flowers small, white.

Coromandel forests, flowering in the hot season.

(3) O. WIGHTIANA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 89.—Dalz. Bomb. flor. p. 27.

*Syn.* O. Psittacorum, *Vahl.*

SPEC. CHAR. Scandent shrub: leaves ovate or oblong, quite glabrous, upper side shining, under pale: racemes axillary, often several together, lax, usually compound: sterile anthers bifid: fruit smooth, oblong, more than half covered by the calyx: flowers white.

Southern Provinces, flowering in February.

(4) O. IMBRICATA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 164.—Dec. prod. I. p. 532.

SPEC. CHAR. Climbing: leaves bifarious, ovate-lanceolate, or oblong, glossy: racemes axillary: drupes ovate: flowers white.

Chittagong, flowering in July.

## GENUS II. XIMENIA.

**Octandria Monogynia.** *Sex: Syst:*

*Deriv.* In honour of Francis Ximenes, a Spanish Monk, who published 4 books on the plants and animals of New Spain.

GEN. CHAR. Trees or shrubs: calyx 4-cleft, not enlarging: petals as many as the segments of the calyx, very hairy on the inside, connivent at the base: stamens all fertile: filaments distinct: anthers linear, elongated: ovary 4-celled: cells 1-ovuled: style elongated: drupe 1-seeded.

(1) X. AMERICANA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 89.—Dec. prod. I. p. 533.—Roxb. fl. Ind. II. p. 252.

*Engrav.* Lam. Ill. t. 257. f. 1, 2.

SPEC. CHAR. Shrub: thorns axillary, or at the ends of the branchlets, bearing occasionally leaves or flowers, and sometimes smaller thorns: leaves oval, emarginate: peduncles 4–6-flowered: drupe oval: nut crustaceous: flowers small, whitish.

Circars, flowering in the hot season.

## GENUS III. BALANITES.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Meaning unknown.

GEN. CHAR. Calyx 5-cleft: petals 5, ovary 5-celled, 5-seeded: spines axillary: pedicels 1-flowered: drupe ovate, 1-celled, 1-seeded: nut woody, pentagonal.

(1) B. Egyptiaca.

*Ident.* Dec. prod. I. p. 708.—Drury's Useful Plants, p. 59.

*Syn.* Ximenia Egyptiaca, *Roxb. fl. Ind.* II. *p.* 253.

*Engrav.* Wight's Icon. t. 274.

Spec. Char. Tree, 20 feet: leaves bifoliate: thorns single, very sharp, frequently bearing leaves and flowers: petals lanceolate: flowers aggregate, small, greenish-white.

Circars. Guzerat. In dry barren uncultivated places. Flowering in May.

## GENUS IV. OPILIA.

**Pentandria Monogynia.** *Sex: Syst:*

Gen. Char. Calyx truncated, 5-toothed, not enlarging: petals 5, inserted into the margin of the calyx, at first cohering, afterwards distinct: stamens opposite the petals, distinct: glands 5, alternate with the stamens, thick and fleshy, about as long as the ovary: ovary oblong: style wanting: stigma of 3 blunt points.

(1) O. amentacea. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 87.

*Syn.* Ximenia olacioides, *W. & A. prod.* I. *p.* 89.

*Engrav.* Roxb. Cor. II. t. 158.—Wight's Ill. I. t. 40.

Spec. Char. Small tree: leaves ovate or oblong, entire, sometimes slightly serrulate: aments axillary, small, erect, closely imbricated with kidney-shaped, pointed, ciliated, caducous, 3-flowered scales: petals spreading: drupe globose, juicy, 1-seeded: flowers small, greenish-white.

Circar Mountains. Pulney Hills.

## GENUS V. GOMPHANDRA.

**Diœcia Pentandria.** *Sex: Syst*

*Deriv.* From *Gomphos*, a club, and *Aner*, male, alluding to the club-shaped filaments.

Gen. Char. Flowers unisexual by abortion: calyx small, not enlarging: petals cohering at the base: stamens all fertile, as many as the petals and alternate with them: filaments club-shaped: ovary 1-celled, with 2 pendulous ovules: stigma sessile, lobed: fruit a drupe, 1-seeded.

(1) G. POLYMORPHA. *(R. W.)*

*Ident.* Wight's Spicil. I. p. 21.

*Syn.* Platea axillaris, *Thwaites enum.*—Stemonurus axillaris, *Miers in Ann. H. H.* X. *p.* 41.

*Engrav.* Wight's Spicil. I. t. 22.

SPEC. CHAR. Large rambling shrub: leaves oblong, or obovate-lanceolate, acuminated, glaucous beneath: cymes axillary, solitary, or in pairs, about the length of the petiole, many-flowered in the male, 2–3-flowered in the female: calyx minutely 4–5-toothed: stamens projecting: fruit oblong, crowned with the stigma: flowers whitish.

Courtallum and Coonoor jungles, flowering in March and April.

(2) G. CORIACEA. *(Wight.)*

*Ident.* Wight's Ill. p. 103.

SPEC. CHAR. Leaves oval or obovate-cuneate, attenuated at both ends: male cymes axillary, few-flowered: female flowers solitary, or 2–3-racemose: fruit oblong, cylindrical: flowers tetrandrous.

Pulney Hills.

## GENUS VI. STEMONURUS.

**Diœcia Pentandria.** *Sex: Syst.*

*Deriv.* From *Stemon*, a stamen, and *Ouros*, a tail or appendage.

GEN. CHAR. Flowers bisexual or diœcious by abortion: corolla 5, rarely 6-petalled, cohering at the base: anthers introrse, 2-celled: ovary free, 1-celled, with two ovules: stigma obtuse: drupe 1-seeded.

(1) S. FETIDUS. *(R. W.)*

*Ident.* Wight's Spicil. I. p. 21.

*Syn.* Mappia oblonga, *Miers?—Dalz. Bomb. flor. p.* 28.

*Engrav.* Wight's Icon. t. 955.

SPEC. CHAR. Middle-sized tree: leaves alternate, entire, elliptic, oblong, acuminated, pubescent beneath: flowers small, terminal, cymosely panicled, everywhere clothed with short hairs, yellowish-white, very fetid: drupe succulent, olive-shaped, purple when ripe.

Goa Mountains. Neilgherries. Flowering during the rainy season.

## GENUS VII. BURSINOPETALUM.

**Pentandria Monogynia.** *Sex Syst.*

*Deriv.* From *Bursinos*, leathery, and *Petalon*, a petal, alluding to the coriaceous petals.

Gen. Char. Flowers bisexual: calyx 5-toothed: petals 5, furnished at the apex with an inflexed, bidentate process: ovary 1-celled, 1-ovuled: drupe ovoid, umbilicate, 1-celled, 1-seeded.

### (1) B. arboreum. *(R. W.)*

*Ident.* Wight's Spicil. I. p. 22.—Dalz. Bomb. flor. p. 28.

*Engrav.* Wight's Spicil. I. t. 24.—Icon. t. 956.

Spec. Char. Large tree, with very dark green, almost purplish foliage: leaves oblong-elliptic, acuminated: flowers terminal, cymosely panicled: calyx conical, adhering to the ovary: petals ovate, pointed, very coriaceous: filaments short, compressed: anthers large: style short: fruit drupaceous, about the size of a small plum, ovoid, the apex marked by a broad scar where the flower had fallen off: flowers white.

Sispara Ghaut and Parwar Ghaut, Bombay. Flowering in April and May.

## GENUS VIII. APODYTES.

**Pentandria Monogynia.** *Sex Syst*

Gen. Char. Flowers bisexual: calyx small, not enlarged: petals 4–5: stamens alternate with the petals: ovary 1-celled: fruit ovate-reniform, bearing on one side a fleshy appendage: inflorescence terminal.

### (1) A. Benthamiana. *(R. W.)*

*Ident.* Wight's Icon. vol. III. p. 14.

*Engrav.* Wight's Icon. t. 1153.

Spec. Char. Tree: leaves elliptic, obtuse at both ends: panicles terminal, contracted, rigid, shorter than the leaves: petals elliptic, inflexed at the point: stamens the length of the petals: ovary ovate, hairy: stigma truncated: drupe half ovate, crowned with the base of the style: fleshy appendage scutelliform: flowers white.

Neilgherries, rare. A single tree was found in the woods near the top of the hills behind the Avalanche Bungalow, flowering in February.

## ORDER XXVI. AURANTIACEÆ.

Trees or shrubs, abounding in glands, full of volatile oil; leaves alternate, usually compound, jointed with the petiole, which is often winged: calyx urceolate, or campanulate, 3–5-toothed: petals 3–5, broad at the base, occasionally distinct, or slightly combined, inserted outside a disk, imbricated in æstivation: stamens inserted on the disk, and equal in number to the petals, or some multiple of them: filaments flattened at the base, distinct or in bundles: anthers bursting inwards: ovary many-celled: style 1: stigma slightly divided: fruit pulpy, surrounded by a thick rind full of oily receptacles: seeds solitary or numerous, usually pendulous: albumen none.

### GENUS I. ATALANTIA.

**Monadelphia Octandria.** *Sex: Syst.*

*Deriv.* From Atalanta, daughter of Schænus, for whose story, see Ovid Met. VIII. book 4.

Gen. Char. Thorny shrubs with simple leaves, and axillary and terminal flowers: filaments united below into a tube: ovary globular, usually 4-celled: cells 2-ovuled: style as long as the staminal tube: stigma 3–4-lobed, very globose, 3–4-celled, 3–4-seeded.

(1) A. monophylla. *(Dec.)*

*Ident.* W. & A. prod. I. p. 91.—Dec. prod. I. p. 535.

*Syn.* Limonia monophylla, *Linn. Roxb. fl. Ind.* II. *p.* 378.—Turræa virens, *Koen.*—Trichilia spinosa, *Willd. Dec. prod.* I. *p.* 623.

*Engrav.* Rheede Mal. IV. t. 12.—Burm. Zeyl. t. 65. f. 1.—Rumph. Amb. II. t. 31.—Roxb. Cor. I. t. 82.

Spec. Char. Small tree: thorns small: leaves ovate or oblong: racemes short, sessile: pedicels long, slender: flowers white.

Malabar and Coromandel, flowering in November.

(2) A. floribunda. *(R. W.)*

*Ident.* Wight's Icon. IV. p. 16.

*Engrav.* Wight's Icon. t. 1611.

Spec. Char. Shrub or small tree, thorny and much branched: thorns straight, axillary: leaves oval: racemes axillary, short, many-flowered: ovary stipulate, 4-celled, with 1 ovule in each cell: fruit about the size of a nutmeg: pedicels longish: flowers white.

Coimbatore, flowering in October.

(3) A. platystigma. (*R. W.*)

*Ident.* Wight's Ill. I. p. 108.

Spec. Char. Style wanting: stigma large, flat, appressed to the apex of the ovary.

Peninsula.

## GENUS II. LIMONIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From Lymoun, the Arabic name.

Gen. Char. Shrubs or trees: with simple, trifoliate or pinnate leaves: filaments distinct, broader below: disk elevated, and forming a short stalk to the ovary: ovary obovate, 4–5-celled with 1–2 ovules at the top of each cell: style elongated: stigma obtuse: fruit baccate, 4–5-celled: seeds solitary, surrounded with mucilage.

(1) L. acidissima. (*Linn.*)

*Ident.* W. & A. prod. I. p. 92.—Dec. prod. I. p. 536.

*Syn.* L. crenulata, *Roxb. fl. Ind.* II. *p.* 381.

*Engrav.* Rheede Mal. IV. t. 14.—Lam. Ill. t. 353. f. 1.

Spec. Char. Shrub: spines solitary: leaves pinnate, with 2–3 pair of leaflets and an odd one: leaflets oblong, crenated: petioles broadly winged: corymbs umbelliform, 2–3 together from the axils of the fallen leaves: petals 4, oblong: stamens 8: cells of ovary with one ovule: fruit 1–4-celled, globose: flowers small, white.

Coromandel. Padshapore. Hurdwar. Flowering in April and May. The fruit is much used as a tonic in Malabar, where it forms an article of commerce with the Arabs.

(2) L. alata. (*Herb. Madr.*)

*Ident.* W. & A. prod. I. p. 92.

*Engrav.* Wight's Ill. I. t. 41.

Spec. Char. Small tree: leaves 3-foliolate: leaflets cuneate-obovate, quite entire: petioles slightly winged: petals 5, broadly oval: fruit globose: flowers panicled, white: cells of ovary 2-ovuled.

Foot of the Neilgherries.

(3) L. Missionis. (*Wall.*)

*Ident.* W. & A. prod. I. p. 92.—Hook. Bot. Misc. III. p. 291.

*Engrav.* Wight's Icon. t. 175.

Spec. Char. Spines solitary or in pairs: leaves simple, elliptic-oblong, short petioled: racemes in the axils of the spines, many-flowered, much shorter than the leaves: fruit 4–5-celled.

Tanjore.

(4) L. oligandra. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 28.—Hook. Journ. Bot. II. p. 258.

Spec. Char. Climbing shrub: thorns numerous, short, recurved: leaves trifoliolate: leaflets elliptic: obtusely acuminated, slightly crenated: racemes panicled, axillary, about as long as the leaf: petals 5, linear-oblong: stamens 5: filaments free: fruit the size of a pea, 5-celled.

Ram Ghaut, flowering in November.

## GENUS III. GLYCOSMIS.

**Decandria Monogynia.** *Sex Syst*

*Deriv.* From *Glukus*, sweet, and *Osma*, smell, alluding to the fragrant flowers.

Gen. Char. Shrubs or trees without thorns: leaves pinnate: calyx 4–5-cleft: petals 4–5: stamens 8–10, alternate ones shorter: filaments distinct, broad and flat below: disk elevated in the centre, and forming a stalk to the ovary: ovary 4–5-celled, with one pendulous ovule: style conical, very short and thick: stigma somewhat lobed: fruit globose, baccate, with one seed in each cell.

(1) G. arborea. (*Dec.*)

*Ident.* W. & A. prod. I. p. 92.—Dec. prod. I. p. 538.

*Syn.* Limonia arborea, *Roxb. fl. Ind.* II. *p.* 381.

*Engrav.* Roxb. Cor. I. t. 85.

Spec. Char. Small tree: leaflets 3–7, alternate, oblong-lanceolate, serrated or entire: petals oval: panicles large: seeds occasionally mucilaginous: flowers white.

Concan jungles and Circars.

(2) G. nitida. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 93.

Spec. Char. Shrub: leaflets 3–6, oblong-lanceolate, nearly opposite, entire, coriaceous, shining above: racemes simple or compound, short: petals usually 4: filaments linear and flat to near the apex: ovary and fruit glabrous; seeds without mucilage.

Peninsula.

(3) G. PENTAPHYLLA. (*Dec.*)

*Ident.* W. & A. prod. I. p. 93.—Dec. prod. I. p. 538.

*Syn.* Limonia pentaphylla, *Roxb. fl. Ind.* II. *p.* 381.—G. chylocarpa, *W. & A.*

*Engrav.* Roxb. Cor. I. t. 84.

SPEC. CHAR. Shrub: leaflets 3–5, oblong, entire or toothed: panicles contracted: petals broadly oval: filaments broader towards the apex and suddenly contracted below the anther: flowers small, white.

Peninsula. Concan jungles.

(4) G. TRIPHYLLA. (*Wight.*)

*Ident.* W. & A. prod. I. p. 93.—Hook. Bot. Misc. III. p. 298.

*Engrav.* Wight's Icon. t. 167.

SPEC. CHAR. Shrub: leaflets 2–3, rarely 4, elliptical, obtusely pointed, entire: racemes usually compound: petals oblong-lanceolate: filaments subulate from the base: ovary on a longish stalk: fruit glabrous.

Tanjore.

(5) G. ANGUSTIFOLIA. (*Lindl.*)

*Ident.* W. & A. prod. I. p. 93.

SPEC. CHAR. Shrub: leaflets 2–5, alternate or opposite, narrow-lanceolate, entire: racemes short, compound: petals oval: filaments subulate from the base: fruit glabrous.

Peninsula.

(6) G. MACROCARPA. (*R. W.*)

*Ident.* Wight's Ill. I. p. 109.

SPEC. CHAR. Shrub: leaflets 3–5, oblong-lanceolate, acuminated, quite entire: panicles terminal, corymbose, small: fruit globose, about the size of a cherry.

Courtallum. The large size of the fruit forms the best distinguishing mark of this species.

## GENUS IV. SCLEROSTYLIS.

**Decandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Scleros*, hard, and *Stylos*, a style, alluding to the style being thick and hard.

GEN. CHAR. Shrubs with simple or pinnate leaves and unsymmetrical flowers: sepals and petals 4–5: alternate stamens shorter;

filaments broader and flat below: ovary 2–3-celled: ovules 1 or 2 in each cell: style scarcely distinguishable from the ovary: fruit globose, baccate, 1–2-celled, 1–2-seeded.

(1) S. ATALANTIOIDES. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 93.

*Syn.* Limonia bilocularis, *Roxb. fl. Ind.* II. *p.* 377.

*Engrav.* Wight's Icon. t. 71.

SPEC. CHAR. Shrub: armed with solitary, strong spines: leaves simple, elliptic, emarginate, crenulated: racemes small, few-flowered, axillary and terminal: petals 5, oblong: ovary rarely 3-celled: berries succulent, 2-celled: flowers small, white.

Coromandel. Baighur Fort. Flowering in May.

(2) S. RACEMOSA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 91.

*Syn.* Atalantia racemosa, *W. & A.*

SPEC. CHAR. Shrub: thorns large: leaves ovate or oblong, more or less emarginate: racemes longish, stalked: pedicels short: flower-buds globose: flowers villous, subsessile: filaments united to near the apex.

Southern Provinces.

(3) S. PARVIFOLIA. (*R. W.*)

*Ident.* Wight's Ill. I. p. 109.

*Engrav.* Wight's Icon. t. 71.

SPEC. CHAR. Shrub: sparingly armed: leaves narrow, elliptic, slightly acuminated: racemes axillary, solitary or paired, about as long as the leaves: flowers on longish pedicels: petals reflexed: filaments united into a tube: fruit globose, small: flowers white.

Peninsula.

## GENUS V. BERGERA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From Berger, Professor of Botany at Kiel.

GEN. CHAR. Calyx 5-cleft: petals 5, spreading: filaments distinct: ovary oval, 2-celled, with 1 ovule in each cell: style elongated, thick: fruit 1-celled, 1-seeded: seed mucilaginous.

B. KOENIGII. *(Linn.)*

*Ident.* W. & A. prod. I. p. 94.—Dec. prod. I. p. 537.—Roxb. fl. Ind. II. p. 375.

*Syn.* Murraya Koenigii, *Spr. Syst.* II. *p.* 315.

*Engrav.* Rheede Mal. IV. t. 53.—Roxb. Cor, II. t. 112.—

Spec. Char. Small tree: leaves pinnate: leaflets alternate, ovate, acuminated, serrated, pubescent: panicles corymbiform, terminal, many-flowered: flowers small, white, fragrant.

Coromandel. Western Ghauts. Assam. Flowering in February. The fragrant leaves are used in seasoning curries, whence the English name of the curry-leaf tree. They retain their stomachic and tonic qualities when dry, and in this state are sold in the bazaars.

## GENUS VI. MURRAYA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Called after John Murray, a Swedish Botanist, and Professor in the University of Gottingen.

Gen. Char. Unarmed shrubs: calyx 5-partite: petals 5, connivent to the middle into a tube: filaments distinct: ovary 2-celled: ovules 2 in each cell: style elongated: fruit a fleshy berry, 2-celled: cells full of coloured fetid liquid: seeds solitary: seed-coat woolly.

### (1) M. exotica. *(Linn.)*

*Ident.* W. & A. prod. I. p. 94.—Dec. prod. I. p. 537.—Roxb. fl. Ind. II. p. 374.

*Syn.* Chalcas Japonensis, *Lour. Coch. p.* 332.—Marsana buxifolia, *Sonn. Voy. Ind.* III.

*Engrav.* Rumph. Amb. V. t. 18. f. 2.—Wight's Icon. I. t. 96.

Spec. Char. Leaves pinnate: leaflets 5–7, cuneate-obovate, obtuse or bluntly acuminated, coriaceous: peduncles many-flowered, corymbose: berry globose, 1-seeded: flowers middle-sized, white, fragrant.

Monghyr. Foot of the Himalayas, flowering in the hot and rainy season.

### (2) M. paniculata. *(Herb. Sm.)*

*Ident.* W. & A. prod. I. p. 94.

*Syn.* Chalcas paniculata, *Linn. Lour. Coch. p.* 331.

Spec. Char. A small tree with pinnate leaves: leaflets about 5, elliptical-ovate, tapering, acute at the base: upper leaflets larger than the lower ones: peduncles terminal, several-flowered, corymbose: berry oblong, usually 2-seeded: flowers white, very fragrant.

Peninsula. Goalpara. Circars. Western Ghauts. Flowering in the hot and rainy season.

## GENUS VII. MICROMELUM.

**Decandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Micros*, small, and *Melon*, an apple, alluding to the small fruit.

GEN. CHAR. Petals 5, spreading: stamens distinct, alternate ones shorter: calyx urceolate, entire: ovary 5-celled: cells 2-seeded: style thick: berry dry, 1–2-seeded.

### M. INTEGERRIMUM. (*W. & A.*)

*Ident.* Voigt's Hort. Calc. p. 140.

*Syn.* Bergera integerrimum, *Buch. Roxb. fl. Ind.* II. *p.* 376.—*Dec. prod.* I. *p.* 537.

SPEC. CHAR. Small tree: leaves pinnate: leaflets opposite, obliquely lanceolate, with long tapering points, somewhat villous beneath: corymbs terminal, decompound, villous: flowers short-pedicelled, numerous, greenish-white, having a strong, heavy, offensive smell: berry oval, yellow when ripe: seed solitary, nearly as large as the berry.

Banks of the Megna, flowering in the cold season.

## GENUS VIII. CLAUSENA.

**Octandria Monogynia.** *Sex: Syst:*

*Deriv.* Meaning unknown.

GEN. CHAR. Shrubs or trees, with terminal or axillary panicles: calyx 4-toothed: petals 4, oval, concave: filaments distinct, connivent below the middle, dilated and concave, and slightly vaulted, receiving the angles of the ovary: ovary 4-celled: ovules 2 in each cell: style cylindrical: stigma entire or 4-lobed: berry dryish, 1-seeded.

### (1) C. WILLDENOWII. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 96.

*Syn.* Amyris dentata, *Willd. Spr.* II. *p.* 337.—Icica dentata, *Dec. prod.* II. *p.* 78.

*Engrav.* Wight's Icon. t. 14.

SPEC. CHAR. Shrub: leaves pinnate: leaflets 5–11, alternate, ovate-acuminated, slightly oblique at the base, crenulated, upper ones larger: panicles racemiform, axillary: stamens twice the length of the ovary: stigma 4-lobed: fruit oblong.

Chingleput, near Madras.

(2) C. PUBESCENS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 96.

SPEC. CHAR. Shrub: young branches, racemes and petioles lensely pubescent: leaves pinnate: leaflets 7–11, alternate, ovate, icuminated, slightly oblique at the base, pubescent, upper ones arger: panicles axillary: stigma 4-lobed.

Peninsula.

(3) C. SIMPLICIFOLIA. (*Dalz.*)

*Ident.* Hook. Journ. Bot. III. p. 180.—Dalz. Bomb. flor. p. 30.

SPEC. CHAR. Tree: leaves simple, oval-oblong, attenuated towards the base, dotted with black, glabrous: cymes trichotomous, springing from the upper axils: sepals rounded: petals linear, silky at the base inside: stigma 4-lobed: ovary 4-celled: cells 2-seeded: fruit the size of a pea.

Tulkut Ghaut, flowering in August.

## GENUS IX. FERONIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Named after Feronia, the goddess of forests.

GEN. CHAR. Trees: flowers often polygamous: calyx flat, 5-toothed: petals 5, patent: filaments united at the base: anthers tetragonal: ovary seated on an elevated disk, 5–6-celled: ovules numerous in each cell: stigma oblong: fruit with a hard rind, 5-celled, many-seeded.

F. ELEPHANTUM. (*Corr.*)

*Ident.* W. & A. prod. I. p. 96.—Dec. prod. I. p. 538.—Roxb. fl. Ind. II. p. 411.—Drury's Useful Plants, p. 220.

*Syn.* Cratæva vallanga, *Koen.*

*Engrav.* Wight's Icon. t. 15.—Roxb. Cor. II. t. 141.

SPEC. CHAR. Large tree: leaves pinnated: leaflets 5–7, almost sessile, obovate: petioles slightly winged: racemes lax, axillary and terminal: style scarcely any: flowers small, pale pink, with crimson anthers: fruit about the size of an apple, with a hard, greyish rind: seeds immersed in fleshy pulp.

Coromandel. Western Coast. Guzerat. Flowering in March.

A transparent gum exudes from wounds in the bark, having the property of Gum Arabic. The young leaves are considered stomachic and carminative. The pulp of the fruit affords a very pleasant jelly, closely resembling black-currant jelly, only more astringent. The timber is hard, durable and fine-grained.

## GENUS X. ÆGLE.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* Name of one of the Hesperides.

Gen. Char. Trees, with simple spines: flowers bisexual, calyx 4–5-toothed: petals 4–5, patent: filaments distinct: ovary 8–15-celled: ovules numerous: style very short and thick: stigma capitate: fruit with a hard rind: seed-coat woolly.

### Æ. Marmelos. *(Corr.)*

*Ident.* W. & A. prod. I. p. 96.—Dec. prod. I. p. 538.—Roxb. fl. Ind. II. p. 579.

*Syn.* Feronia pellucida, *Dec. prod.* I. *p.* 538.—Cratæva Marmelos, *Linn.*

*Engrav.* Rheede Mal. III. t. 37.—Rumph. Amb. I. t. 81.—Roxb. Cor. II. t. 143.—Wight's Icon. t, 16.

Spec. Char. Tree, with pinnate leaves: leaflets 3, seldom 5, middle one petiolate, lateral ones almost sessile, oblong or broad-lanceolate, crenulated, the terminal one the largest: peduncles axillary, few-flowered: pedicels long: seeds covered with a transparent, glutinous matter: flowers large, greenish-white.

Malabar and Coromandel, flowering in May. Common about pagodas, as the natives have a deep reverence for the tree. The medicinal properties of the fruit, especially in dysenteric affections are well known. It is the Bel or Bael tree. The astringent rind of the fruit is used in dyeing yellow, and the glutinous liquid which surrounds the seeds is an excellent addition to mortar, especially in building wells.

## GENUS XI. CITRUS.

**Polyadelphia Polyandria.** *Sex: Syst:*

*Deriv.* Said to have its name from the town Citron in Judæa.

Gen. Char. Trees or shrubs with solitary, axillary spines: calyx urceolate, 3–5-cleft: petals 5–8: ovary many-celled: ovules 4–8 in each cell, one above the other in a double row, pendulous: style terete: stigma hemispherical: fruit 7–9-celled: cells many-seeded, filled with pulpy bags or vesicles.

### (1) C. aurantium. (*Linn.*)

*Ident.* W. & A. prod. I. p. 97.—Dec. prod. I. p. 539.—Roxb. fl. Ind. III. p. 392.

*Syn.* C. nobilis, *Lour.*

*Engrav.* Rumph. Amb. II. t. 34, 35.

Spec. Char. Small tree: leaves oval, elongated, acute, sometimes slightly toothed: petiole more or less winged: flowers white, large: fruit orange-coloured, roundish, usually depressed: pulp sweet.

Circars. Aurungabad. Khassya Mountains. This is the sweet orange.

(2) C. bergamia. (*Risso.*)

*Ident.* W. & A. prod. I. p. 98.

*Syn.* C. limetta, *Dec. prod.* I. *p.* 539.—C. acida, *Roxb. fl. Ind.* III. *p.* 390.

*Engrav.* Rumph. Amb. II. t. 26. f. 1, 3.

Spec. Char. Small tree: leaves oblong, acute or obtuse, under side somewhat pale: petiole more or less winged: flowers small, white: fruit pale-yellow, pear-shaped, or depressed: pulp more or less acid.

Peninsula. Bengal. Assam. This is the Bergamot or acid lime.

(3) C. limonum. (*Risso.*)

*Ident.* W. & A. prod. I. p. 98.—Dec. prod. I. p. 539.

Spec. Char. Small tree: leaves oval or oblong, usually toothed: petioles simply margined: flowers white, tinged with red: fruit yellow, ovoid, terminated by a knob: pulp acid.

Garrow Hills. Foot of the Himalayas, flowering in the hot season. This is the lemon.

(4) C. medica. (*Linn.*)

*Ident.* W. & A. prod. I. p. 98.—Dec. prod. I. p. 539.—Roxb. fl. Ind. III. p. 392.

Spec. Char. Small tree: leaves oblong, pointed: petioles simple: flowers white, tinged with red: fruit obovoid, deeply furrowed and wrinkled, terminated by a knob: pulp slightly acid.

Foot of the Himalayas and Garrow Hills, flowering in the hot season. This is the common citron.

## GENUS XII. PARAMIGNYA.

**Decandria Monogynia.** *Sex: Syst:*

Gen. Char. Scandent shrubs with axillary spines: calyx urceolate, 5-cleft: petals 5, lanceolate: filaments distinct: ovary 5-celled: ovules 2 in each cell, one above the other: style thick, the length of the stamens: stigma capitate, somewhat lobed at the apex: fruit 5-angled, between coriaceous and fleshy, clothed with short pubescence.

(1) P. MONOPHYLLA. *(Wight.)*

*Ident.* Wight's Ill. I. p. 108.

*Syn.* Micromelum monophyllum, *R. W.*

*Engrav.* Wight's Ill. I. t. 42.

SPEC. CHAR. Scandent shrub: spines reflexed: leaves simple, ovate-oblong, acuminated: flowers axillary, solitary, or rarely 3–4 together: fruit ovate, size of an apple, 4-celled: flowers white, very fragrant.

Courtallum. South Concans.

(2) P. CITRIFOLIA. *(Wight.)*

*Ident.* Voigt. Hort. Calc. p. 140.

*Syn.* Limonia citrifolia, *Roxb. fl. Ind.* II. *p.* 379.

SPEC. CHAR. Shrub: armed with recurved spines: leaves alternate, elliptic, entire, somewhat acuminated: flowers short-peduncled, axillary: style thick and short: fruit ovate, of the colour and appearance of a lime: flowers small, white.

Chittagong, flowering in the hot season.

## GENUS XIII. LUVUNGA.

**Decandria Monogynia.** *Sex: Syst.*

*Deriv.* The Sanscrit name.

GEN. CHAR. Scandent shrubs, armed with spines: calyx 1-leaved, cut into 4 short, truncate divisions: petals 4, linear-oblong, recurved: filaments 8, united below: ovary 3-celled, with 2 ovules in each cell: style cylindric: stigma entire, roundish: fruit oblong, somewhat 3-lobed, 3-celled, filled with a resinous, odoriferous pulp: seed solitary.

(1) L. SCANDENS. (*Buch.*)

*Ident.* Wight's Ill. I. p. 108.

*Syn.* Limonia scandens, *Roxb. fl. Ind.* II. *p.* 379.

SPEC. CHAR. Large scandent shrub: leaves alternate, ternate: leaflets lanceolate, entire: petioles channelled: peduncles axillary or from the naked branchlets below the leaves, each supporting from 4 to 12 pedicelled, pretty large, white, fragrant flowers.

Silhet and Chittagong, flowering in March and April.

(2) L. ELEUTHERANDRA. (*Dalz.*)

*Ident.* Hook. Jour. Bot. II. p. 258.—Dalz. Bomb. flor. p. 30.

SPEC. CHAR. Climbing shrub, with axillary, reflexed spines: leaves trifoliolate, long-petioled: leaflets broad-elliptic or obovate,

coriaceous, entire: flowers axillary, spiked: spikes shorter than the petiole: stamens free: fruit filled with fragrant resin, size of an olive.

Common on the Western Ghauts, flowering in January.

## GENUS XIV. PIPTOSTYLIS.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From [*Pipto*, to fall, and *Stylos*, a style, alluding to the deciduous style.

Gen. Char. Calyx 4–5-cleft: petals 4–5: stamens distinct: filaments alternately shorter, dilated at the base, subulate at the apex: anthers oval, 2-celled, dehiscing lengthwise: ovary roundish, placed upon a stalked disk, 3-celled: ovules twin in each cell, collateral, pendulous: style short, thick, articulated with the ovary, caducous: stigma not thicker than the style: berry 2–1-celled by abortion: cells 1-seeded by abortion.

### (1) P. Indica. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 29.

*Engrav.* Hook. Journ. Bot. III. t. 22.

Spec. Char. Shrub: unarmed: leaves unequally pinnate: leaflets alternate, ovate, obtusely acuminate, shining: panicles terminal, corymbiform, as long as the leaf: berry small: cells 1-seeded: flowers small, white.

Parwar Ghaut, flowering in March.

## GENUS XV. POLYCYEMA.

**Octandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Polys*, many, and *Kuamos*, a seed, alluding to the numerous ovules.

Gen. Char. Calyx 4-toothed: petals oblong, dotted with glands on the outside: ovary ovate, 4-celled, many ovules in each cell: style very short: stigma 4-toothed.

### (1) P. pentaphyllum.

*Ident.* Voigt. Hort. Calc. p. 141.

*Syn.* Amyris pentaphylla, *Roxb. fl. Ind.* II. *p.* 247.

Spec. Char. Shrub: leaves unequally pinnate: leaflets usually 5, short petioled, broad-lanceolate, entire: petals much larger than the calyx: ovary hairy: panicles terminal, erect, 2–3-dichotomously branched, with a single short-pedicelled flower in the fork: fruit pulpy, pale orange-colour, warty, the size of a small cherry.

## ORDER XXVII. HYPERICACEÆ.

Herbaceous plants, trees or shrubs, with resinous juice: leaves usually opposite, entire, without stipules: sepals 4–5, distinct or cohering, often unequal, dotted with glands, imbricated in æstivation: petals hypogynous, 4–5, often dotted with black glands, unequal sided, twisted in æstivation: stamens hypogynous, indefinite, sometimes distinct, almost always polyadelphous: anthers 2-celled, opening lengthwise: ovary solitary: styles several, occasionally cohering at the base: stigmas capitate or simple: fruit baccate or capsular, with several valves and many cells, sometimes 1-celled: seeds small, numerous, or 1–3 in each cell: albumen none.

### GENUS I. NORYSCA.

**Polyadelphia Polyandria.** *Sex: Syst.*

Gen. Char. Sepals coriaceous, nearly equal, erect after flowering: petals somewhat knife-shaped, obliquely acuminated, deciduous: ovary 5-celled: styles 5, often united to near the apex: capsule 5-celled, somewhat coriaceous.

#### (1) N. Mysorensis. *(Arn.)*

*Ident.* W. & A. prod. I. p. 99.

*Syn.* Hypericum Mysorense, *Herb. Madr.*

*Engrav.* Wight's Icon. t. 56.

Spec. Char. Shrub: young branches 4-angled: leaves opposite, crowded, oblong-lanceolate, acute, upper ones half-stem-clasping: lateral veins running almost straight and parallel to each other, nearly to the apex of the leaf: pellucid dots roundish, oblong and long-linear: black dots none: flowers solitary at the extremities of 1–3 short, leafy branchlets: sepals ovate, unequal, almost quite distinct, without black dots: petals not dotted: flowers yellow.

Neilgherries and mountainous districts in the Southern Provinces. Mysore. Flowering in the hot season.

#### (2) N. Hookeriana. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 99.

*Syn.* Hypericum Hookerianum, *W. & A.*

*Engrav.* Wight's Icon. t. 959.

Spec. Char. Diffuse shrub: leaves opposite, somewhat distant, oblong, mucronate, contracted at the base with a kind of short petiole: lateral veins arching: pellucid dots round and oblong: black dots none: flowers solitary at the ends of the branches: sepals roundish-obovate, without black dots: petals not dotted: flowers yellow.

Southern Provinces.

(3) N. cernua. (*Roxb.*)

*Ident.* Voigt. Hort. Calc. p. 90.

*Syn.* Hypericum cernuum, *Roxb. fl. Ind.* III. *p.* 400.

Spec. Char. Shrub: branches round: leaves elliptic-oblong, mucronate: peduncles solitary or in threes: sepals elliptic, acute: petals oblong: branches purplish, suffused with glaucous pollen: flowers large, yellow.

Hurdwar. Shreenagur. Flowering in the hot season.

## GENUS II. BRATHYS.

**Polyadelphia Polyandria.** *Sex Syst:*

*Deriv.* The Greek name for the Savin tree, alluding to the habit of the shrubs.

Gen. Char. Sepals 5, unequal: petals hatchet-shaped, cuspidate, involute after flowering: ovary 1-celled: styles 3, rarely 4–6, straight or recurved, distinct: stigmas thickish: capsules 1-celled, 3-(rarely 4–6)-valved.

B. Wightiana. (*Wight.*)

*Ident.* Wight's Ill. I. p. 111.

*Syn.* Hypericum Wightianum, *Wall.*—W. & A. prod. I. p. 99.

*Engrav.* Wight's Ill. I. t. 43.

Spec. Char. Herbaceous, decumbent: leaves opposite, sessile, elliptic, fringed at the base and the floral leaves along the margins with ciliary processes tipped with glands: pellucid dots roundish: black dots none: flowers corymbose: sepals oblong-lanceolate, acute, toothed, fringed with bristles tipped with glands: petals twice as long as the calyx, with a few black dots along the margin: styles 3: capsule 3-celled: flowers yellow.

Neilgherries.

## ORDER XXVIII. CLUSIACEÆ.

Trees or shrubs: sometimes parasitical, with resinous juice: leaves opposite, without stipules, coriaceous, with a strong midrib and oblique parallel veins: sepals 2–6, round, often unequal and coloured, imbricated in æstivation: petals hypogynous, 4–10, or equal in number to the sepals: stamens hypogynous, indefinite, distinct or united at the base: filaments unequal: anthers adnate, bursting inwards, occasionally very minute, 1-celled and opening by a pore: disk fleshy, occasionally 5-lobed: ovary solitary, 1 or many-celled: ovules solitary or many in each cell, erect, or numerous and attached to central placentæ: style none or very short: stigma peltate or radiate: fruit capsular, fleshy or drupaceous, 1 or many-celled, 1 or many-seeded, dehiscent or indehiscent: seeds immersed in pulp, often with an aril: albumen none.

### GENUS I. GARCINIA.

**Polyandria Monogynia.** *Sex. Syst.*

*Deriv.* Named after M. Garcin, a French Botanist and traveller in the East.

Gen. Char. Flowers monæcious or diæcious: sepals 4, persistent: petals 4, deciduous. Male: Stamens short, inserted on a large, fleshy, 4-lobed disk. Female: Stamens 8–30, imperfect: filaments distinct or monadelphous or 4-adelphous: the fascicles alternate with the petals: anthers usually glandular: ovary 4–10-celled: ovules solitary: style very short, crowned with the peltate stigma: fruit fleshy and juicy, indehiscent, crowned with the permanent style.

#### (1) G. cambogia. (*Desr.*)

*Ident.* W. & A. prod. I. p. 100.—Dec. prod. I. p. 561.—Roxb. fl. Ind. II. p. 621.

*Syn.* Cambogia gutta, *Linn.*—Mangostana cambogia, *Gaertn.*

*Engrav.* Rheede Mal. I. t. 24.

Spec. Char. Tree: leaves lanceolate: flowers terminal, nearly sessile, solitary: female filaments about 16, distinct: stigma 8–10-lobed, fruit 8–10-furrowed, 8–10-seeded.

Travancore, flowering in February and March.

(2) G. PEDUNCULATA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 625.

*Engrav.* Wight's Icon. t. 114, 115.

SPEC. CHAR. Tree: leaves obovate-oblong: flowers terminal, peduncled: males numerous, forming small trichotomous panicles: females solitary: filaments short, collected on a large 4-sided, fleshy disk: stigma about 10-lobed: fruit very large, round, smooth: seeds 10, enclosed with an aril.

Rungpoor, flowering from January to March. The fleshy part of the fruit is used by the natives in their curries, and for acidulating water. It has a sharp, pleasant, acid taste.

(3) G. PANICULATA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 626.

*Engrav.* Wight's Icon. t. 112.

SPEC. CHAR. Tree: leaves decussated, oblong-lanceolate, smooth and shining on both sides: male flowers very numerous, collected on large, brachiate panicles: female flowers on a separate tree: spikes terminal, having 5–7-sessile flowers: stigma entire, dotted with glands: fruit size of a large cherry, 4-seeded: seeds immersed in pulpy aril: flowers small, white.

Silhet, flowering in the cold season.

(4) G. PURPUREA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 624.—Drury's Useful Plants, p. 230.

SPEC. CHAR. Tree: branches drooping: leaves lanceolate, red when young, afterwards dark-green: fruit spherical, not furrowed, deep purple throughout: stigma 8-lobed.

South Concans. Khandalla. The fruit has an agreeable acid flavour. The seeds furnish the concrete oil called Kokum, so much used in cases of chopped skin. Workers in Iron use the acid juice as a mordant.

(5) G. LANCEÆFOLIA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 623.

*Engrav.* Wight's Icon. t. 103.

SPEC. CHAR. Small tree: leaves narrow-lanceolate, acute: flowers terminal, solitary: stigma 6–8-lobed: fruit turbinate, about 8-seeded.

Silhet, flowering in February.

(6) G. Roxburghii. (*Wight.*)

*Ident.* Wight's Ill. I. p. 125.

*Syn.* G. Zeylanica, *Roxb. fl. Ind.* II. *p.* 621.—G. Cowa, *W. & A. prod.* I. *p.* 101.—G. affinis, *Do.*

Spec. Char. Tree: leaves lanceolate: flowers axillary and terminal, 1–3 together: male on longish, female on shorter peduncles: filaments of the female 4-adelphous: fascicles 5–10-cleft: ovary globose: stigma 4–8-lobed, papillose with glands: fruit 4–8-furrowed, 4–8-sedeed, globular-ovate: flowers small, sulphur-coloured.

Travancore. Malabar. Chittagong. Flowering in February.

(7) G. papilla. (*R. W.*)

*Ident.* Wight's Icon. III.

*Engrav.* Wight's Icon. t. 960.

Spec. Char. Tree: leaves obovate: flowers axillary, nearly sessile, aggregated in the male, 1–3 together in the female: ovary globose, 8-celled: stigmas 8-lobed: fruit ovate-oblong, furrowed.

On the banks of streams near Coonoor, flowering in the rainy season.

(8) G. pictoria. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 627.

*Engrav.* Wight's Icon. t. 102.

Spec. Char. Tree: leaves oblong, slightly acute: hermaphrodite flowers axillary, solitary, sessile: fruit oval, size of a large cherry, smooth, slightly marked with 4 lobes and crowned with the warty stigma: flowers yellow.

Mysore. Wynaad forests, flowering in February. A valuable kind of gamboge is procured from this tree.

## GENUS II. XANTHOCHYMUS.

**Polyadelphia Polyandria.** *Sex: Syst:*

*Deriv.* From *Xanthos*, yellow, and *Chymos*, juice, the fruit abounds in yellow juice.

Gen. Char. Trees: flowers polygamous or bisexual: sepals 4–5, persistent: petals 5, alternate with the sepals: fascicles of stamens flat, opposite the petals, and alternating with 5 large glands: anthers 2-celled: ovary in the bisexual flowers only 3–5-celled, with one ovule in each cell: stigma 3–5-lobed.

(1) X. PICTORIUS. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 102.—Roxb. fl. Ind. II. p. 633.—Dec. prod. I. p. 562.

*Syn.* Stalagmitis pictorius, *G. Don.*

*Engrav.* Roxb. Cor. II. t. 196.

SPEC. CHAR. Leaves linear-lanceolate: flowers lateral, fascicled, all bisexual: anthers 5–9 to each bundle: ovary 5-celled: fruit ovate, pointed, 1–4-seeded.

Circars. Mountainous districts, flowering in the hot season.

(2) X. OVALIFOLIUS. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 102.—Roxb. fl. Ind. II. p. 632.

*Syn.* Stalagmitis ovalifolius, *G. Don.*—S. cambogioides, *Moon. Cat. Zeyl. pl. p.* 73.

SPEC. CHAR. Leaves oval, shining: flowers lateral, fascicled, male and bisexual mixed: anthers about 6–8 to each bundle: ovary 3-celled: fruit oval, 1-seeded.

Western Ghauts, flowering in the hot season.

## GENUS III. MESUA.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* From Mesues, an Arabian Physician of Damascus, of the eighth century.

GEN. CHAR. Trees: sepals 4, persistent: petals 4: stamens slightly connected at the base: filaments filiform: ovary 2-celled: ovules 2 in each cell: style longish: stigma peltate, entire: capsule ovate, acute, 1-celled, 2-valved, 1–4-seeded.

(1) M. FERREA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 102.—Dec. prod. I. p. 562.—Roxb. fl. Ind. II. p. 605.

*Syn.* M. speciosa, *Choisy in Dec. prod.*

*Engrav.* Wight's Icon. t. 118 & 961.—Rheede Mal. III. t. 53.—Rumph. Amb. VII. t. 2.

SPEC. CHAR. Tree: leaves oblong-lanceolate, acuminated, glaucous below: midrib and margins coloured: fruit the size of a small apple: flowers large, white.

Courtallum Hills. South Concans. Flowering in the hot season.

## GENUS IV. CALOPHYLLUM.

**Polyandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Kalon*, beautiful, and *Phyllon*, a leaf, alluding to the elegantly veined leaves.

GEN. CHAR. Trees: leaves furnished with parallel veins: flowers often polygamous by abortion: sepals 2–4, petal-like: petals 2–4: stamens sometimes definite, more or less 4-adelphous at the base or distinct: filaments short: ovary 1-celled: ovule solitary: style longish, flexuose: stigma large, peltate, irregularly lobed: fruit drupaceous, 1-celled, 1-seeded.

### (1) C. INOPHYLLUM. (*Linn.*)

*Ident.* W. & A. prod. I. p. 103.—Dec. prod. I. p. 562.—Roxb. fl. Ind. II. p. 606.

*Syn.* Balsamaria inophyllum, *Lour.*

*Engrav.* Rheede Mal. IV. t. 38.—Rumph. Amb. II. t. 71.—Wight's Icon. t. 77.

SPEC. CHAR. Leaves elliptical or oboval, obtuse: racemes longer than the leaves, from the axils of the upper leaves, or disposed in a terminal panicle: sepals and petals 4: drupe spherical: flowers white, very fragrant.

Peninsula and Southern Concans, flowering nearly all the year.

### (2) C. SPURIUM. (*Choisy.*)

*Ident.* W. & A. prod. I. p. 103.—Dec. prod. I. p. 563.

*Syn.* C. apetalum, *Willd.*—C. calaba, *Linn. Burm. Ind. p.* 120.

*Engrav.* Rheede Mal. IV. t. 39.—Burm. Zeyl. t. 60.

SPEC. CHAR. Young branches square: leaves cuneate-obovate: racemes lax, about as long as the leaves, axillary near the ends of the branches: sepals and petals 2: drupe small, oblong.

Travancore. Canara.

### (3) C. ANGUSTIFOLIUM. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 608.

SPEC. CHAR. Leaves short-petioled, lanceolate, somewhat obtusely pointed: flowers in axillary fascicles: pedicels with a cup-shaped apex.

The Ghauts south Dharwar. This is the Poon tree yielding the Poon spars for ship's masts.

### GENUS V. CALYSACCION.

**Diœcia Polyandria.** *Sex: Syst·*

*Deriv.* From *Kalyx*, calyx, and *Sakkeion*, a small bag, in allusion to the mode of growth of the sepals.

GEN. CHAR. Flowers unisexual. MALE: sepals united in æstivation, forming a closed sack: sepals 4, imbricated: filaments short, slender: anthers 2-celled: cells approximated: connectivum slightly prolonged, and truncated at the apex: pistil wanting.

(1) C. LONGIFOLIUM. (*Wight.*)

*Ident.* Wight's Ill. I. p. 130.

*Syn.* Calophyllum longifolium, *W. & A. prod.*

*Engrav.* Wight's Icon. t. 1999.

SPEC. CHAR. Large tree: leaves opposite, oblong, coriaceous: flowers in clusters on the thick branches below the leaves, small, white, streaked with red.

Concans. Mysore. Flowering in March. The flower-buds are collected and sold in the bazaars for dyeing silk, and are also used as a perfume.

## ORDER XXIX. HIPPOCRATEACEÆ.

Arborescent or climbing shrubs, with opposite, simple leaves: sepals 5, connected to their middle, persistent, imbricated in æstivation: petals hypogynous, alternate with the stamens: disk fleshy, cup-shaped: stamens distinct: ovary triangular, 3-celled, with 2 or more erect ovules in each cell: stigmas 1–3: fruit fleshy, 1–3-celled or of 3 wing-like carpels: seeds numerous or solitary by abortion: albumen none.

### GENUS I. HIPPOCRATEA.

**Triandria Monogynia.** *Sex: Syst:*

*Deriv.* From Hippocrates, the celebrated Greek Physician.

GEN. CHAR. Trees or climbing shrubs with twisted branches: calyx 5-cleft: petals 5: filaments dilated at the base: anthers 1-celled: style short: stigmas 3: carpels 3, or 1–2 by abortion, compressed, 1-celled, 2-valved, dehiscent: seeds oblong, compressed, winged downwards.

(1) H. Indica. (*Willd.*)

*Ident.* W. & A. prod. I. p. 104.—Dec. prod. I. p. 568.—Roxb. fl. Ind. I. p. 165.

*Syn.* H. disperma, *Vahl.*

*Engrav.* Roxb. Cor. II. t. 130.

Spec. Char. Climbing shrub: leaves elliptical, obtuse or acute at the apex, serrulated: panicles dichotomous, corymbiform, shorter than the leaves, axillary and terminal: petals linear-oblong: carpels oblong, striated, each 2-seeded: flowers small, greenish.

Peninsula. Western Ghauts. Bengal. Flowering in April.

(2) H. obtusifolia. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 104.—Roxb. fl. Ind. I. p. 166.—Dec. prod. I. p. 569.

*Syn.* Salacia lævigata, *Wight in Hook. Bot. Misc.* III. *p.* 295.

*Engrav.* Wight's Icon. t. 963.

Spec. Char. Climbing shrub: leaves elliptical: slightly serrated, very coriaceous: panicles axillary and terminal, longer than the leaves, terminal ones sometimes much elongated: petals lanceolate, much longer than the calyx: ovules 6 in each cell: carpels obovate, striated, each 4–6-seeded: flowers largish, green.

Madura and Tanjore. Flowering in February.

(3) H. Grahamii. (*R. W.*)

*Ident.* Wight's Ill. I. p. 134.—Dalz. Bomb. flor. p. 32.

*Engrav.* Wight's Icon. t. 380.

Spec. Char. Twining shrub: leaves broad-ovate, entire, coriaceous: panicles numerous, large, many-flowered, terminal: petals linear-spathulate, obtuse: carpels obovate, obtuse, emarginate.

Common on the Western Ghauts.

(4) H. Arnottiana. (*R. W.*)

*Ident.* Wight's Ill. I. p. 133.

*Engrav.* Wight's Ill. I. t. 46.

Spec. Char. Twining shrub: leaves ovate, oblong, acuminated, remotely serrated: panicles small, few-flowered, axillary and terminal: petals from broadly-ovate, obtuse, to subreniform, clawed: carpels linear, spathulate, broadly emarginate at the apex: flowers large, yellowish-white.

Malabar.

(5) H. arborea. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 167.—Dec. prod. I. p. 569.

*Engrav.* Roxb. Cor. III. t. 205.

Spec. Char. Tree: 20 feet: leaves elliptical, serrulated, acuminated: branches somewhat climbing: corymbs axillary, dichotomous: carpels linear-oblong, somewhat cuneated: flowers greenish-yellow.

Chittagong, flowering in May.

## GENUS II. SALACIA.

**Triandria Monogynia.** *Sex: Syst:*

*Deriv.* From Salacia, the wife of Neptune.

Gen. Char. Shrubs or small trees: calyx 5-cleft: petals 5, inserted between the disk and the calyx: stamens inserted on the top of the disk, or between the disk and the ovary: filaments distinct: anther-lobes divaricating at the base, 2-celled, dehiscing lengthwise: ovary 3-celled, with 2 or more ovules in each cell: stigma obsoletely 3-lobed: fruit indehiscent, fleshy, often 1-celled by abortion: seeds solitary, without wings, pulpy.

### (1) S. prinoides. *(Dec.)*

*Ident.* W. & A. prod. I. p. 105.—Dec. prod. I. p. 571.

*Syn.* Tonsella prinoides, *Willd.* — Johnia Coromandeliana, *Roxb. fl. Ind.* I. *p.* 169.

*Engrav.* Wight's Icon. t. 321.

Spec. Char. Shrub: leaves oblong, acuminate, serrulated, coriaceous: pedicels fascicled on an axillary tubercle, 1-flowered: calyx-lobes round, more or less puberulous and ciliated: petals broadly-ovate, unguiculate, quite entire: disk large, cup-shaped, thick and fleshy: ovules 2, superposed: fruit nearly globose, 1-celled, 1-seeded, about the size of a small cherry: flowers very small, greenish.

Malabar. Coromandel. Warree country. Flowering in December. The fruit is eatable.

### (2) S. Roxburghii. *(Wall.)*

*Ident.* W. & A. prod. I. p. 105.

*Syn.* Johnia Salacioides, *Roxb. fl. Ind.* I. *p.* 168.—*Dec. prod.* I. *p.* 571.

Spec. Char. Shrub: leaves oblong-lanceolate, bluntly acuminated, nearly quite entire, coriaceous: pedicels several together on an axillary tubercle, 1-flowered: calyx-lobes round: petals orbicular, entire, sessile: disk cup-shaped, thick and fleshy, obscurely 3-toothed at the apex: anthers almost sessile on the teeth of the disk: ovules 2 in each cell: fruit globose, 2–3-seeded, about the size of a crab-apple: flowers small, greenish-orange.

Chittagong. Ram Ghaut. Flowering in the hot season.

(3) S. BRUNONIANA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 105.

SPEC. CHAR. Leaves oblong or elliptic, obtusely acuminated, serrulate: pedicels few, from an axillary tubercle, 1-flowered: calyx with 5 short, blunt teeth: petals broad-ovate, sessile, with incurved margins when dry, entire: ovules 2 in each cell.

Peninsula. Ram Ghaut.

(4) S. POMIFERA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 105.

*Engrav.* Wight's Icon. t. 55.

SPEC. CHAR. Leaves elliptic-ovate, bluntly acuminated, slightly serrulate: peduncles axillary, forked: branches very short, bearing 2–3 flowers on very short, umbellate pedicels: petals round-ovate, sessile, quite entire: ovules 2 in each cell: fruit globose, 1-celled, 1-seeded, as large as a walnut.

Peninsula.

(5) S. OBLONGA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 106.

*Engrav.* Wight's Icon. t. 97.

SPEC. CHAR. Shrub: leaves elliptic-oblong, slightly serrated or entire: peduncle axillary, short, about 3-flowered: pedicels equal to the peduncle: petals broad-elliptic, slightly toothed on the margin: stamens longish: filaments much dilated at the base: ovules 4 in each cell: fruit the size of a small orange, 8-seeded: seed large, angular: flowers greenish-yellow.

Peninsula. Chorla Ghaut.

(6) S. RETICULATA. *(R. W.)*

*Ident.* Wight's Ill. I. p. 134.

SPEC. CHAR. Shrub: twining: leaves oval, bluntly acuminated, serrulate, reticulated when dry with numerous prominent veins: peduncles few, 1-flowered, shorter than the petioles: petals ovate, broader at the base, without a claw: fruit large, globose.

Malabar.

(7) S. MACROSPERMA. *(R. W.)*

*Ident.* Wight's Icon. III.

*Engrav.* Wight's Icon. t. 962.—Spicil. I. t. 32.

SPEC. CHAR. Diffuse shrub: leaves oblong, elliptic, acuminated: flowers numerous, fascicled, short-pedicelled: calyx 5-lobed, fringed with rusty-coloured hairs: petals ovate, broader at the base: ovary 3-celled, with 2 ovules in each: fruit irregularly ovate, few-seeded.

Sisparah jungles, flowering in April.

## ORDER XXX. ERYTHROXYLACEÆ.

Trees or shrubs, with alternate, rarely opposite leaves: sepals 5, connected at the base, imbricated in æstivation: petals 5, hypogynous, broad, with a small scale at the base, twisted in æstivation: stamens hypogynous: filaments united at the base into a cup: anthers erect, 2-celled, dehiscing lengthwise and sideways: ovary 3-celled: ovule solitary in each perfect cell, pendulous: styles 3, distinct or united: stigmas 3: drupe 1-seeded: seeds angular: albumen horny.

### GENUS I. SETHIA.

**Decandria Trigynia.** *Sex: Syst:*

*Deriv.* Called after S. Sethi, author of a work on culinary vegetables.

GEN. CHAR. Calyx 5-lobed or 5-parted: styles 3, combined into one: stigmas 3, distinct.

(1) S. INDICA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 106.—Dec. prod. I. p. 576.

*Syn.* Erythroxylon monogynum, *Roxb. fl. Ind.* II. *p.* 449.

*Engrav.* Wight's Ill. I. t. 48.—Roxb. Cor. I. t. 88.

SPEC. CHAR. Small tree: leaves alternate, oblong or obovate, cuneate at the base, paler beneath: pedicels axillary, 1–3, 1-flowered: styles combined nearly to the apex, longer than the stamens: stigmas clavate: drupes oblong, triangular, 3-celled, 2 of the cells abortive and without seeds: flowers small, greenish.

Circars. Mysore. Courtallum. Flowering nearly all the year.

(2) S. LANCEOLATA. *(R. W.)*

*Ident.* Wight's Ill. I. p. 136.

SPEC. CHAR. Leaves lanceolate, obtuse: peduncles axillary, solitary: styles longer than the stamens, united to about two-thirds of their length, recurved at the apex: stigmas globose.

Courtallum, in thick jungles.

(3) S. ERYTHROXYLOIDES. *(R. W.)*

*Ident.* Wight's Ill. I. p. 136.

SPEC. CHAR. Leaves oblong-lanceolate, slightly retuse, subsessile: peduncles axillary, solitary, much longer than the petioles:

styles shorter than the stamens, free nearly to the base: stigmas recurved, clavate.

Courtallum, in thick jungles.

## ORDER XXXI. MALPIGHIACEÆ.

Small trees or shrubs, occasionally climbing, with simple, opposite, usually stipulate leaves: sepals 5, persistent, imbricated in æstivation: petals 5, hypogynous, with claws, occasionally wanting: stamens hypogynous, with distinct or slightly monadelphous filaments: ovary 1, usually 3-lobed, consisting of 3 carpels, more or less combined: ovules solitary: styles 3, distinct or united: fruit dry or fleshy, of 3 distinct carpels or 3-celled: seeds solitary, pendulous: albumen none.

### GENUS I. HIPTAGE.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Hiptamai*, to fly, alluding either to the shape of the petals, or the fruit which is winged.

Gen. Char. Climbing shrubs: calyx furnished with 5 glands at the base on the outside: petals unequal, fringed: one stamen much longer than the others: styles united: carpels dry, unequally 3-winged, with or without a central wing between the two lateral ones.

(1) H. Madablota. *(Gaertn.)*

*Ident.* W. & A. prod. I. p. 107.—Dec. prod. I. p. 583.

*Syn.* Molina racemosa, *Cav. Diss.*—Gaertnera racemosa, *Roxb. fl. Ind.* II. *p.* 368.—Banisteria Bengalensis, *Linn.*—B. unicapsularis, *Lam.*

*Engrav.* Rheede Mal. VI. t. 59.—Roxb. Cor. I. t. 18.—Wight's Ill. I. t. 50.

Spec. Char. Leaves ovate or ovate-lanceolate, acuminated: fruit with the additional wing somewhat conspicuous: flowers white with a tinge of sulphur, fragrant.

Coromandel. Western Ghauts. Hindostan. Flowering nearly all the year.

(2) H. parvifolia. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 107.

Spec. Char. Leaves small, elliptical, obtuse: shoots elongated, twiggy: fruit without the additional wing.

Courtallum.

## GENUS II. HIRÆA.

**Decandria Trigynia.** *Sex Syst:*

*Deriv.* From Nicholas de la Hire, a French Physician.

Gen. Char. Climbing shrubs with opposite leaves: calyx with or without glands: petals roundish, clawed: filaments awl-shaped, slightly connected at the base, alternately shorter: styles 3, distinct: carpels samaroid, 1-seeded, crested or naked on the back, surrounded by a wing which is usually emarginate at the extremities.

### (1) H. Indica. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 108.—Roxb. fl. Ind. II. p. 448.—Dec. prod. I. p. 585.

*Syn.* Triopteris Indica, *Willd.*—Aspidopterys Roxburghiana, *A. de Juss.*

*Engrav.* Roxb. Cor. II. t. 160.—Wight's Icon. t. 381.

Spec. Char. Leaves broadly-ovate, glabrous on both sides, axillary and terminal: calyx without glands: each carpel surrounded with an oblong-linear, entire wing.

Coromandel Coast. Circars. Concans.

### (2) H. nutans. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 108.—Roxb. fl. Ind. II. p. 390.—Dec. prod. I. p. 585.

Spec. Char. Leaves broadly ovate, acuminated, upper side shining, with a few appressed hairs, under paler and hairy, the hairs fixed by their middle: panicles pendulous: calyx without glands: carpels surrounded with an elliptical ring: flowers small, yellowish.

Interior of Bengal, flowering in July.

### (3) H. cordata. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 108.

*Syn.* Aspidopterys cordata, *A. de Juss.*

*Engrav.* Wall. pl. As. Rar. t. 13.

Spec. Char. Leaves roundish, cordate, acuminated: upper side not shining, very slightly hairy: under side, as well as the petioles and panicles, tomentose: calyx without glands.

Near Penn, Bombay Presidency.

(4) H. ROTUNDIFOLIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 448.

SPEC. CHAR. Leaves orbicular, villous underneath: panicles axillary, villous: carpels orbicular, with a small wing on the back.

Chittagong, flowering in March and April.

## GENUS III. ASPIDOPTERYS.

**Monadelphia Decandria.** *Sex: Syst.*

*Deriv.* From *Aspis*, a shield, and *Pteron*, a wing, alluding to the winged carpels.

(1) A. GLOMERATA. (*R. W.*)

*Ident.* Wight's Icon. VI. p. 11.

*Engrav.* Wight's Icon. t. 1986.

SPEC. CHAR. Leaves coriaceous, slightly unequal-sided, quite entire: flowers glomerate, axillary: glomerules short, clothed with tawny pubescence: pedicels about the length of the petioles: calyx-lobes oval, sparingly ciliated: petals linear, somewhat obovate, slightly pubescent within.

Courtallum. Malabar. Mysore.

(2) A. CANARENSE. (*Dalz.*)

*Ident.* Dalz. in Hook. Journ. Bot. III. p. 37.—Walp. Ann. IV. p. 371.

SPEC. CHAR. Leaves broad-lanceolate, acuminate, roundish at the base, coriaceous, quite glabrous: younger ones scattered on both sides with fusiform reddish hairs attached by the middle: flowers axillary, simply racemed: rachis covered with rusty down, scarcely longer than the petiole: pedicels long, slender, glabrous: calycine segments ovate, obtuse, covered with rusty villi on the back, glabrous at the margins: petals oblong, obtuse, 4 times longer than the calyx: wings of the fruit orbicular, scariose.

Canara, flowering in February.

# ORDER XXXII. SAPINDACEÆ.

Trees or twining shrubs, sometimes climbing herbaceous plants: leaves alternate, usually compound, with or without stipules: flowers polygamous: sepals 4–5, distinct or slightly coherent at the base, imbricated in æstivation: petals usually as many as the sepals, alternating with them, occasionally absent,

hypogynous, sometimes naked, or hairy or glandular, or furnished with a petaloid scale, imbricated in æstivation: disk sometimes occupying the base of the calyx and expanded between the petals and stamens, sometimes consisting of glands between the petals and stamens: stamens 8–10, rarely 20, either inserted on the disk, or on the receptacle between the glands and the ovary: filaments free or slightly combined at the base: anthers bursting lengthwise. MALE: pistil rudimentary or wanting. FEMALE: Ovary 3, rarely 2–4-celled: ovules 1–3 in each cell: style undivided or 2–3-cleft: fruit sometimes capsular, 2–3-valved, occasionally extended at the back into a wing, occasionally fleshy and indehiscent: seeds generally with an aril: albumen none: embryo usually curved or spirally twisted.

## GENUS I. CARDIOSPERMUM.

**Octandria Trigynia.** *Sex. Syst.*

*Deriv.* From *Kardia*, the heart, and *Sperma*, a seed, alluding to the shape of the seeds.

GEN. CHAR. Twining and climbing herbaceous plants, generally with tendrils: leaves without stipules: flowers racemose: common peduncles with 2 opposite tendrils under the racemes: sepals 4, two exterior ones smaller: petals 4, the two lateral ones usually adhering to the sepals, each with a scale above the base, the two lower ones with their scales furnished with a crest at the extremity and with an inflexed appendage beneath the apex: glands 2, situated on the disk opposite the lower petals: the 4 stamens that are nearest the glands shorter than the others: style 3-cleft, with the stigmas attached to the segments on the inside: capsule membranous, like a bladder, 3-celled, 3-valved, loculicidal: seeds globose, arillate.

### (1) C. HALICACABUM. (*Linn.*)

*Ident.* W. & A prod. I. p. 109.—Dec. prod. I. p. 601.—Roxb. fl. Ind. II. p. 292.

*Engrav.* Wight's Icon. t. 508.—Rheede Mal. VIII. t. 28.—Rumph. Amb. VI. t. 24. f. 2.

SPEC. CHAR. Annual: climbing: leaves biternate: leaflets oblong, acuminated, coarsely cut and serrated: fruit broadly pear-shaped: seeds black, with a white spot: flowers very small, white or pale rose-coloured.

All over India, flowering nearly all the year.

## GENUS II. SCHMIDELIA.

**Octandria Monogynia.** *Sex: Syst:*

*eriv.* Called after Professor Christopher Schmidel, a Botanical Author.

Gen. Char. Trees, or shrubs: sepals 4, unequal: petals 4, (the fifth deficient) either naked or with a scale above the claw: disk incomplete, with 4 glands opposite the petals: ovary 2–3-lobed: style from between the lobes of the ovary, 2–3-cleft, the segments recurved, with the stigmas inside: fruit indehiscent, 1–2, rarely 3-lobed: lobes fleshy or dry, 1-celled: seeds with or without an aril.

### (1) S. Cobbe. *(Dec.)*

*Ident.* W. & A. prod. I. p. 109.—Dec. prod. I. p. 610.

*Syn.* Ornitrophe Cobbe, *Willd. Roxb. fl. Ind.* II. *p.* 268.—Toxicodendron Cobbe, *Gaertn.*

*Engrav.* Rheede Mal. V. t. 25.—Wight's Icon t. 964.

Spec. Char. Shrub: leaves trifoliate: leaflets ovate or oblong, acute, serrated, young ones more or less pubescent above, villous beneath: older ones slightly pubescent: racemes axillary, solitary, simple or bifid: petals wedge-shaped, with a scale bearing a tuft of hairs above the claw: ovary hairy, 2-lobed: fruit baccate: flowers small, white.

Malabar. Courtallum.

### (2) S. serrata. *(Dec.)*

*Ident.* W. & A. prod. I. p. 110.—Dec. prod. I. p. 610.

*Syn.* Ornitrophe serrata, *Roxb. fl. Ind.* II. *p.* 266.

*Engrav.* Roxb. Cor. I. t. 61.

Spec. Char. Diffuse shrub: leaves trifoliate: leaflets ovate or oblong, acute, serrated: younger ones pubescent on the nerves beneath: older ones with a glandular tuft of hairs in the axils of the nerves: racemes axillary, solitary, simple: petals wedge-shaped, with a hairy scale above the claw: ovary hairy, 2-lobed: fruit baccate: flowers small, white.

Peninsula, flowering in the rainy season.

### (3) S. Rheedii. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 964.—Spicil. t. 33.

Spec. Char. Diffuse shrub: all the young parts densely villous or tomentose: leaves elliptic-oblong, acute, serrated, pubescent

above: racemes axillary, solitary or paired, often longer than the leaves and branched: petals hairy, with 4 fleshy glands at the base: ovary hairy: berry 2 or by abortion 1-lobed: flowers small, white.

Malabar. Eastern slopes of the Neilgherries and Coimbatore Hills.

(4) S. VILLOSA. (*Wight.*)

*Ident.* Wight's Icon. vol. II.

*Syn.* Ornitrophe villosa, *Roxb. fl. Ind.* II. *p.* 265.

*Engrav.* Wight's Icon. t. 401.

SPEC. CHAR. Shrub, tomentose: leaves ternate: leaflets oblong, ventricose, remotely serrulate: racemes axillary and terminal, simple, very hairy: petals wedge-shaped, very woolly on the inside: flowers numerous, small, hairy, collected into little fascicles all over the raceme.

Chittagong. South Concans.

(5) S. APORETICA.

*Ident.* Voigt. Hort. Calc. p. 93.

*Syn.* Ornitrophe aporetica, *Roxb. fl. Ind.* II. *p.* 264.

SPEC. CHAR. Shrub: leaves ternate: leaflets sessile, broad-lanceolate, acuminate, acutely serrate: racemes axillary, solitary, simple, shorter than the leaves: petals wedge-shaped, very woolly on the inside above the middle, with a small pale-yellow gland at the base of each: stigma 2-lobed: lobes revolute: berries 2, succulent, red when ripe: flowers numerous, small, pale-yellow, fascicled.

Silhet, flowering in June.

(6) S. GLABRA.

*Ident.* Voigt. Hort. Calc. p. 93.

*Syn.* Ornitrophe glabra, *Roxb. fl. Ind.* II. *p.* 267.

SPEC. CHAR. Shrub: leaves ternate: leaflets oblong, serrate, with small hairy glands in the axils of the veins underneath: racemes axillary, solitary, simple, twice the length of the petioles: petals cuneate, with a tuft of wool about the middle on the inside: gland somewhat crescent-shaped, yellow, between the petals and stamens: flowers numerous, fascicled: berries 1–2, red when ripe, pulpy.

Chittagong, flowering in May.

## GENUS III. SAPINDUS.

**Octandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Sapo Indicus*, Indian soap, in allusion to the use of the seeds.

Gen. Char. Trees: calyx 4–5-partite: petals as many as the sepals, naked or hairy or with a scale above the claw: disk entire or crenulated: ovary 3, rarely 2-celled: ovule 1, erect at the base of each cell: style crowned with a 3-lobed stigma: fruit externally fleshy, 1–2-lobed: lobes 1-seeded: seeds without an aril.

(1) S. laurifolius. *(Vahl.)*

*Ident.* W. & A. prod. I. p. 111.—Dec. prod. I. p. 608.—Roxb. fl. Ind. II. p. 278.

*Syn.* S. trifoliata, *Linn.*

*Engrav.* Rheede Mal. IV. t. 19.

Spec. Char. Small tree: leaves abruptly pinnate: leaflets about 3 pair, ovate-lanceolate, quite entire: racemes in terminal panicles: petals lanceolate, woolly all over the inside, without any gland or scale: stamens woolly: ovary 3-lobed, very hairy: stigma 3-toothed: fruit of 3 combined round berries: flowers small, white.

Malabar, Peninsula. Flowering in December. Berry saponaceous and used by washermen.

(2) S. emarginatus. *(Vahl.)*

*Ident.* W. & A. prod. I. p. 111.—Dec. prod. I. p. 608.

*Engrav.* Wight's Ill. I. t. 51.

Spec. Char. Tree: petiole pubescent: leaves abruptly pinnate: leaflets 2–3 pair, oblong, retuse or emarginate, entire: under side very downy: panicles terminal: petals densely hairy on the outside, the margins very woolly, with a small, woolly appendage on each side about the middle: stamens woolly, ovary densely hairy: fruit usually 3-lobed: lobes very hairy on the inside at the insertion of the seeds: flowers small, white.

Peninsula. Bengal. Flowering in October. The seeds are used for washing the finer kinds of silk. The *S. detergens* (*Roxb.*) is probably identical with this species, and only differs by the leaflets being glabrous on both sides, and having from 4–6 pair.

(3) S. obovatus. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 111.

Spec. Char. Leaves abruptly pinnate: leaflets about 4 pair, narrow, cuneate-obovate, suddenly acuminated, entire, glabrous on both sides: racemes terminal: petals glabrous on both sides, with a woolly scale at the base on the inside: ovary densely hairy, oblong, 3-sided, but not lobed.

Peninsula.

(4) S. rubiginosus. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 112.—Roxb. fl. Ind. II. p. 282.—Dec. prod. I. p. 608.

*Syn.* S. fraxinifolius, *Dec.*—Moulinsia rubiginosa, *G. Don.*

*Engrav.* Roxb. Cor. I. t. 62.

Spec. Char. Tree: younger parts clothed with rusty pubescence: leaves abruptly pinnate: leaflets 4–6 pair, oblong-lanceolate, acuminated, entire, slightly hairy beneath: racemes in terminal panicles: calyx unequal: petals 4, (the fifth deficient) glabrous, with a distinct claw: limb cordate-oblong: scale attached to the petals by the margin, very woolly, with a woolly appendage at its back overtopping the scale: stamens on one side, woolly: ovary deeply 3-lobed, hairy: style longish: berries 1–2, rarely 3, nearly unconnected: flowers small, white.

Peninsula. Circars, flowering in March. The timber of this tree is very useful, being straight, strong and durable.

(5) S. Danura. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 274.

*Syn.* Scytalia Danura, *Roxb. l. c.*

Spec. Char. Shrub: leaves broad-lanceolate, cordate at the base: panicles terminal: petals with 2 woolly scales at their base: style shortish: flowers numerous, solitary, pale rose-coloured.

The Delta of the Ganges, flowering in the hot season.

## GENUS IV. CUPANIA.

**Decandria Monogynia.** *Sex. Syst.*

*Deriv.* Called after Francis Cupani, author of several Botanical works.

Gen. Char. Trees or shrubs with abruptly pinnated leaves: calyx 5-cleft: petals 5, rarely wanting, each usually furnished with a scale above the base: stamens inserted between the margin of the disk and the ovary: ovary 3-celled, with one erect ovule in each cell: style simple or 3-cleft: capsule 2–3-angled, 2–3-celled, loculicidal: seeds with an aril.

(1) C. canescens. (*Pers.*)

*Ident.* W. & A. prod. I. p. 113.—Dec. prod. I. p. 613.

*Syn.* Molinæa canescens, *Roxb. fl. Ind.* II. *p.* 243.—Sapindus tetraphyllus, *Vahl.—Dec. prod.* I. *p.* 608.

*Engrav.* Roxb. Cor. t. 60.

Spec. Char. Tree: leaflets 2 pair, obovate or oblong, quite entire, glabrous: racemes simple or panicled, from the old leafless shoots: sepals roundish: petals 4, (fifth deficient,) flat, the claw silky at the back: scale woolly in front, 2-cleft, with a crested appendage at its back below the cleft: stamens 8, on one side, opposite from the disk: ovary ovate: style simple, elongated: stigma 3-toothed: capsule ovoid, 3-sided: flowers small, white.

Circars. Ram Ghaut and Khandalla. Flowering in February and March.

(2) C. Roxburghii. (*Wight.*)

*Ident.* Wight's Icon. vol. II.

*Syn.* Schleichera pentapetala, *Roxb. fl. Ind.* II. *p.* 275.

*Engrav.* Wight's Icon. t. 402.

Spec. Char. Large tree: leaflets 3–4 pair, somewhat alternate, lanceolate: panicles axillary, shorter than the leaves, softly pubescent: petals 5, lanceolate, with 2 small scales at the base: flowers small, numerous, yellowish-green.

Silhet, flowering in March and April.

## GENUS V. HARPULIA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Harpula*, the native name.

Gen. Char. Sepals 5: petals 5, alternating with the stamens: style short: stigma 2-lobed: lobes reflexed: capsule 2-celled.

H. cupanioides. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 645.

Spec. Char. Small tree: leaves abruptly pinnate: leaflets 4–6 pair, ovate-lanceolate, entire: panicles axillary, solitary: flowers small, yellowish.

Chittagong, flowering in April.

## GENUS VI. NEPHELIUM.

**Octandria Monogynia.** *Sex. Syst.*

*Deriv.* An ancient name of the Burdock, applied to this genus on account of the rough fruit.

Gen. Char. Trees: with abruptly pinnate, exstipulate leaves: calyx 4–6-cleft: petals 4–6, glabrous or densely pilose or with a scale on the inside, sometimes wanting: ovary obcordate, usually double and 2-celled, sometimes 3-lobed and 3-celled, with one erect ovule in each cell: stigma 2-lobed or 2-cleft, or 2–3 distinct: fruit indehiscent, either tubercled, muricated or smooth: seeds covered by a fleshy aril.

(1) N. Longanum. (*Camb.*)

*Ident.* W. & A. prod. I. p. 113.

*Syn.* Dimocarpus Longan, *Lour.*—Euphoria Longana, *Lam. Dec. prod.* I. *p.* 611.—Scytalia Longan, *Roxb. fl. Ind.* II. *p.* 270.

*Engrav.* Bot. Reg. XX. t. 1729.

Spec. Char. Leaflets 2–4 pair, entire, somewhat glaucous beneath: panicles lax, terminal: calyx deeply 5-partite: petals 5, narrow-oblong, hairy, without a scale: stamens hairy: ovary 2–3-lobed: stigmas 2–3, linear: berries usually solitary or in pairs, rarely 3, globose, slightly scabrous: flowers white.

Peninsula. Ram Ghaut. Flowering in February and March. The fruit which is the size of a cherry is eatable. The wood is hard and close-grained.

(2) N. rimosum. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 113. *Annot.*

*Syn.* Scytalia rimosa, *Roxb. fl. Ind.* II. *p.* 272.

Spec. Char. Tree: leaflets 3–4 pair, lanceolate: panicles axillary and terminal: petals wanting: berries oblong, rimose, tubercled: flowers small, greenish.

Silhet, flowering in March and April. Fruit eatable.

(3) N. rubrum. (*Wight.*)

*Ident.* Voigt. Hort. Calc. p. 95.

*Syn.* Scytalia rubra, *Roxb. fl. Ind.* II. *p.* 272.

*Engrav.* Wight's Icon. t. 24, 25.

Spec. Char. Tree: leaflets 4–5 pair, lanceolate: panicles terminal and axillary, shorter than the leaves: petals 5, round, concave, smooth: stigma 2-cleft: segments recurved: fruit oblong, smooth, purple: flowers small, dark-purplish red.

Silhet, flowering in March.

## GENUS VII. SCHLEICHERA.

**Octandria Monogynia.** *Sex: Syst:*

Gen. Char. Trees: leaves abruptly pinnate, exstipulate: calyx 5-toothed: petals wanting: ovary 3-celled, with one erect ovule in each cell: style crowned by a 3-cleft stigma: drupe indehiscent, 1–2-celled: seeds solitary, covered with pulpy aril.

(1) S. trijuga. (*Willd.*)

*Ident.* W. & A. prod. I. p. 114.—Roxb. fl. Ind. II. p. 277.

*Syn.* Melicocca trijuga, *Dec. prod.* I. *p.* 615.—Stadmannia trijuga, *Spreng.*

Spec. Char. Leaflets about 3 pair, oblong or broadly-lanceolate, entire, nearly glabrous: racemes axillary or below the leaves, solitary, simple or compound: drupe globose, surmounted with 3 points: flowers small, greenish.

Coromandel. Western Ghauts and Travancore. Flowering in February and March.

## GENUS VIII. DODONÆA.

**Octandria Monogynia.** *Sex: Syst:*

*Deriv.* In honour of R. Dodoens, author of the "Historia Plantarum."

GEN. CHAR. Shrubs, with exstipulate, simple or pinnate leaves: calyx 4, rarely 5-partite: petals wanting: stamens inserted on the disk: style 2–3-cleft, with the stigmas on the inside of the segments: capsule 2–4-angled, septicidal: valves keeled and winged on the back: seeds without an aril: ovary with 2–3 ovules in each cell.

(1) D. BURMANNIANA. (*Dec.*)

*Ident.* W. & A. prod. I. p. 114.—Dec. prod. I. p. 616.

*Syn.* D. angustifolia, *Roxb. fl. Ind.* II. *p.* 256.—Ptelea viscosa, *Burm. Ind. p.* 36.

*Engrav.* Burm. Zeyl. t. 23.—Rumph. Amb. IV. t. 50.—Wight's Ill. I. t. 52.

SPEC. CHAR. Leaves simple, quite entire, oblong-lanceolate, cuneate at the base, clammy: sepals ovate: capsules deeply emarginate at both ends: wings 2–3, broad: flowers small, greenish.

Coromandel and Malabar. Concans. Flowering nearly all the year.

(2) D. DIŒCIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 256.—Dec. prod. I. p. 617.

SPEC. CHAR. A dicecious shrub: leaves broad-lanceolate, tapering towards the base, entire: racemes axillary and terminal, short, corymbiform: flowers on longish pedicels: stigma 3-pointed: flowers small, greenish.

Interior parts of India, flowering in the rainy season.

## ORDER XXXIII. MILLINGTONIACEÆ.

Trees: leaves alternate, exstipulate, entire or rarely pinnate: sepals 5, unequal, imbricated in æstivation: petals 5, deciduous, alternating with the sepals, 3 outer ones orbicular, entire, two interior ones smaller, acutely 2-cleft and resembling scales: stamens slightly united to the petals at the base, 3 sterile ones opposite the larger petals, 2 fertile ones opposite the bifid petals: anther-cells globose, opening transversely: ovary ovate, 2-celled, with 2 superposed ovules in each cell: style simple, short and thick: stigma slightly 2-lobed: drupe 1-celled, 1-seeded: seed with a small cavity on one side near the base: albumen none.

## GENUS I. MILLINGTONIA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* Named after Sir T. Millington, Professor of Botany at Oxford.

Gen. Char. Same as in the Order. Inflorescence in panicles, terminal, or axillary near the extremity of the branches: flowers nearly sessile, on short peduncles, arranged along the horizontal branches of the panicles.

### (1) M. pungens. (*Wall.*)

*Ident.* W. & A. prod. I. p. 115.

*Engrav.* Wight's Spicil. I. t. 34, 35.—Wight's Icon. t. 964–5.

Spec. Char. Large tree: leaves simple, lanceolate, acute at the base, quite entire: nerves beneath with a rusty pubescence: panicle densely covered with a rusty pubescence: flowers aggregate on the ultimate branchlets of the panicle: calyx with 3 bracteoles: sepals ciliated: fruit the size of a pea, nearly black when ripe: flowers white.

Ootacamund, flowering in the hot season.

### (2) M. simplicifolia. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 115.—Roxb. fl. Ind. I. p. 103.

*Engrav.* Roxb. Cor. III. t. 254.

Spec. Char. Leaves simple, oblong-lanceolate, quite entire, glabrous on both sides: panicles slender, lax, pubescent: calyx not bracteoled: 3 outer sepals larger, ciliated: inner petals cleft almost to the base: flowers small, yellow.

Madura. Silhet. Flowering in the hot season.

### (3) M. pinnata. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 104.

Spec. Char. Leaves abruptly pinnate: leaflets elliptic-lanceolate, glabrous on both sides, serrated, the teeth incurved: panicles lax, puberulous: sepals unequal, two of them bracteiform: interior petals cleft to near the middle: flowers small, white.

Silhet, flowering in the hot season.

### (4) M. Arnottiana. (*Wight.*)

*Ident.* Wight's Ill. I. p. 154.

*Syn.* Sapindus microcarpus, *W. & A. prod.* I. *p.* 112.

*Engrav.* Wight's Ill. I. t. 55.

Spec. Char. Leaves unequally pinnate: pinnæ 5–7 pairs: leaflets ovate, acuminate, pubescent beneath, quite entire: panicles axillary and, with the petioles, thickly covered with rusty-coloured hairs: interior petals cleft nearly half their length, with the points reflexed: filaments furnished with 2 scales below the middle: flowers small, yellowish.

Neilgherries.

## ORDER XXXIV. MELIACEÆ.

Trees or shrubs: leaves without stipules, alternate or very rarely opposite, simple and entire, sometimes pinnated: sepals 3–5, distinct or united, imbricated in æstivation: petals alternating with them, distinct or rarely united at the base: æstivation valvular or imbricated: stamens usually as many as the petals, very rarely numerous: filaments united into a tube: anthers sessile within the tube, or on its margin, introrse: ovary single: ovules usually in pairs, rarely 4: styles and stigmas combined, very rarely distinct: fruit baccate, drupaceous or capsular, with several cells: seeds with or without an aril, never winged or flat.

### GENUS I. NAREGAMIA.

**Decandria Monogynia.** *Sex. Syst.*

*Deriv.* The Malabar name Latinized.

Gen. Char. Calyx small, cup-shaped, 5-cleft: petals 5, very long, strap-shaped, distinct, free from the stamen tube: filaments united into a long tube, inflated and globular at the apex: the mouth with 10 anther-bearing crenatures: anthers spreading outwards, with a small appendage at the apex: ovary 3-celled: cells 2-ovuled: style filiform: capsule 3-cornered, 3-valved: valves orbicular: seeds 2 in each cell, curved.

#### (1) N. alata. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 117.—Drury's Useful Plants, p. 319.

*Engrav.* Wight's Icon. t. 90.—Rheede Mal. X. t. 22.

Spec. Char. Glabrous shrub: leaves trifoliolate: leaflets cuneate-obovate, quite entire, sessile: petiole margined: peduncles axillary, solitary: flowers white.

Travancore. Vingorla. Flowering in April and May.

## GENUS II. MELIA.

**Decandria Monogynia.** *Sex Syst:*

*Deriv.* From the Greek name of the *Ash*, applied to this genus on account of the resemblance in the leaves.

Gen. Char. Trees, with alternate, bipinnate leaves: leaflets in pairs with an odd one: calyx 5-partite: petals 5, patent: stamen-tube with 10 anthers in the throat: ovary 5-celled: cells each with 2 ovules: style columnar, breaking off from the top of the ovary: stigma 5-lobed: fruit a drupe, with one 5-celled, bony nut; cells 1-seeded.

### (1) M. Azedarach. *(Linn.)*

*Ident.* W. & A. prod. I. p. 117.—Dec. prod. I. p. 621.—Roxb. fl. Ind. II. p. 395.

*Engrav.* Wight's Icon. t. 160.—Bot. Mag. XXVII. t. 1066.

Spec. Char. Leaves deciduous: leaflets about five together, obliquely ovate-lanceolate, serrated, finely acuminated: petals nearly glabrous: peduncles axillary, panicled above, many-flowered: flowers smallish, white, externally lilac at the top, fragrant.

Northern India. Concans and the Deccan. Flowering in March. This is the common Bead-tree, or Persian lilac. The root is bitter and nauseous, and is used in North America as anthelmintic.

### (2) M. composita. *(Willd.)*

*Ident.* W. & A. prod. I. p. 117.

*Syn.* M. superba, *Roxb. fl. Ind.* II. *p.* 396.—M. robusta, *Roxb. fl. Ind.* II. *p.* 397.

Spec. Char. Young shoots, petioles and panicles very mealy: leaves 2 or 3 pinnate: leaflets 3–7 pair, ovate, acuminate, crenulated: calyx and petals mealy: flowers small, greenish-white, fragrant.

Concan Hills. Mysore. Flowering in the hot season.

## GENUS III. AZADIRACHTA.

**Decandria Monogynia.** *Sex: Syst*

*Deriv.* A name applied by Avicenna to a poisonous tree.

Gen. Char. Calyx 5-partite: petals 5: stamen-tube bearing 10 anthers in the throat, shortly 10-lobed: lobes reflexed: anthers opposite the lobes and equal to them: ovary 3-celled: ovules 2 in each cell, collateral: style columnar: stigma 3-cleft: drupe 1-celled, 1-seeded.

(1) A. Indica. *(Ad. de Juss.)*

*Ident.* W. & A. prod. I. p. 118.

*Syn.* Melia Azadiracta, *Linn. Dec. prod.* I. *p.* 622.—*Roxb. fl. Ind.* II. *p.* 394.

*Engrav.* Wight's Icon. t. 17.—Rheede Mal. IV. t. 52.—Burm. Zeyl. t. 15.

Spec. Char. Tree: leaves simply pinnated: leaflets unequal-sided, glabrous, serrated: panicles axillary: flowers small, white, fragrant.

Peninsula. Hindostan. Assam. Flowering in the hot season. The bark is used as a good substitute for Peruvian bark. This is well-known as the Neem-tree.

## GENUS IV. MALLEA.

**Monadelphia Decandria.** *Sex Syst.*

*Deriv.* From the supposed vernacular name, *Malle.*

Gen. Char. Calyx 5-toothed: petals 5: stamen-tube deeply 10-cleft, each division acutely 2-cleft: anthers seated inside, between the segments, erect, cordate: ovary 5-celled: ovules 2 in each cell, collateral: style short, club-shaped: stigma hemispherical, 5-lobed: fruit with a fleshy epicarp, containing 5 one-seeded nuts.

(1) M. Rothii. *(Ad. de Juss.)*

*Ident.* W. & A. prod. I. p. 118.

*Syn.* Melia baccifera, *Dec. prod.* I. *p.* 622.—Ekebergia Indica, *Roxb. fl. Ind.* II. *p.* 392.

Spec. Char. Shrub: leaves unequally pinnated: leaflets opposite, unequal-sided, quite entire or serrated above the middle: peduncles axillary, corymbose or panicled above: flowers small, white.

Poonah. Circars. Flowering nearly all the year.

## GENUS V. MILNEA.

**Monadelphia Pentandria.** *Sex Syst.*

*Deriv.* In honor of Dr. Milne, author of a Botanical Dictionary, and other works.

Gen. Char. Trees or shrubs: young parts covered with scaly pubescence: calyx 5-cleft: petals 5, concave, erect: stamens closely combined into a globose, slightly 5-toothed cup: anthers included: ovary 2–3-celled: ovules 1–2 in each cell: style 1, short, thick: stigma truncated: berry dry, 1-seeded: seed covered with a fleshy aril.

(1) M. Roxburghiana. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 119.

*Engrav.* Wight's Icon. t. 166.

Spec. Char. Tree: leaflets about 2 pair with an odd one, elliptic-oblong, paler beneath: panicles axillary, longer than the leaves: petals elliptical: urceolus of stamens sessile: ovary 2-celled: berry ovoid.

Southern Provinces.

(2) M. edulis. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 637.

Spec. Char. Middle-sized tree: leaflets 3–6 pair: panicles axillary: flowers white.

Silhet. The aril which surrounds the seed is eatable.

## GENUS VI. AMOORA.

**Monadelphia Hexandria.** *Sex. Syst*

*Deriv.* From the vernacular name.

Gen. Char. Polygamous: calyx 3-leaved, with 2 or more bracteoles in the female: petals 3, concave, patulous: stamen-tube 6-lobed at the apex, with 6 anthers on the inside about the middle: anthers included, 3-sided, attached by the back: ovary depressed, 3-celled, with superposed ovules in each cell: stigma nearly sessile, pyramidal, 3-cornered: capsule coriaceous, 3-celled, 3-valved: seeds solitary, with a fleshy aril.

(1) A. Rohituka. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 119.

*Syn.* Andersonia Rohituka, *Roxb. fl. Ind.* II. *p.* 213.

Spec. Char. Tree: leaves unequally pinnate: leaflets opposite, about 6 pair, obliquely oblong: petioles when young, with a few hairs on their lower part: panicles of male flowers shorter than the leaves: fertile ones numerous, in solitary, erect spikes, more than half the length of the leaves: flowers small, white.

Travancore, flowering in July and August. The natives extract an oil from the seeds which they use for various economical purposes.

(2) A. cucullata. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 212.

*Syn.* Andersonia cucullata, *Roxb.*

*Engrav.* Roxb. Cor. III. t. 258.

Spec. Char. Leaflets opposite, 2–4 pair, obliquely ovate-lanceolate: panicles axillary, solitary, drooping, about as long as the leaves: peduncles in female tree 3–6-flowered: flowers longer than the male: capsule largish: seeds covered with fleshy bright orange-coloured aril: flowers small, yellow.

Soonderbunds, flowering in the rainy season.

(3) A. ficiformis. (*R. W.*)

*Ident.* Wight's Ill. I. p. 147.

Spec. Char. Leaflets ovate, oblique at the base: female flowers axillary or from the scars of the fallen leaves, subsessile: fruit fig-shaped, subsessile.

Shevagherry Mountains, near Courtallum.

## GENUS VII. SANDORICUM.

**Decandria Monogynia.** *Sex Syst*

*Deriv.* From *Santoor*, the Malay name of the tree.

Gen. Char. Calyx obtusely 5-lobed: petals 5, distinct: stamen-tube cylindrical, 10-toothed, bearing 10, erect, cordate anthers on the inside: disk expanding into a tube, sheathing the base of the style, torn and 5-toothed at the apex: ovary half hid at the bottom of the calyx, with 2 collateral ovules in each cell: style columnar: stigma long, globose at the base, 5-lobed above: fruit baccate, like an apple, 5-celled: seeds solitary in each cell, arillate.

(1) S. Indicum. (*Cav.*)

*Ident.* W. & A prod. I. p. 120.—Dec. prod. I. p. 621.—Roxb. fl. Ind. II. p. 392.

*Syn.* Trichilia nervosa, *Vahl. Dec. prod.* I. *p.* 623.—T. venosa, *Spreng.*

*Engrav.* Rumph. Amb. I. t. 64.

Spec. Char. Small tree: leaves trifoliolate: panicles axillary: flowers crowded on the partial peduncles, small, yellow.

Mysore, flowering in the hot season.

## GENUS VIII. WALSURA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Wallursi*, its Telugu name.

Gen. Char. Trees, with usually trifoliate leaves: panicles stalked, axillary or terminal: calyx 5-cleft: petals 5, distinct: stamen-tube deeply 10-cleft: divisions 2-cleft at the apex, with an erect anther on the inside between each segment: ovary immersed in the fleshy disk, 2–3-celled, with 2 collateral ovules in each cell:

style short, club-shaped: stigma 2-lobed at the apex: fruit baccate, 1-celled: seeds solitary, with an aril.

(1) W. PISCIDIA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 120.—Roxb. fl. Ind. II. p. 388.

*Syn.* W. ternata, *Roxb.*

*Engrav.* Wight's Ill. I. t. 55.

SPEC. CHAR. Leaflets oblong: panicles nearly quite glabrous: flowers small, yellowish.

Circars. The bark is thrown into ponds to kill fish, which, coming to the surface are easily taken and not considered injurious, if eaten.

## GENUS IX. HEYNEA.

**Decandria Monogynia.** *Sex Syst:*

*Deriv.* In honor of Dr. B. Heyne, a German Botanist and traveller in the East Indies.

GEN. CHAR. Trees, with pinnate leaves: calyx 5-cleft: petals 5, distinct: stamen-tube deeply 10-cleft: divisions forked at the apex, with an erect anther between the segments: ovary covered by the disk, 2-celled, with 2 collateral ovules in each cell: style short, club-shaped: stigma 2-pointed: fruit fleshy, but capsular, 1-celled, 2-valved: seed solitary, with an aril.

(1) H. AFFINIS. *(Juss.)*

*Ident.* W. & A. prod. I. p. 121.

SPEC. CHAR. Leaflets in 3 pairs, obliquely ovate, acuminated: segments of the calyx with a callous tip: each forked segment of the stamen-tube, with a line of white hairs on the back, running from the fork downwards.

Peninsula.

(2) H. TRIJUGA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 390.—Dec. prod. I. p. 624.

*Engrav.* Bot. Mag. XLII. t. 1738.

SPEC. CHAR. Small tree: leaves pinnated: leaflets 3–4 pair, ovate-oblong, acuminate, entire: fruit red, fleshy, opening from the apex: cymes axillary, long-peduncled: flowers small, white.

Western Ghauts, flowering in March and April.

(3) H. CONNAROIDES. *(Wight.)*

*Ident.* W. & A. prod. I. p. 148.

SPEC. CHAR. Leaves unequally pinnated: leaflets 3–4 pair, lateral ones ovate, unequal-sided, terminal one oblong, all quite

entire, glabrous above, pubescent beneath: cymes dichotomous, axillary, elongated: capsule solitary, sessile, gibbous at the base, ovoid.

Peninsula.

## GENUS X. XYLOCARPUS.

**Octandria Monogynia.** *Sex: Syst·*

*Deriv.* From *Xylon*, wood, and *Karpos*, fruit, alluding to the hard pericarp.

Gen. Char. Trees: calyx 4-cleft: petals 4, distinct, reflexed: stamen-tube urceolate, 8-cleft at the apex: the segments bipartite: anthers included, erect: ovary 4-furrowed, 4-celled: cells 1–5-ovuled: style short, with a broad concave stigma: fruit spherical, 6–12-seeded: the pericarp splitting into 4 valves: seeds angled, with a spongy integument.

### X. Granatum. (*Koen.*)

*Ident.* W.& A. prod. I. p. 121.—Roxb. fl. Ind. II. p. 240.

*Syn.* Carapa Moluccensis, *Lam.*

*Engrav.* Rumph. Amb. III. t. 61.

Spec. Char. Leaves abruptly pinnated: leaflets 2 pair, elliptical, obtuse, entire: flowers small, yellowish.

Soonderbunds, flowering in the hot season.

## GENUS XI. MUNRONIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Named after Lieut. Munro, an Indian Botanist.

Gen. Char. Shrubs: calyx 5-cleft: petals 5, cohering at the base, with the staminal tube: stamen-tube funnel-shaped, with 10 anthers attached to its apex and alternate with its teeth: ovary 5-celled: cells 2-ovuled: style filiform: stigma capitate: capsule 5-valved: seeds about 5.

### (1) M. Neilgherrica. (*R. W.*)

*Ident.* Wight's Ill. I. p. 147.

*Engrav.* Wight's Ill. I. t. 54.

Spec. Char. Shrub: leaves unequally pinnate, congested towards the summit, about 3 pair: leaflets ovate, acute: cymes several, axillary and terminal: lobes of the calyx leafy, hairy: flowers white, very fragrant.

Neilgherries and Coorg.

(2) M. Wallichii. *(R. W.)*

*Ident.* Wight's Ill. I. p. 147.

*Syn.* Turræa pinnata, *Wall. pl. As. Rar.* II. *t.* 119.

*Engrav.* Horsf. pl. II. p. 176. t. 138.—Bot. Reg. XVII. *t.* 1413.

Spec. Char. Shrub: leaves unequally pinnate: leaflets about 3 pair, obliquely cordate at the base: flowers largish, rose-coloured.

Silhet.

## GENUS XII. DYSOXYLUM.

**Monadelphia Decandria.** *Sex: Syst*

*Deriv.* From *Dusodes*, fetid, and *Xylon*, wood, alluding to the unpleasant odour of the wood.

Gen. Char. Trees: calyx 4–5-cleft: petals 4–5: anthers 8–10, inserted in the throat of the toothed stamen-tube: ovary 3–4-celled: cells 2-ovuled: style filiform, crowned by the subpeltate stigma: capsule coriaceous, 3–4-valved, 3–4-celled: seed solitary, without an aril.

(1) D. mutijugum. *(Arn.)*

*Ident.* Voigt's Hort. Calc. p. 135.

*Syn.* Guarea paniculata, *Roxb. fl. Ind.* II. *p.* 242.

*Engrav.* Wight's Icon. t. 116.

Spec. Char. Leaves abruptly pinnate: leaflets 6–12 pair, ovate-lanceolate: panicles axillary, solitary, nearly as long as the leaves: calyx obscurely 4-toothed: petals 4, recurved: style hairy: capsule 3–4-lobed, furrowed, of a dark orange colour: flowers numerous, largish, pale-yellow, expanding in the evening, and dropping the next morning.

Silhet, flowering in May and June.

## GENUS XIII. EPICHARIS.

**Monadelphia Decandria.** *Sex Syst:*

*Deriv.* A Greek term for beautiful, alluding to the elegance of the trees.

Gen. Char. Trees: calyx irregularly 5–6-cleft: petals 4, rarely 5: anthers 8–10, adnate to the throat of a toothed tube: ovary 4-celled: cells 2-ovuled: style filiform, crowned by a capitate stigma: capsule coriaceous, 2–4-valved, 2–4-celled: seed solitary, usually almost covered by fleshy aril.

(1) E. EXARILLATA. *(Arn.)*

*Ident.* Dalz. Bomb. flor. p. 37.

*Syn.* Guarea binectarifera, *Roxb. fl. Ind.* II. *p.* 240.

SPEC. CHAR. Leaves pinnate: leaflets 4–6 pair, taper-pointed, entire, smooth on both sides: panicles axillary, short, rigid: capsule globose, size of an apple, smooth, yellow when ripe: seeds like chestnuts, polished, dark-purple: flowers small, yellow: seeds without an aril.

Near Khandalla and Vingorla. Chittagong. Flowering in August.

## GENUS XIV. TURRÆA.

**Monadelphia Decandria.** *Sex: Syst:*

*Deriv.* Called after George Turra, an Italian Botanist and Author.

GEN. CHAR. Calyx 5-cleft: petals 5, very long, strap-shaped: staminiferous tube 10-cleft at the apex, with the anthers at the base of the lobes, or inserted between them: stigma thickish: capsules 5-celled: cells 2-seeded.

(1) T. VIRENS. (*Linn.*)

*Ident.* Dec. prod. I. p. 620.—Dalz. Bomb. flor. p. 36.

*Engrav.* Smith. Icon. I. t. 10.

SPEC. CHAR. Shrub: 3–4 feet: leaves elliptic-lanceolate, acuminate, quite smooth: calyx and fruit covered with silky hairs: flowers few, long and slender, white.

Khandalla and Parr Ghaut.

(2) T. VILLOSA. (*Bennet.*)

*Ident.* Bennet. pl. Jav. Rar.—Wight's Icon. Vol. IV.

*Engrav.* Wight's Icon. t. 1593.

SPEC. CHAR. Leaves ovate, somewhat acuminated, pubescent above, rusty-villous beneath: teeth of the staminal tube obsolete: stigma crowned with a broadish disk, long-exserted.

Travancore Mountains.

## GENUS XV. NEMEDRA.

N. NIMMONII. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 37.

SPEC. CHAR. Tree, with pinnate leaves: leaflets 2–3 pair: fruit pear-shaded, size of a plum, indehiscent, filled with white resinous juice: racemes axillary: flowers small, white.

Khandalla. Hills near Nagotna.

## ORDER XXXV. CEDRELACEÆ.

Trees with alternate, exstipulate, pinnated leaves: calyx 4–5-sepalled, or 4–5-cleft: petals as many as, and alternate with, the segments of the calyx, distinct, twisted or convolute in æstivation: stamens twice as many as the petals, those opposite the petals shorter than the others, or sterile or deficient: filaments inserted on a hypogynous disk, sometimes broad and 2-toothed at the apex and united into a tube, sometimes distinct, each 1-anthered at the apex: anthers fixed by the back at their base or middle, introrse, 2-celled, dehiscing lengthwise: ovary free: ovules 4–12, or more, in each cell, in a double row: style simple: stigma 5-angled, or lobed: fruit woody, capsular, 3–5-celled, 3–5-valved: seeds without an aril, flat and winged, imbricated: albumen thin and fleshy, or none.

### GENUS I. SOYMIDA.

**Monadelphia Decandria.** *Sex. Syst:*

*Deriv.* The Telugu name latinised.

GEN. CHAR. Sepals 5, imbricated: petals 5, shortly clawed: stamen-tube cup-shaped: lobes cohering by their base, bearing anthers on the inside of the tube: ovary 5-celled, with 12 ovules in each cell: style 5-angled: capsule 5-celled, 5-valved, dehiscing from the apex: seeds pendulous, expanding on all sides into a wing: embryo straight.

#### (1) S. FEBRIFUGA. *(Juss.)*

*Ident.* W. & A. prod. I. p. 122.

*Syn.* Swietenia febrifuga, *Roxb. fl. Ind.* II. *p.* 398.—*Dec. prod.* I. *p.* 625.

*Engrav.* Roxb. Cor. I. t. 17.

SPEC. CHAR. Tree: leaves abruptly pinnate: leaflets opposite, usually 4 pair, oval-oblong: racemes axillary, forming a panicle by the abortion of the upper leaves: flowers small, greenish-white.

Central and Southern Provinces. Guzerat. Flowering in March and April. The bark is a useful tonic in intermittent fevers when quinine cannot be procured.

## GENUS II. CHICKRASSIA.

**Monadelphia Decandria.** *Sex: Syst:*

*Deriv.* The native name latinised.

GEN. CHAR. Calyx 5-toothed: petals 5, erect: stamen-tube 10-crenated, each crenature bearing 1 exserted terminal anther: ovary oblong, 3-celled: ovules numerous in each cell: stigma capitate, 3-lobed: capsule ovoid, 3-celled, 3-valved, dehiscing from the apex: seeds numerous, expanding downwards into a wing.

### (1) C. TABULARIS. *(Juss.)*

*Ident.* W. & A. prod. I. p. 123.

*Syn.* Swietenia chickrassa, *Roxb. fl. Ind.* II. *p.* 399.

*Engrav.* Wight's Ill. I. t. 56.

SPEC. CHAR. Leaves abruptly pinnated: leaflets 5–8 pair, obliquely ovate-oblong, unequal-sided, quite entire, hairy in the axils of the nerves beneath: panicles terminal, erect: flowers middle-sized, greenish-white.

Cunnawady Hills, near Dindigul, flowering in the hot season. The wood is close-grained and elegantly veined, and is employed by cabinet-makers. It is commonly known as Chittagong-wood.

### (2) C. NIMMONII. *(J. Grah.)*

*Ident.* Dalz. Bomb. flor. p. 38.

SPEC. CHAR. Large tree: leaves pinnate: leaflets tomentose; capsule 4–5-valved.

Jungles at Rohe, Western Coast, flowering in January and February.

## GENUS III. CHLOROXYLON.

**Monadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Chloros*, yellow, and *Xylon*, wood.

GEN. CHAR. Calyx 5-partite: petals 5, patent: filaments distinct, awl-shaped: anthers versatile, cordate: disk 10-sinuated, each sinus bearing a stamen: ovary 3-furrowed, 3-celled: ovules 8 in each cell, ascending: capsule 3-celled, 3-valved, dehiscing from the apex: seeds about 4 in each cell, extending upwards into a wing.

### (1) C. SWIETENIA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 123.—Dec. prod. I. p. 625.—Drury's Useful Plants, p. 132.

*Syn.* Swietenia chloroxylon, *Roxb. fl. Ind.* II. *p.* 400.

*Engrav.* Wight's Ill. I. t. 57.—Roxb. Cor. I. t. 64.

Spec. Char. Tree: leaves abruptly pinnate: leaflets 10–20 pair, pale-coloured, unequal-sided, with pellucid dots: panicle terminal: flowers small, greenish-white.

Circars and near Belgaum, flowering in March and April. The tree yields good oil. The wood is close-grained, yellow, and a good substitute for box-wood. This is known as the satin-wood tree.

### GENUS IV. CEDRELA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Cedrus*, the cedar-tree, alluding to the aromatic scent of the wood.

Gen. Char. Calyx 5-cleft: petals 5, erect: keeled towards the base on the inside: stamens and pistil on a common stalk: disk 5-ribbed and 5-lobed at the apex: filaments inserted on the disk, 5 antheriferous and 5 sterile or wanting: ovary 5-celled: ovules 8–12 in each cell: style 5-angled, deciduous: stigma 5-rayed above: capsule 5-celled, 5-valved: seeds produced downwards into a wing: albumen fleshy: embryo nearly erect.

#### (1) C. Toona. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 124.—Roxb. fl. Ind. I. p. 635.—Dec. prod. I. p. 624.

*Engrav.* Wight's Icon. t. 161.—Roxb. Cor. III. t. 238.—Rumph. Amb. III. t. 39.

Spec. Char. Large tree: leaves abruptly pinnate: leaflets 6–12 pair, ovate-lanceolate, acuminated, entire or slightly toothed: panicles drooping: petals ciliated: sterile filaments none: ovules 8 in each cell: capsule oblong: flowers small, whitish, fragrant.

Peninsula. Foot of the Himalaya. Ravines at Khandalla. Flowering in May and June. The wood forms the Mahogany of India, and is much used in Bengal for furniture of all kinds.

## ORDER XXXVI. VITACEÆ.

Climbing shrubs, or erect bushes: lower leaves opposite, upper ones alternate, with racemes opposite them, sometimes by abortion changing into tendrils: calyx nearly entire: petals 4–5, valvate in æstivation: stamens 4–5, opposite the petals: filaments distinct, or slightly cohering at the base: anthers ovate, versatile: ovary 2–6-celled: ovules erect: style very short: stigma simple: disk annular, bearing the petals on the outside

and the stamens on the surface: berry pulpy, often 1-celled by abortion: seeds 1–6: albumen hard: embryo erect.

## GENUS I. CISSUS.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From the Greek word *Kissos*, ivy, alluding to the climbing habit of the plants.

GEN. CHAR. Calyx almost entire: petals 4, usually distinct at the apex: ovary 4-celled: berry 1–4-seeded: peduncles wholly either floriferous or changed into tendrils: climbing plants with simple, trifoliate or digitate leaves, and cymes or corymbs of small, greenish, yellow, or purplish flowers.

### (1) C. INEQUALIS. (*Herb. Heyne.*)

*Ident.* W. & A. prod. I. p. 125.

*Syn.* Vitis inequalis, *Wall.*

SPEC. CHAR. Glabrous: stems 4-angled: stipules ear-shaped: leaves ovate, acuminated, obliquely truncated at the base, with close-pressed, bristly serratures, entire: umbels sessile: fruit the size of a peppercorn.

Travancore.

### (2) C. QUADRANGULARIS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 125.—Dec. prod. I. p. 628.—Roxb. fl. Ind. I. p. 407.

*Syn.* Vitis quadrangularis, *Wall.*

*Engrav.* Wight's Icon. t. 51.—Rheede Mal. VII. t. 41.—Rumph. Amb. V. t. 44. f. 2.

SPEC. CHAR. Glabrous: stems 4-angled and winged: stipules lunate: leaves cordate-ovate, serrulated: umbels on short peduncles: petals distinct: fruit 1-celled, 1-seeded: flowers small, white.

Peninsula. Guzerat. Flowering in the rainy season.

### (3) C. REPANDA. (*Vahl.*)

*Ident.* Vahl. Symb. III. p. 18.—Dec. prod. I. p. 627.

*Syn.* C. Indica, *Rottl.*—*Dec. prod.* I. *p.* 628.—Vitis repanda, *W. & A. prod.* I. *p.* 125.

SPEC. CHAR. Young parts tomentose: stipules oblong: leaves cordate-roundish, shortly acuminated, entire, repand-toothed, or serrated, young ones tomentose, particularly beneath: tendrils none: umbels compound: petals deciduous, cohering at the apex.

Peninsula. Malabar Hill, Bombay.

(4) C. VITIGINEA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 406.

*Syn.* Vitis Heyneana, *Wall.*—V. pallida, *W. & A. prod.* I. *p.* 125.

*Engrav.* Wight's Icon. I. t. 50.

SPEC. CHAR. Nearly glabrous, or with the young parts slightly pubescent, pale green: stipules cordate: leaves broadly cordate, shortly acuminated, entire, with distant incurved serratures: cymes on long peduncles: ultimate branches umbellate, recurved in fruit: petals distinct: fruit about 1–2-seeded: flowers reddish.

Peninsula. Travancore and the Deccan. Flowering in the rainy season.

(5) C. REPENS. (*Lam.*)

*Ident.* Dec. prod. I. p. 628.

*Syn.* Vitis repens, *W. & A. prod.* I. *p.* 125.

*Engrav.* Rheede Mal. VII. t. 48.

SPEC. CHAR. Glabrous: young shoots glaucous: stipules cordate, rounded: leaves cordate-ovate, acuminated, with sharp, spiniform teeth: umbels peduncled: petals distinct: fruit globose, about 1-seeded.

Peninsula.

(6) C. GLAUCA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 406.—Dec. prod. I. p. 628.

*Syn.* Vitis glauca, *W. & A. prod.* I. *p.* 126.

SPEC. CHAR. Young shoots very glaucous: stipules broadly reniform, glaucous: leaves broadly cordate, entire or the large ones angled, with small bristly serratures: cymes compound: petals distinct: fruit globose, about 1-seeded.

Travancore. Concans. Peninsula. Flowering in the hot season.

(7) C. ADNATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 405.—Dec. prod. I. p. 627.

*Syn.* C. latifolia, *Vahl.*—Vitis adnata, *Wall. W. & A. prod.* I. *p.* 126.

*Engrav.* Wight's Icon. t. 144.

SPEC. CHAR. Young parts densely pubescent; young shoots 4-angled: stipules oval, adnate, with a flat gland in their lower half: leaves broadly cordate, entire, with bristly serratures, under side covered with dense, rusty tomentum: upper, pubescent at first, afterwards glabrous: petals distinct: fruit 1-celled: seeds usually solitary: flowers small, green.

Peninsula, flowering in May and June.

(8) C. VITIGINEA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 126.

*Syn.* C. angulata, *Lam. Dec. prod.* I. *p.* 629.—Vitis Linnæi, *Wall.*

SPEC. CHAR. Every part covered with dense tomentum: young shoots and peduncles compressed: stipules oval: leaves broadly cordate, either 5-angled, or deeply 5-lobed, with the lobes ovate and the sinus rounded, closely serrated: inflorescence cymose, peduncled, about as long as the leaves: pedicels recurved in fruit: fruit oblong, bluish and glaucous.

Peninsula.

(9) C. TRILOBATA. (*Lam.*)

*Ident.* Dec. prod. I. p. 629.

*Syn.* Vitis Rheedii, *W. & A. prod.* I. *p.* 127.

*Engrav.* Rheede Mal. VII. t. 45.

SPEC. CHAR. Glabrous: stipules oval: leaves trifoliolate, upper ones often deeply 3-cleft: leaflets distantly toothed, oblong-lanceolate, sharply acuminated in the lower part of the stem: lateral ones unequal-sided: umbels compound, about equal to the petiole: petals distinct: fruit globose, 1-seeded.

Peninsula. Concans.

(10) C. SETOSUS. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 410.—Dec. prod. I. p. 630.

*Syn.* Vitis setosa, *Wall.—W. & A. prod.* I. *p.* 127.

*Engrav.* Wight's Icon. t. 170.

SPEC. CHAR. Clothed with bristly hairs: stem herbaceous: stipules ovate: leaves succulent, trifoliolate, without a common petiole: leaflets roundish, ovate, obtuse, bristly, serrated: cymes divaricated: petals distinct: disk 4-lobed: berries red, ovoid, hairy, 1-seeded: pedicels recurved in fruit.

Peninsula. Jooneer.

(11) C. CARNOSA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 409.

*Syn.* C. cinerea, *Lam. Dec. prod.* I. *p.* 631.—C. carnosa, *Lam. Dec. prod.* I. *p.* 630.—C. crenata, *Dec. prod.* I. *p.* 631.—C. obtusifolia, *Lam.*—Vitis carnosa, *Wall. W. & A. prod.* I. *p.* 127.

*Engrav.* Wight's Icon. t. 171.—Rheede Mal. VII. t. 9.—Rumph. Amb. V. t. 166.

SPEC. CHAR. Young parts densely pubescent: older, glabrous: stem striated: stipules oblong: leaves trifoliolate, long-petioled;

leaflets ovate, crenate-serrated : cymes peduncled, compound : petals distinct : berries black, 2–4-seeded : flowers small, green.

Peninsula. Western Coast. Plains of North India. Flowering in the rainy season.

(12) C. FEMINEA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 410.—Dec. prod. I. p. 630.

*Syn.* Vitis Roxburghii, *W. & A. prod.* I. *p.* 127.

SPEC. CHAR. Glabrous : stems woody : bark shining : leaves trifoliolate, occasionally with 4–5 leaflets and digitate : leaflets stalked, slightly repand, lateral ones oblong-lanceolate : cymes much shorter than the petioles, axillary, dichotomous : petals distinct : disk 4-lobed : fruit globose, 2–4-seeded.

Peninsula.

(13) C. ELONGATA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 411.—Dec. prod. I. p. 632.

*Syn.* Vitis elongata, *Wall. W. & A. prod.* I. *p.* 128.

SPEC. CHAR. Glabrous : young shoots succulent : stipules cordate : leaves digitate : leaflets 5, oblong-lanceolote, distantly serrated, glabrous on both sides : peduncles scarcely as long as the petiole : cymes compound : petals distinct : fruit black, size of a cherry, turbinate-globose, 1-seeded : flowers purplish-green.

Coromandel mountains, flowering in the hot season.

(14) C. MURICATA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 40.

*Syn.* Vitis muricata, *Wall. W. & A. prod.* I. *p.* 128.

*Engrav.* Rheede Mal. VII. t. 8.

SPEC. CHAR. Unisexual : glabrous, except the inflorescence which is densely pubescent : stem woody : branches with muricated bark : leaves petioled, trifoliolate : leaflets stalked, somewhat coreaceous, serrated, oblong-acuminate, lateral ones unequal-sided : umbels axillary, with bracts at the base, not so long as the petiole twice compound : petals distinct : style very short and thick : stigma large, somewhat lobed : fruit globose, size of a large cherry, white when ripe, 2–4-seeded : flowers greenish.

Peninsula. Southern Ghauts. Canara. Flowering in the hot season.

(15) C. LANCEOLARIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 412.—Dec. prod. I. p. 632.

*Engrav.* Wight's Icon. t. 28.

Spec. Char. Unisexual: glabrous except the inflorescence: stem woody: branches with muricated bark: leaves petioled, pedate: leaflets 5, stalked, oblong-lanceolate, serrated, outer ones of each of the lateral pairs, unequal-sided: umbels axillary, with bracts at the base, not so long as the petiole, twice compound: petals distinct: stigma somewhat lobed: fruit 2–4-seeded: flowers small, pale-yellow.

Peninsula. Silhet. Flowering in the hot season.

(16) C. pedata. (*Lam.*)

*Ident.* Roxb. fl. Ind. I. p. 413.—Dec. prod. I. p. 632.

*Syn.* C. heptaphylla, *Retz.*—Vitis pedata, *Wall. W. & A. prod.* I. *p.* 128.

*Engrav.* Rheede Mal. VII. t. 10.

Spec. Char. Young parts softly pubescent: stipules cordate, acute: leaves petioled, pedate: leaflets 6–11, 3–5 placed pedately on each of the lateral, secondary petioles, and one on the terminal, stalked, oblong-lanceolate, acuminated, serrated: peduncles with bract about the middle, axillary or leaf-opposed, half as long as the petioles, with two divaricating branches, each bearing a compound cyme: petals distinct: fruit flattened at the top, usually 4-lobed, and 4-seeded: flowers small, green.

Peninsula. Concans. Deccan. Monghur. Flowering in the rainy season.

(17) C. auriculata. (*Roxb.*)

*Ident.* Roxb. fl. Ind. 1. p. 411.—Dec. prod. I. p. 632.

*Syn.* Vitis auriculata, *Wall. W. & A. prod.* I. *p.* 129.

*Engrav.* Wight's Icon. t. 145.

Spec. Char. Young shoots succulent: petioles and inflorescence softly pubescent: stipules large, linear-oblong, recurved: leaves long-petioled, with 5 pedate or digitate leaflets: leaflets oblong-obovate or rhomboid, shortly acuminated, serrulated, under side softly pubescent: peduncles as long as the petioles, axillary or terminal: cyme much branched: petals distinct: fruit red, size of a cherry, 1-seeded: flowers small, green.

Vingorla. Southern Provinces. Flowering throughout the year.

(18) C. araneosa. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 41.

Spec. Char. Climbing, floccose, except the upper surface of the leaves: leaves paler below, cordate, acute, simple or trifoliate; leaflets oblong, acute, unequal-sided at the base: peduncles leaf-opposed, many-flowered, cirriferous: fruit spherical, size of a pea, 1–4-seeded.

On the highest Ghauts west of Jooneer.

(19) C. DISCOLOR. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 40.—Hook. Journ. Bot. II. p. 39.

SPEC. CHAR. Glabrous: stem and branches acutely angled, red: stipules broadly ovate: leaves petioled, ovate or oblong-lanceolate, acuminated, serrated, purple and shining beneath: umbels leaf-opposed, twice the length of the petiole: petals cohering; berries black: flowers red.

Concan jungles, flowering in August.

(20) C. PENTAGONA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 426.

SPEC. CHAR. Leaves cordate, rarely somewhat lobed, serrulated, acuminated, glabrous: branches pentagonal, with roundish angles and furrowed sides.

Chittagong forests.

(21) C. SERRULATA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 432.—Dec. prod. I. p. 632.

*Syn.* Vitis serrulata, *Wall.*—C. glabrata, *Blume.*

SPEC. CHAR. Climbing: leaflets 5, oblong, serrulate: stem glabrous.

Chittagong, flowering in April and May.

## GENUS II. VITIS.

**Pentandria Monogynia.** *Sex. Syst*

*Deriv.* From the Celtic word *Gwid*, meaning the best of trees. Wine comes from the Celtic word *Gwin.*

GEN. CHAR. Climbing shrubs with simple, lobed, toothed, rarely compound, leaves, and thyrsoid racemes of flowers: calyx usually 5-toothed: petals 5, distinct or united at the apex: style wanting or very inconspicuous: berry 2-celled, 4-seeded: flower-bearing peduncles sometimes changed partly into tendrils.

(1) V. LATIFOLIA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 130.—Roxb. fl. Ind. I. p. 661.

*Syn.* V. glabrata, *Dec. prod.* I. *p.* 634.

*Engrav.* Rheede Mal. VII. t. 11.

SPEC. CHAR. Glabrous: leaves simple, roundish-cordate, 3–7-lobed or angled, sometimes palmate, serrated, young ones tomentose, older ones glabrous: racemes pubescent: flower-bearing peduncles partly cirrhiferous: flowers bisexual: petals distinct: ovary 10-furrowed at the apex: fruit about the size of a black currant, globose: flowers small, reddish-brown.

Hills of Coromandel. Kheree jungles. Flowering in May and June.

(2) V. ERIOCLADA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 130.

*Engrav.* Rheede Mal. VII. t. 7.

SPEC. CHAR. Branches, peduncles and pedicels covered with dense wool: leaves simple, roundish-cordate, acutely angled or lobed, sometimes palmate, repand toothed: the teeth tipped with a hard gland: racemes compound: flowers bisexual: petals distinct: fruit oblong.

Peninsula. This is probably merely a variety of the former.

(3) V. TOMENTOSA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 130.—Dec. prod. I. p. 634.

*Syn.* V. triloba, *Do.*—V. trifida, *Do.*—Ampelopsis ternata, *Dec. prod.* I. *p.* 633.

*Engrav.* Wight's Ill. I. t. 57.

SPEC. CHAR. Stems, petioles and peduncles woolly: leaves roundish-cordate, 3–5-lobed: lobes toothed, occasionally obtuse, under side tomentose, upper, pubescent or floccose: racemes corymbiform: peduncles cirrhiferous: flowers bisexual: petals distinct; ovary 10-furrowed at the apex: flowers reddish.

Peninsula.

(4) V. LANATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 661.—W. & A. prod. I. p. 131.

*Syn.* V. cordifolia, *Roth. Nov. Sp. p.* 158.—V. Heyneana, *Dec. prod.* I. *p.* 634.

SPEC. CHAR. Stems, petioles and peduncles woolly: leaves cordate-ovate, serrated, under side tomentose with rusty-coloured wool: racemes elongated: flower-bearing peduncles often tendrilled: flowers bisexual: petals united at the apex: stamens much longer than the ovary: fruit globose, 1-seeded: flowers small, green.

Circars. Assam. Travancore. Flowering in April and May.

(5) V. INDICA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 131.—Dec. prod. I. p. 634.—Roxb. fl. Ind. I. p. 660.

*Engrav.* Rheede Mal. VII. t. 6.

SPEC. CHAR. Branches, petioles and peduncles villous: leaves cordate, toothed, the teeth tipped with a gland, tomentose below, floccose above: racemes cylindrical, composed of lateral umbels, nearly sessile, along the rachis: peduncles tendrilled: flowers bi-

sexual: petals distinct: fruit globose, 1–2-seeded: flowers yellowish.

Peninsula, flowering in March and April.

(6) V. NEILGHERRENSIS. *(R. W.)*

*Ident.* Wight's Neilg. Plants I. p. 32.

*Engrav.* Wight's Spicil. I. t. 36.

SPEC. CHAR. Leaves palmately trifoliolate, dentate, middle one broad oval, acuminated, lateral ones unequal-sided, with a longish acumination: cymes terminal: peduncles longer than the leaves: petals distinct: flowers greenish.

Kotagherry.

(7) V. BARBATA. *(Wall.)*

*Ident.* Roxb. fl. Ind. II. p. 478.

SPEC. CHAR. Leaves cordate, sinuately toothed, slightly 3-lobed: stem, branches and petioles covered with long bristles: clusters disposed in oval bunches, bearing a dichotomous tendril.

Silhet, flowering in August.

(8) V. PARVIFOLIA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 662.

SPEC. CHAR. Leaves angled, cordate, 3-lobed, crenato-serrate, smooth: stipules oval: thyrse few-flowered: flowers very small, green.

Eastern parts of Bengal, flowering in February.

## GENUS III. LEEA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* In honor of James Lee, a famous nursery gardener at Hammersmith.

GEN. CHAR. Herbaceous, shrubby or slightly arborescent plants: tendrils none: leaves usually pinnate: calyx 5-cleft: petals 5, combined at the base: disk bearing the corolla and stamen-tube; the tube combined with the corolla at the base, 5-lobed: lobes alternate with the petals: filaments adnate to the outside between the lobes: anthers attached by their middle, usually cohering at their edges: ovary 6-celled, with a solitary, erect ovule in each cell: style and stigma simple: berry 3–6-celled.

(1) L. ROBUSTA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 132.—Roxb. fl. Ind. I. p. 655.

SPEC. CHAR. Shrub; young shoots coarsely pubescent: leaves 2–3-pinnate; leaflets ovate-lanceolate, lateral ones broadly cordate

at the base, serrated, cuspidate, hairy underneath: stipules villous: cymes supra-decompound, villous: stamen-tube cup-shaped: anthers linear-oblong: flowers small, green.

Circars, flowering in the rainy season.

(2) L. INTEGRIFOLIA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 659.—W. & A. prod. I. p. 132.

SPEC. CHAR. Small tree: leaves super-compound; lower pair of pinnæ bipinnate: leaflets lanceolate, acuminated, entire, slightly downy beneath: corymbs supra-decompound: tube of the corolla, shorter than the calyx: stamen-tube cylindrical, with grooves running down almost to the line of union with the corolla: anthers oblong, pointed.

Circar valleys.

(3) L. STAPHYLEA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 132.—Roxb. fl. Ind. I. p. 658.

*Syn.* L. Ottilis, *Dec. prod.* I. *p.* 636.

*Engrav.* Rheede Mal. II. t. 26.—Burm. Ind. t. 24. f. 2.—Wight's Icon. t. 78. Ill. I. t. 58.

SPEC. CHAR. Shrub; leaves from compound to super-decompound; leaflets from oblong with a short point to linear-lanceolate with a long point, coarsely serrated, glabrous: cymes super-decompound, the ultimate branches sometimes roughly pubescent: stamen-tube urceolate, the grooves disappearing above the line of union with the corolla: anthers broadly oblong: flowers pale-green.

Peninsula, flowering in the rainy season. Grows also in Upper India.

(4) L. MACROPHYLLA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 653.—Dalz. Bomb. flor. p. 41.—Drury's Useful Plants, p. 285.

*Engrav.* Wight's Icon. t. 1154.

SPEC. CHAR. Stem herbaceous, erect, jointed: leaves large, simple, broad-cordate, toothed, glabrous: cymes terminal, large: berry depressed, smooth, black when ripe: flowers small, white.

Hills in the Concans, flowering in the rainy season. The tuberous root, which is astringent and mucilaginous, is reputed to be a remedy for the Guinea-worm.

(5) L. CRISPA. *(Linn.)*

*Ident.* Dec. prod. I. p. 635.—Roxb. fl. Ind. I. p. 654.

*Syn.* L. pinnata, *Andr. Bot. Rep. V. t.* 355.

SPEC. CHAR. Herbaceous: stems jointed: leaves pinnate: leaflets oblong, serrated: cymes small, slightly hairy, 5-flowered;

anthers free: berries size of a small cherry, smooth and black when ripe: flowers small, white.

Silhet and Lower Bengal, flowering in the rainy season.

(6) L. HIRTA. (*Banks.*)

*Ident.* Roxb. fl. Ind. I. p. 656.

SPEC. CHAR. Shrub: leaves pinnate or bipinnate: leaflets lanceolate, serrated, hairy: stems flexuous, jointed: cymes terminal, 3-parted: anthers connected: berry black, 6-seeded, when dry 6-lobed: flowers small, greenish.

Lower parts of Bengal, flowering in the rainy season.

## ORDER XXXVII. GERANIACEÆ.

Herbaceous plants or shrubs with opposite or alternate leaves, in the latter case opposite the peduncles: sepals 5, persistent, more or less unequal: one sometimes spurred at the base, imbricated in æstivation: petals 5, unguiculate, twisted in æstivation, equal or unequal, hypogynous or perigynous: stamens usually monadelphous at the base, hypogynous, twice or three times as many as the petals: ovary 5-celled, with 2 pendulous ovules in each cell: styles 5, cohering round the disk: fruit composed of five 1-celled, indehiscent carpels, cohering round a long, beaked disk, each terminated by the style which after maturity curls back from the base to the apex carrying the pericarp along with it: seeds solitary: albumen none: embryo curved.

### GENUS I. GERANIUM.

**Monadelphia Decandria.** *Sex: Syst*

*Deriv.* From *Geranos*, a crane, alluding to the long beak which terminates the carpels.

GEN. CHAR. Sepals 5, equal: stamens all fertile, alternate ones larger: awns of the carpels glabrous inside, at length separating elastically from the base to the apex, and becoming circinately revolute.

(1) G. AFFINE. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 133.

*Engrav.* Wight's Ill. I. t. 59.

Spec. Char. Stems herbaceous, diffuse, procumbent, angled, hairy: leaves 5-lobed, slightly hairy above, villous beneath: lobes cuneate-ovate, bluntly toothed: stipules lanceolate, acuminate, ciliated: peduncles much longer than the leaves, 2-flowered: sepals 3-nerved, with a longish mucro: petals entire, obovate, nearly twice as long as the calyx: stamens subulate, broad at the base, distinct, in a double series: pistil villous: carpels hairy: flowers yellow.

Hills of the Peninsula.

### GENUS II. MONSONIA.

**Polyadelphia Monogynia.** *Sex Syst.*

*Deriv.* In honor of Lady Anne Monson, who took many curious plants to England from India.

Gen. Char. Sepals 5, equal, with an armed mucro at the apex of each: petals equal, twice the size of the calyx: stamens 15, arranged in five bundles, containing 3 anthers each.

(1) M. Senegalensis. (*Guill. and Perr.*)

*Ident.* Guill. and Perr. tent. fl. Senegamb. I. p. 131.—Dalz. Bomb. flor. p. 41.

*Syn.* Erodium chumbulense, *Mun.*—M. Lawiana, *Stocks.*

*Engrav.* Wight's Icon. t. 1074.

Spec. Char. Annual; leaves ovate-cordate, acute or lanceolate, remotely toothed, pubescent and villous, long-petioled: stipules villous: peduncles solitary, 1-flowered, with 2 bracteas at the base: corolla and calyx about equal: fruit often longer than the whole plant: flowers pink.

Dry pastures in the Deccan. Chumbul, near Agra.

## ORDER XXXVIII. LINACEÆ.

Annual or perennial plants, with entire, alternate, exstipulate leaves, occasionally biglandular at the base: sepals 4–5, persistent, imbricated: petals hypogynous, 4–5, unguiculate, twisted in æstivation: stamens hypogynous, distinct, equal in number to the petals, and alternate with them, united at the base into an annular disk, from which arise small teeth or abortive stamens: anthers ovate, erect: ovary with as many cells as stamens: styles 3–5: stigmas capitate: capsule generally surmounted with the hard base of the styles, many-celled; each

cell dehiscing with 2 valves at the apex: seeds solitary, compressed, pendulous: albumen thin, fleshy or wanting: embryo straight.

## GENUS I. LINUM.

**Pentandria Pentagynia.** *Sex. Syst.:*

*Deriv.* From the Celtic word *Llin*, a thread, whence the Greek *Linon*, and Latin *Linum*.

Gen. Char. Sepals 5, distinct, entire or serrated: petals 5: styles distinct from the base, or combined to the middle or apex.

### (1) L. Mysorense. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 134.

*Engrav.* Wight's Ill. I. t. 60.

Spec. Char. Glabrous, erect: leaves oblong, tapering to the base: sepals ovate, somewhat acute: petals scarcely longer than the calyx: styles connate at the base: capsule acutely mucronate: flowers corymbose, terminal, yellow.

Mysore. Neilgherries. Khandalla.

### (2) L. trigynum. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 110.—W. & A. prod. I. p. 134.—Dec. prod. I. p. 425.

*Syn.* Reinwardtia trigyna, *Planch.—Dalz. Bomb. flor. p.* 16.

*Engrav.* Sims. Bot. Mag. t. 1100.

Spec. Char. Glabrous shrub: leaves elliptical, pointed, serrulated: sepals lanceolate: petals obovate, with 2 small teeth at the top of the claws: styles 3, distinct: capsule globular, obtuse: peduncles solitary, bracteated at the base: flowers large, yellow.

Mountains of the Peninsula, flowering in the cold season. It is commonly cultivated in gardens, being a very ornamental plant.

### (3) L. usitatissimum. *(Linn.)*

*Ident.* W. & A. prod. I. p. 134.—Dec. prod. I. p. 426.—Roxb. fl. Ind. II. p. 110.—Drury's Useful Plants, p. 286.

*Engrav.* Eng. Bot. XIX. t. 1357.

Spec. Char. An erect, glabrous annual: leaves lanceolate, acute: sepals ovate, with membranaceous margins, 3-nerved: panicles terminal, corymbose: petals slightly crenated, much larger than the calyx: flowers blue.

Neilgherries, flowering in the cold season. This is the common flax plant. It is much cultivated in Northern India for the seeds from which the natives extract the oil. The unripe capsules are eaten by the natives.

## ORDER XXXIX. BALSAMACEÆ.

Succulent herbaceous plants: leaves opposite or alternate: flowers axillary: sepals 5, deciduous, the two inner or upper ones usually connate, the lowest, spurred: æstivation imbricated: petals hypogynous, usually 4, and united by pairs, rarely 5, and distinct: stamens hypogynous: anthers 2-celled: ovary solitary, 5-celled: ovules numerous, rarely few: stigmas 5, sessile, distinct or united: capsule 5-celled, 5-valved, bursting elastically, or a 5-celled drupe: seeds several: albumen none: embryo straight.

### GENUS I. IMPATIENS.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* So called in allusion to the elastic force with which the capsules burst.

Gen. Char. Sepals 5, but apparently only 4, the two upper ones being united: petals 4, but apparently only 2, the lower ones being united to the lateral ones: filaments more or less united at the apex: anthers opening lengthwise or transversely: capsule often 1-celled by the disappearance of the dissepiments.

*Note.* In following the specific descriptions given in Wight and Arnott's Prodromus (See Vol. I. p. 135) the pair of combined sepals is called a posterior sepal, and each pair of combined petals, a single 2-lobed petal.

Section I. Leaves alternate: pedicels axillary, solitary or several together, 1-flowered.

#### (1) I. Balsamina. *(Linn.)*

*Ident.* W. & A. prod. I. p. 135.—Roxb. fl. Ind. I. p. 651.

*Syn.* Balsamina hortensis, *Dec. prod.* I. *p.* 685.—I. coccinea, *Sim's in Bot. Mag.*—B. cornuta, *Dec. prod.* I. *p.* 686.—B. coccinea, *Do. p.* 685.

*Engrav.* Rumph. Amb. V. t. 90.—Rheede Mal. IX. t. 52.—Bot. Mag. t. 1256.—Burm. Zeyl. t. 16. f. 1.

Spec. Char. Herbaceous, erect; young shoots hairy: leaves glabrous, acutely and often deeply serrated: petioles pubescent or hairy, with glands: pedicels 1–2, or more, aggregate, densely pubescent, much shorter than the leaves: lateral sepals minute, lanceolate, anterior one pubescent, infundibuliform, with a slender spur, longer or shorter than the flower: capsule ovate, tomentose

and hairy with rigid, yellow bristles: flowers large, scarlet, crimson, purple or white, variegated.

Coromandel. Bombay. Flowering nearly all the year. I. arcuata, (*Wall.*) is probably only a variety of the above.

(2) I. LESCHENAULTII. *(Wall.)*

*Ident.* W. & A. prod. I. p. 136.

*Syn.* Balsamina Leschenaultii, *Dec. prod.* I. p. 686.

*Engrav.* Wight's Icon. t. 970.—Spicil. t. 42.

SPEC. CHAR. Erect, branched, almost glabrous: leaves short-petioled, ovate-lanceolate, acuminated, glabrous, with bristly incurved serratures: petioles without glands: pedicels solitary, shorter than the leaves: lateral sepals minute: spur slender, curved upwards: capsule small, drooping, glabrous, ovate, pointed: flowers pale rose-colour, or nearly white.

Common on the Neilgherries.

(3) I. SCABRIUSCULA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 136.—Roxb. fl. Ind. (Ed. Wall.) II. p. 464.

SPEC. CHAR. Erect, branched, tomentose; the leaves cuspidate-serrated, upper side slightly pubescent, under, hairy: pedicels aggregate, pubescent, much shorter than the leaves: upper and lower sepals covered with rusty pubescence; lower one gibbous, without a spur.

Peninsula. South Concans.

(4) I. PENDULA. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 136.

SPEC. CHAR. Erect, branched; branches with a line of hairs decurrent from the sides of the base of the petioles: leaves roundish-oval, remotely bristle-serrated, upper side slightly hairy, under glaucous: pedicels axillary, usually solitary, longer than the petioles, hairy, deflexed in fruit: flowers small, glabrous, without spurs: capsule small, ventricose.

Peninsula.

(5) I. MYSORENSIS. (*Roth.*)

*Ident.* W. & A. prod. I. p. 137.—Roth. Nov. Sp. p. 164.

*Syn.* Balsamina Mysorensis, *Dec. prod.* I. p. 686.

SPEC. CHAR. Stems simple, erect: leaves lanceolate, acuminated, glabrous: pedicels axillary, filiform, in pairs, about half the length of the leaves: flowers small, longer than the straight spur: capsule densely pubescent, few-seeded: flowers red.

Mysore.

Section II. Leaves alternate: peduncles with several flowers.

(6) I. UMBELLATA. *(Heyne).*

*Ident.* W. & A. prod. I. p. 137.—Roxb. fl. Ind. (Ed. Wall.) II. p. 464.

*Engrav.* Wight's Icon. t. 745.

SPEC. CHAR. Erect: leaves crowded towards the summit of the stem, obovate, obtuse, remotely crenate, upper side slightly hairy, glaucous beneath: peduncles about as long as the leaves, with 4–5, shortly pedicellate flowers near the apex: flowers large, with a long curved spur.

Courtallum, in moist jungles, flowering in August and September.

(7) I. GRANDIS. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 137.—Roxb. fl. Ind. (Ed. Wall.) II. p. 464.

SPEC. CHAR. Erect: nearly glabrous: leaves on long glanduliferous petioles, broadly ovate-lanceolate, acuminated, with incurved, bristle-serratures: peduncles shorter than the leaves, 3–4-flowered: flowers large, with a very long, tapering, conical spur.

Peninsula.

(8) I. FRUTICOSA. *(Dec.)*

*Ident.* Dec. prod. I. p. 687.—W. & A. prod. I. p. 137.

*Syn.* Balsamina fruticosa, *Lesch.*

*Engrav.* Wight's Icon. t. 966.—Wight's Spicil. I. t. 37.

SPEC. CHAR. Erect, branched: stems glabrous: leaves long-petioled, upper side hairy, under, tomentose: petioles villous, with glands: peduncles glabrous, shorter than the leaves, dividing into several long, 1-flowered pedicels: lateral sepals concave, roundish-ovate, acuminated: filaments united at the apex: capsule glabrous, tapering at both ends: flowers rose-coloured, shorter than the spur.

Kotagherry and Coonoor, flowering nearly all the year.

(9) I. SCAPIFLORA. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 137.—Roxb. fl. Ind. (Ed. Wall.) II. p. 464.

*Syn.* I. bulbosa, *Moon. Cat. Ceyl. pl. p.* 18.

*Engrav.* Wight's Icon. t. 967.—Spicil. I. t. 38.

SPEC. CHAR. Glabrous: root tuberous; leaves radical, orbicular, deeply sinuate-cordate: the lobes overlapping, under side paler, with the nerves coloured: scape bearing a many-flowered raceme, bracteated: pedicels alternate, solitary from each bractea and becoming deflexed in fruit: lateral sepals ovate, small: spur some-

times tumid, sometimes much elongated: petals 2-lobed: posterior lobe small: anterior elongated, and projecting forward: flowers white.

Common on the Neilgherries, especially about Dodabet, flowering from July to October.

Section III. Leaves opposite: pedicels axillary, solitary or aggregate, 1-flowered.

(10) I. LATIFOLIA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 138.

*Syn.* Balsamina latifolia, *Dec. prod.* I. *p.* 686.

*Engrav.* Rheede Mal. IX. t. 48.

SPEC. CHAR. Erect, glabrous or slightly hairy on the younger parts: leaves oval, acuminated at both ends, crenate-serrated, upper ones opposite, lower often alternate: pedicels usually solitary, shorter than the petiole: lateral sepals much smaller than the others, posterior ones petaloid, larger than the petals: spur about the length of the flower: petals deeply 2-lobed, the anterior the largest: capsule oval, tomentose and hairy.

Peninsula.

(11) I. FASCICULATA. (*Lam.*)

*Ident.* Lam. Enc. Meth. I. p. 359.—W. & A. prod. I. p. 138.

*Syn.* I. heterophylla, *Roxb. ft. Ind.* (*Ed. Wall.*) II. *p.* 458.—Balsamina fasciculata, *Dec. prod.* I. *p.* 686.

*Engrav.* Wight's Icon. t. 748.—Rheede Mal. IX. t. 47.

SPEC. CHAR. Erect, glabrous: leaves almost sessile, from narrow linear to lanceolate, serrated, upper side somewhat hispid, under glabrous, whitish, with coloured nerves: pedicels usually in pairs, elongated: sepals all with a callous point, lateral ones linear, falcate, posterior roundish-ovate: lobes of the petals semiobovate, anterior one larger: spur as long as the pedicel: capsule oblong, a little ventricose, tapering at both ends: flowers large, showy, pink.

Malabar Coast. Neilgherries, at 8000 feet.

(12) I. RUFESCENS. (*Benth.*)

*Ident.* W. & A. prod. I. p. 138.

*Engrav.* Rheede Mal. IX. t. 50.—Wight's Icon. t. 969.—Spicil. I. t. 40.

SPEC. CHAR. Erect, branched: stems jointed: leaves shortly petioled, from elliptic to obovate, sharply serrated, upper side hispid with hairs, under whitish, glabrous, except the nerves which are hairy: pedicels solitary or in pairs, villous, about as long as the leaves: posterior sepals much smaller than the petals, anterior saccate, without a spur: anterior lobes of the petals oblong, pro-

truding, much longer than the short round posterior one: capsule oval, glabrous: flowers rose-coloured.

Frequent in swampy grounds and marshy sides of small streams on the Neilgherries, flowering chiefly in the rainy season.

(13) I. DIVERSIFOLIA. (*Wall.*)

*Ident.* W. & A. prod. I. p. 139.

*Syn.* I. Malabarica, *Klein.*

SPEC. CHAR. Diffuse, rooting at the joints: leaves from narrow linear to ovate, acutely serrated, glabrous: pedicels solitary, or several together, longer than the leaves, filiform: lateral sepals linear-lanceolate, half the length of the corolla, anterior ovate, acuminated, with a filiform spur nearly as long as the flower: posterior larger than the small posterior lobes of the petals, but much smaller than the large anterior ones: capsule oblong, glabrous.

Malabar. Peninsula.

(14) I. TOMENTOSA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 139.

*Syn.* I. ramosissima, *Dalz. in Hook. Jour. Bot.* III. *p.* 230.

*Engrav.* Wight's Icon. t. 749.

SPEC. CHAR. Stems glabrous: leaves sessile or short-petioled, oblong-lanceolate, acutely serrated, slightly hispid above, pale and glabrous beneath: pedicels axillary, solitary or twin, pubescent: anterior sepal cucullate, with a short spur inflated at the point: capsule oblong, glabrous.

In marshy places on the Neilgherries, Pulney Hills and Mysore, flowering in August and September. Also found on the Phoonda Ghaut.

(15) I. OPPOSITIFOLIA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 139.

*Syn.* I. rosmarinifolia, *Retz.*—Balsamina oppositifolia, *Dec. prod.* I. *p.* 686.

*Engrav.* Wight's Icon. t. 883.

SPEC. CHAR. Branches diffuse: leaves from narrow linear-lanceolate to broad obovate-lanceolate, acute, membranaceous, slightly serrated: serratures bristly: pedicels axillary, solitary or twin, not half the length of the leaves, very slender: lower sepal cucullate, with a very short, conical, nearly straight spur: capsule glabrous, narrow, tapering at both ends, with about 2 seeds towards the middle, and a constriction between them.

Malabar and Concans, flowering in July. Courtallum.

(16) I. INCONSPICUA. *(Benth.)*

*Ident.* W. & A. prod. I. p. 139.

*Syn.* I. pusilla, *Heyne.*

*Engrav.* Wight's Icon. t. 970.—Spicil. t. 41.

SPEC. CHAR. Branched, glabrous: leaves nearly sessile, from oval to linear-lanceolate; serrated, under side pale: pedicels solitary or several, shorter than the leaves, pubescent: sepals linear: lower one gibbous, without a spur: capsule oval, glabrous: flowers whitish, tinged with purple at the base.

Rocky exposed places on the Neilgherries, flowering in November. It is a very inconspicuous and variable plant.

(17) I. KLEINII. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 140.

*Syn.* Balsamina minor, *Dec. prod.* I. *p.* 686.

*Engrav.* Wight's Icon. I. t. 884.—Rheede Mal. IX. t. 51.

SPEC. CHAR. Erect, with spreading branches: leaves from obovate and obtuse to lanceolate and acute, with a large gland on each side near the petiole, upper side hairy on the veins, glaucous beneath: pedicels solitary or twin, reflexed in fruit: lateral sepals linear, posterior one hairy concave, lower one with a slender spur nearly twice the length of the flower: capsule narrow-oblong, tapering at both ends.

Peninsula, flowering in the rains.

(18) I. TENELLA. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 140.

SPEC. CHAR. Erect: leaves lanceolate, remotely bristle-serrated: young leaves hairy above, glaucous underneath: pedicels solitary or twin, pubescent on one side, horizontal in fruit: flowers small, longer than the straight conical spur: capsules oval, pointed.

Peninsula.

(19) I. FILIFORMIS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 140.

*Syn.* I. Mysorensis, *Wall.*

SPEC. CHAR. Slender, erect, much branched: leaves approximated towards the top of the branches, linear-lanceolate, glabrous: pedicels solitary in the upper axils, shorter than the leaves: lower sepal saccate, without a spur: capsule glabrous, ovate, pointed at both ends: seeds oval, shining black: flowers small.

Peninsula.

(20) I. ACAULIS. (*Arn.*)

*Ident.* Hook. Comp. Bot. Mag. I. p. 325.—Dals. Bomb. flor. p. 42.

*Engrav.* Hook. Bot. Mag. t. 3587.

SPEC. CHAR. Leaves smooth, orbicular or oblong, rounded or cordate at the base: bracts ovate, acute: pedicels elongated: sepals small, ovate, obtuse: spur very slender, elongated.

Western Ghauts.

(21) I. RIVALIS. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 751.

SPEC. CHAR. Herbaceous: root tuberous: leaves radical, ovate-oblong, somewhat oblique at the base, serrated, hairy above, pale and glabrous beneath: scape racemose, many-flowered: flowers large, long-pedicelled, drooping: upper sepal obtuse, gibbous, lateral ones minute, lower ovate, ending in a long, slender, curved spur, twice the length of the petals: capsule glabrous: seeds hispid.

Western Ghauts. Courtallum. Flowering in August and September.

(22) I. STOCKSII. *(Hook.)*

*Ident.* Hook. & Thoms. in Jour. Linn. Soc. IV. p. 119.—Dalz. Bomb. flor. p. 42.

SPEC. CHAR. Small and quite smooth: leaves broadly ovate, membranaceous: bracts ovate, acute: sepals broadly ovate, obtuse; lip saccate at the base, without a spur: wings 3-lobed.

Southern Ghauts.

(23) I. LAWII. (*Hook.*)

*Ident.* Hook. & Thoms. l. c. p. 122.—Dalz. Bomb. flor. p. 43.

SPEC. CHAR. Stems erect, branched, quite smooth: leaves shortly oblong, obtuse at the base, sessile, the upper ones smaller, cordate, stem-clasping, remotely serrated, roughish above: pedicels short: sepals linear, falcate: vexillum orbicular: lip small, without a spur.

South Concans.

(24) I. DALZELLII. *(Hook.)*

*Ident.* Dalz. Bomb. flor. p. 43.—Hook. & Thoms. l. c.

SPEC. CHAR. Smooth, branched: leaves ovate or oblong-lanceolate, cordate at the base, acuminate, bristly-serrulate, slightly

hairy above, pale beneath: sepals linear-lanceolate, acuminate: lip saccate, with a short spur: vexillum broadly cucullate, winged on the back: flowers middling-sized, yellow.

South Concans.

(25) I. PULCHERRIMA. *(Dalz.)*

*Ident.* Hook. Jour. Bot. II. p. 37.—Dalz. Bomb. flor. p. 44.

*Engrav.* Hook. Bot. Mag. t. 4615.

SPEC. CHAR. Erect, glabrous: leaves alternate, long-petioled, ovate-acuminate, crenate-serrated, roughish above, glaucous and smooth beneath: petioles glandular towards the apex: pedicels axillary, 2–3 together, 1-flowered, half the length of the leaf: petals cleft to near the base: fruit-bearing pedicels erect, drooping at the apex: spur filiform, 2 inches long: flowers large, rose-coloured.

Shady jungles in the Warree country, flowering in August.

(26) I. DASYSPERMA. *(R. W.)*

*Ident.* Wight in Madr. Jour. Sc.—Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 742.

SPEC. CHAR. Herbaceous, erect, not branched: leaves alternate, ovate-lanceolate, acute, hairy above, glabrous beneath, crenate-serrated: petioles glanduliferous: pedicels axillary, solitary or twin, scarcely half as long as the leaves: upper sepal obcordate, cuneate, cuspidate; lateral ones minute: lobes of the petals nearly equal: spur slender, curved, hairy: capsule glabrous, many-seeded: seeds hairy: flowers small.

Courtallum in dense jungles, flowering in August and September.

(27) I. ALBIDA. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 743.

SPEC. CHAR. Suffruticose, erect: branches marked with the scars of fallen leaves: leaves ovate-lanceolate, pointed, slightly serrated, tomentose: pedicels solitary, as long as the leaves: upper sepal broadly emarginate, villous above, lower one tomentose: lateral sepals cordate, acuminated: petals deeply 2-lobed, upper lobes larger: spur slender, curved, nearly twice the length of the flowers: ovary hairy: flowers pure white.

Courtallum at 3000 feet, in rocky places. Pulney Hills.

(28) I. CAMPANULATA. *(R. W.)*

*Ident.* Madr. Jour. Sc.—Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 744.

Spec. Char. Herbaceous, erect, sparingly branched, glabrous: leaves alternate, long-petioled, broadly ovate-lanceolate, acute, bristly-serrated, glaucous beneath, with prominent veins: peduncles axillary, erect, shorter than the leaves, 3-flowered: upper sepal keeled above, lower ventricose, with a short incurved spur, lateral ones large: upper lobes of the petals mucronate, lower ones larger than the upper sepal: capsule ovate, glabrous: seeds echinate: flowers cream-coloured, speckled with purple.

Moist woods on the Pulney Hills, at upwards of 5000 feet.

(29) I. viscida. *(R. W.)*

*Ident.* Madr. Jour. Sc.

*Engrav.* Wight's Icon. t. 746.

Spec. Char. Diffuse, rooting at the lower joints, afterwards erect: stem angled, slightly hairy: leaves alternate, long-petioled, ovate, serrated: veins hairy: peduncles axillary, erect, viscid, 2–4-flowered, usually shorter than the leaf: sepals nearly equal, lower long-spurred, nearly twice the length of the flowers: lateral ones ovate-cordate: upper petal-lobes larger than the sepals: capsule glabrous: seeds pendulous, hairy: flowers large, light-purplish or deep-pink.

Pulney Hills at upwards of 5000 feet in wet, marshy ground.

(30) I. uncinata. *(R. W.)*

*Ident.* Wight's Icon. Vol. III.

*Engrav.* Wight's Icon. t. 747.

Spec. Char. Herbaceous, erect: leaves ovate, acuminated, serrated, hairy on the veins above, glabrous beneath: petioles with glands at the apex: peduncles axillary, solitary, 4–8-flowered, lateral sepals about half the length of the upper one, lower campanulate: spur shorter than the flower, hooked at the point. lower lobes of the petals larger than the upper ones: capsule beaked above, few-seeded.

Courtallum, in dense forests, flowering in August and September.

(31) I. cuspidata. *(W. & A.)*

*Ident.* Wight's Icon. Vol. III.—Comp. Bot. Mag. I. p. 221.

*Engrav.* Wight's Icon. t. 741.

Spec. Char. Erect, glabrous, sparingly branched: leaves alternate, membranaceous, oblong-lanceolate, tapering at both ends, serrated, slightly hairy on the nerves beneath: pedicels axillary, shorter than the leaves, solitary or twin, erect in fruit: lateral sepals small, subulate, upper one deeply obcordate, furnished on the back with a horn-like appendage, lower one cuspidate at the apex, terminating in a long, straight spur, gibbous at the point;

upper lobes of the petals slightly bifid : lower vertical, cuspidate : capsule glabrous, oblong.

Neilgherries, in moist woods near Kotagherry.

(32) I. GARDNERIANA. *(R. W.)*

*Ident.* Wight's Icon. Vol. III.

*Engrav.* Wight's Icon. t. 1050.—Spicil. I. t. 42.

SPEC. CHAR. Nearly glabrous, at first procumbent, afterwards ascending, rooting at the joints : leaves verticelled in threes, ovate-lanceolate, acutely serrated : pedicels solitary, longer than the leaves : lateral sepals shorter than the petals, anterior one with a filiform spur as long as the flower, slightly gibbous at the point, posterior about the length of the posterior lobes of the petals : the upper lobes of the petals shorter than the larger anterior ones : capsule oblong, pointed, glabrous : flowers pink.

Western slopes of the Neilgherries, in moist pastures, flowering in January and February.

(33) I. GOUGHII. *(R. W.)*

*Ident.* Wight's Icon. Vol. IV.

*Engrav.* Wight's Icon. t. 1603.

SPEC. CHAR. Erect, branched, glabrous : leaves ovate, serrated, aggregated towards the ends of the branches : peduncles axillary, umbellately 4–6-flowered, longer than the leaves, viscid : lateral sepals subulate, upper one obcordate, mucronate, lower one much shorter than the petals, acute, furnished with a short, conical spur : anterior lobes of the petals the largest : flowers small, pale rose-colour.

Pycarrah, Neilgherries, in moist shady places on the right bank of the river.

(34) I. JERDONII. *(R. W.)*

*Ident.* Wight's Icon. Vol. IV.

*Engrav.* Wight's Icon. t. 1602.

SPEC. CHAR. Diffuse, somewhat procumbent : floriferous branchlets ascending, glabrous : leaves ovate, acute, bristle-serrated : peduncles axillary, erect, 2–3-flowered : pedicels longer than the peduncle and leaves : lateral sepals lanceolate, anterior or spurred one saccate, ventricose, contracted at the apex into a spur-like point : petals deeply 2-lobed, anterior lobe larger : posterior petal helmet-shaped, mucronate : flowers yellow and green, lower sepal dark-red.

On trees and moist rocks on the Sisparah Ghaut, Neilgherries.

(35) I. MODESTA. *(R. W.)*

*Ident.* Wight's Icon. Vol. III.

*Engrav.* Wight's Icon. t. 968.—Spicil. I. t. 39.

SPEC. CHAR. Leaves few, radical, broadly cordate-ovate, hairy above, glabrous and glaucous beneath: scape erect, racemose, many-flowered: pedicels longish, from the axil of a small, subulate, bract: upper sepal broadly obovate, lateral ones narrow-lanceolate, incumbent on the upper; lower shorter than the petals, with a short obtuse spur: petals declining, 3-lobed, upper one entire, lower 2-cleft, hairy near the attachment: capsule glabrous, ovate: flowers pale rose-colour.

Moist woods about Pycarrah, Neilgherries, flowering in July and August.

(36) I. MUNRONII. *(R. W.)*

*Ident.* Wight's Icon. Vol. III.

*Engrav.* Wight's Icon. t. 1049.

SPEC. CHAR. Erect: leaves crowded towards the ends of the branches, ovate, slightly serrated, acute, hairy on both sides: pedicels axillary, solitary, 1-flowered, about the length of the leaves, with a small bract at the base: lateral sepals ovate, toothed at the apex: posterior concave, helmet-shaped, surmounted by a membranous crest, lower one terminating in a conical, hooked, very hairy spur.

Sisparah jungles, Neilgherries, flowering in January and February.

(37) I. TRIPETALA. *(Roxb.)*

*Ident.* Roxb. Hort. Beng. p. 18.—Don's Mill. I. p. 750.

SPEC. CHAR. Leaves broad-lanceolate, acuminated, serrated; lower ones opposite and in threes: peduncles short, 1–4-flowered, or even more: pedicels much shorter than the petioles: corolla 3-petalled: spur hooked. flowers large, red: lower sepal tinged with yellow.

Silhet mountains, flowering from July to September.

(38) I. TRILOBATA. *(Colebr.)*

*Ident.* Don's Mill. I. p. 750.

SPEC. CHAR. Leaves oblong-lanceolate, serrated, glabrous · peduncles usually 4-flowered, spreading, about as long as the leaves. spur conical, acuminated, incurved. flowers yellow.

Silhet.

(39) I. BRACTEATA. *(Colebr.)*

*Ident.* Roxb. fl. Ind. (Ed. Wall.) II. p. 459.

*Syn.* I. insignis, *Dec. prod.* I. *p.* 688.—I. racemosa, *D. Don. prod. flor. Nep. p.* 203.—I. fimbriata, *Hook. Exot. flor.* 146.

Spec. Char. Stem jointed, purplish: leaves opposite and alternate, lanceolate, serrulated: racemes terminal, oblong, many-flowered, fringed with the long coloured hairs of the lanceolate bracts: lower petal very large flowers numerous, rose-coloured: spur long, ascending.

Silhet.

(40) I. elegans. (*Bedd.*)

*Ident.* Beddome in Madr. Journ. IV. p. 67.

Spec. Char. Herbaceous, erect, often throwing out roots from the joints, somewhat branched: leaves alternate, on very long petioles, ovate, acuminate, crenate with incurved bristles, above a few rigid hairs on the nerves, beneath pale glabrous: peduncles axillary, shorter than the petiole, 3-(rarely 4–5)-flowered at the apex: bracts ovate-lanceolate, acuminate: upper sepals broad, ovate, flat, with a green ridge at their back; lateral ones ovate, with a green ridge ending in an acumen; lower one boat-shaped without a spur; upper of compound petals very small, incurved, and vaulted over the staminal crown; lower ones large spreading: capsule glabrous; seeds hairy: flowers pale-rose with a dark eye.

Annamullay Hills. Banks of streams.

(41) I. Wightiana. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 67.

Spec. Char. Suffruticose, erect, branched: leaves alternate, narrow-lanceolate, acuminate, incurved, bristly-serrate, above a few hairs on the nerves, below glabrous: petioles very long, with long pedicelled glands at their apex: peduncles axillary, solitary, a little longer than the petioles, racemed nearly their whole length: upper sepals with a green ridge at their back; lateral ones small; lower one ventricose with a short incurved spur; upper of compound petals very small; lower ones very long and narrow: pedicels in fruit horizontal: bracts small, ovate: capsule with about 5 seeds: seeds slightly hairy: flowers white, with the upper sepals and lateral petals speckled with pink.

Banks of the Toracadoo River. Annamullay Hills.

(42) I. ligulata. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 67.

Spec. Char. Erect, herbaceous, much branched, stems glabrous: leaves opposite, linear, lanceolate, mucronate, often slightly cordate at the base, remotely bristle-toothed, above clothed with minute harsh pubescence, below glabrous and glaucous: petioles very short: peduncles 1–3, axillary, about half the length of the leaves, pubescent on one side, reflexed in fruit; upper sepals small, lateral ones linear: spur curved, gibbous, inner of compound petals

ligulate and completely hid in the spur, lower one large, spreading: capsule glabrous, gibbous at the centre, containing about 12 black shining seeds: flowers pink: stems red.

Annamullay Hills at 3000 feet.

(43) I. VISCOSA. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 68.

SPEC. CHAR. Erect, branched: leaves opposite, ovate, long-petioled, with a few harsh hairs on the nerves above, pale and glabrous beneath, incurved bristly-serrate: peduncles as long, or much longer than the leaves, viscid, bearing 6–12-flowers towards the apex: lateral sepals ovate, lower one with a curved gibbous spur: lateral of compound petals very small, lower one large with a ligulate process at the conjunction of the petals, which is hid in the lower sepal: capsule ovate: seeds numerous, matted with hair when immature, when ripe echinate: flowers small, pink.

Annamullay Hills.

(44) I. ANAMALLYENSIS. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 68.

SPEC. CHAR. Erect, with sometimes small branches from the axils of the lower leaves: leaves opposite, long-petioled, ovate, above a few hairs on the nerves, beneath pale, glabrous: leaves of the branches alternate: peduncles axillary, from nearly as long, to much longer than the leaves, bearing 6–8-flowers towards the apex, on longish pedicels, lateral of compound petals small, lower one deeply 2-lobed with a claw at the conjunction of the petals: spur very short, straight: capsule ovate, mucronate, glabrous: seeds very hairy: flowers small, pink.

Streams and moist places on the Annamullay Hills.

(45) I. VERRUCOSA. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 69.

SPEC. CHAR. Root bulbous: leaves radical, ovate to cordate, incurved bristly-serrate, above a few hairs, below glabrous: scape longer than the leaves, 5–6-flowered at the apex: pedicels long: upper sepals broad, vaulted over the staminal column, lateral ones small ovate; upper of compound petals large and spreading, lower deeply 2-lobed: petals with a batch of warts on their upper surface: spur nearly twice the length of the flowers, curved: capsule glabrous: flowers lilac.

Beds of streams, Annamullay Hills.

(46) I. CRENATA. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 69.

Spec. Char. Bulbous: leaves radical, short petioled, round cordate, very obtusely crenated, with a bristle on each crenature, and shaggy hairs on the nerves above, beneath glabrous: scape much longer than the leaves, 2–3-flowered at the apex: pedicels short: bracts ovate-oblong: lateral sepals small, ovate, upper sepal vaulted over the staminal column, margin crenated: lower sepal with a short obtuse spur, lower of compound petals deeply 2-lobed, a dense tuft of hairs on the inner surface of the petals: capsule glabrous, tapering at both ends: flowers white, with the tuft of hairs blue.

On rocks, Annamullay Hills.

(47) I. akka. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 69.

Spec. Char. Bulbous: leaves radical, orbicular-reniform, with cordate base, distinctly crenated: petioles longer than the leaves: scapes very long, 5–6-flowered at the apex: bracts boat-shaped: lateral sepals small, ovate, upper ones vaulted over the stamina: lateral of compound petals large spreading, lower deeply 2-lobed, hairy on their inner surface: lower sepal boat-shaped with a small knot-like spur: capsule oblong, shining: flowers pure white, large.

On rocks on the Annamullay Hills.

(48) I. tenuis. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 69.

Spec. Char. Bulbous: leaves radical, long-petioled, cordate-ovate, deeply lobed at the base, bluntly crenated, long weak hairs on the nerves above, pale and glabrous beneath: scapes much longer than the leaves, 5–6-flowered: bracts ovate: upper sepals vaulted over the stamina: petals hairy on their inner surface, lower one deeply 2-lobed: spur short, blunt and slightly bent back: capsule glabrous: flowers small, pink.

Annamullay Hills in rocky places.

(49) I. gracilis. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 69.

Spec. Char. Bulbous, with numerous shoots bearing minute leaves: leaves radical, oval to suborbicular with cordate base, 7-nerved, glabrous, pale beneath, with very small bristly serratures: petioles very long: scape much longer than leaves: flowers numerous, long pedicelled: bracts ovate, acuminated: upper sepals vaulted over the stamina, lateral ones small: lower of compound petals broad-cuneate, larger than the lateral one, entire: spur curved, tapering, nearly twice the length of the flower: flowers large, pale-lilac.

In streams on the Annamullay Hills.

(50) I. PARVIFOLIA. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 66.

SPEC. CHAR. Herbaceous, sub-erect, branched, glabrous: leaves alternate, minute, cuneate, deeply serrated on the upper half: peduncles axillary, solitary, 5–6 times longer than the leaves, with a small bract towards the apex, erect in flower, much reflexed in fruit: upper sepals small and slightly vaulted over the staminal crown, lateral ones small and pointing upwards, lower one boat-shaped without a spur, upper of compound petals small, lower large spreading: flowers white, upper petals tinged with pink.

Annamullay Hills at 8000 feet.

(51) I. PARASITICA. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 66.

SPEC. CHAR. Stems very succulent, often moniliform, throwing out roots: leaves crowded at the apex of the stem, glabrous, long-petioled, ovate, acute, crenate, serrate with incurved bristles: peduncles axillary, short, bearing 2 (rarely 1) very long pedicels: upper sepals with a foliaceous crest, lateral ones linear, acute, lower one saccate with a spur-like point; upper of compound petals much smaller than the lower one, both hid in the saccate sepal: capsule glabrous, ovate, gibbous: seeds numerous, small: upper sepals and petals green: saccate one, dark-red.

Annamullay Hills at 6000 feet.

(52) I. TANGACHEE. (*Bedd.*)

*Ident.* Madr. Journ. IV. p. 66.

SPEC. CHAR. Herbaceous, sub-procumbent, glabrous: leaves alternate, sub-verticelled, acuminated, deeply serrated: peduncles axillary, 2–3 times longer than the leaves, 4–8-flowered towards the apex: bracts large, boat-shaped: pedicels erect in flower, slightly reflexed in fruit: upper sepals large, lateral ones ovate, pointed: spur long, tapering, lateral of compound petals about half the size of the lower ones, with a mucro: capsule smooth, gibbous: seeds numerous, very small: flowers pink.

Annamullay Hills in beds of streams.

(53) I. SETOSA. (*H. f. & T.*)

*Ident.* Journ. Proc. Linn. Soc. vol. IV. p. 123.

SPEC. CHAR. Herbaceous, branched; branches opposite: leaves petioled, bristly-stipulate, ovate-lanceolate, acuminate, obscurely serrated, distantly long-bristled at the margin towards the base, somewhat hairy on both sides: pedicels slender; larger sepals obliquely ovate: spur elongated, filiform, very slender, incurved: flowers purple.

Mountains in Malabar.

(54) I. TENELLA. *(Heyne in Wall.)*

*Ident.* Journ. Proc. Linn. Soc. vol. IV. p. 123.

*Syn.* I. pusilla, *Heyne.*—I. tenuicula, *Steud.*

SPEC. CHAR. Very small, erect, somewhat flaccid, branched: leaves short-petioled, linear-oblong or lanceolate, serrated, pale below: sepals linear, acuminated: lip boat-shaped, attenuated into a short spur which is straight or incurved: helmet short: wings long-clawed, scarcely lobed, semi-obovate, falcate: flowers small, glabrous.

Mountains in Malabar.

(55) SALICIFOLIA. *(H. f. & T.)*

*Ident.* Journ. Proc. Linn. Soc. vol. IV. p. 124.

SPEC. CHAR. Erect, robust, pubescent or tomentose: leaves opposite and verticelled, stipulate, short-petioled, lanceolate, acuminated, bristly-serrate: pedicels short, fascicled: sepals small, lanceolate-subulate: lip long-saccate, terminated at the base with a short hooked spur: vexillum obovate, keeled and horned at the back: capsules clavate, quite glabrous: flowers pubescent or glabrous, purple.

Khasia mountains, Silhet, flowering from August to October.

(56) I. MULTIFLORA. *(Wall.)*

*Ident.* Journ. Proc. Linn. Soc. vol. IV. p. 126.

SPEC. CHAR. Tall, branched; leaves opposite, or in threes or alternate, stipulate, long-petioled, membranaceous, ovate-lanceolate, acuminated at both ends, crenate-serrated and bristly towards the base, sparingly puberulous, or quite glabrous on both sides: pedicels slender, shortish, rarely fascicled into a short peduncle: sepals small, subulate, falcate: lip saccate, terminated by a short or elongated, hooked spur: vexillum obovate, helmeted, horned at the back: wings small: flowers purple.

Khasia mountains, Silhet, flowering from August to October.

(57) I. RADICANS. *(Benth.)*

*Ident.* Journ. Proc. Linn. Soc. vol. IV. p. 126.

SPEC. CHAR. Glabrous or pubescent: stem upright, quite simple, robust, leafy: leaves short-petioled, narrow-linear or oblong-lanceolate, roundish at the base, acute, subserrate, pubescent on both sides, (rarely glabrous): peduncles 1–3-flowered: pedicels slender: sepals small: lip long-saccate, terminated at the base by a short hooked spur: vexillum helmeted, gibbous and somewhat horned at the back: wings small, flowers large, purple.

Khasia mountains, Silhet, flowering from July to September.

(58) I. TRILOBATA. *(Colebr.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 126.

*Engrav.* Hook. Exot. flor. II. t. 141.

SPEC. CHAR. Tall, branched, glabrous: leaves opposite, alternate, and somewhat verticilled, petioled, upper ones sessile, ovate or ovate-lanceolate, acuminated, crenate-serrated, very frequently ciliolate, membranaceous: peduncles solitary, slender, elongated, 2–5-flowered: pedicels slender, sepals small, somewhat setaceous: lip long-saccate, bag conical, abruptly or by degrees narrowed into a short, or elongated incurved spur: vexillum helmeted, broadly obcordate, horned at the back: wings small, 2-lobed: flowers violet.

Khasia mountains, Silhet, flowering from July to October.

(59) FLAVIDA. *(H. f. & T.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 127.

*Syn.* I. fruticosa, *Lesch.*

SPEC. CHAR. Stem slender, erect: leaves opposite and in threes, long-petioled, ovate-lanceolate, narrowed at both ends, quite glabrous, subserrate: peduncles axillary, solitary, longer than the petiole, erect, 2–4-flowered: bracts recurved: sepals small, ovate or oblong, acuminate: lip saccate, subcampanulate or ventricose, terminated by a hooked spur: vexillum gibbous at the back: flowers somewhat umbelled, yellow.

Forests east of Bengal. Silhet. Luckipore. Flowering in November.

(60) I. VERTICILLATA. *(Wight.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 129.—Madr. Journ. Sc. V. p. 15.

SPEC. CHAR. Quite glabrous: leaves opposite and verticilled, very rarely alternate, short-petioled, lanceolate, acuminate at both ends, sharply serrate, the lower serratures bristly: stipules subulate: peduncles elongated, erect, somewhat umbellately 3–5-flowered: pedicels slender: the larger sepals oblong-lanceolate: vexillum concave, shortly horned: lip boat-shaped, with a very slender, long spur.

Shevagherry. Travancore mountains, flowering from August to November.

(61) I. ARGUTA. *(H. f. & T.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 137.

SPEC. CHAR. Quite glabrous. stem slender, branched: leaves short-petioled or with a winged petiole, elliptic-lanceolate, long-acuminate at both ends, sharply serrated or toothed, bristly at the

base, upper ones often with a glanduliferous petiole: peduncle very short, 1–2-flowered: bracts bristly, elongated, twisted: pedicels elongated: sepals obliquely ovate, cuspidate-acuminate: lip long-saccate, broadly infundibuliform or campanulate, with a shortish hooked spur: vexillum subrostrate at the back: flowers large, bluish or lilac.

Khasia mountains, Silhet, flowering from June to October.

(62) I. DISCOLOR. *(Dec.)*

*Ident.* Dec. prod. I. p. 687.—Journ. Proc. Linn. Soc. IV. p. 137.

*Syn.* I. insignis, *Wall.*

SPEC. CHAR. Stem erect, somewhat branched: leaves petioled, ovate-acuminate, without glands, thickly crenate-serrated, somewhat hairy above: pedicels shortish, 2-flowered: braets small, broadly ovate, remote: sepals ovate-acuminate: lip long-saccate, ventricose, with a short, incurved, or circinate spur. vexillum horned at the back.

In moist and shady places in the Khasia mountains, Silhet, flowering from July to September.

(63) I. PORRECTA. *(Wall.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 138.

SPEC. CHAR. Low plant, quite glabrous: stem simple, suddenly rooting at the base, afterwards erect: leaves an inch long, long-petioled, ovate-elliptic, acute, serrulated, with 2 glands towards the base: peduncles small, shorter than the leaf, 2–3-flowered: bracts bristly: sepals ovate, acuminated: lip subconical, saccate: spur gradually attenuated, hooked at the apex: flowers yellow.

Khasia mountains, Silhet, flowering in August.

(64) I. BELLA. *(H. f. & T.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 138.

SPEC. CHAR. Sparingly puberulous, I rarely 2-flowered: stems quite simple, ereeping at the base, afterwards erect: leaves membranaceous, long-petioled, broadly ovate, crenulate: pedicel erect, slender, pubescent, bractcolate in the middle, 1–2-flowered: larger sepals oblong-lanceolate, acuminate: lip conically saccate, produced into a slender, twisted, puberulous spur: vexillum broadly obovate, horned at the back: wings 2-lobed: the basal lobe auriculiform, the terminal one obovate, elongated: flowers orange or golden colour, the petals and lip being marked with purple lines within.

Khasia mountains, Silhet, flowering in August.

(65) I. RACEMULOSA. *(Wall.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 138.

Spec. Char. Quite glabrous: stem thickish, simple or branched at the base: leaves petioled, ovate or lanceolate, acuminated, obtusely serrate, without glands: racemes shorter than the leaf, 6–8-flowered: peduncle flexuose: bracts oblong: pedicels slender: larger sepals obliquely ovate, acute: lip boat-shaped: spur shortish, incurved, as long as the flower: vexillum small, orbicular: posterior lobe of the wings largest, broadly semi-orbicular, obtuse: flowers deep violet.

Khasia mountains, Silhet, flowering from June to October.

(66) I. latiflora. (*H. f. & T.*)

*Ident.* Journ. Proc. Linn. Soc. IV. p. 139.

Spec. Char. Stem low, puberulous: leaves petioled, lanceolate, acuminate, crenate serrated, very often with bristly glands at the base, glaucous beneath: peduncles erect, thick, 2–3-divided or simple: bracts remote, lanceolate: sepals broad-ovate, acuminate: lip boat-shaped, abruptly contracted into a straight, or slightly curved, slender, elongated spur: vexillum winged at the back: flowers pale-rose or violet.

Khasia mountains, Silhet, flowering in October.

(67) I. pulchra. (*H. f. & T.*)

*Ident.* Journ. Proc. Linn. Soc. IV. p. 139.

Spec. Char. Low plant, quite glabrous: stem simple: leaves thickish, petioled, elliptic or narrow-lanceolate, acuminate, serrated, pale beneath: peduncles erect, 2–3-divided or simple: bracts distant, lanceolate: sepals broad-ovate, acuminated: lip broad infundibuliform: attenuated into a conical spur which is circinate at the apex: vexillum winged at the back: flowers pale-rose or straw-coloured, streaked with red.

Khasia mountains, Silhet, flowering from September to November.

(68) I. puberula. (*Dec.*)

*Ident.* Journ. Proc. Linn. Soc. IV. p. 141.—Dec. prod. I. p. 687.

*Syn.* I. mollis, *Wall.—Roxb. fl. Ind.* II. *p.* 461.—I. hispidula, *Benth.*

*Engrav.* Wall. pl. As. Rar. II. t. 193.

Spec. Char. Erect; stem elongated, simple or branched: whole plant more or less pubescent or glabrous: leaves attenuated into the petiole, elliptic or ovate-lanceolate, acuminated at both ends, crenated, without glands: pedicels bracteolated, 1–4-flowered, solitary or twin, slender, erect, axillary and somewhat terminal, pubescent: larger sepals ovate-acuminate: border of the lip boat-shaped;

spur long, slender, curved: wings patent: capsule linear: flowers violet, pubescent.

Khasia mountains, Silhet, flowering from June to December.

(69) I. AURICULATA. *(Wight.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 141.—Madr. Journ. Sc. V. p. 8.

*Engrav.* Madr. Journ. Sc. V. t. 3.

SPEC. CHAR. Epiphytal, quite glabrous; stem short, very thick, knotty, jointed: leaves petioled, ovate or elliptic, acute, subserrated: peduncles short, 2-flowered. pedicels slender: largest sepals dependent: vexillum short, concave, deeply 2-cleft: lip long-saccate, shortly spurred at the apex.

Hills near Courtallum.

(70) I. VIRIDIFLORA. *(Wight.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 142.—Madr. Journ. Sc. V. p. 9.

SPEC. CHAR. Quite glabrous; stem short, very thick: branches knotty: leaves thick-petioled, ovate-lanceolate, acute, serrated: peduncles short, 2-flowered: pedicels slender: sepals linear: vexillum deeply 2-lobed, and deeply keeled at the back: lip conically subsaccate, narrowed into an incurved spur.

Shevagherry Hills.

(71) I. BRACTEATA. *(Colebr.)*

*Ident.* Colebr. MSS.—Journ. Proc. Linn. Soc. IV. p. 142.—Roxb. fl. Ind. (Ed. Wall.) II. p. 458.

*Syn.* I. fimbriata, *Hook.*

*Engrav.* Hook. Exot. flor. II. t. 146.

SPEC. CHAR. Quite glabrous; stem erect, sparingly branched: leaves long-petioled, ovate-lanceolate, acuminated at both ends, subserrate, ciliated at the base: peduncle terminal, many-flowered at the apex: bracts large, recurved, tufted with hairs: flowers purple.

Khasia mountains, Silhet, flowering from June to August.

(72) I. ACUMINATA. *(Benth.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 145.

SPEC. CHAR. Low plant, quite glabrous; stem thick, simple: leaves approximated, long-lanceolate, narrowed into the petiole, acuminated, sinuate-crenated, subcoriaceous, glaucous beneath: peduncles axillary, thickish: bracts large, broad-ovate, obtuse: larger sepals obliquely ovate-cordate, obtuse or acuminate: border of the lip boat-shaped, acuminate: spur elongated, gradually nar-

rowed, incurved: vexillum orbiculate: wings bipartite: flowers large, pale-red.

Khasia mountains, Silhet, flowering in August and September.

(73) I. LÆVIGATA. *(Wall.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 146.

SPEC. CHAR. Stem tall, fruticose: leaves short or long-petioled, oblong or obovate-lanceolate, long-acuminated, crenate-serrated, glandular at the base or on the petiole: peduncles axillary and terminal, short, 2–3-flowered: bracts opposite and with the sepals broad-ovate, acuminated: lip conically saccate, ventricose, terminated by a shortish, hooked spur: flowers yellow, streaked with red.

Khasia mountains, Silhet, flowering from July to October.

(71) I. RACEMOSA. *(Wall.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 147.—Edgw. in Linn. Trans. XX. p. 41.

*Syn.* I. micrantha, *Don's prod. p.* 205?

SPEC. CHAR. Quite glabrous: stem slender, erect: leaves petioled, lanceolate, acuminated at both ends, narrowed at the apex, thickly crenated: peduncles elongated, straight, slender, many-flowered: pedicels verticillate, slender: bracts small, ovate-subulate: sepals small: lip long-conically saccate, attenuated into a curved spur: vexillum orbicular: terminal lobe of the wings short or elongated, ligulate or caudate: capsule linear: flowers pale-yellow, or pale dirty lilac.

Khasia mountains, flowering from July to September.

(75) I. MACULATA. *(Wight.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 149.—Madr. Jour. Sc. VII. p. 12.

SPEC. CHAR. Stem branched, deeply furrowed, hairy: leaves alternate, long-petioled, ovate-lanceolate, serrated, hairy on both sides, younger ones subtomentose: peduncles stiff, elongated, many-flowered: pedicels horizontal: sepals large, broadly ovate-oblong: vexillum small: lip conical, ending in a slender elongated spur; capsule short.

Shevagherry Hills.

(76) I. INSIGNIS. *(Dec.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 150.—Dec. prod. I. p. 688.

*Syn.* I. racemosa, *Don. prod. p.* 203.

*Engrav.* Wall. pl. As. Rar. II. t. 194.

Spec. Char. Stem erect, simple: leaves linear or oblong-lanceolate, attenuated at the base, acuminated, serrated: teeth bristly at the apex: peduncles 6–8, erect, elongated, 10–15-flowered: bracts caducous: sepals obliquely ovate, awnedly acuminate: lip conically saccate, attenuated into a slender, elongated spur: flowers rose-coloured.

Silhet mountains.

(77) I. tingens. *(Edgw.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 151.—Edgw. in Linn. Trans. XX. p. 41.

Spec. Char. Stem erect, slender, branched: leaves membranaceous, ovate or lanceolate, acuminated at both ends, narrowed at the apex, crenated: teeth bristly at the base: peduncles numerous, lateral and somewhat terminal, very slender, erect, many-flowered. pedicels capillary: sepals small, ovate, obtuse: sac of the lip conical, gradually attenuated into a straight or curved spur: vexillum orbicular, mutic at the back: terminal lobe of the wings caudate: flowers small, yellow.

Khasia mountains, Silhet, flowering in the rainy season.

(78) I. leptoceras. *(Dec.)*

*Ident.* Journ. Proc. Linn. Soc. IV. p. 152.—Dec. prod. I. p. 688.

*Syn.* I. longicornu, *Roxb. fl. Ind.* (*Ed. Wall.*) II. *p.* 462.—I. odorata, *Don. prod. p.* 213.

Spec. Char. Quite glabrous: stem erect, simple or branched, leafy: leaves ovate or lanceolate, short-petioled, bristly-serrate: peduncles axillary and somewhat terminal, erect, slender: bracts ovate-lanceolate, acuminated: sepals middling-sized, broadly ovate, subulate-acuminate: lip infundibuliform attenuated into an incurved or straight, very slender spur: capsule slender, linear-clavate: flowers orange-coloured, purple, white or purple-spotted.

Khasia mountains, Silhet, flowering in the rainy season. There are seven or eight varieties of this species, all of which have different coloured flowers.

## GENUS II. HYDROCERA.

**Pentandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Hydor*, water, and *Keras*, a horn.

Gen. Char. Herbaceous, water-plants with angular stems: sepals 5, distinct, coloured: petals 5, unequal, distinct, the upper one arched: filaments connate at the apex: anthers 2-celled, opening at the apex: stigmas 5, sessile, acute: fruit succulent, drupaceous, 5-angled, 5-furrowed, 5-celled: nut hard and bony: seed solitary.

H. TRIFLORA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 140.

*Syn.* Impatiens triflora, *Willd. Dec. prod.* I. *p.* 687.—I. natans, *Do. Roxb. fl. Ind.* (*Ed. Wall.*) II. *p.* 455.

*Engrav.* Burm. Zeyl. t. 16. f. 2.

SPEC. CHAR. Leaves alternate, from linear to broad-lanceolate, serrated, glabrous, glaucous below: peduncles short, axillary, solitary, 2–4-flowered: pedicels longer than the peduncles: lateral sepals as long as the others: anterior one concave, gibbous at the base, with a short, curved spur, swelling at the apex: anterior petals somewhat 3-lobed, with the margins involute near the base; flowers variegated, red, white and yellow.

Tanks and ditches in Tanjore, flowering from July to September.

## ORDER XL. OXALIDACEÆ.

Herbaceous plants, undershrubs or trees: leaves simple or compound, alternate, seldom opposite: sepals 5, persistent, imbricated in æstivation: petals 5, hypogynous, equal, unguiculate, twisted in æstivation: stamens usually more or less monadelphous, those opposite the petals longer than the rest: anthers erect, 2-celled: ovary 5-celled: ovules solitary or several in each cell: styles 5, filiform: stigmas capitate or somewhat 2-cleft: fruit capsular, membranous, 5-celled, 5–10-valved: seeds few: testa fleshy, bursting elastically: embryo straight, as long as the albumen.

### GENUS I. BIOPHYTUM.

**Decandria Pentagynia.** *Sex. Syst*

*Deriv.* From *Bios*, life, and *Phyton*, a plant. The leaves of the species are sensitive to the touch.

GEN. CHAR. Annual or suffruticose herbs, with a naked stem, bearing at the apex a fascicled whorl of abruptly pinnated leaves: leaflets numerous, opposite: peduncles umbellate, many-flowered: sepals 5: stamens free, in 2 series alternating with each other: stigmas 5, capitate or bifid: capsules globose, somewhat pentagonal.

(1) B. SENSITIVUM. *(Dec.)*

*Ident.* Dec. prod. I. p. 690.

*Syn.* Oxalis sensitiva, *Linn. W. & A. prod.* I. *p.* 142.—*Roxb. fl. Ind.* II. *p.* 457.

*Engrav.* Rheede Mal. IX. t. 19.—Rumph. Amb. V. t. 104. f. 2.—Wight's Icon. t. 18.

SPEC. CHAR. Stem scarcely any: leaves umbellate: leaflets 10–14 pair, obliquely obovate or oblong: peduncles from among the leaves, several together, pubescent: pedicels bracteated at the base: cells of the ovary about 4-ovuled: flowers numerous, umbellate, yellow.

Peninsula. Concans, flowering in the rainy season.

## GENUS II. OXALIS.

**Decandria Pentagynia.** *Sex Syst.*

*Deriv.* From *Oxys*, acid. The leaves have an acid taste.

GEN. CHAR. Caulescent, stipitate or stemless herbs: leaves pinnately 1–3-foliolate or palmately 3–13-foliolate, rarely bifoliolate: peduncles 1–2 or many-flowered: sepals 5, free or combined at the base: petals 5: filaments connected at the base, 5 alternate ones shorter: styles 5: capsules pentagonal.

(1) O. CORNICULATA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 142.—Dec. prod. I. p. 692.—Roxb. fl. Ind. II. p. 457.

*Syn.* O. pusilla, *Salisb.*

*Engrav.* Wight's Icon. t. 18.

SPEC. CHAR. Stems decumbent, rooting: leaves palmately 3-foliolate: leaflets obcordate, pubescent: peduncles 2–5-flowered: sepals pubescent: capsule many-seeded, densely pubescent: flowers yellow.

Common throughout the country, flowering nearly all the year.

## GENUS III. HUGONIA.

**Monadelphia Decandria.** *Sex Syst:*

*Deriv.* In honor of John Hugon, an English Botanist.

GEN. CHAR. Calyx without an involucel, persistent: sepals 5, distinct, unequal, the two exterior lanceolate, densely pubescent on the back, imbricated in æstivation: petals 5, unguiculate, hypogynous, alternate with the sepals, twisted in æstivation: stamens hypogynous: anthers erect, 2-celled: ovary 5-celled, glabrous, with 2 pendulous ovules in each cell: styles 5, distinct: stigmas

lobed: drupe fleshy, inclosing five 1-seeded carpels: albumen fleshy.

(1) H. MYSTAX. (*Linn.*)

*Ident.* W. & A. prod. I. p. 72.—Dec. prod. I. p. 522.

*Engrav.* Rheede Mal. II. t. 29.—Wight's Ill. I. t. 32.

SPEC. CHAR. Rambling shrub: leaves alternate, oval and oblong-lanceolate, the lower half bluntly serrated, crowded and opposite near the flowers, young parts covered with rusty pubescence: stipules 2, subulate: peduncles axillary, 1-flowered: spines hooked, opposite: flowers largish, yellow.

Travancore. Malabar and Coromandel. Flowering in the rainy season.

## ORDER XLI. CONNARACEÆ.

Trees or shrubs: leaves compound, alternate, exstipulate: calyx 5-partite, regular, persistent, imbricate or valvular in æstivation: petals 5, inserted into the base of the calyx: stamens hypogynous: filaments usually combined at their base into a glandular ring: ovary simple and solitary, or several and distinct: ovules twin, ascending: styles terminal: stigmas obtuse, usually dilated: capsules 1–5, dehiscing lengthwise at the ventral suture: seeds solitary, erect, sometimes with an aril: albumen none or fleshy.

### GENUS I. CONNARUS.

**Decandria Monogynia.** *Sex Syst.*

*Deriv.* From *Connaros*, the name of a tree described by Athenæus.

GEN. CHAR. Calyx 5-partite, imbricate in æstivation: stamens united at the base: ovary solitary: style 1: capsule pod-shaped, solitary: seed 1, without albumen.

(1) C. MONOCARPUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 143.—Dec. prod. II. p. 85.

*Syn.* C. Asiaticus, *Willd. Spr.* III. *p.* 692.

*Engrav.* Rheede Mal. VII. t. 26.—Burm. Zeyl. t. 89.

SPEC. CHAR. Shrub: leaves 3–5-foliolate: leaflets ovate, coriaceous, glabrous, shining above: panicles fascicled, axillary and

terminal: branches and calyx glabrous: fruit sessile: seed with a complete fleshy aril: flowers yellowish-white: very fragrant.

Travancore, flowering all the year.

(2) C. PINNATUS. (*Lam.*)

*Ident.* W. & A. prod. I. p. 143.

*Syn.* Omphalobium pinnatum, *Dec. prod.* II. *p.* 86.—O. indicum, *Dec. prod.* II. *p.* 85.

*Engrav.* Rheede Mal. VI. t. 24.—Wight's Ill. I. t. 64.

SPEC. CHAR. Shrub: leaves 3–5-foliolate: leaflets oval-oblong, acuminated, glabrous, coriaceous, shining on both sides: panicles terminal, elongated: branches and calyx pubescent: ovary hairy: seed with an imperfect aril: flowers white.

Travancore. Coromandel. Concans.

(3) C. PANICULATUS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 139.

SPEC. CHAR. Tree: leaves pinnate: leaflets 5–7, ovate, oblong, obtusely acuminate, shining: panicles terminal and axillary, clothed with rusty pubescence: flowers yellow.

Chittagong, flowering in June.

(4) C. LATIFOLIUS. (*Wall.*)

*Ident.* Walp. Annal. II. p. 300.

SPEC. CHAR. Branchlets, inflorescence and petioles downy: leaflets 3–5, sometimes 2 by abortion, large, elliptic-oblong, shortly acuminated, quite entire, glabrous: panicles terminal, many-flowered: pedicels nearly equalling the calyx: calycine segments oblong-linear, puberulous, shorter than the petals: follicles obovoid, turgid, at first downy, afterwards glabrous.

Silhet and Assam.

(5) C. PENTANDRUS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 140.

SPEC. CHAR. Tree: leaves pinnate: leaflets 3–7, oblong, obtusely acuminate, shining: panicles terminal: flowers pentandrous: capsules polished, obliquely-oblong, obtuse.

Silhet, flowering in the hot season.

## GENUS II. ROUREA.

**Decandria Pentagynia.** *Sex. Syst.*

GEN. CHAR. Calyx 5-partite, imbricate in æstivation: petals 5: stamens united at the base: ovaries 5, often several, abortive;

capsules pod-shaped, usually solitary from abortion: seed solitary, usually with an aril: albumen none.

(1) R. Sookurthoontee.

*Ident.* Voigt. Hort. Calc. p. 265.

*Syn.* Cnestis monadelpha, *Roxb. fl. Ind.* II. *p.* 454.

Spec. Char. Shrub: leaves pinnate: leaflets 5–7, short-petioled, oblong, obtusely acuminated: panicles axillary, several together, nearly as long as the leaves: capsule solitary, obliquely ovate-oblong: seed covered with a complete orange-coloured aril: flowers small, white, fragrant.

Silhet and Chittagong Hills, flowering in the rainy season.

(2) R. santaloides. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 144.—Dalz. Bomb. flor. p. 53.

*Syn.* Connarus santaloides, *Vahl. Dec. prod.* II. *p.* 85.

Spec. Char. Climbing shrub: leaflets 2–4 pair, ovate, with a narrow, blunt acumination, coriaceous: panicles axillary and terminal, few-flowered: fruit ovoid, pointed, rather fleshy, not pod-shaped.

Warree country. Ram Ghaut.

(3) R. caudata. *(Planchon.)*

*Ident.* Walp. Ann. II. p. 297.

Spec. Char. Quite glabrous, shrubby: leaflets 5–10, short-petioled, oblong-lanceolate, long and obtusely caudate, acute at the base, quite entire: racemes 1–4, axillary, much shorter than the leaf: pedicels longer than the calyx: fruit-bearing ones thickened, club-shaped: calycine segments ovate-roundish, somewhat ciliated: petals oblong, obtuse, twice as long as the calyx: stamens exserted: follicle oblong, mucronate, quite glabrous.

Assam.

## GENUS III. CNESTIS.

**Decandria Tetragynia.** *Sex Syst.*

*Deriv.* From *Knao*, to scratch, with reference to the prickly capsules.

Gen. Char. Calyx 5-partite, valvate in æstivation: petals 5: capsules 1-celled, 2-valved: ovules twin: seed solitary, without aril: albumen fleshy.

(1) C. hirsuta.

*Syn.* Robergia hirsuta, *Roxb. fl. Ind.* II. *p.* 455.

Spec. Char. Climbing shrub: hairy, leaves unequally pinnate: leaflets 4–8 pair, oblong, entire: panicles terminal and axillary.

Chittagong, flowering in March.

(2) C. monadelpha. (*Roxb.*)

*Ident.* Dec. prod. II. p. 87.—Roxb. Hort. Beng. p. 34.

Spec. Char. Leaves unequally pinnated, glabrous: leaflets ovate-lanceolate, acuminate, shining.

Silhet.

## ORDER XLII. ZYGOPHYLLACEÆ.

Herbaceous plants, shrubs or trees: leaves opposite, stipuled, seldom simple: calyx 4–5-cleft: petals unguiculate: alternate with the sepals: stamens hypogynous: filaments distinct, usually rising from the back of a scale: anthers 2-celled, opening lengthwise: ovary simple, more or less 4–5-furrowed, 4–5-celled: ovules twin or more, pendulous: style simple, often furrowed: stigma simple or lobed: capsule 4–5-angled or winged, 4–5-valved: albumen between fleshy and horny: embryo green.

### GENUS I. TRIBULUS.

**Decandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Treis*, three, and *Bolos*, a point, in allusion to the prickly pointed fruit.

Gen. Char. Herbaceous plants, trailing: leaves opposite, abruptly pinnate, bistipulate: peduncles 1-flowered, axillary: calyx deeply 5-partite; petals longer than the calyx: filaments naked, those opposite the sepals with an external gland at the base: ovary hairy, 5-celled, with 3–4 pendulous ovules in each cell: style short, or scarcely any: stigma 5-ribbed: fruit 5-coccous, cocci at length separating, externally tubercled or prickly, with 2–4 superposed 1-seeded cells: seeds without albumen.

(1) T. lanuginosus. (*Linn.*)

*Ident.* W. & A. prod. I. p. 145.—Dec. prod. I. p. 704.—Roxb. fl. Ind. II. p. 401.

*Engrav.* Burm. Zeyl. t. 106. f. 1.—Wight's Icon. I. t. 98.

Spec. Char. Leaflets 5–6 pair, with a close-pressed villous pubescence: peduncles solitary, shorter than the leaf: cocci each with two prickles: flowers large, yellow, fragrant.

Coromandel. Deccan. Monghyr. Flowering nearly all the year.

(2) T. terrestris. (*Linn.*)

*Ident.* Dec. prod. I. p. 704.—Dalz. Bomb. flor. p. 45.

Spec. Char. Procumbent, spreading on the ground: leaflets 5–6 pair: peduncles solitary, axillary: fruit angled, prickly: flowers yellow.

Deccan. Guzerat.

## GENUS II. FAGONIA.

**Decandria Monogynia.** *Sex. Syst.*

*Deriv.* In honor of M. Fagon, a patron of Botany in the times of Louis XIV.

Gen. Char. Suffrutescent plants with spreading branches: sepals 5, deciduous: petals unguiculate: ovary acutely 5-angled, 5-celled, with 2 pendulous ovules in each cell: style 5-angled, persistent: stigma 5-furrowed: capsule 5-coccous: cocci compressed, 2-valved, 1-seeded: seeds ovate, compressed: embryo straight, in fleshy albumen.

(1) F. Mysorensis. (*Roth.*)

*Ident.* W. & A. prod. I. p. 145.—Roth. Nov. Sp. p. 215.—Dec. prod. I. p. 704.

*Engrav.* Wight's Ill. I. t. 64.

Spec. Char. Leaves opposite, bistipulate: stipules thorny, subulate, very sharp, longer than the leaf: leaflets linear, cuspidate: peduncles from between the stipules of the opposite leaves, solitary, 1-flowered: capsule pubescent: flowers white.

Mysore. Southern Provinces, on high lands.

## GENUS III. PEGANUM.

**Dodecandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Peganon*, the Greek term for rue.

Gen. Char. Herbaceous plants: calyx 5-partite: stamens 15, shorter than the petals, some of them abortive: anthers linear: style simple: stigma trigonal: capsule 3-celled, 3-furrowed, 3-valved, many-seeded.

(1) P. HARMALA. *(Linn.)*

*Ident.* Linn. Spec. 6038.—Dec. prod. I. p. 712.—Dalz. Bomb. flor. p. 45.

SPEC. CHAR. Stem herbaceous: leaves multifid: lobes linear: flowers terminal, white.

Indapore. Bejapore.

## ORDER XLIII. RUTACEÆ.

Trees or shrubs, rarely herbaceous plants: leaves exstipulate, alternate, simple or deeply lobed: calyx 4–5-cleft: petals alternate with the sepals: stamens inserted round the base of the disk: anthers 2-celled, opening lengthwise: styles combined: stigma furrowed: capsule usually 4–5-lobed, the lobes dehiscing at the apex: seeds often by abortion fewer than the ovules, pendulous or adnate: albumen fleshy.

### GENUS I. CYMINOSMA.

**Octandria Monogynia.** *Sex Syst.*

*Deriv.* From *Kyminon*, cummin, and *Osme*, smell. The fruit has the smell of cummin seed.

GEN. CHAR. Trees or shrubs: leaves opposite: calyx deeply 4-lobed: petals much longer than the calyx, revolute at the apex: stamens longer than the petals: filaments flat, with woolly margins near the base: anthers ovate: ovary fleshy, tomentose, 4-celled, with 2 ovules in each cell: style short: stigma 4-furrowed: fruit drupaceous, thick, fleshy, closely attached to the nut: nut hard, 4-celled: seeds solitary in each cell.

(1) C. PEDUNCULATA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 147.—Dec. prod. I. p. 722.

*Syn.* C. Ankeenda, *Gaertn. Dec. l. c.*—Jambolifera pedunculata, *Vahl.*—Gela lanceolata, *Lour.*—Selas lanceolatum, *Spreng.*

*Engrav.* Wight's Ill. I. t. 65.—Rheede Mal. V. t. 15.

SPEC. CHAR. Tree: leaves elliptical-lanceolate, obtuse: petals linear-lanceolate, thrice as long as the calyx: corymbs trichotomous: flowers small, greenish-white.

Coromandel. South Concans. Chittagong. Flowering in March.

## ORDER XLIV. ZANTHOXYLACEÆ.

Trees or shrubs: leaves exstipulate, alternate or opposite, simple or pinnate: flowers by abortion unisexual: sepals 3–5: petals equal in number to the sepals, generally imbricated in æstivation: stamens as many, or twice the number of the petals, springing from the base of the disk: ovary of the same number of carpels as there are petals, combined or distinct: ovules 2, rarely 4 in each cell: styles more or less combined: stigma 2–5-lobed when the styles are combined, simple when distinct: fruit baccate or membranous, 2–5-celled, sometimes consisting of several drupes or 2-valved capsules: seed solitary or twin, pendulous: albumen fleshy.

### GENUS I. ZANTHOXYLON.

**Diœcia Tetrandria.** *Sex Syst:*

*Deriv.* From *Zanthos*, yellow, and *Xylon*, wood.

Gen. Char. Calyx short: petals longer than the sepals. Male: stamens as many as the petals: pistil rudimentary. Female: stamens usually wanting, sometimes very short: ovaries as many as the petals, or less: ovules 2 in each cell, collateral: styles 1 from the apex of each ovary, distinct or united at the apex, or scarcely any: capsules 1–5, sessile or stalked, 2-valved, 1–2-seeded: seeds globose when solitary, when in pairs hemispherical, shining, black.

#### (1) Z. Rhetsa. *(Dec.)*

*Ident.* W. & A. prod. I. p. 148.—Dec. prod. I. p. 728.

*Syn.* Fagara Rhetsa, *Roxb. fl. Ind.* I. *p.* 417.

*Engrav.* Rheede Mal. V. t. 34.

Spec. Char. Tree with large prickles over every part: bark corky: leaves alternate, equally pinnated: leaflets 8–16 pair, lanceolate, unequal-sided, quite entire: panicles terminal: petals and stamens 4: ovary solitary: stigma acute: capsule sessile, solitary, globose: seed single: flowers small, yellow.

Mountains of Coromandel. Khandalla. Cochin.

#### (2) Z. tetraspermum. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 148.

Spec. Char. Shrub: very prickly; young shoots pubescent: petioles glabrous, prickly: leaves alternate, pinnate: leaflets few,

oblong, obtusely acuminated, with distant serratures: racemes compound, terminal and axillary, almost without prickles, pubescent: petals stamens and capsules 4: seed 1, shining, black.

Peninsula.

(3) Z. TRIPHYLLUM. (*Juss.*)

*Ident.* Dalz. Bomb. flor. p. 45.

*Syn.* Fagara triphylla, *Linn. Roxb. fl. Ind.* I. *p.* 416.—Z. Zeylanicum, *Dec. prod.* I. *p.* 728.—Evodia triphylla, *Dec. prod.* I. *p.* 724.

*Engrav.* Rumph. Amb. II. t. 62.—Wight's Icon. t. 149.

SPEC. CHAR. Small tree without prickles: leaves opposite, trifoliolate: leaflets oblong, somewhat unequal-sided at the base, acuminated: panicles axillary, longer than the petioles: capsule obovate, smooth: flowers small, white.

Western Ghauts, flowering in April and May. According to Rumphius, the Amboyna women prepare a cosmetic from the bark, and apply it to improve their complexions.

(4) Z. OVALIFOLIUM. (*R. W.*)

*Ident.* Wight's Ill. I. p. 169.

SPEC. CHAR. Shrub, unarmed: leaves alternate, trifoliolate; leaflets oval, somewhat cuneate at the base, entire: panicles axillary, longer than the leaves: the short side branches terminating in small capitate clusters of flowers: fruit about the size of a pea, 1-seeded.

Shevagherry Hills, flowering in August.

(5) Z. SEPIARIUM. (*R. W.*)

*Ident.* Wight's Ill. I. p. 169.

SPEC. CHAR. Ramous shrub, armed with numerous straight prickles: leaves trifoliolate, short-petioled: leaflets oval, crenulate on the margin, coriaceous: panicles shorter than the leaves, few-flowered: fruit about the size of a pea, 1-seeded.

Pulicat Hills, near Madras.

(6) Z. ALATUM. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 768.

*Syn.* Z. armatum, *Dec. prod.* I. *p.* 727.—Z. acanthobodium, *Dec. l. c.*

SPEC. CHAR. Small shrub, armed with straight thorns: leaves pinnate, opposite: leaflets oblong, acuminated at both ends, entire: petioles unarmed: panicles terminal or subaxillary: flowers small, greenish.

Rochilcund and Oude, flowering in the hot season.

(7) Z. BUDRUNGA. *(Dec.)*

*Ident.* Dec. prod. I. p. 728.

*Syn.* Fagara Budrunga, *Roxb. fl. Ind.* I. *p.* 417.

SPEC. CHAR. Tree, armed with small incurved prickles: leaves pinnate: leaflets 5–6 pair, ovate-lanceolate, unequal-sided, entire, acuminate: panicles contracted: petals and stamens 4: carpel 1: flowers small, greenish.

Assam, flowering in March and April. The seeds have the fragrance of lemon peel, and being of a warm spicy nature are used medicinally by the natives.

## GENUS II. TODDALIA.

**Pentandria Monogynia.** *Sex Syst:*

*Deriv.* The Malabar name latinized.

GEN. CHAR. Flowers unisexual: calyx 4–5-toothed: petals spreading. MALE: stamens longer than the petals: pistil rudimentary, 5-angled. FEMALE: filaments sterile, very short: ovary 1, fleshy, 5-celled: ovules 2: stigma nearly sessile, 5-lobed: fruit fleshy, dotted: seed solitary in each cell: embryo curved.

(1) T. FLORIBUNDA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 149.

*Syn.* T. aculeata, *Pers. Dec. prod.* II. *p.* 83.—T. Asiatica, *Lam.*—T. nitida, *Lam.*—T. rubricaulis, *Willd.*—Scopolia aculeata, *Roxb. fl. Ind.* I. *p.* 616.—*Ed. Wall.* II. *p.* 374.—Paullinia Asiatica, *Linn.*

*Engrav.* Wight's Ill. I. t. 66.—Wall. pl. As. Rar. III. t. 3.—Burm. Zeyl. t. 24.—Rheede Mal. V. t. 21.

SPEC. CHAR. Shrub with prickly stem and branches: leaves alternate, trifoliate: leaflets sessile, oblong to broad-lanceolate, crenulate, pellucid-dotted: midrib beneath and petioles prickly or occasionally unarmed: racemes simple or compound: fruit 5-furrowed, 3–5-celled: flowers small, white.

Coromandel. South Concans. Canara. Flowering in February and March. The bark of the root is employed as a cure in intermittent fevers. The ripe berries which are as pungent as black pepper are pickled by the natives. *(Roxb.)*

## GENUS III. DIPETALUM.

**Diœcia Hexandria.** *Sex: Syst:*

*Deriv.* From *Dis*, double, and *Petalon*, a petal.

GEN. CHAR. Flowers diœcious: petals 2, much larger than the calyx, deeply concave, cup-shaped, imbricated in æstivation: stamens 6 in the male flowers: rudimentary ovary 2-cleft at the apex.

(1) D. BILOCULARE. *(Dalz.)*

*Ident.* Hook. Jour. Bot. II. p. 38.

*Syn.* Toddalia bilocularis, *W. & A. prod.* I. *p.* 149.

SPEC. CHAR. Shrub: uppper part without prickles: leaves alternate, trifoliate: leaflets equally stalked, elliptic-lanceolate, acuminated at both ends, pellucid-dotted, quite entire: lateral veins parallel: panicles axillary and terminal: fruit globose, 2-celled.

Peninsula. Canara. Flowering in April and May.

## GENUS IV. AILANTHUS.

**Polygamia Monœcia.** *Sex Syst:*

*Deriv.* From *Ailantos*, the Chinese name of one of the species.

GEN. CHAR. Calyx 5-cleft: petals 5. MALE: stamens 10: ovaries rudimentary, 5 or fewer, distinct. FEMALE: stamens partly abortive: ovaries 3-celled, distinct, compressed: styles arising from a notch on the inner angle of the ovaries, distinct at the base and bearing at the point of union at the apex, about 5 long stigmas: samaræ (wings) several, oblong, compressed, swollen and 1-celled in the middle.

(1) A. EXCELSA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 150.—Roxb. fl. Ind. II. p. 450. —Dec. prod. II. p. 89.

*Engrav.* Roxb. Cor. I. t. 23.—Wight's Ill. I. t. 67.

SPEC. CHAR. Tall tree: leaves abruptly pinnated, young ones tomentose: leaflets coarsely toothed at the base: petals almost glabrous within: flowers fascicled in large, branched, terminal panicles: wings linear-oblong: flowers small, yellow.

Coromandel. Broach and Baroda. Deccan. Flowering in the cold season.

(2) A. MALABARICA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 150.—Dec. prod. II. p. 89.—Drury's Useful Plants, p. 23.

*Engrav.* Rheede Mal. VI. t. 15.—Wight's Icon. t. 1604.

SPEC. CHAR. Tall tree: leaves abruptly pinnated, glabrous: leaflets quite entire, ovate-lanceolate, unequal-sided, abruptly acuminate: male panicles large: peduncles and calyx pubescent: petals glabrous, much longer than the calyx: filaments longer than petals: wings oval, oblong, obtuse at both ends: flowers small, white.

Canara and Travancore, flowering in February and March. The

resinous juice which exudes from the bark is an excellent remedy in dysenteric affections, owing to its balsamic properties.

### GENUS V. MELICOPE.

**Octandria Monogynia.** *Sex. Syst*

*Deriv.* From *Meli*, honey, and *Kope*, division, alluding to the 4 honey glands at the base of the ovaries.

Gen. Char. Calyx 4-cleft: petals 4, spreading: stamens shorter than the petals: filaments subulate: ovaries 4, with 4 large didymous glands at the base: styles 4, combined, and terminated by a thick tetragonal stigma: carpels 4, each 1-seeded.

(1) M. Indica. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1051.

Spec. Char. Shrub or small tree: leaves somewhat alternate' glabrous, tapering below, abruptly and shortly acuminated, simple' obovate: flowers long-peduncled, about 3 together: capsules 4' dehiscing above: flowers pale-yellow.

Woods near the Avalanche bungalow and Sisparah Ghaut, Neilgherries. Flowering in February.

## ORDER XLV. SIMARUBACEÆ.

Flowers usually bisexual: calyx 4–5-cleft: petals alternate with the sepals, hypogynous, spreading or combined into a tube: twisted in æstivation: stamens twice as many as the petals: filaments arising from the back of a scale: anthers opening lengthwise: ovaries 5: ovules solitary in each cell: styles distinct at the base, united at the apex: stigmas 4–5, distinct or combined: fruit of 4–5 indehiscent drupes: seeds pendulous: albumen none.

### GENUS I. SAMADERA.

**Octandria Monogynia.** *Sex Syst*

Gen. Char. Flowers bisexual: calyx 4–5-cleft: petals much longer than the calyx: stamens 8–10, shorter than the petals: ovaries 4–5: styles distinct at the base, uniting together into one, which is terminated by an acute stigma: fruit drupaceous, consisting of one or more carpels.

(1) S. INDICA. *(Gaertn.)*

*Ident.* W. & A. prod. I. p. 151.—Gaertn. fr. II. p. 352.

*Syn.* Niota pentapetala, *Dec. prod.* I. p. 592.—N. Lamarckiana, *Blume.*

*Engrav.* Rheede Mal. VI. t. 18.—Wight's Ill. I. t. 68.

SPEC. CHAR. Tree: leaves alternate, oblong-elliptical: flower-bearing peduncle longer than the leaves, pendulous, umbellate at the apex: sepals 4–5, each marked with an external gland: drupe with a very thick pericarp, somewhat angled: flowers white.

Cochin and Malabar, flowering in the hot season.

## ORDER XLVI. OCHNACEÆ.

Trees or shrubs with alternate, simple, stipulate leaves: sepals 5, persistent, imbricated in æstivation: petals 5, hypogynous, deciduous, spreading, imbricated in æstivation: stamens alternate with the petals, 5–10, or indefinite: anthers 2-celled, erect, opening by pores: ovaries distinct, rarely combined: ovules solitary, erect: styles combined into one, springing from the disk between the bases of the ovaries: carpels drupaceous, indehiscent: seeds solitary: albumen none; embryo straight.

### GENUS I. OCHNA.

**Polyandria Monogynia.** *Sex · Syst.*

*Deriv.* From *Ochne*, the Greek name of the wild pear, alluding to a resemblance in the foliage.

GEN. CHAR. Petals 5–10: stamens numerous: filaments persistent: anthers opening by a double cleft at the apex: ovaries distinct: leaf-buds scaly.

(1) O. SQUARROSA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 152.—Linn. Sp. p. 781.—Roxb. fl. Ind. II. p. 643.

*Syn.* O. obtusata, *Dec. prod.* I. *p.* 735.—O. lucida, *Lam. Dec. l. c.*

*Engrav.* Wight's Ill. I. t. 69.—Roxb. Cor. I. t. 89.—Lam. Ill. t. 472. f. 1.

SPEC. CHAR. Small tree: leaves from narrow-oblong to oblong-ovate, obtuse or acute, serrated: racemes springing from the apex of

a short, lateral, almost leafless shoot: pedicels elongated: sepals oval: petals and ovaries 7–12: stigma capitate: anthers linear, elongated: flowers yellow, fragrant.

Peninsula. Assam. Flowering in February and March.

(2) O. WIGHTIANA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 152.

*Syn.* O. Heyneana, *W. & A.*

*Engrav.* Wight's Icon. I. t. 223.

SPEC. CHAR. Leaves ovate, rounded at the base, slightly serrulated: pedicels solitary or twin, from the apex of a short leafless shoot: sepals oval: petals and ovaries 5: stigma capitate.

Travancore.

(3) O. NANA. (*Ham.*)

*Ident.* Dalz. Bomb. flor. p. 46.

SPEC. CHAR. Small shrub, 2 feet high: leaves narrow, oblong-lanceolate, minutely serrulated: flowers loosely pedicellate on axillary peduncles, large, bright-yellow.

South Concans.

## GENUS II. GOMPHIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Gomphos*, a club, alluding to the club-shaped fruit.

GEN. CHAR. Petals 5: filaments scarcely any: anthers long, pyramidal, opening by a double pore at the apex: ovaries distinct.

(1) G. ANGUSTIFOLIA. *(Vahl.)*

*Ident.* W. & A. prod. I. p. 152.—Dec. prod. I. p. 736.

*Syn.* G. Zeylanica, *Dec. l. c.*—G. Malabarica, *Dec. l. c.*—Ochna Zeylanica, *Lam.*

*Engrav.* Burm. Zeyl. t. 56.—Rheede Mal. V. t. 48.

SPEC. CHAR. Small tree: leaves elliptic-oblong, acuminated at both ends, slightly serrulated: racemes compound, springing from the apex of a leaf-bearing branch: sepals broadly oval, shorter than the petals: carpels obovate, kidney-shaped: flowers middle-sized, yellowish.

Travancore and Southern Provinces.

## ORDER XLVII. PITTOSPORACEÆ.

Trees or shrubs, with simple, alternate, exstipulate leaves: sepals 5, deciduous, distinct or partially cohering, imbricate in æstivation: petals 5, hypogynous, imbricate in æstivation: stamens 5, distinct, alternate with the petals: ovary solitary, 2–5-celled: style 1: stigma 2–5-lobed: fruit baccate or capsular: cells many-seeded, usually incomplete: seeds covered with a glutinous pulp or with an aril: albumen fleshy.

### GENUS I. PITTOSPORUM.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Pitte*, resin, and *Sporos*, a seed. The seeds are covered with resinous pulp.

Gen. Char. Shrubs with permanent entire leaves: sepals and petals 5: the claws of the petals forming a tube: capsule 2–3-valved, 1-celled.

(1) P. floribundum. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 154.

*Syn.* Celastrus verticellata, *Roxb. fl. Ind.* I. *p.* 624.—Senacia Nepaulensis, *Dec. prod.* I. *p* 317.—P. Zeylanicum, *R. W.*

Spec. Char. Small tree: leaves elliptic-lanceolate, glabrous: margins waved: racemes terminal, aggregated, many-flowered: sepals much shorter than the corolla, concave, ciliated at the apex: petals linear: ovary hairy: stigmas 2-lobed: ovules 4–6 in each cell: capsule 2-valved, compressed, 3–4-seeded: flowers small, whitish.

Peninsula. Columala. Flowering from January to June.

(2) P. Neilgherrense. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 154.

*Engrav.* Wight's Ill. I. t. 70.

Spec. Char. Leaves elliptic-lanceolate, glabrous: racemes terminal, 2–3 together, few-flowered: sepals much shorter than the corolla, lanceolate, flat, slightly ciliated: petals linear: ovary hairy: stigma 2-lobed: ovules 4–6 in each cell: capsule compressed, 2-valved, 4–6-seeded: valves thick: flowers yellowish-green.

Neilgherries.

(3) P. TETRASPERMUM. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 154.

*Engrav.* Wight's Spicil. I. t. 43.

SPEC. CHAR. Large shrub: leaves elliptic-oblong, acute, coriaceous, margins slightly recurved: peduncles aggregated into a terminal sessile umbel, pubescent: sepals lanceolate, much shorter than the corolla, pubescent: petals linear: ovary hairy: stigmas 4-lobed: ovules 2 in each cell: capsule nearly globose, somewhat compressed, 4-seeded: valves thick: flowers yellow.

Ootacamund, flowering in February and March.

## ORDER XLVIII. CELASTRACEÆ.

Trees or shrubs with alternate, seldom opposite leaves: sepals 4–5, united at the base, imbricated: petals as many as the sepals and alternating with them, inserted under the margin of the disk, sometimes wanting, imbricated: stamens as many as the petals, inserted into the disk, either at the margin or within it: anthers 2-celled, innate: disk large, flat, fleshy, closely surrounding the ovary, and covering the bottom of the calyx ovary 2–5-celled: cells with 2 ovules, sometimes only one or several: styles 2–5, usually combined, sometimes distinct: fruit 2–5-celled, drupaceous or capsular, 3–4-valved: seeds with or without an aril: albumen usually fleshy: embryo straight.

### GENUS I. TURPINIA.

**Polygamia Dioecia.** *Sex. Syst.*

*Deriv.* In honor of M. Turpin, a distinguished French Botanical Artist and Naturalist.

GEN. CHAR. Trees or shrubs: calyx 5-partite, persistent: petals 5: stamens 5, inserted under the margin of the disk: anthers ovate, dehiscing lengthwise: carpels 3, follicular, afterwards combined: ovules 2–8 in each carpel: styles 3: stigmas flat, wedge-shaped: berry 3-celled: seeds 1–3 in each cell, truncated at the hilum.

(1) T. NEPAULENSIS. *(Wall.)*

*Ident.* W. &. A. prod. I. p. 156.

*Engrav.* Wight's Icon. t. 972.—Spicil. t. 44.

Spec. Char. Tree: leaves opposite, unequally pinnated: leaflets 3–5, oblong-lanceolate, acuminated, serrated: panicles opposite: ovules usually 3 in each cell: berry marked on the outside with 3 small, distant points: flowers white.

Neilgherries, flowering nearly all the year.

(2) T. pomifera. *(Dec.)*

*Ident.* Dec. prod. II. p. 3.

*Syn.* Dalrymplea pomifera, *Roxb. fl. Ind.* I. *p.* 633.

*Engrav.* Roxb. Cor. III. t. 279.

Spec. Char. Small tree: leaflets 3–7: panicles opposite, broader than long: fruit orange-coloured: flowers yellowish-white.

Silhet, where it is called Junckyjam.

## GENUS II. ELŒODENDRON.

**Pentandria Monogynia.** *Sex: Syst*

*Deriv.* From *Elaia*, an olive, and *Dendron*, a tree. The fruit somewhat resembles an olive.

Gen. Char. Small trees, with opposite leaves: calyx 5-partite: petals 5, expanding: disk 5-angled, thick and fleshy: anthers 5, with a thick connectivum at the back: filaments at length recurved: ovary immersed in the disk: style short, conical: stigma obtuse: fruit drupaceous, dry or pulpy: nut 1–2-celled: seeds usually solitary, rarely in pairs, with a membranaceous or spongy covering: albumen none.

(1) E. Roxburghii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 157.

*Syn.* Nerija dichotoma, *Roxb. fl. Ind.* I. *p.* 646.—*Ed. Wall.* II. *p.* 444.—Rhamnus Nerija, *Spr.*—E. paniculatum, *W. & A.*

*Engrav.* Wight's Ill. I. t. 71.

Spec. Char. Small tree: leaves opposite, elliptical or ovate, crenate-serrated, young ones glaucous: cymes lax, dichotomous, about half the length of the leaves, usually with a solitary flower in the fork: drupe roundish, 1-celled: flowers small, yellow.

Courtallum and mountainous parts of Coromandel. Sattara.

(2) E. glaucum. *(Dalz.)*

*Ident.*. Dalz. Bomb. flor. p. 318.

Spec. Char. Middle sized tree: leaves opposite, quite smooth, serrated: petiole channelled: fruit oblong, green.

Waste places and hills inland from the Western Ghauts.

## GENUS III. PLEUROSTYLIA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Pleuron*, a rib, and *Style*, the style.

Gen. Char. Calyx 5-partite: petals 5, with a broad base: filaments flat, shorter than the petals: anthers with a broad connectivum at the back: disk crenulated: ovary half immersed in the disk, 1-celled by abortion: ovules 2: styles short and thick, with a somewhat peltate stigma: fruit 1-celled, marked on one side about the middle: endocarp with several irregular clefts at the base: seed solitary, covered by the endocarp like an aril: albumen copious and fleshy.

### (1) P. Wightii. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 157.

*Syn.* P. Heynii, *W. & A.*—Celastrus opposita, *Roxb. fl. Ind.* (*Ed. Wall.*) II. *p.* 398.

*Engrav.* Wight's Icon. t. 155.

Spec. Char. Shrub: leaves opposite, elliptic-oblong, entire, whitish: peduncles axillary and terminal, very short and few-flowered: fruit indehiscent, 1–2-celled.

Western Ghauts.

## GENUS IV. CELASTRUS.

**Pentandria Monogynia.** *Sex Syst*

*Deriv.* From *Kelas*, the latter season, a name applied to c tain trees which were late in ripening their fruits.

Gen. Char. Shrubs with alternate leaves: calyx 5-parted: petals 5, sessile: disk orbicular: ovary sessile or half immersed, 2–3-celled: ovules usually twin: styles entire, or 2–3-cleft: capsule 2–3-celled: seeds 1–2 in each cell: albumen fleshy.

### (1) C. paniculata. (*Willd.*)

*Ident.* W. & A. prod. I. p. 158.—Roxb. fl. Ind. I. p. 621.—Ed. Wall. II. p. 388.—Dec. prod. II. p. 6.

*Syn.* C. nutans, *Roxb.*—*Dec. prod. l. c.*—C. Rothiana, *Schult. Dec. prod.* II. *p.* 8.—Ceanothus paniculatus, *Heyne. Roth. Nov. Sp. p.* 154.

*Engrav.* Wight's Icon. t. 158.—Wight's Ill. I. t. 72.

Spec. Char. A climbing unarmed shrub: young shoots and flower-bearing branches pendulous: leaves broadly-oval or ovate, suddenly acuminated, slightly serrated: racemes terminal, compound, elongated, much longer than the upper leaves. sepals

rounded, ciliated: capsule globose, 3-celled, 3–6-seeded: seeds with a complete aril: flowers small, greenish.

Neilgherries. Western Ghauts. Hilly parts of the Concan. Rajmahal Hills. Flowering from March to May. An empyreumatic oil is extracted from the seeds, which has been successfully employed in Beriberi.

(2) C. HEYNEANA. (*Roth.*)

*Ident.* W. & A. prod. I. p. 159.—Dec. prod. II. p. 7.

*Syn.* C. serrulata, *Roth.*

SPEC. CHAR. An unarmed shrub: leaves elliptical, coriaceous, slightly crenate-serrated: cymes axillary, dichotomously compound, not half the length of the leaves: capsules large, turbinate, 3-celled, 3-angled: seeds about 2 in each cell.

Peninsula.

(3) C. ROTHIANA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 159.

*Syn.* C. serrulata, *Roth. Nov. Sp. p.* 156.

SPEC. CHAR. Unarmed: young branches short, with a few alternate leaves, or almost none with fascicled leaves: leaves broadly obovate, crenate-serrated, tapering suddenly into the petiole: cymes much shorter than the leaves, dichotomous, axillary or terminal on the young shoots or fascicled from the tubercles of the older branches.

Peninsula.

(4) C. WALLICHIANA. (*Spr.*)

*Ident.* W. & A. prod. I. p. 159.

*Syn.* C. rigida, *Roxb. fl. Ind.* (*Ed. Wall.*) II. *p.* 396.—C. buxifolia, *Roxb. Hort. Beng. p.* 18.

SPEC. CHAR. Branches flexuose, thorny: young shoots and thorns with a polished, spotted bark: thorns bearing both leaves and flowers: leaves coriaceous, obovate, slightly crenulate, attenuated at the base: cymes from among the leaves, dichotomous, few-flowered, much shorter than the leaves: capsules roundish, 3-angled: flowers small, yellowish-green.

Travancore, flowering in March and April.

(5) C. OVATA. (*Wall.*)

*Ident.* W. & A. prod. I. p. 159.

SPEC. CHAR. Leaves short-petioled, roundish-ovate, slightly cordate at the base, minutely crenate-toothed, very hard and thick,

brown when dried: peduncles axillary, short: capsule turbinate, 3-angled: flowers numerous, short-pedicelled.

Peninsula.

(6) C. MONTANA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 159.—Roxb. fl. Ind. I. p. 620. Ed. Wall. II. p. 387.—Dec. prod. II. p. 9.

*Syn.* C. crenata, *Roth.*

*Engrav.* Wight's Icon. t. 382.

SPEC. CHAR. Small tree, thorny: leaves elliptic or obovate, tapering into the petiole, minutely and sharply crenate-serrated, coriaceous: cymes axillary, lax, peduncled, twice as long as the petiole: style deeply divided: capsules somewhat globose, 3-angled, size of a pea: flowers small, greenish-white.

Coromandel. Hills of the Deccan. Guzerat. Flowering in March. The ovary and capsule are occasionally only 2-celled, and the young branches are sometimes pointed with a thorn. (W. & A.)

(7) C. EMARGINATA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 160.—Roxb. fl. Ind. I. p. 620.—Ed. Wall. II. p. 387.—Dec. prod. II. p. 8.—Willd. Sp. I. p. 1128.

SPEC. CHAR. Shrub: branches flexuose and thorny: leaves obovate, obtuse or emarginate, quite entire, thick, hard and coriaceous, pale and shining: peduncles axillary, very short or wanting, bearing several fascicled or 1-flowered pedicels: capsules 3-angled, black when dry: flowers whitish-yellow.

Coromandel, flowering in the cold season.

(8) C. MONOSPERMA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 625.—Ed. Wall. II. p. 391.

SPEC. CHAR. Climbing shrub: leaves oblong, serrulated: panicles linear, axillary and terminal, longer than the leaves: capsules 3-valved, 1-seeded: seed covered with an aril: flowers small, numerous, greenish-yellow.

Silhet, flowering in April and May.

(9) C. ROBUSTA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 626.—Ed. Wall. II. p. 395.

SPEC. CHAR. Tree: leaves lanceolate, entire, shining: racemes axillary, as long as the leaves: capsules 1-celled, 2-valved: flowers small, greenish-yellow.

Silhet, flowering in August.

## GENUS V. EUONYMUS.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Eu*, good, and *Onoma*, a name, meaning well-named.

Gen. Char. Trees or shrubs, sometimes climbing by means of roots from the stems: leaves opposite: peduncles axillary: calyx 4–5-parted: petals 4–5, sessile: disk orbicular: stamens 4–5, inserted between the margin of the disk and the ovary: anthers with a thick connectivum at the back: ovary immersed, with as many cells as petals: style short and thick: stigmas united, obtuse or lobed: capsules 4–5-celled, 4–5-valved: seeds 1–2 in each cell.

### (1) E. dichotomus. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 160.—Roxb. fl. Ind. (Ed. Wall.) II. p. 410.

*Syn.* E. Indicus, *Heyne. W. & A. prod. l. c.*

Spec. Char. Leaves coriaceous, from oblong-lanceolate to ovate-lanceolate, tapering at both ends, blunt at the point, quite entire: peduncles solitary or 2–3-together, few-flowered, from simple to 2–3-dichotomous, much shorter than the leaves: petals 5, orbicular: style scarcely any: stigma blunt: unripe capsule club-shaped, tapering downwards, elongated, its vertex 5-lobed.

Courtallum and Colemala.

### (2) E. crenulatus. *(Wall.)*

*Ident.* W. & A. prod. I. p. 161.

*Engrav.* Wight's Spicil. I. t. 45.

Spec. Char. Tree: leaves elliptical, obtuse, crenulate-serrated towards the apex, coriaceous: peduncles solitary, shorter than the leaves, 1–2-dichotomous, few-flowered: petals 5–6, orbicular: stamens very short: margin of the disk free: stigma blunt, somewhat imbricated: capsules 5-celled, lobed at the apex: seed solitary in each cell: aril small: flowers dull-purple.

Neilgherries.

### (3) E. Goughii. *(R. W.)*

*Ident.* Wight's Ill. I. p. 178.

*Engrav.* Wight's Icon. t. 615.

Spec. Char. Shrubby: leaves somewhat 3-nerved, quite entire, oblong-ovate, acute at both ends: peduncles axillary, short, 1–3-flowered: petals 5, orbicular, fringed: stamens inserted on the disk: ovary immersed, 5-celled.

Neilgherries. Mangellee Ghaut.

(4) E. ACUTANGULUS. *(R. W.)*

*Ident.* Wight's Ill. I. p. 178.

SPEC. CHAR. Younger branches acutely 4-angled: leaves coriaceous, quite entire, ovate, acuminated: cymes axillary, 2–3-dichotomous: capsules conical, broad, truncated above, tapering downwards, 5-celled.

Neilgherries.

(5) E. ANGULATUS. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1053.

SPEC. CHAR. Tree: branchlets 4-angled and furrowed between: leaves ovate-lanceolate, acuminate, quite entire; cymes axillary, dichotomous, lax: flowers long-pedicelled: calyx ciliated: petals orbicular: capsule 5-celled: cells 1-seeded by abortion: seed partially covered with an aril and with the remains of the aborted ovule: flowers dull-purple.

Slopes of the Neilgherries, below Sisparah, on the banks of streams, flowering in February.

(6) E. GLABER. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 628.—Ed. Wall. II. p. 403.

SPEC. CHAR. Small tree: leaves oblong, smooth: peduncles 2–3-dichotomous, with a single flower in each fork: flowers greenish-white.

Chittagong, flowering in May.

## GENUS VI. LOPHOPETALUM.

**Pentandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Lophos*, a crest, and *Petalon*, a petal.

GEN. CHAR. Trees or shrubs with opposite leaves: calyx 5-lobed: petals 5, sessile, usually furnished with a crest, and covered near the base with the lobes of the disk: disk thick and fleshy: stamens inserted on the disk: anthers versatile, ovate, 2-celled: ovary free, 3-celled: ovules in a double series, 4–12 in each cell: style short, persistent: stigma obtuse.

(1) L. WIGHTIANUM. *(Arn.)*

*Ident.* Wight's Ill. I. p. 178.—Dalz. Bomb. flor. p. 48.

*Engrav.* Wight's Icon. t. 162.

SPEC. CHAR. Tree, middle-sized: leaves elliptic-oblong, slightly acuminated, quite entire, coriaceous, slightly villous beneath: corymbs terminal: fruit sharply triangular: seeds compressed, surrounded by a long linear wing.

Malabar.

## GENUS VII. MICROTROPIS.

**Pentandria Monogynia.** *Sex Syst:*

*Deriv.* From *Micros*, small, and *Tropis*, a keel, alluding to the scaly appendage at the base of the petals.

GEN. CHAR. Shrubs or trees with entire opposite exstipulate leaves: calyx 5-partite: petals 5, inserted into the outer margin of the disk: stamens rising from the edge of the disk: anthers introrse, sometimes alternating with short epipetalous scales: ovary 2-celled: cells 2-ovuled: style short: stigma obscurely 4-lobed: capsule 1-celled, 2-valved, usually dehiscing on one side only: seeds solitary, rarely twin: albumen copious.

(1) M. MICROCARPA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 975.—Spicil. I. t. 46.

SPEC. CHAR. Erect shrub: leaves ovate, mucronate, entire, glaucous beneath: petals obovate, broad at the apex: cymes axillary, dichotomous, shorter than the leaves: capsule slightly attenuated at the base, pointed: testa of a rusty brown colour: flowers small, white.

Kotagherry, flowering in July and August.

(2) M. OVALIFOLIA. (*R. W.*)

*Ident.* Wight's Spicil. I. p. 40.

SPEC. CHAR. Large branched shrub, somewhat diffuse: leaves oval, rounded at both ends: cymes axillary, trichotomous, shorter than the leaves: petals orbicular: fruit oblong-oval: testa crimson.

Ootacamund, flowering in February and March.

(3) M. RAMIFLORA. (*R. W.*)

*Ident.* Wight's Spicil. I. p. 40.

*Engrav.* Wight's Spicil. I. t. 48.

SPEC. CHAR. Tree, middling size: leaves subsessile, slightly cordate at the base, obtuse or slightly emarginate, reflexed, very coriaceous: flowers subsessile, densely clustered on the branches: petals somewhat obovate: fruit oblong: testa reddish-orange colour: flowers white.

Ootacamund.

(4) M. DENSIFLORA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1052.

Spec. Char. Shrub or small tree: leaves broadly-oval, obtuse, somewhat attenuated at the base, coriaceous: cymes axillary, erect, many-flowered, much shorter than the leaves: capsule slender, cylindrical, pointed, 2-valved: testa crimson: flowers white.

Western slopes of the Neilgherries, below Sisparah, flowering in February.

(5) M. garcinifolia. *(Wall.)*

*Ident.* Wight's Icon. vol. III.

*Syn.* Euonymous garcinifolius, *Roxb. fl. Ind.* I. *p.* 628.—*Ed. Wall.* II. *p.* 403.—E. lacerus, *Buch. Dec. prod.* II. *p.* 5.—Cassine discolor, *Wall.*

*Engrav.* Wight's Icon. t. 761.

Spec. Char. Small tree: leaves lanceolar, acuminated, entire: corymbs axillary, small, few-flowered: capsule 2-valved, dehiscing from the base: flowers small, yellow.

Silhet, flowering nearly all the year.

## ORDER XLIX. RHAMNACEÆ.

Trees or shrubs, often with thorns: leaves alternate, with small stipules: calyx 4–5-cleft, valvate: petals distinct, inserted into the throat of the calyx, sometimes wanting: stamens definite, opposite the petals: ovary free or immersed or adherent to the tube of the calyx, 2–4-celled: ovules solitary: fruit fleshy and indehiscent or dry and separating in 3 divisions: seeds erect: albumen fleshy.

### GENUS I. ZIZYPHUS.

**Pentandria Monogynia.** *Sex. Syst*

*Deriv.* From *Zizouf*, the Arabic name for the lotus.

Gen. Char. Shrubs or trees; stipules usually 2, thorny, one straight, the other recurved or solitary and spinescent, rarely both caducous: leaves alternate, 3-nerved: cymes axillary: calyx patent, 5-cleft: petals obovate, unguiculate: stamens exserted: anthers ovate, 2-celled, opening lengthwise: disk pentagonal: ovary 2–3-celled, immersed: styles 2–3, diverging or combined: fruit fleshy, containing a 1–2-celled nut: seeds compressed, very smooth.

(1) Z. RUGOSA. *(Lam.)*

*Ident.* Dec. prod. II. p. 20.—W. & A. prod. I. p. 162.

*Syn.* Z. latifolia, *Roxb. fl. Ind.* I. *p.* 607.—*Ed. Wall.* II. *p.* 355.—*Dec. l. c.*—Z. paniculata, *Herb. Madr. Dec. l. c.*—Z. obliqua, *Heyne in Roth. Nov. Sp. p.* 160.—*Dec. l. c.*

*Engrav.* Wight's Icon. t. 339.

SPEC. CHAR. Small tree: leaves broadly oval, serrated, young ones downy beneath, old ones glabrous except on the nerves: prickles short, usually solitary, densely pubescent at the base: cymes long-peduncled, forming a terminal panicle on the leafless branches: ovary 2-celled: styles 2, united at the base: drupe obovate: nut 1-celled, 1-seeded: flowers small, greenish.

Travancore. Western Ghauts. Silhet and Assam. Flowering in March. Fruit eaten by the natives.

(2) Z. GLABRATA. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 162.

*Syn.* Z. trinervia, *Roxb. fl. Ind.* I. *p.* 606.—*Ed. Wall.* II. *p.* 354. (*not Poir.*)

*Engrav.* Wight's Icon. t. 282.

SPEC. CHAR. Small tree, unarmed: leaves ovate-oblong, obtuse, crenate-serrated, glabrous, coriaceous: cymes scarcely longer than the petioles: stipules caducous: ovary 2-celled: styles 2: drupe turbinate: nut hard and thick, wrinkled, compressed, 1-2-celled: flowers small, greenish-yellow.

Mysore, flowering in the hot season.

(3) Z. XYLOPYRA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 162.—Willd. Sp. I. p. 1104.—Roxb. fl. Ind. I. p. 611.—Ed. Wall. II. p. 360.—Dec. prod. II. p. 21.

*Syn.* Z. elliptica, *Roxb.*—Z. Caracutta, *Roxb.*—Z. rotundifolia, *Roth. Nov. Sp. p.* 160.—Z. orbicularis, *Schult. Dec. prod.* II. *p.* 21.—Rhamnus xylopyrus, *Retz Obs.* II. *p.* 11.

SPEC. CHAR. Tree: prickles solitary or twin or wanting: leaves broadly elliptical or orbicular, obtuse, serrulated, under side pale and softly pubescent, upper pubescent when young: cymes short: ovary 3-celled: styles 3, united below: drupe turbinate: nut hard, slightly wrinkled, 3-celled: flowers small, greenish-yellow.

Courtallum. Western Ghauts. Upper Provinces. Flowering in the rainy season. The fruit is used by shoe-makers to blacken leather.

(4) Z. JUJUBA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 162.—Lam. Enc. III. p. 318.—Dec. prod. II. p. 21.—Roxb. fl. Ind. I. p. 608.

*Syn.* Z. trinervia, *Roth. Nov. Sp. p.* 158.—Z. Sororia, *Schult. Dec. prod.* II. *p.* 21.—Rhamnus Jujuba, *Linn.*

*Engrav.* Wight's Icon. t. 99.—Rheede Mal. IV. t.41.—Rumph. Amb. II. t. 36.

SPEC. CHAR. Small tree: prickles solitary or twin, often wanting: leaves elliptical or oblong, obtuse, sometimes coarsely toothed at the apex, serrulated, upper side glabrous, under as well as the petioles and branches densely tomentose: cymes sessile or nearly so: ovary 2-celled: styles 2, united to the middle: drupe spherical: nut wrinkled, 2-celled: flowers small, greenish-yellow.

Peninsula. Assam. The valleys of Gurhwal and Sirmore. Flowering in the rainy season. The fruit is eatable, and is much improved by cultivation.

(5) Z. NUMMULARIA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 162.

*Syn.* Z. microphylla, *Roxb. fl. Ind.* I. *p.* 613.—Z. rotundifolia, *Lam. Dec. prod.* II. *p.* 21.—Rhamnus nummularia, *Burm. Ind. p.* 61.

*Engrav.* Pluk. t. 197. f. 2.

SPEC. CHAR. Shrub: branches slender, flexuose, whitish: stipulary thorns in pairs, upper one straight, very sharp, about as long as the leaves: leaves ovate, elliptical or orbicular, serrulated, with dense grey tomentum below: cymes sessile, very short: ovary 2-celled: styles 2, united to above the middle: flowers small, greenish-yellow.

Palamcottah and Courtallum, flowering in May and June.

(6) Z. ŒNOPLIA. *(Mill.)*

*Ident.* W. & A. prod. I. p. 163.—Dec. prod. II. p. 21.—Roxb. fl. Ind. I. p. 611.

*Syn.* Z. scandens, *Roxb. Hort. Beng. p.* 17.—Z. Napeca, *Roth, Roxb. fl. Ind.* I. *p.* 613.

*Engrav.* Burm. Zeyl. t. 61.

SPEC. CHAR. Climbing, thorny shrub: young shoots pubescent: leaves very obliquely ovate, acuminated, slightly serrulate, under side tomentose, of the young ones rusty-coloured, villous and silky: cymes short: ovary 2-celled: styles combined to above the middle: drupe globose: nut wrinkled, 1-celled by abortion: flowers small, greenish-yellow.

Peninsula. Rajmahal Hills. Assam. Banks of the Jumna, near Delhi. Flowering in the hot season.

(7) Z. ROXBURGHIANA.

*Ident.* Voigt. Hort. Calc. p. 146.

*Syn.* Z. tomentosa, *Roxb. fl. Ind.* I. *p.* 611. (*not Poir.*)

SPEC. CHAR. Shrub: leaves unequally ovate-cordate, 3-nerved, obtuse, minutely serrulate, hairy above and downy beneath: panicles lateral: prickles solitary, scarcely curved.

Chittagong.

(8) Z. GLABRA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 614.

SPEC. CHAR. Climbing shrub, smooth: leaves ovate, cordate, obtuse, serrulated, smooth, prominently 3-nerved: prickles solitary, recurved: drupes oval, about the size of a gooseberry.

Chittagong.

GENUS II. BERCHEMIA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* Called after M. Berchem, a French Botanist.

GEN. CHAR. Erect or climbing shrubs with alternate leaves: calyx 5-cleft: segments erect, convolute: stamens inclosed within the petals: anthers ovate, 2-celled: ovary half immersed, but free from the disk, 2-celled: style short, 2-furrowed, 2-cleft at the apex: stigmas convex: fruit a drupe: nut 2-celled: seed-coat fibrous: flowers in short corymbs from the upper axils, or fascicled on leafless branches, forming a terminal panicle.

(1) B. PARVIFLORA. (*Wall.*)

*Ident.* W. & A. prod. I. p. 163.

*Syn.* Sageretia parviflora, *Don's Mill.* II. *p.* 29.—S. filiformis, *Don's Mill. l. c.*—Rhamnus parviflorus, *Klein. Dec. prod.* II. *p.* 28.—R. filiformis, *Roth. Dec. l. c.*

*Engrav.* Wight's Icon. t. 19.

SPEC. CHAR. Unarmed shrub: leaves alternate and somewhat opposite, ovate-lanceolate, acuminated, sharply serrulated, upper side shining, nerves beneath and petioles pubescent: flowers sessile, fascicled, on long filiform panicled branches.

Peninsula.

(2) B. FLORIBUNDA. *(Wall.)*

*Ident.* Wall. Cat. in Voigt. Hort. Calc. p. 146.

*Syn.* Zizyphus floribundus, *Wall. Roxb. fl. Ind. (Ed. Wall.)* II. *p.* 368.

SPEC. CHAR. Shrub, unarmed, smooth: leaves ovate-acute, quite entire, glaucous beneath: panicles large, terminal: drupe somewhat cylindrical: flowers small, white.

Silhet, flowering in May.

## GENUS III. VENTILAGO.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Ventus*, the wind, and *Ago*, to drive away. The seeds are winged and easily scattered by the wind.

GEN. CHAR. Large climbing shrubs: leaves alternate, oblique at the base: calyx spreading, 5-cleft: petals 5, obovate, convolute: stamens exserted: anthers ovate, 2-celled: the connectivum produced into a gland-like point: ovary immersed, 2-celled: style hairy, short, 2-toothed at the apex: fruit 1-celled, 1-seeded, produced upwards into an oblong membranaceous wing.

(1) V. MADERASPATANA. *(Gaertn.)*

*Ident.* W. & A. prod. I. p. 164.—Gaertn. fr. I. p. 223.—Roxb. fl. Ind. I. p. 629.—Dec. prod. II. p. 38.

*Syn.* V. dentieulata, *Willd. Dec. prod.* II. *p.* 38.

*Engrav.* Wight's Icon. t. 163.—Rumph. Amb. V. t. 2.—Roxb. Cor. I. t. 76.

SPEC. CHAR. Climbing shrub: leaves from orbicular to ovate-acuminated, acute or obtuse or cordate at the base, crenate-serrated, or quite entire, glabrous or pubescent: flowers fascicled on leafless branches, small, greenish, smelling offensively: fruit greenish, size of a pea, with a long linear wing.

Peninsula. Khandalla. Hills in Bengal and Assam. Flowering in the cold season. The bark is used for cordage, and the fishermen in Amboyna use the long climbing stems instead of ropes.

(2) V. BOMBAYENSIS. *(Dalz.)*

*Ident.* Hook. Jour. Bot. III. p. 36.

SPEC. CHAR. Branchlets petioles and flowers covered with fulvous tomentum: leaves lanceolate, acute at the base, unequal, acuminated, crenated: the crenatures with callous points, glabrous: flowers fascicled in the axils of the leaves, short-pedicelled.

Shorla Ghaut, flowering in February.

## GENUS IV. RHAMNUS.

**Pentandria Monogynia.** *Sex Syst.*

*Deriv.* From the Celtic word, *Ram*, signifying a tuft of branches.

Gen. Char. Shrubs or small trees: calyx 4-cleft: petals 5, or wanting: anthers ovate, 2-celled: ovary free from the calyx and not immersed, 2–4-celled: styles 2–4, connected or distinct: fruit fleshy, containing 2–4 nuts.

### (1) R. Wightii. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 164.

*Engrav.* Wight's Icon. t. 159.

Spec. Char. Unarmed shrub: leaves opposite or nearly so, elliptical, suddenly acuminated, sharply serrated: pedicels axillary, fascicled, much shorter than the petiole: calyx 5-cleft: petals cuneate-obovate, obtuse, with a short point: ovary 3–4-celled: styles 3–4, connected to the middle and then diverging: seeds with a deep furrow at the base.

Courtallum. Hills in the Northern Ghauts. The bark is esteemed very medicinal as a tonic and deobstruent.

### (2) R. hirsuta. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 165.

*Engrav.* Wight's Icon. t. 978.—Spicil. t. 49.

Spec. Char. Young branches spinescent, pubescent: leaves alternate, ovate, or oblong-lanceolate, suddenly acuminated, serrulated, hairy beneath: pedicels 3–6 together, pubescent as long as the petiole: calyx 4-cleft: petals obovate, obtuse, entire, flat: ovary 2–3-celled: styles 2–3, connected to the middle and then diverging: fruit 2-celled: seeds plano convex, with a deep furrow at the base on the convex side.

Courtallum. Hills of the Peninsula. Flowering nearly all the year.

### (3) R. virgata. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 604.—Dec. prod. II. p. 24.

Spec. Char. Erect: branches twiggy: leaves somewhat opposite, oval, acuminated at both ends, serrulate: flowers few, very small, greenish-yellow.

Neilgherries. Mussooree. Flowering in the hot season.

## GENUS V. SCUTIA.

**Pentandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Scutum*, a shield, in allusion to the form of the disk.

Gen. Char. Shrubs: leaves alternate, approximated by pairs: stipules 2, deciduous: calyx 5-cleft, with erect segments: petals nearly flat, deeply emarginate, or 2-lobed: anthers ovate, 2-celled: disk lining the tube of the calyx, not cohering with the ovary: ovary 2–4-celled: stigmas 2–4: fruit 2–4-coccous, surrounded at the base by the persistent tube of the calyx.

### (1) S. Indica. *(Brongn.)*

*Ident.* W. & A. prod. I. p. 165.

*Syn.* Rhamnus circumscissus, *Linn.*—R. myrtinus, *Burm. Ind. p.* 60.—*Dec. prod.* II. *p.* 27.—Ceanothus circumscissa, *Gaertn. Dec. prod.* II. *p.* 30.—C. Zeylanica, *Heyne. Dec. prod.* II. *p.* 30.—Celastrus Zeylanica, *Roth. in Schult. Dec. prod.* II *p.* 9.

*Engrav.* Rheede Mal. V. t. 30, 31.—Wight's Ill. I. t. 73.

Spec. Char. A straggling thorny shrub: prickles somewhat opposite, recurved: leaves opposite, distant, not distichous, obovate, sometimes acute, usually quite entire: flowers axillary, shortly umbellate: flowers small, greenish-yellow.

Peninsula. Common along the higher Ghauts, flowering in the hot season.

### (2) S. Rheediana. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1071.

Spec. Char. Shrub, armed with a few scattered, recurved prickles: leaves somewhat opposite, approximated, from broad ovate to orbicular, tipped with a minute point, conspicuously parallel-veined, bright-green above, somewhat glaucous beneath: ovary 2-celled: fruit 2-celled; seeds compressed.

Neilgherries, near the Kaity falls, flowering nearly all the year.

## GENUS VI. COLUBRINA.

**Pentandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Coluber*, a snake, alluding to the appearance of the twisted stamens.

Gen. Char. Calyx 5-cleft, spreading: petals 5: anthers ovate, 2-celled: disk flattish, slightly 5-angled: ovary 3-celled: style

trifid: stigmas 3: capsule dehiscing, tricoccous, surrounded at the base by the permanent tube of the calyx: seeds furnished with a short stalk: testa coriaceous, very smooth.

(1) C. Asiatica. (*Brongn.*)

*Ident.* W. &-A. prod. I. p. 166.

*Syn.* Ceanothus Asiaticus, *Linn. Dec. prod.* II. *p.* 30.—C. capsularis, *Forst. Dec. prod.* II. *p.* 32.

*Engrav.* Wight's Ill. I. t. 74.—Burm. Zeyl. t. 48.

Spec. Char. Erect shrub: leaves alternate, ovate, acuminated, 3-nerved at the base, crenate-serrated, shining: cymes axillary, about the length of the petioles: petals convolute, emarginate, rather longer than the stamens: flowers few, pale-greenish.

Peninsula. Western Ghauts, flowering in April and May.

## GENUS VII. VITMANNIA.

**Pentandria Monogynia.** *Sex: Syst:*

Gen. Char. Calyx 5-cleft: petals 5: stamens at first inclosed within the petals: anthers ovate, 2-celled: ovary half inferior, 3-celled: style simple, 3-angled, 3-furrowed: stigma 3-lobed.

(1) V. Africana. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 166.

*Syn.* Willemetia Africana, *Brongn.*—Ceanothus Africana, *Linn. Dec. prod.* II. *p.* 32.

*Engrav.* Wight's Icon. t. 490.—Pluk. t. 126. f. 1.

Spec. Char. Glabrous shrub: branches erect: petals hooded: leaves alternate, oblong-lanceolate, obtuse, serrated: stipules broad and short, recurved: cymes few-flowered, axillary or terminal; flowers small, white.

Peninsula.

## GENUS VIII. GOUANIA.

**Pentandria Monogynia.** *Sex: Syst.*

*Deriv.* In honor of Anthony Gouan, Professor of Botany at Montpelier.

Gen. Char. Usually climbing shrubs, occasionally tendrilled by abortion of the branches: calyx 5-cleft: segments spreading: petals 5, convolute or hooded: stamens enclosed within the petals: anthers ovate, 2-celled: ovary covered by the disk, 3-celled: style 3-cleft: fruit inferior, with 3 angles or wings, consisting of 3 compressed indehiscent carpels.

(1) G. LEPTOSTACHYA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 166.—Dec. prod. II. p. 40.

*Syn.* G. tiliæfolia, *Roxb.*

*Engrav.* Wight's Spicil. t. 50.—Icon. t. 974.—Roxb. Cor. I. t. 98.

SPEC. CHAR. Climbing shrub: leaves alternate, ovate, acuminated, slightly cordate at the base, crenate-serrated: racemes interrupted, axillary or in terminal panicles: flowers on short pedicels: disk stellate: fruit glabrous, triangular, shortly winged: flowers greenish-yellow.

Circars. Banda and the Warree country. Coonoor. Flowering towards the end of the year.

(2) G. MICROCARPA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 167.—Dec. prod. II. p. 40.

*Syn.* G. tiliæfolia, *Heyne.*

SPEC. CHAR. Climbing shrub: young branches and racemes pubescent: leaves alternate, ovate or elliptical, slightly cordate at the base, acuminated: racemes interrupted, axillary and terminal, elongated: flowers polygamous, on very short pedicels: disk densely pubescent: fruit shortly winged, at first pubescent, afterwards glabrous.

Courtallum. Middle and Southern Provinces of the Peninsula.

## ORDER L. TEREBINTHACEÆ.

Trees or shrubs with resinous, gummy, caustic or milky juice: leaves alternate, simple, ternate or unequally pinnate, without stipules: calyx 5, sometimes 3–7-cleft: petals equal in number to the divisions of the calyx, perigynous, sometimes wanting, imbricated: stamens equal in number to the petals or twice as many, or more: filaments distinct or coherent at the base: disk fleshy, annular or cup-shaped, occasionally wanting: ovary solitary, of 1–5 carpels, all of which are abortive except one, superior, 1-celled: ovule attached by a cord to the bottom of the cell, solitary: styles 1–3, occasionally 4: stigmas as many: fruit 1-celled, indehiscent, usually drupaceous: seeds usually pendulous: albumen none.

## GENUS I. SEMECARPUS.

**Polygamia Dioecia.** *Sex Syst*

*Deriv.* From *Semeion*, a mark, and *Carpos*, fruit. The juice of the fruit is used as marking ink.

Gen. Char. Trees with simple entire leaves, and terminal panicles: calyx 5-cleft: petals 5, sessile, very spreading: stamens 5, inserted with the petals under the margin of the disk, distinct: ovary sessile, 1-celled: styles 3, from the apex of the ovary: fruit somewhat cordate, with a hard and thick pericarp, containing cells full of corrosive resinous juice: seed suspended.

### (1) S. anacardium. *(Linn.)*

*Ident.* W. & A. prod. I. p. 168.—Dec. prod. II. p. 62.—Roxb. fl. Ind. II. p. 83.

*Syn.* Anacardium latifolium, *Lam.*—A. officinarum, *Gaertn.*

*Engrav.* Roxb. Cor. I. t. 12.—Wight's Icon. t. 558.

Spec. Char. Leaves cuneate-obovate, rounded at the apex, whitish beneath: panicles bracteolated: fruit sessile, cordate-ovate, notched on one side under the apex: flowers small, green.

Coromandel and most parts of India, flowering from May to July. This is known as the marking-nut tree. The black juice of the nuts is used to mark all sorts of cotton cloth. By the mixture of quicklime and water the colour is improved, prevented from running and fixed. *(Roxb.)*

### (2) S. Grahamii. *(R. W.)*

*Ident.* Dalz. Bomb. flor. p. 52.—Wight's Icon. vol. I.

*Engrav.* Wight's Icon. t. 235.

Spec. Char. Leaves cuneate-lanceolate, acute, glabrous above, pubescent beneath: petioles short, furnished with 4 subulate appendages: panicles racemose, congested towards the summit of the branches: calyx cup-shaped, truncated: ovary and young fruit covered with rusty hairs.

Hilly parts of the Concans. Meera Hills.

### (3) S. cuneifolius. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 86.—J. Grah. Cat. p. 41.

Spec. Char. Large tree: leaves cuneate-oblong, short-petioled, villous underneath: nut curved on one side.

Khandalla. Hindostan Mountains, flowering in December.

## GENUS II. HOLIGARNA.

**Polygamia Dicœcia.** *Sex: Syst:*

*Deriv.* The native name latinized.

GEN. CHAR. Trees with alternate entire leaves: calyx 5-toothed: petals 5, oblong, spreading: stamens 5, shorter than the corolla: ovary 1-celled, 1-ovuled: ovules suspended: styles 1–3: fruit inferior, oval: pericarp thick, somewhat fleshy, containing cells full of acrid juice.

### (1) H. LONGIFOLIA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 169.—Roxb. fl. Ind. II. p. 80.—Dec. prod. II. p. 63.

*Engrav.* Rheede Mal. IV. t. 9.

SPEC. CHAR. Leaves cuneate, oblong or acute: petioles usually with a soft subulate incurved thorn-like process on each side about the middle: panicles terminal and axillary: styles recurved: stigmas lunate: flowers small, whitish.

Travancore. Malabar. Hilly parts of the Concan. Chittagong and Assam. Flowering in January. The juice of the wood which is very acrid is employed in Malabar for varnishing shields.

## GENUS III. BUCHANANIA.

**Decandria Pentagynia.** *Sex: Syst:*

*Deriv.* Called after Buchanan Hamilton, author of the well-known "Journey to Mysore."

GEN. CHAR. Trees with alternate entire leaves: panicles terminal and axillary towards the summit of the branches: flowers bisexual: calyx 5-cleft, obtuse: petals 5, inserted under the disk, oblong, sessile, recurved: stamens shorter than the petals, distinct: disk 10-crenated, involving the ovary: pistils 5, 4 abortive, the fertile one with a 1-celled, 1-ovuled ovary: drupe obovate, somewhat compressed, fleshy: nut very hard, 1-celled, 1-seeded.

### (1) B. LATIFOLIA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 169.—Roxb. fl. Ind. II. p. 385.—Dec. prod. II. p. 64.

SPEC. CHAR. Leaves broadly oval or obovate, obtuse: branches of the panicles hirsute, with the flowers crowded: flowers small, greenish-white.

Mountainous parts of the coast. Belgaum. Salsette. Flowering in February and March. The kernels are used in confectionery and as a general substitute for almonds among the natives.

(2) B. ANGUSTIFOLIA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 169.—Roxb. fl. Ind. II. p. 386.—Dec. prod. II. p. 64.

*Syn.* Spondias simplicifolia, *Rottl.*—Mangifera axillaris, *Lam.*

*Engrav.* Wight's Icon. t. 101.—Roxb. Cor. III. t. 262.

SPEC. CHAR. Leaves linear-oblong, obtuse or emarginate: branches of the panicle glabrous with the flowers, lax: flowers small, greenish.

Mountains of Coromandel. Adjunta jungles, flowering in May and June.

(3) B. INTERMEDIA. (*R. W.*)

*Ident.* Wight's Icon. vol. I. No. 5.

*Engrav.* Wight's Icon. t. 81.

SPEC. CHAR. Leaves obovate, spathulate, membranaceous: panicles glabrous: flowers congested, small, greenish.

Naggarie Hills, near Madras.

(4) B. LANCEOLATA. (*R. W.*)

*Ident.* Wight's Icon. vol. I. No. 12.

*Engrav.* Wight's Icon. t. 237.

SPEC. CHAR. Leaves lanceolate, acute or acuminated, quite entire, congested towards the summits of the young shoots: panicles pubescent, erect, terminal and axillary: flowers small, numerous, capitate on the ends of the lateral divisions of the panicle, greenish-white.

Quilon. Malabar Coast, flowering in the hot season. The leaves are so like those of the common Mango tree that they may easily be mistaken for each other.

(5) B. LANCEÆFOLIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 386.

SPEC. CHAR. Large, tall tree: leaves lanceolate, obtusely pointed, shining, entire: panicles terminal: flowers greenish-white.

Chittagong. The tender unripe fruit is eaten by the natives in their curries. (Roxb.)

## GENUS IV. MANGIFERA.

**Polygamia Monœcia.** *Sex Syst:*

*Deriv.* From *Mango*, and *Fero*, to bear.

GEN. CHAR. Trees: calyx 5-partite, deciduous: petals 4–5, inserted under the disk: stamens 5, only one fertile, the sterile

ones tipped with a small gland: ovary oblique, 1-celled, 1-ovuled: style 1, curved downwards: drupe somewhat compressed: nut woody, 1-celled, 2-valved, covered on the outside with fibrous filaments: seed solitary.

(1) M. INDICA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 170.—Dec. prod. II. p. 63.—Roxb. fl. Ind. I. p. 641.

*Syn.* M. montana, *Heyne.*—M. domestica, *Gaertn.*

*Engrav.* Rheede Mal. IV. t. 1, 2.—Rumph. Amb. I. t. 25.

SPEC. CHAR. Leaves alternate, lanceolate, acuminated, glabrous: panicles pubescent, erect: petals 5: the fertile stamen arising from the inner side of the disk: drupe obliquely oblong or somewhat reniform: panicles terminal, much branched: flowers small, greenish-yellow.

All over India, flowering in February and March. This is the common Mango.

(2) M. SYLVATICA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 644.

SPEC. CHAR. Leaves alternate, lanceolate: panicles terminal: flowers numerous, small, white, slightly pinkish.

Silhet, flowering in October.

## GENUS V. ODINA.

**Octandria Tetragynia.** *Sex. Syst.*

*Deriv.* The native name in the south of India latinized.

GEN. CHAR. Polygamous: calyx 4-lobed, persistent: petals 5, oblong, spreading: stamens inserted below the margin of the disk: disk 8-crenated: rudimentary pistil in the male, 4-partite: ovary free, oblong, 1-celled: ovule solitary: styles 4: drupe reniform, not compressed.

(1) O. WODIER. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 171.—Roxb. fl. Ind. II. p. 293.

*Engrav.* Royle's Ill. t. 31. f. 2.—Wight's Icon. t. 60.

SPEC. CHAR. Large tree: leaves alternate, unequally pinnated: leaflets 3–4-pair, almost sessile, oblong-ovate, acuminated, quite entire: sepals rounded: stigmas simple: drupe very hard, 1-celled: 1-seeded: racemes terminal, fascicled: flowers small, greenish-yellow, purplish externally.

Coromandel Mountains. Malabar Hill, Bombay. Hindostan. Travancore. Flowering in February and March. This is one of the most commonly cultivated and best known trees in the Penin-

rula. It grows very quickly from cuttings. In some of the Southern districts it is called O-the-yin-poo-marum, the first part of which may have suggested the word Odina. Wodier seems another native name. (Wight.)

## GENUS VI. RHUS.

**Pentandria Trigynia.** *Sex: Syst:*

*Deriv.* From *Roos*, red, alluding to the colour of the leaves and fruit of some of the species.

Gen. Char. Shrubs or trees with alternate leaves: flowers polygamous or bisexual: calyx 5-partite, persistent: petals 5, ovate, inserted under the margin of the disk: stamens 5, free: ovary sessile, 1-celled: ovule solitary: styles 3, distinct or combined: drupe with a bony, 1-celled nut: seed solitary.

(1) R. decipiens. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 172.

*Engrav.* Burm. Zeyl. t. 45.—Wight's Ill. I. t. 75.

Spec. Char. Leaves unequally pinnated: rachis interruptedly winged: wings tapering at the base, truncated at the apex: leaflets narrow-oblong, tapering at the base, quite entire: panicles axillary, shorter than the leaves: branches angled, spreading horizontally: ovary ovate: styles shortly 3-cleft at the apex: flowers greenish-white.

Southern Provinces.

(2) R. Mysorensis. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 172.

Spec. Char. Branches often spinescent: petioles and panicles densely pubescent: leaves palmately trifoliate: leaflets obovate, sinuate-lobed, villous beneath, terminal one much the largest, with a cuneate, tapering base: panicles terminal, or axillary in the upper leaves, much longer than the leaves: stigmas capitate: fruit globose.

Mysore.

## GENUS VII. SPONDIAS.

**Decandria Pentagynia.** *Sex: Syst:*

*Deriv.* Greek name for a plum, which the fruit resembles.

Gen. Char. Trees: calyx 5-cleft, deciduous: petals 5, inserted under the margin of the disk: ovary free, sessile, 5-celled: ovule solitary: styles 5, short, distinct, somewhat distant at the base and conniving upwards: drupe fleshy: nut 5, from abortion 1–3-celled.

(1) S. MANGIFERA. *(Pers.)*

*Ident.* W. & A. prod. I. p. 173.—Dec. prod. II. p. 75.—Roxb. fl. Ind. II. p. 451.

*Syn.* S. amara, *Lam.*—Mangifera pinnata, *Koen.*—Poupartia mangifera, *Blume.*

*Engrav.* Rheede Mal. I. t. 50.—Wight's Ill. I. t. 76.

SPEC. CHAR. Tree: leaves alternate, unequally pinnated: leaflets 4–5-pair, ovate or elliptic-oblong, abruptly acuminated, oblique at the base, quite entire: panicles axillary and terminal, diffuse: drupe oval, yellow: nut oblong, very hard: flowers small, white.

Peninsula. Upper India, flowering in March. The fruit is eatable.

## GENUS VIII. SOLENOCARPUS.

**Decandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Solen*, a furrow, and *Karpos*, fruit.

GEN. CHAR. Flowers bisexual: calyx small, 5-cleft, deciduous: segments rounded: petals 5, inserted between the calyx and the disk: æstivation valvular: filaments alternately shorter, nearly as long as the corolla: ovary 1-celled: ovule solitary: style thick, nearly as long as the stamens, furrowed on one side: stigma oblique: fruit somewhat kidney-shaped, hairy: pericarp full of fragrant oil, 1-celled, 1-seeded: seed pendulous, in the apex of the convex side of the fruit.

(1) S. INDICA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 171.

SPEC. CHAR. Tree: petals oval, sessile, equal: ovary free, sessile: leaves fascicled at the extremities of the old branches and alternate on the young ones, long-petioled, unequally pinnated: leaflets 5–7-pair, elliptic-oblong, acuminated, slightly crenulated, glabrous, paler beneath: panicles fascicled, from the apex of the branches.

Courtallum.

## GENUS IX. NOTHOPEGIA.

*Deriv.* From *Nothos*, spurious, and *Pegia*, the name of the genus formerly wrongly applied.

GEN. CHAR. Calyx 5-lobed, deciduous: ovary sessile, surrounded with a fleshy annular disk: style terminal, short: stigma capitate: berry globose, 1-celled, 1-seeded: seed erect, globose.

(1) N. COLEBROOKIANA. *(Blume.)*

*Ident.* Blume. Mus. Bot. Lugd. Batav. p. 203.—Walp. Ann. II. p. 281.

*Syn.* Pegia Colebrookiana, *Wight.*

*Engrav.* Wight's Icon. t. 236.

SPEC. CHAR. Tree: leaves alternate, short-petioled, oblong or obovate-oblong, quite entire, coriaceous, without stipules: racemes axillary or lateral by the falling of the leaves, many-flowered.

Shevagherry Hills.

## GENUS X. GLYCYCARPUS.

**Polygamia Dioecia.** *Sex. Syst.*

*Deriv.* From *Glycys*, sweet, and *Karpos*, fruit.

GEN. CHAR. Calyx 4-partite, persistent: corolla imbricated in æstivation: stamens inserted under the margin of the disk, alternate with the petals and shorter than them: filaments free: anthers introrse, 2-celled, longitudinally dehiscing: no rudiment of an ovary in the male flowers: in fertile flowers ovary 1, sessile, 1-celled, 1-ovuled: style very short.

(1) G. RACEMOSA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 51.—Walp. Ann. II. p. 286.

*Syn.* Holigarna racemosa, *Roxb. fl. Ind.* II. *p.* 82.

SPEC. CHAR. Small tree: leaves alternate, linear-oblong, somewhat glaucous beneath: calyx segments ovate, obtuse: petals 4, oblong-linear: stamens 4: style 1: racemes terminal, villous: drupe size of a cherry, transversely-oblong, with one large seed covered with sweet, eatable pulp: flowers small, white.

South Concans. Chittagong. Silhet. Assam. Flowering in February and March.

## ORDER LI. AMYRIDACEÆ.

Trees or shrubs: leaves alternate or opposite, ternate or unequally pinnate: flowers racemose or panicled, axillary or terminal: calyx persistent, 2–5-cleft: petals 3–5, inserted below the disk, usually valvate in æstivation: stamens twice as many as the petals: ovary 1–5-celled, superior: style solitary: stigmas as many as the cells of the ovary: ovules twin, attached to the apex of the cell: fruit 1–5-celled, the outer portion often dehiscing into valves: albumen none.

## GENUS I. BOSWELLIA.

**Decandria Monogynia.** *Sex · Syst:*

*Deriv.* Named after Dr. John Boswell of Edinburgh.

Gen. Char. Trees, producing balsam and resin: calyx 5-toothed, persistent: petals 5, obovate-oblong, very patent, acute at the base, inserted under the margin of the disk: alternate stamens shorter: anthers caducous: disk longer than the calyx, crenulated: ovary oblong, sessile: style the length of the stamens, caducous: stigma 3-lobed: capsule 3-angled, 3-celled, 3-valved: seeds solitary in each cell, surrounded by a broad membranaceous wing.

### (1) B. glabra. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 74.—Roxb. fl. Ind. II. p. 384.—Dec. prod. II. p. 76.

*Engrav.* Roxb. Cor. III. t. 207.

Spec. Char. Leaves deciduous, alternate, unequally pinnated: leaflets opposite, broadly lanceolate, obtuse, serrated: racemes terminal, fascicled, shorter than the leaves: flowers white.

Mountainous districts of Coromandel.

### (2) B. thurifera. (*Colebr.*)

*Ident.* W. & A. prod. I. p. 174.—Colebr. in As. Res. IX. p. 377.—Roxb. fl. Ind. II. p. 383.

*Syn.* B. serrata, *Stackh.*?

Spec. Char. Leaves alternate, unequally pinnated: leaflets oblong, obtuse, serrated, pubescent: racemes axillary, shorter than the leaves: flowers white.

Mountains of Coromandel. South Concans. Belgaum and Bundlecund. Flowering in March and April.

## GENUS II. CANARIUM.

**Polygamia Dioecia.** *Sex · Syst:*

*Deriv.* The native name for the tree in the Moluccas latinized.

Gen. Char. Trees: calyx 3-lobed, lobes unequal: petals 3, twice as long as the calyx, oblong, concave: stamens 6, shorter than the petals, unequal: ovary sessile, ovate-globose, 3-celled: style very short or wanting: stigma 3-lobed: fruit a drupe: nut very hard, 3-angled, 3-celled, two cells often abortive: seed solitary in each cell.

### (1) C. commune. *(Linn.)*

*Ident.* W. & A. prod. I. p. 175.—Dec. prod. II. p. 79.—Roxb. fl. Ind. III. p. 137.

*Syn.* Amyris Zeylanica, *Retz.*—Balsamodendron Zeylanicum,

*Konth.*—*Dec. prod.* II. *p.* 76:—Colophonia Mauritiana, *Dec. prod.* II. *p.* 79.—Bursera paniculata, *Lam.*

*Engrav.* Rumph. Amb. II. t. 47.

Spec. Char. Large tree: leaves unequally pinnated: stipules oval at the base of the common petiole, deciduous: leaflets 7–11, ovate-oblong, on long stalks, shortly acuminated, quite entire, glabrous: panicle terminal, divaricated: flowers 2–3-together, almost sessile at the extremity of the ultimate pedicels, and before expanding, enclosed in concave, silky bracts: calyx externally silky: flowers greenish-yellow.

Peninsula. Malabar. Flowering in the hot season.

(2) C. strictum. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 175.—Roxb. fl. Ind. III. p. 138. —Dalz. Bomb. flor. p. 52.

Spec. Char. Tall straight tree: young parts densely clothed with a rusty coloured pubescence: leaves pinnated, very long: leaflets 4 pairs and an odd one, ovate-oblong, acuminated, slightly crenulated, hairy beneath on the nerves, 5–12 inches in length.

Tinnevelly. Meera Hills. This is known in Malabar under the name of the Black Dammer tree. The resin is transparent, and of a deep brownish-yellow, or amber colour. It is common in the Alpine forests about Courtallum.

(3) C. Bengalense. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 136.

Spec. Char. Large tree: leaves alternate, unequally pinnate: leaflets subopposite, 6–10 pair, from ovate-oblong to lanceolate, acuminated, entire: stipules subulate, clothed with long soft ferruginous down: racemes solitary, supra-axillary, somewhat panicled: drupe oblong, size of a large olive, smooth, filled with firm, yellowish pulp: nut obscurely 3-cornered, almost covered with a thick and hard aril, 3-celled: seeds 1 in each cell: flowers small.

Silhet, flowering in May and June.

## GENUS III. GARUGA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* The Telugu name latinized.

Gen. Char. Calyx 5-furrowed: petals 5, linear, inserted into the mouth of the calyx between its lobes: æstivation valvular, with the margin incurved: 5 stamens inserted with the petals, and 5 at the base of the sepals: filaments hairy at the base: disk closely adhering to the calyx: ovary ovate, 5-celled: style thick: stigma 5-lobed.

(1) G. PINNATA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 175.—Roxb. fl. Ind. II. p. 400.—Dec. prod. II. p. 80.

*Engrav.* Rheede Mal. IV. t. 33.—Wight's Icon. t. 1591–5.

SPEC. CHAR. Large tree: leaves unequally pinnated, deciduous: leaflets nearly sessile, crenate-serrated: sepals erect: disk fleshy, 5-cleft: style about as long as the petals: drupe globose, fleshy, with from 1 to 5 one-seeded nuts: flowers panicled, yellowish-white, often covered with a mealy kind of substance.

The Ghauts. Coromandel. Assam and Northern India. Flowering in March.

## GENUS IV. PROTIUM.

**Dioecia Decandria.** *Sex. Syst.*

*Deriv.* Meaning unknown.

GEN. CHAR. Balsamiferous trees: calyx 4-toothed, persistent, linear-oblong: stamens 8, shorter than the corolla, inserted under the margin of the disk: disk fleshy, deeply crenated: ovary 2-celled, with 2 collateral ovules in each cell: style very short: stigma 4-lobed: drupe globose or ovate: nut thick and hard, 1-celled by abortion, at length divisible into 2 nuts: seed solitary.

(1) P. CORDATUM. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 176.

SPEC. CHAR. Branches not thorny: leaves unequally pinnated: leaflets 1–2 pair, ovate-lanceolate, with a long sharp acumination, quite entire: panicles fascicled, supra-axillary from the young shoots, 2–3 times dichotomous, lax.

Peninsula.

(2) P. PUBESCENS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 176.

SPEC. CHAR. Leaves unequally pinnated: leaflets about 3 pair, nearly sessile, roundish-ovate, with a short obtuse acumination, quite entire, densely pubescent on the under side: panicles 2–3 times dichotomous, lax.

Peninsula.

## GENUS V. BALSAMODENDRON.

**Dioecia Octandria.** *Sex. Syst.*

*Deriv.* From *Balsamon*, balsam, and *Dendron*, tree.

GEN. CHAR. Trees, giving balsam: leaves 3–5-foliolate: calyx

4-toothed, persistent: petals 4, linear-oblong: stamens inserted under the disk: warts elevated between the stamens: ovary single: style 1, short, obtuse: berry or drupe ovate, acute, marked by 4 sutures, 1–2-celled: cells 1-seeded.

(1) B. Berryi. (*Arn.*)

*Ident.* W. & A. prod. I. p. 177.

*Syn.* Amyris Gileadensis, *Linn.—Roxb. fl. Ind.* II. *p.* 246.—Protium Gileadense, *W. & A.*

Spec. Char. Ultimate branches spinescent, with small short abortive branchlets bearing the leaves and flowers at their extremities: leaves palmately 3-foliolate: leaflets roundish-obovate, obtuse, obscurely crenulate, glabrous: peduncles 1-flowered, shorter than the petioles.

Peninsula, where it is constantly used for making fences.

(2) B. Agallocha. (*W. & A.*)

*Ident.* Voigt. Hort. Calc. p. 150.

*Syn.* B. Roxburghii, *Arn.*—Amyris Agallocha, *Roxb. H. B.*—A. Commiphora, *Roxb. fl. Ind.* II. *p.* 244.

Spec. Char. Tree: leaves elliptic, serrate, acute, with a pair of small leaflets at the base: lateral branchlets often terminating in spines: drupe size of a black currant, red, smooth: flowers axillary, short-pedicelled, fascicled on the scars of the fallen leaves, small, red.

Silhet. Assam. Flowering in February and March. This tree produces the gum Bdellium of commerce. The plant when broken diffuses a grateful fragrance like that of the finest myrrh.

## GENUS VI. ICICA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From the name of one of the species in Guiana.

Gen. Char. Calyx 5-toothed: petals 5, inserted under the disk, recurved: stamens inserted with the petals: disk 10-crenated at the margin: ovary 5-celled, with 2 collateral ovules in each cell: stigma 5-angled: drupe globose, 1–3-celled, with a coriaceous sarcocarp splitting into valves: nuts very hard, solitary in each cell, covered with an ariliform pulp.

(1) I. Indica. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 177.

*Syn.* I. Bengalensis, *Voigt. Hort. Calc. p.* 149.—Bursera serrata, *Wall.*

Spec. Char. Tree producing resin: leaves unequally pinnated: leaflets 7–11, petioled, oblong-lanceolate, with a short obtuse acumination, more or less serrulated, from almost glabrous to densely pubescent: young shoots, petioles, pedicels and calyx pubescent: panicles axillary, solitary, lax, much shorter than the leaves: flowers very small, green.

Chittagong and Assam. Flowering in March and April.

## ORDER LII. SAMYDACEÆ.

Trees or shrubs: leaves alternate, simple, entire or toothed, stipulate: peduncles axillary, solitary or several together: sepals 4–5, more or less cohering at the base, usually coloured inside, somewhat imbricated in æstivation: petals wanting: stamens arising from the tube of the calyx: filaments monadelphous, either all antheriferous or alternately shorter, villous or ciliated and alternately bearing anthers which are 2-celled: ovary superior, 1-celled: style 1: stigma capitate: ovules indefinite: capsule 1-celled, 3–5-valved, many-seeded, often pulpy inside: seeds covered with fleshy aril: albumen oily or fleshy.

### GENUS I. CASEARIA.

**Decandria Monogynia.** *Sex. Syst.*

*Deriv.* Called after J. Casearius, who assisted Rheede in the Hortus Malabaricus.

Gen. Char. Stamens 12–30, monadelphous at the base, alternate ones bearing anthers, sterile ones awl-shaped or spathulate, usually villous or fringed.

(1) C. ANAVINGA. *(Rheede.)*

*Ident.* Rheede Mal. IV.—Dalz. Bomb. flor. p. 11.

*Syn.* C. ovata, *Willd.*

*Engrav.* Rheede Mal. IV. t. 49.

Spec. Char. Tree: leaves oblique and subcordate at the base, ovate-oblong, serrulate, downy underneath: fruit oblong, smooth and shining: pedicels 1-flowered, axillary, usually solitary: flowers greenish-yellow.

Caranjah Hill and Rajapore, Bombay. Banks of the Hoogly. Flowering at the end of the year.

(2) C. VARICA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 418.

SPEC. CHAR. Shrub: leaves linear-oblong or lanceolate, minutely serrulate, slightly hairy underneath: stipules cordate, villous: peduncles axillary, crowded, short, 1-flowered: capsule oval, smooth; seeds about 6, enveloped in aril: flowers small, greenish-grey.

Silhet, flowering in May.

(3) C. GLOMERATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 419.

SPEC. CHAR. Shrub: leaves ovate or ovate-lanceolate, sharply serrated, smooth on both sides: flowers axillary, numerous, each with a distinct peduncle, greenish-yellow: capsule oblong, fleshy, somewhat ventricose, size of a small olive. seeds 3–6, roundish, partly enveloped in red soft aril.

Silhet, flowering in December.

(4) C. TOMENTOSA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 421.

SPEC. CHAR. Small tree: leaves alternate, short-petioled, ovate or oblong, serrated, downy beneath: stipules tomentose: capsule oblong, the size of a nutmeg, fleshy, furrowed, 3-valved, 1-celled; seeds many, enveloped in scarlet aril: peduncles axillary, numerous, 1-flowered: flowers small, downy, greenish-yellow.

Circars, flowering in the hot season.

(5) C. ESCULENTA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 422.

*Engrav.* Rheede Mal. V. t. 50.

SPEC. CHAR. Large shrub: leaves alternate, oblong, entire, smooth: flowers axillary, greenish-yellow: stamens 8.

Circar Mountains.

(6) C. ELLIPTICA. (*Willd.*)

*Ident.* Willd. Spec. II. p. 628.—Dec. prod. II. p. 51.

*Syn.* Anavinga lanceolata, *Lam.*

*Engrav.* Wight's Icon. t. 184–9.

SPEC. CHAR. Large shrub: leaves elliptic-lanceolate, somewhat serrated, bluntly mucronate, young ones velvety beneath: pedicels axillary, aggregated, 1-flowered: flowers greenish-yellow.

Southern India, in jungles near the coast. It is frequent among bushes near wells in the vicinity of pagodas.

(7) C. GRAVEOLENS. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 11.—Hook. Jour. Bot. IV. p. 107.

SPEC. CHAR. Tree: leaves short-petioled, broad-elliptic, shortly acuminated, slightly and obtusely serrated: stipules lanceolate, acuminated, glabrous: pedicels articulated above the base, very short: fruit oblong, almost round, smooth, shining: flowers numerous, clustered in the axils, green.

On open hills in the South Concan. Flowering in the rainy season. The smell of the flowers is very disagreeable.

(8) C. LÆVIGATA. *(Dalz.)*

*Ident.* Hook. Jour. Bot. IV. p. 108.—Dalz. Bomb. flor. p. 11.

SPEC. CHAR. A glabrous shrub: leaves short-petioled, oblong, acuminated, obscurely serrated, half-folded, coriaceous, shining on both sides: stipules acuminated: pedicels articulated above the base: bark on the young branches white and polished: flowers clustered in the axils, greenish.

Near the sea-coast, South Concan. Flowering in June and July.

(9) C. RUBESCENS. *(Dalz.)*

*Ident.* Hook. Jour. Bot. IV. p. 108.—Dalz. Bomb. flor. p. 11.

SPEC. CHAR. Glabrous shrub: leaves ovate-oblong, quite entire, rounded at the base, suddenly and obtusely acuminated, coriaceous: margins recurved. younger leaves with the midrib bright-red: stipules minute, scale-like: fruit oblong, glabrous, seated in a ring: flowers greenish-yellow.

Western Ghauts, flowering in February.

## ORDER LIII. CHAILLETIACEÆ.

Trees or shrubs, with alternate entire stipulate leaves: sepals 5: petals 5, alternate with the sepals, inserted into the base of the calyx, generally 2-cleft: stamens alternate with the petals, and combined with them at the base: anthers ovate: glands usually 5, opposite the petals: ovary superior, 2–3-celled: ovules twin, pendulous: style simple: stigma 2-lobed: drupe 1–3-celled: seed solitary, naked or arillate, exalbumenous.

GENUS I. MOACURRA.

**Pentandria Digynia.** *Sex. Syst.*

*Derv.* The vernacular name in Silhet latinized.

GEN. CHAR. Calyx 5-cleft: petals 5: ovary 2-celled: cells 2-seeded: capsule 2-lobed: seed solitary, with an aril.

(1) M. GELONIODES. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 69.—Dalz. Bomb. flor. p. 52.

SPEC. CHAR. Small tree: leaves alternate, short-petioled, broad-lanceolate, entire, tapering: stipules subulate, villous: capsule transversely oval, 2-lobed, dehiscent, covered with grey down: seed enveloped in red aril: flowers numerous, collected in axillary, solitary, short-peduncled fascicles.

Ram Ghaut, Bombay. Silhet. Flowering in April and May.

## ORDER LIV. HOMALIACEÆ.

Trees or shrubs: leaves alternate, toothed or entire: stipules deciduous or wanting: flowers in spikes, racemes or panicles: calyx 5–15-cleft: petals alternate with the segments of the calyx: stamens arising from the base of the petals, either singly or in threes or in sixes: anthers 2-celled, opening lengthwise: ovary 1-celled, with numerous pendulous ovules: styles 3–5, simple: fruit baccate or capsular: seeds slightly albumenous.

### GENUS I. HOMALIUM.

**Polyadelphia Polyandria.** *Sex: Syst:*

*Deriv.* From the Greek *Homalos*, equal or regular; the stamens are 21, and regularly divided into fascicles of threes.

GEN. CHAR. Calyx somewhat conical, the limb disposed in a double series, 10–14-parted: inner lobes narrowest: glands 6–7, inserted at the base of the inner lobes of the calyx: stamens fascicled, 3 or 6 in each bundle: styles 3, filiform.

(1) H. ZEYLANICUM. (*Benth.*)

*Ident.* Jour. Proc. Linn. Soc. IV. p. 35.

*Syn.* Blackwellia Zeylanica, *Gardn. in Calc. Jour. Nat. Hist.* VII. *p.* 452.—B. tetrandria, *R. W.*

*Engrav.* Wight's Icon. t. 1851.

SPEC. CHAR. Tree: leaves ovate, bluntly serrated, somewhat abruptly acuminate: racemes elongated, slightly tomentose: flowers small, white.

Ram Ghaut. Bombay. Pulney Hills. ?

## ORDER LV. MORINGACEÆ.

Trees: calyx 5-cleft: petals 5, the upper one ascending: stamens perigynous: filaments flat and hairy at the base: anthers 8-10, peltate, simple, 1-celled: ovary stalked, 1-celled: style filiform: stigma simple: capsule pod-like, 1-celled, 3-valved: seeds numerous: albumen none.

### GENUS I. MORINGA.

**Decandria Monogynia.** *Sex Syst.*

*Deriv.* The Malabar name latinized.

GEN. CHAR. Character the same as that of the order.

(1) M. PERYGOSPERMA. *(Gaertn.)*

*Ident.* W. & A. prod. I. p. 178.—Dec. prod. II. p. 478.

*Syn.* M. Zeylanica, *Pers.*—Guilandina Moringa, *Vahl.*—Hyperanthera Moringa, *Roxb. fl. Ind.* II. *p.* 368.—Anoma Moringa, *Lour.*—M. polygama, *Dec.*

*Engrav.* Rheede Mal. VI. t. 11.—Rumph. Amb. I. t. 74.—Wight's Ill. I. t. 77.

SPEC. CHAR. Small tree: leaves twice and thrice pinnate: leaflets small: 5 stamens without anthers: capsules triquetrous: seeds 3-angled: the angles expanding into wings: flowers white.

Peninsula. Hindostan. Flowering in the hot season. The root is the horse-radish of Anglo-Indians, and the fruit is eaten in curries. The tree yields a large quantity of gum. The oil of the seeds in the West Indies is used as salad oil, and is employed by watchmakers because it does not congeal or turn rancid.

(2) M. CONCANENSIS. *(Nimmo.)*

*Ident.* Dalz. Bomb. flor. p. 311.

SPEC. CHAR. Tree: leaves 2–3-pinnate: leaflets larger and rounder than the former species: anthers 5, 1-celled: flowers yellowish, with pink streaks.

Concan jungles, flowering in November.

## ORDER LVI. LEGUMINOSÆ.

Trees shrubs or herbaceous plants: leaves alternate, usually trifoliate or pinnated, with stipules at the base of the petiole and at the base of each leaflet: pedicels generally articulated; calyx 5-partite, toothed or cleft, with the odd segment anterior: segments often unequal and variously combined: petals 5, or less by abortion or wanting, inserted into the base of the calyx, usually unequal, the odd petal superior: stamens definite or indefinite, perigynous or hypogynous, distinct, monadelphous or diadelphous: anthers 2-celled, versatile: ovary 1-celled, almost always solitary: style and stigma simple: fruit a legume or a drupe: seed solitary or several, occasionally with an aril: albumen none.

### TRIBE I. PAPILIONACEÆ.

Sepals imbricated or slightly valvate in æstivation: corolla papilionaceous, irregular: stamens inserted into the bottom of the calyx or perigynous: leaves simple or simply compound, never twice or thrice pinnated.

### GENUS I. SOPHORA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From the Arabic word *Sophero*, the name of a tree with pea flowers.

Gen. Char. Calyx 5-toothed, campanulate: petals of the keel usually combined at the apex: legume moniliform, not winged, several seeded.

(1) S. glauca. *(Lesch.)*

*Ident.* W. & A. prod. I. p. 179.—Dec. prod. II. p. 95.

*Engrav.* Wight's Spicil. I. t. 51.—Icon. t. 979.

Spec. Char. Shrub: leaves irregularly pinnated: leaflets 19–23, elliptical, mucronate, upper side glaucous and velvety, under villous: racemes terminal, crowded: flowers middle-sized, white tinged with rose.

Neilgherries, flowering nearly all the year.

(2) S. HEPTAPHYLLA. *(Linn.)*

*Ident.* Wight's Icon. vol. III.—Dalz. Bomb. flor. p. 79.

*Engrav.* Wight's Icon. t. 1155.

SPEC. CHAR. Shrub: leaflets 5–9 pair, elliptic-oblong, acute, margins recurved, glabrous above, rusty-pubescent beneath: stipules rigid, subulate: racemes leaf-opposed, lax, about the length of the leaves: legume slender, covered with hairy pubescence, attenuated at the apex, much contracted between the seeds: seeds 2–4, oval, smooth: flowers yellow.

Hills east of Belgaum. Neilgherries. Flowering in the rainy season.

## GENUS II. EDWARDSIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* In honor of Sydenham Edwards, a celebrated English Botanical Draughtsman.

GEN. CHAR. Calyx obliquely 5-toothed, with the upper side cleft: petals 5, distinct: keel long: legume moniliform, 4-winged, many-seeded.

(1) E. MADRASPATANA. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1054.

SPEC. CHAR. Shrub: leaves unequally pinnate: leaflets about 25, glabrous, elliptic or subovate, obtuse, mucronate: legumes villous: racemes axillary or terminal, slightly pubescent: many-flowered: flowers golden coloured.

Balaghaut mountains, near Madras.

## GENUS III. ORMOSIA.

**Decandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Ormos*, a necklace. The seeds of one of the species are strung for necklaces.

GEN. CHAR. Calyx bilabiate: upper lip 2-lobed: lower one 3-parted: vexillum hardly longer than the wings and keel: style incurved, crowned by 2 approximate stigmas: legume woody, compressed, 2-valved, 1–2-seeded.

(1) O. ROBUSTA. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Syn.* Sophora robusta, *Roxb. Mss.*

*Engrav.* Wight's Icon. t. 215.

Spec. Char. Large tree: young parts densely clothed with rusty-coloured tomentum: leaves unequally pinnate, 6–12 inches long: leaflets 4–5 pair, lanceolate, entire, smooth: legume usually 1-seeded: panicles terminal and axillary, as long as the leaves: flowers numerous, largish, dullish-white.

Silhet, flowering in April and May. This may probably prove the type of a new genus. (See Wight's remarks. Icon. vol. III.)

## GENUS IV. VIRGILIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Called after the poet Virgil.

Gen. Char. Calyx unequally 5-cleft, somewhat bilabiate: petals about equal: stamens distinct or shortly united at the base: stigma beardless: legume compressed, oblong-linear, several-seeded.

### (1) V. aurea. *(Lam.)*

*Ident.* W. & A. prod. I. p. 179.—Dec. prod. II. p. 98.

*Syn.* Robinia subdecandria, *L'Her.*—Podalyria aurea, *Willd.*

*Engrav.* L'Her. Stirp. Nov. t. 75.—Wight's Ill. I. t. 81.

Spec. Char. Shrub: young shoots slightly pubescent: leaves unequally pinnated: leaflets 9–10 pair, oval, obtuse, nearly glabrous: upper lip of the calyx 2-lobed: segments of the lower ovate, acutish: keel petals overlapping at the lower margin, distinct: 9 stamens shortly connected at the base, the tenth quite distinct: legume glabrous: flowers yellow.

Courtallum.

## GENUS V. HEYLANDIA.

**Monadelphia Decandria.** *Sex Syst:*

*Deriv.* Named after M. Heyland, an artist employed by De Candolle.

Gen. Char. Calyx 5-cleft: lobes nearly equal: keel obliquely truncated, acuminated: the stamen-sheath cleft in front: style bent, nearly forming a right angle: legume compressed, 1-celled, 1–2-seeded.

### (1) H. latebrosa. *(Dec.)*

*Ident.* W. & A. prod. I. p. 180.—Dec. prod. II. p. 128.

*Syn.* H. hebecarpa, *Dec.*—H. leiocarpa, *Dec.*—Hallia hirta, *Willd.*—H. monophylla, *Desb.*—Hedysarum latebrosum, *Linn.*—Crotalaria uniflora, *Koen. Roxb. fl. Ind.* III. *p.* 271.

*Engrav.* Pluk. t. 454. f. 8.

Spec. Char. Herbaceous plant: hairy, dichotomous: leaves short-petioled, obliquely cordate-ovate: legumes more or less hairy: flowers axillary, solitary, nearly sessile, small, yellow.

Coromandel. Bombay. Hurdwar. Flowering in the cold season.

## GENUS VI. CROTALARIA.

**Monadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Krotalon*, a rattle, because the pods are inflated, and the seeds rattle when they are shaken.

Gen. Char. Herbs or shrubs: stipules and bracts small or wanting, occasionally large: leaves simple or palmately compound, with 3–7 leaflets: calyx 5-lobed, somewhat 2-lipped: the upper lip 2, the lower 3-cleft: vexillum large, cordate: keel falcate, usually tapering: filaments united: legumes turgid: valves inflated: seeds compressed, reniform.

### (1) C. rubiginosa. (*Willd.*)

*Ident.* W. & A. prod. I. p. 181.—Dec. prod. II. p. 125.

*Engrav.* Wight's Icon. t. 885.

Spec. Char. Low shrub, branched, diffuse, densely pubescent: stipules triangular at the apex, decurrent: leaves simple, elliptic-oblong or roundish, mucronate, slightly tomentose and glaucous beneath: racemes lateral: legume sessile, about twice the length of the calyx: flowers yellow.

Neilgherries. Dindigul Hills.

### (2) C. scabrella. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 181.

Spec. Char. Procumbent: densely and harshly pubescent: branches elongated, simple, straight: stipules with an acuminated, rigid, recurved point: leaves oval, mucronate, somewhat tomentose and glaucous beneath: racemes lateral: legume short-stalked, 4–5 times longer than the calyx, glabrous: flowers yellow.

Mountainous districts of the Peninsula.

### (3) C. Wightiana. (*Grah.*)

*Ident.* W. & A. prod. I. p. 181.

Spec. Char. A tall, erect, branched plant, covered with rusty-coloured shining hairs: stipules mucronate: leaves elliptic-obovate, obtuse, mucronate: racemes lateral: legumes 2–3 times the length of the calyx, glabrous.

Dindigul Hills.

(4) C. ANTHYLLOIDES. *(Lam.)*

*Ident.* W. & A. prod. I. p. 181.—Don. prod. fl. Nep. p. 241.—Dec. prod. II. p. 129.

*Syn.* C. stricta, *Roxb. fl. Ind.* III. *p.* 265.—C. Roxburghiana, *Dec.*—C. calycina, *Dec.*

SPEC. CHAR. An erect annual, clothed with brownish hairs: stipules setaceous: leaves oblong-linear or lanceolate, sometimes slightly hairy above: calyx deeply 5-cleft, very hairy, longer than the corolla: legume glabrous, sessile, broader towards the apex, shorter than the calyx: racemes terminal: flowers occasionally axillary and solitary, middle-sized, sulphur.

Dindigul. Bombay. Bengal. Assam and Silhet. Flowering in the cold season.

(5) C. BARBATA. *(Grah.)*

*Ident.* W. & A. prod. I. p. 181.—Icon. t. 980.

*Engrav.* Wight's Spicil. I. t. 52.

SPEC. CHAR. Herbaceous, erect plant, densely clothed with dark-brown hairs: stipules very minute: leaves oblong-lanceolate: calyx deeply 5-cleft, very hairy, a little shorter than the corolla: legume glabrous, stalked, 2–3 times the length of the calyx: style and stigma woolly at the apex: racemes terminal: flowers few, yellow.

Neilgherries.

(6) C. MYSORENSIS. *(Roth.)*

*Ident.* W. & A. prod. I. p. 182.—Dec. prod. II. p. 126.

*Syn.* C. stipulacea, *Roxb. fl. Ind.* III. *p.* 264.

SPEC. CHAR. Suffruticose, erect, hairy all over: stipules leafy, linear-lanceolate, often almost half the length of the leaves: leaves linear, or narrow-oblong, obtuse: calyx very hairy, deeply 5-cleft, about as long as the corolla: legume twice as long as the calyx, glabrous, almost sessile, broader upwards, with numerous seeds: racemes terminal or lateral, drooping before flowering, and afterwards erect: flowers distant, yellow.

Courtallum. Mysore.

(7) C. SALICIFOLIA. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 182.

SPEC. CHAR. Herbaceous erect plant, thickly clothed with rusty-coloured hairs: stipules none: lower leaves oblong-lanceolate, upper ones narrow-linear, acuminated: calyx deeply 5-cleft, as long as the corolla, hairy, with a bracteole on each side at the base: vexillum and bracteoles glabrous, with a line of hairs along the middle: legumes large, glabrous; racemes terminal, very long, with a few distant flowers.

Peninsula.

(8) C. HIRTA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 182.—Dec. prod. II. p. 130.

*Syn.* C. chinensis, *Roxb. fl. Ind.* III. *p.* 268.

*Engrav.* Pluk. t. 185. f. 4.

SPEC. CHAR. Suffruticose, diffuse, hairy: stipules sometimes at the forks of the branches: leaves linear-oblong, mucronate, sometimes cuneate at the base: bracts lanceolate, twice as long as the pedicels: calyx 5-cleft to below the middle, very hairy: legume oval, sessile, glabrous, about twice as long as the calyx, 15–20-seeded: racemes terminal, few-flowered: flowers largish, yellow.

Peninsula, flowering in October. C. montana (*Roxb.*) seems to be a mere glabrous variety of the above.

(9) C. SPECIOSA. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 182.—Dec. prod. II. p. 129.

*Engrav.* Wight's Icon. t. 29.

SPEC. CHAR. Erect, branched, rough with rusty-coloured hairs: stipules wanting or very minute: leaves narrow-oblong, mucronate: flowers densely capitate: heads terminal, panicled: bracts broadly lanceolate, the length of the flowers, and, with the calyx, and vexillum, and keel, covered with rusty-coloured hairs: calyx deeply 5-cleft.

Mysore.

(10) C. FULVA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 183.—Roxb. fl. Ind. III. p. 266.

SPEC. CHAR. An erect, branched shrub: densely clothed with white or fulvous hairs: stipules none: leaves oblong-lanceolate, mucronate, silky on both sides when young: racemes terminal, and from the upper axils: bracts at length recurved: calyx densely silky: vexillum silky: legume sessile, oval, villous, enclosed in the enlarged calyx, 2-seeded.

Mysore. Neilgherries. Colemala and Ram Ghaut.

(11) C. LONGIPES. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 183.

SPEC. CHAR. An erect branched shrub: stipules none: leaves oblong-oval, both sides clothed with silky pubescence: racemes terminal and from the upper axils: calyx deeply bilabiate: upper lip 2-parted, lower 3-cleft, silky: vexillum silky: legume stalked, cylindric-oblong, glabrous, 8–10-seeded.

Colemala.

(12) C. PANICULATA. (*Willd.*)

*Ident.* W. & A. prod. I. p. 183.—Dec. prod. II. p. 126.—Roxb. fl. Ind. III. p. 274.

*Syn.* C. chinensis, *Lam.*

SPEC. CHAR. Shrub villous all over: stipules fascicled, axillary: leaves simple, narrow-oblong, mucronate: racemes panicled: calyx segments recurved at the margins and viscous: vexillum silky on the outside: legumes oblong, pubescent, about the length of the calyx, 1–2-seeded: flowers large, yellow.

Hills near Vellore, flowering in the cold season.

(13) C. RAMOSISSIMA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 183.—Roxb. fl. Ind. III. p. 268.

*Syn.* C. pellita, *Bert. Dec. prod.* II. *p.* 128.

SPEC. CHAR. Suffruticose, much branched, spreading, villous: stipules linear or none: leaves simple, approximate, cuneate-linear, obtuse: racemes terminal, few-flowered towards the apex, forming a kind of leafy, terminal panicle: bracts alternate, recurved, viscous on the upper side: calyx-segments unequal, the upper ones largest: margins revolute, viscous: vexillum silky: legumes oval, hairy, 1-seeded, about as long as the calyx: flowers largish, yellow.

Interior of Bengal. Peninsula. Flowering nearly all the year.

(14) C. LUNULATA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 183.

*Engrav.* Wight's Icon. t. 480.

SPEC. CHAR. Suffruticose, much branched, covered all over with soft glabrous hairs: stipules and bracts stem-clasping, reflexed, viscid on the upper side: leaves oblong-oval or oval-lanceolate, obtuse: racemes panicled: calyx shorter than the corolla: vexillum silky: legume roundish-oblong, about the length of the calyx, sessile, silky, 1-seeded.

Tanjore.

(15) C. SUBPERFOLIATA. (*Wight.*)

*Ident.* W. & A. prod. I. p. 184.

SPEC. CHAR. Suffruticose, branched, covered with silky hairs: stipules none: leaves elliptic-obovate, mucronate: racemes few-flowered, axillary and terminal, forming a kind of large, leafy panicle: bracts opposite, viscid on the upper surface: pedicels opposite, with 2 bracteoles at the base of the calyx: margins of the sepals recurved: vexillum silky: style bearded towards the apex: legume clavate-oblong, long-stalked, pubescent, much longer than the calyx.

Dindigul Hills.

(16) C. CANDICANS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 184.

SPEC. CHAR. Suffruticose, covered with white soft hairs, shaggy on the branches and silky on the leaves: leaves simple, broad-oval, prominently nerved beneath: racemes terminal, on short, panicled, few-leaved branches: bracts alternate, reniform, reflexed, viscous above: calyx vexillum and ovary covered with fulvous hairs: margins of the sepals revolute, viscous.

Neilgherries.

(17) C. MADURENSIS. *(Wight.)*

*Ident.* W. & A. prod. I. p. 184.

SPEC. CHAR. Suffruticose, covered all over with soft, fulvous hairs: leaves simple, ovate, obtuse: racemes numerous, terminal, on short panicled axillary branches: bracts alternate, ovate, reflexed at the apex, viscous on their upper side: calyx, vexillum and ovary silky with fulvous hairs: legumes oblong, almost sessile, covered with rusty pubescence, many-seeded.

Madura Hills. Neilgherries.

(18) C. PULCHERRIMA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 184.—Roxb. fl. Ind. III. p. 267.—Dec. prod. II. p. 125.

*Engrav.* Wight's Icon. t. 481.—Sim's Bot. Mag. t. 2027.—Andr. Bot. Rep. t. 601.

SPEC. CHAR. An erect branched shrub covered with fulvous, soft hairs: stipules none: leaves cuneate-obovate, obtuse: racemes terminal, on panicled axillary 1–2-leaved branches: bracts alternate, reflexed, viscous on the upper surface: calyx and vexillum silky with fulvous hairs: legumes sessile, oblong, glabrous, hid in the permanent calyx, few-seeded: flowers large, bright-yellow.

Mysore, flowering in the cold season.

(19) C. JUNCEA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 185.—Dec. prod. II. p. 125.—Roxb. fl. Ind. III. p. 259.—Drury's Useful Pl. p. 166.

*Syn.* C. Bengalensis, *Lam.*—C. tenuifolia *Roxb.*—C. fenestrata, *Dec. l. c.*—C. sericea, *Willd.*

*Engrav.* Roxb. Cor. II. t. 193.—Bot. Mag. XIV. t. 490.—Sim's B. M. t. 1933.

SPEC. CHAR. Erect branched shrub, more or less pubescent or hairy: stipules and bracts bristly: leaves narrow-linear, or ovate-lanceolate, mucronate or acute: calyx densely covered with rusty tomentum, the three lower segments usually cohering at the apex;

racemes terminating every branch : legumes sessile, oblong, twice the length of the calyx, tomentose, many-seeded : flowers distant, bright-yellow.

Peninsula, flowering nearly all the year. This species which is known as the Sunn plant is extensively cultivated in India for the sake of its fibres which make strong hemp for cordage canvas and paper.

(20) C. OBTEXTA. (*Grah.*)

*Ident.* W. & A. prod. I. p. 185.

*Engrav.* Wight's Icon. t. 208–383.

SPEC. CHAR. Suffruticose erect plant, densely tomentose: leaves oval, mucronate : racemes terminal, elongated : bracteoles on the middle of the pedicels : calyx densely covered with rusty tomentum : segments distinct : legumes sessile, oblong, much longer than the calyx, densely tomentose, many-seeded : flowers numerous, approximate.

Peninsula.

(21) C. FORMOSA. (*Grah.*)

*Ident.* W. & A. prod. I. p. 186.

*Engrav.* Wight's Icon. t. 981.—Spicil. I. t. 53.

SPEC. CHAR. Erect, villous all over : stipules reflexed : leaves cuneate-obovate, obtuse, glabrous above, villous beneath : bracts lanceolate, the lower ones without flowers : bracteoles on the middle of the pedicels : legume oblong, glabrous, much longer than the calyx, many-seeded : flowers in a dense raceme at the extremity of the branches, yellow.

Neilgherries.

(22) C. LESCHENAULTII. (*Dec.*)

*Ident.* W. & A. prod. I. p. 186.—Dec. prod. II. p. 125.

SPEC. CHAR. Erect plant, glabrous : stipules reflexed : leaves cuneate, narrow-obovate, obtuse, villous underneath : racemes terminal : bracts broad-lanceolate, about as long as the pedicel : bracteoles below the middle of the pedicel : flowers numerous, distant, much larger than the glabrous calyx.

Neilgherries.

(23) C. SERICEA. (*Retz.*)

*Ident.* W. & A. prod. I. p. 186.—Roxb. fl. Ind. III. p. 273.

*Syn.* C. spectabilis, *Roth. Dec. prod.* II. *p.* 125.

*Engrav.* Rheede Mal. IX. t. 26.

SPEC. CHAR. Erect, branched, glabrous : stems obtusely angled : stipules large, semi-sagittate, reflexed : leaves lanceolate, cuneate

at the base, mucronate, slightly glaucous and silky pubescent below: racemes terminal, many-flowered: bracts cordate, reflexed, lower ones without flowers: calyx smaller than the corolla, glabrous: legume oblong, glabrous, many-seeded: flowers large, bright-yellow.

Peninsula. Assam. Bombay. Flowering nearly all the year.

(21) C. PEDUNCULARIS. *(Grah.)*

*Ident.* W. & A. prod. I. p. 186.—Dalz. Bomb. flor. p. 55.

SPEC. CHAR. Erect, tall plant, sparingly branched, glabrous: stipules wanting: leaves oblong to narrow-linear, acuminated: racemes terminal, elongated, lax: calyx glabrous: legume cylindric-oblong, attenuated at the base, glabrous, many-seeded: flowers distant, very large on long pedicels.

South Concan. Vingorla.

(25) C. RETUSA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 187.—Dec. prod. II. p. 125.—Roxb. fl. Ind. III. p. 272.

*Syn.* Lupinus Cochinchinensis, *Lour.*—*Dec. prod.* II. *p.* 410.

*Engrav.* Rheede Mal. IX. t. 25.—Rumph. Amb. V. t. 96. f. 1.—Bot. Mag. t. 2561.—Bot. Reg. t. 253.

SPEC. CHAR. Erect, branched, nearly glabrous: stipules and bracts often wanting: leaves cuneate-oblong, retuse or rounded, under sides silky pubescent. racemes terminal, many-flowered: calyx glabrous: legume oblong, broader upwards, sessile, glabrous, many-seeded: flowers yellow.

Peninsula. Assam. Bombay. Flowering nearly all the year. The fibres of the bark are employed in many places in manufacturing cordage and canvas.

(26) C. VERRUCOSA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 187.—Dec. prod. II. p. 125.—Roxb. fl. Ind. III. p. 273.

*Syn.* C. angulosa, *Lam.*—*Roxb. fl. Ind.* III. *p.* 274.—C. cærulea, *Jacq. Ic. Rar. t.* 114.

*Engrav.* Wight's Icon. t. 200.—Bot. Mag. t. 3034.—Bot. Reg. t. 1134.—Burm. Zeyl. t. 34.—Rheede Mal. IX. t. 29.

SPEC. CHAR. Herbaceous, erect, much branched: young parts pubescent: stems and racemes acutely 3–4-angled: stipules lunate, transverse, recurved: leaves ovate, suddenly and shortly acuminated at the base, nearly glabrous: racemes terminal and leaf-opposed: calyx slightly pubescent, smaller than the corolla: legume cylindric-oblong, sessile, softly pubescent, many-seeded: flowers largish, blue.

Peninsula. Assam. Flowering in the cold season.

(27) C. Wallichiana. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 187.

*Syn.* C. semperflorens, *Dec. prod.* II. *p.* 125.—*Roxb. fl. Ind.* III. *p.* 274.—*W. & A. prod.* I. *p.* 187.

*Engrav.* Wight's Icon. t. 982.—Spicil. I. t. 54.

Spec. Char. Herbaceous, erect, much branched: young branches bluntly angled: stipules lunate, transverse, recurved: leaves oval, glabrous above, densely pubescent beneath: racemes terminal and leaf-opposed, thickly pubescent: pedicels longer than the calyx which is densely pubescent: legume clavate-oblong, stalked, softly pubescent, many-seeded: flowers yellow.

Neilgherries, flowering all the year.

(28) C. Heyneana. *(Grah.)*

*Ident.* W. & A. prod. I. p. 187.

Spec. Char. Suffruticose, erect, branched: young parts slightly pubescent: stipules lunate, transverse, recurved: leaves oval, pointed at both ends, shortly pubescent beneath: racemes terminal: calyx pubescent: the upper lip more deeply cleft than the lower: legume much longer than the calyx, pubescent.

Mysore. Travancore.

(29) C. hirsuta. *(Willd.)*

*Ident.* W. & A. prod. I. p. 188.—Dec. prod. II. p. 126.—Roxb. fl. Ind. III. p. 270.

Spec. Char. Perennial; herbaceous, procumbent, hairy: leaves broad-oval to oblong, often acute, hairy beneath: racemes terminal and leaf-opposed: calyx hairy, cleft almost to the base: vexillum glabrous, purple-spotted: legume sessile, oblong, broader upwards, slightly hairy, twice as long as the calyx, 8–10-seeded.

Samulcottah.

(30) C. bifaria. *(Linn.)*

*Ident.* W. &. A. prod. I. p. 188.—Dec. prod. II. p. 127.

*Syn.* C. dichotoma, *Roth.—Dec. l. c.*

*Engrav.* Wight's Icon. t. 30.

Spec. Char. Herbaceous, procumbent, clothed with rigid pubescence: branches slender, elongated: leaves from orbicular to oblong or narrow-linear, pubescent, or at length nearly glabrous: racemes terminal and leaf-opposed, 1–2-flowered: calyx harshly pubescent: segments coloured along the margins: legumes obovoid, hispidly pubescent or hairy, mottled with purple.

Ram Ghaut. Belgaum. Tanjore.

(31) C. EVOLVULOIDES. (*Wight.*)

*Ident.* W. & A. prod. I. p. 188.

*Syn.* C. rubiginosa, *Roxb. fl. Ind.* III. *p.* 269.

*Engrav.* Wight's Icon. t. 31.

SPEC. CHAR. Perennial; hispidly pubescent or hairy: leaves from oval to lanceolate, nearly glabrous on the upper side: racemes leaf-opposed, 3–8-flowered: bracts cordate, reflexed: calyx hairy, nearly equal to the corolla: legumes much longer than the calyx, sessile, oblong, about 3-seeded.

Dindigul Hills. Monghyr.

(32) C. PUSILLA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 189.—Dec. prod. II. p. 128.

SPEC. CHAR. A small annual, branching from the base, hairy: stipules wanting: leaves simple, linear, obtuse, mucronate: racemes terminating the branches: bracts setaceous, caducous: calyx about as long as the corolla: legume sessile, 2–3 times the length of the calyx, oval, hirsute, 3–4-seeded.

Dindigul Hills.

(33) C. PROSTRATA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 189.—Roxb. fl. Ind. III. p. 270. —Dec. prod. II. p. 130.

SPEC. CHAR. Suffruticose: branching from the base: branches hairy, prostrate: stipules wanting: leaves simple, elliptic-oblong, slightly oblique at the base, with a few silky hairs, especially beneath: racemes leaf-opposed or terminal, on almost leafless branches: calyx hairy, upper lip 2-cleft, lower deeply 3-cleft: legume sessile, glabrous, oblong, broader upwards, several-seeded: flowers small, yellow.

Samulcottah. Monghyr. Flowering nearly all the year.

(34) C. ALBIDA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 189.—Dec. prod. II. p. 126.

*Syn.* C. linifolia, *Willd.—Roxb. fl. Ind.* III. *p.* 266.

SPEC. CHAR. Suffruticose, branching from the base, covered all over with silvery hairs: branches procumbent: stipules none: leaves cuneate-oblong, obtuse or emarginate, mucronate: racemes terminal: bracteoles attached to the tube of the calyx: calyx hairy, the two upper segments lanceolate and longer than the corolla: legume sessile, glabrous, oblong, about twice the length of the calyx, 3–4-seeded: flowers drooping.

Neilgherries.

(35) C. LINIFOLIA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 190.—Dec. prod. II. p. 128.

*Syn.* C. cæspitosa, *Roxb. fl. Ind.* III. *p.* 269.—C. tecta, *Dec. prod.* II. *p.* 126.—C. montana, *Heyne in Roth. p.* 335.—*Dec. l. c.*

SPEC. CHAR. Cæspitose, suffruticose, diffuse, branching ftom the base, more or less strigose: stipule none: leaves from cuneate to linear-oblong, obtuse, strigose beneath: racemes terminal: bracteoles attached to the tube of the calyx, between the lips: calyx densely hairy: upper lip broad, and shortly 2-cleft: legume oblique, roundish-ovoid, sessile, glabrous, scarcely as long as the calyx, 8–12-seeded.

Peninsula. Khandalla. Surat.

(36) C. BIFLORA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 190.—Dec. prod. II. p. 127.

*Syn.* C. nummularia, *Willd.*—*Dec. l. c.*—*Roxb. fl. Ind.* III. *p.* 271.—C. hirta, *Roth.*—C. Rothiana, *Dec. l. c.*—C. Rothii, *Spreng. Syst.* III. *p.* 237.—Astragalus biflorus, *Linn. Mant. p.* 273.—Cicer nummulariæfolium, *Lam. Dec. prod.* II. *p.* 354.

*Engrav.* Pluk. t. 389. f. 5.

SPEC. CHAR. Prostrate, diffuse, hairy: stipules none: leaves simple, bifarious, broadly ovate, slightly oblique at the base, obtuse, mucronate: peduncles leaf-opposed, 3–4 times longer than the leaves, about 2-flowered: calyx hairy; segments about equal to the corolla: legume sessile, globose, hairy: seeds numerous, crowded.

Peninsula.

(37) C. GLOBOSA. (*Wight.*)

*Ident.* W. & A. prod. I. p. 190.

SPEC. CHAR. Prostrate, diffuse, hairy. stipules none: leaves simple, orbicular: peduncles leaf-opposed, about 2-flowered: calyx deeply 4-cleft, hairy: segments lanceolate-acuminate, shorter than the corolla: legume sessile, globose, sparingly hairy, hard-coriaceous, about 4-seeded.

Dindigul Hills.

(38) C. NANA. (*Burm.*)

*Ident.* W. & A. prod. I. p. 191.—Dec. prod. II. p. 127.

*Syn.* C. biflora, *Willd.*

*Engrav.* Burm. flor. Ind. t. 48. f. 2.

SPEC. CHAR. Cæspitose, hairy, branching from the base: stipules wanting: leaves simple, oblong, broader upwards, obtuse: flowers 2–3, on short leaf-opposed peduncles, or 5–6 in nearly ses-

sile terminal umbels: calyx very hairy: legume ovoid, sessile, glabrous, black, a little longer than the calyx.

Common in the Southern Provinces. On the sea-shore at Malwan.

(39) C. UMBELLATA. *(Wight.)*

*Ident.* W. & A. prod. I. p. 191.

SPEC. CHAR. Very hairy, branching from the base: branches ascending, twiggy: stipules wanting: leaves oblong, slightly acute: flowers numerous, forming terminal umbels: calyx very hairy: upper lip shortly 2-cleft: legume globose, sessile, glabrous, black, scarcely longer than the calyx, 6–8-seeded.

Dindigul Hills. Vingorla. Ram Ghaut.

(40) C. RIGIDA. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 191.—Dec. prod. II. p. 133.

SPEC. CHAR. A rigid and much branched shrub: ultimate branchlets pubescent: leaves trifoliolate, very shortly petioled: leaflets very small, broadly obcordate, pubescent beneath: racemes few-flowered, terminating the branchlets.

On sandy soil near Negapatam.

(41) C. WILLDENOWIANA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 191.—Dec. prod. II. p. 134.

*Syn.* C. spartioides, *Spreng.*—C. genistoides, *Willd.*

SPEC. CHAR. Shrub, much branched, villous on the young parts: leaves trifoliolate: leaflets cuneate-linear, retuse or emarginate, about twice as long as the common petiole, pubescent, particularly on the under side: racemes terminal, 6–8-flowered on the extremity of the branches, and 2–4-flowered on the short axillary branchlets.

Peninsula.

(42) C. ROSTRATA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 191.

SPEC. CHAR. Shrub, much branched: branches, petioles and racemes softly pubescent: leaves trifoliolate: leaflets obovate-oblong, mucronate: under side pale with silky pubescence: racemes terminal and leaf-opposed, many-flowered: flowers approximated.

Peninsula.

(43) C. TRIFOLIASTRUM. *(Willd.)*

*Ident.* W. & A. prod. I. p. 191.—Roxb. fl. Ind. III. p. 277.

*Syn.* C. medicaginea, *Dec. prod.* II. *p.* 133.—C. stricta, *Roth, Dec. l. c.*

*Engrav.* Wight's Icon. t. 421.

Spec. Char. Suffruticose, with erect or ascending stems: branches straight and twiggy, tomentose: leaves somewhat distant, trifoliolate, long-petioled: leaflets cuneate, obcordate, slightly hairy beneath: racemes terminal, many-flowered, with occasionally a few-flowered peduncle in the axils of the upper leaves: flowers distant, largish, yellow.

Coromandel, flowering in the cold season.

(44) C. Notonii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 192.

*Engrav.* Wight's Icon. t. 752.

Spec. Char. Suffruticose, erect, branches shortish, tomentose, leaves slightly approximated, trifoliolate, long-petioled: leaflets cuneate-obovate, scarcely retuse, mucronate, rather longer than the petiole, paler and slightly hairy beneath: racemes terminal or leaf-opposed, shortish, many-flowered: flowers approximated, largish.

Neilgherries.

(45) C. medicaginea. (*Lam.*)

*Ident.* W. & A. prod. I. p. 192.

*Syn.* C. procumbens, *Roxb. fl. Ind.* III. *p.* 278.—C. foliosa, *Willd. Dec. prod.* II. *p.* 131.

*Engrav.* Pluk. t. 98. f. 7.

Spec. Char. Suffruticose, prostrate, diffuse, branched, pubescent: leaves trifoliolate; leaflets cuneate-oblong, emarginate, nearly twice as long as the petiole, slightly pubescent underneath: peduncles leaf-opposed, filiform, 2–3 times the length of the leaves, 2-flowered towards the apex: bracts all with flowers in their axils.

Peninsula.

(46) C. herniarioidis. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 192.

Spec. Char. Perennial, prostrate, diffuse: branches filiform, pubescent: stipules none: leaves trifoliolate: leaflets orbicular-obcordate, pubescent on the under side: peduncles leaf-opposed, much longer than the leaves, bearing 3–4 flowers towards the apex.

In sandy soil near Arcot.

(47) C. laburnifolia. *(Linn.)*

*Ident.* W. & A. prod. I. p. 193.—Dec. prod. II. p. 130.—Roxb. fl. Ind. III. p. 275.

*Syn.* C. pendula, *Bert. Dec. l. c.*—C. pedunculosa, *Desv. Dec. prod.* II. *p.* 132.

*Engrav.* Burm. Zeyl. t. 35.—Rheede Mal. IX. t. 27.

Spec. Char. An erect, glabrous shrub: stipules wanting: leaves trifoliolate: leaflets broadly oval, usually acute at both ends: racemes terminal and leaf-opposed: bracteoles very minute, below the middle of the pedicel: flowers long-pedicelled: keel acuminated, longer than the vexillum, and twice as long as the wings: legume stalked, glabrous, cylindric-oblong, 3 times as long as broad: flowers large, yellow.

Common in the Southern Provinces. South Concans. Flowering nearly all the year.

(18) C. Orixensis. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 193.—Roxb. fl. Ind. III. p. 276. —Dec. prod. II. p. 131.

*Engrav.* Pluk. t. 52. f. 2.

Spec. Char. Perennial, herbaceous, procumbent: branches, racemes, and lower side of the leaves slightly hairy: leaves trifoliolate: leaflets obovate: racemes elongated, leaf-opposed: bracts cordate, reflexed: corolla scarcely longer than the calyx: legume stalked, glabrous, short-cylindrical, more than twice the length of the stalk, few-seeded. flowers small, on long filiform pedicels.

Circars. Travancore. Surat.

(49) C. clavata. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 194.

Spec. Char. Erect, branched, covered with a whitish pubescence: leaves trifoliolate: leaflets cuneate-obovate, retuse, mucronate: upper side glabrous: petioles grooved above: racemes leaf-opposed, elongated: bracteoles reflexed, attached to the base of the calyx: calyx half the length of the corolla: upper lip shorter than the lower: legume pendulous, clavate, slightly pubescent, many-seeded.

Cunnawady, near Dindigul.

(50) C. quinquifolia. *(Linn.)*

*Ident.* W. & A. prod. I. p. 194.—Dec. prod. II. p. 131.—Roxb. fl. Ind. III. p. 279.

*Syn.* C. heterophylla, *Linn. Dec. l. c.*

*Engrav.* Rheede Mal. IX. t. 28.

Spec. Char. Annual: erect, branched, pubescent or glabrous: stems hollow: leaves 5-foliolate, some of them occasionally trifoliolate: leaflets from lanceolate to narrow-linear, usually longer than the petioles, young ones silky-pubescent beneath: racemes terminal, much elongated: flowers large, rather distant: legumes clavate-oblong, glabrous: seeds very numerous.

Peninsula. Salsette on the margins of rice-fields.

(51) C. DIGITATA. (*Hook.*)

*Ident.* W. & A. prod. I. p. 194.—Hook. Bot. Misc. II. p. 354.

*Engrav.* Bot. Misc. II. Suppl. t. 16.

SPEC. CHAR. Somewhat shrubby erect plant, everywhere, except the flowers, densely tomentose: leaves digitate: leaflets 5, rarely 7, obovate: racemes terminal and leaf-opposed, elongated, many-flowered: flowers large, approximated, on long pedicels: legumes large, clavate-oblong: seeds numerous.

Madura Hills.

(52) C. GRAHAMIANA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 194.

SPEC. CHAR. An erect, branched shrub: everywhere densely hairy, except the flowers: leaves digittate: leaflets 5-7, cuneate-oblong, obtuse or retuse, villous underneath: racemes terminal: flowers large, approximated on longish pedicels: legumes large, oblong, glabrous: seeds numerous.

Dindigul Hills.

(53) C. BURHIA. (*Ham.*)

*Ident.* Dalz. Bomb. flor. p. 54.—Walp. Repert. V. p. 436.

SPEC. CHAR. A spreading, much-branched shrub: branchlets covered with silky pubescence: leaves oblong, hairy: calyx very hairy: legume ovoid, few-seeded, hairy.

Cambay. Delhi.

(54) C. FILIPES. (*Benth.*)

*Ident.* Hook. Jour. Bot. II. p. 472.—Dalz. Bomb. flor. p. 56.

SPEC. CHAR. Prostrate, ciliated with long hairs: stem filiform, very slender: stipules none: leaves obliquely cordate-ovate or sublanceolate: peduncles very slender, 1–2-flowered: legume ovoid, glabrous, twice the length of the calyx, many-seeded.

Bombay. Salsette.

(55) C. EPUNCTATA. (*Dalz.*)

*Ident.* Hook. Jour. Bot. III. p. 210.—Dalz. Bomb. flor. p. 56.

SPEC. CHAR. Suffruticose, diffuse, branched from the base: branches, racemes and the under side of the leaves hairy: stipules sometimes wanting: leaves linear-oblong: racemes terminal, 4–10-flowered: bracts linear, as long as the short pedicels: upper sepal deeply 2-cleft, lower 3-cleft: legume cernuous, smooth, oblong, longer than the calyx, many-seeded.

South Concan.

(56) C. TRIQUETRA. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 56.—Hook. Jour. Bot. II. p. 34.

SPEC. CHAR. Annual: branches prostrate, with spreading hairs, acutely 3-sided: stipules ovate, acute, reflexed: leaves oblong-elliptic, slightly cordate at the base, hairy beneath: racemes leaf-opposed, 3-flowered, 6–7 times longer than the leaf: legume oblong, hairy, much longer than the calyx, many-seeded.

Malwan, flowering in September.

(57) C. BRACTEATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 278.—Dec. prod. II. p. 130.

*Engrav.* Wight's Icon. t. 273.

SPEC. CHAR. Shrub: leaves trifoliolate: leaflets oval, acuminated at the apex, glabrous above, pubescent beneath: legumes pendulous, almost sessile, densely hairy: flowers yellowish.

Chittagong, flowering in July.

## GENUS VII. ROTHIA.

**Monadelphia Decandria.** *Sex. Syst.*

*Deriv.* In honor of A. W. Roth, a German Botanist.

GEN. CHAR. Calyx 5-cleft; segments broad, 2 upper ones falcate: corolla papilionaceous, inserted into the bottom of the calyx: vexillum oblong-obovate, slightly recurved towards the apex: wings about the length of the keel, oblong: style glabrous, filiform, straight: stigma capitate.

(1) R. TRIFOLIATA. (*Pers.*)

*Ident.* W. & A. prod. I. p. 195.—Dec. prod. II. p. 382.

*Syn.* Dillwynia trifoliata, *Roth.*—Westonia humifusa, *Spreng.*—Glycine humifusa, *Willd.*—Trigonella Indica, *Roxb. fl. Ind.* III. p. 389.—Lotus Indicus, *Dec. l. c. p.* 210.

*Engrav.* Wight's Icon. t. 199.—Pluk t. 200. f. 7. and t. 231. f. 5.

SPEC. CHAR. Annual, prostrate, thickly sprinkled with soft, silky hairs: calyx cleft to the middle: leaves petioled, palmately trifoliolate; leaflets nearly sessile, cuneate-oblong, rather fleshy, hairy on the under side: stipules foliaceous: pedicels solitary or twin, leaf-opposed: flowers small, sulphur, at last becoming reddish.

Coromandel, flowering in February and March.

## GENUS VIII. MELILOTUS.

**Diadelphia Decandria.** *Sex: Syst*

*Deriv.* From *Mel*, honey, and *Lotus*: Honey lotus. Bees are very fond of the flowers.

Gen. Char. Annual or perennial herbaceous plants: calyx tubular, 5-toothed: corolla deciduous: keel simple: wings shorter than the vexillum; the keel and wings cohering, free from the stamen tube: stamens 9 and one: style filiform: legumes globose or ovoid, longer than the calyx, scarcely dehiscent, 1 or more seeded: peduncles axillary: fruit pendulous.

### (1) M. leucantha. (*Coch.*)

*Ident.* W. & A. prod. I. p. 196.—Dec. prod. II. p. 187.

*Syn.* M. altissima, *Dec. l. c.*—M. vulgaris, *Willd.*—Trifolium officinale, *Linn. Roxb. fl. Ind.* III. *p.* 388.

Spec. Char. Annual: stem erect, branched: leaves trifoliolate; leaflets ovate-oblong, truncated at the apex, mucronate, remotely serrated: racemes elongated, lax: keel and wings shorter than the vexillum: legumes ovate, irregularly wrinkled, 2-seeded: flowers small, white.

Peninsula. Assam. Saharunpore. Flowering in the cold season.

### (2) M. parviflora. (*Desf.*)

*Ident.* W. & A. prod. I. p. 196.—Dec. prod. II. p. 187.

*Syn.* M. minima, *Roth. Dec. prod.* II. *p.* 189.—Trifolium Indicum, *Roxb. fl. Ind.* III. *p.* 388.

Spec. Char. Annual; stem ascending or erect; leaves trifoliolate; lower leaflets roundish-obovate, upper ones linear or cuneate-oblong, serrated: calycine teeth nearly equal, broad: wings almost as long as the keel and vexillum: legumes irregularly wrinkled, 2-seeded: flowers small, yellow, at first close-spiked, and afterwards more distant.

On pasture grounds in the Peninsula, flowering in the cold season.

## GENUS IX. PYCNOSPORA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Pycnos*, thick or close, and *Sporos*, a seed; the seeds being numerous and closely packed.

Gen. Char. Calyx deeply 4-cleft, upper segment broader, 2-cleft at the apex: petals about equal: vexillum rounded, free: keel

cohering with the wings, both free from the stamen-tube. stigma obtuse.

(1) P. NERVOSA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 197.

SPEC. CHAR. Suffrutescent, diffuse, branched, pubescent; leaves pinnately trifoliate; leaflets cuneate-obovate, hairy, particularly beneath: racemes terminal, pubescent: bracts striated, with a long, subulate point: legumes oblong, inflated, hairy: seeds numerous, compressed, thickest at one end. flowers small, in twos or threes from the axil of each bract, purplish.

Courtallum.

## GENUS X. PSORALEA.

**Decandria Monogynia.** *Sex Syst*

*Deriv.* From *Psoraleos*, scurfy, alluding to the calyx and other parts of the plant being covered with tubercles.

GEN. CHAR. Calyx 5-cleft, the tube usually covered with glands: lower sepal somewhat longer than the others: legume the length of the calyx, sometimes ending in a beak.

(1) P. CORYLIFOLIA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 198.—Dec. prod. II. p. 218.—Roxb. fl. Ind. III. p. 387.

*Syn.* Trifolium unifolium, *Forsk.*

*Engrav.* Burm. Ind. t. 19.—Bot. Mag. XVIII. t. 665.

SPEC. CHAR. Herbaceous, erect: leaves simple, roundish-ovate, repand-toothed: stipules narrow-lanceolate, recurved: racemes dense, spikelike, on long axillary solitary peduncles: pedicels much shorter than the calyx, about three together from each bract: flowers small, pale lilac, with the wings and keel dark purple-tipped.

Peninsula, flowering in the cold season.

## GENUS XI. INDIGOFERA.

**Diadelphia Decandria.** *Sex: Syst.*

*Deriv.* From *Indigo* and *Fero*, to produce Indigo.

GEN. CHAR. Herbs or shrubs; peduncles axillary: flowers racemose: leaves usually pinnated or digitate: calyx 5-cleft: vexillum roundish, emarginate: keel furnished with a spur on both sides, at length often bending back elastically: legume 1 or more-seeded.

(1) I. ECHINATA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 198.—Dec. prod. II. p. 222.—Roxb. fl. Ind. III. p. 370.

*Syn.* Hedysarum nummulariæfolium, *Linn.*—H. rotundifolium, *Vahl.*—H. erinaceum, *Poir.*—Onobrychis rotundifolia, *Desv. Dec. prod.* II. *p.* 348.

*Engrav.* Pluk. t. 433. f. 1.—Wight's Icon. t. 316.

SPEC. CHAR. Herbaceous, prostrate; branches angular: leaves simple, obovate, dotted with glands: racemes peduncled, shorter than the leaves, 6–8-flowered: keel pointed: legumes crescent-shaped, bristly on the convex side: seed solitary, reniform.

Moist sandy soils near the coast; very common.

(2) I. LINIFOLIA. *(Retz.)*

*Ident.* W. & A. prod. I. p. 198.—Dec. prod. II. p. 222.—Roxb. fl. Ind. III. p. 370.

*Syn.* Hedysarum linifolium, *Linn.*

*Engrav.* Wight's Icon. t. 313.—Roxb. Cor. II. t. 196.

SPEC. CHAR. Suffruticose, procumbent, covered with whitish hairs: leaves simple, nearly sessile, obovate-oblong, or narrow-linear, mucronate: racemes very short, sessile, 2–4-flowered: legumes globose, 1-seeded. seed globose, shining: flowers small, dark-purple.

Peninsula.

(3) I. CORDIFOLIA. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 199.—Dec. prod. II. p. 222.

SPEC. CHAR. Diffuse, softly hairy: leaves simple, broadly ovate, nearly sessile: racemes capituliform, sessile, 3–6-flowered: legumes oval, twice as long as broad, hoary, 2-seeded; seeds ovate, truncated.

Mysore.

(4) I. GLANDULOSA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 199.—Roxb. fl. Ind. III. p. 372.—Dec. prod. II. p. 223.

*Engrav.* Wight's Icon. t. 330.

SPEC. CHAR. Suffruticose, young parts softly pubescent: leaves trifoliolate; leaflets oblong-ovate, longer than the petioles, hairy underneath: racemes sessile, many-flowered, not so long as the petiole: legumes oval, 4-angled; angles slightly winged and toothed; seeds 2, ovate, truncated at one end: flowers small, red.

Circars, flowering nearly all the year. The mountaineers make meal of the seeds which they bake into bread.

(5) I. ENNEAPHYLLA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 199.—Dec. prod. II. p. 229.—Roxb. fl Ind. III. p. 376.

*Syn.* Hedysarum prostratum, *Linn.*

*Engrav.* Wight's Icon. t. 403.—Burm. Ind. t. 55. f. 1.—Pluk. t. 166. f. 2.

SPEC. CHAR. Perennial, procumbent: young parts and leaves pubescent: branches prostrate, 2-edged: leaves pinnate, sessile; leaflets 3–5 pair, obovate-oblong: racemes sessile, short, many-flowered: legumes oval, pubescent, not winged: seeds 2, ovate, truncated at one end: flowers small, bright-red.

Dindigul Hills. Surat. Flowering nearly all the year.

(6) I. ASPALATHOIDES. (*Vahl.*)

*Ident.* W. & A. prod. I. p. 199.—Dec. prod. II. p. 231.

*Syn.* I. aspalathifolia, *Roxb. fl. Ind.* III. *p.* 371.—Aspalathus Indicus, *Linn. Burm. Ind. p.* 155.

*Engrav.* Wight's Icon. t. 332.—Rheede Mal. IX. t. 37.

SPEC. CHAR. Erect shrub; young parts hairy: leaves sessile, digitately 3–5-foliolate; leaflets narrow-cuneate, slightly hairy underneath: peduncles solitary, 1-flowered, about the length of the leaves: corolla very deciduous: legumes cylindrical, pointed, 4–6-seeded: flowers very small, purplish-red.

Peninsula. Belgaum. Common in the Deccan. Flowering nearly all the year.

(7) I. UNIFLORA. (*Ham.*)

*Ident.* W. & A. prod. I. p. 199.—Roxb. fl. Ind. III. p. 374.

*Engrav.* Wight's Icon. t. 333.

SPEC. CHAR. Perennial; stems prostrate, coloured; leaves sessile, pinnately 3–5-foliolate; leaflets narrow, cuneate-oblong, acute, slightly hairy underneath: peduncles solitary, filiform, 1-flowered, twice as long as the leaves: legumes linear-oblong, straight, pointed, about 3-seeded: flowers small, red.

Mysore. Southern Mahratta country. Flowering nearly all the year.

(8) I. PENTAPHYLLA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 200.—Dec. prod. II. p. 230.

*Syn.* I. fragrans, *Retz. Dec. prod.* II. *p.* 229.—*Roxb. fl. Ind.* III. *p.* 375.—I. glabra, *Linn. Dec. l. c.*

*Engrav.* Wight's Icon. t. 385.—Pluk. t. 166. f. 1.

Spec. Char. Suffruticose, decumbent: leaves pinnated; leaflets 1–2 pair, oval, both sides hoary from white soft hairs: peduncles about the length of the leaves, with 2–3 rather distant flowers: legumes cylindrical, straight, mucronate, glabrous: seeds 10–12, cylindrical, truncated at both ends: flowers small, purple.

Peninsula. Flowering nearly all the year.

(9) I. viscosa. (*Lam.*)

*Ident.* W. &. A. prod. I. p. 200.—Lam. Enc. Meth. III. p. 247.—Dec. prod. II. p. 227.—Roxb. fl. Ind. III. p. 377.

*Syn.* Galega Colutea, *Burm. Ind. p.* 172.

*Engrav.* Wight's Icon. t. 404.—Pluk. t. 166. f. 3.

Spec. Char. Suffruticose, erect, much branched: branches petioles peduncles and legumes glutinous and rigidly hairy: leaves petioled, pinnated; leaflets 4–8 pair, elliptic-oblong, pubescent, particularly beneath: racemes about the length of the leaves: legumes cylindrical, horizontal, straight: seeds 6–12, cylindrical, truncated at both ends: flowers distant, small, greenish-red.

Peninsula, flowering nearly all the year.

(10) I. tenuifolia. (*Rottl.*)

*Ident.* W. & A. prod. I. p. 200.

Spec. Char. Herbaceous, diffuse; branches hairy and somewhat 2-edged: leaves pinnated; leaflets about 4 pair, cuneate-oblong, hairy on both sides: peduncles longer than the leaves, few-flowered: legumes compressed, pointed, slightly torulose: sutures thickened.

Mysore.

(11) I. pedicellata. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 200.

*Engrav.* Wight's Icon. t. 983.

Spec. Char. Suffruticose, procumbent; branches sprinkled with hairs; young parts covered with brown glands; leaves petioled, palmately trifoliate; leaflets cuneate-oblong, hairy on both sides: racemes somewhat corymbiform, about the length of the leaves: pedicels slender, drooping, 2–3: calyx vexillum and keel hirsute and covered with glands.

Neilgherries.

(12) I. trifoliata. (*Linn.*)

*Ident.* W. &. A. prod. I. p. 201.—Dec. prod. II. p. 223.

*Syn.* I. prostrata, *Willd. Dec. l. c. p.* 233.—*Roxb. fl. Ind.* III. *p.* 373.—I. Leschenaultii, *Dec. l. c. p.* 223.—I. multicaulis, *Dec. l. c.*—I. canescens, *Spr.*—I. peregrina, *Dec. l. c. p.* 224.

*Engrav.* Wight's Icon. t. 314.—Pluk. t. 113. f. 8.

Spec. Char. Suffruticose; branches prostrate, ascending at the extremities, 2-edged and pubescent upwards: leaves long-petioled, palmately trifoliolate; leaflets cuneate-obovate, pubescent: racemes shorter than the petioles, dense and many-flowered: legumes straight, deflexed, somewhat torulose, with an almost winged nerve on each side of the sutures: seeds 6–8, cylindrical, truncated at both ends.

Dindigul Mountains.

(13) I. parviflora. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 201.

Spec. Char. Erect, covered with whitish hairs: branches angled upwards: leaves pinnated; leaflets 3–4 pair, oblong-linear: racemes about the length of the petiole, dense and many-flowered; upper flowers caducous: legumes linear, deflexed, pubescent, 15–20-seeded: seeds truncated at both ends.

Mysore. Cunnawady.

(14) I. paucifolia. (*Delile.*)

*Ident.* W. & A. prod. I. p. 201.—Dec. prod. II. p. 224.

*Syn.* I. argentea, *Roxb. fl. Ind.* III. *p.* 374. (not Linn.)—Bremontiera ammoxylon, Var. Burmanni, *Dec. prod.* II. *p.* 353.

*Engrav.* Burm. Zeyl. t. 82.—Wight's Icon. II. t. 331.—Delile, fl. D'Egypt. t. 37. f. 22.

Spec. Char. An erect, much-branched shrub, covered with hoary pubescence: leaves pinnated; leaflets 1–5, alternate, oblong-lanceolate, terminal one the largest: racemes solitary, somewhat spiked, longer than the leaves, many-flowered: legumes linear, torulose, pendulous and curved upwards, 5–8-seeded; seeds reniform, flattish, shining: flowers numerous, very small, greenish-red.

Tanjore. Common in dry soil. Flowering in the rainy season.

(15) I. Mysorensis. (*Rottl.*)

*Ident.* W. & A. prod. I. p. 202.—Dec. prod. II. p. 222.

Spec. Char. An erect branched shrub: branches hirsutely villous: leaves pinnated; leaflets 1–8 pair, elliptic-oblong, mucronate, pubescent: racemes elongated, many-flowered: flowers distant, solitary in the axils of foliaceous bracts: legumes pointed, erect, hirsutely villous, 3–4-seeded: seeds reniform.

Mysore.

(16) I. Wightii. (*Grah.*)

*Ident.* W. & A. prod. I. p. 202.

Spec. Char. Suffruticose, erect, hoary with silky hairs: branches ascending, striated; leaves pinnated; leaflets 5–10 pair, small,

oblong-oval, mucronate: racemes shorter than the leaves, many-flowered: flowers crowded: legumes erect, cylindrical, stout, straight, 10–12-seeded: seeds truncated at both ends.

Madura Hills. Mysore.

(17) I. TINCTORIA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 202.—Dec. prod. II. p. 224.—Roxb. fl. Ind. III. p. 379.

*Syn.* I. Indica, *Lam.*—I. Sumatrana, *Gaertn.*

*Engrav.* Wight's Icon. t. 365.—Rheede Mal. I. t. 54.—Pluk. t. 165. f. 5.

SPEC. CHAR. Suffruticose, erect, pubescent: leaves pinnated; leaflets 5–6 pair, oblong-obovate, decreasing in size towards the apex of the leaf: racemes shorter than the leaves: flowers approximated at the base of the raceme, distant and deciduous towards the apex: legumes slightly torulose, deflexed, more or less curved upwards: seeds about 10, truncated at both ends: flowers greenish-rose.

Found wild at Quilon, and in some parts of the Concan, flowering in the rainy season. This is the common Indigo plant.

(18) I. CERULEA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 203.—Roxb. fl. Ind. III. p. 377.

*Engrav.* Wight's Icon. t. 366.

SPEC. CHAR. An erect shrub, covered with whitish pubescence; leaves pinnated; leaflets 1–5 pair, obovate, the terminal largest; all hairy underneath: racemes solitary, shorter than the leaves: upper flowers deciduous: legumes short, deflexed, and falcate upwards; slightly torulose, 3–4-seeded: flowers small, yellowish-red.

Rajamundry Circars. Dindigul Hills. Flowering nearly all the year.

(19) I. PULCHELLA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 203.—Roxb. fl. Ind. III. p. 382.

*Syn.* I. purpurascens, *Roxb. l. c. p.* 383.—I. cassioides, *Rottl.*—*Dec. prod.* II. *p.* 225.

*Engrav.* Wight's Icon. t. 367.

SPEC. CHAR. Shrub or small tree; young parts usually hairy: branches angled: leaves pinnated; leaflets 8–10 pair, obovate, mucronate: racemes about the length of the leaves, axillary, or from the former years leafless branches: petals spreading and resembling a 2-lipped corolla, much longer than the calyx: legumes scattered, thick, straight and sharp-pointed: 10–12-seeded: flowers light purple.

Neilgherries. Dindigul Hills. Circar Hills. Flowering in the rainy season.

(20) I. TRITA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 203.—Dec. prod. II. p. 232.—Roxb. fl. Ind. III. p. 371.

*Syn.* I. cinerea, *Willd. Dec. l. c.—Roxb. l. c. p.* 372.—I. canescens, *Lam. Dec. prod. l. c. p.* 224.—I. Hedysaroides, *Lam. Dec. l. c. p.* 232.—I. arcuata, *Willd. Dec. l. c.*—I. rigida, *Willd. Dec. l. c. p.* 224.

*Engrav.* Wight's Icon. t. 315 and 386.

SPEC. CHAR. Herbaceous, erect, more or less hoary: leaves pinnately trifoliate; leaflets oval or oblong, mucronate: racemes about the length of the leaves: calyx segments long and subulate; legumes deflexed or horizontal, approximated at the base of the rachis, 4-angled, straight, rigid and sharp-pointed: seeds numerous, 4-sided, truncated at both ends: flowers small, reddish-green.

Very common in the Peninsula. Delhi. Banks of the Jumna. Flowering nearly all the year.

(21) I. MARGINULATA. *(Grah.)*

*Ident.* W. & A. prod. I. p. 204.

SPEC. CHAR. A diffuse shrub, sparingly pubescent: leaves pinnated; leaflets 1–2 pair, elliptic-obovate, the terminal one the largest: racemes longer than the leaves: legumes scattered, linear, slightly drooping, obscurely 4-angled, many-seeded: flowers very small, mostly caducous.

Dindigul Hills.

(22) I. FLAXIDA. (*Koen.*)

*Ident.* W. & A. prod. I. p. 204.—Roxb. fl. Ind. III. p. 375.

*Syn.* I. scabra, *Roth. Dec. prod.* II. *p.* 229.

*Engrav.* Wight's Icon. t. 387.

SPEC. CHAR. Suffruticose, slightly hairy; branches angled: leaves pinnated: leaflets 2–3 pair, opposite, oval, bristle-pointed: stipules long, bristly: racemes peduncled, twice the length of the leaves: calyx-segments long and subulate: legumes scattered on the lower half of the rachis, slender and drooping, long-linear, 4-angled, pointed, many-seeded: flowers small, recurved, greenish-red.

Samulcottah. Dindigul Hills. Flowering nearly all the year.

(23) I. HIRSUTA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 204.—Dec. prod. II. p. 228.—Roxb. fl. Ind. III. p. 376.

*Engrav.* Burm. Zeyl. t. 14.—Rheede Mal. IX. t. 30.

Spec. Char. Erect, covered except the leaves with soft hairs: leaves pinnated; leaflets opposite, 2–5 pair, oblong-obovate, the terminal one the largest: upper surface slightly, under densely clothed with silky hairs: stipules long, bristly: racemes dense, peduncled, usually longer than the leaves: calyx deeply 5-cleft; segments hairy: legumes imbricately reflexed, straight, 4-angled, mucronate, villous, 4–6-seeded: seeds 4-sided, truncated at both ends: flowers small, deep rose-coloured.

Quilon. Malabar Hill. Bombay. Nathpur. Flowering nearly all the year.

(24) I. triquetra. (*Dalz.*)

*Ident.* Hook. Jour. Bot. II. p. 36.—Dalz. Bomb. flor. p. 58.

Spec. Char. Stems acutely 3-edged, prostrate, ascending at the apex, glabrous: leaves subsessile, elliptic, mucronate, strigose beneath: racemes axillary, elongated, much longer than the leaf: legumes linear, mucronate, 4-sided and winged, about 5-seeded: flowers purple.

Rocky hills in the district of Malwan.

(25) I. arborea. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 381.

*Engrav.* Wight's Icon. t. 368.

Spec. Char. Tree: leaves pinnate; leaflets 6–9 pair, oval, emarginate: racemes as long as the leaves: wings expanded: legumes fluted, straight and smooth: flowers reddish-violet.

Shreenaghur, flowering in the hot season.

## GENUS XII. CLITORIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Clitoris*, an anatomical term, a resemblance to the configuration of which has been fancied to exist in the flower.

Gen. Char. Calyx 5-cleft, with large bracteoles at the base: vexillum large, rounded: style somewhat dilated at the apex: legume linear, straight, 2-valved, 1-celled, many-seeded.

(1) C. Ternatea. (*Linn.*)

*Ident.* W. & A. prod. I. p. 205.—Dec. prod. II. p. 233.—Roxb. fl. Ind. III. p. 321.

*Engrav.* Rheede Mal. VIII. t. 38.—Rumph. Amb. V. t. 31.—Bot. Mag. vol. XXXVII. t. 1542.

Spec. Char. Herbaceous, climbing: leaves unequally pinnated; leaflets 2–3 pair, oval or ovate: peduncles short, axillary, solitary, 1-flowered: legumes slightly pubescent: flowers resupinate, large, blue.

Peninsula. Assam. Flowering all the year. There is a variety with white flowers.

(2) C. biflora. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 68.—Hook. Journ. Bot. III. p. 34.

Spec. Char. Herbaceous, erect: stem striated with lines of hairs: leaflets ovate or lanceolate, acute, strigose beneath: peduncles very short, 2-flowered: bracts small, lanceolate-acuminate; bracteoles large, ovate-acuminate: calyx tubular, hairy, the teeth with bristly points: ovary silky: flowers small, blue.

Common in the Concan.

## GENUS XIII. PUERARIA.

**Monadelphia Decandria.** *Sex: Syst:*

*Deriv.* Called after Mons. Puerari, a Professor of Copenhagen.

Gen. Char. Calyx campanulate, somewhat 2-lipped with 2 caducous bracteoles at its base; upper lip entire or slightly 2-toothed, the lower trifid: corolla papilionaceous: keel straight, obtuse: vexillum obovate: legume flat, attenuated at the base, pointed with the style, 2-valved: seeds several.

(1) P. tuberosa. *(Dec.)*

*Ident.* W. & A. prod. I. p. 205.—Dec. prod. II. p. 240.

*Syn.* Hedysarum tuberosum, *Roxb. fl. Ind.* III. *p.* 363.

*Engrav.* Icon. Kæmpf. t. 25.

Spec. Char. Twining shrub: leaves trifoliolate; leaflets roundish, pubescent above, silky villous beneath: root tuberous, very large: stipules cordate: calyx 4-cleft, silky; segments nearly equal, ovate, the upper one broadest and almost entire: racemes simple or branched, springing from the scars of the fallen leaves: legumes very hairy, linear, 2–6-seeded, much contracted between the seeds: flowers in threes, blue.

A rare species. A native of valleys far up among the Circar mountains, flowering in the hot season, at which time it is perfectly destitute of leaves.

## GENUS XIV. DUMASIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* Called after Mons. Dumas, one of the Editors of the "Annales des Sciences Naturelles."

Gen. Char. Calyx cylindrical, obliquely truncated, gibbous, bibracteolate at the base: corolla papilionaceous: the claws of the petals the length of the calyx: limb of the vexillum cordate-oval; keel obtuse: style dilated above the middle: legume attenuated at the base, 2-valved, few-seeded, contracted between the seeds.

(1) D. congesta. (*Grah.*)

*Ident.* W. & A. prod. I. p. 206.

Spec. Char. Twining plant, villous all over: leaves pinnately trifoliolate; leaflets ovate; racemes longer than the leaves, axillary, many-flowered; wings and keel strongly cohering for a little space by their limb: legumes densely pubescent.

Neilgherries. This is probably not distinct from the D. villosa of De Candolle.

## GENUS XV. GALACTIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Gala*, milk; one species yields a milky juice.

Gen. Char. Shrubs, undershrubs or herbaceous twining plants: leaves pinnated; racemes axillary: calyx 1-cleft, bibracteolate at the base: segments acute, nearly equal: corolla papilionaceous: petals 5, distinct, or the keel petals slightly cohering at the apex: vexillum incumbent: legume terete or compressed, many-seeded, 2-valved, 1-celled.

(1) G. tenuiflora. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 206.

*Syn.* Glycine tenuiflora, *Willd. Dec. prod.* II. *p.* 241.—*Roxb. fl. Ind.* III. *p.* 319.—Teramnus tenuiflorus, *Spreng.*

Spec. Char. Twining shrub: branches slightly pubescent: leaflets from oval to oblong-lanceolate, glabrous above, pubescent beneath: calyx campanulate: legume linear, acute, rather falcate, pubescent: flowers small, twin, purplish.

Colemala. Hills near Pondicherry.

(2) G. longifolia. (*Wight.*)

*Ident.* Wight's Icon. vol. II.

*Engrav.* Wight's Icon. t. 482.

Spec. Char. Twining, slightly pubescent: leaflets linear-lanceolate, cordate at the base; peduncles axillary, slender, nearly as long as the leaves, few-flowered: calyx pubescent, 5-cleft: segments subulate: legume slightly pubescent.

Balaghaut Hills, near Madras.

(3) G. VILLOSA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 207.

SPEC. CHAR. Twining: branches more or less villous: leaflets oval, obtuse or slightly retuse at both ends, upper side softly pubescent, under villous: calyx softly hairy, campanulate.

Peninsula.

(4) G. SIMPLICIFOLIA. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 69.—Hook. Jour. Bot. III. p. 209.

SPEC. CHAR. Stem creeping, filiform, hispid with hairs: leaves simple, petioled, ovate: racemes shorter than the leaf: legume covered with brown hairs, linear, many-celled: seeds orbicular, compressed: flowers axillary and terminal, racemosely fascicled, purple.

Near Tullawaree. Hurrychunder. Flowering in October.

## GENUS XVI. SHUTERIA.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* In honor of Dr. Shuter, formerly a Physician at Madras.

GEN. CHAR. Twining shrubs: leaves pinnately trifoliolate: racemes axillary: calyx 4-cleft: the inferior and superior segments longer than the lateral ones: bracteoles 2: corolla papilionaceous, twice as long as the calyx: petals with long claws: keel shorter than the wings: margins of the vexillum recurved: style compressed, elongated, somewhat flexuose after flowering. stigma capitate: legume linear, compressed, hairy, 5–6-seeded, with partitions between the seeds.

(1) S. VESTITA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 207.

*Engrav.* Wight's Icon. t. 165.

SPEC. CHAR. Branches, petioles and racemes covered with hairs: leaflets slightly hairy on both sides, particularly beneath, slightly acute, mucronate, lateral ones ovate, terminal one rhomboidal: calyx very hairy: racemes shorter than the leaves, many-flowered: flowers 2 or more from each bract.

Dindigul Hills.

(2) S. GLABRATA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 207.

SPEC. CHAR. Twining, hairy: leaflets glabrous on both sides, sprinkled with hairs along the margin, obtuse, slightly mucronate,

lateral ones oval: calyx glabrous, or slightly hairy: flowers solitary from each bract.

Cunnawady.

## GENUS XVII. JOHNIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* Called after Dr. John, the founder of the Missionary Garden at Tranquebar.

GEN. CHAR. Calyx deeply 5-cleft: lower segment slightly longer, 2 upper combined to above the middle: bracteoles 2, as long as the calyx and below its base: corolla papilionaceous, shorter than the calyx: vexillum oblong-obovate, nearly twice the length of the other petals: keel entire, free from the wings: style ensiform: stigma capitate: legume linear, pointed with the base of the style, hairy, 4–5-seeded, with partitions between the seeds: seeds flattish, peritropal.

### (1) J. WIGHTII. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 208.

SPEC. CHAR. Twining, covered with brownish hairs: leaves pinnately trifoliolate: leaflets hairy, roundish-ovate, 3-nerved at the base: racemes axillary, at first dense, afterwards elongated, with the flowers distant: legumes reflexed.

Dindigul Hills. Mysore. Colemala.

### (2) J. CONGESTA. *(Dalz. Mss.)*

*Ident.* Dalz. Bomb. flor. p. 69.

SPEC. CHAR. Stems twining, filiform, clothed with soft white hairs: leaves trifoliolate: leaflets small, broad-ovate, very acute: stipules oblong, acute, strongly 4-nerved: peduncles axillary, solitary, not longer than the stipules, 2–3-flowered: legumes reflexed, compressed, flat, linear, slightly falcate, puberulous, 5–6-seeded: valves united between the seeds.

Sewnere. Hill Fort.

## GENUS XVIII. GLYCINE.

**Monadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Glukys*, sweet. The leaves and roots of some of the species are sweet.

GEN. CHAR. Herbaceous or suffrutescent twining plants: leaves pinnately trifoliolate: leaflets with 2 stipules near the base: racemes axillary, interrupted: calyx somewhat bilabiate, upper lip bifid, lower trifid and more deeply cleft than the upper: segments

lanceolate: bracteoles 2, at the base of the calyx: corolla papilionaceous: vexillum emarginate, the sides recurved: keel free from the wings, and shorter than them and the vexillum: 5 stamens shorter than the others and occasionally without anthers: style short, slightly curved: stigma pruinose: legume linear, cylindrical, nearly straight, ending in the thickened and hardened base of the style, many-seeded, with partitions.

(1) G. LABIALIS. *(Linn.)*

*Ident.* W. & A. prod. I. p. 208.—Roxb. fl. Ind. III. p. 318.

*Syn.* G. debilis, *Ait. Dec. prod.* II. *p.* 241.—G. parviflora, *Lam. Dec. l. c. p.* 242.—Teramnus labialis, *Spr.*—T. parviflorus, *Do.*

*Engrav.* Wight's Icon. t. 168.

SPEC. CHAR. Twining: stem slightly hairy: leaflets ovate-oblong, slightly coriaceous, upper side glabrous and shining, under pale green, sparingly hairy: calyx with short white hairs: legumes pubescent, pointed: flowers 2–3 together, pinkish.

Peninsula, flowering in the rainy season.

(2) G. MOLLIS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 209.

SPEC. CHAR. Twining: stems clothed with long hairs: leaflets broadly ovate, or elliptical, thin, hairy on both sides: calyx about the length of the corolla, very hairy: hairs on the tube patent, on the segments erect: legumes pubescent, long-pointed: flowers fascicled, small, rose-coloured.

Peninsula.

(3) G. WARREENSIS. *(Dalz.)*

*Ident.* Hook. Jour. Bot. III. p. 211.—Dalz. Bomb. fl. p. 68.

SPEC. CHAR. Stamens diadelphous: leaflets ovate-oblong, glabrous above, strigose beneath, lateral ones unequal-sided: racemes compound, 2–3 times longer than the leaf, many-flowered: flowers approximated: calyx strongly nerved, upper lip entire: legumes covered with white hairs, 6-seeded.

In the Warree country, flowering in the cold season.

(4) G. PENTAPHYLLA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 68.—Hook. Jour. Bot. IV. p. 334.

SPEC. CHAR.. Stem twining, strigose: leaflets 2 pair, with an odd one, lanceolate, mucronate, strigose on both sides: flowers axillary, interruptedly spicate: spikes straight, rigid, solitary or twin, shorter than the leaf: legumes much compressed, linear, ter-

minated by a straight short mucro, thickened on the sutures, many-celled.

In the Warree country, flowering in the cold season.

## GENUS XIX. PSEUDARTHRIA.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Pseudos*, false, and *Arthron*, a joint, alluding to the jointed pedicels which easily break off.

Gen. Char. Diffuse or erect, perennial plants: calyx obscurely 2-lipped to about the middle, upper lip bifid, lower 3-partite, the middle segment the longest, corolla papilionaceous: petals nearly equal: vexillum roundish: style filiform, short: stigma capitate: legume 1-celled, covered with hooked hairs, flat linear, roundish at the apex, with a short point about its middle: seeds alternate, somewhat kidney-shaped.

### (1) P. viscida. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 209.

*Syn.* Hedysarum viscidum, *Linn. Roxb. fl. Ind.* III. *p.* 356.—Desmodium viscidum, *Dec. prod.* II. *p.* 336.—Rhynchosia viscida, *Dec. l. c. p.* 387.—Glycine viscida, *Willd.*

*Engrav.* Burm. Zeyl. t. 84. f. 1.—Wight's Icon. t. 286.

Spec. Char. Diffuse, prostrate: leaves pinnately trifoliolate; lateral leaflets obliquely ovate, terminal one, rhomboid-ovate, pubescent above, when old villous underneath: racemes filiform, elongated: legumes 3–4-seeded: flowers purple, in threes from each bract, on longish pedicels, jointed close under the calyx.

Travancore. Dindigul. Flowering nearly all the year.

## GENUS XX. TEPHROSIA.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Tephros*, ash-coloured, alluding to the colour of the bark and foliage of some of the species.

Gen. Char. Shrubs or herbaceous plants: leaves unequally pinnated, sometimes reduced to a single leaflet: racemes terminal, axillary or leaf-opposed: calyx 5-toothed or cleft, without bracteoles: vexillum large, roundish, usually silky or pubescent outside, spreading or reflexed: keel cohering with the wings: stamens variously united, the upper filament sometimes half united with the others: style filiform: legume generally sessile and flat, linear, many-seeded; seeds compressed.

(1) T. SUBEROSA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 210.—Dec. prod. II. p. 249.

*Syn.* T. sericea, *Dec. l. c.*—Cytisus sericeus, *Willd.*—Robinia suberosa, *Roxb. fl. Ind.* III. *p.* 327.—R. sennoides, *Roxb. fl. Ind.* III. *p.* 328.

*Engrav.* Wight's Ill. I. t. 82.

SPEC. CHAR. Arborescent; young shoots tomentose: bark corky and cracked: leaves pinnated; leaflets 6–18 pair, elliptic-oblong, obtuse, clothed on the under side with silky pubescence; calyx campanulate, shortly 5-toothed: keel straightish: vexillum pubescent: legume long, straight, silky-pubescent, contracted between the seeds: racemes terminal: flowers in pairs, long-pedicelled, bright purple.

Alpine valleys in Mysore. Madura. Tinnevelly. Northern Circars. The seeds are used to poison fish. This species is also abundant on the rocky hills east of Belgaum. It flowers in June and July.

(2) T. CANDIDA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 210.—Dec. prod. II. p. 249.

*Syn.* Robinia candida, *Roxb. fl. Ind.* III. *p.* 327.

SPEC. CHAR. An erect, branched shrub; young shoots villous; leaflets 9–11 pair, oblong-lanceolate, mucronate, pale and hairy beneath: calyx campanulate, shortly 5-toothed: keel falcate towards the apex: vexillum silky: style hairy, bent into a right angle: racemes terminal or axillary: flowers large, drooping, fascicled, white.

Assam. Khasia mountains. Flowering in the rainy season.

(3) T. FUSCA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 210.

SPEC. CHAR. An erect, branched shrub: branches and young parts tomentose; leaflets 6–9 pair, oblong-linear, obtuse at both ends, mucronate, upper side pubescent, under woolly: racemes terminal, short: calyx 5-cleft, villous: legume linear, compressed between the seeds, slightly curved, long-pointed, covered with silky hairs: flowers in pairs, on longish pedicels.

Dindigul Hills. The whole plant is of a dark or dirty grey colour.

(4) T. TINCTORIA. *(Pers.)*

*Ident.* W. & A. prod. I. p. 211.—Dec. prod. II. p. 252.

*Syn.* T. hypargyrea, *Dec. l. c. p.* 253.—T. nervosa, *Pers. Dec. l. c. p.* 254.—Galega tinctoria, *Linn.*—G. Heyneana, *Roxb. fl. Ind.* III. *p.* 384.

*Engrav.* Wight's Icon. t. 388.

Spec. Char. Erect, branched shrub, everywhere except the upper surface of the leaves clothed with a silky white or fulvous tomentum: leaflets 1–6 pair, occasionally reduced to the terminal leaflet, oblong-oval; terminal one longest, the lower pair at the base of the petiole and smaller than the rest, white and tomentose beneath: peduncles usually longer than the leaves, axillary, erect, bearing a short spike-like raceme at the apex: segments of the calyx subulate: vexillum silky: flowers small, dull red, on pedicels shorter than the bracts: legumes flat, nearly straight, spreading, 8–12-seeded.

Dindigul Hills. Neilgherries. Mysore. Flowering in the cold season.

(5) T. senticosa. *(Pers.)*

*Ident.* W. & A. prod. I. p. 211.—Dec. prod. II. p. 254.

*Syn.* T. spinosa, *W. & A. l. c. p.* 214.—Galega senticosa, *Linn.*—G. pentaphylla, *Roxb. fl. Ind.* III. *p.* 384.

*Engrav.* Wight's Icon. t. 370.

Spec. Char. Diffuse shrub: leaflets 1–3 pair, obcordate, under side whitish with fine pubescence: flowers twin, axillary, towards the extremity of the branches, nearly sessile: calyx segments subulate: legumes compressed, slightly curved at the point: flowers dull-reddish.

Hills in the Concan. Mysore. Flowering in the cold season.

(6) T. Hookeriana. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 212.

Spec. Char. Diffuse shrub: branches and petioles tomentose; leaflets 5–7 pair, from oval to oblong-obovate, upper side softly pubescent, under clothed with silvery hairs: racemes terminal, interrupted: calyx tomentose: vexillum silky: legumes linear, drooping, softly pubescent, acuminated at the point: flowers fascicled.

Trichinopoly.

(7) T. incana. *(Grah.)*

*Ident.* W. & A. prod. I. p. 212.

*Syn.* T. Colutea, *Dec. prod.* II. *p.* 252.—Galega incana, *Roxb. fl. Ind.* III. *p.* 388.—G. Colutea, *Willd.*

*Engrav.* Wight's Icon. t. 371.

Spec. Char. Diffuse shrub: everywhere except the upper surface of the leaves tomentose or woolly: leaflets about 6 pair, obovate, retuse, upper side pubescent, under woolly: racemes terminal, interrupted: flowers fascicled, almost sessile: calyx villous with long fulvous hairs; segments longer than the tube: vexillum silky: legumes deflexed, and falcately curved upwards, densely fulvous-woolly: flowers small, reddish.

Mysore, flowering in the cold season. The T. argentea and T. villosa of Pers. are probably varieties of this species. See W. & A. prod. I. p. 212.

(8) T. DIFFUSA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 213.

*Syn.* Galega diffusa, *Roxb. fl. Ind.* III. *p.* 387.—G. procumbens, *Ham. in Linn. Soc. Trans.* XIII. 547.—G. prostrata, *Koen.*

*Engrav.* Pluk. t. 52. f. 1.

SPEC. CHAR. A diffuse, procumbent and villous shrub: leaflets 5–10 pair, cuneate, hairy, particularly on the under side: racemes leaf-opposed, becoming elongated, with a small leaf at each pair of flowers: calyx deeply 5-cleft, hairy: segments setaceous: vexillum hairy: legumes ascending, linear, more or less hairy: flowers small.

Dindigul. Arcot. Delhi and banks of the Jumna. Flowering in the cold season.

(9) T. PURPUREA. (*Pers.*)

*Ident.* W. & A. prod. I. p. 213.—Dec. prod. II. p. 251.

*Syn.* T. lanceæfolia, *Link. Dec. l. c.*—Galega purpurea, *Linn. Roxb. fl. Ind.* III. *p.* 386.—G. tinctoria, *Lam. Roxb. l. c.*—G. lanceæfolia, *Roxb. l. c. p.* 386.

*Engrav.* Wight's Icon. t. 372.—Burm. Zeyl. t. 32.—Rheede Mal. I. t. 55.

SPEC. CHAR. A somewhat erect, much-branched shrub: branches glabrous, pubescent or villous: leaflets cuneate-oblong or lanceolate, under side more or less pubescent: racemes leaf-opposed, often longer than the leaves: flowers on pedicels longer than the bracts, 2–3 together: calyx pubescent: corolla 3 times as long as the calyx-tube: vexillum silky, bent back from near its base: legumes spreading, linear, slightly falcate, obtuse with a short point, pubescent or glabrous: flowers small, purple.

Concan. Peninsula. Delhi. Banks of the Jumna. Assam. Circars. Flowering in the rainy season.

(10) T. MAXIMA. (*Pers.*)

*Ident.* W. & A. prod. I. p. 213.—Dec. prod. II. p. 252.

*Syn.* Galega maxima, *Linn.*

SPEC. CHAR. A diffuse, procumbent shrub: stems glabrous or slightly hairy: leaflets cuneate, emarginate, slightly pubescent on the under side; stipules reflexed: racemes leaf-opposed, interrupted, usually with a leaf at each of the lower fascicles of flowers: corolla 5–6 times longer than the calyx-tube: vexillum silky, straight to near the apex: legumes almost flat, spreading, linear, straight and long-pointed, pubescent or glabrous.

Dry soils at Samulcottah.

(11) T. TENUIS. *(Wall.)*

*Ident.* Dalz. Bomb. flor. p. 61.

*Syn.* Macronyx strigosus, *Dalz. in Hook. Jour. Bot.* II. *p.* 35.

SPEC. CHAR. Annual; diffuse: stems filiform, strigose, ascending: leaves simple, linear or narrow-elliptic, mucronate, 3-nerved: peduncles axillary, solitary or twin, shorter than the leaf, 1-flowered: corolla with long claws to the petals: legumes compressed, linear, straight, thickened at the margins: valves cohering between the seeds, 7–8-seeded.

Concans, flowering in August.

(12) T. FRUTICOSA. *(Dec.)*

*Ident.* Dec. prod. II. p. 249.

*Syn.* Robinia fruticosa, *Roxb. fl. Ind.* III. *p.* 328.

SPEC. CHAR. Climbing shrub: leaflets 4–5 pair, ovate-oblong, acute, glabrous above, villous on the nerves beneath: legume broad-oblong, compressed, velvety, shortly acuminated: racemes short: flowers middle-sized, rose-coloured.

Interior of Bengal, flowering in the rainy season.

## GENUS XXI. WISTARIA.

**Diadelphia Decandria.** *Sex Syst*

*Deriv.* In honor of Caspar Wistar, late Professor of Anatomy in the University of Pennsylvania.

GEN. CHAR. Climbing shrubs: leaves unequally pinnate: racemes terminal and axillary: calyx campanulate, somewhat 2-lipped, upper lip with two, lower one with three teeth: corolla papilionaceous: vexillum bicallose: wings conforming to the keel which is 2-edged: legume stalked, coriaceous, 1-celled, somewhat torulose.

(1) W. RACEMOSA. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 61.

*Syn.* Tephrosia racemosa, *W. & A. prod.* I. *p.* 210.—Robinia racemosa, *Roxb. fl. Ind.* III. *p.* 329.

SPEC. CHAR. Large, climbing shrub: leaves alternate: leaflets 6–8 pair, oval, acute, smooth: racemes axillary, erect, many-flowered: legumes straight, pendulous, very protuberant at the seeds, and flatly compressed between them: seeds 5–6, oblong, white; flowers large, rose-coloured.

Near Belgaum. Forests of the Circar mountains. Flowering in the rainy season.

(2) W. PALLIDA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 61.

SPEC. CHAR. Large, climbing shrub: leaflets about 5 pair, ovate or ovate-oblong, acute, margins waved: racemes axillary, solitary, long and slender, from the axils of the uppermost young leaves: legumes straight, linear-narrow, very protuberant at the seeds, compressed, flat around and between them; seeds 4–5: flowers small, pale yellow.

In the Dangs, very rare. Wassoorna forest. Dalzell suggests that this may be the Robinia ferruginea of Roxb. fl. Ind. III. p. 329.

## GENUS XXII. SESBANIA.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Sesban*, the Arabic name.

GEN. CHAR. Shrubs or herbaceous plants: leaves abruptly pinnated: petioles ending in a bristle-point: peduncles axillary: calyx 5-cleft or toothed: corolla papilionaceous: vexillum larger than the keel, roundish, with a callous appendage on its claw: keel obtuse; the petals distinct at the base: stamen-sheath slightly auricled at the base: legumes linear, torulose, many-seeded, and much contracted between the seeds.

(1) S. ACULEATA. (*Pers.*)

*Ident.* W. & A. prod. I. p. 214.—Dec. prod. II. p. 265.

*Syn.* Æschynomene spinulosa, *Roxb. fl. Ind.* III. *p.* 333.—Æ. cannabina, *Roxb. l. c. p.* 335.—Æ. bispinosa, *Jacq. Ic. Rar.* —Coronilla aculeata, *Willd.*

*Engrav.* Jacq. Ic. Rar. III. t. 564.

SPEC. CHAR. Herbaceous, erect: stem and petioles sprinkled with small cartilaginous points: leaflets 20–40 pair, linear, obtuse, mucronate: racemes peduncled, erect, lax, about half the length of the leaves: legumes erect, nearly terete, sharp-pointed: flowers pretty large, on slender pedicels, yellow, purple-dotted.

Peninsula. Saharanpore. Flowering in August and September.

(2) S. CANNABINA. *(Pers.)*

*Ident.* W. & A. prod. I. p. 215.—Dec. prod. II. p. 265.

*Syn.* Æschynomene cannabina, *Retz.*—Coronilla cannabina, *Willd.*

SPEC. CHAR. Herbaceous, annual, erect: young parts sprinkled with minute points: leaflets linear, obtuse, mucronate: racemes

nearly sessile, very short, 1–4-flowered: legumes erect: flowers small, on short pedicels, yellow.

Malabar. Peninsula. Flowering in July and August.

(3) S. PROCUMBENS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 215.

*Syn.* Æschynomene procumbens, *Roxb. fl. Ind.* III. *p.* 337.

SPEC. CHAR. Annual, diffuse, armed with inoffensive prickles: leaflets about 20 pair: peduncles short, 2–3-flowered: legumes linear, erect, cuspidate: flowers yellow.

Coromandel, on wet pasture lands, flowering in September and October.

## GENUS XXIII. ORMOCARPUM.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Ormos*, a necklace, and *Carpos*, fruit, in allusion to the moniliform legume.

GEN. CHAR. Shrubs: calyx bibracteolate at the base, 5-cleft, more or less bilabiate: corolla papilionaceous: vexillum broad, entire: keel obtuse: the petals slightly cohering at the back: legumes stalked, jointed, the joints oblong and marked longitudinally with striæ and warts, separating readily from each other, 1-seeded.

(1) O. SENNOIDES. *(Dec.)*

*Ident.* W. & A. prod. I. p. 216.—Dec. prod. II. p. 315.

*Syn.* Hedysarum sennoides, *Willd. Roxb. fl. Ind.* III. *p.* 364.

*Engrav.* Wight's Icon. t. 292.

SPEC. CHAR. Young shoots, petioles, peduncles and calyx covered with glutinous hairs: leaves unequally pinnated: leaflets alternate, 4–6 pair, obovate, retuse: stamens equally diadelphous, (5 and 5): legume 2–5-jointed, covered with prickly warts; flowers yellow, fragrant: racemes short, axillary.

Circars. Vendalore. Flowering in the rainy season.

## GENUS XXIV. ZORNIA.

**Monadelphia Decandria.** *Sex: Syst:*

*Deriv.* In honor of John Zorn, Author of "Icones Plantarum Medicinalium."

GEN. CHAR. Usually herbaceous plants: leaves petioled; leaflets springing from the apex of the petiole: calyx campanulate,

divided in the middle into 2 lips, lower lip 3-cleft: corolla papilionaceous, inserted into the bottom of the calyx: vexillum orbicular, with revolute sides: stamens alternately shorter; anthers alternately oblong and globose: legume compressed, 2–5-jointed, exceedingly contracted between the joints which are usually hispid.

(1) Z. ANGUSTIFOLIA. (*Sm.*)

*Ident.* W. & A. prod. I p. 217.—Dec. prod. II. p. 316.

*Syn.* Hedysarum diphyllum, *a*, *Linn. Roxb. fl. Ind.* III. *p.* 353.

*Engrav.* Rheede Mal. IX. t. 82.

SPEC. CHAR. Annual, diffuse: leaflets 2, oblong or lanceolate, mucronate: flowers sessile, yellow, each bracteated with 2 opposite stipules: bracts sagittate-ovate, ciliated: legumes scarcely as long as the bracts, occasionally longer, pubescent, prickly.

Coromandel. Bombay. Flowering in the cold and rainy season.

(2) Z. ZEYLONENSIS. (*Pers.*)

*Ident.* W. & A. prod. I. p. 117.—Dec. prod. II. p. 317.

*Syn.* Z. conjugata, *Sm.*—Z. Zeylanica, *Spr.*—Hedysarum conjugatum, *Willd.*

*Engrav.* Burm. Zeyl. t. 50. f. 1.—Rheede Mal. IX. t. 83.—Pluk t. 102. f. 1.

SPEC. CHAR. Annual, diffuse: leaflets 2, oblong or ovate, mucronate, hairy on the margin and midrib beneath: bracts sagittate-ovate, acute; legumes 2–3 times the length of the bracts, prickly, glochidiate: flowers sessile, yellow.

Peninsula. Coromandel.

## GENUS XXV. GEISSASPIS.

**Monadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Geisson*, a projection, and *Aspis*, a shield, alluding to the vexillum which projects and covers the other petals.

GEN. CHAR. Calyx cleft deeply into 2 lips, upper one quite entire, lower with a small tooth on each side near the apex; corolla papilionaceous: vexillum at first covering the other petals, afterwards reflexed: wings narrow-oblong; keel incurved: stamens of equal length: anthers all roundish.

(1) G. CRISTATA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 218.

SPEC. CHAR. Procumbent, herbaceous plant: leaves equally pinnated; leaflets 2 pair, cuneate-obovate, retuse: racemes axillary and terminal, on longish peduncles: bracts orbicular, with bristly

ciliated margins: flowers solitary in each bract, small, orange-coloured: legume 1–2-jointed, tumid in the middle, thin at the margins.

Very common in pasture lands. Courtallum. Malabar, in rice fields.

## GENUS XXVI. STYLOSANTHES.

**Monadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Stylos*, a style, and *Anthos*, a flower, alluding to the flower having a long style.

Gen. Char. Calyx-tube very long, limb 5-partite: corolla inserted on the throat of the tube of the calyx: keel small, 2-cleft at the apex: anthers alternately linear and ovate: style very long, straight: stigma capitate, hispid: legume jointed, 1-seeded.

(1) S. mucronata. (*Willd.*)

*Ident.* W. & A. prod. I. p. 218.—Dec. prod. II. p. 318.

*Syn.* Arachis fruticosa, *Retz. Roxb. fl. Ind.* III. *p.* 282.—Hedysarum hamatum, *Burm. Ind. p.* 167.

*Engrav.* Burm. Zeyl. t. 106. f. 2.—Pluk. t. 69. f. 1.

Spec. Char. Suffruticose, branched, hirsutely pubescent: leaves trifoliolate; leaflets oblong-ovate, mucronate, slightly bristle-ciliated, younger ones pubescently hairy beneath: flowers axillary, sessile, solitary, or forming terminal imbricated spikes, yellow.

Coromandel, flowering in the rainy and cold season.

## GENUS XXVII. ÆSCHYNOMENE.

**Diadelphia Decandria.** *Sex Syst:*

*Deriv.* From *Aischuno*, to be ashamed, in allusion to the sensitiveness of the leaves.

Gen. Char. Herbs or shrubs: leaves unequally pinnated: racemes axillary: calyx 2-lipped, upper lip 2-cleft or 2-toothed, lower 3-cleft or 3-toothed: corolla papilionaceous, inserted into the bottom of the calyx: keel boat-shaped, bipartite at the base: stamens 5 and 5: legumes compressed, straight, many-jointed; joints square at both ends: seeds one in each joint.

(1) Æ. aspera. (*Linn.*)

*Ident.* W. & A. prod. I. p. 219.—Dec. prod. II. p. 320.

*Syn.* Æ. lagenaria, *Lour.*—Hedysarum lagenarium, *Roxb. fl. Ind.* III. *p.* 365.

*Engrav.* Wight's Icon. t. 299.

Spec. Char. Perennial, herbaceous, erect, floating, spongy: leaflets 30–40 pair, linear: racemes few-flowered: peduncles and pedicels hairy: corolla much longer than the calyx: legumes long-stalked, 4–7-jointed, with prickly tubercles on each joint: flowers brownish-orange.

Coromandel. Bengal. Silhet. Assam. Courtallum. Flowering in the rainy season. The plants are gathered during April and May and converted by the natives into toys, floats, hats, &c. It is the *Sola* of Bengal, from which pith hats are manufactured.

(2) Æ. Indica. (*Linn.*)

*Ident.* W. & A. prod. I. p. 219.—Dec. prod. II. p. 320.

*Syn.* Hedysarum Nali Tali, *Roxb. fl. Ind.* III. *p.* 365.—Æ. pumila, *Linn. Dec. prod.* II. *p.* 321.—Æ. diffusa, *Willd. Dec. l. c.*

*Engrav.* Rheede Mal. IX. t. 18.—Wight's Icon. t. 405.

Spec. Char. Annual, procumbent; branches slender, spreading on the ground: leaflets 15–20 pair, linear, obtuse: peduncles axillary, slender, few-flowered: legumes long-stalked, 6–10-jointed, rough with warts when ripe: flowers pale-yellow.

Coromandel. Bombay. Flowering in the rainy season.

(3) Æ. subviscosa. (*Dec.*)

*Ident.* Dec. prod. II. p. 321.

*Syn.* Æ. Roxburghii, *Spr.*—Smithia aspera, *Roxb. fl. Ind.* III. *p.* 343.

Spec. Char. Herbaceous, erect, tubercled; leaflets linear, obtuse, glabrous: peduncles usually 2-flowered, which with the legumes are usually covered with glandular hairs: flowers middle-sized, bright-yellow.

Bengal, flowering in the rainy season.

## GENUS XXVIII. SMITHIA.

**Monadelphia Decandria.** *Sex. Syst.*

*Deriv.* Called after Sir J. Smith, founder of the Linnæan Society, and author of the English Flora.

Gen. Char. Procumbent, herbaceous plants, with abruptly pinnated leaves: racemes axillary: calyx scariose, bipartite, with 2 bracteoles at the base: corolla papilionaceous, inserted into the bottom of the calyx: keel cleft from the base to near the apex: stamens equally monadelphous (5 and 5): legumes 4–6-jointed, folded up within the calyx, much contracted between the joints; joints 1-seeded, orbicular.

(1) S. SENSITIVA. *(Ait.)*

*Ident.* W. & A. prod. I. p. 220.—Dec. prod. II. p. 323.—Roxb. fl. Ind. III. p. 342.

*Syn.* S. geminiflora, *Roth. Dec. l. c.*

*Engrav.* Rheede Mal. IX. t. 38.—Ait. Hort. Kew. III. p. 496. t. 13.

SPEC. CHAR. Perennial; leaflets 3–6 pair, oval, obtuse, bristly along the margin and midrib beneath: pedicels slightly hairy: calyx segments striated, oblong-lanceolate, pointed, upper one entire, lower occasionally 3-toothed: vexillum orbicular, much longer than the calyx: flowers forming a sessile or peduncled short raceme, yellow.

Coromandel. Travancore. Bombay. Silhet. Assam. Flowering in the rainy season. The plant makes excellent hay. (Roxb.)

(2) S. RACEMOSA. *(Heyne.)*

*Ident.* W. &. A. prod. I. p. 221.

SPEC. CHAR. Leaflets cuneate-oblong, retuse, bristly on the margin and midrib beneath: upper lip of the calyx broad, truncated, lower shortly 3-cleft: legume about 4-jointed, slightly warted: flowers yellow, forming a peduncled short raceme: peduncles longer than the leaves, and with the pedicels and calyx glandular and hairy.

Peninsula. Belgaum.

(3) S. HIRSUTA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 63.—Hook. Jour. Bot. III. p. 135.

SPEC. CHAR. Annual, erect: stem and branches hirsute, with spreading yellow hairs; leaflets 3–4 pair, obovate-cuneate, unequal-sided, ciliate on the margin: flowers between capitate and racemose; peduncles longer than the leaf, 10-flowered; calyx sparingly covered with long hairs, upper segment cuneate, truncate, emarginate, lower cuneate-obovate, entire: flowers yellow.

Poonda Ghaut, flowering in September.

(4) S. CAPITATA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 63.—Hook. Jour. Bot. III. p. 208.

SPEC. CHAR. Stem glabrous, branched; leaflets 9–15 pair, linear-oblong, obtuse, ciliated, common petiole hispid; stipules adnate, ovate-lanceolate, terminated by a bristle: flowers in a spherical head, numerous, terminal: peduncles glabrous, shorter than the leaf: bracts obovate-lanceolate, as long as the calyx: calyx

glabrous, the lips rounded, undivided, toothed, the teeth long and bristly: legumes smooth, joints 6–7.

Parwar Ghaut, flowering in October.

(5) S. SETULOSA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 63.—Hook. Jour. Bot. III. p. 208.

SPEC. CHAR. Stem dichotomously branched, hispid with small bristles: leaflets 5–7 pair, linear-oblong, obtuse, ciliated on the margin: common petiole hispid: stipules adnate, with a long bristly acumination: flowers in a terminal, leafless panicle: calyx striated; lips quite entire, minutely ciliated, very unequal, upper one larger, round, lower one oblong, acute: legumes prominently reticulated, 10–12-jointed.

Parwar Ghaut, flowering in October.

(6) S. BIGEMINA. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 64.—Hook. Jour. Bot. III. p. 208.

SPEC. CHAR. Height about 1 foot: branches springing from the base, filiform, hirsute, with bulbous spreading hairs: leaflets 2 pair, obovate-cuneate, ciliated on the margin, terminated by a bristle: racemes few-flowered: upper lip of the calyx cuneate, emarginate, mucronate, lower 3-lobed, middle one longer, acuminated: legume coarsely tubercled, 7-jointed.

Parwar Ghaut.

(7) S. PURPUREA. (*Law.*)

*Ident.* Dalz. Bomb. flor. p. 64.

*Engrav.* Bot. Mag. t. 4283.

SPEC. CHAR. Stem erect, branched; leaflets oblong, long-pointed, ciliated: stipules adnate, ovate, terminated by a bristle: racemes terminal and lateral: peduncles bristly, as long as the leaf: calyx segments entire, striated, ciliated: flowers purple, with a white spot on the vexillum and wings.

Bombay.

(8) S. BLANDA. (*Wall.*)

*Ident.* Dalz. Bomb. flor. p. 64.

SPEC. CHAR. Leaflets cuneate-oblong; middle nerve without bristles; racemes elongated, glandular and hairy; upper lip of calyx broad, emarginate, truncated, lower 3-lobed: legume not tubercled or warty.

Belgaum.

## GENUS XXIX. LOUREA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* Meaning unknown.

GEN. CHAR. Calyx campanulate, persistent, equally 5-cleft; scariose and inflated when in fruit: corolla papilionaceous: vexillum obcordate: keel obtuse: legumes 4–6-jointed, folded up within the calyx, much contracted between the joints which are 1-seeded.

### (1) L. VESPERTILIONIS. (*Desv.*)

*Ident.* W. & A. prod. I. p. 221.—Desv. Jour. Bot. III. p. 122. —Dec. prod. II. p. 323.

*Syn.* Hedysarum Vespertilionis, *Linn. Roxb. fl. Ind.* III. *p.* 352.

*Engrav.* Wight's Icon. t. 285.—Jacq. Icon. Rar. IV. t. 566.

SPEC. CHAR. Herbaceous, erect; leaves trifoliolate; lateral leaflets none or small, obliquely cuneate at the base, truncated at the apex, terminal one transverse, tipped with a spiny bristle, 2-lobed; lobes divaricating, oblong-lanceolate, falcately recurved, obtuse: racemes terminal; flowers small, whitish.

Coromandel. Bombay. Assam. Flowering all the year.

## GENUS XXX. URARIA.

**Diadelphia Decandria.** *Sex Syst:*

*Deriv.* From *Oura*, a tail, in allusion to the bracts.

GEN. CHAR. Perennial, often shrubby plants: leaves simple, trifoliolate or pinnated: stipules lanceolate, upper ones very caducous, covering the flowers in place of bracteas: racemes terminal, simple: pedicels in pairs from each bractea: calyx hairy, not becoming inflated, deeply 2-lipped, upper lip bifid, lower 3-partite: joints folded up.

### (1) U. PICTA. (*Desv.*)

*Ident.* W. & A. prod. I. p. 221.—Desv. Jour. Bot. III. p. 122. —Dec. prod. II. p. 324.

*Syn.* Doodia picta, *Roxb. fl. Ind.* III. *p.* 368.—Hedysarum pictum, *Jacq. Coll.* II. *p.* 262.

*Engrav.* Wight's Icon. t. 411.—Jacq. Ic. Rar. III. t. 567.

SPEC. CHAR. Erect shrub, young parts clothed with hooked hairs: leaves simple and pinnated, simple ones oblong-ovate: leaflets of the compound ones 2–4-pair, linear-lanceolate, under side slightly pubescent: racemes very long, spike-like, rigid: bracts

below the raceme persistent: pedicels covered with hooked hairs, much incurved at the apex after flowering: calyx segments bearded with long hairs: lower ones at length about twice as long as the upper; legume 3–6-jointed: flowers small, red.

Coromandel. Circars, by the shady banks of water-courses. Common in the districts south-east of Surat. Bengal. Flowering nearly all the year.

(2) U. LAGOPOIDES. *(Dec.)*

*Ident.* W. &. A. prod. I. p. 222.—Dec. prod. II. p. 324.

*Syn.* Doodia lagopoides, *Roxb. fl. Ind.* III. *p.* 366.—Hedysarum lagopoides, *Burm. Ind. p.* 68.—H. alopecuroides, *Rottl. Spr. Syst.* III. *p.* 312.—Lespedeza lagopoides, *Pers.*

*Engrav.* Wight's Icon. t. 289.—Burm. Ind. t. 53. f. 2.

SPEC. CHAR. Suffruticose, procumbent, rooting at the joints: stems pubescent: leaves simple and ternate, terminal leaflet much the larger, roundish-ovate, mucronate, sprinkled with scabrous pubescence: racemes dense, very hairy: pedicels incurved at the apex and with the calyx densely bearded: upper lip of calyx short, segments ovate-acuminated, lower reflexed, the segments elongated and subulate-setaceous: legume 2-jointed: joints orbicular-ovate, polished: flowers rose-coloured.

Peninsula. Assam. Flowering nearly all the year.

(3) U. HAMOSA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 222.

*Syn.* Doodia hamosa, *Roxb. fl. Ind.* III. *p.* 366.

*Engrav.* Wight's Icon. t. 284.

SPEC. CHAR. Diffuse shrub, young parts hairy: leaves simple and trifoliate: leaflets elliptic or roundish, softly pubescent beneath: racemes axillary and terminal, hispidly hairy, much elongated and lax in fruit: bracts caducous, ovate, with a long subulate point, hairy: pedicels incurved at the apex: calyx hairy, upper lip 2-toothed, segments of the lower one ovate-acuminate: legume 2–6 jointed, pubescent: flowers middle-sized, rose-coloured.

Peninsula. Interior of Bengal. Flowering nearly all the year.

(4) U. ALOPECUROIDES. *(Wight.)*

*Ident.* Wight's Icon. vol. I. No. 15.

*Syn.* U. lagopus, *Royle.*—Doodia alopecuroides, *Roxb. fl. Ind.* III. *p.* 368.

*Engrav.* Wight's Icon. t. 290.

SPEC. CHAR. Perennial, diffuse: leaves ternate, leaflets oval,

obtuse: racemes imbricated and resembling a fox's tail: calyx hairy: pedicels incurved: flowers middle-sized, rose-colour.

Khasia mountains, flowering nearly all the year.

(5) U. CRINITA. *(Desv.)*

*Ident.* Desv. Jour. Bot. III. p. 122.—Dec. prod. II. p. 324.

*Syn.* Doodia crinata, *Roxb. fl. Ind.* III. *p.* 369.—Hedysarum crinitum, *Linn.*

*Engrav.* Desv. l. c. t. 5. f. 19.—Burm. Ind. t. 56.

SPEC. CHAR. Stem fruticose, erect; leaves unequally pinnated; leaflets 2–3 pair, oblong: raceme elongated: pedicels hispid, recurved: calyx-segments hairy, reflexed: legumes polished: flowers middle-sized, rose-coloured.

Khasia mountains, flowering nearly all the year.

## GENUS XXXI. DESMODIUM.

**Diadelphia Decandria.** *Sex. Syst:*

*Deriv.* From *Desmos*, a band, in reference to the connection of the stamens.

GEN. CHAR. Herbs, shrubs or small trees: leaves pinnately trifoliolate or simple by abortion: flowers usually racemose, or umbelled or on simple peduncles, axillary or terminal: calyx cleft to the middle into 2 lips, upper lip 2-cleft, lower 3-partite: corolla papilionaceous; vexillum roundish: keel obtuse: style filiform: stigma capitate: legume compressed, several-jointed; joints separating when ripe, 1-seeded.

(1) D. UMBELLATUM. *(Dec.)*

*Ident.* W. & A. prod. I. p. 224.—Dec. prod. II. p. 325.

*Syn.* Hedysarum umbellatum, *Linn.*—H. arboreum, *Roxb. fl. Ind.* III. *p.* 361.

*Engrav.* Burm. Zeyl. t. 51.—Rumph. Amb. IV. t. 52.

SPEC. CHAR. Small tree: young shoots pubescent, somewhat angled: leaves trifoliolate: leaflets oval, obtuse, whitish-pubescent beneath, terminal one the largest: peduncles axillary, much shorter than the petiole: legumes 3–4-jointed: flowers small, greenish-white, somewhat umbellate.

Near Belgaum, on the banks of streams, flowering in April and May.

(2) D. CONGESTUM. *(Wall.)*

*Ident.* W. & A. prod. I. p. 224.

*Syn.* Hedysarum umbellatum, *Roxb. fl. Ind.* III. *p.* 360.

*Engrav.* Wight's Icon. I. t. 209.

Spec. Char. Tree: young shoots obtusely triangular, pubescent: leaves trifoliolate; leaflets oblong-lanceolate, pubescent on the nerves beneath: peduncles axillary, solitary, much shorter than the petiole: legumes 4–6-jointed, slightly pubescent: flowers numerous, somewhat umbelled, white.

Circars. Travancore. Flowering in the cold season.

(3) D. cephalotes. *(Wall.)*

*Ident.* W. & A. prod. I. p. 224.

*Syn.* Hedysarum cephalotes, *Roxb. fl. Ind.* III. *p.* 360.

*Engrav.* Wight's Icon. t. 373.

Spec. Char. Small tree: branches obtusely triangular, pubescent when young: leaves trifoliolate; leaflets oblong or oblong-lanceolate, woolly or hairy when young, afterwards glabrous: peduncles axillary, much shorter than the petiole, many-flowered; lower segments of the calyx narrower and longer than the others: legumes densely villous, 2–3-jointed: flowers greenish-white.

Travancore. Chittagong. Assam. Flowering from May to July.

(4) D. triquetrum. *(Dec.)*

*Ident.* W. & A. prod. I. p. 224.—Dec. prod. II. p. 326.

*Syn.* Hedysarum triquetrum, *Linn.*—H. alatum, *Roxb. fl. Ind.* III. *p.* 348.

*Engrav.* Burm. Ind. t. 52. f. 2.—Zeyl. t. 81.

Spec. Char. Suffrutescent, erect; branches triangular, pubescent, especially on the angles: leaves cordate, ovate or linear-oblong, acuminated, pubescent beneath: petioles winged: wings acuminated or mucronate on each side at the apex: racemes axillary and terminal, many-flowered: legumes hairy, 5–8-jointed, slightly crenated on one suture: flowers small, pale violet.

Coromandel. Bombay. Bengal. Assam. Flowering nearly all the year.

(5) D. latifolium. (*Dec.*)

*Ident.* W. & A. prod. I. p. 225.—Dec. prod. II. p. 327.

*Syn.* Hedysarum latifolium, *Roxb. fl. Ind.* III. *p.* 350.

*Engrav.* Wight's Icon. t. 270.—Bot. Reg. V. t. 355.

Spec. Char. Shrub: branches tomentose: leaves cordate-ovate, obtuse or acuminated, repand-crenated, harshly pubescent above, tomentose beneath: petioles simple; racemes axillary and terminal: legumes densely hairy, 4–5-jointed, slightly crenated on one suture, notched to the middle on the other: flowers small, very numerous, bright purple.

Coromandel. Hilly parts of the Concan. Assam. Flowering nearly all the year.

(6) D. Gangeticum.

*Ident.* W. & A. prod. I. p. 225.—Dec. prod. II. p. 327.

*Syn.* D. maculatum, *Dec. l. c.*—Hedysarum Gangeticum, *Linn. Roxb. fl. Ind.* III. *p.* 348.—H. maculatum, *Linn.*—H. collinum, *Roxb.*

*Engrav.* Wight's Icon. t. 271.—Pluk. t. 50. f. 3.

Spec. Char. Shrubby: stems irregularly angled, hairy; leaves simple, ovate, obtuse or acute, under more or less pubescent or hairy; petioles simple: racemes axillary and terminal, very long and lax: legumes 6–8-jointed, hispidly puberulous, notched to near the back on one suture: flowers small, white or purple.

Peninsula. Silhet. Assam. Monghyr. Flowering nearly all the year.

(7) D. Wightii. (*Grah.*)

*Ident.* W. & A. prod. I. p. 226.

Spec. Char. Herbaceous, diffuse: branches triangular, pubescent on the angles: leaves long-petioled, trifoliolate; leaflets oblong-lanceolate, acuminated, slightly pubescent beneath: racemes terminal, elongated: bracts setaceous, about 3 together: pedicels in threes, slender: legumes 6–8-jointed, very deeply notched on one suture; joints semicircular, not truncated.

Mountains of Cunnawady, near Dindigul.

(8) D. diffusum. (*Dec.*)

*Ident.* W. & A. prod. I. p. 226.—Dec. prod. II. p. 336.

*Syn.* D. dichotomum, *Dec. l. c.*—Hedysarum diffusum, *Willd.*—H. dichotomum, *Do.*—H. auriculatum, *Roxb. fl. Ind.* III. *p.* 355.

*Engrav.* Wight's Icon. t. 298.

Spec. Char. Herbaceous, procumbent: branches 4–5-angled, hispidly pubescent: leaves trifoliolate; leaflets oval, pubescent on both sides: stipules leafy, auricled and stem-clasping: racemes terminating every branch, very long: bracts small, 2–3 together: legumes ascending, 5–6-jointed, notched on both sutures, hispidly hairy: flowers in pairs or threes, rose-coloured.

Peninsula. Interior of Bengal. Flowering nearly all the year.

(9) D. recurvatum. (*Grah.*)

*Ident.* W. & A. prod. I. p. 226.

*Syn.* Hedysarum recurvatum, *Roxb. fl. Ind.* III. *p.* 358.

*Engrav.* Wight's Icon. t. 374.

Spec. Char. Shrub: branches recurved, hairy, angled: young shoots triquetrous: leaves bifarious, trifoliolate; leaflets ovate or

oval, pubescent beneath: racemes terminal, drooping, very long: bracts lanceolate, surrounding smaller setaceous ones: legumes narrow-linear, straight on both sutures, hairy: flowers several together, small, bluish-white.

Travancore. Western Ghauts. Cawnpore. Flowering in the rainy season.

(10) D. QUINQUEANGULATUM. *(Wight.)*

*Ident.* Wight's Icon. vol. I. No. 15.

*Syn.* Hedysarum quinqueangulatum, *Roxb. fl. Ind.* III. *p.* 355.

*Engrav.* Wight's Icon. t. 293.

SPEC. CHAR. Herbaceous, diffuse: leaves ternate: leaflets oval, downy: stipules cordate: racemes numerous: legumes hispid, 6-jointed, notched on both sutures: flowers in pairs, small, blue.

Bengal, flowering nearly all the year.

(11) D. ELONGATUM. *(Wall.)*

*Ident.* Voigt. Hort. Calc. p. 222.

*Syn.* D. diffusum, *Dec. prod.* II. *p.* 335.—Hedysarum diffusum, *Roxb. fl. Ind.* III. *p.* 357.

*Engrav.* Wight's Icon. t. 409.

SPEC. CHAR. Stem fruticose, somewhat erect, glabrous: branches pubescent: stipules lanceolate; leaflets elliptic, acuminated, pubescent beneath; racemes terminal, elongated: pedicels fascicled: young legumes villous; flowers small, bright-blue.

Interior of Bengal, flowering nearly all the year.

(12) D. GYRANS. *(Dec.)*

*Ident.* W. & A. prod. I. p. 227.—Dec. prod. II. p. 326.

*Syn.* Hedysarum gyrans, *Roxb. fl. Ind.* III. *p.* 351.

*Engrav.* Wight's Icon. t. 294.—Jacq. Ic. Rar. IV. t. 564.

SPEC. CHAR. Suffrutescent, erect: branches slender, angled, glabrous: leaves petioled, trifoliolate: leaflets narrow-oblong, obtuse at both ends, pubescent beneath, the lateral pair very small: racemes axillary and terminal, numerous towards the top of the branches and forming together a large panicle: bracts broad-cordate, before expansion densely imbricated over the flowers, caducous: stigma elongated laterally and as if 2-cleft: legumes flat, pubescent, crenated on the lower margin, 10–12-jointed: flowers small, dull-orange.

Peninsula. Bengal. Assam. Flowering nearly all the year.

(13) D. GYROIDES. *(Dec.)*

*Ident.* W. & A. prod. I. p. 227.—Dec. prod. II. p. 326.

*Syn.* Hedysarum gyroides, *Roxb. Hort. Beng. p.* 57.

SPEC. CHAR. Herbaceous, diffuse: branches angled, and clothed with soft white hairs: leaves trifoliolate: leaflets obovate-elliptic, obtuse, whitish-pubescent beneath, silky on the margin: terminal leaflet 3–4-times larger than the lateral ones: racemes axillary and terminal, forming a panicle at the end of the branches: bracts broad-cordate, pointed, pubescent, before expansion densely imbricated like a cone, deciduous: vexillum about half the length of the keel: style marked with a transparent line: legumes hirsute, slightly crenated at one suture: flowers small, yellowish.

Bengal. Assam. Flowering in October and November.

(14) D. POLYCARPUM. *(Dec.)*

*Ident.* W. & A. prod. I. p. 227.—Dec. prod. II. p. 334.

*Syn.* D. heterocarpum, *Dec. l. c. p.* 337.—D. capitatum, *Dec. l. c. p.* 336.—D. angulatum, *Dec. l. c. p.* 335.—D. siliquosum, *Dec. l. c. p.* 336.—Hedysarum heterocarpum, *Linn.*—H. polycarpum, *Lam. Ill. t.* 628. *f.* 4.—H. conicum, *Poir.*—H. siliquosum, *Burm.*—H. purpureum, *Roxb. Ft. Ind.* III. *p.* 358.

*Engrav.* Wight's Icon. t. 406.—Burm. Ind. t. 54. f. 1, and t. 55. f. 2.—Burm. Zeyl. t. 53. f. 1, 2.—Pluk. t. 433. f. 3.

SPEC. CHAR. Suffruticose, procumbent, often rooting at the joints: branches slightly angled, usually pubescent or hairy on the young shoots: leaves trifoliolate: leaflets oval, obtuse or mucronate, usually pubescent beneath, lateral ones rather smaller than the terminal one, sometimes wanting: petioles slightly margined: racemes axillary and terminal: bracts broad-ovate, pointed, pubescent, densely imbricated before expansion: keel narrow, incurved at the apex, longer than the wings: legumes erect, hispid, 5–6-jointed, notched into the middle on one margin: flowers largish, bright bluish-purple.

Peninsula. Bengal. Assam. Flowering in the rainy season.

(15) D. RUFESCENS. *(Dec.)*

*Ident.* W. & A. prod. I. p. 228.—Dec. prod. II. p. 335.

*Syn.* D. ferrugineum, *Wall.*—Hedysarum rufescens, *Spr.*

*Engrav.* Wight's Spicil. I. t. 57.

SPEC. CHAR. Shrub, densely clothed with yellowish-brown tomentum: leaves trifoliolate; leaflets oval, obtuse with a long bristle, densely clothed with white silky hairs beneath, upper side glabrous: racemes axillary and terminal: bracts ovate, tapering to a long point, densely imbricated before expansion: vexillum large, obcordate;

wings as long as the broad keel: legume pubescent, about 7-jointed, notched into the middle of one suture; flowers largish, bluish-purple.

Neilgherries.

(16) D. STRANGULATUM. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 228.

*Engrav.* Wight's Spicil. I. t. 58.

SPEC. CHAR. Herbaceous: branches hairy, somewhat 3-angled, angles obtuse: leaves trifoliolate, long-petioled: leaflets pubescent on both sides, lateral ones obliquely-ovate, terminal one rhomboid: stipules oblong-lanceolate, glabrous: racemes hairy, axillary and terminal, panicled, at first imbricated with hairy bracteas, afterwards becoming very long and lax, few-flowered: calyx bilabiate: upper lip emarginate, under deeply cleft: vexillum obovate: wings shorter than the keel: legume 2–3-jointed (occasionally from abortion 1-jointed), much contracted on one suture between the joints, hispidly pubescent; flowers 2–3 together, small, red, on long filiform pedicels.

Neilgherries.

(17) D. TRIFLORUM. (*Dec.*)

*Ident.* W. & A. prod. I. p. 229.—Dec. prod. II. p. 334.

*Syn.* Hedysarum triflorum, *Willd. Roxb. fl. Ind.* III. *p.* 353.—H. stipulaceum, *Burm.*—Eschynomene triflora, *Poir.*

*Engrav.* Wight's Icon. t. 292.—Burm. Ind. t. 54. f. 2.—Burm. Zeyl. t. 54. f. 2.

SPEC. CHAR. Procumbent, diffuse, perennial: leaves trifoliolate; leaflets orbicular, obovate or obcordate, more or less pubescent or hairy: peduncles axillary, solitary or fascicled, 1–3-flowered: vexillum obovate, with a long claw: style bent acutely near the summit and tumid at the angle: legume hispidly pubescent, 3–6-jointed, notched into the middle on the lower margin: flowers small, blue.

Peninsula. Monghyr. Flowering all the year.

(18) D. HETEROPHYLLUM. (*Dec.*)

*Ident.* Dec. prod. II. p. 331.

*Syn.* D. triflorum, *var. a. W. & A. prod.* I. *p.* 229.—Hedysarum reptans, *Roxb. fl. Ind.* III. *p.* 654.—H. heterophyllum, *Willd.*

*Engrav.* Burm. Zeyl. t. 54. f. 1.—Wight's Icon. t. 291.

SPEC. CHAR. Stems herbaceous, ascending, hairy: leaves trifoliolate; leaflets roundish or obovate, pubescent: peduncles usually solitary, sometimes twin, longer than the leaves, 1–3-flowered: legumes 3–4-jointed, straight: flowers small, white.

Peninsula, flowering nearly all the year.

(19) D. PARVIFOLIUM. *(Dec.)*

*Ident.* W. & A. prod. I. p. 229.—Dec. prod. II. p. 334.

*Syn.* Hedysarum parvifolium, *Spr.*—H. tenellum, *Don. prod. fl. Nep. p.* 243.

SPEC. CHAR. Procumbent, diffuse: branches triangular, usually hairy towards their extremity: leaves trifoliolate; leaflets from oval to orbicular, mucronate, hairy, especially beneath: stipules bristle-pointed: racemes terminal or leaf-opposed, lax, capillary, flexuose and divaricating: pedicels long, slender: bracts hairy, oblong-acuminated, soon falling off: legumes slightly pubescent, 3–4-jointed, crenated on the upper suture, deeply notched on the lower.

Peninsula? Flowering in the cold season.

(20) D. RENIFORME. *(Dec.)*

*Ident.* W. & A. prod. I. p. 230.—Dec. prod. II. p. 327.

*Syn.* Hedysarum reniforme, *Linn.*

*Engrav.* Burm. Ind. t. 52. f. 1.

SPEC. CHAR. Procumbent, diffuse: branches filiform: leaves simple, roundish-reniform, very obtuse or emarginate, glabrous on both sides; flowers axillary and solitary or in terminal racemes: legumes 5–6-jointed, mucronate, glabrous, notched on one suture only.

Peninsula.

(21) D. ORBICULATUM. *(Wall.)*

*Ident.* W. & A. prod. I. p. 222.

*Syn.* Hedysarum styracifolium, *Linn.*—H. retroflexum, *Linn.*—H. procumbens, *Roxb. fl. Ind.* III. *p.* 345.—Nicholsonia styracifolia, *Desv.*—Desmodium retroflexum, *Dec. prod.* II. *p.* 336.—Uraria styracifolia, *W. & A.*

SPEC. CHAR. Shrub: young parts clothed with soft white hairs: branches angled: leaves simple or trifoliolate with soft white hairs beneath; leaflets glabrous above, roundish-obovate, terminal one the largest: racemes axillary and terminal, shorter than the petiole: pedicels becoming deflexed whilst flowering: lips of the calyx short, nearly equal, upper bifid, with triangular segments, lower deeply 3-cleft: legumes 3–4-jointed, much longer than the calyx: flowers small, purplish.

Coromandel. Silhet.

## GENUS XXXII. DICERMA.

**Diadelphia Decandria.** *Sex Syst*

*Deric.* From *Dis*, twice, and *Erma*, a prop, in allusion to the calyx being propped by two bracts.

Gen. Char. Shrubs: calyx bilabiate, bibracteolate, upper lip entire, lower 3-cleft, the middle segment slightly longest: corolla papilionaceous: vexillum obovate; keel about equal with the wings: legume 2–3-jointed; joints orbicular, flat, 1-seeded, the last joint having the remains of the style between the two sutures.

(1) D. pulchellum. (*Dec.*)

*Ident.* W. & A. prod. I. p. 230.—Dec. prod. II. p. 339.

*Syn.* Hedysarum pulchellum, *Linn. Roxb. fl. Ind.* III. *p.* 361.—Phyllodium pulchellum, *Desv.*—Zornia pulchella, *Pers.*

*Engrav.* Wight's Icon. t. 418.—Burm. Zeyl. t. 52.—Pluk t. 433. f. 7.

Spec. Char. Stem erect: leaves long-petioled, pinnately trifoliolate; leaflets elliptic-oblong, pubescent beneath, terminal one the largest, all furnished with partial stipules: floral leaves bifoliolate, the odd one abortive, the lateral ones orbicular and bract-like, the petiole ending in a bristle nearly as long as the lateral leaflets: legumes glabrous on the sides, villous on the sutures: flowers small, aggregated, greenish-sulphur.

Peninsula. Assam. Flowering nearly all the year.

(2) D. biarticulatum. (*Dec.*)

*Ident.* W. & A. prod. I. p. 230.—Dec. prod. II. p. 339.

*Syn.* Hedysarum biarticulatum, *Linn. Roxb. fl. Ind.* III. *p.* 359.

*Engrav.* Wight's Icon. t. 419.—Burm. Zeyl. t. 50. f. 2.

Spec. Char. Diffuse: stipules cohering together near their apex: leaves short-petioled, palmately trifoliolate; leaflets nearly equal in size, obovate-oblong, obtuse; floral leaves abortive: flowers 2–4-together in the axils of stipules and forming naked racemes, bluish: legumes 2-jointed, clothed with hairs.

Peninsula.

## GENUS XXXIII. ELEIOTIS.

**Diadelphia Decandria.** *Sex Syst*

*Deriv.* From *Eleios*, a dormouse, and *Ous*, a ear, alluding to the shape of the leaves.

Gen. Char. Herbaceous procumbent plants with triangular stems: stipules distinct from each other: leaves petioled, pinnately 1–3-foliolate: racemes axillary, much longer than the leaves: flowers distant, in pairs, on slender 1-flowered pedicels: calyx campanulate, 5-toothed or cleft: corolla papilionaceous; vexillum obovate; keel obtuse: legume compressed, composed of 1–2-joints, the upper suture straight and thicker than the other: joints semi-oval, not prickly: seeds oblong.

(1) E. SORORIA. *(Dec.)*

*Ident.* W. & A. prod. I p. 231.—Dec. prod. II. p. 348.

*Syn.* E. monophyllum, *Dec. l. c.*—Hedysarum sororium, *Linn. Roxb. fl. Ind.* III. *p.* 352.—Hallia sororia, *Willd.*—Onobrychis sororia, *Desv.*

*Engrav.* Burm. Ind. t. 50. f. 2.—Pluk. t. 105. f. 2.

SPEC. CHAR. Leaves trifoliolate; lateral leaflets near the base of the common petiole oblong-ovate, very small, often entirely abortive, terminal one many times larger than the others, reniform-orbicular, often variegated: calyx truncated, obscurely 5-toothed: legume 1-jointed; joints bluntish at both ends: flowers red.

Peninsula.

(2) E. ROTTLERI. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 231.

SPEC. CHAR. Leaves trifoliolate; leaflets about equal in size, obovate-orbicular, mucronate: calyx bilabiate, lower lip 3-partite, upper 2-cleft: legume 1-2-jointed; joints separated by a narrow neck, acute at both ends, upper one beaked with the base of the style.

## GENUS XXXIV. LESPEDEZA.

**Diadelphia Decandria.** *Sex: Syst*

*Deriv.* In honor of Mons. Lespedez, Governor of Florida.

GEN. CHAR. Calyx bibracteolate at the base, 5-partite; segments about equal: corolla papilionaceous; keel transversely obtuse; legume lenticular, compressed, flat, unarmed.

(1) L. INDICA. *(Spr.)*

*Ident.* W. & A. prod. I. p. 231.—Spr. Syst. III. p. 202.

*Syn.* Flemingia Rothiana, *Dec. prod.* II. *p.* 351.—Hallia trifoliata, *Roth.*

SPEC. CHAR. Erect shrub, somewhat tomentose: leaves pinnately trifoliolate: petiole filiform; leaflets roundish-ovate, villous, rusty-tomentose on the nerves beneath: calyx villous: racemes solitary in the axils of the lower leaves, and fascicled in the axils of the upper ones, 4-6-flowered: legume rhomboid-ovate, pubescent, coriaceous, about the length of the calyx: flowers purplish.

Peninsula.

## GENUS XXXV. ALHAGI.

**Diadelphia Decandria.** *Sex Syst:*

*Deriv.* The Arabic name for the plant.

Gen. Char. Calyx 5-toothed: corolla papilionaceous: petals about equal in length: vexillum obovate, folded together; keel straight, obtuse.

(1) A. Maurorum. (*Tourn.*)

*Ident.* W. & A. prod. I. p. 232.—Dec. prod. II. p. 352.—Drury's Useful Plants p. 25.

*Syn.* A. mannifera, *Desv.*—Hedysarum Alhargi, *Linn. Roxb. fl. Ind.* III. *p.* 344.—Manna Hebraica, *Don.*—A. Nepalensium, *Dec.*

Spec. Char. Shrub: leaves simple, obovate-oblong, glaucous beneath, glabrous: stipules very minute: peduncles axillary, spinescent: legume stalked, few-seeded, contracted here and there irregularly with partitions: flowers few, racemose, reddish.

Monghyr. Delhi. Guzerat. South Mahratta country. The eatable substance known as Manna is an exudation from the leaves and branches of this shrub, only appearing in the hot weather, at which time, when almost all the smaller plants die, this puts forth its leaves and flowers.

## GENUS XXXVI. ALYSICARPUS.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Alysis*, a chain, and *Carpos*, fruit. The legume is composed of several 1-seeded joints.

Gen. Char. Herbaceous or suffruticose plants: leaves simple, entire, linear, oval or roundish, often presenting all these forms on the same species: racemes leaf-opposed or terminal: flowers usually in pairs, embraced before expansion by a deciduous bract: calyx persistent, tubular, deeply 4-cleft, upper segment bifid: corolla papilionaceous: legumes terete or slightly compressed, composed of several 1-seeded joints which separate when ripe.

(1) A. monilifer. (*Dec.*)

*Ident.* W. & A. prod. I. p. 232.—Dec. prod. II. p. 353.

*Syn.* Hedysarum moniliferum, *Linn. Roxb. fl. Ind.* III. *p.* 345.

*Engrav.* Burm. Ind. t. 52. f. 3.—Petiv. Gaz. t. 26. f. 4.

Spec. Char. Suffruticose: branches hairy: leaves orbicular or cordate-ovate, obtuse: stipules about the length of the petiole: calyx deeply 4-cleft, the upper segment bifid, the segments distinct when in fruit and slightly spreading: racemes leaf-opposed, short: flowers in pairs: legumes 4–6-jointed, moniliform, much contracted between the joints; joints smooth, clothed with hooked pubescence.

Coromandel, flowering nearly all the year.

(2) A. NUMMULARIFOLIUS. (*Dec.*)

*Ident.* W. & A. prod. I. p. 232.—Dec. prod. II. p. 353.

*Syn.* Hedysarum nummularifolium, *Willd.*—H. cylindricum, *Poir.*

*Engrav.* Burm. Zeyl. t. 49. f. 1.—Petiv. Gaz. t. 26. f. 1.

SPEC. CHAR. Suffruticose, procumbent: branches slightly pubescent towards the base; leaves oval, obtuse, cordate at the base, sometimes varying to linear, glabrous or pubescent beneath: stipules sheathing the branches: calyx deeply 5-cleft; segments distinct; legume much longer than the calyx, nearly cylindrical, not contracted between the joints; joints thickened at their line of junction: flowers approximated on shortish racemes.

Peninsula.

(3) A. VAGINALIS. (*Dec.*)

*Ident.* W. & A. prod. I. p. 233.—Dec. prod. II. p. 353.

*Syn.* Hedysarum vaginale, *Linn. Roxb. fl. Ind.* III. *p.* 345.—H. varium, *Roth.*—H. bupleurifolium, *Roxb. fl. Ind.* III. *p.* 346.

*Engrav.* Pluk. t. 59. f. 3.

SPEC. CHAR. Suffruticose, diffuse; branches more or less hairy: leaves from oval-obtuse and cordate at the base, to cordate-lanceolate or narrow-linear: calyx 5-cleft to beyond the middle; segments strongly nerved and somewhat hairy: legume 3–6-jointed, much longer than the calyx, slightly moniliform or contracted between the joints; joints slightly inflated, pubescent: racemes terminal, elongated; flowers in rather distant pairs, greenish-purple.

Peninsula. Monghyr. Flowering nearly all the year. The roots are covered with minute round tubes like warts.

(4) A. BUPLEURIFOLIUS. (*Dec.*)

*Ident.* W. & A. prod. I. p. 233.—Dec. prod. II. p. 352.

*Syn.* Hedysarum bupleurifolium, *Linn.*—H. gramineum, *Retz. Roxb. fl. Ind.* III. *p.* 646.

*Engrav.* Bot. Mag. vol. XII. t. 1722.—Roxb. Cor. II. t. 194. Rheede Mal. IX. t. 32.

SPEC. CHAR. Suffruticose, diffuse: leaves linear-lanceolate, acute: stipules longer than the petioles: calyx cleft to beyond the middle; segments lanceolate, acute, striated, ciliated at the apex: legumes glabrous, 3–5-jointed, somewhat cylindrical, scarcely contracted between the joints, about twice as long as the calyx; joints smooth: racemes terminal, elongated: flowers short-pedicelled, in distant pairs, rose-orange.

Peninsula, flowering nearly all the year.

(5) A. LONGIFOLIUS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 238.

*Syn.* Hedysarum longifolium, *Rottl.*

*Engrav.* Wight's Icon. t. 251.

SPEC. CHAR. Herbaceous, erect, branched: leaves linear-lanceolate, slightly cordate at the base, sparingly pubescent beneath: stipules large, longer than the petioles: calyx deeply 4-cleft; segments erect, overlapping at the edges, striated, hairy, ciliated, upper one shortly bifid: legume slightly contracted between the seeds, pubescent, 5–6-seeded: racemes spike-like, very long: pedicels short, approximated.

Northern Circars.

(6) A. STYRACIFOLIUS. (*Dec.*)

*Ident.* W. & A. prod. I. p. 234.—Dec. prod. II. p. 353.

*Syn.* A. cylindraceus, *Desv.*—Hedysarum styracifolium, *Spr.*—H. glumaceum, *Koen. Roxb. fl. Ind.* III. *p.* 347.

SPEC. CHAR. Biennial: branches diffuse, hairy: leaves from cordate-oval to linear-lanceolate, glabrous above: stipules as long as the petioles and like the bracts ciliated with long hairs on the margins: calyx 4-partite; segments erect, glabrous on the back, plumose-ciliated, striated, upper one shortly bifid: legume 2–4-jointed, glabrous, much contracted between the joints; joints transversely wrinkled: racemes terminal or leaf-opposed, short, dense, hairy.

Surat. Arcot. Coromandel. Flowering nearly all the year.

(7) A. HEYNEANUS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 234.

*Syn.* Hedysarum styracifolium, *Roxb. fl. Ind.* III. *p.* 347.

SPEC. CHAR. Erect, pubescent all over except the upper surface of the leaves and calyx: leaves very short-petioled, broadly-ovate, mucronate: stipules longer than the petioles: calyx 4-partite; segments acute: legume 3–5-jointed, contracted between the joints, mucronate: joints transversely wrinkled: racemes axillary and terminal, short and dense, elongated in fruit.

Coromandel.

(8) A. BELGAUMENSIS. (*Law.*)

*Ident.* Dalz. Bomb. flor. p. 65.

*Engrav.* Wight's Icon. t. 92.

SPEC. CHAR. Suffruticose: leaves trifoliolate: leaflets linear-oblong, terminal one much the largest: calyx deeply 4-cleft, upper

segment bifid: joints of the legume compressed, irregularly reticulated, pubescent.

Ram Ghaut. Belgaum. Flowering in September.

(9) A. PUBESCENS. (*Law.*)

*Ident.* Dalz. Bomb. flor. p. 65.

*Engrav.* Wight's Icon. t. 250.

SPEC. CHAR. Herbaceous, erect: stems round, hairy: leaves simple, short-petioled, linear-lanceolate, acute, 3-nerved, glabrous above, pubescent beneath: racemes terminal, spicate; flowers subsessile: calyx 4-cleft to the base, clothed with long silky hairs: legumes much contracted between the seeds.

Belgaum.

(10) A. PARVIFLORUS. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 65.—Hook. Jour. Bot. III. p. 211.

SPEC. CHAR. Herbaceous, erect; stem branched, glabrous at the base, covered with spreading hairs in the upper part; leaves simple and trifoliolate, oblong-elliptic, mucronate, somewhat cordate at the base, strigose beneath: stipules shorter than the petioles: calyx almost 5-divided; segments subulate; legume half moniliform, reticulated, twice as long as the calyx, 5–6-seeded.

Phoonda Ghaut, flowering in November.

## GENUS XXXVII. ABRUS.

**Diadelphia Decandria.** *Sex Syst:*

*Deriv.* From *Abros*, soft, in allusion to the delicate leaves.

GEN. CHAR. Twining or diffuse shrubs: leaves abruptly pinnated, with many pairs of leaflets: calyx campanulate, obsoletely 4-lobed, upper lobe broadest, or 4-toothed with the upper tooth bifid: corolla papilionaceous; vexillum ovate: stamens cohering at the base with the claw of the vexillum, the tenth wanting: style short: stigma capitate: legume oblong, compressed, 4–6-seeded; seeds roundish, separated by cellular partitions.

(1) A. PRECATORIUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 236.—Dec. prod. II. p. 381.—Roxb. fl. Ind. III. p. 258.

*Syn.* A. pauciflorus and A. minor, *Desv.*—Glycine Abrus, *Linn.*

*Engrav.* Rheede Mal. VIII. t. 39.—Rumph. Amb. V. t. 32.—Pluk. t. 214. f. 5.

Spec. Char. Twining: ultimate branches slightly hairy: leaflets 8–20-pair, linear-oval, obtuse at both ends, glabrous or sprinkled with a few hairs: racemes axillary, peduncled, nearly as long as the leaves, many-flowered: calyx obsoletely lobed; claw of the vexillum longish, cohering with the staminal sheath at its base and forming with it a short tube round the ovary: flowers rose-coloured.

Peninsula. Assam. Flowering in the cold season. There are varieties with white flowers and white black or red seeds.

(2) A. fruticulosus. (*Herb. Madr.*)

*Ident.* W. &. A. prod. I. p. 236.

*Engrav.* Wight's Icon. t. 33.

Spec. Char. Diffuse: ultimate branches leaves and racemes pubescent: leaflets approximated, narrow-linear, mucronate: racemes terminating the short leafy axillary branches, few-flowered: calyx teeth triangular-acute, upper one bifid at the apex: claw of the vexillum very short, cohering with the stamen-sheath only at the very base.

Palamcottah. Malabar.

## GENUS XXXVIII. NOMISMIA.

**Diadelphia Decandria.** *Sex: Syst.*

*Deriv.* From *Nomismos*, a coin, alluding to the shape and appearance of the seeds.

Gen. Char. Twining plants: leaves pinnately trifoliolate: leaflets glandular on the under side: racemes axillary, often springing from the young axillary twining shoots; calyx and legume hairy: calyx deeply 2-lipped, under lip longer than the upper, 3-partite, middle segment the longest: upper lip 2-cleft; all the segments bent falcately upwards, more or less subulate, and enclosing the corolla in æstivation and forming a hook beyond it: corolla papilionaceous: vexillum with 2 callosities near the base of the limb: keel falcate, the petals free from the base to the bend: legume orbicular, much compressed, 1–2-seeded: seeds with a large, fleshy, 2-lobed wart at the hilum.

(1) N. nummularia. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 237.

*Syn.* Glycine nummularia, *Linn.*—Rhynchosia nummularia, *Dec. prod.* II. *p.* 386.

*Engrav.* Wight's Icon. t. 283.

Spec. Char. Petioles longer than the leaves: leaflets cuneate-obovate, broader than long, retuse: racemes few-flowered, lax, much shorter than the petioles, usually on the young shoots: calyx segments (except the lowest) about half the length of the corolla; legume terminated by the straight base of the style, 1-seeded: flowers yellow.

Peninsula. Travancore.

(2) N. capitata. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 237.

*Syn.* Glycine capitata, *Heyne.*—Rhyncosia capitata, *Dec. prod.* II. *p.* 386.

*Engrav.* Wight's Icon. t. 295.

Spec. Char. Petioles about the length of the leaves: leaflets nearly orbicular with a cuneate base: racemes peduncled, many-flowered, longer than the leaves, with a slender, leafless and somewhat abortive young shoot springing from about the middle of the peduncle: calyx segments long, subulate: vexillum not striped: legume terminated by the hooked base of the style, 2-seeded: flowers yellow.

Peninsula.

(3) N. aurea. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 237.

*Syn.* Hedysarum aureum, *Koen.*—Glycine aurea, *Willd.*—G. elongata, *Roth.*—Rhyncosia aurea, *Dec. prod.* II. *p.* 386.—R. elongata, *Dec. l. c.*

*Engrav.* Pluk. t. 52. f. 5.

Spec. Char. Petioles about the length of the leaves: leaflets nearly orbicular, cuneate at the base, terminal one rhomboid and slightly acute: racemes peduncled, few-flowered, flexuose, shorter than the leaves, not bearing a young shoot on the peduncle: calyx segments long-subulate, much falcate, forming a long subulate hooked point to the flower-bud during æstivation: vexillum broad, striped with dark veins: legumes terminated by the hooked base of the style, 2-seeded: flowers yellow.

Peninsula.

## GENUS XXXIX. RHYNCHOSIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Rhynchos*, a beak, alluding to the beaked keel;

Gen. Char. Usually twining, perennial or shrubby plants: leaves pinnately trifoliolate, rarely simple: flowers axillary, racemose or solitary: calyx 2-lipped, lower lip 3-partite; middle segment usually the longest; upper lip 2-cleft, about equal to the lower: corolla papilionaceous, deciduous; vexillum without callosities: legume obliquely ovate or oblong or falcate, 1–2-seeded; seeds with a wart at the hilum.

(1) R. velutina. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 238.

Spec. Char. Twining: branches, petioles and peduncles softly pubescent: leaves trifoliolate; leaflets roundish, cuneate at the base, mucronate; upper side slightly pubescent; under tomentose, without glands: peduncles axillary, 1–2-flowered; flowers on longish pedicels: calyx somewhat campanulate; middle segment of the lower lip subulate, falcate upwards, a little shorter than the keel: other segments lanceolate, much shorter than the lowest one: vexillum very pubescent on the outside, without glands, marked on the inside above the claw with two small gibbous projections: legume scimitar-shaped, attenuated at the base, pubescent, 2-seeded: flowers yellow.

Negapatam.

(2) R. medicaginea. *(Dec.)*

*Ident.* W. & A. prod. I. p. 238.—Dec. prod. II. p. 386.

*Syn.* R. nuda, *Dec. l. c.*—R. rhombifolia, *Do.*—Dolichos medicagineus, *Lam. Roxb. fl. Ind.* III. *p.* 315.—D. scarabœoides, *Roxb.*—Glycine rhombifolia, *Willd.*—R. ervoidea, *Dec. l. c.*

*Engrav.* Burm. Zeyl. t. 84. f. 2.

Spec. Char. Twining: branches, petioles and racemes pubescent or sometimes glabrous: leaves trifoliolate; leaflets roundish, cuneate at the base, obtuse or retuse, occasionally rhomboid, nearly glabrous; under side slightly pubescent or hairy on the nerves, dotted with numerous dark glands: racemes few-flowered: flowers very shortly pedicelled, deflexed: calyx-segments subulate, the lowest one a little longer than the others: vexillum glabrous, dotted with glands: legume pubescent sometimes nearly glabrous when ripe, scimitar-shaped, attenuated at the base, 2-seeded: flowers yellow.

Peninsula. Travancore. Delhi. Guzerat. Flowering in the cold season.

(3) R. densiflora. *(Dec.)*

*Ident.* W. &. A. prod. I. p. 239.—Dec. prod. II. p. 386.

*Syn.* Glycine densiflora, *Roth.*—Desmodium punctatum, *D. l. c. p.* 338.

Spec. Char. Twining, pubescent all over except the corolla: leaves trifoliolate; leaflets softly pubescent on both sides and covered with coloured glands, acute, lateral ones obliquely broad-ovate, terminal rhomboid: racemes axillary, almost sessile, short and dense: bracts oblong-lanceolate and with the calyx villous and dotted: calyx-segments narrow-lanceolate, longer than the corolla: legume obliquely oblong, shortly pointed, 2-seeded, dotted, pubescent and villous: flowers yellow.

Cunnawaddy Hills.

(4) R. rufescens. *(Dec.)*

*Ident.* W. & A. prod. I. p. 239.—Dec. prod. II. p. 387.

*Syn.* Hedysarum rufescens, *Rottl.*—Glycine rufescens, *Willd.*—G. Pondicheriensis, *Spr.*

Spec. Char. Diffuse or slightly twining, densely pubescent: leaflets roundish-ovate, wrinkled, prominently reticulated underneath with the nerves and veins: racemes slender, usually elongated, few-flowered: flowers solitary, distant, somewhat secund: calyx-segments nearly as long as the legume, elliptic-oblong, obtuse: legume lens-shaped, short-pointed, 1-seeded, pubescent: flowers yellow.

Soratoor. Gingie and Cunnawaddy Mountains.

(5) R. Heynei. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 240.

Spec. Char. Diffuse, scarcely twining, softly pubescent: leaflets ovate: peduncles axillary, with 1–2-fascicles of short-pedicelled flowers: fascicles distant, subtended by a cordate bract: calyx-segments cordate-oblong, nearly as long as the legume, which latter is oblong with a short oblique point, 2-seeded, constricted, and with a cellular partition between the seeds, pubescent: flowers yellow.

Peninsula.

(6) R. suaveolens. *(Dec.)*

*Ident.* W. & A. prod. I. p. 240.—Dec. prod. II. p. 387.

*Syn.* Glycine suaveolens, *Linn.*

Spec. Char. An erect shrub, covered with viscous pubescence: leaves trifoliolate; leaflets broadly ovate, acute or acuminate: peduncles 1–2-flowered, jointed, with a bract at the separation of the pedicels: calyx 4-cleft, deeply 2-lipped; upper segment 2-cleft: legume pubescent, 2-seeded, contracted and with a cellular partition between the seeds: flowers yellow.

Peninsula.

(7) R. CANA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 40.—Dec. prod. II. p. 386.

*Syn.* Glycine cana, *Willd.*

*Engrav.* Pluk. t. 213. f. 6.

SPEC. CHAR. An erect, pubescent shrub: leaves trifoliolate; leaflets broadly ovate, on the young shoots oblong-lanceolate, acuminated, dotted with resinous glands on both sides, slightly pubescent above, densely so beneath, wrinkled: peduncles axillary, 2-flowered, with a small bract and joint at the separation of the pedicels: calyx 4-cleft to the middle, scarcely bilabiate: segments lanceolate-acuminate, twice as short as the corolla: legume clavate-oblong, slightly inflated, pubescent, 2-seeded, without a partition: flowers yellow.

Dindigul Hills. Cunnawaddy.

## GENUS XL. FLEMINGIA.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* In honor of Dr. John Fleming, an Indian Botanist, and formerly Physician General in Bengal.

GEN. CHAR. Shrubs or undershrubs: stipules lanceolate, sometimes very large, deciduous: leaves digitately trifoliolate or simple, with prominent parallel nerves: racemes solitary or aggregate, axillary, sometimes panicled: legumes more or less pubescent: calyx acutely 5-cleft, the four upper segments equal, the lower one generally much longer: corolla papilionaceous: vexillum without callosities, the spurs inflexed at the margin; keel falcate: legume sessile, oval, 2-seeded, without a partition: seeds nearly globose.

(1) F. STRICTA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 241.—Roxb. fl. Ind. III. p. 342.—Dec. prod. II. p. 351.

*Engrav.* Wight's Icon. t. 329.—Roxb. Cor. III. t. 248.

SPEC. CHAR. An erect shrub: branches triangular: leaves trifoliolate; leaflets broad-lanceolate, acuminate, under side covered with black dots and the nerves densely pubescent: petiole channelled, with a short margin: stipules concave, sheathing: racemes spike-like, solitary: bracts lanceolate-subulate, longer than the flowers, caducous: legumes nearly glabrous: flowers middle-sized, streaked with yellow, red and violet.

Peninsula. Circars. Flowering nearly all the year.

(2) F. CONGESTA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 241.—Roxb. fl. Ind. III. p. 340.—Dec. prod. II. p. 351.

*Syn.* Crotalaria macrophylla, *Willd.*—Rhynchosia crotalarioides, *Dec.*

*Engrav.* Wight's Icon. t. 326 and 390.

Spec. Char. A somewhat erect shrub, young parts villous: leaves trifoliolate; leaflets ovate-lanceolate, pubescent beneath and dotted with black glands, the nerves densely pubescent: stipules much shorter than the petiole: racemes dense, rather shorter than the petiole, almost sessile: bracts ovate-cuspidate, shorter than the flowers: flowers smallish, pale rose, crimson-veined.

Peninsula. Bengal. Assam. Flowering in the rainy season.

(3) F. semialata. *(Roxb.)*

*Ident.* Dec. prod. II. p. 351.—Roxb. fl. Ind. III. p. 340.

*Engrav.* Roxb. Cor. II. t. 249.—Wight's Icon. II. t. 326.

Spec. Char. Shrub: branches silky: leaves trifoliolate: leaflets elliptic, 3-nerved, clothed with silky pubescence beneath: petioles winged at the apex: spikes branched, panicled, terminal and axillary: bracts ovate, mucronate, villous: flowers smallish, rose streaked with green.

Peninsula. Morung and Khasia Mountains. Assam. Flowering nearly all the year.

(4) F. Wallichii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 242.

Spec. Char. An erect shrub, branches angled, young parts tomentose; leaflets obovate-lanceolate, obtuse, densely pubescent and glandular beneath: petioles slightly winged: stipules much shorter than the petiole: racemes axillary, short, capitate: hairs on the calyx springing from yellowish glands: legume nearly glabrous.

Peninsula.

(5) F. Grahamiana. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 242.

Spec. Char. An erect shrub, young shoots tomentose: leaflets ovate, mucronate, densely pubescent on the nerves, upper side hispid, under dotted with black glands: petioles villous, winged: stipules much shorter than the petiole: racemes sessile, dense and capitate, 1–3 together: bracts about the length of the flowers: calyx-segments villous, sprinkled with bright red glands, longer than the corolla: legumes pubescent and covered with clammy red glands.

Peninsula.

(6) F. Wightiana. *(Grah.)*

*Ident.* W. & A. prod. I. p 242.

Spec. Char. An erect, branched shrub: young branches angled, pubescent: leaflets oblong-lanceolate, upper side slightly wrinkled, under densely tomentose, with a few black glands concealed by the tomentum: petiole slightly margined: stipules very caducous; racemes 2–3 together, before expansion cylindrical-oblong, densely imbricated and cone-like, afterwards lax: bracts ovate, villous on the outside.

Peninsula.

(7) F. LINEATA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 242.—Roxb. fl. Ind. III. p. 341.—Dec. prod. II. p. 351.

*Syn.* Hedysarum lineatum, *Linn.*—Lespedeza lineata, *Pers.*—Onobrychis lineata, *Desv.*

*Engrav.* Wight's Icon. t. 327.—Burm. Ind. t. 53. f. 1.

Spec. Char. An erect shrub: young branches angled and pubescent: leaflets obovate or oblong, cuneate at the base, under side dotted with minute yellowish glands, the nerves densely pubescent: petiole channelled, not margined: racemes arranged in a peduncled diffuse panicle: calyx-segments about equal, and with the legume pubescent and covered with whitish mealy glands: flowers small, pale greenish-purple.

Coromandel. Guzerat. Khasia mountains. Assam. Flowering in the rainy season.

(8) F. STROBILIFERA. *(Brown.)*

*Ident.* W. & A. prod. I. p. 243.—Dec. prod. II. p. 351.

*Syn.* Hedysarum strobiliferum, *Linn. Roxb. fl. Ind.* III. *p.* 350.—Zornia strobilifera, *Pers.*

*Engrav.* Wight's Icon. t. 267.

Spec. Char. An erect shrub: branches pubescent towards the extremities: leaves simple, ovate, sometimes acuminated, blunt-pointed, glabrous above, slightly pubescent and copiously dotted with minute glands beneath: bracts acute: legume pubescent, concealed within the bracts: flowers small, greenish-white, somewhat streaked with red: racemes terminal or axillary, often 1–2-branched.

Coromandel. Hilly parts of the Concan. Khasia mountains and Assam. It is generally found growing in patches, and flowering nearly all the year.

(9) F. NANA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 339.—Dec. prod. II. p. 351.

*Engrav.* Wight's Icon. t. 389.

Spec. Char. Shrub much branched: leaflets obovate: petioles winged: racemes crowded: legumes covered with viscid glands: flowers small, pale greenish rose.

Banks of the Ganges near Hurdwar, flowering in the hot season.

(10) F. TUBEROSA. (*Dalz.*)

*Ident.* Dalz. in Hook. Jour. Bot. II. p. 34.—Bomb. flor. p. 75.

Spec. Char. Root tuberous, branched from the base: branches prostrate, very long, filiform; leaflets narrow-lanceolate, acute; lateral ones unequal-sided: stipules linear-subulate, cuneate at the base, caducous: racemes axillary, dichotomously panicled, few-flowered, longer than the leaf: flowers twin on the apex of the peduncle, lilac: legume glabrous, as long as the calyx, 2-seeded.

Malwan district, flowering in September.

(11) F. PROCUMBENS. (*R. W.*)

*Ident.* Dalz. Bomb. flor. p. 75.

*Engrav.* Wight's Icon. t. 987.

Spec. Char. Herbaceous, diffuse, procumbent, hairy: leaves palmately trifoliolate; middle leaflet obovate, lateral ones ovate, slightly unequal at the base, hairy above, nearly glabrous beneath; peduncles longer than the leaves: legume shorter than the calyx, usually 1-seeded: flowers capitate, of a dark dull purple colour.

Phoonda Ghaut.

(12) F. BRACTEATA. (*Wight.*)

*Ident.* Wight's Icon. I. No. 14.

*Syn.* Hedysarum bracteatum, *Roxb. fl. Ind.* III. *p.* 351.

*Engrav.* Wight's Icon. t. 268.

Spec. Char. An erect shrub: leaves narrow-cordate; racemes terminal, compound, bifariously imbricated with alternate, kidney-shaped, inflated, downy bracts; legume oval, 1-jointed, 2-seeded; flowers small, rose-coloured.

Dinajepore, flowering nearly all the year.

## GENUS XLI. PHASEOLUS.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Phaseolus*, a little boat, in allusion to a fancied resemblance in the pods.

Gen. Char. Herbaceous or suffrutescent plants: leaves pinnately trifoliolate: racemes axillary: pedicels usually in pairs, 1-flowered: calyx campanulate, 5-toothed or 2-lipped, the upper lip 2-

toothed, the lower 3-partite: corolla papilionaceous, the keel with the stamens and style spirally twisted or circinate: legume compressed or cylindrical, 2-valved, many-seeded, with partitions between the seeds.

(1) P. LUNATUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 244.—Dec. prod. II. p. 393.—Roxb. fl. Ind III. p. 287.

*Engrav.* Wight's Icon. t. 755.

SPEC. CHAR. Biennial, usually twining, glabrous or pubescent; leaflets ovate, acuminated: stipules reflexed: racemes shorter than the leaves, the flowering part elongated: pedicels in pairs: bracts narrow, much shorter than the calyx: legumes pendulous, scimitar-shaped, long mucronate, not torulose, 2–4-seeded: flowers small, greenish.

Peninsula. Dapoory. Bengal. Flowering in the cold season. The legumes are known as the country French beans or country Haricot. Six varieties are cultivated for the table. Natives rarely use any part of the plant, nor have they any name for it.

(2) P. ROSTRATUS. (*Wall.*)

*Ident.* W. & A. prod. I. p. 244.

*Syn.* P. alatus, *Roxb. fl. Ind.* III. *p.* 288.

*Engrav.* Wight's Icon. t. 34.—Wall. Pr. As. Rar. I. t. 63.—Rheede Mal. VIII. t. 42.

SPEC. CHAR. Perennial, twining; leaflets ovate, acute: stipules reflexed: racemes long-peduncled, few-flowered, shorter than the leaves: flowers in pairs with a gland between them: wings variously twisted: keel with a long spirally-twisted beak: legume pendulous, flat, curved, long-mucronate, many-seeded; flowers large, deep rose-purple.

Coromandel. Common throughout the Concans. Circars. Flowering in the cold season. The tuberous roots are eaten by the natives.

(3) P. GRAHAMIANUS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 244.

SPEC. CHAR. Leaflets ovate, acuminated: stipules sessile, recurved, deciduous: racemes long-peduncled, longer than the leaves, few-flowered, the flowering part slightly elongated in fruit: pedicels in pairs: legume flat, linear, narrow and long, many-seeded, valves at length twisting.

Courtallum.

(4) P. PSORALEOIDES. (*W. & A.*)

*Ident.* W. & A. prod. I p. 244.

*Engrav.* Wight's Icon. t. 249.

Spec. Char. Erect shrub: young shoots and racemes pubescent; leaflets lanceolate, acute, silky-pubescent underneath: stipules sessile, erect, striated, persistent: racemes much longer than the leaves, with flowering part elongated: peduncle very long and stout: calyx 5-toothed: keel circinate: legumes pendulous, nearly straight, long-linear, many-seeded, pubescent; seeds slightly truncated at both ends.

Nopalry.

(5) P. trinervius. *(Heyne.)*

*Ident.* W. & A. prod. I. p 245.

*Engrav.* Rheede Mal. VIII. t. 37.

Spec. Char. Twining: branches and petioles covered with long spreading hairs; leaflets ovate, acuminated, deltoid or lobed at the base, young ones very hairy, densely ciliated: stipules oblong-lanceolate, attached below the middle: peduncles elongated, straight, hairy, much longer than the leaves; flowers forming a kind of cylindrical head: legumes horizontal, cylindrical, hairy.

Peninsula.

(6) P. Mungo. *(Linn.)*

*Ident.* W. & A. prod. I. p. 245.—Dec. prod. II. p. 394.—Roxb. fl. Ind. III. p. 292.

*Syn.* P. hirtus, *Retz.*—P. Max, *Roxb. fl. Ind.* III. *p.* 295.

*Engrav.* Rheede Mal. VIII. t. 50.

Spec. Char. Annual, nearly erect, hairy; leaflets broadly-ovate or rhomboid, entire, acute or acuminated: stipules attached below their middle: peduncles at first shorter, afterwards longer than the petioles; flowers forming a kind of cylindrical head, greenish-yellow: keel twisted to the left, with a short spur near the base on the left side: legume horizontal, cylindrical, hairy, 6–15-seeded; seeds with numerous close longitudinal streaks.

The native place of this species is unknown. The seeds are known as the green gram and are cultivated by the natives, to whom the gram is of much importance. The variety, P. melanospermus, is the black gram which is also cultivated, but not in so great a degree. They both flower in the cold season.

(7) P. Wightii. (*Grah.*)

*Ident.* W. & A. prod. I. p. 245.

Spec. Char. Diffuse hairy plant: leaflets broadly-ovate, acuminated, entire or 3-lobed, the terminal lobe acuminated and much longer than the others: stipules attached below their middle: peduncles elongated, about the length of the leaves: flowers few, capitate; keel twisted to the left, with a short horn near the base on

the left side: legumes hairy, cylindrical, 8–10-seeded, ascending: seeds with numerous obliquely-longitudinal streaks, somewhat truncated at both ends.

Peninsula.

(8) P. RADIATUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 246.—Dec. prod. II. p. 395.

*Engrav.* Dill. Elth. t. 315. f. 304.

SPEC. CHAR. Stems diffuse: petioles and peduncles very hairy, the hairs long and pointing downwards: leaflets hairy, lateral ones obliquely ovate, pointed, terminal one rhomboid-oblong, the angle on each side rounded: stipules pointed, attached below their middle: peduncles about the length of the petioles: bracteoles twice as long as the calyx, acuminated: flowers somewhat capitate: keel twisted to the left: legumes very hairy, cylindrical, 6–8-seeded, spreading.

Peninsula.

(9) P. FARINOSUS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 245.—Dec. prod. II. p. 395.

SPEC. CHAR. Twining: leaflets ovate-rhomboid, acute, somewhat 3-lobed: peduncles slightly longer than the petiole: legumes tapering, not torulose: seed cylindrical, truncated at both ends, and covered with mealy tomentum: flowers rose-coloured; vexillum deep red.

Peninsula.

(10) P. ROXBURGHII. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 246.

*Syn.* P. radiatus, *Roxb. fl. Ind.* III. *p.* 396.

SPEC. CHAR. Annual, diffuse, hairy: leaflets ovate, acuminated, slightly repand: stipules attached below their middle: peduncles erect, shorter than the petiole: keel twisted to the left, with a very long horn near the base on the left side: legumes very hairy, cylindrical, 4–6-seeded, nearly erect: flowers middle-sized, yellow.

Circars. Travancore. Malabar. Flowering in the cold season. This is a most esteemed species, and the seeds bear the highest price. Of the meal the natives make bread for many of their religious ceremonies. There are varieties with green and black seeds.

(11) P. TRILOBUS. (*Ait.*)

*Ident.* W. & A. prod. I. p. 246.—Roxb. fl. Ind. III. p. 298.

*Syn.* Glycine triloba, *Linn. Mant.*—Dolichos trilobus, *Do.*—*Dec. prod.* II. *p.* 399.—D. stipulaceus, *Lam.*

*Engrav.* Wight's Icon. t. 94.—Burm. Ind. t. 50. f. 1.—Pluk.

Spec. Char. Herbaceous, procumbent, diffuse: leaflets much shorter than the petioles, roundish and entire or 3-lobed, middle lobe obovate, narrow towards the base: stipules attached below their middle: peduncles elongated, ascending: legume cylindrical, glabrous or slightly hairy: flowers few, small, yellow.

Coromandel. Common in the Deccan. Flowering in the cold season.

(12) P. aconitifolius. (*Jacq.*)

*Ident.* W. & A. prod. I. p. 247.—Dec. prod. II. p. 394.—Roxb. fl. Ind. III. p. 299.

*Engrav.* Jacq. Obs. III. t. 52.

Spec. Char. Annual, diffuse, procumbent, slightly hairy: leaflets deeply and palmately divided into linear-lanceolate lobes: stipules attached below the middle: peduncles nearly as long as the petiole: legumes horizontal, cylindrical: flowers somewhat capitate, small, yellow.

Coromandel. Oude. Cultivated in the Deccan, Guzerat and the Upper Provinces. Flowering in the cold season.

(13) P. sepiarius. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 72.—Hook. Jour. Bot. II. p. 33.

Spec. Char. Twining, glabrous: leaflets broadly-ovate, mucronate, 3-nerved at the base, lateral ones unequal-sided; peduncles about twice the length of the leaf: segments of the calyx 3-nerved; upper lip deeply 2-toothed: legumes straight, round, many-seeded, covered with brown hairs: root tuberous: flowers between racemose and capitate, large, rose-coloured.

Common in the North Concan, flowering in September.

(14) P. setulosus. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 72.—Hook. Jour. Bot. II. p. 33.

Spec. Char. Twining, covered with reddish-brown bristles which point backwards: leaflets rhomb-ovate, ciliated on the margin, lateral ones unequal: stipules ciliated, many-nerved: calyx campanulate, upper lip truncated, lower shortly 3-toothed, teeth obtuse: legumes straight, round, slender, rough with minute bristles, 10–12-seeded: flowers yellow.

Malwan, flowering in September.

(15) P. pauciflorus. (*Dalz.*)

*Ident.* Dalz. in Hook. Jour. Bot. III. p. 209.—Bomb. flor. p. 72.

Spec. Char. Twining: root fibrous: stem striated, filiform, hispid with white hairs pointing backwards: leaves rhomb-ovate,

acuminated, as long as the petiole: stipules lanceolate, acute, adnate below the middle: peduncles shorter than the petiole, 2–3-flowered at the apex: legumes quite smooth, 9–10-seeded; seeds truncate at both ends: flowers small, yellow.

Common in the South Concan.

(16) P. GRANDIS. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 72.

SPEC. CHAR. Erect, 4–5 feet in height: stem herbaceous, piped, 5-angled, clothed with brown reversed bristly hairs: leaves pinnately trifoliolate, very large: stipules very large, leafy, adnate, lower part 2-lobed; leaflets sprinkled with small bristles, lateral ones 2-lobed, terminal one deeply 3-lobed; lobes ovate, shortly and bluntly acuminated: peduncles axillary, solitary, longer than the leaf, covered with reflexed bristles, many-flowered at the apex: flowers smallish, pale yellow, with large oval bracts below the calyx: legumes cylindric, torulose, obtuse at the apex, thickish, covered with black bristles.

High Ghauts East of Bombay.

(17) P. PULNIENSIS. *(R. W.)*

*Ident.* Wight's Icon. vol. I. No. 11.

*Engrav.* Wight's Icon. t. 202.

SPEC. CHAR. Root tuberous: stems procumbent, diffuse, hairy: leaves trifoliolate, hairy; leaflets ovate-lanceolate, acute: stipules small, lanceolate, attached by the base: peduncles very long, ascending, curved, 1-flowered: legume cylindrical, somewhat clavate, tapering towards the point, hairy: flowers large.

Pulney Hills, creeping among long grass, at an elevation of about 6,000 feet.

## GENUS LXVII. DOLICHOS.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Dolichos*, long, in reference to the long twining stems.

GEN. CHAR. Herbs or undershrubs, usually twining: leaves pinnately trifoliolate: flowers axillary: calyx campanulate, more or less 2-lipped, the upper lip emarginate or 2-cleft, the under 3-partite, with the middle segment longer than the others: corolla papilionaceous: vexillum furnished near the base with about 2–4 callosities: wings oblong, obtuse: keel falcate or incurved, neither twisted nor bent to one side: legume more or less furnished with partitions between the seeds; seeds oval, more or less compressed.

(1) D. GLUTINOSUS. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 248.—Roxb. fl. Ind. III. p. 312.

*Syn.* Hedysarum glutinosum, *Herb. Madr.*—Glycine viscosa, *Roth.*—Rhynchosia viscosa, *Dec. prod.* II. *p.* 387.—D. tomentosus, *Roth. W. & A. l. c.—Dec. prod.* II. *p.* 401.

SPEC. CHAR. Annual, twining, covered with glutinous hairs: leaflets roundish-ovate, acuminated, terminal one rhomboid and somewhat 3-lobed: stipules sessile, ovate, spreading: racemes longer than the leaves, straight, many-flowered: flowers alternate, usually solitary: vexillum yellow, sprinkled with glutinous pubescence: legume hairy, oblong-lanceolate, pointed with the long base of the style, 2-seeded.

Peninsula, flowering in the cold season.

(2) D. UNIFLORUS. (*Lam.*)

*Ident.* W. & A. prod. I. p. 248.—Dec. prod. II. p. 398.

*Syn.* D. biflorus, *Roxb. fl. Ind.* III. *p.* 313.

*Engrav.* Pluk. t. 213. f. 4.

SPEC. CHAR. Annual: stem erect: branches twining: young shoots and leaves covered with soft silky hairs: leaflets ovate, pubescent when old: stipules oblong: calyx villous; segments long, subulate; upper lip split at the apex: vexillum obovate-oblong: keel straight-falcate: legume compressed, linear, falcate, pointed with the long base of the style, softly hairy, about 6-seeded: flowers axillary, 1–3-together, sometimes on a short common peduncle, sulphur-coloured.

This is the horse-gram plant. Botanists seem to agree in its being a native of India, although the exact habitat is not known. Roxburgh states that he never saw it in a wild state. It is much cultivated all over the Peninsula as well as in the Deccan and Bengal. The seeds are grey and another variety has them jet black.

(3) D. CILIATUS. (*Herb. Madr.*)

*Ident.* W. &. A. prod. I. p. 249.—Dec. prod. II. p. 398.

*Syn.* D. prostratus, *Roxb. fl. Ind.* III. *p.* 310.

SPEC. CHAR. Root perennial, tuberous: stems twining and with the petioles and racemes pubescent or hairy: leaflets from oval to ovate, obtuse or acute, mucronate, margin densely ciliated with silvery hairs: stipules oblong: bracts sessile, oblong-lanceolate, striped lengthwise with white and purplish streaks: racemes axillary, shorter than the petiole, about 4-flowered: calyx-segments long, keeled, stiffish towards the apex; upper lip split; vexillum obovate; keel much falcate: legume compressed, scimitar-shaped, pointed, glabrous, 2–4-seeded.

Circars. Courtallum.

(4) D. FALCATUS. *(Herb. Madr.)*

*Ident.* W. & A. prod. I. p. 249.—Dec. prod. II. p. 398.—Roxb. fl. Ind. III. p. 311.

SPEC. CHAR. Root perennial, tuberous: stems twining: leaflets somewhat roundish-ovate, acuminated, terminal one more or less 3-lobed: stipules sessile, reflexed: peduncles slender, 2–8-flowered at the apex: vexillum broadly-ovate, shortly 2-spurred at the base, with 2 long callosities extending half way up the limb and projecting inwards at the apex: keel much falcate; stigma capitate, woolly: legume linear, falcate, glabrous, 4–8-seeded; valves flat: flowers large, bluish-purple.

Peninsula, flowering in the cold season.

(5) D. SUBCARNOSUS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 249.

SPEC. CHAR. Twining: leaflets broadly-ovate, mucronulate, somewhat fleshy, terminal one deltoid: stipules sessile, ovate, striated: racemes few-flowered, much longer than the leaves: legumes long-linear, straight, pointed with the slightly recurved base of the style, glabrous, many-seeded: valves a little convex.

Peninsula.

(6) D. PILOSUS. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 249.—Roxb. fl. Ind. III. p. 312.—Dec. prod. II. p. 397.

SPEC. CHAR. Perennial, twining, pubescent: leaflets ovate-lanceolate: stipules sessile, lanceolate: racemes short, axillary: wings about half the length of the other petals, angled, with a spur at the base on the one side and another on the other side near the apex: vexillum broadly-ovate: stigma bearded: legume long, straight, cylindric, pointed, very hairy, 8–12-seeded, much intercepted between the seeds: flowers large, blue.

Circars. Travancore. Flowering in the rainy season.

## GENUS XLIII. LABLAB.

**Diadelphia Decandria.** *Sex Syst*

*Deriv.* Said to be the Arabic name of the *Convolvulus*, perhaps on account of its twining habits.

GEN. CHAR. Herbaceous or perennial plants: leaves pinnately trifoliolate: calyx with 2 bracts, 4-cleft; 3 lower segments acute, the upper broad: corolla papilionaceous: vexillum channelled at the base: upper part of the style bearded on the under side: legumes tuberculed or muricated along the sutures.

(1) L. VULGARIS. *(Savi.)*

*Ident.* W. & A. prod. I. p. 250.—Dec. prod. II. p. 410.

*Syn.* L. Nankinicus, *Savi. Dec. l. c. p.* 402.—L. leucocarpus, *Savi.*—L. microcarpus, *Dec. l. c.*—L. perennans, *Dec. l. c.*—Dolichos Lablab, *Linn. Roxb. fl. Ind.* III. *p.* 305.—D. spicatus, *Koen.*—D. albus, *Lour.*—D. Bengalensis, *Jacq.*—D. purpureus, *Jacq. frag.*—D. tetraspermus, *Willd. Dec. prod.* II. *p.* 397.

*Engrav.* Wight's Icon. t. 57 and 203.—Rumph. Amb. V. t. 111. f. 1, t. 37, t. 136.—Bot. Reg. X. t. 830.—Bot. Mag. XXIII. t. 896.

SPEC. CHAR. Annual or perennial, twining: stipules spreading: leaflets entire: vexillum patent with 1 callosities, the upper pair prominent: keel falcate, bent in at a right angle: racemes axillary, elongated: pedicels short and aggregated on alternate glandular knobs: bracteoles broadly-oval, about as long as the calyx: legumes broadly scimitar-shaped, gibbous below the apex and ending abruptly in a straight or recurved cuspidate point: seeds longitudinally oval: flowers white or purple or red.

There are about six or seven varieties of this species, which are much cultivated for their seeds which are much eaten by the natives. The plant is common about Serampore, near Samulcottah and the Coromandel coast, and flowers in the cold season. The L. cultratus, (Dec.) which is also cultivated and of which there are five or six varieties is a native of Japan.

## GENUS XLIV. PAROCHETUS.

**Diadelphia Decandria.** *Sex Syst:*

*Derw.* From *Para*, near, and *Ochetus*, a brook, alluding to the habitat of the species.

GEN. CHAR. Calyx campanulate, 4-cleft: segments equally broad, lower one longest. corolla papilionaceous. vexillum broadly obovate, longer than the other petals: keel obtuse, covered by the wings.

(1) P. MAJOR. *(Don.)*

*Ident.* W. & A. prod. I. p. 152.—Don. prod. fl. Nep. p. 241.—Dec. prod. II. p. 403.

SPEC. CHAR. Herbaceous, perennial, creeping plant: petioles erect, long: leaves palmately trifoliolate: leaflets obovate, retuse, crenulated: peduncles axillary, solitary, about as long as the petioles, with 2 bracts about the middle, 1-flowered: flowers purplish: legume gibbous, many-seeded: seeds roundish.

Neilgherries.

## GENUS XLV. CANAVALIA.

**Monadelphia Decandria.** *Sex · Syst ·*

*Deriv.* From *Canavali*, the Malabar name of one of the species.

GEN. CHAR. Herbaceous or suffrutescent plants: leaves pinnately trifoliolate: stipules small, wart-like: racemes axillary, elongated, many-flowered; flowers in twos or threes in glandular knobs; calyx tubular, with two roundish caducous bracteoles at its base, unequally 2-lipped, upper lip the largest and consisting of two large round lobes, lower much smaller, acutely 3-toothed: corolla papilionaceous: vexillum with 2 large callosities near the base of the limb: wings linear-oblong, auricled and repand on the upper margin; keel falcate at a right angle with its petals distinct from the base to the angle: stigma large, oblique; legumes 3-keeled on the upper suture, mucronate, with cellular membranes surrounding and separating the seeds: seeds oval-oblong.

### (1) C. GLADIATA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 253.—Dec. prod. II. p. 404.

*Syn.* Dolichos gladiatus, *Willd. Roxb. fl. Ind.* III. *p.* 300.—D. ensiformis, *Lour.*

*Engrav.* Rheede Mal. VIII. t. 44.—Rumph. Amb. V. t. 135. f. 1.—Jacq. Icon. Rar. III. t. 560.

SPEC. CHAR. Perennial, twining, glabrous: leaflets cordate-ovate, rather acute: legumes 5–10 times longer than broad: flowers large.

Commonly cultivated. There are varieties with red and white flowers, one of which is indigenous to Silhet. The half-grown pods are eaten like French-beans. It flowers in the rainy season.

### (2) C. VIROSA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 253.

*Syn.* Dolichos virosus, *Roxb. fl. Ind.* III. *p.* 301.

*Engrav.* Rheede Mal. VIII. t. 45.

SPEC. CHAR. Biennial, twining, glabrous or with the racemes pubescent: leaflets oval; legumes linear, scimitar-shaped, 4–8-seeded: flowers large, rose-purplish.

Peninsula, flowering in the rainy season. The natives consider this a poisonous plant.

### (3) C. MOLLIS. *(Wall.)*

*Ident.* W. & A. prod. I. p. 253.

SPEC. CHAR. Twining; branches densely pubescent: leaflets ovate, young ones tomentose, older ones villous: legumes oblong-linear, few-seeded.

Neilgherries and Dindigul Hills.

(1) C. OBTUSIFOLIA. *(Dec.)*

*Ident.* W & A. prod. I. p. 253.—Dec. prod. II. p. 404.

*Syn.* Dolichos obtusifolius, *Lam.*—D. rotundifolius, *Vahl. Roxb. fl. Ind.* III. *p.* 302.

*Engrav.* Rheede Mal. VIII. t. 43.—Pluk. t. 51. f. 2.

SPEC. CHAR. Biennial, twining, glabrous: leaflets roundish-obovate: legumes semi-oval, straight, about twice as long as broad, 3–6-seeded: flowers large, bluish-rose.

Sands along the coast of Coromandel and Malabar. At the mouth of the Godavery and between Quilon and Anjengo in Travancore.

(5) C. STOCKSII. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 69.

SPEC. CHAR. Scandent: petioles very long, channelled on the upper surface, swollen at the base: stipules linear, obtuse, from a broad base nearly half an inch in length: lateral leaflets broad-oval, 3-nerved, with a short sudden acumination, rather unequal-sided, 5 inches in length and 4 broad, terminal leaflet cuneate towards the base: upper lip of the calyx minutely 2-toothed, lower lip 3-cleft: segments triangular, middle one the longest: flowers several together on the apex of a very long sharply-angled peduncle, bluish-purple.

Budgee Hill, in the Brahminwara range. Deccan. Very rare.

## GENUS XLVI. MUCUNA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* The Brazil name of one of the species.

GEN. CHAR. Twining plants: leaves pinnately trifoliolate; racemes elongated or short and umbel-like, often pendulous when in fruit: legumes usually densely clothed with sharp hairs: calyx campanulate, 2-lipped, with two caducous bracteoles as long as the tube: upper lip broad, lower 3-cleft, with the middle segment the longest: corolla papilionaceous: vexillum cordate, incumbent on the wings and much shorter than them and the keel: wings oblong-linear, connivent, sometimes slightly cohering together by their spurs: keel straight below, slightly falcate above and terminated by a smooth, sharp beak: stamens alternately longer: anthers alternately oblong and ovate: style long and slender, hairy below: legume linear, oblong or roundish, 1–8-seeded, with partitions between the seeds, polished within: seeds oval or kidney-shaped.

(1) M. MONOSPERMA. *(Dec.)*

*Ident.* W. &. A. prod. I. p. 254.—Dec. prod. II. p. 406.

*Syn.* Carpopogon monospermum, *Roxb. fl. Ind.* III. *p.* 283.

*Engrav.* Wight's Icon. t. 35.

Spec. Char. Perennial: leaflets ovate, pubescent when young: racemes short, somewhat corymbiform, short-peduncled, drooping: pedicels long: lowest calyx-segments long-pointed, the others very short: legumes semi-oval, deeply furrowed along the sutures, obliquely plaited, 1-seeded, covered with stiff stinging hairs: seed kidney-shaped: flowers large, dark-purple.

Coromandel. Bombay. Silhet and Assam. Flowering in the cold season. This species produces the Brahminee vegetable called the Negro bean.

(2) M. atropurpurea. (*Dec.*)

*Ident.* W. & A. prod. I. p. 254.—Dec. prod. II. p. 406.

*Syn.* Carpopogon atropurpureum, *Roxb. fl. Ind.* III. *p.* 287.

Spec. Char. Perennial: leaflets ovate, acuminated: racemes drooping, long-peduncled, sometimes compound: pedicels long, slender, compressed: calyx-segments broadly-ovate, obtuse: legume oblong-oval, deeply furrowed along the sutures, obliquely plaited, 2 or sometimes 1-seeded, copiously covered with brown stinging hairs: seed oval, more convex on the one side, and there furnished its whole length with the linear hilum: flowers large, dark-purple.

Courtallum. Travancore and South Concans. Flowering in February and March.

(3) M. gigantea. (*Dec.*)

*Ident.* W. & A. prod. I. p. 254.—Dec. prod. II. p. 405.

*Syn.* Dolichos giganteus, *Willd.*—Carpopogon giganteum, *Roxb. fl. Ind.* III. *p.* 286.—Stizolobium giganteum, *Spreng.*

*Engrav.* Rheede Mal. VIII. t. 36.

Spec. Char. Perennial: leaflets ovate, acute: flowers almost umbellate, at the apex of long pendulous peduncles: pedicels long, slender: three lower calyx-segments short, tooth-like, the others very short and inconspicuous: legume linear-oblong, deeply furrowed along the sutures, not plaited, covered with stiff brown stinging hairs, 3–6-seeded: seeds oval: flowers large, sulphur-coloured.

Negapatam. Malabar. Concans. Soonderbunds. Flowering nearly all the year.

(4) M. hirsuta. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 254.

Spec. Char. Leaflets ovate, upper sides hirsutely-pubescent: branches, petioles and under sides of the leaflets hirsutely-tomentose: racemes drooping, long-peduncled: pedicels as short as the calyx: calyx-segments broad-lanceolate, acuminated, the length of the tube: legumes linear, not furrowed on the sutures nor plaited, curved, densely covered with rigid stinging hairs: hilum linear.

(5) M. PRURITA. (*Hook.*)

*Ident.* W. & A. prod. I. p. 255.—Hook. Bot. Misc. II. p. 348.

*Syn.* Carpopogon pruriens, *Roxb. fl. Ind.* III. *p.* 283.—Stizolobium pruriens, *Spreng.*

*Engrav.* Rheede Mal. VIII. t. 35.—Rumph. Amb. V. t. 142.

SPEC. CHAR. Annual: branches pubescent or slightly hairy: leaflets ovate, upper side glabrous, under sprinkled with silvery hairs: racemes shorter than the leaves, drooping: pedicels shorter than the calyx: calyx cleft to the middle, covered with whitish hairs; segments broad-lanceolate: legumes slightly curved like an S, linear, not furrowed on the sutures nor plaited, densely clothed with stiff stinging hairs, about 6-seeded: valves not keeled: hilum linear: flowers large, dark-purple.

Peninsula. Bengal. Assam. Flowering in the cold season. There are two or three other species indicated in Roxburgh's Hortus Bengalensis, but not described. The M. nivea, with white flowers, a native of Bengal. The M. imbricata from Silhet, and the M. bracteata from Chittagong.

## GENUS XLVII. CANTHAROSPERMUM.

**Diadelphia Decandria.** *Sex Syst.*

*Deriv.* From *Cantharos*, a beetle, and *Sperma*, seed. Linnæus appears to have taken his description of the seed from the figure of a small beetle, which Plukenet placed alongside of the seed as a contrast. (W. & A.)

GEN. CHAR. Twining plants: leaves pinnately trifoliolate; leaflets more or less velvety on both sides: peduncles axillary, several-flowered: calyx 4-cleft: segments nearly equal, upper broader than the others and split at the apex: corolla papilionaceous, deciduous: petals all about the same length: vexillum recurved or reflexed, oblong-obovate: keel falcate: legume oblong-linear, compressed, 3–8-seeded, transversely constricted between the seeds externally and with slight coriaceous dissepiments between them internally: seeds oblong, transverse, with a large fleshy 2-cleft wart at the hilum.

(1) C. PAUCIFLORUM. (*W. & A.*)

*Ident.* W. &. A. prod. I. p. 255.

*Syn.* Cajanus scarabæoides, *Pet. Th.*—Dolichos scarabæoides, *Linn.*—D. medicagineus, *Roxb. fl. Ind.* III. *p.* 315.—Rhynchosia scarabæoides, *Dec. prod.* II. *p.* 387.—Stizolobium scarabæoides, *Spreng.*

*Engrav.* Pluk. t. 52. f. 3.

Spec. Char. Biennial: leaflets obovate, slightly wrinkled and paler on the under side: peduncles shorter than the petiole, about 2-flowered: calyx about half the length of the corolla, cleft to the middle: segments lanceolate-acuminate, slightly curved upwards: vexillum recurved: legume linear, velvety or hairy: flowers small, yellow.

Peninsula. Khasia and Monghyr Hills. Assam. Very common in the Concan. Flowering nearly all the year.

(2) C. albicans. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 256.

Spec. Char. Leaflets roundish, ovate or obovate, mucronate, whitish on the under side: racemes few-flowered, lax, as long as or longer than the leaves: calyx much shorter than the corolla: segments ovate, straightish: vexillum reflexed: legume oblong-linear, velvety.

Dindigul Hills, at an elevation of 2,500 feet.

## GENUS XLVIII. CAJANUS.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Catjang*, the native name in Amboyna.

Gen. Char. Erect or twining shrubs: leaves pinnately trifoliolate: racemes axillary, peduncled, corymbiform: pedicels in pairs: calyx campanulate, somewhat 2-lipped; upper lip shortly 2-cleft, lower 3-partite; the segments lanceolate, slightly curved upwards, middle one a little longer than the others, all recurved at the apex: corolla papilionaceous, deciduous: petals equal in length: vexillum broad, with two large callosities at the base of the limb; the margins of the spurs and claw inflexed: keel falcate: stamens alternately shorter; tube deciduous: style hairy below: legume linear-lanceolate, tapering at both ends, compressed, torulose, deeply constricted between the seeds, 3–5-seeded, with membranous partitions: seeds roundish.

(1) C. kulnensis. *(Dalz.)*

*Ident.* Dalz. in Hook. Jour. Bot. II. p. 264.—Bomb. flor. p. 72.

Spec. Char. Stem twining, filiform, pubescent with fulvous hairs: leaflets rhomboid-ovate, shortly acuminated, roughish above, pubescent and covered with wax-coloured glands beneath. stipules ciliated: racemes about 6-flowered, as long as the leaf: legumes linear-oblong, clothed with long soft viscid hairs, 5-seeded, obliquely constricted between the seeds: flowers yellow.

Near Kulna, in the Waree country.

(2) C. Goensis. *(Dalz.)*

*Ident.* Dalz. in Hook. Jour. Bot. III. p. 265.—Bomb. flor. p. 73.

Spec. Char. Stem twining, whole plant villous with soft yellow hairs: leaflets ovate, rounded, shortly acuminate, with waxy-looking glands beneath: stipules triangular: racemes axillary and terminal, peduncled, many flowered, 2–3 times longer than the leaf: flowers bright-yellow.

At the base of Chorla Ghaut in the district of Goa.

(3) C. glandulosus. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 73.

Spec. Char. Stems twining, the whole plant covered with short yellow or white tomentum: leaflets rhomboid-ovate, the lateral ones acute, covered on the under side with brown resinous glands: racemes axillary and terminal, solitary, longer than the leaf: pedicels bent back in fruit: legume linear, nearly straight, hispid with yellow bristly hairs, pointed, 7–8-seeded, obliquely constricted between the seeds: calyx with the upper lip entire. flowers in pairs, large, yellow.

At Malwan and Wagotun, in the South Concan.

## GENUS XLIX. LEUCODYCTION.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Leukos*, white, and *Diktyon*, a net, in allusion to the seeds which are clothed with a thin shining membrane.

Gen. Char. Calyx bibracteolate, campanulate, 2-lipped, 4-cleft to the middle; upper lip entire, mucronate, lower 3-partite, with lanceolate segments, middle one a little longer than the rest: petals equal in length, twice as long as the calyx: vexillum obovate, shortly unguiculate: wings straight, obtuse: keel falcate: ovary silky-tomentose, 1-celled, 4–5-ovuled: style glabrous, filiform, longer than the petals: stigma somewhat acute, not thicker than the style: legume linear, mucronate, compressed, 4–5-seeded, constricted with oblique transverse dissepiments between the seeds: seeds oval, somewhat compressed, each seed clothed with a thin silvery membrane.

(1) L. Malvensis. *(Walp.)*

*Ident.* Dalz. in Hook. Jour. Bot. II. p. 264.—Bomb. flor. p. 73.

Spec. Char. Herbaceous, twining: stems several, filiform, from a woody root: leaves pinnately trifoliolate; leaflets linear-oblong, obtuse, mucronulate, reticulated with white veins: flowers axillary, short-peduncled, solitary or twin, purple.

Climbing on the stems of grasses in rocky ground in the Malwan

## GENUS L. ATYLOSIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *A*, not, and *Tulos*, a knot or callus, in allusion to the absence of callosities on the vexillum.

Gen. Char. Erect or diffuse shrubs: branches villous or tomentose: leaves palmately trifoliolate; leaflets 3-nerved at the base: peduncles axillary or forming a kind of raceme along the young terminal shoots, generally 2-flowered: legume villous or tomentose: calyx campanulate, deeply 2-lipped, upper lip shortly split at the apex, lower 3-partite: middle segment longest: corolla papilionaceous, at length scariose, persistent: vexillum broad, recurved, a little longer than the other petals, without callosities: keel slightly falcate, obtuse: stamens alternately a little shorter; lower part of the style hairy: stigma slightly capitate: legume oblong-linear, compressed, about 4-seeded, slightly constricted externally, and with partitions internally between the seeds: seeds roundish; hilum oval, with a large fleshy wart.

### (1) A. Candollii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 257.

*Syn.* Collæa trinervia, *Dec. prod.* II. p. 240.—Odonia trinervia, *Spr.*—A. major, *W. & A. l. c.*

*Engrav.* Wight's Icon. t. 754.

Spec. Char. Erect; branches straight; young parts villous with fulvous hairs: leaflets oval, upper side even, pubescent, under reticulated, shortly tomentose, villous on the nerves and margin: stipules lanceolate-acuminate, spreading: peduncles 2-flowered: calyx villous: segments curved upwards: spurs of the vexillum bent inwards, slightly callous: legumes villous.

Neilgherries.

### (2) A. rugosa. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 257.

Spec. Char. Branches slender, elengated, diffuse, tomentose; leaflets obovate, velvety on both sides, upper wrinkled, under strongly reticulated, whitish: stipules oval, adpressed: peduncles 2-flowered: calyx shortly tomentose; segments lanceolate-acuminate, slightly curved upwards: vexillum slightly thickened along the claw and base of the limb: legume velvety.

Neilgherries.

### (3) A. lineata. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 258.

*Syn.* Glycine lineata, *Heyne.*

Spec. Char. Branches elongated: young parts covered with short white hairs: leaflets narrow, cuneate-lanceolate, acuminated, upper side even, slightly pubescent, under white, marked with the prominent nerves: stipules narrow-subulate, caducous: pedicels axillary, in pairs: calyx villous: segments triangular-acuminated, lowest one subulate and 2–3 times shorter than the corolla: legume villous.

Peninsula.

(4) A. Lawii. *(R. W.)*

*Ident.* Dalz. Bomb. flor. p. 74.

*Engrav.* Wight's Icon. t. 93.

Spec. Char. Erect, tomentose: leaflets obovate, as long as the petiole: pedunoles shorter than the petiole: legumes short, 2-seeded, enclosed in the persistent corolla, pubescent: flowers axillary, solitary, yellow.

Common on the Western Ghauts.

## GENUS LI. DUNBARIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* In honor of Professor George Dunbar of Edinburgh.

Gen. Char. Twining, suffrutescent plants: leaves pinnately trifoliolate; lateral leaflets broadly and obliquely ovate, acuminated: stipules caducous: racemes axillary, with large broad-ovate caducous bracts: pedicels in pairs, slender: calyx campanulate, 4-cleft to the middle; upper segment slightly split at the apex, rather longer than the lateral ones, all lanceolate: corolla much longer than the calyx, persistent, scariose, papilionaceous: vexillum embracing the other petals, with 2 large callosities at the base of its limb: wings oblong-linear, with a spur on each side near the base: keel falcate, rather shorter than the wings: lower part of the style hairy: stigma slightly capitate: legume longer than the calyx, compressed, oblong-linear, 1–5-seeded, with partitions between the seeds: seeds roundish.

(1) D. Heynei. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 258.

Spec. Char. Leaflets nearly glabrous, terminal one cuneate-obovate, acuminated: petioles and nerves of the leaflets underneath slightly hairy: calyx herbaceous, upper segment equal to, and as broad as the lateral ones: legume about 5-seeded, softly hairy.

Peninsula.

(2) D. FERRUGINEA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 258.

SPEC. CHAR. Leaflets pubescent above, when young villous beneath, terminal one cordate-ovate, acuminated: petioles and nerves of the leaflets beneath covered with rusty tomentum: calyx herbaceous: spur on the lower margin of the wings very small, obtuse: legume 4–5-seeded, softly velvety.

Neilgherries. Mysore.

(3) D. LATIFOLIA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 258.

SPEC. CHAR. Leaflets slightly pubescent, above tomentose, and at length densely pubescent beneath, terminal one broader than long, acuminate: bracts 3-toothed at the apex: calyx somewhat thin and membranaceous; upper segment narrow-lanceolate, longer and narrower than the lateral ones; both spurs on the wings linear-subulate: legume 1–2-seeded.

Dindigul Hills.

## GENUS LII. CYLISTA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Kulix*, a calyx, in allusion to the large scarious calyx.

GEN. CHAR. Perennial twining shrubs, pubescent or villous: leaves pinnately trifoliolate; leaflets oblong or ovate, acuminated: racemes axillary: bracts very caducous: calyx deeply 4-cleft, scariose, upper segment 2-lobed or cleft, lateral ones much smaller, lowest very large: corolla papilionaceous, persistent, much smaller than the calyx: vexillum with two callosities at its base: keel slightly falcate, its petals distinct from the base to the curve: wings linear-oblong, spurred at the base on the upper margin, slightly gibbous on the lower: style hairy below, recurved along the lower suture of the ovary, upper part tumid, ascending and parallel with the lower part: legume obliquely oval, enclosed within the calyx, 1 or 2-seeded: seed kidney-shaped, compressed.

(1) C. SCARIOSA. *(Ait.)*

*Ident.* Ait. Hort. Kew. III. p. 512.—W. & A. prod. I. p. 259.—Dec. prod. II. p. 410.—Roxb. fl. Ind. III. p. 320.

*Engrav.* Roxb. Cor. I. t. 92.

SPEC. CHAR. Twining: calyx twice as long as the corolla, tube short, campanulate; segments very large, thin and scariose, reticulated with coloured veins, upper one broad, 2-lobed, lower the larg-

est, boat-shaped; lateral ones cordate-ovate: racemes shortly pedunculed, about the length of the leaves; flowers middle-sized, yellow.

Mountainous parts of the Circars. Ghauts and hilly parts of the Concans. Kennery jungles. Flowering nearly all the year.

## GENUS LIII. CYANOSPERMUM.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Kuanos*, blue, and *Sperma*, seed, in allusion to the colour of the seeds.

Gen. Char. Calyx herbaceous, 2-lipped, cleft to near the base; lips about equal, upper wedge-shaped, 2-cleft, lower tripartite; segments oblong-linear: corolla slightly shorter than the calyx, persistent, rigidly scariose, papilionaceous; vexillum obcordate, spreading, without callosities: keel slightly falcate, the petals distinct except for a small space at the curve: legume 2, by abortion 1-seeded, scarcely so long as the calyx, constricted all round between the seeds and as if formed of two spherical lobes: seeds globose.

(1) C. tomentosum. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 260.

*Syn.* Cylista tomentosa, *Roxb. fl. Ind.* III. *p.* 319.—*Dec. prod.* II. *p.* 410.

*Engrav.* Wight's Ill. I. t. 84.—Roxb. Cor. III. t. 221.

Spec. Char. Twining, tomentose: leaves pinnately trifoliolate; leaflets broadly-ovate, acuminated: stipules lanceolate: upper lip of the calyx scarcely cleft to the middle: racemes axillary, simple: bracts oval, cuspidate, deciduous: legume shortly tomentose; seeds bluish-violet: flowers middle-sized, sulphur.

Dindigul. Mysore. Flowering nearly all the year.

## GENUS LIV. ERYTHRINA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Erythros*, red, in allusion to the bright colour of the flowers.

Gen. Char. Trees or shrubs: stipules free from the petiole: leaves pinnately trifoliolate: stems and petioles sometimes prickly: racemes elongated: pedicels usually in threes: calyx tubular, truncated or 2-lipped or spathaceous: corolla papilionaceous: vexillum very long, without spurs or callosities at the base, much larger than the small wings and keel: stamens straight, nearly as long as the vexillum: style straight, incurved at the apex: legume stalked, long, torulose, compressed between the seeds, pointed; seeds distant.

(1) E. INDICA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 260.—Dec. prod. II. p. 412.—Roxb. fl. Ind III. p. 249.

*Syn.* E. corallodendron, *Linn.*

*Engrav.* Rheede Mal. VI. t. 7.—Rumph. Amb. II. t. 76.—Wight's Icon. t. 58.

SPEC. CHAR. Tree, armed with black prickles: stipules falcate: petioles and leaves unarmed; terminal leaflet broadly cordate: calyx spathaceous, contracted and 5-toothed at the apex: vexillum 3 times shorter than the calyx, many times longer than the wings: keel about the length of the wings, with its petals distinct: stamens monadelphous, with the sheath entire at the base, thence diadelphous with the tube split: racemes terminal, horizontal: legume 6–8-seeded: flowers large, dark purple scarlet.

Coromandel. Concans. Assam. Flowering in February and March. The wood is light and soft and is used for making toys, also generally employed in constructing catamarans.

(2) E. STRICTA. *Roxb.)*

*Ident.* W. & A. prod. I. p. 260.—Roxb. fl. Ind. III. p. 251.

SPEC. CHAR. Tree, armed with white prickles: petioles rarely prickly: leaves unarmed; terminal leaflet reniform-cordate, pointed: calyx spathaceous, entire, acute, short: vexillum about ten times longer than the calyx and twice the length of the keel: keel much longer than the wings, its petals uniting: stamens monadelphous, with the sheath entire at the base, diadelphous upwards: racemes terminal, horizontal: legume 2–3-seeded: flowers large, dark purple scarlet.

Travancore. Western Ghauts. Flowering in March.

(3) E. SUBEROSA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 260.—Roxb. fl. Ind. III. p. 253.

SPEC. CHAR. Tree, with corky deeply-cracked bark: branches unarmed, except at the insertion of the petioles: stipules lanceolate: petioles pubescent, prickly: leaves unarmed: leaflets tomentose below, terminal one rhomboid and acuminated, occasionally reniform and rounded: calyx tubular, 2-lipped: vexillum much longer than the calyx and more than twice the length of the keel: keel cordate, many times longer than the small wings, its petals united: stamens monadelphous: racemes axillary, sometimes terminal, spreading: legume 2–3-seeded: flowers large, whitish rose scarlet.

Circars. Guzerat. Khandeish. Common in the Mahal districts, east of the Ghauts. Flowering in March and April.

(4) E. SUBLOBATA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 261.—Roxb. fl. Ind. III. p. 254.

SPEC. CHAR. Large tree, armed with prickles: petioles pubescent: leaflets repand-sinuate, covered with soft white tomentum beneath, terminal one rhomboid: calyx tubular, 2-lipped: vexillum 5–6 times longer than the calyx, 2–3 times longer than the keel: keel cordate, several times longer than the wings, its petals united: stamens monadelphous: racemes terminal, erect: flowers whitish rose scarlet.

Mountainous parts of the Circars, flowering in March and April.

(5) E. RESUPINATA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 257.

*Engrav.* Roxb. Cor. III. t. 220.

SPEC. CHAR. Annual: branches and petioles rather prickly: leaflets roundish: calyx 2-lipped: vexillum oval-oblong: racemes short, crowded with flowers which are bright scarlet.

Cawnpore, flowering in the cold season.

(6) E. OVALIFOLIA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 254.

*Engrav.* Wight's Icon. t. 247.

SPEC. CHAR. Tree, armed with prickles: leaflets oval: petioles armed: vexillum obcordate: racemes terminal horizontal: flowers very large, scarlet, variegated with orange, sulphur and dark purple.

Bengal, flowering in February.

## GENUS LV. BUTEA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From John, Earl of Bute, formerly a great patron of literature and science.

GEN. CHAR. Trees or twining shrubs, unarmed: leaves pinately trifoliolate; leaflets large, roundish-ovate, pubescent or tomentose beneath: racemes many-flowered; flowers in threes, pedicelled, with two bracteoles at the base of the calyx: calyx campanulate, 2-lipped, upper lip almost entire, lower 3-cleft: corolla papilionaceous: petals equally long: vexillum ovate, recurved: keel and wings incurved: style ascending: legume stalked, flat-compressed, thin, with a large solitary seed at the apex.

(1) B. FRONDOSA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 261.—Roxb. fl. Ind. III. p. 244.—Dec. prod. II. p. 415.

*Syn.* Erythrina monosperma, *Lam.*

*Engrav.* Rheede Mal. VI. t. 16, 17.—Roxb. Cor. I. t. 21.

SPEC. CHAR. Tree: calyx-segments short, slightly acute, much shorter than the tube: corolla densely pubescent, many times longer than the calyx: vexillum ovate, acute: racemes simple, lax: pedicels about twice as long as the calyx: flowers large, deep orange.

Negapatam, Travancore. Common in the Concans and Guzerat. Chittagong. Silhet, and other parts of the country. Flowering in the hot season. This tree gives its name to the celebrated plain of Plassey in Bengal, the native appellation for it being Palasi. From fissures and wounds in the bark issues a beautiful red juice, which soon hardens into a brittle astringent gum. This is known in commerce as the Butea kino, or Pulas kino, and is used in medicine as a powerful astringent.

(2) B. SUPERBA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 261.—Roxb. fl. Ind. III. p. 247.—Dec. prod. II. p. 415.

*Engrav.* Roxb. Cor. I. t. 22.

SPEC. CHAR. Twining shrub: calyx-segments shortish, acuminated: corolla much longer than the calyx: vexillum ovate, acute: racemes simple, lax: pedicels about twice the length of the calyx: flowers large, bright-red.

Circar mountains, flowering in the hot season.

(3) B. PARVIFLORA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 261.—Roxb. fl. Ind. III. p. 248.—Dec. prod. II. p. 415.

*Engrav.* Wight's Icon. t. 210.

SPEC. CHAR. Twining shrub: calyx-segments nearly as long as the tube: corolla about twice the length of the calyx: vexillum ovate, emarginate at the apex: racemes panicled: pedicels much shorter than the calyx: flowers very numerous, small, white.

Rajahmundry. Hilly parts of the Concan. Assam. Oude. Flowering in November and December.

## GENUS LVI. PONGAMIA.

**Diadelphia Decandria.** *Sex Syst:*

*Deriv.* The Malabar name latinized.

GEN. CHAR. Trees or twining shrubs: leaves unequally pinnated, leaflets opposite, calyx cup-shaped, somewhat truncated and 5-

toothed: corolla papilionaceous: legume more or less compressed, oval, with a short recurved point, 1-celled, 1–2-seeded: valves concave inside, not separating naturally.

(1) P. GLABRA. (*Vent.*)

*Ident.* W. & A. prod. I. p. 262.—Dec. prod. II. p. 416.

*Syn.* Galedupa Indica, *Lam. Roxb. fl Ind.* III. *p.* 239.—Robinia mitis, *Linn.*—Dalbergia arborea, *Willd.*

*Engrav.* Wight's Icon. t. 59.—Rheede Mal. VI. t. 3.—Lam. Ill. t. 603 f. 1.

SPEC. CHAR. Tree: leaflets 2–3 pair, ovate or obovate, acuminated, glabrous: vexillum with two callosities at the base of the limb and decurrent along the claw: racemes axillary, many-flowered, about half the length of the leaves: pedicels in pairs: legume oblong, nearly sessile, thick, with a short recurved beak, tumid along both sutures. flowers middle-sized, bright-purple.

Coromandel. Concans. Deccan. Patna. Assam. Flowering in the hot season. The seeds yield by expression a fixed oil which the natives use externally in eruptive diseases.

(2) P. OVALIFOLIA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 262.

*Engrav.* Wight's Icon. t. 328.

SPEC. CHAR. Tree: leaflets 4 pair, drooping, oval, obtuse, glabrous: vexillum without callosities: racemes elongated, disposed along the leafless branches: pedicels slender, arranged along very short minutely bracteated partial peduncles.

Peninsula.

(3) P. CANARENSIS. (*Dalz.*)

*Ident.* Hook. Jour. Bot. II. p. 37.

SPEC. CHAR.- Fruticose, scandent: leaves unequally pinnate: leaflets 7–10 pair, opposite, short-petioled, oblong-lanceolate, strigose beneath: panicles terminal, shorter than the leaf, rusty-tomentose: pedicels 3, fascicled at the apex on a common peduncle: stamens diadelphous at the base and apex, monadelphous in the middle: ovary hirsute, 2–3-ovuled: calyx bibracteolate, wide, cup-shaped, with a ring of dense hairs round the inside of its mouth: vexillum with two callosities at the base of its limb, running down the short claw: stipules semi-ovate, broad, covered with ferruginous hairs.

Canara, near Garsuppa, flowering in April.

## GENUS LVII. DERRIS.

**Monadelphia Decandria.** *Sex Syst*

*Derivation.* From *Derris*, a skin, in reference to the consistence of the legumes.

Gen. Char. Climbing shrubs, unarmed: leaves unequally pinnated: racemes axillary and lateral: calyx tubular, 5-toothed: corolla papilionaceous: keel lunate: legume oblong, obtuse, much compressed, 1-seeded: seed oblong, flat.

### (1) D. uliginosa. (*Dec.*)

*Ident.* Dec. prod. II. p. 416.

*Syn.* Pongamia uliginosa, *W. & A. prod.* I. *p.* 262.—Galedupa uliginosa, *Roxb. fl. Ind.* III. *p.* 243.—Robinia uliginosa, *Willd.*—Tephrosia uliginosa, *Spr.*—Dalbergia heterophylla, *Willd. Dec. prod.* II. *p.* 417.

*Engrav.* Rheede Mal. VIII. t. 46.

Spec. Char. Twining shrub: leaflets 1–2-pair, ovate or oblong, bluntly acuminated, glabrous: racemes axillary, elongated, longer than the leaves, often with 1–2 trifoliolate leaves on their lower half: pedicels arranged along minutely bracteated partial peduncles: vexillum without callosities: ovary 6–7-ovuled: legume oval or orbicular, reticulated, with a recurved hooked point, 1-seeded: flowers white or pale rose-coloured.

Peninsula. Bengal. Flowering in April and May.

### (2) D. Heyneana. (*Benth.*)

*Ident.* Dalz. Bomb. flor. p. 77.

Spec. Char. Climbing shrub, glabrous or slightly clothed with reddish tomentum: leaflets 5–7, ovate or oval-oblong, obtusely acuminated: panicles large, drooping: legume thickish, strongly reticulated, linear-oblong, 2–3-seeded, winged: flowers small, pale-pink.

Western parts of the Peninsula.

### (3) D. cuneifolia. (*Benth.*)

*Ident.* Walp. Annal. IV. p. 583.—Miq. fl. Ind. Bat. I. p. 146.

*Syn.* Galedupa marginata, *Roxb. fl. Ind.* III. *p.* 241.—Pongamia marginata, *Wall.*—P. obovata, *Wall.*

Spec. Char. Glabrous: leaflets 2–3 pair, with an odd one which is larger, lower ones elliptic, upper ones obovate-oblong, or sub-lanceolate, roundish or obtuse at the apex and slightly emarginate: racemes shorter than the leaf, axillary or lateral, solitary, somewhat panicled, roughly pubescent: pedicels slender, fascicled:

calyx villously pubescent, broad cup-shaped, 4-toothed: corolla glabrous; vexillum thickened above the claw, somewhat bicallous inside: ovary linear, longer than the deflexed glabrous style.

Silhet.

## GENUS LVIII. BRACHYPTERUM.

**Diadelphia Decandria.** *Sex: Syst.*

*Deriv.* From *Brachys*, short, and *Pteron*, a wing, alluding to the short-winged legumes.

Gen. Char. Trees or shrubs: leaves pinnated: leaflets opposite; calyx obliquely truncated: corolla papilionaceous: anthers ovate: legumes with a narrow wing along the seed-bearing suture.

### (1) B. scandens. *(Benth.)*

*Ident.* W. & A. prod. I. p. 264.—Roxb. fl. Ind. III. p. 232.—Dec. prod. II. p. 417.

*Syn.* Dalbergia scandens, *Roxb.*

*Engrav.* Roxb. Cor. II. t. 192.—Wight's Icon. t. 275.—Rheede Mal. VI. t. 22.

Spec. Char. Twining shrub: leaflets opposite, oblong-lanceolate, obtuse at the apex: petioles channelled: calyx with 2 small bracteoles at its base, truncated, with a short tooth opposite the keel: vexillum callous at the base of the limb: wings ciliated at the base: legume almost sessile, linear-lanceolate, 2–3-seeded: racemes axillary, longer than the leaves: pedicels fascicled, slender: flowers numerous, white or pale-rose, fragrant.

Coromandel Coast. Travancore. Concan Jungles. Chittagong. Assam. Flowering in August.

### (2) B. Canarense. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 76.

*Syn.* Pongamia Canarensis, *Dalz. in Hook. Bot.* II. p. 37.

Spec. Char. A woody climbing plant: leaflets 7–10 pair: ovary hirsute, 2–3-ovuled: legume very flat, oval, winged on both sides; racemes terminal, shorter than the leaf: pedicels in threes: flowers pink.

Garsuppa, flowering in April.

### (3) B. robustum. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 77.

*Syn.* Dalbergia robusta, *Roxb.*

*Engrav.* Wight's Icon. t. 244.

Spec. Char. Tree: leaflets numerous, oblong or elliptic, mucronulate, young ones silky: racemes simple, elongated: ovary 6–8-ovuled: legume lanceolate, with a narrow wing, acute at both ends: flowers fascicled, white.

Peninsula.

## GENUS LIX. MILLETTIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* Called after Dr. Millett of Canton.

Gen. Char. Trees or twining shrubs: leaves very large, unequally pinnated: leaflets opposite, with a bristly stipule at the base of each partial petiole: racemes axillary, more or less compound: flowers largish: calyx cup-shaped, lobed or slightly toothed: corolla papilionaceous: vexillum recurved, broad, emarginate, glabrous or silky on the back; one stamen distinct from the rest: legume flat, elliptic or lanceolate, pointed, coriaceous, thick-margined, without wings, 1–2-seeded: valves closely cohering all round the seeds and between them.

### (1) M. rubiginosa. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 263.

*Engrav.* Wight's Icon. t. 207.

Spec. Char. Young parts petioles and racemes covered with rusty tomentum: leaflets 2–3 pair, oblong-lanceolate, acuminated, covered when young with yellowish pubescence: calyx minutely toothed: vexillum silky on the outside, with two large tomentose callosities on the inside at its base: legume linear-lanceolate, pointed: racemes drooping, nearly as long as the leaves, solitary, with shortish 3–5-furrowed lateral peduncles.

Courtallum.

### (2) M. splendens. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 263.

Spec. Char. Young parts petioles and racemes clothed with short whitish or tawny tomentum: leaflets about 3 pair, oblong-lanceolate, suddenly and shortly acuminated, silvery-pubescent beneath: racemes slightly compound, with several flowers on each lateral peduncle: calyx shortly 4-cleft; upper segment the broadest: ovary with 5 ovules, all collected between the middle and the apex.

Peninsula.

(3) M. PISCIDIA. *(W. & A.)*

*Ident.* Wight's Icon. No. 5.

*Syn.* Galedupa piscidia, *Roxb. fl. Ind.* III. *p.* 240.

*Engrav.* Wight's Icon. t. 86.

SPEC. CHAR. Tree: leaflets 3–5, lanceolate, opposite: racemes axillary and terminal, simple or branched: calyx campanulate, 5-lobed: flowers largish, white.

Khasia mountains. Assam. Flowering in June and July. The bark and flowers powdered and thrown into water intoxicate fish which thus are easily taken.

(4) M. CINEREA. *(Benth.)*

*Ident.* Walp. Annal. IV. p. 573.—Miq. fl. Ind. Bat. I. p. 155.

*Syn.* Pongamia cinerea, *Grah.*

SPEC. CHAR. Leaflets 2 pair, ovate or elliptic, acuminate, membranaceous, glabrous; panicles terminal, lax, ashy-tomentose: bracts small: pedicels equalling the calyx or longer: calycine teeth very short, lower one acute: vexillum villous outside, scarcely callous: wings oblong, shorter than the arched keel.

Assam. Silhet. Chittagong.

## GENUS LX. DALBERGIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* Named in honor of M. Dalbergh, a Swedish Botanist.

GEN. CHAR. Trees or shrubs, sometimes twining: leaves unequally pinnated: racemes axillary: calyx campanulate: corolla papilionaceous, glabrous: keel petals free: stamens 8–10, monadelphous or diadelphous: legume membranaceous, reticulately veined, flat, oblong-linear, few-seeded: valves closely cohering with each other all round the seeds and between them: seeds distant, compressed.

(1) D. SISSOO. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 264.—Roxb. fl. Ind. III. p. 223.—Dec. prod. II. p. 416.

SPEC. CHAR. Tree: leaflets 3–5, alternate, orbicular or obcordate, suddenly acuminated, pubescent when young, glabrous and shining when old: panicles composed of several short subsecund spikes: calyx-segments oblong, 2 upper ones obtuse, lower ones acute: stamens 9, united into a sheath open on the upper side: style very short: stigma large, glandular: legume stalked, linear-lanceolate, about 3-seeded: flowers almost sessile, small, yellowish-white.

Coromandel. Kennery jungles. Nagotnah Hills. Guzerat. Assam. Forests of North India. Flowering in the hot season. The timber is strong but not very durable.

(2) D. LATIFOLIA. (*Roxb.*)

*Ident.* W. &. A. prod. I. p. 264.—Roxb. fl. Ind. III. p. 221. Dec. prod. II. p. 416.

*Engrav.* Roxb. Cor. II. t. 113.—Wight's Icon. t. 1156.

SPEC. CHAR. Tree: leaflets 3–7, usually 5, alternate, orbicular, emarginate, glabrous above, pubescent when young beneath: panicles branched and divaricating: calyx-segments oblong, more or less obtuse: stamens 9 (or 10?) united into a sheath open on the upper side: style slender: stigma small: legume stalked, oblong-lanceolate, usually 1-seeded: flowers on short pedicels, small, white.

Circar mountains. South Concan and Travancore. Khasia mountains. Assam. Flowering in the hot season. This yields the blackwood of commerce. It is a close-grained heavy timber, admitting of the finest polish and universally employed for making furniture. On the coasts of Coromandel and Malabar the tree grows to an immense size.

(3) D. SISSOOIDES. (*Grah.*)

*Ident.* W. & A. prod. I p. 265.

SPEC. CHAR. Tree? leaflets 5–7, alternate, elliptic-ovate, shortly and bluntly acuminated: panicles branched, lax, about half the length of the leaves: flowers on short pedicels: calyx-segments oval, obtuse: stamens 9, united into a sheath opening on the upper side: ovary stalked, 4–5-ovuled: style straight: stigma small.

Neilgherries. Courtallum.

(4) D. RUBIGINOSA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 265.—Roxb. fl. Ind. III. p. 231.—Dec. prod. II. p. 416.

*Engrav.* Roxb. Cor. II. t. 115.

SPEC. CHAR. Trunk woody, climbing: leaflets 5–7, alternate, oblong or oval, obtuse or retuse, with numerous fine diverging parallel veins, when young slightly pubescent beneath, afterwards glabrous: petioles and peduncles pubescent: racemes fascicled, compound, short: pedicels very short: calyx pubescent, 5-cleft: segments oblong, obtuse: stamens 9–10, united into a sheath open on the upper side: ovary glabrous: style slender; stigma small.

Circar mountains.

(5) D. VOLUBILIS. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 265.—Roxb. fl. Ind. III. p. 233. —Dec. prod. II. p. 417.

*Engrav.* Roxb. Cor. II. t. 191.

SPEC. CHAR. Twining: leaflets about 5 pair, alternate or nearly opposite, oval, obtuse, glabrous: panicles terminal and axillary, large, branched, spreading: calyx pubescent, 5-cleft: vexillum with a large callosity at the base of the limb, reniform-cordate: stamens 10, equally diadelphous: legume stalked, linear-oblong, obtuse.

Circar mountains.

(6) D. PANICULATA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 265.—Roxb. fl. Ind. III. p. 227. —Dec. prod. II. p. 417.

*Engrav.* Roxb. Cor. II. t. 114.

SPEC. CHAR. Tree: leaflets 5–6 pair, alternate, obovate-oblong or oval, usually emarginate, glabrous: petioles and peduncles pubescent: panicles terminal or axillary, compound: calyx pubescent or hairy, 5-cleft; lowest segment long and narrow: vexillum without callosities: stamens 10, equally diadelphous: legume lanceolate, 1–2-seeded: flowers small, bluish-white.

Circars. Colemala. Courtallum. Mawul districts, above the Ghauts. Assam. Oude. Flowering in the hot season.

(7) D. FRONDOSA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 266.—Roxb. fl. Ind. III. p. 236.—Dec. prod. II. p. 417.

*Syn.* D. arborea, *Heyne in Roth. Dec. l. c.*—D. lanceolaria, *Linn.*

*Engrav.* Wight's Icon. t. 266.

SPEC. CHAR. Tree: leaflets about 5 pair, cuneate-oval, emarginate, silky when young, afterwards slightly hairy beneath: panicles axillary, pubescent: flowers secund, racemose along the ultimate branches of the panicle: calyx hairy; lowest segment narrower and longer than the rest: vexillum with a large callosity at the base of the limb: stamens equally diadelphous: legume lanceolate, 1–4-seeded: flowers small, bluish-white.

Courtallum. Travancore. Flowering in May and June.

(8) D. SPINOSA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 266.—Roxb. fl. Ind. III. p. 233.

SPEC. CHAR. An erect glabrous shrub: ultimate branches distichous, horizontal, rigid and almost spinescent: leaves fascicled; leaflets 3–4 pair, alternate or nearly opposite, very small, elliptic

or cuneate-oblong, retuse: racemes fascicled, secund, recurved: calvx glabrous; segments oblong, obtuse: vexillum without callosities: stamens equally diadelphous: legume oval, 1-seeded.

Chittagong. Soonderbunds.

(9) D. Oojinensis. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 220.—Dec. prod. II. p. 416.

*Engrav.* Wight's Icon. t. 391.

Spec. Char. Large tree: leaves ternate; leaflets subrotund, about 4 inches in length, with waved margins: racemes axillary and terminal, rarely compound: legume linear-oblong, obtuse, villous on the outside, 1–3-seeded: flowers small, pale rose, fragrant.

Oude. Sirmore. North Concan. Flowering in the hot season. The timber is highly valued for its strength. The bark affords a fine kino, and is used medicinally for bowel complaints.

(10) D. robusta. (*Roxb.*)

*Ident.* Roxb. Hort. Beng. p. 53.—Dec. prod. II. p. 417.

*Syn.* D. Krowee, *Roxb. fl. Ind.* III. *p.* 229.

*Engrav.* Wight's Icon. t. 244.

Spec. Char. Tree about 30 feet: leaflets 7–9, oval or obovate, obtuse, somewhat mucronulate, minutely pubescent: racemes spiciform, about twice the length of the leaves: pedicels aggregate: stamens monadelphous; flowers small, white.

Silhet. Assam. Flowering in the hot season.

(11) D. marginata. (*Roxb.*)

*Ident.* Roxb. Hort. Beng. p. 53.—fl. Ind. III. p. 230.

*Syn.* Aganope marginata, *Miq. Walp. Annal.* IV. *p.* 584.

*Engrav.* Wight's Icon. t. 87.

Spec. Char. Climbing shrub: leaflets alternate, broad, obovate, coriaceous, margined, somewhat glaucous beneath: panicles 2–3 together, diffuse, shorter than the leaves: flowers white.

Silhet, flowering in the rainy season.

(12) D. sympathetica. (*Nimmo.*)

*Ident.* Dalz. Bomb. flor. p. 78.

*Engrav.* Rheede Mal. VIII. t. 40.

Spec. Char. Large scandent shrub: trunk armed with strong blunt curved thorns, 6–10 inches in length: leaflets small, numerous, obovate-oblong, very obtuse, emarginate: cymes axillary, dense, shorter than the leaf: legume 1–2-seeded.

Common in the Concan jungles. Western Ghauts. Flowering in February and March.

(13) D. TAMARINDIFOLIA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 233.

*Engrav.* Wight's Icon. t. 242.

SPEC. CHAR. Climbing shrub; leaflets numerous, linear-oblong: racemes lateral, short, ovate, dense: legumes swelled, scabrous, 1-seeded.

Assam, flowering in March and April.

(14) D. STIPULACEA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 233.

*Engrav.* Wight's Icon. t. 243.

SPEC. CHAR. Shrub: leaflets 8–12 pair, alternate, linear, oblong; stipules and bracts oblong, falcate: panicles axillary and terminal: stamens equally diadelphous: flowers small, blue.

Silhet, flowering in March and April.

(15) D. RIMOSA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 233.

*Engrav.* Wight's Icon. t. 262.

SPEC. CHAR. Shrub: leaflets about 7, subalternate, oblong, with fine parallel veins: legumes 1, rarely 2-seeded, rimose at the seeds: flowers panicled, small, greenish-white, fragrant.

Silhet. Assam. Flowering in March and April.

(16) D. RENIFORMIS. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 226.

*Engrav.* Wight's Icon. t. 261.

SPEC. CHAR. Tree; young parts rusty-coloured: leaflets 5–11, alternate, lanceolate: panicles axillary and lateral: stamens equally diadelphous: legumes kidney-shaped, with thick rounded margins.

Silhet, flowering in March and April.

(17) D. MONOSPERMA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 78.—Hook. Jour. Bot. II. p. 36.

SPEC. CHAR. Twining shrub: leaflets 5, alternate, obovate or cuneate-oval, mucronulate, glaucous beneath: petioles and peduncles pubescent: calyx-segments rounded: stamens monadelphous: racemes axillary, solitary or twin, much shorter than the leaf: legume crescent-shaped, 1-seeded: flowers white.

Hills in the Malwan district, flowering in June.

(18) D. ACACIÆFOLIA. *(Dalz.)*

*Ident.* Hook. Jour. Bot. II. p. 37.

SPEC. CHAR. Scandent, fruticose: stamens monadelphous: leaves alternate: leaflets 20–24 pair, alternate, linear, obtuse or emarginate at the apex, unequal at the base, somewhat glabrous and shining above, strigose beneath: petioles and peduncles rusty-tomentose: panicles axillary and terminal, much shorter than the leaf: calyx pubescent, bibracteolate at the base, with 5 obtuse teeth: ovary stalked, quite glabrous, 3-ovuled.

Canara, flowering in April.

## GENUS LXI. PTEROCARPUS.

**Diadelphia Decandria.** *Sex. Syst.*

*Deriv.* From *Pteron*, a wing, and *Carpos*, fruit, in allusion to the winged legume.

GEN. CHAR. Trees or shrubs, unarmed: leaves unequally pinnated: racemes axillary or forming terminal panicles: calyx 5-cleft, somewhat 2-lipped: corolla papilionaceous: keel-petals distinct or slightly cohering: legume indehiscent, irregular, somewhat orbicular, surrounded by a wing, often wrinkled in the middle, 1–3-celled: seeds solitary in each cell, kidney-shaped.

(1) P. SANTALINUS. *(Linn.)*

*Ident.* W. & A. prod. I. p. 266.—Dec. prod. II. p. 419.

SPEC. CHAR. Tree: leaflets 3, roundish, retuse: racemes axillary, simple or branched: petals long-clawed, waved or curled on the margins: stamens triadelphous, (5, 4 and 1): legume stalked, 1-seeded: wing membranaceous, waved.

Coromandel. Palghaut mountains. Flowering in the hot season. From this tree is obtained the red sandal-wood, chiefly employed by dyers and colour-manufacturers.

(2) P. MARSUPIUM. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 266.—Roxb. fl. Ind. III. p. 234.—Dec. prod. II. p. 418.

*Engrav.* Roxb. Cor. II. t. 116.

SPEC. CHAR. Tree: leaflets 5–7, alternate, elliptical, usually deeply emarginate: panicles terminal: petals long-clawed, waved or curled on the margins: stamens combined into a sheath, split down to the base on the upper side and half-way down on the lower: legume long-stalked, surrounded by a broad membranaceous wing, obtuse at the base, rarely 2-seeded: flowers smallish, white, tinged with yellow.

Colemala. Neilgherries. Concans. Assam. Flowering in the rainy season. The bark and leaves afford the gum kino, exported in great quantities from the Malabar Coast.

(3) P. Wallichii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 267.

*Engrav.* Wight's Ill. I t. 78.

Spec. Char. Tree: leaflets about 9, alternate, ovate or oval with a sudden bluntish acumination: panicles axillary: bracts subulate, caducous: petals long-clawed, curled and waved on the margins: stamens united into a sheath, split down on the upper side only: flowers yellow.

Peninsula.

## GENUS LXII. ENTADA.

**Polygamia Monœcia.** *Sex: Syst:*

*Deriv.* The Malabar name latinized.

Gen. Char. Large climbing shrubs, unarmed: leaves bipinnated or conjugately pinnated, the rachis often ending in a tendril: flowers spiked, very numerous: petals 5, distinct or slightly connected at the very base: stamens 10–25: anthers tipped with a gland: legume compressed, jointed; joints 1-seeded, the valves separating from each other when ripe, the sutures persistent; seeds thick.

(1) E. Pusætha. *(Dec.)*

*Ident.* W. & A. prod. I. p. 267.—Dec. prod. II. p. 425.

*Syn.* E. monostachya, *Dec. l. c.*—E. Rheedii, *Spreng.*—Mimosa scandens, *Linn. Roxb. fl. Ind.* III. *p.* 554.—M. entada, *Linn.*—Acacia scandens, *Willd.*

*Engrav.* Rheede Mal. VIII. t. 32, 33, 34, and IX. t. 77.—Rumph. Amb. V. t. 4.

Spec. Char. Climbing: leaves bipinnated: pinnæ 2 pairs, sometimes only 1 pair; leaflets 2–5-pair, glabrous, oblong-obovate or ovate, emarginate; spikes solitary or in pairs, axillary: petals connected at the base: stamens 10: legume more or less twisted, very large: flowers white or pale-yellow.

Malabar. Travancore. Flowering in April. The seeds are used as an antifebrile medicine by the lower classes. In Java they are roasted and eaten like chestnuts.

## GENUS LXIII. MIMOSA.

**Polygamia Monœcia.** *Sex: Syst:*

*Deriv.* From *Mimos*, a mimic, in allusion to the sensitive properties of the leaves.

Gen. Char. Low shrubs, sometimes climbing: leaves conjugately or digitately or doubly pinnated: flowers capitated: petals 4–5: stamens 4–15, inserted into the base of the corolla or on the stalk of the ovary: legume compressed, flat, composed of 1 or more 1-seeded joints; sutures persistent: seeds naked.

### (1) M. hamata. (*Willd.*)

*Ident.* W. & A. prod. I. p. 268.—Dec. prod. II. p. 427.

*Syn.* M. armata, *Rottl.*

Spec. Char. Branches petioles and peduncles pubescent and prickly: leaves bipinnated: pinnæ 4 pairs: leaflets 7–8 pairs, minute, linear-oval, pubescent: peduncles longer than the leaves, bearing one head of flowers: legumes linear, 3–7-jointed, falcately curved, pubescent, long-stalked: sutures emarginate between the joints and with the stalk prickly: flowers rose-coloured.

Peninsula. Surat. Deccan.

### (2) M. rubricaulis. (*Lam.*)

*Ident.* W. &. A. prod. I. p. 268.—Dec. prod. II. p. 429.

*Syn.* M. octandra, *Roxb. fl. Ind.* III. *p.* 564.—M. Rottleri, *Spreng*—M. spinosiliqua, *Rottl.*

*Engrav.* Roxb. Cor. II. t. 200.

Spec. Char. Branches and petioles armed with prickles: leaves bipinnated: pinnæ 5 pair, with a bristle-shaped gland between each pair: leaflets 10–12 pair, oblong-linear, pubescent: peduncles 1-headed, several together in the axils of the upper leaves: flowers octandrous: legume sessile, compressed, flat, glabrous, obscurely jointed: sutures straight, prickly or sometimes unarmed: flowers small, purple, gradually becoming whitish.

Peninsula. Malabar Hill. Silhet. Assam. Flowering in the hot season.

### (3) M. mutabilis. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 564.

Spec. Char. Scandent shrub armed with remote recurved prickles: leaves bipinnate: pinnæ 4 pair: leaflets 4–8 pair: flowers octandrous: legume curved, 3-jointed: sutures prickly: flowers bright-purple, afterwards becoming white.

Banks of the Ganges, near Benares, flowering in the rainy season.

## GENUS LXIV. INGA.

**Polygamia Monœcia.** *Sex. Syst:*

*Deriv.* The South American name of one of the species.

Gen. Char. Trees or shrubs, usually unarmed: flowers spiked or capitate: calyx 5-toothed: petals 5, united into a 5-cleft corolla: stamens numerous, protruded, monadelphous at the base, sometimes for nearly their whole length: legume broadly-linear, compressed, 1-celled: seeds covered usually with pulp, sometimes with a pellicle or farinaceous matter.

### (1) I. xylocarpa. *(Dec.)*

*Ident.* W. & A. prod. I. p. 269.—Dec. prod. II. p. 439.

*Syn.* Mimosa xylocarpa, *Roxb. fl. Ind.* III. *p.* 543.—Acacia xylocarpa, *Willd.*

*Engrav.* Roxb. Cor. I. t. 100.

Spec. Char. Tree unarmed: leaves conjugately pinnated, with a gland between the pinnæ: leaflets 2-4 pair, with an odd one on the outside below the pairs, ovate-oblong, acute, with a gland between each pair: peduncles in pairs, axillary: flowers globose-capitate: legume ovate-oblong, hatchet-shaped, woody, many-seeded: flowers small, white.

Coromandel. Hilly parts of the Concan. Travancore. Assam. Flowering in the hot season. The timber is remarkably strong and durable. This has been raised into a new genus called Xylia, by Bentham. See Hook. Jour. Bot. iv. p. 417.

### (2) I. bigemina. (*Willd.*)

*Ident.* W. & A. prod. I. p. 269.—Dec. prod. II. p. 439.

*Syn.* Mimosa bigemina, *Linn.*—M. lucida, *Roxb. fl. Ind.* III. *p.* 544.

*Engrav.* Rheede Mal. VI. t. 12.

Spec. Char. Tree unarmed: leaves conjugately or bipinnated: pinnæ 1–2 pair, with a gland between each pair: leaflets 2–3 pair, ovate-lanceolate, acuminated, shining, with a gland between each pair: racemes panicled, terminal, many-flowered: flowers in small globose heads, white; legumes spirally twisted.

Concans. Travancore. Assam. Flowering in the hot season.

### (3) I. umbellata. *(Willd.)*

*Ident.* W. & A. prod. I. p. 270.—Dec. prod. II. p. 439.

*Syn.* I. concordiana, *Dec. l. c. p.* 441.—Mimosa umbellata, *Vahl.*—M. concordiana, *Roxb. fl. Ind.* III. *p.* 556.

Spec. Char. An armed tree: thorns stipulary, or often solitary, large, leaf and flower bearing: leaves bipinnated: pinnæ 1–2 pairs, with a gland between each: leaflets 3–10 pairs, with an odd one on the outside below the lowest pair, linear-oblong, obtuse, sessile, the uppermost pair obovate: peduncles axillary, 1–2 together, bearing a single globular head of small whitish flowers: stamens very long: legumes large, many-jointed, much curved, woody, slightly scabrous, afterwards shining.

Coromandel, flowering in the hot season.

(4) I. KAWAHURUNEE.

*Ident.* Voigt. Hort. Calc. p. 258.

*Syn.* Mimosa heterophylla, *Roxb. fl. Ind.* III. p. 545.

Spec. Char. Tree: leaves bipinnate: pinnæ 2–3 pairs: leaflets 3–6 pairs, roundish-cordate or lanceolate, with a gland between each pair of pinnæ and leaflets: panicles axillary, crowded with globular heads of flowers: legume spirally twisted, 6–8-seeded.

Silhet, flowering in February and March. A useful timber-tree.

(5) I. UMBROSA. *(Wall.)*

*Ident.* Wall. Pl. As. Rar. II. p. 23.—Don's Mill. II. p. 393.

Spec. Char. Large tree armed with straight stipulary thorns: pinnæ 1 pair, each pinnæ bearing 3 broad leaflets, the lower one the smallest; leaflets oblong, obtuse, oblique at the base, acute: petioles bearing a small flat gland at the apex: peduncles axillary, solitary, bearing globose heads of white fragrant flowers.

Silhet, flowering in March and April.

## GENUS LXV. DESMANTHUS.

**Polygamia Monœcia.** *Sex: Syst:*

*Deriv.* From *Desme*, a bundle, and *Anthos*, a flower. The flowers are collected into bundles or spikes.

Gen. Char. Herbaceous or suffrutescent plants, unarmed: leaves bipinnated: spikes axillary: flowers white, with the fertile filaments usually yellow: calyx 5-toothed: petals 5, distinct or united, or wanting in the neuter florets: stamens 10, rarely 5: filaments in the lower flowers of each spike sterile, dilated and membranaceous or filiform: legume thickly membranaceous, dry, flat: seeds naked.

(1) D. NATANS. (*Willd.*)

*Ident.* W. & A. prod. I. p. 270.—Dec. prod. II. p. 444.

*Syn.* Mimosa natans, *Roxb. fl. Ind.* II. p. 553.—M. prostrata, *Lam.*—Neptunia oleracea, *Lour.*—D. lacustris, *Willd.*—D. stolonifer, *Dec. l. c.*

*Engrav.* Rheede Mal. IX. t. 20.—Roxb. Cor. II. t. 119.

Spec. Char. Annual, floating and throwing out roots: stem partly swollen and inflated: leaves bipinnated; pinnæ 2–3 pair: leaflets 8–12 pair: stipules obliquely-cordate: peduncles axillary, solitary, longer than the leaves: flowers on solitary spikes: stamens 10; legume oblique at the base, oblong, falcate, 6–8-seeded: flowers small, reddish.

Tanks throughout the Concan and Coromandel Coast. Silhet. Assam. Flowering nearly all the year.

(2) D. triquetrus. *(Willd.)*

*Ident.* W. & A. prod. I. p. 270.—Dec. prod. II. p. 444.

*Syn.* Mimosa triquetra, *Vahl. Roxb. fl. Ind.* III. *p.* 552.—M. natans, *Linn.*

*Engrav.* Wight's Icon. t. 756.—Pluk. t. 307. f. 4.

Spec. Char. A bi-triennial, prostrate plant: stem compressed, triquetrous below: leaves bipinnated: pinnæ 2–3 pair: leaflets 10–12 pair: stipules subulate: peduncles axillary, solitary, either naked or with two caducous bracts about the middle: flowers globular-headed: legumes linear-oblong, equal-sided, 4–6-seeded: flowers yellow.

Coromandel. Common in pastures about Surat. Flowering nearly all the year.

(3) D. virgatus. (*Willd.*)

*Ident.* W. & A. prod. I. p. 270.—Dec. prod. II. p. 445.

*Syn.* Mimosa virgata, *Linn.*

*Engrav.* Bot. Mag. LI. t. 2454.—Jacq. Vind. t. 80.

Spec. Char. Suffruticose; stem erect, angled: leaves bipinnated: pinnæ 3–4 pair, with a large concave gland between the lowest pair: leaflets 15–20 pair: peduncles axillary, about as long as the leaves, naked, bearing a globose, few-flowered head: legume narrow-linear, many-seeded: flowers small, white.

Peninsula, flowering in the rainy season.

## GENUS LXVI. DICHROSTACHYS.

**Polygamia Monœcia.** *Sex: Syst:*

*Deriv.* From *Dis*, two, *Chroma*, a colour, and *Stachys*, a spike. The spikes of flowers are of two colours.

Gen. Char. Calyx 5-toothed: petals 5, distinct or united: stamens 10: filaments in the lower flowers sterile: anthers of the fertile ones glanduliferous: legume thick and coriaceous, curved and twisted, somewhat jointed, indehiscent: joints 1-seeded: seeds naked.

(1) D. CINEREA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 271.

*Syn.* Caillea cinerea, *G. & P.*—Mimosa cinerea, *Linn. Roxb. fl. Ind.* III. *p.* 561.—Desmanthus cinereus, *Willd. Dec. prod.* II. *p.* 445.—Acacia cinerea, *Spreng.*—A. Dalea, *Desv. Dec. l. c. p.* 459.

*Engrav.* Wight's Icon. t. 357.—Roxb. Cor. II. t. 174.—Burm. Zeyl. t. 2.—Pluk. t. 121. f. 5.

SPEC. CHAR. Shrub armed with stipulary thorns: leaves pinnated: pinnæ 8–10 pair, with glands between the lower ones: leaflets 12–15 pair, linear, ciliated, pubescent: spikes usually solitary, rarely 2–3 together, drooping, rather shorter than the leaves: petals scarcely cohering by their margins and forming a 5-cleft corolla: fertile stamens yellow, sterile ones white or rose-coloured.

Common on the sterile plains of the Deccan. Delhi. Patna. Flowering in the rainy season.

## GENUS LXVII. ADENANTHERA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Aden*, a gland, and *Anther*. The anthers are tipped with deciduous glands.

GEN. CHAR. Flowers bisexual: calyx 4–5-toothed: petals 4–5, lanceolate, sessile, slightly cohering at the base: legume compressed, linear, membranaceous, with transverse partitions between the seeds, slightly torulose.

(1) A. PAVONINA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 271.—Dec. prod. II. p. 446.—Roxb. fl. Ind. III. p. 370.

*Engrav.* Wight's Ill. I. t. 80.—Rheede Mal. VI. t. 14.—Rumph. Amb. III. t. 109.

SPEC. CHAR. Tree, unarmed: leaves bipinnated: leaflets oval, obtuse, glabrous on both sides: racemes spike-like, terminal, or from the axils of the upper leaves: legume somewhat falcate and twisted: flowers small, yellow, fragrant.

Peninsula. Travancore. Silhet. Assam. Flowering in the hot season. The inner wood which is deep-red yields a dye with which the Brahmins mark their foreheads. The bright scarlet seeds are used by goldsmiths for weights. Each weighs 4 grains.

## GENUS LXVIII. PROSOPIS.

**Polygamia Monœcia.** *Sex: Syst:*

*Deriv.* From *Prosopon*, a mask, the application of which is unknown.

Gen. Char. Trees or shrubs: leaves bipinnated, or occasionally simply pinnated: flowers usually spiked: calyx 5-toothed: petals 5, distinct: stamens 10: legume linear, cylindrical, filled with pulp, torulose, at length crumbling to pieces.

(1) P. SPICIGERA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 271.—Dec. prod. II. p. 446.

*Syn.* P. spicata, *Burm.*—Adenanthera aculeata, *Roxb. fl. Ind.* II. *p.* 371.

*Engrav.* Roxb. Cor. I. t. 63.—Burm. Ind. t. 25. f. 3.—Pluk. t. 121. f. 3.

Spec. Char. Tree, armed with scattered prickles or sometimes unarmed: leaves usually bipinnated; pinnæ 1–2 pair, with a gland between each pair: leaflets 7–10 pair, oblong-linear, obtuse: spikes axillary, several together, elongated, filiform: anthers tipped with a deciduous gland: legume cylindric: flowers small, yellow.

Coromandel. Guzerat. Delhi. Flowering in the cold season. The pods contain a quantity of brown mealy sweetish pulp which the natives eat.

## GENUS LXIX. VACHELLIA.

**Polygamia Monœcia.** *Sex. Syst.*

*Deriv.* Named after Rev. G. Vachell, a great promoter of the knowledge of Botany in China.

Gen. Char. Calyx 5-toothed: corolla tubular, 5–6-toothed: stamens distinct, very numerous.

(1) V. FARNESIANA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 272.

*Syn.* Mimosa Farnesiana, *Linn. Roxb. fl. Ind.* II. *p.* 557.—M. Indica, *Poir.*—Acacia Farnesiana, *Willd. Dec. prod.* II. *p.* 461.—A. Indica, *Desv. Dec. l. c. p.* 462.

*Engrav.* Pluk. t. 73. f. 3.—Wight's Icon. t. 300.

Spec. Char. Large shrub or small tree, armed with straight stipulary thorns: leaves bipinnated: pinnæ 4–8 pair, with a gland below the lower pair and often between the uppermost: leaflets 10–20 pair, linear, nearly glabrous: petioles and peduncles more or less pubescent: legume cylindrical, turgid, filled with pulp and a double row of seeds: flower-heads globular, 2–3 together, each on an axillary peduncle: flowers small, yellow, fragrant.

Peninsula, Scinde. Silhet. Assam. Flowering in December and January.

## GENUS LXX. ACACIA.

**Polygamia Monœcia.** *Sex: Syst:*

*Deriv.* From *Akadzo*, to sharpen, in allusion to many of the species being armed with spines.

Gen. Char. Shrubs or trees, unarmed or armed with thorns or prickles: leaves in all the Indian species bipinnated: flowers spiked or in globular heads: calyx 4–5-toothed: petals 4–5, distinct or united: stamens various in number: legume continuous, dry, 2-valved: seeds without pulp.

### (1) A. catechu. (*Willd.*)

*Ident.* W. & A. prod. I. p. 272.—Dec. prod. II. p. 458.

*Syn.* A. polyacantha, *Willd. Dec. l. c. p.* 459.—A. Wallichiana, *Dec.*—Mimosa catechu, *Linn. Roxb. fl. Ind.* II. *p.* 563.—M. catechuoides, *Roxb.*

*Engrav.* Roxb. Cor. II. t. 175.

Spec. Char. Tree: branches armed with stipulary thorns or occasionally unarmed: pinnæ 10–30 pair: leaflets 30–50 pair: petiole sometimes armed on the under side with a row of prickles with one large gland below the lowest pair of pinnæ and between the extreme 1–6 pairs: spikes axillary, 1–4 together, shorter than the leaves: petals united: stamens numerous: legumes flat, thin, straight, linear, glabrous, 4–8-seeded: flowers numerous, small, white.

Coromandel. North Concan. Monghyr and many other parts of India. Flowering nearly all the year. The old high-coloured wood is used for making the astringent extract known under the name of Catechu, formerly called Terra Japonica.

### (2) A. Sundra. (*Dec.*)

*Ident.* W. & A. prod. I. p. 273.—Dec. prod. II. p. 458.

*Syn.* A. chundra, *Willd.*—Mimosa sundra, *Roxb. fl. Ind.* II. *p.* 562.

*Engrav.* Roxb. Cor. III. t. 225.

Spec. Char. Tree, everywhere glabrous: branches armed with decurrent recurved stipulary prickles, sometimes entirely unarmed. pinnæ 15–20 pair, with a gland on the petiole below the lowest pair and between the extreme pairs: leaflets 20–40 pair, small, linear, obtuse: spikes 1–3 together, axillary, shorter than the leaves: stamens distinct: legumes flat, thin, lanceolate, few-seeded, occasionally emarginate between the seeds: flowers small, yellow.

Mountains of Coromandel. Soonderbunds. Flowering in the rainy season. This species is extremely like A. Catechu and yields a similar resin. It principally differs by being perfectly glabrous. The prickles are sometimes absent on one branch and present on another of the same tree. (W. & A.)

(3) A. FERRUGINEA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 273.—Dec. prod. II. p. 458.

*Syn.* Mimosa ferruginea, *Roxb. fl. Ind.* II. *p.* 561.

SPEC. CHAR. Tree armed with conical stipulary thorns, occasionally unarmed: pinnæ 3–6 pair, with one gland on the petiole and one between each of the 1–2 extreme pairs: leaflets 10–20 pair, oblong-linear, obtuse: spikes axillary, usually in pairs: stamens slightly united at the base: legumes rusty-coloured, flat, lanceolate, hard, 2–6-seeded: flowers small, pale-yellow.

Circars. Courtallum. Flowering in the hot season. The bark which is of a dark rusty colour is strongly astringent.

(4) A. LATRONUM. *(Willd.)*

*Ident.* W. & A. prod. I. p. 273.—Dec. prod. II. p. 460.

*Syn.* Mimosa latronum, *Koen. Roxb. fl. Ind.* II. *p.* 558.—M. cornigera, *Linn. Suppl.*

*Engrav.* Wight's Icon. t. 1157.

SPEC. CHAR. Somewhat arboreous: thorns numerous, stipulary, very large, united at the base: pinnæ 3–5 pair, with a gland on the petiole: leaflets 6–15 pair, very small, narrow-linear, obtuse, without glands; spikes axillary usually in pairs, longer than the leaves, many-flowered: stamens distinct; legume flat, thickish, oval-falcate, 3–4-seeded: flowers white, becoming yellowish, fragrant.

Coromandel. Common in the barren tracts of the Deccan. Flowering in the rainy season. From some unknown cause the tree at a certain stage ceases to elongate. The branches then increase horizontally to a considerable extent, forming a flat umbrella-like top. (W. & A.)

(5) A. DUMOSA. *(W. & A.)*

*Ident.* W. &. A. prod. I. p. 274.

*Syn.* Mimosa dumosa, *Roxb. fl. Ind.* II. *p.* 559.

SPEC. CHAR. Shrub: thorns numerous, subulate, stipulary, white, united at the base: leaves small: pinnæ 2–3 pair, with a hollow gland between the last pair: leaflets about 4 pair, obovate-oblong, obtuse, very small: spikes axillary, somewhat in pairs, much longer than the leaves: flowers numerous, small, whitish.

In the dry tracts between Saharunpore and Delhi, flowering nearly all the year.

(6) A. PROCERA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 275.—Dec. prod. II. p. 466.

*Syn.* Mimosa procera, *Roxb. fl. Ind.* II. *p.* 548.

*Engrav.* Roxb. Cor. II. t. 121.

Spec. Char. Unarmed tree: pinnæ 3–5 pair, with a large gland on the petiole: leaflets 6–12 pair, obliquely oval, pointed: panicles axillary or terminal and very large: heads of flowers globular, peduncled, aggregated: stamens monadelphous: legume thin, flat, straight, linear-lanceolate, pointed, 8–12-seeded.

Peninsula. Coromandel.

(7) A. speciosa. *(Willd.)*

*Ident.* W. & A. prod. I. p. 275.—Dec. prod. II. p. 467.

*Syn.* Mimosa speciosa, *Jacq.*—M. Sirissa, *Roxb. fl. Ind.* II. *p.* 544.—Albizzia Lebbek, *Benth. Hook. Jour. Bot.* III. *p.* 88.—*Dalz. Bomb. flor. p.* 88.

*Engrav.* Pluk. t. 331. f. 1.—Jacq. Icon. Rar. I. t. 198.

Spec. Char. Unarmed tree: pinnæ 1–4 pair, with a large gland about the base of the petiole: leaflets 4–9 pair, oval, unequal, often with one or two small glands near the base of the partial petioles and small ones between the leaflets: peduncles axillary, 1–4 together, each bearing a globular head of shortly pedicelled flowers: calyx long tubular: petals united to beyond the calyx: stamens very long, monadelphous: legume thin, flat, broad-linear, remotely 8–10-seeded: flowers small, white, fragrant.

Found in almost every part of the country. Flowering nearly all the year. The timber is dark-coloured very hard and close-grained. Masses of very pure gum are often found on the tree.

(8) A. frondosa. *(Willd.)*

*Ident.* W. & A. prod. I p. 275.—Dec. prod. II. p. 468.

Spec. Char. An erect unarmed shrub: pinnæ about 6 pair, with a gland on the petiole close to the lower pair; leaflets about 14 pair, lanceolate, acute, rather distant, pubescent beneath: peduncles axillary, solitary or in pairs, as long as the petiole, bearing a globular head of flowers: petals linear-lanceolate, distinct: stamens 10, long, distinct: legume flat, thin, linear, thickened on the margins, many-seeded: flowers small, white.

Patna, flowering in the rainy season.

(9) A. tomentosa. *(Willd.)*

*Ident.* W. & A. prod. I. p. 276.—Dec. prod. II. p. 426.

*Syn.* Mimosa tomentosa, *Roxb. fl. Ind.* II. *p.* 558.—M. Kleinii, *Poir.*

Spec. Char. Tree armed with large stipulary spines: young shoots petioles and peduncles covered with yellowish down: pinnæ 10–12 pair, with an oblong gland below the lowest, and an umbilicate one between each of the 1–2 last pair: leaflets numerous, linear, obtuse, pubescent beneath: peduncles axillary, 1–4 together, with 4

small bracts about the middle: heads of flowers globose: stamens distinct: stigma dilated: legume flat, thin, linear-falcate, 6–8-seeded; flowers white, rather offensive.

Coromandel. Common in the Deccan and Khandeish jungles. Sholapore. Flowering nearly all the year.

(10) A. PLANIFRONS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 276.

SPEC. CHAR. Tree: branches crowded at the summit, spreading and umbrella-like: thorns stipulary, short, conical and curved, and very long, terete or angled and channelled on the sides: pinnæ 5–6 pair: leaflets 10–12 pair, very small, linear, obtuse, glabrous: petioles compressed, flat on the lower side, ciliated, without glands: peduncles axillary, aggregated, shorter than the leaves, with bracts at the base: heads of flowers globose: legumes tumid, spirally curved.

Artingarry. Tanjore.

(11) A. ROXBURGHII. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 276.

*Syn.* Mimosa eburnea, *Roxb. fl. Ind.* II. *p.* 558.—M. horrida, *Smith in Rees' Cycl.*

*Engrav.* Roxb. Cor. II. t. 199.

SPEC. CHAR. An armed shrub: pinnæ 6 pair: leaflets 9 pair, closely approximated: thorns stipulary, often longer than the leaves, united at the base: heads of flowers axillary, globose: legumes linear, variously bent.

Coromandel, flowering in the cold season.

(12) A. EBURNEA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 276.—Dec. prod. II. p. 461.

*Syn.* Mimosa eburnea, *Linn. Suppl.*

*Engrav.* Pluk. t. 121. f. 4.

SPEC. CHAR. Small tree, armed: pinnæ 2–4 pair, rather distant, with a concave gland between the last pair: leaflets 5–8 pair, oval-oblong, obtuse, slightly distant from each other: thorns stipulary, united at the base, both small and very large: peduncles axillary, several together, with bracts about the middle: heads of flowers globose, small: legume elongated, twisted.

Coromandel.

(13) A. ARABICA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 277.—Dec. prod. II. p. 461.

*Syn.* Mimosa Arabica, *Lam. Roxb. fl. Ind.* II. *p.* 557.

*Engrav.* Roxb. Cor. II. t. 149.—Pluk. t. 221. f. 1.

Spec. Char. Small tree: thorns stipulary, long, short or almost wanting: pinnæ about 5 pair, with a gland between the first and last pairs: leaflets 15–20 pair: peduncles aggregated, axillary or forming a terminal raceme by the abortion of the leaves: heads of flowers globose: legumes stalked, compressed, thickish, contracted on both sutures between the seeds: flowers bright-yellow, fragrant.

Peninsula. Sukanagur. Saharunpore. Flowering in May and October. The gum which exudes from the bark is used as a substitute for Gum Arabic. The wood is strong, tough and durable. The bark is astringent and used for tanning leather.

(14) A. leucophlœa. *(Willd.)*

*Ident.* W. & A. prod. I. p. 277.—Dec. prod. II. p. 462.

*Syn.* A. alba, *Willd*—Mimosa leucophlœa, *Roxb. fl. Ind.* II. *p.* 558.

*Engrav.* Roxb. Cor. II. t. 150.

Spec. Char. Tree, armed with stipulary thorns: pinnæ 7–12 pair, with a gland below the first and between some of the last pairs: leaflets numerous, oblong-linear, pubescent or nearly glabrous: panicles large, terminal, or from the upper axils: branches and peduncles shortly tomentose: heads of flowers globose, on short peduncles: legume narrow, linear, long, curved, shortly tomentose when young: flowers pale yellowish.

Coromandel. South Mahratta country. Sholapore. Delhi. Flowering in the rainy season. The bark is astringent. The natives distil an ardent spirit from it mixed with palm wine and coarse sugar.

(15) A. pennata. *(Willd.)*

*Ident.* W. & A. prod. I. p. 277.—Dec. prod. II. p. 464.

*Syn.* A. megaladena, *Desv.*—Mimosa pennata, *Linn.*—M. ferruginea, *Rottl. Dec. prod.* II. *p.* 431.

Spec. Char. Climbing: branches irregularly angled, slightly tomentose, armed with numerous small straight, or recurved prickles: pinnæ 8–13 pair: leaflets numerous, small, narrow-linear, semihastate, acute: petioles tomentose, with a row of prickles on the under side, a large flat gland near the base and a small one between each of the 2–3 extreme pairs of pinnæ: peduncles aggregated, axillary or forming naked racemes towards the ends of the branches: flowers in globular heads: legumes thin, 6–10-seeded: flowers small, yellow.

Courtallum. Neilgherries. Flowering in the rainy season.

(16) A. rugata. *(Lam.)*

*Ident.* W. & A. prod. I. p. 277.

*Syn.* A. concinna, *Dec. prod.* II. *p.* 461.—Mimosa concinna, *Willd. Roxb. fl. Ind.* II. *p.* 564.—M. rugata, *Lam. Dec. l. c. p.* 431.—M. abstergens, *Spr.*

*Engrav.* Burm. Zeyl. t. 1.—Pluk. t. 121. f. 6.

Spec. Char. Climbing: branches irregularly angled and armed with numerous recurved prickles: pinnæ 6–8 pair: leaflets 15–25 pair, linear, somewhat semihastate, obtuse, mucronate: petioles with hooked prickles on the under side, a large gland near the base and another between the extreme pair: stipules large, membranous-cordate: panicles terminal and axillary: branches tomentose: heads of flowers globular, peduncled, 3–5 together, in the axils of a small leaf or deciduous bract: legumes large, succulent, contracted between the seeds: valves when dry shrivelled and wrinkled on the surface, angled on the margin: flowers small, white.

Peninsula. Silhet. Assam. Flowering in the rainy season. The legumes are used as soap for washing the hair. The leaves are acid and used in cookery instead of tamarinds.

(17) A. cæsia. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 278.

*Syn.* A. Intsioides, *Dec. prod.* II. *p.* 264.—Mimosa cæsia' *Roxb. fl. Ind.* II. *p.* 565.

*Engrav.* Pluk. t. 130. f. 1.

Spec. Char. Climbing shrub, armed with numerous prickles: pinnæ 10–14 pair, with one or two glands on the petioles and one between each of the last 3–4 pairs: leaflets numerous, oblong-linear, somewhat falcate, coriaceous, pale pubescent beneath: panicles terminal: heads of flowers globose, numerous: legume linear, flat.

Coromandel. Monghyr. Saharunpore. Flowering in the rainy season.

(18) A. Intsia. (*Willd.*)

*Ident.* W. &. A. prod. I. p. 278.—Dec. prod. II. p. 464.

*Syn.* A. cæsia, *Willd. Dec. l. c. p.* 465.—Mimosa Intsia, *Linn. Roxb. fl. Ind.* II. *p.* 565.

*Engrav.* Rheede Mal. VI. t. 4.—Pluk. t. 122. f. 2.

Spec. Char. A procumbent or climbing shrub: branches angled, armed with recurved prickles: pinnæ 5–8 pair; leaflets about 9 pair, linear-oblong: petioles armed with recurved prickles on the under side, with a large convex gland near the base, and a small one between each of the 1–3 last pairs of pinnæ: panicles large, terminal: peduncles 3–4 together, heads of flowers globose: legumes broadly-linear, flat and thin.

Coromandel. Common on the Ghauts and throughout the Concan jungles. Nawabgunge. Flowering in the rainy season.

(19) A. Suma. (*Buch.*)

*Ident.* Roxb. fl. Ind. II. p. 563.

*Syn.* Mimosa Suma, *Roxb.*

Spec. Char. Tree, armed with straight stipulary thorns: pinnæ 10–20 pair, with a large concave gland above the base of the petiole, and two or three between the last 2–3 pairs of pinnæ: spikes 1–6, axillary: legume linear, thin, 6–8-seeded: flowers white.

Calcutta. Bengal. A very common tree, remarkably conspicuous for its white bark. Flowering in the rainy season.

(20) A. modesta. *(Wall.)*

*Ident.* Don's Mill. II. p. 412.

*Engrav.* Wall. Pl. As. Rar. II. t. 130.

Spec. Char. Shrub: spines axillary, subulate: pinnæ 2–3 pair: leaflets 4 pair, oblong, obtuse, glaucous: petioles pilose, with one gland about the middle: spikes axillary and terminal, usually solitary, nodding, on short peduncles: legume stalked, linear-oblong, flat, 6-seeded, acute at both ends: flowers white, fragrant.

In the dry tracts between Saharunpore and Delhi. Flowering in April.

(21) A. Smithiana. *(Wall.)*

*Syn.* Mimosa Smithiana, *Roxb. fl. Ind.* II. *p.* 550.

Spec. Char. Large tree: stipules semicordate, very large: pinnæ 12–18 pair: leaflets numerous, semilanceolate; petioles villous, with one gland near the base and one between each of the last 2–3 pairs of pinnæ: panicles terminal and in the exterior axils forming a single long-peduncled raceme composed of long-pedicelled globular heads of white flowers: calyx and corolla downy: legumes linear-lanceolate, thin and smooth, 10–20-seeded.

Chittagong and Silhet. Flowering in May.

(22) A. myriophylla. *(Grah.)*

*Syn.* Mimosa Microphylla, *Roxb. fl. Ind.* II. *p.* 549.

Spec. Char. Shrub: pinnæ 10–15 pair: leaflets numerous, minute, obliquely linear: petioles downy: calyx and corolla villous: panicles terminal and axillary, villous, composed of globular heads of small greenish-yellow flowers: legumes thin, leafy, long, broad, obtuse, 3–6-seeded.

Khasia mountains. Flowering in May and June.

(23) A. elata. *(Grah.)*

*Ident.* Voigt. Hort. Calc. p. 261.

*Syn.* Mimosa elata, *Roxb. fl. Ind.* II. *p.* 546.

Spec. Char. Large tree: pinnæ 3–6 pair: leaflets 6–10 pair, subsessile, opposite, oblong, emarginate, smooth on both sides: petioles with a ridge on the upper side and one large oblong concave

gland near the base, and generally one between the last 1–3 pair of leaflets: panicles axillary, generally compound, composed of several pedicelled globular heads of white flowers: legume linear, pointed, smooth, leafy; 6–8-seeded.

Interior parts of Bengal. Assam. Flowering in May and June. The timber is of good quality.

(24) A. KALKORA. *(Roxb.)*

*Ident.* Voigt. Hort. Calc. p. 261.

*Syn.* Mimosa kalkora, *Roxb. fl. Ind.* II. *p.* 547.

SPEC. CHAR. Tree: pinnæ 4–6 pair: leaflets 15–30 pair, somewhat linear, smooth, with a convex gland at the base of the common petiole and one at the last pair of pinnæ.

Hills in the vicinity of Goalpara. Assam. Flowering in May and June.

(25) A. BUCHANANIANA.

*Ident.* Voigt. Hort. Calc. p. 263.

*Syn.* Mimosa pennata, *Roxb. fl. Ind.* II. *p.* 565.

SPEC. CHAR. Tree with long scandent branches armed with recurved prickles: pinnæ 12–14 pair: leaflets numerous: panicles terminal: spikes globular.

Chittagong. Silhet. Assam. Flowering in October.

## GENUS LXXI. ALBIZZIA.

**Polygamia Monœcia.** *Sex: Syst:*

GEN. CHAR. Trees or shrubs, unarmed: leaves bipinnate: glands petiolar and twin: stipules sometimes membranaceous, often bristly: peduncles axillary: flowers generally hermaphrodite: calyx campanulate or tubular, 5-toothed: corolla infundibuliform: stamens numerous, monadelphous at the base: legume smooth, membranaceous or papery, slightly margined, indehiscent: seeds attached by a filiform thread: flowers in globose heads or spiked, comose with long whitish-red or rarely purplish stamens.

(1) A. ODORATISSIMA. *(Benth.)*

*Ident.* Benth. in Hook. Jour. Bot. III. p. 89.—Dalz. Bomb. flor. p. 88.

*Syn.* Acacia odoratissima, *Willd. W. & A. prod.* I. *p.* 275.—*Dec. prod.* II. *p.* 466.—A. lomatocarpa, *Dec. l. c. p.* 467.—Mimosa odoratissima, *Linn. Roxb. fl. Ind.* II. *p.* 546.—M. marginata, *Lam.*—Albizzia micrantha, *Boivin. Encycl.*

*Engrav.* Roxb. Cor. II. t. 120.—Rheede Mal. VI. t. 5.

Spec. Char. Large tree: pinnæ 3–8 pair: leaflets 8–25 pair, broadly oblong, very unequal-sided, glaucous beneath: panicle many-headed: flowers pubescent, pale-yellowish, fragrant: legume flat, broadly-linear, thin, margins thickish, about 10-seeded.

Coromandel. Concans. Neilgherries. Assam. Flowering in May and June.

(2) A. amara. *(Boivin.)*

*Ident.* Dalz. Bomb. flor. p. 88.—Boivin. Encycl.

*Syn.* Acacia amara, *Willd. Dec. prod.* II. *p.* 469.—A. Wightii, *Grah. W. & A. prod.* I. *p.* 274.—Mimosa amara, *Roxb. fl. Ind.* II. *p.* 548.

*Engrav.* Roxb. Cor. II. t. 122.

Spec. Char. Unarmed tree: branchlets and petioles yellowish tomentose: pinnæ 8–10 pair, with a gland on the petiole and between the last pair: leaflets numerous, tomentose underneath: peduncles solitary or aggregate, long-filiform in the axils of the upper leaves: legumes flat, thin, broadly-linear, 3–6-seeded: flowers in globular heads, small, yellow.

Coromandel. Deccan. Flowering in the hot season.

(3) A. stipulata. *(Boivin.)*

*Ident.* Boivin. Encycl.—Dalz. Bomb. flor. p. 88.

*Syn.* Acacia stipulata, *Dec. W. & A. prod.* I. *p.* 274.—Mimosa stipulacea, *Roxb. fl. Ind.* II. *p.* 549.

Spec. Char. Unarmed tree: young shoots and petioles tomentose: pinnæ 6–20 pair, with a gland on the petiole and between each of most of the upper pairs: leaflets numerous, very unequal-sided, semihastate, acute: stipules and bracts large, semicordate, acuminated: peduncles aggregated, panicled: panicles terminal and in the upper axils: stamens very long, monadelphous at the base: legumes flat, thin, linear-lanceolate, 6–12-seeded: heads of flowers globose, pinkish.

Courtallum. Common on the Ghauts. Assam. Flowering in April and May. This is one of the largest trees of the genus.

## GENUS LXXII. PARKIA.

**Monadelphia Decandria.** *Sex Syst:*

*Deriv.* Named after Mungo Park, the celebrated African traveller.

Gen. Char. Unarmed trees: leaves bipinnated: spikes axillary: flowers on the lower half of the rachis usually male or neuter: calyx tubular, the limb 2-lipped; upper lip 2-cleft, lower 3-cleft: petals 5, the upper one a little broader than the others: legume many-seeded, with a farinaceous pulp around and between the seeds.

(1) P. Roxburghii. (*G. Don.*)

*Ident.* Don's Mill. II. p. 397.

*Syn.* Mimosa biglobosa, *Roxb. fl. Ind.* II. *p.* 551.

Spec. Char. Tree: pinnæ 20–24 pair: leaflets very numerous, linear, obtuse, somewhat falcate, with glands between the last 3–5 pair of pinnæ: spikes terminal: heads of flowers cup-shaped, vermillion colour: legumes flat, turgid at the seeds, 12-20-seeded.

Assam. Silhet. Flowering in December.

## GENUS LXXIII. GUILANDINA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Called after Guilandinus or Wieland, a Prussian traveller.

Gen. Char. Trees or shrubs with hooked prickles on the stem and petioles: leaves abruptly bipinnated: flowers disposed in racemose spikes: bracts elongated: sepals 5, combined at the base into a short urceolate tube: petals 5, sessile: filaments villous at the base: legume ovate, compressed, somewhat ventricose, 2-valved, 1–2-seeded, covered with straight prickles: seeds bony, shining, nearly globose.

(1) G. Bonduc. (*Linn.*)

*Ident.* W. & A. prod. I. p. 280.—Dec. prod. II. p. 480.

*Syn.* G. Bonduccella, *Linn.*—Cæsalpinia, *Flem. in As. Res. XI. p.* 159.—*Roxb. fl. Ind.* II. *p.* 357.

*Engrav.* Pluk. t. 2. f. 2.—Rheede Mal. II. t. 22.—Rumph. Amb. V. t. 48, 49. f. 1.

Spec. Char. Scandent shrub: leaflets oval or ovate, 3–8 pair, more or less pubescent, with 1–2 small recurved prickles between them on the under side: flowers largish, sulphur.

Coromandel. Bombay. Travancore. Bengal. Assam. Flowering in the rainy season. One of the seeds of this plant pounded into a paste with 3 or 4 peppercorns and taken from three to four times a day in a decoction of Chirayta, is an excellent febrifuge. The seeds are intensely bitter and powerfully tonic. The plant is well adapted for making hedges.

## GENUS LXXIV. CÆSALPINIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* In honor of Andreas Cæsalpinus, Chief Physician to Pope Clement VIII., the first writer on Systematic Botany.

Gen. Char. Trees or shrubs, prickly or unarmed: leaves abruptly bipinnated: flowers racemose or panicled: sepals 5, unequal, the lower one larger and slightly vaulted: petals 5, unequal, clawed, the upper one shorter than the others: stamens distinct: filaments villous at the base, ascending: style filiform: legume compressed, wingless, 2-valved: seeds roundish, oval or oblong.

(1) C. paniculata. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 281.—Roxb. fl. Ind. II. p. 364.—Dec. prod. II. p. 481.

*Syn.* C. scandens, *Koen. Dec. l. c. p.* 482.—Guilandina paniculata, *Lam.*

*Engrav.* Wight's Icon. I. t. 36.—Rheede Mal. VI. t. 19.

Spec. Char. Climbing: branches and petioles armed with sharp recurved prickles: pinnæ 3–4 pair: leaflets 3–4 pair, ovate-lanceolate, shining on the upper side, usually rusty-coloured: calyx glabrous: legume obliquely oval, cuspidate, shortly tapering at the base into a shortish stalk, compressed, a little tumid in the middle, glabrous: seed solitary, roundish, very thick, slightly compressed: flowers in terminal panicles, yellow, fragrant.

Malabar. Travancore. Common in the Concans. Flowering nearly all the year.

(2) C. Sappan. (*Linn.*)

*Ident.* W. & A. prod. I. p. 281.—Dec. prod. II. p. 482.—Roxb. fl. Ind. II. p. 357.

*Engrav.* Roxb. Cor. I. t. 16.—Rheede Mal. VI. t. 2.—Rumph. Amb. IV. t. 21.

Spec. Char. An armed tree: pinnæ 10–12 pair: leaflets 10–12 pair, unequal-sided, obliquely oval-oblong, emarginate, paler on the under side: calyx glabrous: legumes compressed, woody, glabrous, elliptic-obovate, obliquely-truncated, cuspidate at the apex, 3–4-seeded: flowers in terminal panicles, yellow.

Coromandel. Flowering in the hot season. This yields the redwood of commerce, which is extensively exported as a dye wood.

(3) C. digyna. (*Rottl.*)

*Ident.* W. & A. prod. I. p. 281.—Dec. prod. II. p. 482.

*Syn.* C. oleosperma, *Roxb. fl. Ind.* II. *p.* 356.

*Engrav.* Wight's Icon. t. 1995.

Spec. Char. Climbing, armed with small recurved prickles: pinnæ 7–10 pair: leaflets 6–10 pair, linear-oblong, obtuse: racemes supra-axillary, somewhat shorter than the leaves: pedicels long, slender: legume oblong, obliquely-pointed, very protuberant at the seeds, glabrous, 2–3-seeded: flowers largish, yellow.

Peninsula. Bhagulpore. Flowering in the rainy season.

(4) C. MIMOSOIDES. (*Lam.*)

*Ident.* W. & A. prod. I. p. 281.—Dec. prod. II. p. 482.

*Syn.* C. Simora, *Roxb. fl. Ind.* II. *p.* 359.

*Engrav.* Wight's Icon. t. 292.—Rheede Mal. VI. t. 8.

SPEC. CHAR. Climbing: stem and branches armed with straight prickles: young parts coloured, prickly and covered with glandular hairs or bristles: pinnæ 12–30 pair: leaflets 8–16 pair, linear-oblong, obtuse, glabrous; common petiole usually with 3 prickles at the insertion of each pair of pinnæ, 2 of them on the under side recurved, one on the upper bent upwards: stipules sword-shaped: racemes simple, leaf-opposed and terminal: legumes short, obliquely truncated, cuspidate, turgid, somewhat hairy, 2-seeded: flowers sulphur.

Mysore. Malabar and Travancore. Mahim woods, Bombay. Flowering nearly the whole year.

(5) C. SEPIARIA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 282.—Roxb. fl. Ind. II. p. 360.

*Syn.* Reichardia decapetala, *Roth. Dec. prod.* II. *p.* 484.

*Engrav.* Wight's Icon. t. 37.

SPEC. CHAR. Climbing: branches and petioles armed with short strong sharp recurved prickles: pinnæ 6–10 pair: leaflets 8–12 pair, linear-oblong, obtuse, slightly villous when young: petioles pubescent: stipules broad, semisagittate: racemes axillary, solitary: calyx coloured: segments soon reflexed: legumes linear-oblong, glabrous, with a long cuspidate point, 4–8-seeded: flowers bright-sulphur.

Mysore. Cunnawady. Flowering nearly all the year.

(6) C. NUGA. (*Ait.*)

*Ident.* Don's Mill. II. p. 430.—Dec. prod. II. p. 481.

*Syn.* Guilandina nuga, *Linn.*

*Engrav.* Rumph. Amb. V. t. 50.

SPEC. CHAR. Shrub: pinnæ 3–4 pair: leaflets 2–3 pair, ovate, acute; common petiole prickly beneath: panicles racemose: legume flat, short, with an incurved mucro at the apex: flowers yellow.

South Mahratta country.

## GENUS LXXV. POINCIANA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Called after Mons. de Ponci, formerly Governor of the Antilles.

Gen. Char. Trees or shrubs, prickly or unarmed: leaves abruptly bipinnated: flowers in corymbose panicles: sepals 5, equal or unequal: petals 5, stipitate, the upper one shaped differently from the rest: stamens distinct, much longer than the petals: filaments hairy at the base, ascending: style very long: legume unarmed, flat-compressed, several-seeded, intercepted internally between the seeds: seeds obovate, compressed.

(1) P. pulcherrima. *(Linn.)*

*Ident.* W. & A. prod. I. p. 282.—Dec. prod. II. p. 484.—Roxb. fl. Ind. II. p. 355.

*Syn.* Cæsalpinia pulcherrima, *Swartz.*

*Engrav.* Rheede Mal. VI. t. 1.—Rumph. Amb. IV. t. 20.—Bot. Mag. XXV. t. 995.

Spec. Char. An armed shrub: leaflets obovate-oblong, retuse or emarginate; calyx glabrous: sepals obtuse, unequal, lower one vaulted: æstivation imbricated: petals with long claws, fringed: flowers orange, variegated with crimson, or entirely yellow.

Peninsula, flowering all the year. This is evidently a native of the East Indies, common in all gardens, but never found in a wild state.

(2) P. elata. *(Linn.)*

*Ident.* W. & A. prod. I. p. 282.—Dec. prod. II. p. 484.—Roxb. fl. Ind. II. p. 355.

*Syn.* Cæsalpinia elata, *Swartz.*

Spec. Char. Tree, unarmed: leaflets linear, obtuse: calyx more or less pubescent, particularly inside: sepals coriaceous, equal, lanceolate, acute: æstivation valvular: petals fringed: ovary villous: flowers large, yellow.

Coromandel. Malabar. Guzerat. Arcot. Flowering all the year.

## GENUS LXXVI. WAGATEA.

**Decandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Waga*, the Mahratta name for a Tiger, alluding probably to its prehensile character.

Gen. Char. Calyx coloured, 5-cleft to the middle; tube cup-shaped; segments imbricated in æstivation, lower one larger, concave: petals 5, equal, clawed, inserted on the top of the calyx-tube: stamens inserted with the petals and of equal length with them, all fertile: filaments hairy at the base, alternately shorter: ovary stalked, tomentose, 4–6-ovuled: style filiform, of equal length with the filaments and petals: stigma hollow, 2-lipped, fimbriated, upper lip half-orbicular, lower one larger, hooded:

legume linear, acute, coriaceous, transversely constricted between the seeds: seeds 3–4, obovate-oblong, transverse: testa thick, hard, bony.

(1) W. SPICATA. *(Dalz.)*

*Ident.* Dalz. in Hook. Jour. Bot. III. p. 89.—Bomb. flor. p. 80.

*Engrav.* Wight's Icon. t. 1995.

SPEC. CHAR. Climbing shrub: branches and petioles armed with recurved prickles: leaves bipinnate: pinnæ 5–6 pairs: leaflets 5–6 pair, oblong, obtuse, coriaceous, shining above; spikes terminal: legumes linear, coriaceous, much swollen at the seeds and constricted between them: flowers scarlet and orange-coloured.

Common in the Concan jungles and on the Ghauts. Travancore. Flowering in the hot season.

## GENUS LXXVII. MEZONEURUM.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* From *Mesos*, middle, and *Neuron*, nerve, alluding to the joint of the legume being expanded into a wing.

GEN. CHAR. Trees or shrubs, more or less armed: leaves abruptly bipinnated: petioles prickly: flowers racemose or panicled: sepals unequal, lower one the longest and sometimes vaulted: petals 5, clawed, unequal: stamens distinct, villous towards the base; style curved: legume somewhat leafy, compressed, ovate-oblong, 1-celled, few-seeded, with a broad leafy margin on the seed-bearing suture.

(1) M. CUCULLATUM. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 283.

*Syn.* Cæsalpinia cucullata, *Roxb. fl. Ind.* II. *p.* 358.

SPEC. CHAR. Climbing shrub, armed, very glabrous: pinnæ 3–7 pair: leaflets 4–5 pair, ovate, pointed, coriaceous, shining on the upper side: panicles terminal and axillary: lower sepal much longer than the others: upper petal deeply 2-lobed, vaulted and much incurved: legume linear-oblong, thin, 1–2-seeded: flowers greenish-yellow.

Common on the Ghauts. Khandalla. Soonderbunds. Assam. Travancore. Flowering in January and February.

(2) M. ENNEAPHYLLUM. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 283, annot.

*Syn.* Cæsalpinia enneaphylla, *Roxb. fl. Ind.* II. *p.* 363.

SPEC. CHAR. A climbing armed shrub: pinnæ 8–10 pair: leaflets 8–10 pair, cuneate-oblong, rounded at both ends, smooth:

common petioles armed with recurved prickles underneath, with a pair at the insertion of the pinnæ and sometimes a single straight one on the upper side between them: panicles terminal: legume broad-lanceolate, winged on the back, 5–6-seeded: flowers yellow, fragrant.

Eastern parts of Bengal. Flowering in the cold season.

## GENUS LXXVIII. PTEROLOBIUM.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Pteron*, a wing, and *Lobos*, a pod, in allusion to the winged legumes.

Gen. Char. Trees or large climbing shrubs, armed with hooked prickles: leaves bipinnated: flowers racemose: calyx 5-partite; segments deciduous, petaloid, about the length of the corolla, the lower one somewhat vaulted: petals 5, unequal, clawed: stamens distinct, ascending: filaments bearded below the middle: style glabrous: stigma dilated, covered with a few erect hairs: legume sessile, 1-celled, ending obliquely on the upper side in an oblong membranous striated wing: seed solitary.

### (1) P. lacerans. *(Brown.)*

*Ident.* W. & A. prod. I. p. 283.

*Syn.* Cæsalpinia lacerans, *Roxb. fl. Ind.* II. *p.* 367.—C. ligulata, *Heyne.*—Reichardia hexapetala, *Roth. Dec. prod.* II. *p.* 484.

*Engrav.* Wight's Icon. t. 196.

Spec. Char. Climbing shrub: pinnæ 4–8 pair: leaflets 4–8 pair, oval, obtuse or emarginate: petioles with usually two recurved prickles on the under side between each pair of pinnæ, and one incurved one on the upper: racemes lax, in the axils of the upper leaves only: pedicels slender: flowers middle-sized, white, tinged with red: calyx coloured, and as large as the corolla.

Hills of Coromandel. Common in the Circars. Flowering in the wet season.

## GENUS LXXIX. HARDWICKIA.

**Decandria Monogynia.** *Sex · Syst:*

*Deriv.* Named in honor of Major-General Hardwick, formerly of the Bengal Army.

Gen. Char. Sepals 4–5, ovate, concave, equal, spreading, scarcely coherent at the base: corolla none: stamens distinct, inserted into the bottom of the calyx, alternately shorter: anthers ovate, apiculate: style short; stigma large, peltate: legume lanceolate, 1-celled, opening at the apex: seed solitary, in the apex of the legume, cuneate, thin and somewhat membranaceous on one edge.

(1) H. BINATA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 284.—Roxb. fl. Ind. II. p. 423.—Dec. prod. II. p. 487.

*Engrav.* Roxb. Cor. III. t. 209.

SPEC. CHAR. Tree, unarmed: leaves abruptly pinnated: leaflets 1 pair, opposite, obliquely ovate, obtuse, 4–5-nerved at the base, the stronger nerve next the inner margin: panicles axillary: flowers small, yellowish.

Coromandel mountains. Guzzlehutty Pass. Malligaum.

(2) H. PINNATA. (*Roxb.*)

*Ident.* W. & A. prod. I p. 284.—Roxb. fl. Ind. II. p. 425.—Dec. prod. II. p. 487.

SPEC CHAR. Tree: leaves abruptly pinnated; leaflets 3 pair, alternate, ovate-lanceolate, acuminated, 1-nerved, the nerve in the middle: panicles axillary.

Travancore.

## GENUS LXXX. JONESIA.

**Heptandria Monogynia.** *Sex Syst:*

*Deriv.* Named after Sir William Jones, the celebrated Orientalist.

GEN. CHAR. Calyx coloured, infundibuliform, with 2 roundish-ovate, opposite bracteoles at its base: tube long, closed, fleshy, crowned with a crenulated wing: limb 4-partite, spreading; petals none: stamens arising from the ring at the mouth of the calyx: style declinate, filiform: stigma simple: legume scimitar-shaped.

(1) J. ASOCA. (*Roxb.*)

*Ident.* W. &. A. prod. I. p. 284.—Roxb. fl. Ind. II. p. 218. Dec. prod. II. p. 487.

*Syn.* J. pinnata, *Willd.*—Saraca Indica, *Linn.*—S. arborescens, *Burm.*

*Engrav.* Bot. Mag. t. 3018.—Wight's Icon. t. 206.—Burm. Ind. t. 25. f. 2.—Rheede Mal. V. t. 59.

SPEC. CHAR. Tree: leaves abruptly pinnated; leaflets 4–6 pair, lanceolate: stipules intrafoliaceous: racemes terminal and axillary, cymose: legume compressed, a little turgid, 4–8-seeded: flowers orange-scarlet, fragrant during the night.

Coromandel. Ram Ghaut. Khasia mountains. Assam. Flowering in March and April.

## GENUS LXXXI. HUMBOLDTIA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* Named after the celebrated Alexander Humboldt.

GEN. CHAR. Shrubs or small trees: calyx bibracteolate; tube turbinate; limb 4-partite, deciduous, the upper segment 2-nerved: petals 5, or by abortion 3: stamens inserted into the throat of the calyx, and opposite to its segments: filaments doubled down during æstivation: anthers versatile: style subulate; stigma capitate.

### (1) H. BRUNONIS. (*Wall.*)

*Ident.* W. & A. prod. I. p. 285.—Wall. pl. As. Rar. III. p. 17. t. 233.

*Engrav.* Wight's Icon. t. 1606.

SPEC. CHAR. Unarmed shrub: leaves abruptly pinnated: leaflets 2 pair, opposite, cuneate-oblong, with a short obtuse acumination: back lobe of the stipules nearly equal-sided and rounded on both sides: petals 3; racemes axillary: pedicels subtended by a bract.

Malabar. Jungles between Quilon and Courtallum. Neilgherries. Canara.

### (2) H. VAHLIANA. (*R. W.*)

*Ident.* Wight's Icon. vol. IV.

*Engrav.* Wight's Icon. t. 1607, 8.

SPEC. CHAR. Tree: branchlets solid, equal: leaves abruptly pinnated; leaflets 4 pair, ovate, oblong, acuminated: back lobe of the stipules nearly equal-sided, round at both ends: petals 5, nearly equal, caducous.

Neilgherries, in the jungles about Coonoor.

## GENUS LXXXII. DALHOUSIÆA.

**Decandria Monogynia.** *Sex. Syst.*

*Deriv.* Named in honor of Lord Dalhousie.

GEN. CHAR. Calyx short, broadly campanulate: corolla papilionaceous: vexillum broadly obcordate, with a short claw, slightly longer than the wings: wings somewhat falcate, oblong: keel incurved, obtuse, about as long as the wings: style incurved, slightly dilated at the base: stigma minute: legume compressed, few-seeded.

### (1) D. BRACTEATA. (*Wall.*)

*Ident.* Wight's Icon. vol. I.

*Syn.* Podalyria bracteata, *Roxb. fl. Ind.* II. *p.* 317.

*Engrav.* Wight's Icon. t. 265.

Spec. Char. Shrubby: leaves simple, oval; peduncles axillary, once or twice bifid; ultimate divisions 1-flowered, with a pair of large opposite roundish bracts hiding the calyx, and a pair at the forks of the peduncles: calyx bowl-shaped, unequally 5-toothed, caducous: flowers large, white.

Silhet. Flowering in May and June.

## GENUS LXXXIII. TAMARINDUS.

**Monadelphia Enneandria.** *Sex: Syst:*

*Deriv.* From the Arabic term *Tamar-i-Hindi*, the Indian date.

Gen. Char. Calyx tubular at the base: limb 2-lipped, reflexed; upper lip 3-partite, lower broad, 2-toothed: petals 3, alternating with the segments of the upper lip of the calyx, 2 of them ovate, the middle one cucullate: stamens 9–10, seven very short and sterile, the others longer and bearing anthers: style subulate: legume linear, more or less curved, 1-celled, 3–12-seeded, with a pulpy sarcocarp: seeds bluntly 4-angled, obliquely truncated at the hilum.

### (1) T. Indica. *(Linn.)*

*Ident.* W. & A. prod. I. p. 285.—Dec. prod. II. p. 488.—Roxb. fl. Ind. III. p. 215.

*Syn.* T. occidentalis, *Gaertn. Dec. l. c. p.* 489.

*Engrav.* Rumph. Amb. II. t. 23.—Rheede Mal. I. t. 23.—Gaertn. fr. II. t. 146. f. 2.

Spec. Char. Tree; leaves abruptly pinnated; leaflets numerous: flowers racemose, somewhat orange, streaked with scarlet, slightly fragrant.

Peninsula. Bengal. Assam. Flowering in May and June. The wood of the Tamarind tree is hard, durable and beautifully veined. The kernels of the seeds reduced to fine powder and boiled form a tenacious paste and a strong wood-cement if thin glue be added. This paste simply smeared on the skin rapidly promotes suppuration in indolent boils. (Roxb.—Wight.) There are two or three varieties. The pulp of the fruit of one is rose-coloured. This makes a very fine preserve.

## GENUS LXXXIV. CASSIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Said to be from the Hebrew *Ketzioth*, which was probably applied to a species of laurel.

Gen. Char. Trees, shrubs or herbaceous plants: leaves simply and abruptly pinnated: leaflets opposite: sepals 5, combined at the base, more or less unequal: petals 5, more or less unequal: stamens distinct, the 3 upper rarely fertile and usually with anthers of a different shape from the others and abortive; very rarely only 4–7 and all fertile: anthers dehiscing at the apex by two pores: legume terete or compressed, several-seeded.

(1) C. fistula. *(Linn.)*

*Ident.* W. & A. prod. I. p. 285.—Dec. prod. II. p. 490.—Roxb. fl. Ind. II. p. 338.

*Syn.* Cathartocarpus fistula, *Pers.*

*Engrav.* Gaertn. fr. II. t. 147. f. 1.—Lam. Ill. t. 332.—Rheede Mal. I. t. 22.—Rumph. Amb. II. t. 21.

Spec. Char. Small tree: leaflets about 6 pair, broadly ovate, usually obtuse or retuse, sometimes slightly acuminated, glabrous: petioles without glands: racemes terminal, long, lax, drooping; legumes cylindric, pendulous, with transverse partitions: cells 1-seeded, filled with pulp: flowers bright-yellow, fragrant.

Peninsula. Bengal. Assam. Oude. Foot of the Himalayas. Flowering from May to September.

(2) C. Roxburghii. *(Dec.)*

*Ident.* W. & A. prod. I. p. 286.—Dec. prod. II. p. 489.

*Syn.* C. marginata, *Roxb. fl. Ind.* II. *p.* 338.—Cathartocarpus marginatus, *G. Don.*

*Engrav.* Wight's Ill. I t. 83.

Spec. Char. Tree: bark deeply cracked: branches much spreading: young shoots petioles and peduncles pubescent: leaflets 10–20 pair, oblong, unequal-sided, obtuse or somewhat emarginate and mucronate at the apex, pubescent beneath: margins coloured and slightly thickened: petioles without glands: stipules semi-sagittate: racemes axillary, solitary, much shorter than the leaves: legume cylindric, very long, pendulous, torose, filled with pulp: flowers rose-coloured.

Gingie Hills. Rarely found in a wild state. Flowering in the rainy season.

(3) C. nodosa. *(Buch.)*

*Ident.* Roxb. fl. Ind. II. p. 336.

*Engrav.* Wight's Icon. t. 410.

Spec. Char. Tree: leaves bifarious; leaflets 10 pair, oblong: stipules obliquely crescent-shaped, with a bristle at each angle; 3 lower filaments with a globular swelling near the middle: racemes lateral: pedicels slender, villous: legume cylindric, pendulous,

about 2 feet in length, with transverse partitions between the seeds: cells filled with yellowish pulp: flowers large, pale pink.

Chittagong, flowering in April and May.

(4) C. TOMENTOSA. (*Linn.*)

*Ident.* W. & A. prod. I. p 286.—Dec. prod. II. p. 496.

*Syn.* C. multiglandulosa, *Jacq.*

*Engrav.* Jacq. Icon. Rar. I. t. 72.

SPEC. CHAR. Large shrub: branches tomentose; leaflets 6–8 pair, usually with a gland between each pair, linear-oblong, mucronate, a little unequal at the base, pubescent above, tomentose beneath: racemes in the upper axils as long as the leaves, forming a leafy corymbiform panicle: legumes long, linear, compressed, mucronate, tomentose: seed somewhat kidney-shaped, horizontal.

Neilgherries.

(5) C. SOPHERA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 287.—Dec. prod. II. p. 492.

*Syn.* C. purpurea, *Dec.*—C. torosa, *Cav.*—C. torulosa, *Poir.*—C. Indica, *Poir.*—C. Coromandeliana, *Jacq.*—C. Sopheroides, *Collad.*—Senna Sophora, *Roxb. fl. Ind.* II. *p.* 347.—S. purpurea, *Roxb. l. c. p.* 342.—S. esculenta, *Roxb. l. c. p.* 346.

*Engrav.* Burm. Zeyl. t. 98.—Bot. Reg. X. t. 856.—Rheede Mal. II. t. 52.—Rumph Amb. V. t. 97. f. 1.

SPEC. CHAR. An erect annual: leaflets 6–12 pair, lanceolate or oblong-lanceolate, acute, with a single clavate gland near the base of the petiole: upper petal retuse: lowest anther small and sterile: racemes terminal, or axillary and few-flowered: legumes long, linear, turgid, glabrous, many-seeded: sutures keeled: seeds horizontal, with cellular partitions: flowers yellow.

Peninsula. Bengal. Assam. Flowering nearly all the year. The legumes when unripe and dried appear quite flat, but when ripe and fresh are turgid and almost cylindrical. (Wight.) The smell of this species is heavy and disagreeable.

(6) C. OBTUSA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 288.

*Syn.* Senna obtusa, *Roxb. fl. Ind.* II. *p.* 344.

*Engrav.* Wight's Icon. t. 757.

SPEC. CHAR. Perennial, herbaceous, diffuse, procumbent: leaflets 4–6 pair, obtuse, mucronate, unequal at the base, glabrous: petioles without glands: stipules lanceolate-subulate, spreading, persistent: racemes axillary, few-flowered, much shorter than the leaves; pedicels without bracts: legumes lunate, broad, thin, obtuse: valves protuberant and slightly angled: flowers small, yellow.

Mysore. Common in pastures. Flowering nearly all the year. The leaves are used as a substitute for senna in Mysore.

(7) C. ELONGATA. (*Lem. Lisanc.*)

*Ident.* Voigt. Hort. Calc. p. 249.

*Syn.* C. lanceolata, *W. & A. prod.* I. *p.* 288.—Senna officinalis, *Roxb. fl. Ind.* II. *p.* 346.

*Engrav.* Royle. Ill. t. 37.

SPEC. CHAR. Suffruticose, erect: leaflets 4–8 pair, lanceolate, acute, nearly equal-sided: petioles without glands: stipules minute, acute, spreading or deflexed: racemes axillary, long-pedunculed, many-flowered: pedicels without bracts: legumes flat, oblong-linear, broad, slightly lunate, obtuse, very slightly swollen at the seeds: flowers middle-sized, gold-colour.

Tinnevelly, Guzerat. About Dholka. Flowering nearly all the year.

(8) C. MONTANA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 289.—Dec. prod. II. p. 499.

*Syn.* C. setigera, *Dec.*

SPEC. CHAR. Shrub: branches ascending: leaflets 10–12 pair, oval-oblong, obtuse, sometimes slightly emarginate, pointed with a deciduous bristle, glabrous, slightly glaucous beneath: petiole without glands: stipules minute, subulate: peduncles many-flowered, numerous towards the ends of the branches, axillary, or forming a large terminal panicle: legumes linear, straight, thin, glabrous and shining, hard and woody when ripe and terminating in a hard point: flowers long-pedicelled, rather small.

Neilgherries. Columala.

(9) C. GLAUCA. (*Lam.*)

*Ident.* W. & A. prod. I. p. 289.—Dec. prod. II. p. 495.

*Syn.* C. Surattensis, *Burm. Ind. p.* 97.—C. arborescens, *Vahl.*—C. sulphurea, *Dec.*—C. enneaphylla, *Koen.*—C. planisiliqua, *Burm. l. c. p.* 98 —Senna arborescens, *Roxb. fl. Ind.* II. *p.* 345.

*Engrav.* Rheede Mal. VI. t. 9, 10.

SPEC. CHAR. Tree, with numerous branches spreading in every direction, young ones irregularly angled: leaflets 4–6 pair, with an erect gland between each of the 2–3 lower pair, oval, broadest at or below the middle, the upper ones the largest; under side glaucous and slightly pubescent: stipules linear-subulate, falcate: racemes axillary, corymbiform, long-pedunculed, erect, crowded near the ends of the branches, about half the length of the leaves: petals all nearly equal: anthers all fertile, equally long, the 2 lower on

rather longer filaments than the others: legumes drooping, linear, straight, thin, the margin a little tumid: flowers large, sulphur, long-pedicelled; the pedicels subtended by an ovate caducous bract.

Coromandel. Flowering nearly all the year.

(10) C. Berryana.

*Ident.* Voigt. Hort. Calc. p. 249.

*Syn.* Senna glauca, *Roxb. fl. Ind.* II. *p.* 351.

Spec. Char. Tree: leaflets 8–16 pair, linear-oblong, obtuse, with a slender bristle at the apex; stipules minute, caducous: panicles corymbose; legume linear, very thin, smooth, stalked, with a conical gland on the upper edge of the stalk: seeds about 15, with transverse partitions: flowers largish, yellow.

Peninsula, flowering towards the end of the year.

(11) C. auriculata. *(Linn.)*

*Ident.* W. & A. prod. I. p. 290.—Dec. prod. II. p. 496.

*Syn.* Senna auriculata, *Roxb. fl. Ind.* II. p. 349.

*Engrav.* Pluk. t. 314. f. 4.

Spec. Char. An erect shrub: young branches petioles and peduncles pubescent: leaflets 8–12 pair, with a gland between each pair, oval, obtuse or retuse, mucronate, slightly pubescent beneath: stipules large, obliquely cordate, acute; sepals slightly hairy: bracts cordate-ovate, acuminated: racemes axillary, nearly as long as the leaves, approximated towards the ends of the branches: pedicels compressed: legumes compressed, straight: flowers bright-yellow.

Coromandel. Barren tracts of the Deccan and Guzerat. Salem. Flowering towards the end of the year. The bark is much used by the natives all over India for tanning leather.

(12) C. occidentalis. *(Linn.)*

*Ident.* W. & A. prod. I. p. 290.—Dec. prod. II. p. 497.

*Syn.* Senna occidentalis, *Roxb. fl. Ind.* II. *p.* 343.

*Engrav.* Bot. Reg. I. t. 83.

Spec. Char. An erect branched annual: leaflets 3–5 pair without glands, ovate-lanceolate, very acute, glabrous on both sides: petiole with a large gland near its swollen base: lowest anther small and sterile: legumes long when unripe and dry compressed and surrounded with a tumid border, when ripe nearly cylindric: flowers yellow, longish-pedicelled, the upper ones forming a terminal raceme, the lower ones 3–5 together on a very short axillary peduncle.

Common in all parts of India. This is as much a native of the East as of the West Indies. It is found in almost every soil and particularly in the neighbourhood of towns and villages among rubbish. The leaves when bruised exhale a very disagreeable odour. (W. & A.)

(13) C. Tora. *(Linn.)*

*Ident.* W. & A. prod. I. p. 290.

*Syn.* C. obtusifolia, *Burm.*—C. Gallinaria, *Collard.*—Senna Tora, *Roxb. fl. Ind.* II. *p.* 340.—S. toroides, *Roxb. l. c. p.* 341.

*Engrav.* Rumph. Amb. V. t. 97, f. 2.—Rheede Mal. II. t. 53.

Spec. Char. Annual, with spreading branches: leaflets 3 pair, with a gland between the 1–2 lower pair, cuneate-obovate, obtuse, glabrous or pubescent beneath: stipules subulate, nearly half the length of the petiole, deciduous: upper petal obcordate; seven lower anthers about equal and fertile: flowers yellow, long-pedicelled, the upper ones forming a short terminal raceme, the lower ones 1–2 together on a short axillary peduncle: legumes very long, sharp-pointed, 4-sided, many-seeded, each suture 2-grooved.

Peninsula. Flowering nearly all the year.

(14) C. Absus. *(Linn.)*

*Ident.* W. & A. prod. I. p. 291.—Dec. prod. II. p. 500.

*Syn.* Senna Absus, *Roxb. fl. Ind.* II. *p.* 340.

*Engrav.* Burm. Zeyl. t. 97.—Pluk. t. 60. f. 1.

Spec. Char. Biennial, clammy all over except the leaves: leaves long-petioled: leaflets 2 pair, obovate, obtuse, glabrous, or slightly hairy beneath: stamens 5, all fertile; lower flowers axillary, solitary, upper ones forming a short raceme: pedicels short, with a bract at their base, and small bracteoles about the middle: legume nearly straight, obliquely pointed, much compressed, sprinkled with rigid hairs, few-seeded: flowers small, yellow.

Coromandel. Monghyr mountains. Flowering all the year.

(15) C. Wallichiana. *(Dec.)*

*Ident.* W. & A. prod. I. p. 292.—Dec. prod. II. p. 505.

Spec. Char. Suffruticose, branched: branches pubescent or hirsute when young: leaflets 20–50 pair, sometimes only 9–10 pair near the root, with a gland below the lowest pair, linear-oblong, very unequal-sided, mucronate, glabrous: stipules lanceolate-subulate, obliquely cordate at the base: stamens 10, alternately shorter flowers supra-axillary, solitary or in pairs, small, yellow: pedicels in fruit 3–4 times longer than the petioles: legumes flat, linear,

pointed, 14–20-seeded, constricted between the seeds, more or less hairy.

Peninsula. Northern India. Flowering in the rainy season.

(16) C. ANGUSTISSIMA. (*Lam.*)

*Ident.* W. & A. prod. I. p. 292.—Dec. prod. II. p. 505.

*Syn.* Senna sensitiva, *Roxb. fl. Ind.* II. *p.* 353.—C. tenella, *Roxb.* (?)

*Engrav.* Rumph. Amb. VI. t. 67. f. 1.—Pluk. t. 5. f. 2.

SPEC. CHAR. Suffruticose, diffuse, procumbent, often much branched: branches pubescent or slightly hairy: leaflets 20–60 pair, with a gland below the lowest pair, linear-oblong, unequal-sided, mucronate, glabrous or sprinkled with hairs: rachis of the young leaves furnished on the upper side with a crenated margin, and a short bristle in each crenature: stamens 10, alternately shorter, the uppermost sometimes wanting: flowers supra-axillary, 1–2 together, small, yellow: pedicels in fruit about one-third the length of the leaves: legumes flat, linear, mucronate, 15–20-seeded, constricted between the seeds, pubescent.

Peninsula. Northern India. Assam. Flowering in the rainy season.

(17) C. PUMILA. (*Lam.*)

*Ident.* W. & A. prod. I. p. 292.—Dec. prod. II. p. 504.

*Syn.* Senna prostrata, *Roxb. fl. Ind.* II. *p.* 352.

*Engrav.* Pluk. t. 120. f. 1.

SPEC. CHAR. Suffruticose, procumbent: branches slightly hairy: leaflets 12–30 pair, with an erect slender-stalked peltate gland close to the lowest pair, linear-oblong, unequal-sided, mucronate, more or less hairy or pubescent: rachis not margined: stamens 5, nearly equal: flowers supra-axillary, 1–3 together, yellow: legumes flat, linear, 6–7-seeded, slightly pubescent, constricted between the seeds: stipules lanceolate-subulate.

Coromandel. Bombay. Northern India. Flowering in the rainy season.

(18) C. KLEINII. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 293.

*Engrav.* Rheede Mal. IX. t. 21.

SPEC. CHAR. Suffruticose, diffuse, procumbent: branches pubescent: leaflets 3–15 pair, with a stalked peltate gland below the lowest pair, linear-oblong, unequal-sided, mucronate, slightly pubescent: rachis not margined: stipules subulate: stamens 10, alternately shorter: flowers supra-axillary, 1–2 together, small, yellow: legumes flat, more or less pubescent.

Travancore.

(19) C. EXIGUA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 339.

*Syn.* Senna exigua, *Roxb.*

SPEC. CHAR. A small, erect, flexuose, hairy plant: leaflets 2 pair, oval; stipules and bracts filiform: racemes somewhat terminal: flowers small, yellow.

Bengal. Flowering in the rainy season.

(20) C. GOENSIS. *(Dalz.)*

*Ident.* Hook. Jour. Bot. IV. p. 112.

SPEC. CHAR. Small unarmed tree, covered with yellowish-tomentum: branchlets angled: leaves pinnate; leaflets oblong, obtuse, 10–12 pair: petiole without glands: stipules acuminate, adnate and irregularly produced on one side: racemes axillary, solitary, shorter than the leaf: legume linear, mucronate, many-celled, narrowed at the base: seeds 6–12, narrowed at the hilum.

Very rare in the province of Goa, at the foot of the Syhadree mountain.

## GENUS LXXXV. TAVERNIERA.

**Diadelphia Decandria.** *Sex Syst:*

*Deriv.* Named after J. B. Tavernier, a celebrated French traveller and naturalist.

GEN. CHAR. Shrubs with simple and trifoliate leaves: stipules cohering at the base: calyx bibracteolate at the base, half 5-cleft and somewhat 2-lipped: segments lanceolate-linear, acuminated: corolla papilionaceous: vexillum nearly obovate: wings shorter than the calyx: keel obtuse: stamens straight or slightly inflexed at the apex: style filiform, long, flexuose, deciduous: legume orbicular, compressed, 2-jointed; joints 1-seeded.

(1) T. CUNEIFOLIA. *(Arn.)*

*Ident.* Wight's Icon. vol. III.—Dalz. Bomb. flor. p. 67.

*Syn.* Hedysarum Gibsonii, *J. Grah. Cat.*

*Engrav.* Wight's Icon. t. 1055.

SPEC. CHAR. Shrub, branched from the base, twiggy, glaucous: leaves trifoliolate or simple from the abortion of the lateral pair of leaflets, oval or obovate, with a recurved mucro, glabrous or pubescent, dotted on the upper surface: racemes short, axillary, bearing 1–5 shortly-pedicellate pink flowers: legume notched on both sides and covered with soft bristles.

Mysore. Waste places in the Deccan. Gogo in Kattiwar. The root is sweet, hence the Mahratta name Jetimud, which is also the name of liquorice.

## GENUS LXXXVI. CYNOMETRA.

**Decandria Monogynia.** *Sex: Syst·*

*Deriv.* From *Kyon*, a dog, and *Metra*, a matrix, in allusion to the shape and consistence of the legumes.

GEN. CHAR. Trees: leaves composed of 2–6 opposite leaflets: calyx without bracts: tube very short; limb 4-partite, deciduous; segments reflexed, upper one broadish: petals 5, oblong, lanceolate, equal: stamens 10, or numerous, distinct, inserted with the petals into a glandular ring lining the calyx-tube: style erect: stigma capitate: legume nearly half-orbicular, thick, tumid, fleshy, 1-celled, 1-seeded: flowers springing from the trunk or branches.

(1) C. RAMIFLORA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 293.—Dec. prod. II. p. 509.

*Engrav.* Rumph. Amb. I. t. 63.—Rheede Mal. IV. t. 31.—Lam Ill. t. 331. f. 1.

SPEC. CHAR. Tree: calyx-segments tipped with a tuft of hairs: leaflets 1–3 pair, oblong, acuminated or emarginate: peduncles solitary, few-flowered, springing from the branches among the leaves: stamens 10: legume tubercled and rugged on the outside: flowers reddish.

Malabar. Travancore. South Concans. Flowering in the cold season.

(2) C. POLYANDRA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 294.—Roxb. fl. Ind. II. p. 372.—Dec. prod. II. p. 509.

*Engrav.* Roxb. Cor. III. t. 286.

SPEC. CHAR. Tree: calyx-segments naked at the apex: stamens very numerous: leaflets 2–3 pair, oblong-lanceolate; peduncles short, springing from axillary buds formed of densely-imbricated concave bracts: pedicels long and slender, corymbose: legume smooth and even: flowers white, springing from the branches.

Assam, flowering in March and April.

## GENUS LXXXVII. BAUHINIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Named in honor of John and Caspin Bauhin, famous Botanists of the 16th century.

GEN. CHAR. Trees or shrubs: leaves consisting of two opposite leaflets at the apex of the petiole; leaflets 2–5-nerved, almost invariably united by their inner margins into a 2-lobed emarginate or entire leaf: racemes elongated or corymbiform, simple or panicled:

sepals 5, united into a calyx that is either 5-cleft or split up on the lower side and spathe-like: petals 5, spreading, slightly unequal; anther-bearing stamens either one and distinct with 9 monadelphous sterile filaments, or 3–5 with or without 1–7 sterile ones, all united at the base, or 10 without sterile ones, all slightly monadelphous at the base, or distinct: style ascending, rarely wanting: stigma capitate or dilated: legume 1-celled, 2-valved, several rarely 1-seeded: seeds compressed, oval; inner seed-coat tumid.

(1) B. MALABARICA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 294.—Roxb. fl. Ind. II. p. 321.

SPEC. CHAR. Tree: leaves transversely broad-oval, cordate at the base: leaflets rounded, united far above the middle, 4-nerved, parallel: calyx funnel-shaped, regular, 5-cleft, pubescent: corolla regular: petals spathulate: stamens 10, all fertile, very slightly monadelphous at the base, alternately shorter: racemes axillary, corymbiform, almost sessile: legume long-stalked, linear, slightly falcate, marked longitudinally with waved lines: flowers white.

Malabar. Assam. Flowering in October and November.

(2) B. ACUMINATA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 295.—Dec. prod. II. p. 513.—Roxb. fl. Ind. II. p. 324.

*Syn.* B. candida, *Ait. Dec. l. c.*

*Engrav.* Rheede Mal. I. t. 34.

SPEC. CHAR. Large erect shrub: leaves cordate at the base, young ones slightly pubescent beneath; leaflets ovate, acute or acuminated, united to above the middle, parallel, 4-nerved: calyx spathaceous, splitting at the apex into 5 setaceous teeth: stamens 10, all fertile and united at the base, alternately shorter: racemes solitary, leaf-opposed or terminal, few-flowered: legumes 8–12-seeded, obliquely linear-lanceolate, the seed-bearing suture with 3 prominent ribs: flowers large, pure white.

Travancore. Peninsula. Assam. Flowering all the year.

(3) B. TOMENTOSA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 295.—Dec. prod. II. p. 514.—Roxb. fl. Ind. II. p. 323.

*Engrav.* Rheede Mal. I. t. 35.—Burm. Zeyl. t. 18.—Pluk. t. 44. f. 6.

SPEC. CHAR. Shrub, with nearly all the parts except the upper surface of the leaves softly villous: leaves roundish at the base: leaflets oval, parallel, united to above the middle, 3-nerved: sti-

pules setaceous: peduncles leaf-opposed, usually 2-flowered: pedicels with 3 bracts at the base: calyx spathaceous, ovate, 5-toothed: petals oval: stamens 10, all fertile and united at the base, ascending, upper ones gradually shorter: legume flat, lanceolate, 5–6-seeded: flowers large, pale-sulphur.

Coromandel. Concans. Bengal. Assam. Flowering nearly all the year.

(4) B. RACEMOSA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 295.

*Syn.* B. parviflora, *Vahl. Dec. prod.* II. *p.* 514.—*Roxb. fl. Ind.* II. *p.* 323.

SPEC. CHAR. A bushy tree with dark scabrous bark: branchlets drooping: leaves cordate at the base, glabrous above, villous or pubescent below: leaflets roundish, united to about the middle, 3-nerved: racemes solitary, terminal or leaf-opposed, leafless, much longer than the leaves: calyx spathaceous, at length reflexed, 5-toothed, pubescent or villous: petals linear-lanceolate, ascending, slightly hairy on the outside, upper ones gradually smaller: stamens 10, all fertile and united at the base, ascending, upper ones gradually shorter: filaments and anthers bearded with longish hairs: style wanting: stigma flat, sessile: legume linear, straightish or curved, woody and thick, many-seeded: flowers scattered, small, white.

Mysore. Ghauts and hills of the Concans. Monghyr. Flowering in May and June.

(5) B. VARIEGATA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 296.—Dec. prod. II. p. 514.—Roxb. fl. Ind. II. p. 319.

*Syn.* B. candida, *Roxb. fl. Ind.* II. *p.* 318.

*Engrav.* Rheede Mal. I. t. 32.

SPEC. CHAR. Tree: leaves roundish, cordate at the base, young ones softly villous beneath: leaflets oval, obtuse, united far above the middle, nearly parallel, 5-nerved: racemes axillary and terminal: calyx spathaceous, ovate, 5-toothed at the apex: petals oblong, nearly sessile, the upper somewhat larger and on a longer claw than the others: fertile stamens 5, with occasionally the rudiments of other abortive filaments, all shortly united at the base: legume straight, linear, acuminated, compressed, 5–12-seeded.

Serampore. Peninsula. Assam. There are two varieties; one has 4 petals light-purple, the fifth deep-purple tinged with cream and red; the other has 4 petals white; the fifth somewhat sulphur within. The flowers appear from February to April.

(6) B. PURPUREA. *(Linn.)*

*Ident.* W. &. A. prod. I. p. 296.—Roxb. fl. Ind. II. p. 320.

*Syn.* B. Coromandeliana, *Dec. prod.* II. *p.* 515.—B. triandra, *Roxb.*

*Engrav.* Rheede Mal. I. t. 33.

SPEC. CHAR. Tree: leaves roundish, cordate at the base, coriaceous, glabrous: leaflets oval, obtuse, parallel, united to the middle, the free parts sometimes overlapping, 4–5-nerved: racemes terminal, panicled: calyx usually cleft to the base of the limb into two reflexed segments, the one emarginate, the other 3-toothed, sometimes all cohering at the apex and spathaceous: petals oblong-lanceolate, attenuated at the base; fertile stamens 3, sometimes 4, long, ascending: legume long, linear, 6–12-seeded: flowers very large, deep rose-colour.

Coromandel mountains. Assam. Oude. Flowering in the cold season.

(7) B. SCANDENS. *(Linn.)*

*Ident.* Roxb. fl. Ind. II. p. 326.

*Syn.* B. lingua, *Dec. prod.* II. *p.* 516.

*Engrav.* Wight's Icon. t. 264.—Rheede Mal. VIII. t. 29.—Rumph. Amb. V. t. 1.

SPEC. CHAR. Large scandent shrub: branchlets very long: tendrils usually opposite: leaves long-petioled, round-cordate, 2-lobed at the apex, occasionally entire: petals nearly equal, orbicular, densely clothed with soft rusty-coloured tomentum: racemes terminal, usually simple, covered with brown silky pubescence: legume linear-oblong, somewhat villous: seeds about 2, nearly orbicular: flowers alternate, solitary, long-pedicelled, whitish, afterwards becoming yellow.

Concans. Assam. Flowering in March and April.

(8) B. PIPERIFOLIA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 327.

SPEC. CHAR. Large scandent shrub, smooth: leaves entire, cordate, 5–7-nerved, shining: panicles terminal: legumes from round to oval, 1–2-seeded.

Assam forests, flowering in the cold season.

(9) B. VAHLII. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 297.

*Syn.* B. racemosa, *Vahl. Dec. prod.* II. *p.* 515.—*Roxb. fl. Ind.* II. *p.* 325.

*Engrav.* Vahl. Symb. III. t. 62.

Spec. Char. Climbing to an immense extent: young shoots peduncles petioles and tendrils rusty-tomentose: leaves roundish, deeply cordate at the base, tomentose beneath: leaflets oval, united to a little above the middle, 4–6-nerved: tendrils opposite, below the leaves: racemes terminal: pedicels long, and with the calyx densely villous: calyx splitting to the base of the limb into 2 reflexed segments: petals cuneate-obovate, densely clothed on the back with long silky hairs, three upper ones slightly larger than the rest: fertile stamens 3, long, ascending, villous at the base, with 2–7 short sterile filaments: style slightly flexuose: legume pendulous, long, linear, compressed, woody, villous, 8–12 seeded: flowers largish, white, gradually becoming cream-coloured.

Circars. Ravines at Khandalla. Morung mountains. Northern India. The branches are very extensive, from 1 to 300 feet long, climbing over the highest trees. The leaves are a foot or a foot and a half in diameter. They are tough and durable and in the Northern Circars are sold in the bazaars for plates, lining baskets, thatching houses, &c. The flowers appear in March and April. (Roxb.)

(10) B. anguina. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 298.—Roxb. fl. Ind. II. p. 328.—Dec. prod. II. p. 516.

*Engrav.* Roxb. Cor. III. t. 285.—Rheede Mal. VIII. t. 30, 31.

Spec. Char. Climbing: leaves cordate, glabrous: leaflets 3-nerved, half-ovate, acuminated, united on the young plants to the middle, on the older ones to the apex: tendrils simple or bifid: racemes long, simple, many-flowered, forming a terminal panicle; calyx cup-shaped, obtusely 5-lobed: petals obovate: stamens 3, all fertile: legume oblong, glabrous, 1–2-seeded: flowers very small, white.

Malabar. South Concans. Assam. Flowering in the rainy season.

(11) B. retusa. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 322.—Dec. prod. II. p. 515.

Spec. Char. Tree: leaves cordate at the base, emarginate or retuse at the apex, coriaceous, glabrous: leaflets almost connected to the top, 5-nerved, broadly semi-ovate: panicle lax, terminal: petals ovate, unguiculate: anther-bearing stamens 3, the rest sterile: flowers small, pale-yellow, purple-dotted.

Bengal, flowering nearly all the year.

## GENUS LXXXVIII. ACROCARPUS.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Akron*, a summit, and *Carpos*, fruit, in allusion to the position of the pods.

Gen. Char. Calyx campanulate, 5-cleft: segments erect, the upper and lower one a little larger: petals 5, oblong, somewhat coriaceous, nearly equal, sessile, long, inserted on the mouth of the calyx and a little longer than its lobes: æstivation sub-imbricate: stamens alternate with the petals: filaments broad at the base, 2–3 times longer than the petals, straight: ovary long, stalked, free from the calyx, oblong-linear, falcate, with the short incurved acute style, many-ovuled: legume unknown.

(1) A. fraxinifolius. (*Arn.*)

*Ident.* Wight's Ill. I. p. 198.

*Engrav.* Wight's Icon. t. 254.

Spec. Char. Large tree: leaves alternate, unequally pinnate, deciduous; leaflets 3–4 pair, lanceolate, acuminated, somewhat unequal at the base, paler beneath: racemes spike-like, 6–8-inches in length, thickly covered with flowers: pedicels recurved: flowers largish, scarlet.

Forests of Courtallum, flowering in February, when almost destitute of leaves.

## GENUS LXXXIX. NICOLSONIA.

**Diadelphia Decandria.** *Sex: Syst:*

*Deriv.* Called after Mons. Nicolson, author of an Essay on the Natural History of St. Domingo.

Gen. Char. Calyx 5-parted: segments lanceolate: corolla papilionaceous, shorter than the calyx: leaves pinnately trifoliate: racemes terminal: legumes straight, composed of numerous half-orbicular 1-seeded joints.

(1) N. congesta. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1056.

Spec. Char. Suffruticose, very diffuse, procumbent: all the young parts except the upper surface of the leaves pubescent or hairy: leaves 3 or by abortion 1-foliolate; leaflets elliptic or sub-orbicular: calyx-segments subulate, hairy: legume 1-seeded: flowers congested on the extremities of the branches, bluish-purple.

Common on the banks of the Pycarrah River, Neilgherries. Ootacamund, rare.

## GENUS XC. MACRONYX.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Macros*, long, and *Onyx*, a claw, in allusion to the long claws of the petals.

Gen. Char. Calyx tubular, 2-lipped, upper lip 2-toothed, lower one 3-toothed: corolla papilionaceous: petals long-clawed, somewhat equal in length: vexillum roundish, reflexed when in flower: wings free, straight, oblong, obtuse: keels obtuse: petals lightly cohering above, slightly shorter than the wings: stamens alternately shorter: vexillary filament free: anthers roundish: ovary many-ovuled: style short, incurved: stigma capitate: legume compressed, linear, strigose, with thickened margins and valves cohering between the seeds, 7–8-seeded.

(1) M. strigosus. *(Dalz.)*

*Ident.* Hook. Jour. Bot. II. p. 35.

Spec. Char. Annual, diffuse: stems ascending, filiform, strigose: leaves simple, linear or narrow-elliptic, mucronate, 3-nerved, two nerves marginal, the middle one penninerved: stipules small, subulate, equal to the small 2-stipuled petiole: peduncles axillary, solitary or twin, shorter than the leaf, 1-flowered: calyx strigose: teeth subulate from a broad base, lower one somewhat longer: claws of the petals filiform, equalling the calyx-tube: vexillum strigose at the back, ciliated at the margin: flowers bluish.

Western India, common in rocky places, flowering in August.

## ORDER LVII. DRUPACEÆ.

Trees or shrubs: leaves simple, alternate, usually glandular towards the base: stipules simple: calyx 5-toothed, deciduous, lined with a disk: petals 5, perigynous: stamens 20 or more, arising from the throat of the calyx, curved inwards in æstivation: anthers innate, 2-celled, bursting longitudinally: ovary superior, solitary, simple, 1-celled: ovules 2, suspended: styles terminal, furrowed on one side and ending in a kidney-shaped stigma: fruit a drupe, with usually a solitary seed: embryo straight: albumen none.

### GENUS I. PYGEUM.

**Icosandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Pyge*, a Greek term, which has allusion to the shape of the fruit.

Gen. Char. Trees with alternate oblong entire leaves, often with two glands at the base: racemes axillary and lateral, solitary or several, often tomentose: tube of the calyx cup-shaped: limb 6-cleft: petals 6, inserted on the throat of the calyx: stamens 12–

13, inserted with the petals: filament filiform: stigma dilated: drupe dry, transversely oblong, somewhat kidney-shaped, contracted in the middle.

P. Zeylanicum. (*Gaertn.*)

*Ident.* Dalz. Bomb. flor. p. 89.

*Syn.* P. acuminatum, *Colebr. in Linn. Trans.* XII. *p.* 360.

*Engrav.* Gaertn. fr. I. p. 218. t. 46.—Wight's Spicil. 1. t. 66. —Icon. t. 993.

Spec. Char. Large tree: leaves ovate-oblong, acuminate, entire, glabrous: racemes long, slender, axillary: calyx-tube slightly hairy: flowers yellowish-white: fruit small, smooth, obtusely and slightly 2-lobed.

Neilgherries. Hill Fort Munohur and Parwar Ghaut. Common at Mahableshwur. Flowering in July.

## ORDER LVIII. ROSACEÆ.

Herbaceous plants or shrubs: leaves simple or compound, alternate, stipulate: calyx 4–5 lobed: petals 5, perigynous, equal to the lobes of the calyx or wanting: stamens definite or indefinite, arising from the calyx, curved inwards in æstivation: anthers innate, 2-celled, bursting longitudinally: ovaries superior, solitary or several, 1-celled: ovules 2 or more, suspended, rarely erect: styles lateral: stigmas usually simple and emarginate on one side: fruit either 1-seeded nuts or achenia, or many-seeded follicles: embryo straight: albumen none.

### GENUS I. RUBUS.

**Icosandria Polygynia.** *Sex Syst:*

*Deriv.* From the Celtic word *Rub*, red, in allusion to the colour of the fruit of some of the species.

Gen. Char. Shrubs, or rarely perennial herbaceous plants: stems often rooting, unarmed or prickly: leaves pinnate or palmate, sometimes simple: calyx 5-cleft, without bracteoles: petals 5: stamens inserted on the calyx along with the petals: achenia numerous, collected into a head on a protuberant spongy disk, afterwards becoming juicy and resembling small drupes: styles slightly lateral near the summit of the achenia: seed inverted: fruit eatable.

(1) R. Wallichianus. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 298.

*Syn.* R. hirtus, *Roxb. fl. Ind.* II. *p.* 518.

*Engrav.* Wight's Icon. t. 231.

Spec. Char. Stems peduncles and petioles armed with recurved prickles and thickly beset with brown hairs: leaves pinnately trifoliolate: leaflets nearly orbicular, dentato-serrate, green on both sides, slightly villous beneath: midrib prickly beneath: stipules subulate: segments of the calyx oblong-lanceolate, tomentose: petals oblong, the length of the calyx: panicles large, compound, somewhat corymbose, axillary and terminal.

Mountains of the Peninsula. Flowering in the cold season.

(2) R. Gowreephul. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 298.—Roxb. fl. Ind. II. p. 517.

*Engrav.* Wight's Icon. t. 230.

Spec. Char. Stems armed with recurved prickles and thickly clothed with brown hairs: leaves pinnately trifoliolate; leaflets from elliptical to nearly orbicular, dentato serrate, white and tomentose beneath, with recurved prickles on the midrib and some of the nerves: calyx-segments oblong, white and tomentose on both sides: petals cuneate-obovate, twice as long as the calyx: panicles small, axillary and terminal, corymbose: flowers small, white.

Neilgherries. Khasia mountains. Assam. Flowering in February and March.

(3) R. lasiocarpus. *(Sm.)*

*Ident.* W. & A. prod. I. p. 299.—Sm. in Rees' Cycl.—Dec. prod. II. p. 558.

*Syn.* R. albescens, *Roxb. fl. Ind.* II. *p.* 519.—R. racemosa, *Roxb. l. c.*—R Mysorensis, *Heyne in Roth. Nov. Sp. p.* 235.—*Dec. prod.* II. *p.* 557.—R. parvifolius, *Moon. Cycl. Pl. p.* 40.

*Engrav.* Wight's Icon. t. 232.

Spec. Char. Stems long, rooting at the extremities, glabrous, glaucous, armed with curved prickles: branches and petioles tomentose and prickly: leaves pinnated: leaflets 3–7, somewhat plicate, from ovate to lanceolate, terminal one roundish and often 3-lobed, white and tomentose beneath, irregularly toothed and serrated: calyx-segments oblong, tomentose: petals roundish, shorter than the calyx: carpels tomentose: panicles racemose, chiefly terminal: flowers small, red.

Neilgherries. Dindigul hills. Mysore. Deyradhoon. Western Ghauts. Flowering in the cold season. This is known as the country raspberry.

(4) R. RUGOSUS. *(Sm.)*

*Ident.* W. & A. prod. I. p. 299.—Sm. in Rees' Cycl.—Dec. prod. II. p. 567.

*Syn.* R. Alceæfolius, *Poir. Dec. l. c.*—R. reflexus, *Ker. Dec. l. c. p.* 566.—R. Moluccanus, *Roxb. fl. Ind.* II. p. 518.—R. Hamiltonianus, *Ser. in Dec. l. c.*

*Engrav.* Wight's Icon. t. 225.—Ker. Bot. Reg. t. 461.

SPEC. CHAR. Shrub, armed with straight or recurved prickles: branches calyx and under side of the leaves villous with tawny tomentum; leaves simple, cordate, 3–5-lobed, reticulated and pitted underneath, scabrous and pustuled above: stipules and bracts villous, divided in several segments: calyx-segments oblong-lanceolate, equal to the corolla: racemes few-flowered, axillary and terminal: flowers small, white.

Neilgherries. Mahableshwur and along the higher Ghauts. Khasia mountains. Flowering in the cold season.

(5) R. HEXAGYNUS. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 299.—Roxb. fl. Ind. II. p. 516.

*Syn.* R. Indicus, *Lesch. in Dec. prod.* II. *p.* 568.

SPEC. CHAR. Shrub, armed with short curved prickles: branches tomentose: leaves oblong, more or less cordate at the base, serrated, villous on the nerves: petioles and midrib beneath prickly: stipules and bracts divided into filiform segments: calyx-segments entire, lanceolate-subulate: petals linear, shorter than the calyx: styles 6: drupes 3–4 obliquely-ovate: panicle long, terminal: flowers numerous, small, white.

Peninsula. Khasia mountains. Flowering in the cold season.

## GENUS II. FRAGARIA.

**Icosandria Polygynia.** *Sex: Syst.*

*Deriv.* From *Fragrans*, fragrant, in allusion to the grateful perfume of the fruit.

GEN. CHAR. Herbaceous plants throwing out runners: leaves trifoliolate; leaflets coarsely toothed: receptacles roundish, succulent: calyx concave at the bottom, 5-cleft, with 5 bracteoles: petals 5: achenia without juice, scattered on a fleshy and succulent receptacle, which at length separates from the conical central column.

(1) F. INDICA. *(Andr.)*

*Ident.* W. & A. prod. I. p. 300.—Dec. prod. II. p. 571.

*Syn.* F. Malayana, *Roxb. fl. Ind.* II. *p.* 520.—Duchesnea fragariodes, *Sm.*—D. fragiformis, *Don.*—Potentilla Wallichiana, *Ser. in Dec. prod.* II. *p.* 574.

*Engrav.* Andr. Bot. Rep. t. 475.—Wight's Icon. t. 989.—Spicil. I. t. 62.

Spec. Char. Leaflets obovate: bracteoles spreading, wedge-shaped, much larger and broader than the segments of the calyx, deeply 3–5-toothed at the apex: peduncles axillary, solitary, 1-flowered: flowers small, yellow.

Neilgherries. Deyradhoon. Flowering all the year. The receptacles are insipid and not eatable.

(2) F. Roxburghii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 300. annot.

*Syn.* F. Indica, *Roxb. fl. Ind.* II. *p.* 520.

Spec. Char. Roots tuberous: leaves 3–5-foliolate; leaflets serrate, hairy: segments of the calyx dentate-serrate, with the inner 5 incurved over the fruit: peduncles solitary, 1-flowered: flowers yellow.

Banks of the Brahmapootra river. Khasia mountains. Assam. Flowering in the cold season. The fruit is perfectly insipid.

## GENUS III. POTENTILLA.

**Icosandria Polygynia.** *Sex. Syst:*

*Deriv.* From *Potens*, powerful, alluding to the supposed medical qualities of some of the species.

Gen. Char. Herbaceous or suffrutescent plants: leaves compound: stipules adnate to the petiole: calyx concave at the bottom, 4–5-cleft, with 4–5 bracteoles: petals 4–5: achenia numerous, collected into a head on a flat dry receptacle: style lateral: seeds suspended.

(1) P. kleineana. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 300.

*Engrav.* Wight's Ill. I. t. 85.

Spec. Char. Stems declinate and with the petioles and peduncles hirsute: leaves palmately 5-foliolate; leaflets cuneate-oblong, rounded at the apex, crenate-toothed, the nerves beneath clothed with silky hairs: stipules lanceolate, entire; calycine-segments oblong, obtuse: achenia wrinkled: racemes corymbose: flowers pedicelled, yellow.

Neilgherries.

(2) P. supina. *(Linn.)*

*Ident.* W. & A. prod. I. p. 300.—Dec. prod. II. p. 580.

*Syn.* P. Heynei, *Roth. Dec. l. c.*

Spec. Char. Stem herbaceous, decumbent, dichotomous, slightly villous: leaves pinnated; leaflets oblong, slightly hairy, more or less incise-toothed: stipules lanceolate, entire: pedicels axillary, solitary: calycine-segments and bracteoles lanceolate: petals not so long as the calyx; carpels wrinkled: flowers yellow.

Neilgherries.

(3) P. Leschenaultiana. (*Ser.*)

*Ident.* W. & A. prod. I. p. 301.—Dec. prod. II. p. 584.

*Engrav.* Wight's Icon. t. 990.—Spicil. I. t. 63.

Spec. Char. All parts covered with long silky hairs: stems decumbent at the base; radical and lower leaves pinnated, on longish petioles; leaflets 5, cuneate-obovate, obtuse, incise-toothed, the lower pair smaller than the others: upper stem-leaves palmately 3–5-foliolate: leaflets about equal and similar to the larger leaflets of the radical leaves: stipules large, ovate-lanceolate, lower ones often entire, upper toothed or deeply cut: calycine-segments and bracteoles about equal, oblong-lanceolate: petals slightly obcordate, about equal to the calyx: receptacle villous: carpels slightly wrinkled: flowers in terminal forked panicles or corymbose, yellow.

Neilgherries.

## GENUS IV. ROSA.

**Icosandria Polygynia.** *Sex. Syst.*

*Deriv.* From the Celtic word *Rhos*, red, in allusion to the colour of the flowers of most of the species.

Gen. Char. Erect scrambling or climbing shrubs, more or less prickly: leaves pinnate, alternate, with leafy stipules adhering to the petiole: calyx 5-cleft; segments often divided; tube contracted at the mouth: petals 5: stamens indefinite; anthers 2-celled: carpels several, 1-seeded, hairy, inclosed within the tube of the calyx, which becomes succulent when ripe.

(1) R. Leschenaultiana. (*Red. & Thor.*)

*Ident.* W. & A. prod. I. p. 301.

*Syn.* R. sempervirens, *Dec. prod.* II. *p.* 598.

*Engrav.* Wight's Icon. t. 38.

Spec. Char. Suckers very long, glabrous, glaucous, prickly: prickles hooked: petioles prickly: peduncles and calyx-tube covered with glandular bristles; leaflets 5–7, green and glabrous on both sides, ovate-lanceolate, simply or sometimes doubly serrated: midrib glandular beneath: calyx-segments densely pubescent on both sides, at length reflexed: petals broadly obcordate: styles combined upwards into a thickish tomentose exserted column; fruit ovate: flowers nearly solitary.

Neilgherries.

(2) R. INVOLUCRATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 513.—Dec. prod. II. p. 602.

*Engrav.* Wight's Icon. t. 234.—Bot. Reg. VI. t. 739.

SPEC. CHAR. Somewhat scandent: stem and branches armed with strong straight stipulary prickles: leaves pinnate; petiole villous, slightly armed, stem-clasping: leaflets 5–11, oblong, serrate, villous beneath: petals obcordate: calyx villous; segments entire; flowers terminal, several together, large, pure white, fragrant.

Kemaon. Silhet. Soonderbunds. Flowering in February.

## GENUS V. PHOTINIA.

**Icosandria Digynia.** *Sex. Syst:*

*Deriv.* From *Photeinos*, shining, in reference to the leaves.

GEN. CHAR. Trees: leaves simple, coriaceous, evergreen: panicles corymbose, terminal: calyx 5-toothed: petals reflexed: ovary half-adherent, villous, 2-celled, 4-ovuled: styles 2: pericarp bilocular, inclosed within the fleshy calyx: testa of the seeds cartilaginous.

(1) P. LINDLEYANA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 302.

*Engrav.* Wight's Icon. t. 228.

SPEC. CHAR. Leaves elliptical or oblong-lanceolate, acute, serrulate: panicles small, compound; pedicels equal to the calyx: fruit glabrous, often 1-seeded from abortion; flowers whitish.

Neilgherries. Flowering in March and April.

(2) P. NOTONIANA. (*Wall.*)

*Ident.* W. & A. prod. I. p. 302.

*Engrav.* Wight's Icon. t. 991.—Spicil. t. 64.

SPEC. CHAR. Leaves cuneate-lanceolate or oblong, acute, quite entire or with a few scattered teeth: panicles large, compound: pedicels much shorter than the calyx: fruit glabrous, 2-seeded; flowers whitish rose-coloured.

Neilgherries, flowering in March and April.

## GENUS VI. COTONEASTER.

**Icosandria Digynia.** *Sex. Syst:*

*Deriv.* From *Cotoneum*, a quince tree, in reference to the downy leaves of this genus being similar to the quince tree.

GEN. CHAR. Shrubs with simple entire leaves, woolly beneath: corymbs lateral, furnished with deciduous subulate bracts: flowers

often polygamous: calyx turbinate, obtusely 5-toothed: petals erect: stamens about the length of the teeth of the calyx: styles shorter than the stamens: carpels 2–3, partially enclosed in the calyx, 2-ovuled.

(1) C. BUXIFOLIA. (*Wall.*)

*Ident.* Wight's Spicil. I. p. 53.

*Engrav.* Wight's Spicil. t. 65.

SPEC. CHAR. An erect ramous shrub: leaves small, oval or subobovate, pointed, glabrous above, clothed beneath with soft white hair: peduncles and calyx tomentose: petals round, withering: flowers small, white, 3–4 together: fruit about the size of a pea, succulent: seeds 4.

Neilgherries. Flowering from March to September.

## ORDER LIX. LYTHRACEÆ.

Herbs shrubs or trees: branches usually quadrangular: leaves opposite or alternate, entire, without stipules or glands: flowers bisexual: calyx tubular or campanulate, lobed: æstivation valvate: petals alternate with the lobes of the calyx, very deciduous, sometimes wanting: stamens inserted a little below the petals, equal in number to them or 2–4 times as many: anthers introrse, 2-celled, bursting longitudinally: ovary superior, 2–4-celled: ovules numerous: style usually filiform: stigma usually capitate: capsule membranous, surrounded by the calyx, usually 1-celled by abortion, bursting longitudinally or irregularly: seeds numerous: embryo straight: albumen none.

### GENUS I. ROTALA.

**Triandria Monogynia.** *Sex Syst.*

*Deriv.* The Latin for a little wheel, in allusion to the whorled leaves.

GEN. CHAR. Calyx tubular, 3–5-lobed: lobes ovate, acute: petals obovate, minute, as long as and as numerous as the calycine lobes: stamens as many as the petals, inserted on the middle of the calyx-tube: ovary 3-celled: style very short: stigma capitate: capsule 1-celled, 3-valved, many-seeded: seeds compressed, shining, smooth.

(1) R. VERTICILLARIS. (*Linn.*)

*Ident.* W. & A. prod. I. p. 303.—Dec. prod. III. p. 76.

*Engrav.* Rheede Mal. IX. t. 81.—Wight's Icon. t. 260.

SPEC. CHAR. Herbaceous: leaves sessile, 4–8-verticelled, linear; acute: flowers sessile, axillary, solitary: seeds very numerous.

Peninsula. Common in ditches and tanks everywhere.

(2) R. ROXBURGHIANA. (*Wight.*)

*Ident.* Wight's Ill. I. p. 206.

*Syn.* Ammannia pentandra, *Roxb. fl. Ind.* I. *p.* 427.—*Dec. prod.* III. *p.* 79.—*W. & A. prod.* I. *p.* 305.

*Engrav.* Wight's Icon. t. 260.

SPEC. CHAR. Herbaceous: leaves from linear-lanceolate to linear-oblong: petals 5, twice the length of the calycine segments; obovate, entire or emarginate or 3-toothed: stamens 5, the length of the calyx: capsule 3-valved: flowers small, red, with 2 subulate bracts as long as the calyx.

Peninsula. Flowering in the rainy season.

## GENUS II. AMELETIA.

**Tetrandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Ameletos*, neglected. The present genus was formerly that of Peplis, and is so called from its characters having been overlooked.

GEN. CHAR. Calyx 4-cleft: lobes ovate, very acute, converging, each sinus with a small tooth-like process: petals none: ovary ovate, 2-celled: style filiform: stigma capitate: capsule ovate, 2-celled, 2-valved, many-seeded.

(1) A. INDICA. (*Dec.*)

*Ident.* W. & A. prod. I. p. 303.—Dec. prod. III. p. 76.

*Syn.* Peplis Indica, *Willd.*—Ammannia Indica, *Spr.*—A. repens, *Rottl. Dec. prod. l. c. p.* 80.—A. nana, *Roxb. fl. Ind.* I. *p.* 427.

*Engrav.* Wight's Icon. t. 257.

SPEC. CHAR. Herbaceous, creeping: leaves opposite, obovate, nearly sessile: floriferous branches axillary, forming small bracteated spikes which are at length lax and 2–3 times the length of the leaves: flowers bibracteolate, sessile, solitary in the axils of the elongated bracts.

Peninsula, flowering in the rainy season.

(2) A. ROTUNDIFOLIA. (*R. W.*)

*Ident.* Wight's Ill. I. p. 206.

*Syn.* Ammannia rotundifolia, *Buch. Roxb. fl. Ind.* I. *p.* 425. —*Dec. prod.* III. *p.* 79.—*W. & A. prod.* I. *p.* 306.

*Engrav.* Wight's Icon. t. 258.

SPEC. CHAR. Herbaceous: stems diffuse, procumbent: branches erect: leaves orbicular, opposite, sessile: spikes congested near the extremities of the branches: flowers solitary, in the axils of the sessile bracts, red: bracts sub-orbicular or broad-ovate, pointed: bracteoles very minute: stamens much longer than the calyx: capsule 4-valved.

Neilgherries. Khasia mountains. Flowering in the rainy season.

(3) A. TENUIS. (*R. W.*)

*Ident.* Wight's Icon. vol. I. No. 13.

*Engrav.* Wight's Icon. t. 257.

SPEC. CHAR. Stems somewhat procumbent at the base, afterwards erect, slender: leaves opposite, orbicular: spikes terminal: flowers solitary, long-pedicelled, springing from the axil of a linear bract: bracteoles large: stamens included: style projecting: capsule ovate, 2-valved.

Peninsula. Banks of the Penn river.

(4) A. FLORIBUNDA. (*R. W.*)

*Ident.* Dalz. Bomb. flor. p. 96.—Hook. Ic. pl. IX. p. 826.

*Syn.* Nimmonia floribunda, *Wight.*

*Engrav.* Madr. Jour. VI. t. 20.

SPEC. CHAR. Annual, erect, quite smooth: leaves alternate, linear, upper ones cordate, stem-clasping: peduncles very slender, on terminal branches: racemes spiked, bracteated: bracteoles almost as long as the calyx: stamens exserted: flowers pink, monoicous.

On bare rocky ground on the highest Ghauts. Sivapore.

## GENUS III. AMMANNIA.

**Tetrandria Monogynia.** *Sex. Syst.*

*Deriv.* Named after John Ammann, formerly Professor of Botany at St. Petersburgh.

GEN. CHAR. Herbaceous plants growing in wet soil or water: stems quadrangular: leaves opposite, quite entire: flowers axillary, sessile or shortly peduncled: calyx with bracts at the base, 4–7-lobed: lobes flat or incurved, the sinus usually expanding into

spreading accessory teeth or horns: petals 4–5 or wanting: stamens as many or twice as many as the calycine lobes: ovary 2–4-celled: style shortish or elongated: stigma capitate: capsule ovate-globose, membranaceous, either bursting transversely or opening by valves: seeds numerous.

(1) A. VESICATORIA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 305.—Roxb. fl. Ind. I. p. 426.—Dec. prod. III. p. 78.

*Syn.* A. baccifera, *Linn.*

SPEC. CHAR. Annual: calyx 4-cleft to the middle: lobes triangular, acute: tube at first narrow and tightened round the ovary, cup-shaped in fruit: stem much branched: leaves lanceolate, attenuated towards the base: petals wanting: style short: flowers very minute, aggregated in the axils of the leaves, almost sessile, red.

Peninsula. Saharunpore. Flowering in the rainy season. The leaves are exceedingly acrid and are used for raising blisters. The A. Indica, *Lam.* appears to be a mere variety of the above.

(2) A. MULTIFLORA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 305.—Roxb. fl. Ind. I. p. 426.—Dec. prod. III. p. 79.

*Syn.* A. parviflora, *Dec. l. c. p. 77.—W. & A. prod.* I. *p.* 306.

SPEC. CHAR. Annual: calyx 4-cleft to the middle: tube afterwards becoming cup-shaped: petals 4, roundish: stamens scarcely exceeding the calycine-segments: style filiform: leaves linear, auricled at the base, sessile: peduncles axillary, 1–7, usually 3-flowered: flowers small, red.

Peninsula. Bengal. Flowering in the rainy season.

(3) A. GLAUCA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 305.

SPEC. CHAR. Calyx 4-cleft to the middle: lobes triangular, acute, with minute accessory teeth: leaves glaucous, linear-oblong, floral ones reflexed: petals wanting: style short: flowers numerous in the axils of the leaves, forming a dense sessile verticil.

Peninsula.

(4) A. VERTICILLATA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 304.—Dec. prod. III. p. 79.

*Syn.* A. Caspica, *Marsch. Bieb.*—A. lanceolata, *Heyne.*—A. salicifolia, *Monte.*

*Engrav.* Lam. Ill. t. 77. f. 3.—Pluk. t. 356. f. 6.

SPEC. CHAR. Calyx shortly 4–5-lobed, half-globose: lobes broadly triangular; accessory horns longer than the lobes: stamens

included: style short: ovary 2-celled: petals 4–5, obovate: leaves lanceolate, attenuated at the base: flowers axillary, almost sessile, 2–3 in the axils of the opposite leaves.

Peninsula. Malwan.

(5) A. CORDATA. *(Wight.)*

*Ident.* W. & A. prod. I. p. 304.

SPEC. CHAR. Leaves oblong, upper ones cordate at the base, sessile: calyx half-globose: lobes broadly triangular, with conspicuous accessory horns: petals 4, obovate: stamens 4–5, included: capsule included: style short: flowers sessile, 2–3 in the axils of the leaves.

Peninsula.

(6) A. DENSIFLORA. *(Roth.)*

*Ident.* W. & A. prod. I. p. 305.—Dec. prod. III. p. 79.—Roth. Nov. Sp. p. 99.

SPEC. CHAR. Stems ascending, branched, creeping at the base: leaves sessile, linear-lanceolate, rather cordate at the base: petals 5, obovate: floral leaves recurved: branches densely beset with white sessile flowers.

Peninsula.

## GENUS IV. PEMPHIS.

**Decandria Monogynia.** *Sex Syst*

*Deriv.* From *Pemphis*, a blister, which the globular form of the capsule represents.

GEN. CHAR. Calyx turbinate, persistent, 12-furrowed, with 6 large erect lobes and 6 smaller lobe-shaped alternating spreading sinuses: petals 6, obovate, inserted into the top of the calyx-tube: stamens inserted on the middle of the calyx, alternately smaller: ovary globose, 3-celled: style short: stigma capitate: capsule included, membranaceous, 6-valved, 3-celled at the base, opening horizontally: seeds numerous, attached to a central 3-toothed placentæ.

(1) P. ACIDULA. *(Forst.)*

*Ident.* W. & A. prod. I. p. 307.—Dec. prod. III. p. 89.

*Syn.* P. angustifolia, *Roxb. fl. Ind.* II. *p.* 465.—Lythrum Pemphis, *Linn.*—Melanium fruticosum, *Spr.*

*Engrav.* Lam. Ill. t. 408. f. 2.—Rumph. Amb. III. t. 84.

SPEC. CHAR. Hoary shrub: leaves opposite, quite entire: pedicels axillary, solitary, with 2 bracts at the base: flowers white.

Peninsula.

## GENUS V. NESÆA.

**Octandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Nesea*, a sea-nymph.

Gen. Char. Herbaceous plants: peduncles with two large bracts and four small ones at the origin of the pedicels: calyx campanulate, without bracts at the base: lobes 4–6, erect, with as many alternating horn-shaped sinuses: petals 4–6: stamens 8–12, somewhat equal: ovary sessile, nearly globose, 4-celled: style long, filiform: stigma capitate; capsule included: seeds numerous, minute.

### (1) N. octandra. *(Wight.)*

*Ident.* Wight's Ill. I. p. 205–6.

*Syn.* Ammannia octandra, *Linn. Dec. prod.* III. *p.* 80.—*Roxb. fl. Ind.* I. *p.* 425.—*W. & A. prod.* I. *p.* 304.

*Engrav.* Roxb. Cor. II. t. 133.

Spec. Char. Annual: leaves linear-lanceolate, sessile, acutely auricled at the base: peduncles axillary, very short, 1–3-flowered: calyx quadrangular, the angles slightly winged and running out into accessory horns: petals 4: stamens 8, as long as the corolla: capsule 4-celled: flowers small, bright-red.

Peninsula. Salsette. Saharunpore. Flowering in September.

## GENUS VI. LAWSONIA.

**Octandria Monogynia.** *Sex: Syst:*

*Deriv.* Named after Dr. Lawson, who published a Voyage to Carolina in 1709.

Gen. Char. Calyx 4-partite, spreading, persistent, without accessory teeth: petals 4, alternate with the lobes of the calyx, obovate, clawed, spreading: stamens in pairs, alternating with the petals: ovary sessile, 4 (sometimes 3)-celled: style long, filiform: stigma capitate: capsule globose, membranaceous, much larger than the calyx, 3–4-celled: seeds numerous, angled.

### (1) L. alba. *(Lam.)*

*Ident.* W. & A. prod. I. p. 307.—Dec. prod. III. p. 90.

*Syn.* L. spinosa, *Linn.*—L. inermis, *Linn. Roxb. fl. Ind.* II. *p.* 258.

*Engrav.* Rheede Mal. I. t. 40.—Rumph. Amb. IV. t. 17.—Wight's Ill. I. t. 94.

Spec. Char. Shrub: leaves opposite, oval-lanceolate, quite entire, glabrous: flowers panicled, pale-greenish, fragrant.

Peninsula. Hindostan. Flowering nearly all the year. This is the Henna plant or Mendie. It is very common in gardens as a hedge-plant, much resembling the English Privet. The fresh leaves beaten up with Catechu are used by the women of India for dyeing the nails and skin of a reddish orange-colour. There is a beautiful variety with red flowers.

## GENUS VII. GRISLEA.

**Octandria Monogynia.** *Sex Syst:*

*Deriv.* Named after Dr. Grisley, a Portuguese surgeon.

Gen. Char. Calyx coloured, tubular, with 4–6 erect teeth and as many smaller horn-shaped sinuses: petals 4 6, inserted on the top of the calyx-tube, linear or oblong, unguiculate. stamens protruded, inserted into the base of the calyx; ovary sessile, 2-celled: style filiform, protruded: stigma 2-cleft: capsule 2-celled, 2-valved, included within the calyx: seeds very numerous.

### (1) G. tomentosa. *(Roxb.)*

*Ident.* W. &. A. prod. I. p. 308.—Roxb. fl. Ind. II. p. 233. —Dec. prod. III. p. 92.

*Syn.* Lythrum fruticosum, *Linn.*

*Engrav.* Roxb. Cor. I. t. 31.—Bot. Reg. I. t. 40.—Bot. Mag. XLIV. t. 1906.

Spec Char. Shrub: branchlets pubescent: leaves opposite, quite entire, lanceolate, somewhat cordate at the base, sessile, hoary underneath: petals usually 6: stamens declinate, usually 12: capsule oblong: peduncles axillary, several-flowered. flowers middle-sized, scarlet, with rose-coloured petals.

Peninsula. Concans and Western Ghauts. Northern India. Flowering from December to March. The flowers are employed to dye red.

## GENUS VIII. LAGERSTRÆMIA.

**Icosandria Monogynia.** *Sex Syst:*

*Deriv.* Named in honor of M. Lagerstroem, of Gottenburgh.

Gen. Char. Trees or shrubs with quadrangular branches: leaves opposite, quite entire: peduncles axillary, panicled or racemose towards the end of the branches: calyx with two bracts at the base, 6-cleft; lobes distinct: sinuses rounded: petals 6, clawed: capsule surrounded below by the persistent calyx, 3–6-valved, 3–6-celled.

(1) L. PARVIFLORA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 308.—Roxb. fl. Ind. II. p. 505.—Dec. prod. III. p. 93.

*Engrav.* Roxb. Cor. I. t. 66.—Wight's Icon. t. 69.

SPEC. CHAR. Tree: leaves from oblong to ovate-acute, pale beneath: peduncles axillary, 3–6-flowered: calyx even: petals flattish, shortly clawed, the six outer stamens longer than the rest: capsule oblong, 3–4-celled: flowers small, white.

Warree country and Western Ghauts. Circars. Courtallum. Neilgherries. Flowering in the hot season. This tree produces a very useful timber called Benteak.

(2) L. REGINÆ. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 308.—Roxb. fl. Ind. II. p. 505.—Dec. prod. III. p. 93.

*Syn.* L. flosregina, *Retz.*—Adambea glabra, *Lam.*

*Engrav.* Wight's Icon. t. 413.—Rheede Mal. IV. t. 20, 21.

SPEC. CHAR. Tree: leaves oblong, glabrous: panicles large, terminal: calyx tomentose, longitudinally furrowed and plaited: petals orbicular, waved, shortly clawed: stamens all about equal: capsule broadly ovoid, 6-celled: flowers rose-coloured, sometimes purplish.

Circars. Courtallum. Malabar. Common throughout the Concans. Flowering from March to July.

(3) L. LANCIOLATA. (*Wall.*)

*Ident.* Dalz. Bomb. flor. p. 98.

SPEC. CHAR. Tree: leaves-oblong, smooth, rather glaucous: capsule resembling an acorn, exceedingly hard: flowers small, white.

Courtallum. Common in the Warree country and Southern Ghauts.

(4) L. GRANDIFLORA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 503.—Dec. prod. III. p. 93.

*Syn.* Duabanga sonneratioides, *Buch.*

SPEC. CHAR. Tree: leaves opposite, oblong, cordate at the base: panicles terminal, drooping: calyx even: stamens all equal: capsule 6-celled: petals 6, with curled margins: flowers large, whitish.

Chittagong. Assam. Flowering in February and March.

## GENUS IX. SONNERATIA.

**Icosandria Monogynia.** *Sex Syst.*

*Deriv.* Named after Mons. Sonnerat, the French Traveller and Naturalist.

Gen. Char. Calyx campanulate, 4–6-cleft, cohering with the ovary at the base: lobes acute: æstivation valvular: petals 4–6, alternating with the lobes of the calyx or wanting: filaments distinct: anthers roundish: style filiform: stigma large, peltate: fruit baccate, attached by its base to the calyx, nearly globose, many-celled: cells separated by thin dissepiments: seeds numerous, curved: covered with fleshy pulp: embryo curved: cotyledons unequal, leafy, convolute.

### (1) S. acida. *(Linn.)*

*Ident.* W. & A. prod. I. p. 327.—Dec. prod. III. p. 231.—Roxb. fl. Ind. II. p. 506.

*Syn.* Rhizophora caseolaris, *Linn.*

*Engrav.* Wight's Icon. t. 340.—Rheede Mal. III. t. 40.—Rumph. Amb. III. t. 74.

Spec. Char. Small tree: branchlets 4-angled: leaves opposite, oval-oblong, quite entire, thickish, 1-nerved, almost veinless, not dotted: petals 6, narrow-lanceolate: flowers usually solitary, large, reddish.

Soonderbunds. Salsette. Backwaters in Travancore. Malabar. Flowering nearly all the year.

## ORDER LX. RHIZOPHORACEÆ.

Trees or shrubs with simple, opposite leaves, and interpetiolar stipules: calyx 4-13-lobed, valvate in æstivation: petals inserted on the calyx, alternate with the lobes, and equal to them in number: stamens inserted with the petals, twice or several times as many: filaments distinct: anthers erect, straight or incurved; ovary 2-celled, adhering to the calyx or 1-celled with a central column: ovules 2 in each cell or several when 1-celled, pendulous: fruit indehiscent: seed solitary: albumen none.

## GENUS I. RHIZOPHORA.

**Icosandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Rhiza*, a root, and *Phoreo*, to bear, in allusion to the strange mode of growth.

Gen. Char. Trees with entire leaves and axillary inflorescence: calyx-tube obovate: segments 4, oblong: petals as many as the segments of the calyx, oblong, emarginate, coriaceous, conduplicate; the margins each with a double row of long woolly hairs: stamens twice as many as the petals: anthers large, linear-oblong: ovary 2-celled, with 2 ovules in each cell: style conical, short, 2-furrowed: stigma 2-toothed: fruit ovate or oblong, crowned near the base with the persistent segments of the calyx, longer than the tube and at length perforated at the apex by the radicle of the germinating embryo.

### (1) R. mucronata. (*Lam.*)

*Ident.* Arn. in Ann. of. Nat. Hist. I. p. 359.

*Syn.* R. mangle, *Linn. Roxb. fl. Ind.* II. *p.* 459.—R. Candelaria, *W. & A. prod.* 1. *p.* 310.

*Engrav.* Wight's Icon. t. 238.

Spec. Char. Small tree: leaves oval, long-cuspidate: segments of the calyx triangular-ovate: peduncles 3–6-flowered: germinating embryo subulate-clavate, acute: flowers largish, white, fragrant.

Common in salt marshes along the coast of Malabar. Soonderbunds. Flowering in the hot season.

### (2) R. conjugata. (*Linn.*)

*Ident.* Linn. Sp. p. 634.—Dec. prod. III. p. 33.

*Syn.* R. Candelaria, *Dec.*

*Engrav.* Rheede Mal. VI. t. 34.—Rumph. Amb. III. t. 71, 72.

Spec. Char. Small tree: leaves ovate oblong, somewhat obtuse, germinating embryo cylindrical-subulate: flowers middle-sized, white, faintly scented.

Malabar. Quilon.

## GENUS II. CERIOPS.

**Decandria Monogynia.** *Sex. Syst.*

Gen. Char. Calyx 5-cleft: petals 5, emarginate, embracing two stamens before expansion: anthers cordate-ovate: ovary half-adherent, 3-celled, with 2 ovules in each cell: stigma simple: fruit somewhat ovate, crowned near the base with the reflexed segments of the calyx.

(1) C. Roxburghianus. (*Arn.*)

*Ident.* Wight's Ill. p. 209.

*Syn.* Bruguiera decandra, *Griff.*

Spec. Char. Shrub: leaves oboval, very obtuse: petals glabrous below, bristly-ciliate towards the apex: flowers small, greenish-white.

Soonderbunds, flowering in the hot season.

(2) C. Candollianus. (*Arn.*)

*Ident.* Wight's Ill. I. p. 209.

*Syn.* Rhizophora Timoriensis, *Dec. prod.* II. *p.* 32.

*Engrav.* Wight's Icon. t. 240.

Spec. Char. Shrub: leaves obovate or oboval, very obtuse: petals glabrous on the margin, with 1–3 bristles on the apex.

Sea-coast near Quilon.

## GENUS III. KANDELIA.

**Icosandria Monogynia.** *Sex. Syst:*

*Deriv.* The Malabar name latinized.

Gen. Char. Shrubs with entire leaves and axillary inflorescence: calyx-tube campanulate: segments 5–6, linear: petals as many as the calyx-segments, linear at the base, cleft to below the middle into numerous capillary segments, glabrous: filaments subulate: anthers small, linear-oblong: ovary 1-celled: ovules 6, pendulous: style filiform: stigma 3-toothed: fruit oblong, longer than the calyx-tube, crowned near the base by its segments, and at length perforated by the germinating embryo.

(1) K. Rheedii. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 311.

*Syn.* Rhizophora Candel, *Linn.*

*Engrav.* Wight's Ill. I. t. 89.—Rheede Mal. VI. t. 35.

Spec. Char. Leaves linear-oblong, obtuse, 2–3-chotomous, 4–9-flowered: germinating embryo subulate-clavate, acute: flowers largish, white and green.

Malabar. Soonderbunds. Travancore.

## GENUS IV. BRUGUIERA.

**Icosandria Monogynia.** *Sex: Syst:*

Gen. Char. Trees or shrubs with entire leaves and axillary inflorescence: calyx-tube turbinate: segments 5–13: petals as many

as the calycine-segments, oblong, 2-cleft, coriaceous, conduplicate, each embracing 2 stamens, woolly on the margins: stamens twice as many as the petals and inserted by pairs opposite to them: filaments unequal, half the length of the petals: anthers linear or sagittate: ovary 2–4-celled, with 2 ovules in each cell: style nearly as long as the stamens: stigma 2–4-toothed: fruit contained within the tube of the calyx, crowned at the apex by its segments and at length perforated by the germinating embryo.

(1) B. Rheedii. *(Blume.)*

*Ident.* Wight's Ill. I. p. 210.

*Syn.* B. gymnorrhiza, *Lam. W. & A. prod.* I. *p.* 311.—Rhizophora gymnorrizha, *Linn. Dec. prod.* III. *p.* 33.—*Roxb. fl. Ind.* II. *p.* 460.

*Engrav.* Lam Ill. t. 397.—Wight's Icon. t. 239.—Rheedo Mal. VI. t. 31, 32.—Rumph. Amb. III. t. 69.

Spec. Char. Tree: leaves ovate-oblong, acuminated at both ends: calyx about 12-cleft; segments linear, acuminated, triquetrous towards the point: petals 2-lobed, with about 5 short bristles: ovary 3–4-celled: germinating embryo somewhat cylindric, tapering towards each end: flowers largish, red: peduncles 1-flowered, solitary, drooping.

Common on the Sea-coast, Malabar. Soonderbunds. Flowering in the hot season.

(2) B. parviflora. *(W. & A.)*

*Ident.* Wight's Ill. I. p. 210.

*Syn.* Rhizophora parviflora, *Roxb. fl. Ind.* II. *p.* 461.—Kanilia parviflora, *Blume.*

Spec. Char. Small shrub; leaves oblong or lanceolate, somewhat obtuse, narrowed at the base: peduncles 3 or many-flowered, in cymes: calyx tube ribbed: segments short-lanceolate, acute, erect in fruit: ovary 3-celled: germinating embryo cylindric, rather obtuse: flowers small, greenish-yellow, somewhat scented.

Mouths of the Ganges. Salsette, and other salt marshes, not common. Flowering in the cold season.

(3) B. eriopetala. *(W. & A.)*

*Ident.* Wight's Ill. I. p. 210.

*Engrav.* Wight's Icon. t. 239.

Spec. Char. Leaves oval-oblong, acuminated at both ends: calyx somewhat 10-cleft: petals from the base to the apex towards the margins densely covered with silvery hairs: segments somewhat obtuse, with one bristle towards the apex, and a longer one in the fork.

Quilon,

(4) B. MALABARICA. *(Arn.)*

*Ident.* Wight's Ill. I. t. 210.

*Syn.* Rhizophora cylindrica, *Linn.*

*Engrav.* Rheede Mal. VI. t. 33.

SPEC. CHAR. Leaves elliptic-oblong, acuminated at both ends: peduncles equalling the petiole, 3-flowered at the apex: calyx-segments somewhat obtuse: ovary 2-celled: germinating embryo cylindric, at length slightly attenuated above the middle, obtuse.

Shores of Malabar.

## GENUS V. CARALLIA.

**Dodecandria Monogynia.** *Sex. Syst.*

*Deriv.* The Telingi name latinized.

GEN. CHAR. Trees: leaves serrated or toothed: peduncles axillary, thick, short, rigid, bifid or trifid, several-flowered: calyx-tube somewhat globose, 5–7-lobed: lobes triangular: petals as many as the lobes of the calyx, clawed: stamens twice as many as the petals: ovary globose, crowned with a glandular ring between the calyx and the style, 1-celled with 1–3 ovules or 5-celled with 2 ovules in each cell: style about the length of the stamens: stigma large, peltate: fruit baccate, 1-celled, kidney-shaped.

(1) C. INTEGERRIMA. (*Dec.*)

*Ident.* Dec. prod. III. p. 33.

*Syn.* C. lucida, *Roxb. W. & A. prod.* I. *p.* 312.—*Roxb. fl. Ind.* II. *p.* 481.—C. Zeylanica, *Arn.*

*Engrav.* Roxb. Cor. III. t. 211.—Wight's Icon. t. 605.

SPEC. CHAR. Tree: leaves oval, acuminated, finely serrated: petals 6–7, roundish, entire, waved on the margin, much larger than the segments of the calyx: stigma concave, 3-lobed: peduncles short, axillary, bifid: flowers small greenish-white.

Malabar. Circars. Chittagong. Silhet. Flowering in the hot season. It is only the younger trees that have the leaves serrated; in old ones they are perfectly entire and vary in shape and size.

## ORDER LXI. COMBRETACEÆ.

Trees or shrubs with alternate or opposite exstipulate leaves: calyx 4–5-lobed: lobes deciduous: petals alternate with the lobes or wanting: stamens twice as many as the lobes, rarely

equal in number to them, or thrice as many: filaments distinct: anthers 2-celled, bursting longitudinally: ovary 1-celled, cohering with the calyx-tube: ovules 2–5, pendulous: style 1, slender: stigma simple: fruit drupaceous, baccate or nut-like, 1-celled, indehiscent, often winged: seed solitary; albumen none.

## GENUS I. TERMINALIA.

**Polygamia Monœcia.** *Sex: Syst:*

*Deriv.* Name given in allusion to the leaves growing in clusters at the ends of the branches.

Gen. Char. Trees or shrubs: leaves alternate or rarely opposite, sometimes crowded towards the extremities of the branches: flowers in racemose or panicled spikes, bisexual in the lower part of the spike, male in the upper: calyx campanulate, 5-cleft: petals wanting: stamens 10, in a double row, longer than the calyx: ovary 2–3-ovuled: style somewhat acute: drupe not crowned by the calyx, 1-seeded: seed like an almond.

### (1) T. Belerica. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 313.—Roxb. fl. Ind. II. p. 431.—Dec. prod. III. p. 12.

*Syn.* T. punctata, *Roth. Dec. prod.* II. *p.* 13.—Myrobalanus bellirica, *Breyn.*

*Engrav.* Roxb. Cor. II. t. 198.—Gaertn. fr. II. t. 97.—Rheede Mal. IV. t. 10.—Wight's Ill. I. t. 91.

Spec. Char. Tree: leaves about the extremities of the branchlets, long-petioled, obovate, obtuse or shortly acuminated, quite entire, glabrous: spikes axillary, solitary, almost the length of the leaves; bisexual flowers sessile, male shortly pedicillate, with a large hairy glandular disk in the bottom of the calyx: drupe obovate, obscurely 5-angled, fleshy, covered with greyish silky down: flowers small, greyish-green, offensively smelling.

Peninsula. Goalparrah. Goruckpore. Flowering in the hot season. The fruit is known as the Beleric Myrobalans. The kernels tasting like filberts are eaten by the natives.

### (2) T. chebula. *(Retz.)*

*Ident.* W. & A. prod. I. p. 313.—Retz. Obs. V p. 31.—Dec. prod. II. p. 12.—Roxb. fl. Ind. II. p. 433.

*Syn.* T. reticulata, *Roth. Dec. prod.* III. *p.* 13.—T. myrobalanus Citrina, *Koen.*—Melanoxylon Cadikamarum, *Koen.*

*Engrav.* Roxb. Cor. II. t. 197.

Spec. Char. Tree: leaves nearly opposite, shortly petioled, ovate or oblong, acutish or obtuse, cordate at the base, when young clothed, particularly above, with glossy silky hairs, adult ones glabrous and sometimes glaucous, with the under surface closely reticulated with purplish veins: glands 1 on each side at the apex of the petiole, with occasionally more on the margin towards the base of the leaf: spikes terminal, often panicled: drupe oval, glabrous: nut irregularly and obscurely 5-furrowed: flowers small, whitish, offensively smelling.

Peninsula. Bengal. Monghyr. Flowering in January and February. The fruit as well as the galls of this species are very astringent and much used by dyers. The unripe fruit according to age is known under the name of black, yellow and chebulic myrobalans.

(3) T. Travancorensis. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 314.

*Syn.* T. angustifolia, *Roxb. fl. Ind.* II. *p.* 437.

Spec. Char. Large tree; tender parts hairy: leaves narrow-lanceolate, acuminated, with glands on the margin near the base and when young clothed with much ferruginous hair: drupe oval.

Tinnevelly and Travancore. The fruit is so much like the chebulic myrobalans as scarcely to be distinguished, and both possess the same sensible qualities.

(4) T. Berryi. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 314.

*Syn.* Pentaptera angustifolia, *Roxb. fl. Ind.* II. *p.* 437.—*Dec. prod.* III. *p.* 15.

Spec. Char. Tree with smooth bark: branches drooping: leaves nearly opposite, from lanceolate to linear-oblong, glabrous, with two glands on the margins of the apex of the petiole at its junction with the leaf: spikes terminal, somewhat panicled.

Peninsula. Balaghaut mountains. Banks of the Kalinadi and Gutpurba rivers. Flowering in April and May.

(5) T. glabra. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 314.

*Syn.* T. crenulata, *W. & A. l. c.*—*Roth. Nov. Sp. p.* 380.—Pentaptera crenulata, *Roxb. fl. Ind.* II. *p.* 438.—P. glabra, *Roxb. fl. Ind.* II. *p.* 440.—P. obovata, *Dec. prod.* III. *p.* 14.—P. crenulata, *Dec. l. c. p.* 15.—T. tomentosa, *W. & A. l. c.*—T. elliptica, *Willd.*—T. alata, *Roth.*—P. tomentosa, *Roxb. Dec. prod.* III. *p.* 14.

*Engrav.* Wight's Icon. t. 195.

Spec. Char. Tree: leaves linear-oblong, obtuse, somewhat cordate at the base, crenulate, with terminate glands on the midrib drupes ovoid, coriaceous, winged: flowers small, greenish-white.

Common in most parts of India, flowering in the hot season.

(6) T. coriacea. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 315.

*Syn.* Pentaptera coriacea, *Roxb. fl. Ind.* II. *p.* 438.—*Dec prod.* III. *p.* 15.

Spec. Char. Tree with deeply cracked bark: leaves nearly opposite, short-petioled, coriaceous, oval, cordate at the base, hare above, hoary and soft beneath, with 1–2 glands at or near the base of the midrib: spikes panicled: nut hoary; flowers small, dull yellow.

Mountains of Coromandel. Flowering in the hot season.

(7) T. paniculata. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 315.

*Syn.* Pentaptera paniculata, *Roxb. fl. Ind.* II. *p.* 442.—*Dec. prod.* III. *p.* 14.

Spec. Char. Tree with diverging branches: leaves nearly opposite, linear-oblong, cordate at the base, acute or obtuse at the apex, coriaceous, rugose above, with umbilicate glands beneath near the base: spikes forming a compound panicle: drupe with one large and two small wings.

Courtallum. Malabar. Valleys of the Concan rivers. Flowering in November and December.

(8) T. arjuna. *(W. & A.)*

*Ident.* Roxb. fl. Ind. II. p. 438.

*Syn.* Pentaptera arjuna, *Roxb. Dec. prod.* III. *p.* 14.

Spec. Char. Tree with a smooth bark and horizontal branches: leaves somewhat opposite, cordate at the base, smooth, with 2 sessile glands underneath: flowers small, greenish-white.

Bengal. Forests near Belgaum. Rare in the Deccan. Flowering in April and May. The bark is in great repute as a tonic and vulnerary.

(9) T. bialata. *(Wall.)*

*Ident.* Roxb. fl. Ind. II. p. 441.—Pentaptera bialata, Roxb. Dec. prod. III. p. 15.

Spec. Char. Tree: branches horizontal: leaves alternate, long-petioled, cuneate-oblong, acute, with waved margins, smooth; upper side of the petioles flattened towards the apex: spikes axillary,

solitary, drooping: drupe oblong, villous, with two broad membranaceous wings: flowers small, greenish-yellow.

Mountainous parts of India, flowering in the hot season.

(10) T. MOLUCCANA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 432.

SPEC. CHAR. Tree with smooth bark: leaves alternate, short-petioled, obtuse, oblong, smooth on both sides, coloured and villous when young, without glands: spikes axillary, solitary, shorter than the leaves; drupe roundish-obovate, somewhat villous, size of a large nutmeg; nut slightly 5-grooved; flowers of a dull yellowish-brown colour and rather offensive smell.

Silhet and Assam mountains. Flowering in the hot season.

(11) T. CITRINA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 435.—Dec. prod. III. p. 12.

*Syn.* Myrobalanus citrina, *Gaertn.*

*Engrav.* Gaertn. fr. II. t. 97.

SPEC. CHAR. Large tree: leaves somewhat opposite, oblong, tapering towards the base, smooth, acute, with two small glands on the apex of the petiole: panicles terminal and axillary, composed of several simple erect spikes: drupe oblong-lanceolate, 5-cornered, smooth, of a dull orange-yellow: nut oblong, deeply 5-grooved: flowers all hermaphrodite, dull-yellow.

Assam. Khasia mountains. Flowering in April and May. The wood is very hard and no insect will touch it.

(12) T. GANGETICA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 137.

*Syn.* T. Bengalensis, *Dec. prod.* III. p. 12.

SPEC. CHAR. Tree: tender parts villous: leaves opposite and alternate, ovate-oblong, acuminate, abruptly rounded at the base, with glands on the margin.

Banks of the Ganges, flowering in the hot season.

(13) T. GELLA. (*Dalz.*)

*Ident.* Hook. Jour. Bot. IV. p. 227.

SPEC. CHAR. Large tree: leaves scattered, broadly oval, puberulous on both sides, younger ones woolly-tomentose with fulvous hairs; spikes axillary, solitary, tomentose, shorter than the leaf: lower flowers fertile, short-pedicelled, upper ones male, sessile, all densely woolly within: calycine-segments triangular, acute, revolute when in flower: drupe spherical, silky.

Rare in the South Concan, flowering in April. The flowers have a very disagreeable smell.

## GENUS II. GETONIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Meaning unknown.

Gen. Char. Climbing shrubs: leaves opposite, short-petioled: calyx campanulate, 5-partite almost to the base: lobes lanceolate, 3-nerved: petals none; stamens protruded, shorter than the calycine-segments, arranged in a double row: anthers globose, didymous: style filiform, pubescent, obtuse: fruit a small dry drupe, 1-celled, 1-seeded.

### (1) G. floribunda. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 315.—Roxb. fl. Ind. II. p. 428.

*Syn.* G. nitida, *Roth.*—Calycopteris floribunda, *Lam.*

*Engrav.* Roxb. Cor. I. t. 87.—Lam. Ill. t. 357.

Spec. Char. Young leaves tomentose, resinous-dotted beneath: stamens as long as the calycine-segments: panicles erect: fruit small, drupaceous, dry, ovate-oblong, between round and pentagonal: flowers greenish-white.

Peninsula. Common in the Concan and Ghauts. Flowering in February and March.

### (2) G. nutans. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 428.—Dec. prod. III. p. 15.

Spec. Char. Branches scandent: leaves ovate-oblong, entire, acuminated, villous while young: stamens much shorter than the tube of the calyx: panicles terminal and axillary, drooping, composed of several opposite downy spikes: bracts lanceolate, very downy: drupe pentagonal: flowers small, greenish.

Rajmahal hills, flowering in the hot season.

## GENUS III. CONOCARPUS.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Konos*, a cone, and *Karpos*, fruit, in allusion to the mode of growth.

Gen. Char. Trees or shrubs: leaves alternate, rarely nearly opposite, entire: heads of flowers peduncled; flowers aggregated on a common globular receptacle: calyx-tube persistent, as short as or longer than the ovary: limb 5-cleft, deciduous: petals none: stamens 5–10, exserted: anthers cordate: ovary compressed, 2-ovuled: style 1, simple: fruits coriaceous, scale-like, closely imbricated, indehiscent.

(1) C. LATIFOLIUS. *(Roxb.)*

*Ident.* W. &. A. prod. I. p. 316.—Roxb. fl. Ind. II. p. 442. —Dec. prod. III. p. 17.

*Syn.* Anogeissus latifolius, *Wall.*

*Engrav.* Wight's Icon. t. 994.—Royle. Ill. t. 45. f. 1.

SPEC. CHAR. Large tree with white bark: leaves elliptical or obovate, obtuse or emarginate, smooth: peduncles branched, bearing several heads of flowers: fruit imbricated upwards, produced at the apex into a long beak: flowers small, pale-greenish.

Islamabad. Kennery jungles. Valleys of the Concan rivers. Inland Deccan hills. Flowering in January and February.

(2) C. ACUMINATUS. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 316.—Roxb. fl. Ind. II. p. 443.—Dec. prod. III. p. 17.

*Syn.* Andersonia lanceolata, *Rottl.*—Anogeissus acuminatus, *Wall.*

SPEC. CHAR. Tree with ash-coloured bark: branches pendulous: leaves oval, or oblong-lanceolate, acute, when young pubescent, when old smooth: peduncles axillary, simple, with one head of flowers: fruit produced at the apex into a long beak: flowers pale-greenish or yellowish.

Nopalry, flowering in the cold season. Both the above trees are valuable on account of their excellent timber.

## GENUS IV. LUMNITZERA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Called after Lumnitzer, author of a Botanical work called the Flora Posoniensis.

GEN. CHAR. Trees or shrubs: leaves alternate: spikes axillary and solitary or terminal and corymbose: limb of the calyx produced beyond the ovary, 5-cleft: segments rounded, often unequal: petals 4–5, acute, inserted on the calyx and twice as long as its limb, spreading or at length recurved, ovary oblong, compressed, 1-celled, 3–5-ovuled: style subulate: stigma acute: drupe clove-shaped.

(1) L. RACEMOSA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 316.—Dec. prod. III. p. 22.

*Syn.* Jussieua racemosa, *Rottl.*—Petaloma alternifolia, *Roxb. fl. Ind.* II. *p.* 372.—Pyrrhanthus albus, *Wall.*—Bruguiera Madagascariensis, *Dec. prod.* III. *p.* 23.

*Engrav.* Rheede Mal. VI. t. 37.

Spec. Char. Shrub: leaves cuneate-obovate, attenuated at the base into a very short petiole, obtusely crenated, glabrous, thick and somewhat fleshy: spikes short, axillary: five stamens alternately longer, about the length of the petals: drupe ovate-oblong, bluntly angled crowned with the thick persistent calyx: nut linear-oblong, angled, 1-seeded: flowers white.

Peninsula. Banks of salt-water creeks in South Concans and Malabar. Soonderbunds. Flowering in July and August.

## GENUS V. POIVREA.

**Decandria Monogynia.** *Sex: Syst:*

*Derw.* Named in honor of M. Poivre, former Intendant of the Mauritius.

Gen. Char. Usually climbing shrubs: leaves opposite or alternate, entire: spikes axillary and terminal: bracts solitary, under the flowers: calyx 5-lobed, deciduous: petals 5: ovary 2–3-ovuled: style filiform, protruded, acute: fruit oval or oblong or 5-winged: seed solitary, 5-angled.

### (1) P. Roxburghii. *(Dec.)*

*Ident.* W. & A. prod. I. p. 317.—Dec. prod. III. p. 18.

*Syn.* Combretum Roxburghii, *Spr.*—C. decandrum, *Roxb. fl. Ind.* II. *p.* 232.

*Engrav.* Roxb. Cor. I. t. 59.

Spec. Char. Unarmed, scandent: young parts villous: leaves opposite, oval-oblong, acuminated: spikes panicled: bracts lanceolate: calyx turbinately campanulate: petals ovate, mucronate: stamens short: fruit 5-winged: flowers small, pale-greenish.

Mountains of Coromandel. Silhet. Flowering in the cold season.

### (2) P. pilosa. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 317. annot.

*Syn.* Combretum pilosum, *Roxb. fl. Ind.* II. *p.* 231.

Spec. Char. Scandent: leaves opposite, ovate-lanceolate: spikes panicled, terminal, dense and hairy, every part clothed with much ferruginous hair: bracts linear-lanceolate: calyx hairy: petals lanceolate, much longer than the segments of the calyx, clothed outside with appressed fulvous hairs: stamens much longer than the petals: fruit 5-angled, hairy: seed 5-winged, villous: flowers small, greenish-yellow.

Khasia mountains. Assam. Flowering in February and March.

## GENUS VI. COMBRETUM.

**Octandria Monogynia.** *Sex: Syst:*

*Deriv.* A name given by Pliny to a climbing plant.

Gen. Char. Shrubs or trees more or less scandent: leaves opposite, entire: spikes terminal and axillary, sometimes panicled: calyx funnel-shaped, 4-lobed, deciduous: petals 4, inserted between the lobes of the calyx: stamens in two rows, four opposite the petals and inserted higher up and longer than the others: ovary 2–5-ovuled: style exserted, acute: fruit 4-winged, 1-celled, 1-seeded, indehiscent.

### (1) C. ovalifolium. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 317.—Roxb. fl. Ind. II. p. 226.

*Syn.* C. Heyneanum, *Wall.*—C. albidum, *Don. in Linn. Soc. Trans.* XV. *p.* 429.—C. Roxburghii, *G. Don. l. c.*

*Engrav.* Hook. Bot. Misc. III. t. 22.

Spec. Char. Climbing: leaves ovate or elliptical, obtuse or slightly acute, roundish at the base, paler beneath: terminal spikes panicled, short, oblong or almost globose: rachis and calyx pubescent: bracts small, scale-like: limb of the calyx with a hairy ring below the insertion of the stamens: lobes triangular-ovate, reflexed: petals elliptic-oblong, retuse, about the length of the calyx-segments: wings of the fruit semicircular: flowers small, yellowish-white.

Coromandel. Tanjore. Concan jungles. Guzerat. Flowering in the hot season.

### (2) C. Wightianum. *(Wall.)*

*Ident.* W. & A. prod. I. p. 317.

*Syn.* C. laxum, *Roxb. fl. Ind.* II. *p.* 231.

*Engrav.* Wight's Icon. t. 227.—Rheede Mal. VII. t. 23.

Spec. Char. Climbing: leaves elliptic-obovate: usually with a short acumination, coriaceous, shining above; spikes axillary, on longish peduncles, longer than the leaves, lax: rachis and calyx pubescent: bracts obsolete, or resembling minute tubercles: tube of the calyx much longer than the ovary and with a hairy ring below the insertion of the stamens: segments acute, recurved: petals emarginate, about half the length of the calycine-segments: flowers yellowish.

Hilly parts of the Concan. Peninsula. Flowering in December and January.

### (3) C. rotundifolium. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 226.

Spec. Char. Scandent: leaves roundish, smooth: calyx 4-oothed: petals 4, obcordate, about as long as the calycine-segnents: calyx with a hairy gland under the insertion of the stamens: ıpikes axillary, solitary, long-pedancled, crowded with numerous ımall, straw-coloured flowers: fruit lanceolate, 4-angled.

Silhet, flowering in January and February.

(4) C. costatum. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 227.

Spec. Char. Large scandent shrub: leaves oblong, tapering, ›ointed: calyx obscurely 4-toothed, smooth and even on both sides: ›etals 4, very small, lanceolate: spikes axillary and terminal, single ır in pairs: flowers small, dull yellow.

Silhet, flowering in the hot season.

(5) C. acuminatum. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 228.

*Syn.* Embryogonia acuminata, *Blume in Walp. Ann.* IV. *p.* 72.

Spec. Char. Scandent: leaves somewhat opposite and alter-ıate, from oblong to ovate-lanceolate, cordate at the base, villous ›eneath: calyx acutely 4-toothed, with a very hairy ring inside ›elow the insertion of the stamens: petals 4, round-oval: spikes ›eduncled, shorter than the leaves, villous: flowers numerous, small, ›ellow.

Silhet, flowering in March and April.

## ORDER LXII. MELASTOMACEÆ.

Trees shrubs or herbaceous plants: leaves opposite, simple, ntire, rarely dotted, ribbed or 3–9-nerved: calyx 4–6-lobed or oothed: petals equal to the segments of the calyx and either pringing from their base or from the edge of a disk that lines he calyx, twisted in æstivation: stamens either equal in number › the petals and alternate with them or usually twice as many, he alternate ones of a different shape and not fertile: filaments urved downwards in æstivation: anthers long, 2-celled, open-ıg by two terminal pores at the apex: connectivum produced elow the cells into a kind of beak: ovary with several cells, ıore or less coherent with the calyx: ovules definite or indefi-ite: style 1: stigma simple, capitate or reduced to a mere

point: fruit either dry or succulent, free or distinct from the calyx, valvate and loculicide or baccate and indehiscent: seeds numerous, small: albumen none: embryo straight or curved, with equal or unequal flat or convolute cotyledons.

## GENUS I. MEMECYLON.

**Octandria Monogynia.** *Sex: Syst:*

*Deriv.* A Greek term applied by Dioscorides to the Arbutus to which this genus bears some resemblance.

GEN. CHAR. Shrubs: branches knotty at the origin of the leaves, usually 4-angled when young: limb of the calyx small, obtusely 4-toothed or repand or almost entire: petals 4, oval: stamens usually longer than the petals: anther-cells opening by a short cleft at the end next the beak.

### (1) M. RAMIFLORUM. (*Lam.*)

*Ident.* W. & A. prod. I. p. 319.—Dec. prod. III. p. 6.

*Syn.* M. umbellatum, *Gaertn.*—M. angustifolium, *R. W. var.*—M. tinctorum, *Koen. W. & A. prod. l. c.*—M. edule, *Roxb. fl. Ind.* II. *p.* 260.—M. capitulatum, *Linn.*—M. Heyneanum, *Benth. W. & A. prod. l. c.*

*Engrav.* Wight's Ill. I. t. 93.—Icon. t. 276, 278.—Roxb. Cor. I. t. 82.—Rheede Mal. V. t. 19.—Burm. Zeyl. t. 31.

SPEC. CHAR. Arborescent: leaves short-petioled, ovate or oblong, 1-nerved: peduncles axillary and below the leaves on the older branches, bearing a more or less compound corymb with pedicellate flowers: pedicels 1-flowered, each springing from a small sessile cup-shaped scale or bract: fruit globose, crowned with the limb of the calyx, 1–2-seeded: flowers small, blue.

Coromandel. Mahableshwur. Western Ghauts. Travancore. Flowering in the hot season.

### (2) M. AMPLEXICAULE. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 261.—W. & A. prod. I. p. 320.

*Syn.* M. cordatum, *Lam.*

*Engrav.* Wight's Icon. t. 279.—Rheede Mal. II. t. 15.

SPEC. CHAR. Shrub or small tree: leaves sessile, cordate at the base, from ovate to oblong and gradually acuminated: peduncles wanting: pedicels 1-flowered, arranged on a sessile axillary tubercle or receptacle: petals orbicular, sessile: stamens scarcely longer than the petals and about half the length of the style: fruit somewhat globose, 1–3-celled, 1–3-seeded: flowers small, blue.

Travancore. Malabar. Flowering in the hot season.

(3) M. JAMBOSIOIDES. (*R. W.*)

*Ident.* Wight's Ill. I. p. 215.

*Engrav.* Wight's Icon. t. 277.

SPEC. CHAR. Branches cylindrical, glabrous: leaves ovate-lanceolate, acuminated, 3-nerved; the lateral pair of nerves somewhat marginal, united with smaller transverse parallel veins: flowers numerous, forming short-pedicelled axillary heads.

Courtallum, in subalpine jungles.

(4) M. TERMINALE. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 93.—Hook. Jour. Bot. III. p. 121.

SPEC. CHAR. Shrub: branches dichotomous, slender, terete: leaves sessile, lanceolate-acuminate: peduncles axillary and terminal, solitary: flowers umbelled: pedicels half the length of the peduncle: fruit globose, dry, 1-celled, size of a large pea.

Southern Ghauts.

## GENUS II. SONERILA.

**Triandria Monogynia.** *Sex Syst.*

*Deriv.* The Malabar name latinized.

GEN. CHAR. Herbaceous or suffrutescent plants: leaves opposite, hairy, one of them often a little smaller than the other: peduncles axillary or terminal, few-flowered: flowers racemose or fascicled: calyx-tube oblong or somewhat 3-angled, cohering with the ovary with 3–6 longitudinal lines; limb 3-cleft; segments deciduous: petals 3, ovate-lanceolate, acute: anthers oblong, pointed, 2-cleft at the base: connectivum not produced at the base: ovary truncated: style filiform: stigma obtuse: capsule turbinate, crowned with the margin of the calyx, 3-celled, 3-valved, the valves opening at the apex: seeds cuneate-obovate, sharp and somewhat grooved along one side.

(1) S. RHEEDII. (*Wall.*)

*Ident.* W. & A. prod. I. p. 320.

*Engrav.* Rheede Mal. IX. t. 65.

SPEC. CHAR. Stem short, hairy: leaves ovate, somewhat cordate at the base, remotely bristle-serrate, feather-nerved, upper surface sprinkled with short thick bristles, under paler, somewhat scaly: peduncles solitary, axillary or terminal, hairy, about the length of the leaves, with 4–8 fascicled pedicellate flowers at the apex: calyx hairy: anthers sagittate at the base: style longer than the stamens: stigma peltate: flowers rose-coloured.

Malabar.

(2) S. MACULATA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 321.—Roxb. fl. Ind. I. p. 177.

*Syn.* S. Rottleri, *Wall.*

SPEC. CHAR. Stem short, hairy: leaves ovate, obtuse or shortly acuminated, sprinkled on both sides with long bristles arising from white spots, feather-nerved: peduncles axillary, bearing a curved raceme of several unilateral flowers: petals ovate: anthers sagittate at the base: style the length of the stamens: stigma simple, obtuse: capsule somewhat clavate, 3-sided, glabrous.

Courtallum. Silhet. Flowering at the beginning of the rainy season.

(3) S. BRUNONIS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 321.

*Engrav.* Wight's Icon. t. 1059.—Wight's Ill. I. t. 94.

SPEC. CHAR. Stems erect; branches acutely 4-angled, glabrous: leaves long-petioled, ovate, bristle-serrated, 5–7-nerved at the base, hairy or at length glabrous: peduncles terminal, longer than the leaves: flowers unilateral, racemose: calyx glabrous: petals lanceolate, pointed: anthers ovate: style about the length of the stamens: stigma capitate: capsules turbinate, 3-sided, prominently 6-ribbed; three of the ribs forming angles, the other three on sides.

Courtallum.

(4) S. GRANDIFLORA. (*R. Br.*)

*Ident.* W. & A. prod. I. p. 322.

*Engrav.* Wight's Icon. t. 995. [1]—Spicil. I. t. 67. [1]

SPEC. CHAR. Glabrous, erect shrub: leaves elliptic, bristle-serrated, 3–5-nerved at the base: peduncle terminal, about the length of the leaves, flattened at the apex, bearing a slightly-curved raceme of several unilateral flowers: petals ovate, pointed: style as long as the stamens: capsule glabrous, 3-sided, scarcely as long as the pedicel: flowers deep pink.

Neilgherries.

(5) S. SCAPIGERA. *(Hook.)*

*Ident.* Dalz. Bomb. flor. p. 93.—Hook. Jour. Bot. VII. p. 672.

*Engrav.* Hook. Ic. t. 23.

SPEC. CHAR. Stemless, 3–4 inches in height, quite smooth: leaves radicle, cordate, serrate, long-petioled: flowering scapes as long as the leaf: pedicels umbellately racemose, longer than the flower: calyx-segments 3, triangular, acute: petals obovate, acute: stamens as long as the style.

The Ghauts near Bombay, flowering in the rainy season.

(6) S. SPECIOSA. *(Zenker.)*

*Ident.* Wight's Spicil. I. p. 56.

*Engrav.* Wight's Spicil. I. t. 67. (2)—Wight's Icon. t. 995. (2)

SPEC. CHAR. Stem erect, somewhat 4-sided and dichotomous at the base: leaves petioled, 5-nerved, broadly ovate, acute, mucronately serrated, glabrous: petioles hairy near the apex: peduncles terminal, dychotomous: branches afterwards elongated: flowers secund: calyx and midrib of the petals below covered with short rigid hairs: petals ovate, obtuse, mucronate: style and stamens about equal: flowers largish, pink.

Neilgherries, flowering in February.

(7) S. ELEGANS. *(Wight.)*

*Ident.* Wight's Spicil. I. p. 57.

*Engrav.* Wight's Icon. t. 995. (3)—Wight's Spicil. I. t. 67. (3)

SPEC. CHAR. Herbaceous, erect, hairy, branched: leaves petioled, feather-nerved, ovate-cordate, acuminated, serrulated: peduncles terminal, cymosely dichotomous: calyx pubescent: petals ovate, pointed: anthers long-beaked: capsule hirsute, conical, 3-sided, crowned with the limb of the calyx: seeds hairy: flowers numerous, secund, pale pink.

Sisparah. Neilgherries. Flowering in February.

(8) S. AXILLARIS. *(Wight.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1058.

SPEC. CHAR. Herbaceous, erect, sparingly sprinkled with hairs: leaves opposite or sub-alternate, long-petioled, ovate, somewhat cordate at the base, acuminate, sparingly hairy above, nearly glabrous beneath: peduncles axillary, erect, about the length of the petioles, few-flowered: petals elliptic, mucronate: style the length of the stamens: capsule clavate, somewhat triangular, 6-nerved, glabrous.

Western slopes of the Neilgherries, flowering in December and January.

(9) S. VERSICOLOR. *(Wight.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1057.

SPEC. CHAR. Herbaceous: stems erect, roundish, hairy, afterwards glabrous, marked with a slight decurrent rib from the insertions of the leaves: leaves opposite, ovate, or slightly unequal at the base, acutish, crenulate, pubescent on both sides, usually dark crimson or purplish beneath, feather-nerved: peduncles axillary and terminal: calyx glabrous: petals obovate, cuspidate: anthers

cordate at the base, beaked: capsule clavate, 3-cornered, with a prominent nerve between the angles: racemes curved, secund, many-flowered: flowers pink.

Western slopes of the Neilgherries below Sisparah among grass and low jungle.

(10) S. ANGUSTIFOLIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 178.

SPEC. CHAR. Suffruticose, leaves opposite, unequally oblong-lanceolate, serrulate, hairy: racemes terminal and lateral, few-flowered; flowers rose-coloured.

Mountains on the North-East of Bengal.

(11) S. SQUARROSA. (*Wall.*)

*Ident.* Roxb. fl. Ind. I. p. 182.—Don's Mill. II. p. 776.

*Engrav.* Wall. Pl. As. Rar. II. t. 102.

SPEC. CHAR. Stem suffruticose, erect, glabrous, covered with numerous stipulary soft prickles: leaves cuneate-lanceolate, aggregated towards the ends of the branches, cuspidately-serrated, smooth, short-petioled: petals oval, acute: racemes terminal and axillary: flowers secund, rose-coloured.

Khasia mountains.

(12) S. EMACULATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 181.

SPEC. CHAR. Leaves unequally narrow-cordate, acute, bristly, but without spots, serrulated, ciliated. racemes long-peduncled: flowers rose-coloured.

Khasia mountains.

## GENUS III. OSBECKIA.

**Octandria Monogynia.** *Sex. Syst.*

*Deriv.* Named after Peter Osbeck, a Swedish naturalist.

GEN. CHAR. Herbaceous or shrubby plants with terminal flowers: calyx-tube usually covered with bristles or pubescence; limb 4–5-cleft, with appendages between the lobes from the outside. petals 4–5: stamens 8–10: anthers nearly equal and similar to each other, shortly rostrate, rarely truncated, opening by a single terminal pore: connectivum with two short auricles at the base: ovary covered with bristles at the apex: capsules 4–5-celled: seeds cochleate.

(1) O. Zeylanica. *(Linn.)*

*Ident.* W. & A. prod. I. p. 332.—Dec. prod. III. p. 141.—Roxb fl. Ind. II. p. 223.

*Engrav.* Pluk. t. 173. f. 4.

Spec. Char. Herbaceous, annual: stem and branches tetragonal, the angles bristly: leaves spreading or reflexed, oval-lanceolate, strigose, quite entire, bristle-ciliated; calyx tubular, covered with long bristles that are palmately divided from the base: segments of the limb 4, deciduous; appendages longish, bristly: anthers 8, with subulate beaks; flowers very shortly peduncled, axillary and solitary or 1–7 together and terminal, blue-purple.

Courtallum. Vendalore.

(2) O. Leschenaultiana. *(Dec.)*

*Ident.* W. & A. prod. I. p. 322.—Dec. prod. III. p. 142.

*Syn.* O. truncata, *Don. W. & A. prod. l. c.*—O. coronata, *Don.*

*Engrav.* Wight's Icon. t. 996.—Spicil. I. t. 68.

Spec. Char. Annual, herbaceous: stems 4-angled, slightly branched, the angles clothed with hairs: leaves ovate, strigose, entire, ciliated, 3-nerved: calyx urceolate, bristly: segments 4, deciduous: anthers 8, truncated; flowers very small, terminal, nearly sessile, aggregated, white dashed with crimson spots.

Neilgherries. Common in pastures in the Concans. Flowering in September.

(3) O. Wightiana. *(Benth.)*

*Ident.* W. & A. prod. I. p. 323.

*Syn.* O. capitata, *Don.*

*Engrav.* Wight's Icon. t. 997, 998.—Rheede Mal. IV. t. 89.—Wight's Spicil. I. t. 70.

Spec. Char. Shrub: branches scabrous with bristles: leaves nearly sessile, ovate, acutish, entire, 5–7-nerved, upper side hairy, under hirsute and tomentose: calyx campanulate, scaly, with a tuft of bristles at the apex: segments 5, deciduous: anthers 10, linear-oblong, scarcely beaked: style club-shaped: flowers large, terminal, reddish-purple.

(4) O. virgata. *(Don.)*

*Ident.* W. & A. prod. I. p. 323.

*Syn.* O. inappendiculata, *Don.*—O. cupularis, *Don. W. & A. prod. l. c.*

*Engrav.* Wight's Icon. t. 376.

Spec. Char. Shrub: branches twiggy, 4-angled, hispid: leaves petioled, lanceolate or ovate-lanceolate, 3-nerved, entire, upper side

hairy, under hirsute on the nerves only: calyx-tube urceolate, bristly: segments 5, deciduous: anthers 10, shortly beaked: ovary crowned with bristles: style incurved near the apex: flowers aggregated, pinkish.

Mountains between Tinnevelly and Travancore. Malabar Coast. Southern Provinces. Flowering nearly all the year.

(5) O. ASPERA. (*Blume.*)

*Ident.* W. & A. prod. I. p 323.

*Syn.* Melastoma asperum, *Linn. Dec. prod.* III. *p.* 145.

*Engrav.* Wight's Icon. t. 377.

SPEC. CHAR. Shrub: branches obscurely 4-angled, bristly: leaves short-petioled, oblong-ovate or oblong-lanceolate, acute, 3-nerved, upper side bristly, under hirsute on the nerves, and pubescent between them: calyx-tube cup-shaped, rigidly pubescent: segments 5, ovate-oblong, obtuse, deciduous; appendages consisting of a tuft of a few bristles: stamens 10: anthers acuminated: style incurved at the apex: ovary crowned with bristles: flowers on short pedicels, terminal, somewhat racemose, purplish-red.

Malabar and Travancore. Bengal. Flowering nearly all the year.

(6) O. GARDNERIANA. (*R. W.*)

*Ident.* Wight's Spicil. I. p. 57.

*Engrav.* Wight's Icon. t. 997.—Spicil. I. t. 69.

SPEC. CHAR. Erect ramous shrub: young parts clothed with long bristly hairs: leaves sessile, ovate, 3-nerved, hairy on both sides: calyx-tube campanulate, furnished with numerous dark-red bristles; limb 5-cleft: segments linear-lanceolate, obtuse, more than twice the length of the appendages: petals 5, orbicular: stamens 10: anthers recurved, corrugated on the inner edge, shortly beaked: flowers terminal, capitate, dark-purplish-red.

Neilgherries, flowering in February and March.

(7) O. HISPIDISSIMA. (*R. W.*)

*Ident.* Wight's Icon. vol. IV.

*Engrav.* Wight's Icon. t. 1612.

SPEC. CHAR. Suffruticose, erect: branches 4-sided, very hairy: leaves subsessile, oval-lanceolate, acute at both ends, 5-nerved, hispid on both sides: calyx hispid, 4-cleft: lobes ciliated: petals 4, large, spreading: stamens 8: anthers prolonged into a longish beak: corymbs terminal, few-flowered: flowers large, dark-crimson.

Mysore.

(8) O. PULCHELLA. (*Benth.*)

*Syn.* Melastoma pulchellum, *Roxb. fl. Ind.* II. *p.* 403.

Spec. Char. Shrub: leaves short-petioled, lanceolate, entire, bristly on the margins and nerves: bracts cordate, bristle-ciliate: stamens 8: panicles terminal.

Chittagong. Khasia mountains.

(9) O. Nepaulensis. (*Hook.*)

*Ident.* Don's Mill. II. p. 760.

*Syn.* O. speciosa, *D. Don. fl. Nep. p.* 222.

*Engrav.* Hook. Exot. fl. t. 31.

Spec. Char. Suffruticose: branches somewhat 4-sided, bristly: leaves sessile, oblong-lanceolate, hairy, 5-nerved: calyx scaly: segments 5, deciduous: anthers 10, somewhat falcate: petals 5, obovate: flowers fascicled, violet.

Khasia mountains.

(10) O. muralis. (*Naudin.*)

*Ident.* Walp. Annal. II. p. 575.—Naudin. Annal. XIV. p. 53.

Spec. Char. Herbaceous, erect, slender, usually very small: stem somewhat quadrangular, hirsute at the angles: leaves petioled, ovate, acute, very slightly serrulated, 3-nerved, covered with roughish villi. flowers tetramerous, somewhat aggregated at the apex of the stem, purple.

Mangalore.

(11) O. brachystemon. (*Naudin.*)

*Ident.* Naudin. Annal. XIV. p. 57.—Walp. Annal. II. p. 576.

Spec. Char. Herbaceous, erect; stem and branches somewhat 4-sided, bristly: leaves short-petioled, broad-ovate, acute, quite entire or very slightly ciliate-serrulate, 5-nerved, hirsutely villous on both sides: flowers tetramerous at the ends of the stem and branches, 3–5 or more, glomerate, sessile: anthers short, ovoid, with 2 pores: connectivum below the cells scarcely any.

Neilgherries.

(12) O. confertiflora. (*Naudin.*)

*Ident.* Naudin. Annal. XIV. p. 59.—Walp. Annal. II. p. 576.

Spec. Char. Suffruticose, erect, branched; stems many from the same root and with the branches somewhat 4-sided, bristly-villous: leaves very short-petioled, sometimes somewhat lanceolate, acute, quite entire, 3-5-nerved, bristly on both sides: flowers pentamerous, collected at the ends of the branchlets, somewhat numerous, pedicelled, capitate: calycine-teeth with fascicled bristles shorter than the hairy tube, covered with stellate bristles at the apex: anthers oblong, with one pore, obtuse; connectivum below

the cells none or scarcely conspicuous: filaments subulate at the apex.

Neilgherries.

(13) O. KOTI-GUEDA. (*Naudin.*)

*Ident.* Naudin. Annal. XIV. p. 64.—Walp. Annal. II. p. 578.

SPEC. CHAR. Fruticose, tall: branches scabrous and somewhat rough: leaves short-petioled, broadly elliptic-ovate, obtuse and somewhat acute, sometimes cordate at the base, quite entire, 5-nerved, bristly-villous on both sides: flowers pentamerous, panicled: calycine-teeth obtuse, bristly-penicillate at the apex: tubes somewhat hemispherical, stellately-penicillate with short thick hairs, caducous: anthers subulate: connectivum very short below the cells.

Neilgherries.

(14) O. GLAUCA. (*Wall.*)

*Ident.* Walp Annal. II. p. 579.

SPEC. CHAR. Herbaceous, somewhat woody at the root, erect, sparingly branched: stem 4-sided, hairy: leaves sessile, stiffish, ovate, acute, quite entire, 3–5-nerved, bristly on both sides: flowers tetramerous, 1–3 at the ends of the stem and branches: calycine-teeth triangular-acute, rigid, ciliated, terminated at the apex with a bundle of scarcely conspicuous short bristles with 5 bristly-penicillate smaller teeth alternating and equalling the quite glabrous tube: anthers subulate-rostrate: connectivum scarcely perceptible below the cells.

Silhet.

(15) O. CAPITATA. (*Benth.*)

*Ident.* Walp. Annal. II. p. 579.

SPEC. CHAR. Herbaceous, erect, simple or slightly branched: stem 4-sided, scabrous with hairs: leaves sessile, ovate, somewhat acute, quite entire, 3–5-nerved, bristly on both sides: flowers tetramerous, 1–3 at the ends of the stem and branches: calycine-teeth ovate-acute, covered with villous bristles, ciliated: tube armed with bristly-penicillate scales: anthers oblong-ovate, long and slenderly beaked: connectivum not elongated below the cells.

Silhet and Assam.

(16) O. CRINITA. (*Benth.*)

*Ident.* Walp. Annal. II. p. 580.

SPEC. CHAR. Suffruticose (?) branches shortly strigose, rough, obscurely 4-angled: leaves petioled, ovate-acuminate, quite entire, 4-nerved, upper side strigosely scabrous, lower bristly on the nerves;

flowers tetramerous, lateral and terminal at the tops of the branchlets which are disposed in panicles, somewhat sessile: calycine-teeth linear, narrow, bristly at the apex: tube oblong, tufted, as it were, with stellate-bristly hairs at the top, caducous: anthers subulate-rostrate: connectivum very short below the cells.

Silhet and Assam.

(17) O. STELLATA. (*Don.*)

*Ident.* Walp. Annal. II. p. 580.—Dec. prod. III. p. 142.

SPEC. CHAR. Suffrutescent: branches somewhat 4-sided and compressed, furrowed, strigosely hispid at the angles: leaves petioled, lanceolate or ovate-lanceolate, acute, quite entire, 3–5-nerved, upper side strigosely scabrous, lower bristly on the nerves: flowers tetramerous, panicled; calyx stellately-hispid: teeth covered with stellate bristles at the apex, somewhat shorter than the tube, and with four slender awns which are bristly-hispid and stellate at the apex, alternating, caducous: anthers sigmoid: connectivum not elongated below the cells: flowers lilac-rose.

Assam.

## GENUS IV. MELASTOMA.

**Decandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Melas*, black, and *Stoma*, mouth, in allusion to the berry staining the mouth when eaten.

GEN. CHAR. Shrubs: leaves 3–7-nerved: peduncles axillary or terminal: calyx-tube ovate, often scaly: limb 5, rarely 4–6-cleft: lobes deciduous, with small appendages springing between them: petals as many as the lobes: stamens twice as many as the petals and dissimilar: anthers beaked, opening by a single pore: connectivum in those that alternate with the petals short and 2-lobed at the base, in those that are opposite the petals long-linear and 2-spurred at the base: ovary crowned with bristles: stigma pruinose: capsule 5, rarely 4–6-celled; seed cochleate.

(1) M. MALABATHRICUM. (*Linn.*)

*Ident.* W. & A. prod. I. p. 324.—Dec. prod. III. p. 145.—Roxb. fl. Ind. II. p. 405.

*Engrav.* Wight's Ill. I. t. 95.—Bot. Reg. VIII. t. 672.—Rheede Mal. IV. t. 42.—Rumph. Amb. IV. t. 72.

SPEC. CHAR. Shrubby: branches 4-angled, rough from bristles or scales: leaves elliptic-oblong, somewhat acute, quite entire, green on both sides, upper side strigose from rigid flat bristles, under hirsute on the nerves and veins and harshly pubescent between them;

corymbs terminal, 1–5-flowered, sessile or nearly so: calyx-tube clothed with small toothed scales: lobes ovate, acute: flowers large, red, surrounded with large ovate-cordate deciduous bracteoles.

Peninsula. Orissa. Khasia mountains. Concans. Flowering all the year.

(2) M. GENICULATUM. (*Roxb.*)

*Ident.* Roxb. fl Ind. II. p. 403.

SPEC. CHAR. Large shrub: leaves subsessile, lanceolate, entire, bristly, 3-nerved; under side of the nerves and petioles strigose: calyx strigose: lobes cordate, acute: bracts 1–2 to each flower, deciduous: flowers terminal.

Various parts of India.

(3) M. CORDIFOLIUM. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II p. 405.

SPEC. CHAR. Scandent, every part smooth: leaves short-petioled, cordate, entire: petals ovate: panicles terminal.

Chittagong.

(4) M. CURVUM. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 406.

SPEC. CHAR. Shrubby, all the tender parts strigose: leaves petioled, ovate-cordate, 5–7-nerved, finely serrulated: petals cordate, ciliated: panicles terminal, corymbiform, supra-decompound.

Chittagong.

(5) M. ANOPLANTHUM. (*Naudin.*)

*Ident.* Naudin. Anual. XIII. p. 277.—Walp. Annal. II. p. 564.

SPEC. CHAR. Branches somewhat tapering, covered with scaly strigæ, rusty-coloured: leaves petioled, ovate-lanceolate or oblong, acute, quite entire, 3-nerved, somewhat strigose above, softly bristly below: calyx strigose: lobes ovate, acute: flowers terminal at the ends of the branches, before opening surrounded by 4 ovate bracts.

Near Calcutta.

(6) M. TRIFLORUM. (*Naudin.*)

*Ident.* Walp. Annal. II. p. 568.

SPEC. CHAR. Branches obtusely 4-sided, rough with strigæ: leaves broad-elliptic, acuminated, acute at both ends: quite entire, 5-nerved, upper side bristly, lower covered with scabrous hairs: calycine lobes oblong-ovate, equalling the strigose tube: flowers terminal, pedicelled, ternate.

Goa.

(7) M. Jenkinsii (*Masters.*)

*Ident.* Calc. Journ. Nat. Hist. VII. p. 323.

Spec. Char. Straggling shrub: young shoots somewhat 4-sided and clothed with roughish down: leaves opposite, 5-nerved, dentate: petioles fringed on the upper surface: bracts two, 3-nerved: calyx 4-sided, 4-partite, not hairy nor clothed with ciliated scales: segments persistent: petals 4, deciduous: stamens 8: capsule 4-celled, many-seeded: racemes terminal, drooping: flowers bright-carmine.

Saikwah and banks of the Soondree near the Duphla Hills in Assam.

(8) M. Griffithianum. (*Masters.*)

*Ident.* Calc. Journ. Nat. Hist. VII. p. 323.

Spec. Char. Dwarf shrub, densely covered with long stiffish hairs, often swollen and coloured at the base: branches 4-sided, 4-angled: leaves opposite, short-petioled, lanceolate, rounded at the base, 5 nerved: calyx urceolate, tube covered with stellate bristles, 4-partite or toothed: teeth lanceolate, stellately pointed with alternate bristles: petals 4: stamens 8, equal: style oblique, incurved: stigma green: capsule 4-celled, many-seeded: panicles large, terminal: pedicels short flowers numerous, purple.

Seebsagur, Assam.

## GENUS V. TRIPLECTRUM.

**Octandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Treis*, three, and *Plektron*, a spur.

Gen. Char. Calyx fleshy, somewhat infundibuliform, truncated at the margin: petals 3, two oblong, obtuse, recurved: the third, (which is formed of two united) broadly obovate, emarginate: stamens all similar: anthers oblong-linear, elongated but not beaked, opening by a terminal pore: connectivum produced at the base into 3 short blunt spurs, 2 in front of the filament, the other behind it: ovary free, stalked, oval, glabrous: style slender, subulate, curved.

(1) T. radicans. (*Don.*)

*Ident.* W. & A. prod. I. p. 321.

Spec. Char. Glabrous shrub, throwing out roots from the joints: leaves roundish-oval, fleshy, 3-nerved, short-petioled, frequently there is only one pair on a short lateral branchlet, opposite to which springs a solitary 1-flowered peduncle: flowers pale-rose.

Courtallum. Travancore mountains. Flowering in April and May.

## GENUS VI. HOMOCENTRIA.

**Octandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Homos,* one, and *Kentrion,* a little spur, in allusion to the single spur of the connectivum.

Gen. Char. Flowers tetramerous: calyx-tube oblong, 4-angled: limb dilated, shortly 4-lobed: petals triangular-lanceolate, very acute: stamens unequal, with a single pore at the apex, four of the greater ones with linear anthers, sigmoid, of the lesser ones oblong-elliptic, obtuse, much shorter by half than the others; the connectivum of all not conspicuous in front, but produced behind into a sharp incurved spur: ovary oblong, 4-celled: style filiform, slender: stigma pointed: fruit unknown, probably capsular.

(1) H. vagans. (*Naudin.*)

*Ident.* Naudin. Annal. XV. p. 308.—Walp. Annal. III. p. 81.

*Syn.* Melastoma vagans, *Roxb. fl. Ind.* II. *p.* 404.—Oxyspora vagans, *Wall.*—M. rugosa, *Wall.*

*Engrav.* Walp. Pl. As. Rar. I. t. 88.—Hook. Bot. Mag. t. 4553.

Spec. Char. A somewhat scandent shrub: upper branches scattered with thin scurfy down, older ones glabrous: leaves opposite, sometimes unequal in the same pair, petioled, ovate-acuminate, rounded at the base, slightly crenulated at the margin, 5-nerved: panicles terminal: flowers short-pedicelled, bright-red.

Chittagong. Khasia mountains. Flowering in May.

## GENUS VII. ALLOZYGIA.

**Octandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Allos,* various, and *Zugos,* a yoke or pair, in allusion to the changing parts of the flower.

Gen. Char. Flowers tetramerous: calyx-tube oblong-campanulate, 4-sided: limb shortly 4-toothed: teeth acute: petals obovate-oblong, shortly acuminated: petals alternately unequal, with long anthers, having one pore at the apex: connectivum not produced between the cells: ovary ovoid, adherent to the middle, its apex free, somewhat 4-sided: cells 4: style filiform, slender, with a pointed stigma: capsules clothed with the 8-ribbed calyx.

(1) A. cernua. (*Naudin.*)

*Ident.* Naudin. Annal. XV. p. 309.—Walp. Annal. III. p. 81.

*Syn.* Melastoma cernua, *Roxb. fl. Ind.* II. *p.* 404.

*Engrav.* Naudin. l. c. t. XV. f. 5.

Spec. Char. Scandent shrub: leaves long, unequal, almost quite glabrous: branches obtusely 4-sided: leaves opposite, unequal in the same pair, petioled, but sessile, or nearly so, under the panicle, ovate-oblong, long-acuminate, quite entire, rounded at the base, 5-nerved: panicles terminal, slender, drooping: flowers pedicelled, bright-red.

Chittagong, flowering in October and November.

## ORDER LXIII. ALANGIACEÆ.

Trees with alternate entire exstipulate leaves and axillary fascicled flowers: calyx campanulate, 5–10-toothed: petals as many as the calycine-segments, linear, reflexed, twisted in æstivation: stamens exserted, once, twice or four times as many as the petals: filaments distinct: anthers introrse, 2-celled, often sterile: ovary globose, cohering with the calyx-tube, 1–2-celled: ovules solitary, pendulous: style 1, subulate, expanded at the base into a thick coloured fleshy disk covering the top of the ovary: stigma dilated: berry oval, somewhat crowned by the limb of the calyx, fleshy, slightly ribbed, 1–2-celled: seeds solitary: albumen fleshy: embryo straight.

### GENUS I. ALANGIUM.

**Icosandria Monogynia.** *Sex: Syst:*

*Deriv.* The Malabar named latinized.

Gen. Char. Calyx 5–10-toothed: petals 5–10: filaments very hairy towards the base: ovary 1-celled, 1-ovuled: drupe 1-seeded: branches occasionally spinescent.

#### (1) A. DECAPETALUM. *(Lam.)*

*Ident.* W. & A. prod. I. p. 325.—Dec. prod. III. p. 203.

*Syn.* A. hexapetalum, *Roxb. fl. Ind.* II. *p.* 502.—A. tomentosum, *Lam. Dec. prod.* III. *p.* 204.—A. Lamarckii, *Thwaites. Pl. Zeyl.* I. *p.* 133.

*Engrav.* Rheede Mal. IV. t. 17.—Wight's Icon. t. 194.—Ill. II. t. 96.

Spec. Char. Small tree with the branches more or less spinescent: leaves narrow-oblong or ovate-lanceolate: petals 6–10: flowers few, axillary, whitish.

Nearly all over India, flowering in the hot season.

## GENUS II. STYLIDIUM.

**Gynandria Diandria.** *Sex: Syst:*

*Deriv.* From *Stylos*, a column. The stamens and style are joined.

GEN. CHAR. Calyx 6–8-toothed: petals 6–8: ovary 2-celled: cells 1-seeded: style short; stigma 4-toothed: drupe oval, somewhat fleshy: seed compressed.

### (1) S. BEGONIFOLIUM. *(R. Br.)*

*Ident.* Voigt. Hort. Calc. p. 40.

*Syn.* S. Chinense, *Lour.*—Marlea begonifolia, *Roxb. fl. Ind.* II. *p.* 261—*Dec. prod.* IV. *p.* 267.

*Engrav.* Roxb. Cor. III. t. 283.—Bot. Reg. XXIV. t. 61.

SPEC. CHAR. Small tree: leaves alternate, unequally cordate, entire or lobed, acuminated, 5 or more-nerved: petals linear, recurved: filaments hairy: anthers linear, very long: stigma large, 4-toothed: drupe oval, size of a small cherry, obtusely pointed: nut hard, black, 2-celled, grooved on the sides, transversely 2-toothed at the apex: peduncles axillary, dichotomous: flowers numerous, short-pedicelled, white with yellow anthers.

Silhet and Assam. Flowering in March and April.

## ORDER LXIV. MYRTACEÆ.

Trees or shrubs: leaves usually opposite, entire, with transparent dots, rarely serrated: calyx 4–8-cleft, the limb sometimes cohering in two portions, sometimes in one, and then falling off like a cap or lid: petals alternating with the sepals, rarely wanting: æstivation imbricated: stamens inserted with the petals, usually indefinite: filaments distinct or monadelphous, or polyadelphous, curved inwards in æstivation: anthers ovate, 2-celled, bursting longitudinally: ovary cohering with the calyx-tube, 1–15-celled: style and stigma simple: placentæ axillary: fruit dry or fleshy, 2–6 or many-celled, or by abortion 1-celled: seeds usually indefinite; albumen none: embryo straight or curved.

## GENUS I. RHODOMYRTUS.

**Icosandria Monogynia.** *Sex : Syst:*

*Deriv.* From *Rhodos*, red, in allusion to the colour of the flowers.

Gen. Char. Calyx-tube somewhat globose: limb 5-partite: petals 5: stamens distinct: berry 2–3-celled, somewhat globose, crowned with the segments of the calyx: seeds kidney-shaped: embryo curved.

### (1) R. tomentosa. *(R. W.)*

*Ident.* W. & A. prod. I. p. 328.

*Syn.* Myrtus tomentosa, *Ait. Dec. prod.* III. *p.* 240.—*Roxb. fl. Ind.* II. *p.* 498.—M. canescens, *Lour.*

*Engrav.* Wight's Spicil. I. t. 71.—Icon. t. 522.—Bot. Mag. VII. t. 250.

Spec. Char. Shrub or small tree: branches downy: leaves opposite, quite entire, ovate, 3-nerved, upper side when young downy, under tomentose and hoary: peduncles 1 or sometimes 3-flowered, axillary, bearing 2 ovate bracteoles under the flower: calyx downy: petals slightly downy outside: berry 3-celled: seeds forming 2 rows in each cell: flowers rose-coloured with crimson filaments.

Neilgherries, flowering in July and August.

## GENUS II. ACMENA.

**Icosandria Monogynia.** *Sex Syst:*

*Deriv.* One of the names of Venus, in allusion to the beautiful white flowers.

Gen. Char. Shrubs: leaves opposite, glabrous, quite entire: cymes 3-flowered, disposed in a terminal racemose panicle: calyx-tube turbinate, elongated: limb truncated or repandly 4–5-lobed: petals 4–5: stamens distinct: style tapering, short: berry somewhat drupaceous, 1-seeded: seed roundish.

### (1) A. claviflora. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 488.

*Engrav.* Wight's Icon. t. 606.

Spec. Char. Tree: leaves lanceolar: corymbs lateral, subsessile, umbelliform: flowers clavate: berries long, ovate, crowned with the base of the calyx.

Chittagong, flowering in February and March.

(2) A. LANCEOLATA. *(Lam.)*

*Ident.* Wight's Ill. II. p. 15.

*Syn.* Syzygium lanceolatum, *W. & A. prod.* I. *p.* 330.—Eugenia lanceolata, *Lam.*—Myrtus Sonneratii, *Spr.*

*Engrav.* Wight's Icon. t. 530.

SPEC. CHAR. Leaves lanceolate, almost sessile, glabrous, pellucid-dotted: peduncles terminal and lateral, branched, few-flowered: calyx turbinate, 4-lobed.

Peninsula.

(3) A. WIGHTIANA. *(R. W.)*

*Ident.* Wight's Ill. II. p. 15.

*Syn.* Syzygium Wightianum, *Wall. W. & A. prod.* I. *p.* 330.

*Engrav.* Wight's Icon. t. 529.

SPEC. CHAR. Leaves elliptic-oblong, slightly tapering at both ends: flowers scarcely pedicellate, about 3 together at the apex and 2–3 at the side of each peduncle: the peduncles arranged on the leafless branches or shoots so as to form a narrow racemose cyme: calyx glabrous, elongated, clavate, slightly repand-5-lobed.

Dindigul hills.

(4) A. ZEYLANICA. *(R. W.)*

*Ident.* Wight's Ill. II. p. 15.

*Syn.* Syzygium Zeylanicum, *Dec. prod.* III. *p.* 260.—*W. & A. prod.* I. *p.* 330.—S. Bellutta, *Dec.*—S. spicatum, *Dec.*—Myrtus Zeylanica, *Linn.*—Eugenia spicata, *Lam.*

*Engrav.* Wight's Icon. t. 455.—Rheede Mal. V. t. 20.

SPEC. CHAR. Arborescent: leaves ovate or oblong, much acuminated, coriaceous, shining on the upper side: flowers shortly pedicellate, forming axillary or terminal compound cymes that are often arranged in a kind of contracted raceme or spike: calyx pruinose, clavate, elongated, repand-5-lobed: berry white, globose, 1-seeded.

Malabar.

(5) A. GRATA. *(Wall.)*

*Ident.* Wight's Ill. II. p. 15.

SPEC. CHAR. Calyx conical; limb repand-5-toothed: petals 5; corymbs terminal and from the upper axils: leaves ovate-lanceolate, long and bluntly acuminated: fruit globose, 1–2-seeded, crowned with the projecting throat of the calyx.

Assam.

## GENUS III. SYZYGIUM.

**Icosandria Monogynia.** *Sex: Syst.*

*Deriv.* From the Greek for a yoke, in allusion to the branches diverging in pairs.

Gen. Char. Trees or shrubs: leaves opposite, quite entire, glabrous: peduncles axillary or terminal, cymose or corymbose: calyx-tube obovate; limb nearly entire or repand-lobed: petals 4–5, roundish, in æstivation forming a lid, deciduous; stamens distinct: ovary 2-celled, with several ovules in each cell: stigma simple: berry 1-celled, 1 or few-seeded: seeds globose.

### (1) S. Jambolanum. *(Dec.)*

*Ident.* W. & A. prod. I. p. 329.—Dec. prod. III. p. 259.

*Syn.* S. caryophyllifolium, *Dec.*—Eugenia Jambolana, *Lam. Roxb. fl. Ind.* II. *p.* 484.—E. obtusifolia, *Roxb.*—Calyptranthes Jambolana, *Willd.*—C. caryophyllifolia, *Willd.*—Myrtus Cumini, *Linn. Burm. Ind. p.* 115.

*Engrav.* Wight's Icon. t. 535.—Rheede Mal. V. t. 29.—Rumph. Amb. I. t. 42.

Spec. Char. Arborescent: leaves oval or oblong, more or less acuminated or obtuse, feather-nerved, coriaceous: cymes panicled, lax, usually lateral on the former year's branches, occasionally axillary or terminal: calyx shortly turbinate, truncated: berry olive-shaped, often oblique: flowers small, white.

Peninsula. Northern India. Flowering in March. The wood is hard, close-grained and durable. The bark is strongly astringent and dyes excellent durable browns of various shades. (Roxb.)

### (2) S. caryophyllæum. *(Gaertn.)*

*Ident.* W. & A. prod. I. p. 329.—Dec. prod. III. p. 260.

*Syn.* Calyptranthes caryophyllata, *Pers.*—Myrtus caryophyllata, *Linn.*—Eugenia corymbosa, *Lam.—Dec. prod.* III. *p.* 284.

*Engrav.* Wight's Icon. t. 540.—Rheede Mal. V. t. 27.

Spec. Char. Leaves obovate, obtuse or with a short blunt acumination, tapering towards the base, inconspicuously dotted: calyx shortly turbinate, inconspicuously repand or 4-toothed: cymes corymbose, trichotomous, terminal, lax: fruit globose, 1-seeded.

Peninsula.

### (3) S. rubicundum. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 330.

*Engrav.* Wight's Icon. t. 538.

Spec. Char. Shrub: leaves narrow-oblong, attenuated at both ends, coriaceous, pellucid-dotted, striated with numerous parallel

transverse veins: calyx repand, 4-lobed, shortly turbinate: cymes corymbose, terminal, longer than the leaves: flowers minute.

Peninsula.

(4) S. ALTERNIFOLIUM. *(R. W.)*

*Ident.* Wight's Ill. II. p. 16.

*Engrav.* Wight's Icon. t. 537.

SPEC. CHAR. Leaves alternate, suborbicular, thick and coriaceous, feather-nerved: calyx truncated, entire: petals calyptrated: cymes lateral, longish-peduncled, corymbose, dense, sometimes congested near the apex of year-old branches.

Balaghaut mountains.

(5) S. ARNOTTIANUM. *(R. W.)*

*Ident.* Wight's Ill. vol. III.

*Syn.* S. densiflorum, *Wall. W. & A. prod.* I. *p.* 329.

*Engrav.* Wight's Icon. t. 999.—Spicil. I. t. 72.

SPEC. CHAR. Leaves elliptic-oblong, acuminated, folded, coriaceous, dotted: cyme dense, corymbose: peduncles lateral, general and partial, stout, the partial ones short and bearing at the apex an umbel of 8–12 almost sessile flowers, subtended by oblong-linear caducous bracts: calyx shortly turbinate: limb shortly and bluntly 4-toothed or lobed: petals expanded before falling off.

Neilgherries, flowering in February and March. This is a beautiful tree, generally of low growth and covered in the season with thousands of large clusters of flowers. (Wight.)

(6) S. CALOPHYLLIFOLIUM. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1000.—Spicil. I. t. 73.

SPEC. CHAR. Tree: branchlets 4-sided: leaves approximated towards the ends of the branchlets, from oval and very obtuse to obovate-orbicular, coriaceous, veinless above, feather-nerved beneath: cyme terminal, corymbose, short-peduncled, many-flowered: calyx repandly 4-toothed; petals 4, orbicular, separating as one: drupe oval-oblong, succulent, dark-purple when ripe.

Ootacamund, Neilgherries, flowering nearly all the year.

(7) S. MONTANUM. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1060.

SPEC. CHAR. Tree: young shoots acutely 4-angled, the sides depressed or concave between: leaves coriaceous, from ovate to suborbicular, short-petioled: cymes terminal, corymbose, many-flowered, each extreme division ending in a fascicle of 3 flowers:

calyx obtusely 4-lobed: petals separating as one: fruit globose, purple, about the size of a currant.

Neilgherries.

(8) S. CERASOIDES. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 488.

*Engrav.* Wight's Icon. t. 615.

SPEC. CHAR. Tree: leaves short-petioled, from oval to oblong: panicles lateral, brachiate: fruit round, of the size and appearance of small black cherries.

Chittagong, flowering in April and May.

(9) S. FRUTICOSUM. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 487.

*Engrav.* Wight's Icon. t. 624.

SPEC. CHAR. Shrub: leaves from broad-oblong to oval: panicles lateral: flowers numerous: peduncles and pedicels square: petals 4, separating as one: berries small, 1-seeded.

Chittagong, flowering in the hot season.

(10) S. GRANDE. *(R. W.)*

*Ident.* Wight's Ill. II. p. 17.

*Syn.* Eugenia cymosa, *Roxb. fl. Ind.* II. p. 492.

*Engrav.* Wight's Icon. t. 614.

SPEC. CHAR. Tree: leaves large, broad-oval, very obtuse, thick, coriaceous: cymes terminal and axillary, somewhat capitate, dense.

Silhet, flowering in December.

(11) S. LANCEÆFOLIUM. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 494.

*Engrav.* Wight's Icon. t. 621.

SPEC. CHAR. Large tree: leaves short-petioled, lanceolate, rounded at the base, acuminated: panicles axillary and terminal, globular, shorter than the leaves: berries oblong, crowned with the entire calyx.

Silhet, flowering in November.

(12) S. OBLATUM. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 493.

*Engrav.* Wight's Icon. t. 622.

SPEC. CHAR. Tree: leaves broad-lanceolar, obtusely acuminated: panicles terminal, with smaller axillary corymbiform fascicles, all shorter than the leaves: berries transversely oval.

Chittagong, flowering in March.

(13) S. Paniala. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 489.

*Engrav.* Wight's Icon. t. 616.

Spec. Char. Large tree: leaves broad-lanceolar, acuminate, coarsely-veined: panicles lateral, brachiate: flowers in little heads: berries oval, about the size of a gooseberry, filled with juice.

Chittagong, flowering in April.

(14) S. præcox. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 488.

*Engrav.* Wight's Icon. t. 619.

Spec. Char. Tree: leaves petioled, lanceolar, somewhat obtuse, coarsely-veined: panicles lateral and axillary, brachiate, about half as long as the leaves.

Chittagong hills, flowering in January.

(15) S. reticulatum. (*R. W.*)

*Ident.* Wight's Ill. vol. II. p. 16.

*Engrav.* Wight's Icon. t. 541.

Spec. Char. Tree: leaves ovate-lanceolate, acuminated, thick and coriaceous: cymes axillary, corymbose, trichotomous: limb of the calyx much dilated, 4-toothed: flowers large.

Assam.

(16) S. Rottlerianum. (*R. W.*)

*Ident.* W. & A. prod. I. p. 831. (under Eugenia.)

*Engrav.* Wight's Icon. t. 100.

Spec. Char. Tree, much branched; young shoots petioles peduncles and calyx covered with rusty silk tomentum: leaves very narrow-lanceolate, tapering at both ends, obtuse at the apex, glabrous except when young, pellucid-dotted: peduncles axillary or somewhat lateral, 3–4 together, sometimes solitary, filiform, much shorter than the leaves: calyx-segments 4, triangular-ovate, obtuse: petals 4, much longer than the calyx, villous on the margin.

Peninsula.

(17) S. rubens. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 196.

*Engrav.* Wight's Icon. t. 630.

Spec. Char. Large tree: leaves short-petioled, lanceolar, obtuse, coriaceous, shining: panicles terminal, ultimate divisions often umbelliferous.

Chittagong, flowering in April.

(18) S. SALICIFOLIUM. (*W. & A.*)

*Ident.* Wight's Ill. II. p. 16.

*Engrav.* Wight's Icon. t. 539.

SPEC. CHAR. Shrub: leaves linear-lanceolate, tapering at both ends, obtusely acuminated with fine transverse parallel veins: cymes trichotomous, small, from the scars of the fallen leaves: flowers small.

Ghauts near Bombay.

(19) S. VENUSTUM. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 491.

*Engrav.* Wight's Icon. t. 625.

SPEC. CHAR. Tree: branches drooping: leaves broad-lanceolar, obtusely acuminate: panicles axillary and terminal, brachiate, shorter than the leaves, ultimate divisions 3-flowered: calyx 4-toothed: petals 4, reddish.

Tipperah.

(20) S. WALLICHII. (*R. W.*)

*Ident.* Wight's Icon. vol. II.

*Engrav.* Wight's Icon. t. 536.

SPEC. CHAR. Young branches 4-sided: leaves lanceolate, acuminated, acute at the base, coriaceous: cymes corymbose, axillary and terminal, much shorter than the leaves: calyx deeply cleft: lobes persistent: petals frequently expanding before falling.

Assam.

(21) S. BALSAMIUM. (*Wall.*)

*Ident.* Wight's Ill. II. p. 16.

*Syn.* Eugenia balsamia, *R. W.*

SPEC. CHAR. Leaves obovate, lanceolate, attenuated towards the base, transversely veined, pellucid-dotted: cymes small, corymbose, often aggregated, much shorter than the leaves: calyx entire.

Assam.

(22) S. TETRAGONUM. (*R. W.*)

*Ident.* Wight's Ill. II. p. 16.

SPEC. CHAR. Stems 4-sided: angles winged: leaves oblong-ovate, attenuated at both ends, feather-nerved; marginal nerves prominent: cymes lateral, trichotomous, much shorter than the leaves: fruit globose, about the size of a large pea.

Silhet.

(23) S. ANDROSÆMOIDES. (*R. W.*)

*Ident.* Wight's Ill. II. p. 16.

*Syn.* Myrtus androsæmoides, *Linn.*

SPEC. CHAR. Leaves from broad-oval to obovate-suborbicular, coriaceous, glabrous, pellucid-dotted: cymes lateral, trichotomous, diffuse: fruit about the size of a small pea, crowned with the dilated margin of the calyx.

Assam.

(24) S. MACROCARPUM. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 497.

SPEC. CHAR. Tree: leaves subsessile, acuminate, narrow-cordate at the base: peduncles terminal, few-flowered: berries spherical, size of a large orange, crowned with the calyx.

Chittagong, flowering in April.

## GENUS IV. EUGENIA.

**Icosandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Eugenos*, noble, in allusion to the handsome appearance of the trees.

GEN. CHAR. Trees or shrubs: leaves opposite, quite entire, pellucid-dotted: peduncles axillary or terminal, solitary or several together, simple and 1-flowered, or racemose-cymose, or panicled: calyx-tube nearly globose: limb with 4, rarely 5 segments: petals 4, rarely 5: ovary 2-celled: ovules several in each cell: berry nearly globose, crowned with the calyx, 1, rarely 2-celled; seeds 1–2, large.

(1) E. BRACTEATA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 331.—Roxb. fl. Ind. II. p. 490.—Dec. prod. III. p. 264.

*Syn.* E. Roxburghii, *Dec.*—E. Zeylanica, *Roxb.*—Myrtus bracteata, *Willd.*—M. Coromandeliana, *Koen.*—M. ruscifolia, *Willd.*—M. latifolia, *Heyne.*—M. Heynei, *Spr.*

*Engrav.* Pluk. t. 427. f. 3.—Hook. Jour. Bot. I. t. 124.

SPEC. CHAR. Shrub: young parts covered with rusty pubescence: leaves ovate-oblong, tapering or cuneate at the base, obtuse or shortly acuminated, at first slightly downy, afterwards glabrous and shining above; peduncles usually axillary, sometimes terminal, short, 1-flowered, longer than the petioles, 1–4-together, with two small bracteoles under the calyx: calyx-segments 4, unequal, linear-oblong, ciliate: petals 4: fruit globose, 1–2-seeded: flowers white.

Very common on all the Coromandel Coast, near the sea-shore, flowering nearly all the year.

(2) E. Willdenowii. (*Dec.*)

*Ident.* Dec. prod. III. p. 265.

*Syn.* E. Zeylanica, *Willd. W. & A. prod.* I. *p.* 331.—Myrtus Willdenowii, *Spr.*

*Engrav.* Wight's Icon. t. 515.

Spec. Char. Shrub: leaves short-petioled, oblong, narrowed at the base, acuminated with a blunt point, coriaceous, shining, not dotted: peduncles filiform, 1-flowered, solitary or twin, axillary or on the leafless branchlets, with two short bracteoles under the calyx: flowers white.

Travancore. Phoonda Ghaut. Flowering nearly all the year.

(3) E. subcordata. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 331.

*Syn.* E. Michelii, *Lam. Dec. prod.* III. *p.* 263.

*Engrav.* Bot. Mag. XIV. t. 473.

Spec. Char. Small tree: leaves short-petioled, ovate, slightly acuminated, somewhat cordate at the base, glabrous, pellucid-dotted: peduncles axillary, fascicled, 2–10 together, slender, about half the length of the leaves, drooping: calyx usually without braets: segments 4, orbicular, villous on the margin: petals 4, orbicular: flowers small, white.

Peninsula, flowering in the hot season.

(4) E. Codyensis. (*Moon.*)

*Ident.* Wight's Ill. vol. II. p. 13.

Spec. Char. Shrub: leaves short-petioled, ovate-oblong or obovate, bluntly acuminated, tapering towards the base, pellucid-dotted: calyx-tube clothed with silky tomentum; segments ciliate: petals twice the length of the calyx-segments, ciliate: flowers subsessile, aggregated, forming terminal heads on the points of short abortive branches, or axillary, solitary or a few together, white, fragrant.

Near Mercara in Coorg, rare.

(5) E. Mooniana. (*Wight.*)

*Ident.* Wight's Ill. II. p. 13.

*Engrav.* Wight's Icon. t. 551.

Spec. Char. Shrubby: leaves pellucid-dotted, short-petioled, ovate, tapering at the base, acuminated: peduncles axillary, solitary or twin, 1-flowered: calyx-tube ventricose, oblong: limb 4-cleft: segments reflexed, pointed. fruit globose, about the size of a cherry: flowers small, white.

Shevagherry hills, near Coimbatoor.

(6) E. RAMOSISSIMA. (*Wall.*)

*Syn.* Clavimyrtus ramosissima, *Blume. Walp. Annal.* II. *p.* 639.

SPEC. CHAR. Leaves lanceolate or oblong-lanceolate, acuminated at both ends, somewhat coriaceous: peduncles axillary and terminal, somewhat longer than the petiole, 1 or few-flowered: tube of the calyx club-shaped, equal upwards; lobes roundish, somewhat equal.

Silhet mountains.

## GENUS V. JAMBOSA.

**Icosandria Monogynia.** *Sex Syst:*

*Deriv.* The Malay name latinized.

GEN. CHAR. Trees: leaves opposite, quite entire, pellucid-dotted: cymes lateral and terminal, much shorter than the leaf, few-flowered, simple: the lateral pedicels opposite, the terminal one solitary: flowers without bracteoles, jointed with the top of the pedicel: calyx-tube turbinate, the throat produced beyond the ovary: lobes roundish: petals 4, inserted on the top of the throat of the calyx, broad, concave: stamens distinct, straight: ovary 2-celled, with numerous ovules: style filiform: stigma simple: fruit crowned by the limb of the calyx, 1–2-seeded: seeds angled.

(1) J. PAUCIFLORA. (*R. W.*)

*Ident.* Wight's Ill. II. p. 14.

*Engrav.* Wight's Icon. t. 526.

SPEC. CHAR. Leaves lanceolate, attenuated towards the base, long-acuminated: pedicels solitary on the extreme axils, 1-flowered: calyx-tube cylindrical, long and slender: limb 4-cleft: fruit oval.

Courtallum.

(2) J. MONRONII. (*R. W.*)

*Ident.* Wight's Ill. II. p. 14.

*Engrav.* Wight's Icon. t. 546.

SPEC. CHAR. Calyx-tube much attenuated at the base: leaves subsessile, slightly cordate at the base, lanceolate upwards, bluntly acuminated, feather-nerved: flowers large, red.

Coorg.

(3) J. LANCEOLARIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 494.

*Engrav.* Wight's Icon. t. 613.

Spec. Char. Leaves narrow-lanceolar: flowers terminal, corymbosely fascicled: berries irregularly round-lobate: flowers very large, rose-coloured, fragrant.

Silhet, flowering in May.

(4) J. laurifolia. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 489.

*Engrav.* Wight's Icon. t. 609.

Spec. Char. Small tree, much branched: leaves subsessile, oblong, shining, obtusely-acuminate: peduncles lateral, 3-flowered: pedicels clavate, as long as the peduncles: berries oblong.

Native place not given, probably from Chittagong or Silhet, flowering in the hot season.

(5) J. ternifolia. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 489.

*Engrav.* Wight's Icon. t. 611.

Spec. Char. Large tree: leaves tern, sessile, oblong: flowers lateral.

Chittagong. Assam. Flowering in April. There are two varieties, one with white, the other with rosy flowers. Their leaves are among the largest of the genus, being from 6 to 15 inches long and from 3 to 6 broad. (Roxb.)

(6) J. amplexicaulis. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 483.

*Engrav.* Wight's Icon. t. 608.

Spec. Char. Large tree: leaves stem-clasping, oblong, obtuse: peduncles lateral, 3–9-flowered: berry spherical: flowers large, white.

Chittagong, flowering nearly all the year.

(7) J. polypetala. (*Wall.*)

*Ident.* Wight's Icon. vol. II.

*Syn.* Eugenia angustifolia, *Roxb. fl. Ind.* II. *p.* 490.

*Engrav.* Wight's Icon. t. 610.

Spec. Char. Small tree: leaves tern, linear-lanceolate: peduncles lateral, 3–4-flowered: petals 12–16.

Chittagong, flowering in March and April.

## GENUS VI. BARRINGTONIA.

**Icosandria Monogynia.** *Sex: Syst:*

*Deriv.* Named in honor of Davies Barrington, F. S. A.

Gen. Char. Trees: leaves crowded about the ends of the branches, opposite or verticillate, entire or crenated or serrated: flowers racemose: calyx-tube ovate: limb 2–4-partite: lobes ovate, obtuse, concave, persistent: petals 4, attached to the ring at the base of the stamens: stamens in several rows: filaments distinct, combined at the base into a short ring, all bearing anthers; ovary 2–4-celled, surmounted by an urceolus sheathing the base of the style: ovules 2–6 in each cell: style filiform: stigma simple: fruit more or less 4-angled, crowned by the calyx, 1-celled: seed solitary.

(1) B. racemosa. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 634.—W. &. A. prod. I. p. 333.—Dec. prod. III. p. 288.

*Syn.* Eugenia racemosa, *Linn.*

*Engrav.* Wight's Icon. t. 152.—Bot. Mag. LXVII. t. 3813.—Rheede Mal. IV. t. 6.

Spec. Char. Leaves cuneate-oblong, acuminated, serrulated: calyx 2–3-cleft; ovary 2-celled: fruit ovate, bluntly 4-angled: pedicels scarcely so long as the flower, with one bract at the base: flowers forming a pendulous raceme, large, red.

Soonderbunds. Coromandel. Travancore. Concans. Flowering in the hot season.

(2) B. acutangula. *(Gaertn.)*

*Ident.* W. & A. prod. I. p. 333.—Roxb. fl. Ind. II. p. 635.

*Syn.* Eugenia acutangula, *Linn.*—Stravadium rubrum, *Pers. Dec. prod.* III. *p.* 289.—S. coccineum, *Dec. l. c.*—Meteorus coccineus, *Lour.*

*Engrav.* Rheede Mal. IV. t. 7.

Spec. Char. Leaves cuneate-obovate, serrulated: calyx 4-cleft: ovary 2-celled: fruit oblong, 4-sided, sharp-angled: racemes long, pendulous: pedicels very short: flowers small, reddish-white, with scarlet filaments.

Peninsula. Saharunpore. South Concans. Along the backwaters in Travancore. Flowering in the hot season.

## GENUS VII. CAREYA.

**Icosandria Monogynia.** *Sex Syst.*

*Deriv.* Called after Dr. Carey of Serampore in Bengal.

Gen. Char. Arborescent or herbaceous: leaves alternate, approximated towards the ends of the branches: flowers sessile and forming a short spike, or pedicellate and somewhat corymbose: calyx-limb 4-partite: petals 4, spreading. stamens in several rows:

filaments united at the base into a thick fleshy ring, inserted into the same hollow rim with the petals, forming three circles, the middle one only bearing anthers: ovary 4-celled: style filiform: stigma capitate, obscurely 4-lobed or toothed: berry covered by the calyx, which forms the rind and crowned with its lobes: seeds several, nestling in pulp.

(1) C. ARBOREA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 638.—W. & A. prod. I. p. 334.—Dec. prod. III. p. 295.

*Engrav.* Roxb. Cor. III. t. 218.—Rheede Mal. III. t. 36.—Wight's Ill. II. t. 99–100.

SPEC. CHAR. Tree: leaves obovate or oblong, slightly serrulate-toothed: flowers sessile, in short terminal few-flowered spikes: fruit broadly-ovate: flowers large, greenish-white.

Peninsula. Both Concans. Travancore. Foot of the Himalayahs. Flowering in the hot season.

(2) C. SPHÆRICA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 636.

*Engrav.* Wight's Icon. t. 556.

SPEC. CHAR. Tree: leaves obovate, obtuse, glossy: spikes of flowers terminal, subglobular: berries globular, crowned with the inflated flattened segments of the calyx: flowers large, greenish-white, with deep-red filaments.

Mountains of Chittagong, flowering in April.

(3) C. HERBACEA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 638.—Dec. prod. III. p. 295.

*Engrav.* Wight's Icon. t. 557.—Roxb. Cor. III. t. 217.

SPEC. CHAR. Herbaceous: leaves short-petioled, obovate-cuneate, serrulated: racemes short: flowers pedunculate, greenish-white with red filaments.

Interior of Bengal, flowering in February and March.

## GENUS VIII. JOSSINIA.

**Icosandria Monogynia.** *Sex: Syst:*

*Deriv.* Meaning unknown.

GEN. CHAR. Trees or shrubs: peduncles axillary, 1-flowered, with two bracts under the flowers: calyx-tube turbinately-globose; limb 4-parted to the base: petals 4: stamens distinct, inserted on a broad disk: fruit fleshy, turbinately globose, crowned by the calyx-segments, many-seeded.

(1) J. Indica. *(R. W.)*

*Ident.* Wight's Icon. vol. II.

*Engrav.* Wight's Icon. t. 523.

Spec. Char. Leaves short-petioled, obovate-spathulate, glabrous on both sides: peduncles axillary, solitary or congested, sometimes from abortion of the leaves corymbose on the ends of the branches, 1-flowered: calyx clothed with white tomentum: fruit 2-celled, with several seeds in each cell.

Shevagherry hills, near Courtallum.

## ORDER LXV. ONAGRACEÆ.

Calyx tubular: limb usually 4-partite: æstivation valvular: petals usually equal in number to the lobes of the calyx, inserted at the top of the tube: æstivation twisted: stamens definite: filaments distinct: anthers oblong or ovate: ovary many-celled: ovules usually indefinite: style filiform: stigma capitate or lobed: fruit baccate or capsular, dehiscent or indehiscent, 1–4-celled: seeds usually indefinite or solitary in each cell: albumen none: embryo straight.

### GENUS I. JUSSIÆA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* Named in honor of the family of Jussieu, the celebrated French botanists.

Gen. Char. Herbaceous marshy plants with alternate leaves: flowers axillary, solitary, sessile or shortly pedicelled: calyx-tube prism-shaped or cylindrical, cohering with the ovary its whole length and not produced beyond it: limb divided down to the ovary into 4–6 persistent acute segments: petals as many as the calycine-lobes, spreading: stamens deciduous with the petals: ovary either flattish at the apex or elevated into a furrowed cone: style short: stigma capitate, 4–6-furrowed: capsule 4–6-celled, oblong, often ribbed, opening between the ribs and crowned by the lobes of the calyx: seeds very numerous.

(1) J. repens. *(Linn.)*

*Ident.* W. & A. prod. I. p. 335.—Dec. prod. III. p. 54.—Roxb. fl. Ind. II. p. 401.

*Syn.* J. fluviatilis, *Blume. Dec. l. c.*—Cubospermum palustre, *Lour.*

*Engrav.* Rheede Mal. II. t. 51.

Spec. Char. Herbaceous, glabrous, creeping or floating by means of vesicles round the insertion of the leaves, rooting from the joints: leaves oblong-obovate, obtuse or retuse, petioled: tube of the calyx slightly villous, cylindrical, attenuated at the base: lobes 5, lanceolate, acute, twice as short as the 5 obovate emarginate petals: flowers on longish pedicels, reddish-white.

Peninsula, flowering in the rainy season.

(2) J. villosa. *(Lam.)*

*Ident.* W. & A. prod. I. p. 336.—Dec. prod. III. p. 57.

*Syn.* J. suffruticosa, *Linn. Dec. prod. l. c. p.* 58.—J. fruticosa, *Dec.*—J. exaltata, *Roxb. fl. Ind.* II. *p.* 401.—Epilobium fruticosum, *Lour.*

*Engrav.* Rheede Mal. II. t. 50.

Spec. Char. Herbaceous, perennial, erect, more or less pubescent: leaves from broad-lanceolate to linear-acuminate, tapering at the base into a short petiole: calyx-lobes 4, sometimes 5, broad-lanceolate or ovate, 3–5-nerved, much shorter than the petals: capsule nearly cylindrical, elongated: flowers almost sessile, with two bracteoles often foliaceous but sometimes scale-like between the base and middle of the calyx-tube: flowers largish, yellow.

Peninsula. Northern India. Flowering in the rainy season.

## GENUS II. LUDWIGIA.

**Tetrandria Monogynia.** *Sex. Syst.*

*Deriv.* Named in honor of Herr Ludwig, formerly Professor of Medicine at Leipsic.

Gen. Char. Calyx-tube cylindrical, cohering with the ovary its whole length: limb 4, occasionally 5-partite: segments deciduous: petals 4–5: stamens 4–5, opposite the calyx-lobes: apex of the ovary or base of the style pyramidal, 4–5-angled, 4–5-furrowed: angles villous: stigma capitate, 4–5-furrowed or lobed: capsule turbinate or much elongated, 4–5-celled, surmounted with the base of the style: seeds very numerous.

(1) L. parviflora. *(Roxb.)*

*Ident.* Roxb. fl. Ind I. p. 419.—W. & A. prod. I. p. 336.—Dec. prod. III. p. 59.

*Syn.* L. diffusa, *Ham. in Linn. Soc. Trans.* XIV. *p.* 301.—L. perennis, *Linn. Dec. l. c.*—L. Zeylanica, *Pers.*—Jussiæa caryophyllæa, *Lam.*

*Engrav.* Wight's Ill. II. t. 101.—Rheede Mal. II. t. 49.—Pluk. t. 203. f. 5.

Spec. Char. Annual, erect, branched: leaves alternate, lanceolate, short-petioled, quite entire, lower ones often oblong: capsule obsoletely 4–5-angled, equally thick, about 2–3 times longer than broad, much shorter than the leaves: flowers small, yellow.

Peninsula. Concans. Flowering in the rainy season.

## GENUS III. CIRCÆA.

**Diandria Monogynia.** *Sex. Syst.*

*Deriv.* From Circe, the famous enchantress. The prickly fruit lays hold of the clothes of passers-by as Circe is said to have done by her enchantments.

Gen. Char. Calyx tubular; limb 2-parted: petals 2: stamens inserted into the calyx: ovary 2 or 1-celled, with one erect ovule in each cell: style simple: stigma emarginate: fruit 2 or 1-celled, 2-valved, 2 or 1-seeded: seeds solitary; albumen none.

### (1) C. alpina. *(R. W.)*

*Ident.* Wight's Ill. II. p. 22.

*Engrav.* Wight. l. c. t. 102.

Spec. Char. Herbaceous plant: leaves opposite, toothed, petioled: flowers in terminal and lateral racemes, covered with hooked hairs.

Neilgherries and Pulney hills.

## ORDER LXVI. HALORAGACEÆ.

Calyx 3–4-partite or entire: petals inserted at the top of the calyx-tube and alternate with its segments, or wanting: stamens inserted with the petals, twice as many or equal to them in number: ovary closely cohering with the calyx-tube, 1–4-celled: ovules solitary, pendulous: styles wanting or distinct and as many as the cells of the ovary: stigmas equal in number to the cells, pappulose or penicilliform: fruit dry and indehiscent, membranous or bony, with as many cells as stigmas: seed solitary, pendulous; albumen fleshy: embryo straight in the axis of the albumen.

## GENUS I. TRAPA.

**Tetrandria Monogynia.** *Sex: Syst.*

*Deriv.* Abridged from *Calcitrapa*, the Latin name of an instrument furnished with spines. The fruit of some of the species is furnished with 4 spines.

Gen. Char. Herbaceous floating plants with fibrous roots: lowest leaves opposite and divided into capillary segments: upper ones crowded, deltoid, toothed: petiole swollen in the middle: flowers axillary: calyx-tube cohering with the ovary: limb 4-partite: petals 4: ovary 2-celled, surmounted by a cup-shaped appendage: ovules solitary, pendulous: stigma capitate: nut indehiscent, very hard, turbinate, crowned with 2–4 horns, 1-celled: seed solitary.

### (1) T. bispinosa. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 428.—W. & A. prod. I. p. 337.—Dec. prod. III. p. 64.

*Engrav.* Roxb. Cor. III. t. 234.—Rheede Mal. XI. t. 33.

Spec. Char. Upper leaves and petioles tomentose beneath: peduncles shorter than the petioles: calyx villous; crown of the ovary 8-furrowed, the margins curled: horns of the fruit 2, conical, very sharp, barbed backwards: flowers smallish, white.

Peninsula. Northern India. Flowering in May and June. The fruit, known as the Singhara nut, is eaten by the natives.

### (2) T. quadrispinosa. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 430.

Spec. Char. Nut with two opposite pairs of straight acute spinous horns.

Silhet, floating on lakes and pools of fresh water.

## GENUS II. SERPICULA.

**Monœcia Tetrandria.** *Sex: Syst:*

*Deriv.* From *Serpo*, to creep, alluding to the habits of the plants.

Gen. Char. Male flowers: Calyx 4-partite: petals 4: stamens 4 or 8: styles sterile, in the centre of the flower. Fem. flowers: Calyx-tube cohering with the ovary: limb 4-partite: petals and stamens wanting: ovary 4-celled: ovules 4: styles spreading, each terminated by a large pappulose stigma: nut brittle, 1-celled, 1-seeded.

(1) S. BREVIPLS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 338.

SPEC. CHAR. Herbaceous, branched: leaves opposite, cuneate-oval, toothed towards the apex: flowers axillary; male ones pedicellate, octandrous, on glabrous pedicels about the length of the leaves; female ones aggregated, almost sessile.

Neilgherries.

(2) S. HIRSUTA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 338.

*Engrav.* Wight's Icon. t. 1001.

SPEC. CHAR. Herbaceous, creeping: stems hirsute: leaves opposite, cuneate-oblong or oval, toothed towards the apex, slightly hairy, particularly on the under side: flowers axillary, males octandrous, on hairy pedicels twice the length of the leaves; females aggregated, almost sessile.

Neilgherries.

## GENUS III. HALORAGIS.

**Octandria Tetragynia.** *Sex: Syst:*

*Deriv.* From *Hals*, the sea, and *Rax rayis*, the berry of a bunch of grapes, alluding to some of the species growing on the sea-coast and somewhat resembling grapes.

GEN. CHAR. Herbaceous or shrubby plants: calyx-tube cohering with the ovary; limb 4-partite: petals 4, alternate: stamens 4–8: stigmas sessile and pappulose: nut 2–4-celled, 2–4-seeded, or from abortion 1-celled and 1-seeded.

(1) H. OLIGANTHA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 338.

*Engrav.* Wight's Icon. t. 1061.

SPEC. CHAR. Procumbent: leaves alternate, narrow-linear, serrated towards the apex: calyx-tube marked with 4 projecting angles: petals linear-lanceolate, much longer than the segments of the calyx: stigmas 4: nut muricated, 1-celled, 1-seeded: flowers small, axillary, solitary, sessile.

Neilgherries.

## GENUS IV. MYRIOPHYLLUM.

**Monœcia Tetrandria.** *Sex: Syst:*

*Deriv.* From *Murios*, numberless, and *Phyllon*, a leaf.

Gen. Char. Aquatic floating herbaceous plants, with their upper parts emersed while flowering: flowers monœcious or bisexual, rarely diœcious. Male: Calyx 4-partite: petals 4, caducous: stamens 4, 6 or 8. Female: Calyx cohering with the ovary; limb 4-lobed: petals 4, smaller than in the male, very caducous, often wanting: stamens when present without anthers: ovary 4-celled: styles wanting: stigmas linear-oblong, compressed: fruit 4-lobed, consisting of 4 carpels, cohering by their inner angles and enclosed in the calyx-tube, each carpel nut-like, indehiscent, 1-seeded.

(1) M. Indicum. (*Willd.*)

*Ident.* W. & A. prod. I. p. 339.—Dec. prod. III. p. 68.

Spec. Char. Leaves in fours, verticillate, lower ones divided pinnately into capillary lobes, upper gradually narrower and pinnatifid, with the undivided portion broader, uppermost cuneate-lanceolate, toothed or almost quite entire: flowers verticillate: stamens 8: anthers oblong: female flowers with 4 petals: carpels wrinkled: and tubercled.

Coromandel. Neilgherries. Flowering in the rainy season.

(2) M. tetrandrum. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 451.—W. & A. prod. I. p. 339.—Dec. prod. III. p. 69.

Spec. Char. Leaves verticillate: lower ones pinnately divided into capillary segments, upper ones much the smallest, pinnatifid: flowers verticillate, white: stamens 4: carpels nearly smooth and even, blunt on the back.

Peninsula, flowering in the rainy season.

(3) M. tuberculatum. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 451.

Spec. Char. Leaves verticilled, pinnatifid or acutely serrate: flowers verticilled, sessile, one in the axil of each leaf, small, bright red.

Borders of lake and other moist places near Calcutta. Flowering nearly all the year.

## ORDER LXVII. CALLITRICHACEÆ.

Calyx very small, surrounding the ovary: petals wanting: stamens 1, rarely 2: filaments filiform, grooved in the inside: anther kidney-shaped, 1-celled: ovary solitary, 4-cornered, compressed, 4-celled: ovules solitary, suspended: stigmas 2, pappulose inside: fruit 2-celled, 2-seeded: seeds peltate.

## GENUS I. CALLITRICHE.

**Monandria Digynia.** *Sex: Syst:*

*Deriv.* A name given by Pliny to a plant which had the appearance of beautiful hair, from *Kallos*, beautiful, and *Thrix*, hair.

Gen. Char. Aquatic herbaceous plants: leaves opposite, simple, entire: flowers axillary, very small, usually unisexual, sometimes with two small bracts at the base of the peduncle.

### (1) C. Wightiana. *(Wall.)*

*Ident.* W. & A. prod. I. p. 339.

*Engrav.* Wight's Icon. t. 1947.

Spec. Char. Stems creeping: leaves obovate, obtuse, 3-nerved: flowers nearly sessile: pedicels without bracteoles: fruit of 4 lobes, each with a winged keel at the back.

Neilgherries.

## GENUS II. CERATOPHYLLUM.

**Monœcia Polyandria.** *Sex: Syst:*

*Deriv.* From *Keras*, a horn, and *Phyllon*, a leaf, in reference to the leaves being branched like a stag's horn.

Gen. Char. Aquatic herbs: leaves verticillate, cut into filiform lobes: calyx many-parted: petals none: anthers 2-celled, bicuspidate; ovary ovate, 1-celled, with one solitary pendulous ovule: style filiform, oblique; nut 1-celled, indehiscent, crowned by the hardened stigma: embryo straight: albumen none.

### (1) C. verticillatum. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 624.

*Syn.* C. muricatum, *Cham. W. & A. prod.* I. *p.* 309.—C. tuberculatum, *Cham.*

*Engrav.* Wight's Icon. t. 1948.

Spec. Char. Fruit elliptical, slightly compressed, furnished with 3 spines, winged; wing narrow, with regular teeth: sides of the fruit convex, more or less muricated: flowers very small.

Peninsula. Bengal. Flowering in February and March. There are one or two varieties characterized by tubercled or muricated 3-spined fruit.

## ORDER LXVIII. CUCURBITACEÆ.

Calyx 5-toothed, sometimes obsolete: petals 5, distinct or united, strongly marked with reticulating veins, occasionally fringed: stamens 5, distinct or triadelphous: anthers 2-celled: ovary adhering to the tube of the calyx, often spuriously 1-celled: ovules solitary or indefinite: style short: stigmas 3, 2-lobed, very thick velvety or fringed: fruit fleshy: seeds usually ovate or compressed, enveloped in a juicy or dry and membranous aril: albumen none: embryo straight.

### GENUS I. ZANONIA.

**Diœcia Monadelphia.** *Sex: Syst:*

*Deriv.* Named after G. Zanoni, author of the Istoria Botanica.

Gen. Char. Climbing, glabrous plants: leaves alternate, without stipules, quite entire: tendrils axillary: peduncles axillary. Male flowers: Calyx 3-lobed: petals 5, patent, united into a 5-partite rotate corolla: stamens 5, filaments flat, connate at their base: anthers adnate, 1-celled. Fem. flowers: Limb of the calyx 5-lobed: corolla as in the male: ovary 3-celled: styles 3, patent, 2-cleft at the apex: fruit fleshy, marked round the apex by a circular line, opening at the top by 3 valves: placenta central, fleshy, 3-angled: seeds ovate, with a large leafy border.

#### (1) Z. Indica. *(Linn.)*

*Ident.* W. & A. prod. I. p. 340.—Dec. prod. III. p. 298.

*Engrav.* Rheede Mal. VIII. t. 47, 48.—Wight's Ill. II. t. 103.

Spec. Char. Herbaceous: leaves elliptical, acute, slightly cordate at the base: racemes axillary: ovary club-shaped, with two ovules in each cell: fruit conical-cylindric, slightly 3-angled: flowers small, pale-yellow.

Travancore. Vingorla. Flowering in January and February. This is by no means a common plant.

#### (2) Z. clavigera. *(Wall.)*

*Ident.* Don's Mill. III. p. 4.—Walp. Pl. As. Rar. II. p. 28.

Spec. Char. Climbing shrub: leaves trifoliate; leaflets oblong, acuminated. fruit large, club-shaped.

Silhet.

(3) Z. ANGULATA. (*Wall.*)

*Ident.* Walp. Pl. As. Rar. II. p. 28.

SPEC. CHAR. Shrub: stem angular: leaves simple, somewhat hastately lanceolate, cordate at the base: fruit large, club-shaped.

Silhet.

(4) Z. LAXA. (*Wall.*)

*Ident.* Walp. Pl. As. Rar. II. p. 29.

SPEC. CHAR. Stem filiform, much branched, bifariously pilose: leaves trifoliate; leaflets acuminated, serrated, middle one lanceolate, lateral ones half-cordate: petioles and peduncles pilose.

Silhet.

## GENUS II. CUCUMIS.

**Monœcia Monadelphia.** *Sex. Syst.*

*Deriv.* Said to be from *Curvus*, crooked, referring to the shape of the fruit.

GEN. CHAR. Flowers monœcious or bisexual: calyx tubular-campanulate: segments subulate, scarcely the length of the tube: petals scarcely united together and with the calyx. MALE. Stamens 5, triadelphous. FEM. Stigmas 3, thick, bipartite: fruit fleshy, indehiscent: seeds ovate, compressed, not margined: flowers axillary, solitary or several together.

(1) C. PUBESCENS. (*Willd.*)

*Ident.* W. & A. prod. I. p. 342.—Dec. prod. III. p. 301.

*Syn.* C. Madraspatanus, *Roxb. fl. Ind.* III. p. 723.

*Engrav.* Wight's Icon. II. t. 496.—Royl. Ill. t. 47. f. 1.

SPEC. CHAR. Stems scabrous: leaves somewhat reniform, repandly and acutely toothed, slightly angled: petals slightly acute: fruit oval, obtuse at both ends, terete, spotted, more or less pubescent, about one or one and a half inch in length: flowers largish, yellow.

Coromandel. Deccan. Delhi. Flowering nearly all the year. Fruit much esteemed by the natives.

(2) C. MACULATUS. (*Willd.*)

*Ident.* W. & A. prod. I. p. 342.—Dec. prod. III. p. 301.

SPEC. CHAR. Stems scabrous: leaves roundish-reniform, obsoletely lobed, toothed: petals slightly acute: connectivum much produced beyond the anthers: fruit pear-shaped, terete, spotted, glabrous, about 2½ inches in length.

The habitat is not given. Wight includes it among his Peninsula plants.

(3) C. TURBINATUS. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 723.—W. & A. prod. I. p. 342.

SPEC. CHAR. Stems scabrous: leaves palmately lobed: lobes obovate, repandly and sharply toothed: cymes obtuse: female flowers solitary: fruit pear-shaped, bluntly 3-angled, variegated, glabrous, scarcely two inches in length: flowers largish, yellow.

Coromandel, flowering nearly all the year. Fruit eatable.

(4) C. TRIGONUS. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 722.—W. & A. prod. I. p. 342.

*Engrav.* Wight's Icon. t. 497.

SPEC. CHAR. Stems scabrous: leaves 5-lobed: lobes rounded, repandly and sharply toothed: male flowers crowded; female solitary: fruit oval, rounded at both ends, obsoletely 3-angled, 10-striated, glabrous: flowers small, yellow.

Coromandel, flowering nearly all the year.

(5) C. INTEGRIFOLIUS. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 724.

SPEC. CHAR. Stems annual, much branched, angular, hairy: leaves roundish, deeply sinuated: lobes rounded, much wrinkled, scabrous above, hairy underneath: flowers solitary, pure white, pubescent, the females with shorter peduncles: fruit globular, size of a nutmeg, smooth, orange-coloured.

Bengal, flowering in the rainy season.

## GENUS III. LUFFA.

**Monœcia Pentandria.** *Sex: Syst.*

*Deriv.* The Arabic name of one of the species latinized.

GEN. CHAR. Flowers rarely dicœcious: calyx 5-toothed; tube in the male campanulate, in the female oblong-clavate: petals 5, distinct. MALE. Stamens 5, distinct, 2–3-adelphous. FEM. Style 3-cleft: stigmas kidney-shaped or divided: fruit becoming dry and inwardly fibrous, usually opening by the decay of a lid at the apex, sometimes indehiscent: seeds usually with elevated or depressed dots: male flowers racemose; female solitary.

(1) L. AMARA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 715.—W. &. A. prod. I. p. 343.

*Syn.* L. Plukenetiana, *Ser. in Dec. prod.* III. *p.* 302.

*Engrav.* Pluk. t. 172. f. 1.

SPEC. CHAR. Annual, climbing: leaves slightly scabrous, roundish-cordate, slightly 5–7-lobed; male racemes long-peduncled: sta-

mens adelphous: fruit oblong, tapering, 3–4 inches in length, acutely 10-angled: lid deciduous: seeds blackish-grey, marked with small elevated black dots: margin tumid, 2-lobed at the base: flowers large, yellow.

Peninsula, flowering in the rainy season.

(2) L. ECHINATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 716.—W. & A. prod. I. p. 343.

SPEC. CHAR. Dioecious: stems slightly hairy: leaves somewhat hairy, about 5-lobed, repand-toothed: tendrils bifid: male racemes longer than the leaves: stamens triadelphous: fruit oval, echinated with long soft bristles; lid deciduous: flowers small.

Coromandel. Guzerat. Flowering in the rainy season.

(3) L. TUBEROSA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 717.

SPEC. CHAR. Root tuberous, perennial: stems glabrous: leaves reniform-cordate, 5–7-angled or lobed, toothed, quite glabrous: tendrils simple: male racemes few-flowered, very short: stamens diadelphous: female flowers solitary: fruit oblong, smooth, with sharp ridges, indehiscent: flowers small, white.

Circars. Mysore. Tuticorin. This is a rare species. It grows in hedges and among bushes on the banks of water courses.

(4) L. CLAVATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 714.

SPEC. CHAR. Stems smooth: leaves slightly 5–7-lobed; posterior lobes rounded; margin slightly toothed: fruit clavate, long and slender: flowers very long, deep-yellow.

Hindostan, flowering in the cold season.

(5) L. GRAVEOLENS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 716.

SPEC. CHAR. Stems creeping, somewhat villous: tendrils 3–4-cleft: leaves kidney-shaped, somewhat lobed, scallop-toothed, the surface covered with a few small teeth: flowers axillary, male and female mixed, and blossoming in succession: fruit oblong, about the size of a man's thumb, armed with numerous soft conical points, the interstices being clothed with hairs and short glands.

Rajmahal hills, flowering in the rainy season.

## GENUS IV. BRYONIA.

**Monœcia Monadelphia.** *Sex. Syst.*

*Deriv.* From *Bryo*, to sprout out, in allusion to the rapid growth.

Gen. Char Calyx 5-toothed, as long as the undivided part of the corolla: corolla 5-partite, or 5-petalled or not exceeding the calyx. Male. Stamens triadelphous: anthers flexuose or nearly straight. Fem. Calyx much constricted between the limb and the tube: style 3-cleft: fruit ovate, oval or globose.

(1) B. laciniosa. *(Linn.)*

*Ident.* W. & A. prod. I. p. 345.—Dec. prod. III. p. 308.—Roxb. fl. Ind. III. p. 728.

*Engrav.* Wight's Icon. t. 500.—Rheede Mal. VIII. t. 19.

Spec. Char. Stems glabrous: tendrils bifid: leaves slightly scabrous, palmately 5-lobed: segments oblong-lanceolate, acuminated, serrated: petioles shorter than the leaves, murioated: male flowers fascicled: female solitary in the same axil: berries the size of a cherry, spherical, glabrous, 3-celled: seeds few in each cell, with a pulpy aril; margins tuberose; sides gibbous and suberose: flowers small, yellowish-green.

Peninsula. Goalpara. Northern India. Flowering all the year. The fruit is pale-red with white streaks.

(2) B. leiosperma. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 345.

Spec. Char. Stems petioles and peduncles hispid and scabrous: tendrils simple: leaves cordate, 5-angled: middle segment triangular, repand-toothed, upper side scabrous, under densely hairy: flowers short-peduncled, both kinds fascicled, the female in different axils from the male: berry globose, size of a large pea, glabrous; seeds several, surrounded by a broad tumid zone.

Dindigul Hills.

(3) B. Mysorensis. *(Herb. Madr.)*

*Ident.* W. & A. prod. I. p. 345.

*Syn.* B. Hookeriana, *W. & A. l. c.*

*Engrav.* Wight's Icon. t. 758, 1609.

Spec. Char. Stems glabrous, smooth: tendrils simple: leaves cordate, repand-toothed, 5-angled or lobed, slightly scabrous: male flowers in a simple or proliferous umbel at the apex of a long slender peduncle: female very shortly-peduncled, solitary, often in the same axils with the males: berry longish-oval, glabrous, marked before ripening with many small shallow pits: seed smooth, surrounded with a zone, flat on the sides.

Peninsula. Mysore. Warree country.

## GENUS V. ÆCHMANDRA.

**Monœcia Monadelphia.** *Ser. Syst.*

*Deriv.* From *Aichme*, a point, and *Aner*, *Andros*, male, in allusion to the pointed anthers.

Gen. Char. Lobes of the corolla undivided: filaments triadelphous, very short: anthers linear-oblong: connectivum prolonged into a short beak beyond the anther: fruit baccate, beaked.

(1) Æ. EPIGÆA. (*Arn.*)

*Ident.* Arn. in Hook. Jour. Bot. III. p. 274. (ed. 1841.)

*Syn.* Bryonia epigæa, *Rottl. W. & A. prod.* I. *p.* 346.—B. glabra, *Roxb. fl. Ind.* III. *p.* 725.

*Engrav.* Wight's Icon t. 503.

Spec. Char. Stem glabrous, often very flexuose at the joints: tendrils simple: leaves somewhat fleshy, on longish petioles, cordate, sometimes only obtusely angled, usually 3-lobed, densely hairy on both sides: lobes rounded, lateral ones the broadest and slightly 2-lobed, all slightly toothed: male flowers shortly racemose at the apex of a long thickish peduncle: calyx campanulate: females short-peduncled, solitary, in the same or different axils from the males: berry ovate, beaked, glabrous: seeds white, compressed: flowers small, yellow.

Peninsula. Guzerat and the Deccan.

(2) Æ. ROSTRATA. (*Arn.*)

*Ident.* Arn. in Hook. Jour. Bot. III. p. 274 (ed. 1841.)

*Syn.* Bryonia rostrata, *Rottl. W. & A. prod.* I. *p.* 346.—*Dec. prod.* III. *p.* 304.—B. pilosa, *Roxb. fl. Ind.* III. *p.* 726.

Spec. Char. Stems slender, hairy or pubescent: tendrils simple: leaves long-petioled, roundish-cordate, sinuate, toothed, pubescent: male flowers usually two together, pedicelled, on a slender peduncle longer than the petiole: calyx campanulate: female solitary, very short-peduncled, in the same axils with the male: berry ovate, rostrate, longitudinally striated, hairy, 2–6-seeded: seeds black, compressed, with a thin margin: flowers small, yellow.

Peninsula. Hedges in Guzerat.

(3) Æ. CENOCARPA. (*Dals.*)

*Ident.* Dalz. Bomb. flor. p. 100.

Spec. Char. Climbing: leaves lobed: lobes lanceolate, acute, middle one much longer than the others: male flowers about 15, on longish peduncles: fruit sessile, narrow-conical, smooth, orange-red, except the base which remains green: seeds black, ovate: sides gibbous.

Hedges in Guzerat.

## GENUS VI. KARIVIA.

**Monœcia Monadelphia.** *Sex: Syst:*

*Deriv.* The Malabar name latinized.

Gen. Char. Calyx urceolate: corolla scarcely exserted: lobes minute, quite entire: anthers 2-celled: style entire: stigma pileate, trifid: fruit many-seeded, blunt or with a short thick beak.

### (1) K. umbellata. (*Arn.*)

*Ident.* Wight's Ill. II. p. 30.

*Syn.* Bryonia umbellata, *Klein. Dec. prod.* III. *p.* 305.—*W. & A. prod.* I. *p.* 345.—Momordica umbellata, *Roxb. fl. Ind.* III. *p.* 710.—R. Rheedii, *Blume.*

*Engrav.* Rheede Mal. VIII. t. 26.

Spec. Char. Dicœcious: root tuberous: stems glabrous: tendrils simple: leaves very short-petioled, cordate or sagittate, hirsute at the base, from oblong and entire or roundish and angled to more or less deeply 3–5-lobed or sometimes palmately 5-partite, sinuate and sharply toothed, scabrous above, smoothish beneath, somewhat coriaceous: male flowers umbelled or shortly racemose at the apex of a long slender peduncle: pedicels with a small narrow-oblong bracteole about their middle: calyx campanulate: females on a different plant, solitary, short-peduncled: berry about the size of a pigeon's egg, oblong, slightly angled: seeds orbicular, surrounded with a warted zone: flowers small, yellowish.

Common in hedges in the Peninsula. Silhet. Deccan. Sirmore, flowering nearly all the year. The fruit as well as the root is eaten by the natives.

### (2) K. amplexicaulis. (*Arn.*)

*Ident.* Wight's Ill. II. p. 30.

*Syn.* Bryonia amplexicaulis, *Lam. W. & A. prod.* I. *p.* 346.

*Engrav.* Wight's Icon. t. 502.

Spec. Char. Monœcious: stems glabrous: tendrils simple: leaves almost sessile, deeply cordate or sagittate at the base, ovate or oblong, entire or angled, mucronate, sinuate and toothed, slightly scabrous above, smooth below: male flowers in an umbel: peduncles shorter than the leaves: pedicels short, without bracteoles: females solitary, very short-peduncled, in the same or different axils from the males: berry broadly ovate, beaked, about 4-seeded: seeds oval, thick, surrounded with a wrinkled zone; the sides flat, sprinkled with little tubercles.

Southern Provinces.

## GENUS VII. MUKIA.

**Monœcia Monadelphia.** *Sex. Syst:*

*Deriv.* The Sanscrit name latinized.

Gen. Char. Style entire: stigmas 3, more or less cohering, erect: filaments triadelphous, inserted at the base of the corolla: anthers distinct, 1-celled, lateral: connectivum prolonged into a point.

(1) M. SCABRELLA. (*Arn.*)

*Ident.* Arn. in Hook. Jour. Bot. III. p. 274. (ed. 1841.)

*Syn.* Bryonia scabrella, *Linn. W. & A. prod.* I. *p.* 345.—*Dec. prod.* III. *p.* 306.—B. Madraspatana, *Berg. Dec. l. c.*—Cucumis Madraspatanus, *Linn.*—B. althœoides, *Ser. in Dec. prod. l. c.*—B. scabra, *Rottl.*—B. Rottleri, *Spreng.*—B. scabrella, *Roxb. fl. Ind.* III. *p.* 424.

*Engrav.* Pluk. t. 170. f. 2.—Rheede Mal. VIII. t. 13.—Wight's Icon. t. 501.

Spec. Char. All hispid and scabrous: tendrils simple: leaves cordate, lobed or angled: flowers short-peduncled; males fascicled; female 1–4, in different axils from the male: berry globular, size of a pea, glabrous or slightly bristly: seed surrounded by a narrow zone, and wrinkled from numerous shallow hollows: flowers small, yellowish.

Peninsula. Interior of the mountains of Northern India. Flowering all over India. There are several varieties, one of which has small and scarcely angled leaves and the berries solitary, the latter usually being 3–4 together.

## GENUS VIII. COCCINIA.

**Dioecia Monadelphia.** *Sex. Syst:*

*Deriv.* From *Coccineus*, scarlet, in allusion to the bright-red fruit.

Gen. Char. Calyx 5-cleft: corolla much larger than the calyx, campanulate, 5-cleft. Male. Calyx very short: anthers distinct and connivent, very anfractuose; stamens united at the base into one column. Fem. Calyx-tube oblong, attenuated at the apex under the limb: stamens triadelphous, abortive: style short, 3-cleft: stigmas bifid: fruit somewhat baccate, oblong, smooth, 3-celled: bursting irregularly: seeds ovate, compressed, covered with a gelatinous aril.

(1) C. INDICA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 347.

*Syn.* Bryonia grandis, *Linn. Dec. prod.* III. *p.* 305.—B. Momoi, *Ser. in Dec. l. c.*—Momordica Monadelpha, *Roxb. fl. Ind.* III. *p.* 708.

*Engrav.* Rheede Mal. VIII. t. 14.—Burm. Zeyl. t. 19. f. 1, 2. —Rumph. Amb. V. t. 166. f. 1.

SPEC. CHAR. Climbing, glabrous shrub: tendrils simple: leaves cordate, from roundish and entire to 5-angled or slightly 5-lobed, minutely toothed, glabrous, furnished with several glands on the under side near the base: peduncles solitary, axillary, 1-flowered, bracteolate: fruit before maturity marked with 10 white streaks, when ripe bright-red: flowers large, white.

Common in hedges all over the country, flowering throughout the year.

## GENUS IX. ZEHNERIA.

**Monœcia Monadelphia.** *Sex. Syst*

GEN. CHAR. Bracts floriferous, large, usually cordate, ciliated: lobes of the corolla quite entire: style undivided: stigma pileate, obscurely bilamellar: fruit baccate, 1–2-seeded, blunt.

(1) Z. GARCINI. (*Stocks.*)

*Ident.* Walp. Annal. IV. p. 855.—Hook. Jour. Bot. IV. p. 149.

*Syn.* Bryonia Garcini, *Willd. W. & A. prod.* I. *p.* 344.—*Dec. prod.* III. *p.* 308.—*Roxb. fl. Ind.* III. *p.* 727.—Sicyos Garcini, *Linn.*

*Engrav.* Burm. Ind. t. 57. f. 3.

SPEC. CHAR. Stems smooth, climbing: tendrils simple: leaves deeply 3–5-lobed, bristle-toothed, more or less scabrous: bracts axillary, large, kidney-shaped, ciliated: berries red, small, hammer-shaped, 2-seeded: seeds oblong, thickest at the margin: flowers small, yellowish.

Coast of Kattywar. Peninsula. Flowering in the rainy season.

(2) Z. CERASIFORMIS. (*Stocks.*)

*Ident.* Hook. Jour. Bot. IV. p. 149.—Dalz. Bomb. flor. p. 100.

SPEC. CHAR. Stems leaves and bracts as in the preceding: fruit globose, scarlet, clustered like cherries: seeds 2, rather large, convex on the one side and concave on the other.

Hedges in Northern Guzerat and Scinde.

## GENUS X. MOMORDICA.

**Monœcia Monandria.** *Sex Syst.*

*Deriv.* From *Mordeo*, to bite. The seeds appear as if bitten.

Gen. Char. Flowers monœcious or diœcious: calyx 5-cleft: corolla much longer than the calyx and cleft down to the calyx-segments. Malr. Stamens triadelphous. Fem. Style 3-cleft: fruit fleshy, bursting when ripe, with or without elastic force: seeds enveloped in fleshy aril.

### (1) M. dioica. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 348.—Dec. prod. III. p. 312.—Roxb. fl. Ind. III. p. 709.

*Engrav.* Wight's Icon. t. 505, 6.—Rheede Mal. VIII. t. 12. (Fem.) t. 18. (Male.)

Spec. Char. Diœcious: root tuberous, perennial: stems glabrous: leaves longish-petioled, cordate at the base, from entire to 3–4-lobed, toothed, upper side slightly scabrous, under smooth or nearly so: petioles without glands: peduncles slender, with entire bracteoles: male with the bracteole close to the flower, hooded and concealing the lower part of the flower; female with a smallish one near the base: calyx-segments subulate: petals lanceolate: fruit ovate, muricated: seeds oval, surrounded by a large red aril. flowers large, yellow.

Peninsula and other parts of India. Flowering nearly all the year. The tender green fruit and tuberous roots of the female plant, weighing from two to three pounds, are eaten by the natives.

### (2) M. mixta. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 709.—W. & A. prod. I. p. 349.

*Syn.* M. Cochinchinensis, *Spreng.*—Muricia Cochinchinensis, *Lour. Dec. prod.* III. *p.* 318.

*Engrav.* Bot. Mag. t. 5145.

Spec. Char. Diœcious: root tuberous, perennial: stems glabrous: leaves 3–5-lobed or palmate, glabrous: lobes oblong, sometimes toothed: petioles and margin of the leaves near the base furnished with glands: peduncles with a large cucullate bracteole close to the flower and enclosing its lower part: bracteoles emarginate, slightly scabrous: calyx campanulate: petals ovate: fruit oval, sharply muricated: flowers large, cream-coloured.

In thickets about Calcutta, flowering in the rainy season.

### (3) M. Paina. (*Ham.*)

*Ident.* Don's Mill. III. p. 36.

Spec. Char. Leaves cordate, triangular or hastate, sometimes lobed at the base, acuminated, coarsely toothed: tendrils simple: female peduncles 1-flowered, solitary, male ones racemose: fruit round, with a few scattered prickles.

Goalpara.

(4) M. Hamiltoniana. *(Wall.)*

*Ident.* Don's Mill. III. p. 36.

Spec. Char. Climbing: leaves cordate, toothed, crenated, acuminated: bract toothed: peduncles 1-flowered, solitary: tendrils simple: fruit hispid: flowers large.

Goalpara. Gongachora.

(5) M. tubiflora. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 711.

Spec. Char. Stems creeping, roughish with short hairs, 5-sided: leaves roundish, 3–5-lobed or angled, with acute teeth on the margins, scabrous on both sides: male peduncles solitary, axillary: females solitary, short-peduncled: fruit oblong, 10-ribbed, rough with hairs, orange-coloured when ripe: seeds enveloped in soft dark-greenish aril: flowers large, pure white.

Forests about Dacca, flowering in the rains.

## GENUS XI. TRICHOSANTHES.

**Monœcia Monadelphia.** *Sex. Syst.*

*Deriv.* From *Thrix*, hair, and *Anthos*, a flower, in allusion to the fringed corolla.

Gen. Char. Flowers rarely dicœcious. Male. Calyx somewhat clavate, 5-cleft; segments subulate: corolla 5-partite, ciliated: stamens 5, triadelphous: anthers very flexuose. Fem. Calyx 5-toothed: corolla 5-partite, cut and ciliated: style 3-cleft: stigmas oblong-subulate: fruit oblong or globose: male flowers usually racemose, rarely solitary; female generally solitary, rarely racemose.

(1) T. nervifolia. (*Linn.*)

*Ident.* W. & A. prod. I. p. 349.—Dec. prod. III. p. 314.

*Engrav.* Rheede Mal. VIII. t. 17.

Spec. Char. Stem smoothish: leaves cordate-acuminate, minutely and sharply bristle-toothed, smooth, marked beneath with prominent veins and nerves: tendrils 2-cleft: male flowers long-pedicelled: peduncle sometimes branched: female flowers solitary; fruit ovate.

Malabar.

(2) T. Cucumerina. *(Linn.)*

*Ident.* W. & A. prod. I. p. 350.—Roxb. fl. Ind. III. p. 702, Dec. prod. III. p. 315.

*Syn.* T. laciniosa, *Herb. Madr. Dec. l. c.*

*Engrav.* Rheede Mal. VIII. t. 15.

Spec. Char. Annual, climbing: leaves broadly cordate, 3–7-angled or lobed, toothed or serrated, pubescent or glabrous: tendrils 3-cleft: male flowers shortly racemose at the apex of a long peduncle: female solitary, short-peduncled, often in the same axils with the males: fruit ovate, pointed: flowers small, white.

Peninsula. Common in hedges in Guzerat and the South Concan. Flowering from August till October.

(3) T. palmata. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 350.—Roxb. fl. Ind. III. p. 704.

*Syn.* Modecca bracteata, *Lam. Dec. prod.* III. *p.* 337.

*Engrav.* Wight's Ill. II. t. 104, 105.

Spec. Char. Perennial, climbing: leaves palmately-lobed, toothed, usually glandular underneath: tendrils 3-cleft: male flowers racemose, with a large, ovate, cut and toothed bracteole at the base of each pedicel; female solitary, in the same axils as the male, occasionally racemose: calyx-segments ovate, deeply toothed or serrated: fruit globose, size of an orange, dark-red: seeds numerous, oblong, compressed: flowers white, with fringed petals.

Peninsula. Common in jungles near the Ghauts. Flowering nearly all the year.

(4) T. lobata. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 703.

Spec. Char. Stems 5-sided, somewhat hairy: leaves petioled, 5–7-lobed: lobes obovate, toothed: tendrils 3-cleft: male flowers racemose, white: fruit linear-oblong, smooth, with 10 white streaks: seeds surrounded with bright-red aril.

Bengal, flowering in the rainy season.

(5) T. cordata. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 703.

Spec. Char. Root perennial, tuberous, very large: stems herbaceous, climbing, 5-sided, villous: tendrils opposite, 3-cleft: leaves cordate and somewhat lobed, toothed, villous on both sides: petioles channelled, slightly hairy: male racemes axillary, solitary, as long as the leaves: bracts alternate, sessile, cuneate-oblong, serrulated, 1-flowered: female flowers axillary, solitary, short-peduncled: fruit

spherical, size of an orange, dark-red: flowers large, white, with fringed petals.

Near the mouth of the Megna river.

(6) T. HETEROCLITA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 705.

SPEC. CHAR. Perennial, scandent: leaves 3–5-lobed, smooth on both sides: lobes entire, oblong or triangularly ovate, acuminated: petioles shorter than the leaves, reddish-coloured, with conical, coloured stipules: male racemes axillary, solitary, about the length of the leaves, bearing several alternate subsessile large flowers near the apex: braets solitary, oblong, acute: calyx rusty-pubescent outside; exterior margins of the corolla fringed with long spiral pendulous yellow threads: female flowers sometimes on a different plant: peduncles axillary, 1-flowered, when racemose much shorter than the male: fruit spheroidal, somewhat villous, pointed, the size of a shaddock: seeds 6, unequally 2-lobed.

Silhet, flowering nearly all the year.

(7) T. OFFICINALIS. *(Ham.)*

*Ident.* Don's Mill. III. p. 38.

SPEC. CHAR. Climbing, scabrous: leaves cordate, denticulated: petioles hispid: female peduncle 1-flowered, solitary: fruit round, smooth.

Chilmari in Assam.

## GENUS XII. CITRULLUS.

**Monœcia Monadelphia.** *Sex Syst:*

GEN. CHAR. Corolla persistent, 5-parted, subrotate: anthers triadelphous, 2-celled: style 3-cleft: stigma obcordate, convex: fruit fleshy or dry and fibrous, many-seeded.

(1) C. COLOCYNTHIS. *(Arn.)*

*Ident.* Hook. Jour. Bot. III. p. 271. (ed. 1811.)

*Syn.* Cucumis colocynthis, *Linn. W. & A. prod.* I. *p.* 342.—*Dec. prod.* III. *p.* 302.—*Roxb. fl. Ind.* III. *p.* 719.

*Engrav.* Wight's Icon. t. 498.

SPEC. CHAR. Creeping; stems glabrous: leaves glabrous and smooth above, copiously muricated beneath with small white and often hair-bearing tubercles, many-cleft and lobed: tendrils short and simple: female flowers solitary: calyx-tube globose and hispid: segments narrow-linear: fruit globose, glabrous, very bitter, variegated with green and yellow: flowers yellow.

Eastern Deccan and Guzerat. Peninsula. Banks of the Jumna. Flowering in the rainy season.

GENUS XIII GYMNOPETALUM.

**Monœcia Monadelphia.** *Sex. Syst.*

*Deriv.* From *Gymnos*, naked, and *Petalon*, a petal.

Gen. Char. Calyx constricted at the mouth: corolla 5-parted: segments quite entire: anthers closely cohering.

(1) G. Wightii. *(Arn.)*

*Ident.* Wight's Ill. I. p. 31.

Spec. Char. Climbing: leaves 3–5-angled, lobed: perianth hairy: fruit ovate, beaked, few-seeded: seeds large, roundish: flowers yellow.

Courtallum.

## ORDER LXIX. PASSIFLORACEÆ.

Sepals 5, leafy, united below into a tube, the sides and throat of which are lined with a corona, composed of filamentous or annular processes: petals perigynous, inserted between the corona and the calyx-segments, with which last they are equal in number and alternate, very rarely larger than them, sometimes wanting: stamens 5, monadelphous, usually with processes from the disk between them and the petals: anthers inserted by their base, 2-celled, bursting longitudinally on the inner side, but from being often reflexed, apparently opening outwardly: ovary free, 1-celled: ovule indefinite, attached to 3 parietal placentæ: styles 3 or wanting: fruit naked or surrounded by the calyx, 1-celled, usually 3-valved, dehiscent and with cells, or fleshy and indehiscent: seeds compressed, with an aril: testa brittle, sculptured: embryo straight, in the centre of thin fleshy albumen.

GENUS I. PASSIFLORA.

**Monadelphia Pentandria.** *Sex. Syst.*

*Deriv.* The Passion-flower is so named from a fancied resemblance between the flowers and a crown of thorns, in allusion to the passion of our Saviour.

Gen. Char. Flowers bisexual: calyx-tube very short: corona composed of numerous filaments in several rows: anthers reflexed: berry stalked, usually pulpy.

(1) P. Leschenaultii. *(Dec.)*

*Ident.* W. & A. prod. I. p. 352.—Dec. prod. III. p. 326.

*Engrav.* Wight's Spicil. I. t. 76.

Spec. Char. Climbing: leaves alternate, half-orbicular, rounded at the base, somewhat truncated and tricuspidate at the apex, pubescent beneath: petioles with 2 glands about their middle: tendrils simple: calyx without an involucre: petals 5: peduncles in pairs, in the same axils as the tendrils, simple, 1-flowered: fruit purple when ripe: flowers whitish, with purple filaments.

Neilgherries, flowering nearly all the year.

## GENUS II. MODECCA.

**Monadelphia Pentandria.** *Sex. Syst.*

*Deriv.* The Malabar name latinized.

Gen. Char. Flowers unisexual: calyx campanulate: tube short. Male. Filaments cohering at the base: anthers erect. Fem. Ovary shortly-stalked, surrounded with five sterile longish filaments: stigmas 3, petaloid: capsule fleshy, 3-valved, coriaceous and vesicular when dry: seeds numerous, arillate, scrobiculate: peduncles bearing tendrils.

(1) M. Wightiana. *(Wall.)*

*Ident.* W. & A. prod. I. p. 353.

*Engrav.* Wight's Icon. t. 179.

Spec. Char. Climbing: leaves glabrous, from ovate, entire, rounded or slightly cordate at the base to hastate or palmately-lobed, with a large glandular projection at the apex of the petiole on its upper surface: stigmas cuneate, fringed: petals 5, ovate, entire: corona composed of a fringe of short soft hairs.

Alpine jungles. Madura. Narthamala.

(2) M. palmata. *(Lam.)*

*Ident.* W. & A. prod. I. p. 353.—Dec. prod. III. p. 336.

*Syn.* M. tuberosa, *Roxb. fl. Ind.* III. *p.* 134.—M. integrifolia, *Lam. Dec. l. c.*

*Engrav.* Wight's Icon. t. 201.—Rheede Mal. VIII. t. 20, 21, 22, 23.

Spec. Char. Climbing: root large and woody, appearing above the ground: leaves from cordate-acuminated to palmately 3–5-lobed, smooth, with two flat glands at the base and one below each

sinus between the lobes: stipules hard and horn-like. petals 5, linear-acuminated, ciliated: corona a simple row of hairs fringing the hollow of the calyx-tube on the inside: fruit globular, of a bright orange-yellow: flowers largish, yellowish-green.

Courtallum. Cochin. Malwan and Southern jungles above the Ghauts. Flowering in April.

(3) M. TRILOBATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 132.

*Engrav.* Roxb. Cor. III. t. 271.

SPEC. CHAR. Climbing to a great extent: leaves 3-lobed: lobes entire, acute, with a large yellow gland under each sinus and two at the base: petals 5, linear-lanceolate, ciliated: capsule oblong, smooth, 3-valved, scarlet: flowers numerous, male and female mixed on the same tendril, yellow.

Chittagong, flowering in the rainy season.

(4) M. ALIENA. (*Wall.*)

*Ident.* Don's Mill. III. p. 59.

SPEC. CHAR. Climbing: leaves deeply cordate at the base, oblong, acuminated: lobes rounded at the base: pedicels umbellate, on the top of shortish peduncles: tendrils simple.

Silhet.

## ORDER LXX. PORTULACACEÆ.

Succulent plants: leaves usually alternate, without stipules: sepals usually 2, rarely 3–5, cohering at the base: petals usually 5, sometimes 3, 4 or 6, rarely wanting, distinct or cohering at the base, inserted at the bottom of the calyx and alternating with the sepals when of the same number: stamens inserted with the petals: filaments distinct: anthers versatile, 2-celled, bursting lengthwise: ovary 1-celled: style usually cleft at the apex, papillose on the inner side: capsule dehiscing transversely or by three valves: seeds few or many: embryo curved round the circumference of farinaceous albumen.

### GENUS I. PORTULACA.

**Decandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Porto*, to carry, and *Lac*, milk, the species being milky plants.

(1) P. OLERACEA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 356.—Dec. prod. III. p. 353.—Roxb. fl. Ind. II. p. 463.

*Engrav.* Rheede Mal. X. t. 36.

SPEC. CHAR. Annual, diffuse: leaves wedge-shaped, naked in the axils and at the joints: petals 5: stamens 10–12: style 5-parted: flowers sessile, small, yellow.

All over India, flowering in the rainy season.

(2) P. QUADRIFIDA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 356.—Dec. prod. III. p. 354.—Roxb. fl. Ind. II. p. 464.

*Syn.* P. meridiana, *Roxb. fl. Ind.* II. *p.* 463.—Illecebrum verticillatum, *Burm. Ind p.* 66.

*Engrav.* Rheede Mal. X. t. 31.—Wight's Ill. II. t. 109.

SPEC. CHAR. Annual, diffuse, creeping, the joints and axils hairy: leaves oblong, flat: petals 4; stamens 8–12: style filiform, 4-cleft at the apex: flowers terminal, nearly sessile, surrounded by 4 leaves, yellow.

Coromandel and various other parts of India. Flowering all the year.

(3) P. TUBEROSA. *(Roxb)*

*Ident.* Roxb. fl. Ind. II. p. 464.—W. & A. prod. I. p. 356.

SPEC. CHAR. Root tuberous: stems diffuse; the joints and axils of the leaves slightly hairy: leaves linear-lanceolate: petals 5: stamens about 20: style 5-cleft at the apex: flowers terminal, sessile, surrounded by 6–8 leaves.

Circars. Wallajabad. Flowering in the rainy season.

(4) P. SUFFRUTICOSA. *(Wight.)*

*Ident.* W. & A. prod. I. p. 356.

SPEC. CHAR. Root woody, branched: stems somewhat woody at the base, branched: leaves linear, their axils and joints slightly hairy: stamens about 16: style 5-cleft to the middle: flowers terminal, sessile, surrounded by 6–8 leaves.

Peninsula.

(5) P. WIGHTIANA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 356.

SPEC. CHAR. Diffuse, sometimes creeping: stems and branches naked at the base: joints and axils clothed with numerous lanceolate scarious processes: leaves oblong, flat, with the margin recurved: stamens 6–8: style thicker upwards, 5–6-cleft at the apex; flowers terminal, sessile, surrounded by a few leaves.

Narthamala. Wallajabad. Sadras.

## ORDER LXXI. SESUVIACEÆ.

Succulent herbaceous plants: calyx 5-partite, petaloid within: corolla none: ovary 1 or several-celled: ovules several, superposed: capsule usually becoming 1-celled by the obliteration of the partitions or transversely 2-celled.

### GENUS I. TRIANTHEMA.

**Decandria Monogynia.** *Sex: Syst.*

*Deriv.* From *Treis*, three, and *Anthos*, a flower, alluding to the flowers being disposed by threes.

Gen. Char. Calyx 5-sepalled: sepals united at the base, coloured inside: petals wanting: stamens 5–10 or more, inserted on the tube of the calyx: anthers cordate-ovate: ovary obovate, truncated, 1–2-celled: ovules attached to filiform podosperms: styles 1–2, simple: capsule truncated, 1–2-celled, splitting transversely a little above the base: lid coriaceous, containing one or two seeds enclosed by a spurious partition, lower part membranaceous, with one or more seeds: seeds pitted.

#### (1) T. crystallinum. (*Vahl.*)

*Ident.* W. & A. prod. I. p. 355.—Dec. prod. III. p. 352.—Roxb. fl. Ind. II. p. 444.

*Syn.* T. triquetra, *Rottl. Dec. l. c.*—Papularia crystallina, *Forsk.*

Spec. Char. Perennial, cespitose, woody at the base: stems diffuse, prostrate, dotted with crystalline specks: leaves opposite, entire, oval or somewhat spathulate: flowers several together, protruded from the sheath of the leaves, small, greenish: stamens 5: style simple: capsule 2-seeded: lid cup-shaped at the apex externally, quite open below and allowing the seed to drop off.

Coromandel. Dehgaum near Cambay. Flowering in the rainy season.

#### (2) T. obcordatum. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 355.—Roxb. fl. Ind. II. p. 445.

*Syn.* T. pentandra, *var.* obcordata, *Dec. prod.* III. *p.* 352.

*Engrav.* Wight's Icon. t. 288.

Spec. Char. Perennial: stems diffuse, prostrate, slightly pubescent on the upper side: leaves opposite, one of each pair larger and obcordate, the other smaller and oblong: stamens 15–20: style

simple: capsule 6–8-seeded: lid concave, with 2 spreading teeth, almost closed at the bottom, nut-like and including one seed: flowers solitary, sessile, nearly concealed within the broad sheath of the petioles, small, greenish-white.

Coromandel. Common in rice fields of the Peninsula. Flowering nearly all the year.

(3) T. DECANDRUM. *(Linn.)*

*Ident.* W. & A. prod. I. p. 355.—Dec. prod. III. p. 352.—Roxb. fl. Ind. II. p. 444.

*Syn.* Zaleya decandra, *Burm.*

*Engrav.* Burm. Ind. t. 31. f. 3.—Pluk. t. 120. f. 3.—Wight's Icon. t. 296.

SPEC. CHAR. Annual: stems diffuse, prostrate, glabrous or pubescent above: leaves opposite, elliptic, obtuse or acute, one of each pair a little larger than the other: sepals membranaceous on the margin: stamens 10–12: style divided into two linear segments: capsule 4-seeded, with a spurious dissepiment: lid slightly 2-lobed at the apex, nearly closed below, nut-like, 2-seeded: flowers several: pedicel on a short peduncle, with scariose bracts and bracteoles, small, greenish-white.

Peninsula, flowering nearly all the year.

## GENUS II. SESUVIUM.

**Icosandria Digynia.** *Sex: Syst:*

*Deriv.* Meaning unknown.

GEN. CHAR. Fleshy herbaceous plants growing near the sea-side: calyx 5-partite, persistent, coloured inside: petals none: stamens inserted into the bottom of the calyx: ovary free, sessile: style wanting: stigmas 3–5, linear: capsule 3, rarely 4–5-celled, debiscing transversely: seeds numerous: embryo curved like a hook.

(1) S. PORTULACASTRUM. *(Rottl.)*

*Ident.* Roxb fl. Ind. II. p. 509.

*Syn.* S. repens, *Rottl. W. & A. prod.* I. *p.* 361.—*Dec. prod.* III. *p.* 453.

*Engrav.* Rumph. Amb. VI. t. 72. f. 1.

SPEC. CHAR. A fleshy glabrous plant: stems prostrate, rooting at the joints: leaves opposite, oval, spathulate or oblong-linear: flowers axillary, alternate, solitary, pedicellate, small, green, internally white: stigmas 3.

Sea shores of Salsette. Tranquebar. Soonderbunds. Flowering in the hot season.

## ORDER LXXII. MESEMBRYACEÆ.

Shrubby or herbaceous succulent plants: leaves opposite, entire: sepals usually 5, occasionally 4–8, more or less cohering at the base, cohering or distinct from the ovary, equal or unequal: petals indefinite, in several rows: stamens inserted on the calyx, indefinite, distinct: anthers oblong: ovary inferior, 1 or many-celled: stigmas numerous, distinct: ovules indefinite: capsule surrounded by the fleshy calyx, 1 or many-celled, bursting in a stellate form at the apex, or transversely at the base: seeds usually indefinite: embryo on the outside of mealy albumen, curved or spiral: flowers terminal.

### GENUS I. GLINUS.

**Decandria Pentagynia.** *Sex Syst.*

*Deriv.* A name given by Theophrastus to the maple.

Gen. Char. Procumbent diffuse plants: leaves alternate or in pairs and unequal: calyx 5-partite, connivent, persistent: 3 sepals exterior, 2 interior: petals 5 or numerous, shorter than the calyx, linear, cleft or torn at the apex, sometimes wanting: stamens usually about 15: ovary free: style very short or wanting: stigmas 5: capsule surrounded by the calyx, 5-celled, 5-valved: seeds attached to the axis by long podosperms.

#### (1) G. LOTOIDES. *(Linn.)*

*Ident.* W. & A. prod. I. p. 362.—Dec. prod. III. p. 455.

*Syn.* G. dictamnoides, *Linn.*—Pharnaceum pentagonum, ***Roxb.*** *fl. Ind.* II. *p.* 103.

*Engrav.* Lam. Ill. t. 413. f. 2.—Burm. Ind. t. 36. f. 1.

Spec. Char. Herbaceous, hoary with short tomentum: leaves obovate, flat, fascicled, unequal: pedicels 1-flowered, axillary, usually twice as long as the petiole: petals 5, deeply cloven: flowers small, greenish-red: capsule membranaceous, opening from the apex downwards.

Peninsula. Common in Bombay. Flowering nearly all the year. The tender shoots are eaten by the natives in their curries.

GENUS II. ORYGIA.

**Icosandria Pentagynia.** *Sex: Syst:*

*Deriv.* The Arabic name latinized.

Gen. Char. Herbaceous or suffruticose plants: calyx 5-parted, persistent: petals numerous: ovary free, 5-celled, with several ovules in each cell: styles 5, filiform, recurved: capsule papery, globose, 5-furrowed: seeds numerous, somewhat kidney-shaped: testa crustaceous, furrowed.

(1) O. TRIANTHEMOIDES. (*Endl.*)

*Ident.* Wight's Ill. II. p. 44.

*Syn.* Glinus trianthemoides, *Heyne. W. & A. prod.* I. *p.* 362.

*Engrav.* Wight's Ill. II. t. 113.

Spec. Char. Herbaceous, diffuse: leaves alternate, cuneate-obovate, rounded, mucronate: panicles lax, axillary, leaf-opposed, dichotomously racemose: calyx-segments ovate, cuspidate, membranaceous on the margin, spreading: petals numerous, from spathulate to lanceolate, entire: style and stigma filiform: capsule smooth and shining externally, splitting from the apex: flowers purplish.

Bellary.

## ORDER LXXIII. PARONYCHIACEÆ.

Herbs or undershrubs: leaves opposite or alternate, entire, with scarious stipules: sepals 5, distinct or cohering: petals usually small, sometimes wanting: stamens perigynous or hypogynous, opposite the sepals when equal to them in number, some occasionally wanting: filaments distinct: anthers 2-celled: ovary free: styles 2 or 3, distinct or partly combined: fruit 1-celled, either a utricle or a 3–5-valved capsule: seeds numerous upon a central placenta, or solitary and pendulous from a cord arising from the bottom of the fruit: embryo lying on one side of mealy albumen, more or less curved.

GENUS I. POLYCARPÆA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Polys*, many, and *Karpos*, fruit.

Gen. Char. Leaves opposite, but apparently verticillate from the presence of short axillary leafy branchlets: calyx 5-partite or deeply 5-cleft: sepals flat, membranaceous on the margin: petals 5, almost hypogynous: stigmas 3: capsule 1-celled, 3-sided, 3-valved: seeds attached to a central placenta.

(1) P. corymbosa. (*Lam.*)

*Ident.* W. & A. prod. I. p. 358.—Dec. prod. III. p. 374.

*Syn.* P. spadicea, *Lam. W. & A. prod.* I. *p.* 357.—Achyranthes corymbosa, *Willd.*—Polia arenaria, *Lour.*—P. Indica, *Lam.*—Celosia corymbosa, *Willd. Roxb. fl. Ind.* I. *p.* 681.

*Engrav.* Rheede Mal. X. t. 66.—Burm. Zeyl. t. 65. f. 2.—Wight's Ill. II. t. 100.—Icon. t. 712.

Spec. Char. Suffruticose: stems erect, with a few simple branches: leaves narrow-linear or setaceous, mucronate: sepals entirely scariose, lanceolate, acuminated, 2–3 times longer than the capsule: cymes terminal, dichotomous: flowers reddish-brown.

On the sea-shore, South Concan and Guzerat. Travancore. Deccan. Flowering in August.

(2) P. diffusa. (*Wight.*)

*Ident.* Arn. in Ann. of Nat. Hist. III. p. 91.

Spec. Char. Suffruticose, much branched, lax, diffuse, somewhat glabrous: leaves fascicled, linear: flowers cymosely corymbose: sepals scariose, ovate-lanceolate, acuminate: petals somewhat equalling the sepals, slightly larger than the stamens and acute capsule.

Tuticorin.

(3) P. spicata. (*Wight.*)

*Ident.* Arn. in Ann. of Nat. Hist. III. p. 91.

*Engrav.* Wight's Icon. t. 510.

Spec. Char. Glabrous: stems many, slender, diffuse, bearing 1–2 distant fascicles of leaves and peduncles: leaves radicle and cauline, fascicled, glaucous, somewhat fleshy, spathulate-oblong, acutish: flowers imbricated, spiked; spikes few, fascicled at the apex of the peduncle: sepals scariose, 1-nerved at the back, much larger than the subulate petals: filaments dilated at the base and cohering round the capsule in a ring together with the base of the corolla.

Mountains of the Southern parts of the Peninsula.

## GENUS II. HAPALOSIA.

**Triandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Hapalos,* soft, probably in allusion to the texture of the plants.

Gen. Char. Calyx 5-partite, fleshy: segments somewhat navicular, membranaceous on the margin: petals 5, shorter than the calyx: stamens inserted with the petals into the bottom of the calyx: style 3-cleft: capsule 1-celled, ovoid, 3-valved: seeds numerous, attached by cords to a central placenta.

(1) H. LŒFLINGIÆ. (*Wall.*)

*Ident.* W. & A. prod. I. p. 358.

*Syn.* Pharnaceum depressum, *Linn.*—Lœflingia Indica, *Retz. Roxb. fl. Ind.* I. *p.* 165.—Polycarpæa depressa, *Dec. prod.* III. *p.* 375.

Spec. Char. Annual, diffuse: stems much branched, more or less densely pubescent: leaves opposite, apparently verticillate, cuneate-oblong or spathulate, sometimes pubescent or woolly when young: petals linear, truncated, toothed at the apex: stipules scariose: corymbs terminal, or in the forks of the branches: flowers small, whitish.

Peninsula. Bengal. Flowering in February.

## GENUS III. DRYMARIA.

**Pentandria Trigynia.** *Sex: Syst:*

*Deriv.* From *Drumos*, a forest, alluding to the habitation of the species.

Gen. Char. Calyx 5-partite: segments membranaceous on the margin: petals 5, bifid: stamens 5, or fewer by abortion, inserted on the summit of the disk: capsule 1-celled, 3-valved, few or many-seeded.

(1) D. CORDATA. (*Willd.*)

*Ident.* W. & A. prod. I. p. 359.—Dec. prod. I. p. 395.

*Syn.* Holosteum cordatum, *Linn.*—Stellaria cordata, *Willd. Dec. l. c. p.* 396.

*Engrav.* Lam. Ill. t. 51. f. 2.

Spec. Char. Herbaceous, diffuse, branched, glabrous: leaves opposite, roundish-ovate, mucronulate, slightly attenuated or cordate at the base, with several small membranaceous bristle-like stipules connecting the petioles: stamens often 3: ovary 5–10-seeded: peduncles axillary and terminal, dichotomous, many-flowered.

Dindigul Hills.

## ORDER LXXIV. CRASSULACEÆ.

Sepals 3–20, more or less united at the base: petals alternate with the sepals, inserted upon the bottom of the calyx, either distinct or forming a monopetalous corolla: stamens inserted with the petals, equal to them in number and alternate or twice as many, those opposite the petals being shortest and arriving at maturity before the rest: filaments distinct, subulate: anthers 2-celled, bursting lengthwise: nectariferous scales one at the base of each ovary: ovaries equal in number to the petals and opposite to them, 1-celled: fruit of several follicles, opening by the ventral suture: seeds variable in number: embryo straight, in the axis of thin fleshy albumen.

### GENUS I. KALANCHOE.

**Octandria Tetragynia.** *Sex. Syst:*

*Deriv.* The Chinese name of one of the species.

Gen. Char. Suffruticose, fleshy plants: leaves opposite, irregularly pinnatifid or ovate, thick, usually toothed: calyx 4-partite, the sepals scarcely combined at the base, narrow-acute, somewhat distant; corolla hypocrateriform: tube cylindrical: limb spreading, 4-partite: stamens attached to the tube of the corolla at the base: scales 4, linear: carpels 4: styles filiform.

#### (1) K. GRANDIFLORA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 359.

*Engrav.* Wight's Spicil. I. t. 77.—Wight's Ill. II. t. 111.

Spec. Char. Glabrous: leaves broadly-obovate, crenated, upper ones obtuse: cyme corymbose, lax: sepals oblong, acute: petals oval, bluntish, with a short hooked mucronate point: flowers yellowish.

Dindigul Hills. Neilgherries, in rocky places.

#### (2) K. FLORIBUNDA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 359.

*Syn.* K. spathulata, *Wall.*

Spec. Char. Upper parts of the stem and cyme covered with short spreading glandular hairs: upper leaves alternate, lanceolate,

crenated, pubescent: cymes panicled: branches elongated, racemiform: sepals subulate: petals oblong, mucronate.

Nundidroog.

(3) K. LACINIATA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 360.—Dec. prod. III p. 395.

*Syn.* Cotyledon laciniata, *Linn. Roxb. fl. Ind.* II. *p.* 456.—Verea laciniata, *Spr.*

*Engrav.* Wight's Icon. t. 1158.

SPEC. CHAR. Leaves decompound and pinnatifid, the segments oblong, acute, coarsely toothed, upper ones nearly entire: sepals lanceolate, acuminated, spreading: cymes panicled: flowers yellow.

Hills near Dharwar. Patna in Bengal. Flowering in the rainy season.

(4) K. PINNATA. *(Pers.)*

*Ident.* Pers. Syn. p. 446.—Dalz. Bomb. flor. p. 105.

*Syn.* Bryophyllum calycinum, *Salisb. W. & A. prod.* I. *p.* 360. *Dec. prod.* III. *p.* 396.—Cotyledon pinnata, *Lam.*—C. Rhyzophylla, *Roxb. fl. Ind.* II. *p.* 456.—C. calycina, *Roxb.*—Verea pinnata, *Spr.*

*Engrav.* Bot. Mag. XXXIV. t. 1409.—Hook. Bot. Misc. III. t. 31.

SPEC. CHAR. Fleshy, erect, suffruticose: leaves opposite, ovate-crenated: panicles terminal: flowers pendulous, tubular, yellowish-red.

Common in the Warree country and near Belgaum. Travancore. Bengal. Flowering in the cold season.

(5) K. RITCHIEANA. *Dalz.*

*Ident.* Hook. Jour. Bot. IV. p. 346.—Dalz. Bomb. flor. p. 105.

SPEC. CHAR. Herbaceous, glaucous: stem erect, succulent, 4-sided: leaves oblong, narrower towards the base, perfoliate, decussate, thick and fleshy: margins obscurely toothed; lower ones glabrous, upper ones smaller, viscid and glandular: petals oblong, mucronate: racemes panicled, viscid and glandular.

Hill of Caktay, between Belgaum and Sholapore.

(6) K. OLIVACEA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 313.

SPEC. CHAR. Herbaceous: stems somewhat jointed: leaves ovate or broad-lanceolate, cuneate at the base, unequally crenato-serrate, fleshy, dotted with dark-red spots; upper leaves smaller:

pedicels, calyx and flowers clothed with glandular viscid hairs: tube of the corolla swelled at the base: petals ovate-oblong, mucronate: cymes supra-axillary, terminal: flowers pale pink.

Pandooghur. Cliffs of Paunchgunny.

### GENUS II. TILLÆA.

**Tetrandria Trigynia.** *Sex: Syst.*

*Deriv.* Named after M. A. Tilli, an Italian Botanist and Author.

GEN. CHAR. Herbs with opposite leaves; calyx 3–4-partite: petals 3–4, oblong, acuminated: scales none or very small: carpels 3–4, somewhat constricted in the middle, 2-seeded.

(1) T. PENTANDRA. *(Royle.)*

*Ident.* Edgew. in Linn. Trans. XX. p. 50.—Dalz. Bomb. flor. p. 105.

SPEC. CHAR. Stems creeping: branches erect, leafy: leaves somewhat perfoliate, rather fleshy, subulate-acute, mucronate: flower-bearing branchlets axillary, solitary, sessile or shortly-peduncled: sepals 5, subulate: petals 5, lanceolate-acute.

Concans. Neilgherries. Mysore. Flowering from September to November.

## ORDER LXXV. SAXIFRAGACEÆ.

Trees shrubs or herbs: leaves alternate or opposite, without stipules: sepals usually 5, more or less coherent at the base: petals as many, inserted on the tube of the calyx, rarely wanting: stamens perigynous, as many as the petals or twice as many, or indefinite: anthers ovate, 2-celled, bursting longitudinally; ovary adherent or inserted on a broad base, 2 or 4-celled or 1-celled with two or more parietal placentæ: styles as many as the carpels, with capitate or clavate stigmas: fruit a capsule: seeds usually numerous: albumen fleshy.

### GENUS I. VAHLIA.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* In honor of Martin Vahl, a famous Botanical Author.

Gen. Char. Calyx-tube cohering with the ovary: limb 5-partite; æstivation valvular: petals 5, entire, shorter than the calyx: stigmas capitate: capsule 1-celled, 2-valved, truncated at the apex, 5-furrowed, crowned with the calyx, many-seeded: seeds convex on the outer side, concave on the inner, or oblong and somewhat angular or compressed.

(1) V. Oldenlandioides. *(Roxb.)*

*Ident.* W. &. A. prod. I. p. 364.—Roxb. fl. Ind. II. p. 89.

*Syn.* V. Oldenlandiæ, *Dec. prod.* IV. *p.* 54.—Oldenlandia pentandra, *Retz.*—O. dichotoma, *Spr.*—O. biflora, *Roth.*—V. silenoides, *Dec. l. c.*

*Engrav.* Wight's Icon. t..562.—Ill. II. t. 115.

Spec. Char. Herbaceous: stem erect, slightly pubescent, dichotomously branched: leaves opposite, linear-lanceolate, pubescent, entire: peduncles solitary, rather shorter than the leaves, 2-flowered: capsules nearly globose: seeds minute: flowers white.

Coromandel. Orissa.

(2) V. viscosa. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 364.—Roxb. fl. Ind. II. p. 89.

*Syn.* V. sessiliflora, *Dec. prod.* IV. *p.* 54.—Oldenlandia digyna, *Retzs*—O. decumbens, *Spr.*—O. sessiliflora, *Sm. in Rees' Cycl.* —V. Weldenii, *Dec. l. c. p.* 53.

*Engrav.* Wight's Icon. t. 563.

Spec. Char. Herbaceous: stems diffuse or somewhat erect, pubescent, slightly glutinous: leaves opposite, oblong-lanceolate or linear, entire, pubescent: flowers in pairs, almost sessile, yellow: capsules nearly globose: seeds minute.

Coromandel. Island of Caranjah and Guzerat. Mysore. Bundlecund. Northern India.

## GENUS II. SAXIFRAGA.

**Decandria Digynia.** *Sex: Syst.*

*Deriv.* From *Saxum*, a stone, and *Frango*, to break, from its reputed medical qualities in that disease.

Gen. Char. Herbs of temperate and alpine climates and generally cespitose: leaves alternate, exstipulate: calyx free or adnate to the base of the ovary: sepals imbricated: petals 4–5, perigynous: stamens perigynous: ovary 2–3-celled: styles 2–3, free.

(1) S. LIGULATA. *(Wall.)*

*Ident.* Jour. Proc. Linn. Soc. II. p. 60.—Wall. in As. Trans. XIII. p. 398.

*Engrav.* Hook. Bot. Mag. t. 3406.—Exot. Flora. I. t. 49.—Royl. Ill. t. 49. f. 2.

SPEC. CHAR. Calyx 5-lobed; lobes obtuse, erect: leaves orbiculate, or obovate, cordate at the base, quite entire, ciliated: petiole dilated at the base: panicles quite glabrous.

Khasia mountains, flowering in April and May.

## GENUS III. ASTILBE.

**Decandria Digynia.** *Sex: Syst:*

*Deriv.* From *A*, not, and *Stilbe*, brightness. The species are opaque plants.

GEN. CHAR. Erect herbs: leaves alternate, composite, with stipules: calyx adnate to the base of the ovary: lobes imbricated: petals 4–5, perigynous or wanting: stamens 8–10, perigynous: ovaries 2, free: placentæ sutural.

(1) A. RIVULARIS. *(Ham.)*

*Ident.* Don. prod. fl. Nep. p. 210.—Dec. prod. IV. p. 51.

*Syn.* Spiræa barbata, *Cambess. in plant. Jacq.*

SPEC. CHAR. Herb, covered with brown villi: flowers often 4-cleft, octandrous: bracts ovate concave, often laciniated at the apex: lobes of the leaves doubly serrated and with the petioles villous: calyx coloured: capsule birostrate: racemes spicate, greenish-yellow.

Khasia mountains, flowering in June.

## GENUS IV. NEILLIA.

**Icosandria Monogynia.** *Sex: Syst:*

*Deriv.* Named by Mr. D. Don in honor of his friend Patrick Neill of Edinburgh.

GEN. CHAR. Shrubs: leaves alternate, stipulate, lobed: calyx adnate to the base of the ovary: lobes 5, valvate: petals and stamens perigynous: ovary single, 1-celled: placenta sutural.

(1) N. THYRSIFLORA. *(Don.)*

*Ident.* Don. prod. Nep. p. 228.—Dec. prod. II. p. 547.

Spec. Char. Unarmed shrub: stipules foliaceous, serrate, persistent: racemes spicate, often arranged in a terminal thyrse: bracteoles toothed: calyx silky.

Khasia mountains, flowering in June.

## GENUS V. HYDRANGEA.

**Decandria Digynia.** *Sex: Syst:*

*Deriv.* From *Hydor* water, and *Aggeion*, a vessel. The capsule of some of the species has been compared to a cup.

Gen. Char. Shrubs or trees: leaves opposite, exstipulate: calyx superior, petaloid, with sterile flowers, fertile ones 4–5-toothed: petals epigynous, valvate: stamens 8–10, epigynous: ovary inferior, 2-celled: placentæ adnate to the margins of the dissepiment: fruit capsular.

### (1) H. khasiana. *(H. F. & T.)*

*Ident.* Hook. & Thoms. in Jour. Proc. Linn. Soc. II. p. 75.

Spec. Char. Leaves broadly ovate-cordate, sharply denticulate, densely covered below with hoary tomentum: branchlets robust: corymbs ramous, dense-flowered, covered with somewhat roughish tomentum: sepals of the imperfect flowers 4, broadly elliptic-oblong, obtuse, quite entire: styles connate above the middle into a broad cone, free, erect, robust.

Khasia mountains, flowering in June.

## GENUS VI. ADAMIA.

**Decandria Pentagynia.** *Sex: Syst:*

*Deriv.* Named in honor of John Adam, for sometime Governor General of India.

Gen. Char. Shrub: leaves opposite, simple, serrated: calyx superior, 5-toothed: sinuses broad: petals 5, epigynous: ovary incompletely 3–5-celled: styles 3–5: berry 1-celled: placentæ 3–5, parietal.

### (1) A. cyanea. *(Wall.)*

*Ident.* Wall. tent. flor. Nep. p. 46.

*Syn.* Hydrangea anomala, *Don. prod. p.* 211.

*Engrav.* Wall. l. c. t. 36.—Plant. As. Rar. t. 213.—Hook. Bot. Mag. t. 3046.

Spec. Char. Smooth branched shrub: leaves oblong-lanceolate: panicle corymbose, terminal, many-flowered: flowers bluish.

Khasia mountains, flowering in June.

## GENUS VII. PILEOSTEGIA.

**Decandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Pileos*, a cap, and *Stege*, a covering.

Gen. Char. Calyx half-superior, obconical, 4–5-lobed: petals 4–5, inserted with the calyx, valvate, somewhat cohering like a lid: stamens 8–10, inserted with the petals: ovary 5-celled: ovules numerous, elongated, pendulous from the apex of the cell: style thick, club-shaped: stigma 5–6-furrowed, truncated, 5–6-lobed at the apex, drawn out at the angles into 5–6-stigma-bearing lines.

### (1) P. viburnoides. *(H. F. & T.)*

*Ident.* Hook. & Thoms. in Jour. Proc. Linn. Soc. II. p. 76.

*Engrav.* Hook. & Thoms. l. c. t. 2.

Spec. Char. Glabrous shrub: leaves opposite, petioled, ovate-lanceolate, quite glabrous, obscurely sinuate-serrate towards the apex, coriaceous, feather-nerved, shining above: panicle terminal, branched: branches somewhat opposite, subcorymbose and with the branchlets puberulous: flowers pedicelled, somewhat fascicled: stamens elongated: style short.

Khasia mountains, flowering in July.

## GENUS VIII. POLYOSMA.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Polys*, much, and *Osme*, small.

Gen. Char. Calyx superior, 5-lobed: petals 4, epigynous, linear, valvate: stamens epigynous: ovary 1-celled, with 2 parietal placentæ: style elongated: stigma simple: berry 1-seeded.

### (1) P. Wallichii. *(Bennett.)*

*Ident.* Hook. & Thoms. in Jour. Proc. Linn. Soc. II. p. 77.—Bennett. Plant. Jav. Rar. p. 196.

Spec. Char. Branchlets petioles and racemes pubescent: leaves oblong-lanceolate, quite entire or serrate, pubescent beneath: flowers pedicelled.

Khasia mountains, flowering in June.

## GENUS IX. ITEA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* The Greek name of the Willow, and applied to this genus on account of the quick growth of the species.

Gen. Char. Calyx inferior, campanulate, 5-cleft: petals 5, perigynous, valvate: stamens perigynous: ovary 2-celled: placentæ biseriate on both sides towards the middle of the dissepiment: style simple, at length dividing in two: capsule dividing in two.

(1) I. macrophylla. *(Wall.)*

*Ident.* Hook. & Thoms. Jour. Proc. Linn. Soc. II. p. 77.

Spec. Char. Tree: leaves alternate, ovate or obovate-lanceolate, acuminate, serrate: racemes shorter or longer than the leaf.

Khasia mountains, flowering in June.

(2) I. Chinensis. *(Hook. & Arn.)*

*Ident.* Hook. & Thoms. Jour. Proc. Linn. Soc. II. p. 77.

*Engrav.* Hook. & Arn. Bot. Beech. t. 39.

Spec. Char. Tree: leaves obovate or obovate-lanceolate, alternate, acuminate, serrated: racemes lateral, about equal to the leaves.

Khasia mountains, flowering in May.

## ORDER LXXVI. HAMAMELIDACEÆ.

Small trees or shrubs: leaves alternate, deciduous, toothed: stipules deciduous: calyx adherent, in four or five pieces: petals 4–5 or wanting: æstivation imbricated: anthers 2-celled: four stamens alternate with the petals, four sterile ones situated at the base of the petals: ovary 2-celled, inferior: ovules solitary or several: fruit capsular, usually opening by two valves: seeds pendulous: embryo situated in the midst of horny fleshy albumen.

### GENUS I. CORYLOPSIS.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Korulos*, a hazel, and *Opsis*, resemblance.

Gen. Char. Shrubs: calyx valvate in æstivation: petals 5, subvalvate, elongated: stamens alternating with scales: ovary 2-celled: ovule solitary: capsule woody with a horny loose endocarp: testa of the seeds crustaceous, shining.

(1) C. Himalayana. *(Griffith.)*

*Ident.* Griffith. in Trans. As. Soc. Beng.—Jour. Proc. Linn. Soc. II. p. 85.

Spec. Char. Shrubby: branchlets petioles and peduncles silky-tomentose: leaves obovate-oblong, acute or acuminated, sharply serrated, cordate at the base, plicated, hoary-pubescent or silky below: catkins pendulous: bracts and calyx densely silky: petals linear, white.

Khasia mountains, flowering in November.

### GENUS II. HAMAMELIS.

**Tetrandria Digynia.** *Sex: Syst:*

*Deriv.* From *Hama*, with, and *Melon*, an apple, alluding to the fruit accompanying the flower.

Gen. Char. Calyx valvate: petals 4, involutely valvate in æstivation, linear: stamens alternating with 4 scales: filaments short: anthers with valvular dehiscence: ovary 2-celled, ovule solitary: capsule woody: endocarp horny, loose.

(1) H. Chinensis. *(Brown.)*

*Ident.* Brown. in Abel's Voy. to China, p. 374.—Jour. Proc. Linn. Soc. II. p. 85.

*Engrav.* Abel's Voy. to China, *ut supra.*

Spec. Char. Shrub, stellately tomentose: leaves persistent, ovate-oblong, acuminated, above sparingly puberulous: flowers capitate, subternate: lobes of the calyx ovate, obtuse: petals narrow-linear: capsules obovate, densely tomentose.

Khasia mountains, flowering in October.

## ORDER LXXVII. UMBELLIFERÆ.

Herbaceous, rarely suffrutescent plants, with fistular and furrowed stems: leaves alternate, rarely opposite, simple, variously divided, sheathing at the base; flowers in umbels, usually surrounded by an involucre: calyx entire or 5-toothed: petals 5, inserted on the outside of a fleshy disk, around the top of the ovary, alternate with the teeth of the calyx and usually turned in at the point: æstivation imbricate, rarely valvate: stamens 5, alternating with the petals, incurved in æstivation: ovary 2-celled, with one solitary, pendulous ovule in each cell: styles 2, distinct: stigmas simple: fruit consisting of 2 carpels, which adhere by their face (the commissure) to a common axis

called the carpophore; each carpel (often called a mericarp) is marked outside with 10 or a lesser number of ribs, 5 of which are primary and the rest alternating with them; these ribs are separated by channels or interstices, below which are certain receptacles of coloured oily matter called vittæ: embryo small, at the base of horny albumen.

## GENUS I. HYDROCOTYLE.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Hydor*, water, and *Kotyle*, a vessel, in allusion to the round depressed leaves capable of holding water.

Gen. Char. Usually slender and aquatic plants: umbels simple: involucre few-leaved: flowers sessile or pedicelled: calyx-tube slightly compressed: petals ovate, entire, acute, spreading, their apex straight: fruit laterally compressed: mericarps without vittæ: primary ridges 5, filiform, the intermediate ones enlarged: seeds compressed.

### (1) H. Asiatica. *(Linn.)*

*Ident.* W. & A. prod. I. p. 366.—Dec. prod. IV. p. 62.—Roxb. fl. Ind. II. p. 88.

*Engrav.* Wight's Icon. t. 565.—Rheede Mal. X. t. 46.

Spec. Char. Perennial: leaves attached by the margin, orbicular-reniform, equally crenated, 7-nerved: petioles and peduncles fascicled, sprinkled with soft hairs: umbels capitate, short-peduncled, few-flowered: fruit orbicular, reticulated, with 4 ribs on each of the flat sides: flowers small, purplish-red.

Common in moist places throughout the country.

### (2) H. tenella. *(Don.)*

*Ident.* W. & A. prod. I. p. 366.—Don. prod. flor. p. 183.—Dec. prod. IV. p. 64.

Spec. Char. Cespitose, creeping, glabrous: petiole usually solitary, slender: leaves attached by the margin, kidney-shaped, about 7-lobed, shining: lobes roundish, crenated: umbels capitate, 6–8-flowered, sessile: fruit orbicular, 3-ribbed on each side: flowers whitish.

Neilgherries in damp woods.

### (3) H. polycephala. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 366.

*Engrav.* Wight's Icon. t. 1003.

Spec. Char. Stems rooting: branches petioles and peduncles scabrous from short hairs: leaves sparingly scabrous, attached by the margin, orbicular-reniform, 7-lobed: lobes coarsely crenated: peduncles hoary, numerous, and umbellate in the axil of the uppermost leaf and almost as long as the leaf: flowers numerous, at first capitate and almost sessile, afterwards when in fruit on short pedicels: fruit didymous, slightly 2-ribbed on each side: flowers whitish.

In woods on the Neilgherries.

(4) H. Zeylanica. *(Dec.)*

*Ident.* W. & A. prod. I. p. 366.—Dec. prod. IV. p. 67.

Spec. Char. Stems puberulous: leaves attached by the margin, glabrous, orbicular-reniform, 7-nerved, 7-lobed: lobes slightly acute, coarsely-crenated: petioles long, puberulous at the apex: peduncles puberulous, the ultimate ones apparently opposite by the disappearance of the leaf: umbels densely capitate, 20-flowered: flowers whitish.

Peninsula.

(5) H. rotundifolia. *(Roxb.)*

*Ident.* Roxb. fl. Ind. II. p. 88.—Dec. prod. IV. p. 64.

*Engrav.* Wight's Icon. t. 564.

Spec. Char. Creeping: stems filiform: leaves long-petioled, round, lobed, smooth, crenated: umbels erect, 8–10-flowered: involucre of 3 or more minute leaflets.

Silhet, flowering in the rainy season.

(6) H. conferta. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 758, 1002.

Spec. Char. Procumbent, rooting, everywhere clothed with long hairs: leaves long-petioled, orbicular-reniform, obscurely 7-lobed, serrately-toothed: umbels globular, many-flowered, always sessile: fruit turgid, without ribs.

Neilgherries, frequent in dense woods.

## GENUS II. SANICULA.

**Pentandria Digynia.** *Sex. Syst.*

*Deriv.* From *Sano*, to heal, from the supposed healing effects of one of the species.

Gen. Char. Calyx-tube echinate, its lobes slightly leafy, persistent: petals erect, connivent, obovate, with long inflected points:

fruit somewhat globose, terete, not dividing spontaneously: mericarps densely clothed with hooked prickles, without ridges, but with many vittæ: carpophore indistinct: seeds semiglobose.

(1) S. ELATA. (*Ham.*)

*Ident.* W. & A. prod. I. p. 367.—Don. prod. flor. Nep. p. 183. Dec. prod. IV. p. 85.

*Engrav.* Wight's Icon. t. 334 and 1004.—Spicil. I. t. 78.

SPEC. CHAR. Herbaceous, perennial: stem dichotomous at the apex: radical leaves palmately lobed, 3-partite or ternate: segments sessile, ovate, acute, lobed and serrated, cuneate at the base, the lateral ones often bipartite: umbels usually trifid, few-flowered: flowers polygamous, purplish-red, the males pedicelled: leaflets of the involucre few and lobed, of the involucel several and entire..

Common in woods about Ootacamund, flowering in the rainy season.

## GENUS III. HELOSCIADIUM.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Helos*, a marsh, and *Skiadon*, an umbel, meaning an umbelliferous plant inhabiting marshes.

GEN. CHAR. Calyx obsolete or 5-toothed: petals ovate, entire, with a straight or inflected point: styles short: fruit laterally compressed, ovate or oblong: mericarps with 5 equal ridges, of which the lateral ones are marginal; interstices with single vittæ: carpophore entire, free: seed gibbously or teretely convex, flattish in front.

(1) H. HEYNEANUM. (*Dec.*)

*Ident.* W. & A. prod. I. p. 368.—Dec. prod. IV. p. 106.

*Syn.* Anethum trifoliatum, *Roxb. fl. Ind.* II. *p.* 96.

SPEC. CHAR. Annual, herbaceous, glabrous: stem erect, slightly branched: leaves long-petioled, ternate: segments lanceolate, acuminated or tripartite, toothed: umbels long-peduncled, without involucre or involucels; rays 5–20, elongated; partial umbels 5–8-flowered: fruit orbicular, glabrous: flowers white.

Circars. Courtallum. Mysore. Concans. Flowering in August and September.

## GENUS IV. PIMPINELLA.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* Altered from Bipinnate, referring to the leaves being twice pinnate.

Gen. Char. Herbaceous plants: radical leaves either pinnated or rarely again pinnated or entire: stem-leaves more divided: umbels with many rays, without involucres or involucels, or rarely with them: petals obovate, emarginate, with the point long and inflected: fruit contracted laterally, ovate: stylopodium cushion-shaped: styles generally reflexed, sometimes straight, somewhat capitate at the apex; mericarps with 5 equal ridges, the lateral ones marginal: interstices with many vittæ: carpophore bifid: seed gibbous-convex.

(1) P. involucrata. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 369.

*Syn.* Apium involucratum, *Roxb. fl. Ind.* II. *p.* 97.—Ptychotis Roxburghiana, *Dec. prod.* IV. *p.* 109.

*Engrav.* Wight's Icon. t. 335, and 567.

Spec. Char. Stem erect, dichotomous, glaucous: leaves ternate: segments cut and pinnated, sometimes entire in the upper leaves: lobes in the lower leaves linear-oblong and short, in the upper oblong-linear and elongated: umbels with 6–8 rays: leaflets of the involucre and involucel about 6, subulate, entire, much shorter than the rays: styles reflexed: fruit slightly ribbed, muricated: flowers small, white.

Peninsula. Very common in the Concans. Flowering in February.

(2) P. Candolleana. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 369.

*Engrav.* Wight's Icon. t. 341.

Spec. Char. Stem erect: petioles densely pubescent: leaves very pubescent on both sides, hard and firm, cartilaginously-toothed; radical and lower cauline ones reniform-cordate, entire, middle cauline ones tripartite, with the segments cut and sometimes lobed, upper ones small and divided down to the sheath: umbels with 10–16 very pubescent rays: leaves of the involucre 5–8, subulate, deciduous, much shorter than the rays; of the involucel somewhat permanent, about the length of the rays: styles at length reflexed: fruit densely covered with small granular tubercles.

Mountains in the South of the Peninsula.

(3) P. Leschenaultii. *(Dec.)*

*Ident.* W. & A. prod. I. p. 369.—Dec. prod. IV. p. 122.

*Engrav.* Wight's Icon. t. 1005.—Spicil. I. t. 80.

Spec. Char. Stem slightly branched, glabrous or minutely pubescent: radical leaves petioled, orbicular, cordate, entire, toothed, firm and hard, pubescent on the under side; cauline ones few, divided, small, and almost reduced to the sheaths: umbel with 5–10

pubescent rays, partial ones with many rays: involucres and involucels wanting: styles diverging: fruit ovate-acuminated, glabrous: flowers white.

Common in dry pastures on the Neilgherries, flowering in the rainy season.

(4) P. LATERIFLORA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 106.

SPEC. CHAR. Erect, puberulous: leaves ternate: leaflets biternately divided; lobes of the lower leaves lanceolate, of the upper linear, all acute and mucronate: peduncles long, slender, leaf-opposed: umbels 3–10: leaflets of the involucre 3–7, subulate, of the involucel about 7, as long as the pedicels: fruit covered with small granular tubercles: flowers pink.

Common in ravines in the Deccan.

(5) P. ASCENDENS. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 106.—Hook. Jour. Bot. II. p. 261.

SPEC. CHAR. Stems diffuse, ascending: leaves radical, pinnated: leaflets 6-pair, round-ovate, truncate or cuneate at the base, coarsely and unequally crenate-serrated: cauline leaves few; leaflets 1–2 pair, uppermost ones much divided: fruit ovate, bristly: flowers white.

Banks of the rivers in the Concan, flowering in October and November. The whole plant smells like parsley.

(6) P. MONOICA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 106—Hook. Jour. Bot. III. p. 212.

SPEC. CHAR. Stem 6–8 feet, branched above, smooth: branches alternate and bifarious: lower leaves long-petioled, pinnately tifoliolate: partial petioles long: leaflets cordate-lanceolate, with small cartilaginous teeth: upper leaves multifid: divisions filiform or reduced to mere sheaths: involucre 1-leaved or wanting: involucel few-leaved, terminal: umbels fruit-bearing: lateral ones male: fruit covered with pellucid granules: flowers white.

Western Ghauts on high lands, flowering in November.

## GENUS V. BUPLEURUM.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Bous*, an ox, and *Pleuron*, a rib or side, though the exact application is not satisfactorily shewn.

GEN. CHAR. Herbaceous or shrubby plants: leaves rarely divided, usually changing into phyllodia with entire margins: umbels compound: petals rounded, entire, with the involute point broad

and retuse: fruit laterally compressed and crowned with the depressed stylopodium: ridges of the mericarps 5, equal, either winged or obsolete, the lateral ones marginal: interstices with or without vittæ: seed teretely convex, flattish in front.

(1) B. DISTICHOPHYLLUM. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 370.

*Engrav.* Wight's Icon. t. 1006.

SPEC. CHAR. Perennial: stems erect, flexuose and simply branched upwards: leaves distichous and usually crowded near the base of the stem, somewhat erect, from narrow-linear and much acuminated to linear-subulate, very sharp, stem-clasping, striated on the under side: general umbel with 5–8 rays, partial with 10–13 flowers: leaflets of the involucre and involucel 5–6, linear acuminated and very sharp, the former about twice as short as the rays: fruit prominently ribbed, rather shorter than the pedicels: interstices flattish, with single vittæ: flowers yellow.

Neilgherries.

(2) B. MUCRONATUM. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 370.

SPEC. CHAR. Perennial: stems from a horizontal woody shoot, erect, flexuose upwards, with short and almost simple branches: leaves linear, bluntish, with a long mucro, stem-clasping, 5–9-nerved; general umbel with 5–6 rays; partial one with 6–12 flowers: leaflets of the involucre and involucel linear-oblong, mucronate, the former 2–3 times shorter than the rays, the latter longer than the flowers and shorter than the fruit: fruit sharply-ribbed, twice as long as the pedicels: interstices flattish, with single vittæ: flowers yellow.

Neilgherries.

(3) B. FALCATUM. (*Linn.*)

*Ident.* Dalz. Bomb. flor. p. 108.

*Engrav.* Wight's Icon. t. 1007.—Spicil. I. t. 81.

SPEC. CHAR. Perennial, diffuse and much branched: leaves oblong-linear, with a long mucro, narrow towards the base, stem-clasping, 5–9-nerved: general umbels 5–8-rayed; partial ones 8–12-flowered: leaflets of involucre and involucel about 5, oblong-linear, mucronate: fruit strongly ribbed: interstices with 1–2 vittæ: flowers yellow.

Common on the Neilgherries. Dharwar. Flowering in the rainy season. The B. ramosissimum (W. & A.) is a variety of the above species.

(4) B. PLANTAGINIFOLIUM. (*R. W.*)

*Ident.* Wight's Icon. vol. I. No. 15.

*Engrav.* Wight's Icon. t. 281.

SPEC. CHAR. Perennial, erect: leaves congested towards the apex of the stem, petioled, spathulate, about 11-nerved: general umbels 8–10 rayed; partial ones 10–14-flowered: leaflets of the involucre and involucel 5–6, obovate, cuneate or oblong, decurrent on the stem, forming acute angles: fruit prominently ribbed: interstices with single vittæ: flowers yellow.

Elk hill, Neilgherries, flowering in the rainy season.

## GENUS VI. SESELI.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* The Greek term for an umbelliferous plant.

GEN. CHAR. Calyx 5-toothed: petals obovate, emarginate or entire, with an inflexed point: fruit crowned with the reflexed styles: mericarps with 5 prominent ridges: interstices with single vittæ: commissura with two, (rarely 4) vittæ: seed nearly half terete.

(1) S. INDICUM. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 371.

SPEC. CHAR. Diffuse: slightly villous: stems furrowed: leaves pinnated: segments roundish, entire or lobed, or pinnatifid, cut and toothed: general umbels on longish peduncles, with about 12 rays; partial ones many-flowered: leaves of the involucre and involucel about 8 or 10, lanceolate, with a subulate point, hairy: fruit somewhat globose, covered, particularly on the ridges with straight hairs, furnished with two divaricating or reflexed points: ridges elevated, corky: vittæ single in the interstices and under each ridge.

Neilgherries.

## GENUS VII. ANETHUM.

**Pentandria Digynia.** *Sex: Syst·*

*Deriv.* From *Ano*, upwards, and *Theo*, to run, in allusion to the quick growth of the species.

GEN. CHAR. Margin of the calyx obsolete: petals roundish, entire, involute: fruit lenticularly-compressed on the back, surrounded by a flattened margin: mericarps with 5 equidistant filiform ridges, the dorsal and 2 intermediate ones acutely keeled, the lateral ones more obsolete and passing into the margin: vittæ broad, solitary in and filling up the whole of each interstice, 2 on the commissura.

(1) A. Sowa. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 372.—Roxb. fl. Ind. II. p. 96.—Dec. prod. IV. p. 186.

*Engrav.* Wight's Icon. t. 572.

Spec. Char. Annual, erect, glabrous: leaves decompound: lobes linear, setaceous: involucres and involucels wanting: fruit oblong: seed slightly convex, flat in front: flowers small, yellow.

Peninsula. Bengal, flowering in February. The aromatic seeds are used for culinary and medicinal purposes.

## GENUS VIII. PASTINACA.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Pastinum*, a dibble, in allusion to the peculiar form of the roots.

Gen. Char. Herbaceous plants with fusiform and often fleshy roots: leaves pinnated, the segments toothed, cut or lobed: umbels compound: involucre and involucel wanting or few-leaved: calyx 5-toothed: petals roundish, entire, involute, the involute part broad and retuse: fruit flat-compressed dorsally, surrounded by a dilated flattened margin: mericarps with very slender ridges, the dorsal and 2 intermediate ones equidistant, the lateral contiguous to the dilated margin: vittæ linear, scarcely shorter than the ridges, solitary in each interstice, 2 or more on the commissura: carpophore bipartite: seed flattened.

(1) P. ligusticifolia.

*Ident.* W. & A. prod. I. p. 372.

*Syn.* P. Candolleana, *W. & A. l. c.*

*Engrav.* Wight's Ill. II. t. 116.

Spec. Char. Stem slightly striated, pubescent at the apex and on the rays: leaves glabrous, ultimate divisions pinnatifid or lobed: segments ovate, acute, serrated: leaflets of the involucre and involucel linear-oblong, acuminated, deciduous: fruit oval, very glabrous, polished: lateral vittæ close to the intermediate ridges: commissura with 2 vittæ: flowers whitish.

Neilgherries.

(2) P. glauca. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 107.—Hook. Jour. Bot. IV. p. 293.

Spec. Char. Glabrous, glaucous: stem rigid, scarcely branched, leaves radical, somewhat coriaceous, long-petioled, pinnately divided: leaflets 3–5, entire or more-usually 2–3-lobed: lobes obovate, mucronate, entire: involucre and involucel-leaves few, lanceolate:

fruit broad-oval: vittæ solitary between the ribs: commissura with 2 vittæ: flowers yellow.

In pastures near Belgaum. The root is eatable and has the taste and odour of a carrot. (Dalz.)

(3) P. GRANDIS. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 107.

GEN. CHAR. Stem 3 feet: root large, woody, perennial, quite smooth: leaves mostly radical, long-petioled, bipinnate: leaflets trilobate; lobes large, rounded: margins crenate-serrated, shining on both sides: cauline leaves 1–2, biternate: stem smooth, striated: involucre and involucel leaves oblong: fruit large, broadly obovate: commissure with 4 vittæ: partial rays numerous, many-flowered: flowers yellow.

The Ghauts near Bombay.

(4) P. SPRENGELIANA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Syn.* Heracleum Sprengelianum, *W. & A. prod.* I. *p.* 372.

*Engrav.* Wight's Icon. t. 1008.

SPEC. CHAR. Stem branched, furrowed when dry: leaves puberulous on both sides, unequally pinnate: pinnæ pinnatifid: divisions ovate, irregularly lobed: ultimate division 3-lobed; lobes acute, serrated: petals equal: fruit nearly orbicular: vittæ on the back linear, shorter than the fruit, the lateral ones in the middle of the interstices: vittæ on the commissure 4, slightly clavate and unequal.

Common about hedges on the Neilgherries.

(5) P. RIGENS. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Syn.* Heracleum rigens, *Wall. W. & A. prod.* I. *p.* 373.—*Dec. prod.* IV. *p.* 191.

*Engrav.* Wight's Icon. t. 1009.—Spicil. I. t. 82.

SPEC. CHAR. Stem slightly branched, furrowed, pubescent or hirsute: leaves ternate: divisions roundish, toothed, scabrous above, densely pubescent beneath, lateral ones on a short petiole: terminal division bluntly 3-lobed or ternate: leaflets of the involucel ovate: petals equal: fruit obovate: vittæ on the back linear, much shorter than the fruit, the lateral ones in pairs and close to the intermediate ridges: vittæ on the commissure 4, acute, unequal, the 2 outer the shorter: flowers yellow.

Dindigul Hills. Mysore. Pastures on the Neilgherries. Flowering in the rainy season.

Spec. Char. Stem nearly simple, furrowed, coarsely pubescent or somewhat hirsute with glutinous hairs: leaves nearly radical, 3-lobed, toothed, slightly pubescent above, shortly tomentose beneath: lobes roundish, toothed, the terminal one the largest and often 3-lobed; upper stem-leaves few, occasionally reduced to mere sheaths: umbels long-peduncled, 6–10-rayed: leaflets of the involucre deciduous after flowering, lanceolate-subulate, of the involucel oblong-lanceolate: commissure with 2 vittæ: petals unequal, whitish, with a tinge of red.

Frequent in pastures on the slopes of the hills and mountains in the South of the Peninsula. Flowering in the rainy season.

## GENUS IX. HERACLEUM.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Heracles*, a plant sacred to Hercules.

Gen. Char. Herbaceous plants: leaves lobed or pinnatifid: calyx 5-toothed: petals obovate, emarginate, with the point inflexed, the exterior ones often larger, spreading and 2-cleft: umbels compound; involucres obsolete: fruit compressed from the back, thin, with a broad border: ridges 5, filiform, the three dorsal ones near each other, the lateral distant: vittæ 1 to each furrow: commissure with 2 vittæ.

### (1) H. pedatum. *(R. W.)*

*Ident.* Wight's Icon. vol. II. part I.

*Engrav.* Wight's Icon. t. 342.

Spec. Char. Stem branched; ends of the branches petioles and peduncles hairy: leaves pedate: leaflets ovate, acute, doubly-serrated: the middle one sometimes 3-lobed, all slightly pubescent on both sides: involucel-leaves linear-lanceolate: flowers of the centre of the umbels with equal petals and male or sterile; those of the circumference with unequal petals, bisexual and fertile.

Forests on the Shevagherry hills, flowering in September.

### (2) H. Concanense. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 107.—Hook. Jour. Bot. II. p. 260.

Spec. Char. Hispid with spreading hairs: stem striated, dichotomously branched: leaves biternate: leaflets 3-lobed or ternately cut: segments ovate, cuneate at the base, unequally serrated, upper leaves reduced to a sheath: involucre 1–3-leaved: leaflets of the involucel 5, ovate-acuminate, 3-nerved: fruit ovate: dorsal vittæ 10; vittæ on the commissure 6: flowers white.

Concan hills, flowering in July.

(3) H. PINDA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 107.

SPEC. CHAR. Root perennial; whole plant clothed with long white hairs: stem erect, branched: leaves mostly radical, long-petioled, bipinnately divided: segments cuneate at the base, coarsely toothed, the teeth mucronate: umbels 6–8-rayed: rays unequal: leaflets of the involucre 1–3, broad-ovate, foliaceous, acute, partial of 3 leaflets of the same shape on the outer side: exterior petals large, obcordate, deeply 2-lobed: dorsal vittæ 6: commissure with 2 vittæ: flowers white.

On Hursur and Hurrychunder hill forts, flowering in July and August.

(4) H. GRANDIFLORUM. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 108.

SPEC. CHAR. Root perennial: stem short, smooth, covered by the sheathing bases of the leaves: leaves long-petioled trifoliolate; leaflets deeply 3-lobed; segments pinnatifid, acuminate, sparingly strigose above, smooth and pale beneath: margins ciliated: umbels about 12-rayed: involucre of one rounded or oblong-acuminate leaflet: involucels 3, rhomboid-ovate, acuminate, as long as the rays: flowers white, the outer petals very large and deeply cut.

The same locality as the last.

## GENUS X. POLYZYGUS.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Polys*, many, and *Zygos*, a pair, alluding to the numerous pairs of leaflets.

GEN. CHAR. Margin of the calyx 5-toothed; the outer teeth larger: petals oblong, inflexed at the apex: fruit dorsally compressed, ovate, glabrous, shining, with many ridges: between the primary ridges are twin secondary ones, all nearly equal, filiform and wingless: interstices all with vittæ: commissure with 8 vittæ: involucre none or bracteole-shaped: involucel 3-leaved.

(1) P. TUBEROSUS. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 107.—Hook. Jour. Bot. II. p. 260.

SPEC. CHAR. Glabrous, 1 foot high: roots tuberous: stem erect, slightly branched, angled and furrowed above: leaves twice ternate; leaflets 3 times ternate, pinnately divided: segments cuneate and ovate, unequally-serrated: umbels terminal and axillary, naked: fruit many-ribbed: flowers white, sterile on the disk, with scarcely any style, fertile in the circumference with long divaricating purple styles.

Malwan, flowering in June and July.

## GENUS XI. OZODIA.

**Pentandria Digynia.** *Sex: Syst.*

*Deriv.* From *Ozodes*, strong-smelling.

Gen. Char. Margin of the calyx almost obsolete: petals roundish, emarginate, involute: styles short, diverging, persistent: fruit with 5 primary filiform ridges, of which the lateral are marginal, with a furrow along the commissure: vittæ solitary in the interstices and two on the commissure: seed convex on the back, furrowed in front.

(1) O. fæniculacea. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 375.

Spec. Char. Glabrous, glaucous: stem striated: leaves many-cleft: lobes linear-setaceous: umbels 12–20-rayed: involucel and involucre wanting: fruit oblong, laterally compressed, without a beak: flowers yellow.

Peninsula.

## GENUS XII. ŒNANTHE.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Oinos*, wine, and *Anthos*, a flower, in allusion to the odour of the plant.

Gen. Char. Margin of the calyx 5-toothed, persistent: petals obovate, emarginate, inflexed: style conical: fruit cylindrical-ovate, crowned with long erect styles: mericarps with 5 ridges, somewhat convex, lateral ones marginal, a little broader: interstices with single vittæ: umbels compound: involucre often wanting: involucel many-leaved: flowers in the circumference long-pedicelled, sterile, in the disk sessile or short-pedicelled and fertile.

(1) Œ. stoloniferæ. *(Dec.)*

*Ident.* Dec. prod. IV. p. 138.

*Syn.* Phellandrum stoloniferum, *Roxb. fl. Ind.* II. *p.* 93.

Spec. Char. Roots fistulous, jointed, throwing fibres and long creeping stolones from the joints: stem erect, striated, fistulous, 2–4 feet in height: lower leaves composed of 1–2 lateral pairs of ternate ones, and the terminal one 5-divided, upper ones 5 and 3-divided: leaflets lanceolate, smooth, serrated: umbels many-rayed: flowers small, white.

Bengal, on the margins of fresh waters, flowering at the beginning of the hot season.

## GENUS XIII. DASYLOMA.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* From *Dasys*, thick, and *Loma*, a fringe, in reference to the ribs of the fruit.

Gen. Char. Margin of the calyx obsolete: styles short: fruit ovate; mericarps semi-ovate, not separating at maturity, with 5 corky cellular ribs, the three dorsal ones small, the two lateral ones large and blunt: vittæ one in each furrow and two in the middle of the flat commissure: seed triangular.

### (1) D. Bengalense. *(Dec.)*

*Ident.* Dec. prod. IV. p. 140.

*Syn.* Seseli Bengalensis, *Roxb. fl. Ind.* II. *p.* 94.

*Engrav.* Wight's Icon. t. 568.

Spec. Char. Annual, erect: stem fistular, smooth: leaves bipinnate: leaflets smooth, variously cut and divided, few-toothed at the apex: umbels opposite the leaves, 6–12-rayed: involucels linear: petals ovate, inflected: fruit nearly globular: flowers all fertile.

Bengal. Silhet, on the banks of still waters.

## GENUS XIV. CNIDIUM.

**Pentandria Digynia.** *Sex: Syst:*

*Deriv.* The ancient name of Orach.

Gen. Char. Margin of the calyx obsolete: petals obovate, emarginate, with an inflexed point: mericarps with 5 equal winged ribs; wings rather membranous: lateral ribs marginal: vittæ one in each furrow, and two in the commissure.

### (1) C. diffusum. *(Dec.)*

*Ident.* Dec. prod. IV. p. 153.

*Syn.* Ligusticum diffusum, *Roxb. fl. Ind.* II. *p.* 92.

*Engrav.* Wight's Icon. t. 569.

Spec. Char. Perennial: stem diffuse, striated: leaves pinnate: leaflets pinnatifid: segments cuneated, bluntly toothed at the apex: peduncles opposite the leaves: leaflets of the involucre linear, somewhat membranous: ribs of the fruit prominent, rather crested, roughish from short down: flowers white.

Lower Bengal, flowering in the cold season. Chiefly found in shady moist places.

## GENUS XV. PSAMMOGETON.

**Pentandria Digynia.** *Sex: Syst.*

*Deriv.* From *Psammos*, sand, and *Geton*, near, alluding to the habitat of the species.

Gen. Char. Margin of the calyx obsolete: petals obcordate, with an inflexed point: styles somewhat erect from a conical base: fruit terete; mericarps with 5 primary filiform ridges, bearing glochidiate bristles, secondary ones bristly in a simple series; interstices under the secondary ridges with single vittæ: commissure flat, with 2 vittæ: carpophore bipartite, free.

### (1) P. biternatum. *(Edgw.)*

*Ident.* Edgw. in Trans. Linn. Soc. XX. p. 57.—Walp. Ann. I. p. 355.

Spec. Char. Annual, pubescent: branches stellately decumbent: leaves biternately divided: lobes cuneate at the base, 3-toothed: teeth acute, mucronate: glabrous above, hairy-pubescent beneath: umbels leaf-opposed, long-peduncled, 6–10-rayed: involucre 3-leaved; leaflets linear, acute, shortly ciliated towards the apex: involucel leaflets lanceolate, acuminate, ciliated, membranaceous: exterior petals larger, 2-cleft, smaller ones purplish: stamens filiform, longer than the petals.

In sandy places in the North-West Provinces.

## ORDER LXVIII. ARALIACEÆ.

Trees shrubs or herbaceous plants with alternate exstipulate leaves: calyx entire or toothed: petals 5–16, alternate with the teeth of the calyx: æstivation valvate: stamens as many as the petals, inserted below the margin of a large disk: anthers 2-celled: ovary coherent, 2 or more celled, rarely 1-celled: ovules solitary, pendulous: styles as many as the cells of the ovary, distinct, concrete or rarely wanting: stigmas simple: flowers umbelled or capitate: fruit usually fleshy, 2–15-celled, very rarely 1-celled, crowned with the calyx: seed solitary, pendulous: embryo small, surrounded with a copious fleshy albumen.

## GENUS I. PANAX.

**Polygamia Dioecia.** *Sex. Syst.*

*Deriv.* From *Pan*, all, and *Akos*, a remedy, in allusion to the supposed medicinal qualities.

Gen. Char. Margin of the calyx very short, obsoletely 5-toothed; petals 5: stamens alternating and inserted with the petals: styles 2–3, short: fruit fleshy, compressed, orbicular or didymous, 2–3-celled: cells coriaceously chartaceous.

### (1) P. FRAGRANS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. III. p. 76.—Dec. prod. IV. p. 254.

Spec. Char. Unarmed tree: leaves supra-decompound, 2–4 feet in length: leaflets ovate-oblong, entire, remotely and sharply serrulate when young, smooth: petioles sheathing and turgid at the base: styles 2, short, woolly: panicles terminal, very large, composed of numerous compound branches of short-peduncled globular umbels of flowers, surrounded by a small ferruginous mealy involucre: petals spreading, oblong-lanceolate, with a ridge down the middle on the inside: berries 2-lobed, a little flattened, 2-celled: flowers small, fragrant.

Khasia mountains, flowering in October.

### (2) P. DIGITATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. II. p. 75.

Spec. Char. Armed tree: young branches covered with numerous short somewhat incurved prickles: leaves digitate: leaflets about 7, petioled, from oblong to broad-lanceolate, acuminate, entire: panicles terminal, pendulous; common peduncle armed, and with the pedicels somewhat downy: petals oblong, patent: berry nearly round, somewhat succulent, black, smooth, size of a black currant: seed hemispherical, with a small groove down the middle of the inside: flowers globular, long-pedicelled, greenish-yellow.

Silhet, flowering in May.

### (3) P. PALMATUM. (*Roxb.*)

*Ident.* Roxb fl. Ind. II. p. 74.

Spec. Char. Shrub, armed with numerous straight acute prickles; young parts covered with much rusty pubescence: leaves palmate, serrulate, when young densely clothed with rusty tomentum: lobes from triangular to broad-lanceolate, acute: petioles somewhat stem-clasping, with a small acute stipulary process on each side: racemes lateral, solitary, bearing from 20–30 diverging peduncled

globular umbellets of small white flowers: bracts ferruginous: petals lanceolate, spreading: stigma 2-toothed.

Chittagong, in moist valleys between the hills, flowering in September.

## GENUS II. HEDERA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From the Celtic word *Hedra*, signifying a cord.

Gen. Char. Climbing or erect shrubs or trees: leaves simple or compound: flowers umbelled or capitate or panicled: calyx elevated or toothed: petals 5–10, distinct or cohering at the apex and falling off like a lid: stamens 5–10: styles as many as the petals, converging or combined into one, or wanting: berry fleshy, with as many cells as there are styles.

### (1) H. latifolia. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 376.

Spec. Char. Leaves pinnately 3-foliolate; leaflets roundish, retuse, minutely and distantly serrated; the terminal petiole nearly twice as long as the others: panicle long and slender, consisting of a few distant fascicles of peduncles bracteated at their base: rachis compressed: calyx 5-toothed: corolla shaped like a calyptra: styles 4: flowers 3–5 together, umbelled.

Neilgherries.

### (2) H. trifoliata. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 377.

*Engrav.* Wight's Icon. t. 307.

Spec. Char. An unarmed shrub: leaves pinnately trifoliolate: leaflets ovate, with a narrow acumination, equal and slightly acute at the base, somewhat closely bristle-serrated: terminal petiole 4–5 times longer than the others: panicle corymbiform, bracteated: flowers numerous in each umbel: corolla calyptriform, ovoid: styles united into one: berry 5-celled.

Dindigul hills.

### (3) H. Leschenaultii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 377.

Spec. Char. Shrub: leaves pinnated; leaflets 2 pair with an odd one, ovate, with a narrow acumination, retuse or slightly cordate at the base, lower pair and terminal one equal at the base, the upper pair unequal, all somewhat closely bristle-serrated: terminal petiole

longer than the lateral ones: panicle corymbiform, bracteated: flowers numerous in each umbel: styles united into one: berry hemispherical, 5-celled.

Neilgherries. Dindigul hills.

(4) H. VENULOSA. *(R. W.)*

*Syn.* Paratropia venulosa, *W. & A. prod.* I. *p.* 377.—H. terebinthacea, *Wall.*—Aralia digitata, *Roxb. fl. Ind.* II. *p.* 107.

*Engrav.* Wight's Ill. II. t. 118.—Rheede Mal. VII. t. 28.

SPEC. CHAR. Somewhat arboreous: leaves digitate: leaflets 5-7, elliptic, shortly and suddenly pointed, quite entire, coriaceous, with prominent veins: thyrses numerous at the ends of the branches: flowers pedicelled and umbelled, numerous, greenish: berry 5-celled.

Circars. Courtallum mountains. Malabar.

(5) H. WALLICHIANA. *(R. W.)*

*Ident.* Dalz. Bomb. flor. p. 108.

*Syn.* Paratropia Wallichiana, *W. & A. prod.* I. *p.* 377.

SPEC. CHAR. Climbing: leaves digitate: leaflets 8–10, long-petioled, oblong, pointed, quite entire, coriaceous: thyrses numerous at the ends of the branches: flowers pedicelled and umbelled, numerous: petals and stamens 6: berry 6-celled.

Courtallum. Foot of the Ram ghaut. Rather common.

(6) H. CAPITATA. *(R. W.)*

*Syn.* Paratropia capitata, *W. & A. prod.* I. *p.* 378.

SPEC. CHAR. Leaves digitate: leaflets 6–9, long-petioled, oblong, suddenly and shortly acuminated, retuse at the base, quite entire, somewhat coriaceous, scurfy when young, particularly on the midrib: petiole scurfy: thyrse elongated, with a concave bract at the base of the peduncles: flowers sessile, capitate: berry 6–9-celled.

Mountains in the Southern Provinces.

(7) H. OBOVATA. *(R. W.)*

*Ident.* Wight's Spicil. I. p. 70.

*Engrav.* Wight's Spicil. I. t. 83.—Icon. t. 1011–12.

SPEC. CHAR. Tree: leaves digitate; leaflets about 5, petioled, cuneate, very obtuse or obcordate, coriaceous: thyrses aggregated towards the ends of the branches: umbels numerous, solitary on each peduncle: petals and stamens 8, rarely 6: ovary 8, rarely 6-celled.

Courtallum. Shevagherry hills. Neilgherries. Flowering in April and May.

(8) H. RACEMOSA. (*R. W.*)

*Ident.* Wight's Spicil. I. p. 70.

*Engrav.* Wight's Spicil. I. t. 85.—Icon. t. 1015.

SPEC. CHAR. Large tree: leaves digitate: leaflets about 7, oblong-lanceolate, acuminated, undulating on the margin: thyrses panicled, usually lateral: branches racemose: flowers pedicelled, with a small subulate bract at the base of the pedicel: petals and stamens 5: styles 5, short: stigmas distinct, obtuse: fruit 5-celled.

Neilgherries, flowering in June and July.

(9) H. PALMATA. (*Wall.*)

*Syn.* Gastonia palmata, *Roxb. fl. Ind.* II. *p.* 407.—Gilibertia palmata, *Dec. prod.* IV. *p.* 256.

*Engrav.* Bot. Reg. XI. t. 894.

SPEC. CHAR. Shrub or small tree, armed with short straight prickles: leaves palmate; 5–9-lobed, smooth above, roughish underneath: lobes lanceolate, acuminate, acutely serrated: petioles somewhat sheathing at the base, with a 2-toothed stipulary process on the inside, prickly: panicles axillary and terminal, composed of few long-peduncled umbellets: bracts solitary at the division of the panicles, sheathing, ferruginous: calyx clothed with rusty-coloured tomentum on the outside: petals usually 10: style short, 8–10-grooved: stigma concave: berry the size of a nutmeg, 8–10-celled: flowers numerous, rather large, white.

Moist valleys of Chittagong, flowering at the beginning of the year.

(10) H. ACUMINATA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1062.

SPEC. CHAR. Small tree: leaves unequally pinnate; leaflets oval-oblong, acuminate, short-petioled: thyrses numerous, elongated: peduncles involucrate at the base, with small subulate bracts: styles 5, free at the apex: petals expanding: ovary 5-celled: umbels somewhat capitate: flowers very numerous, on short pedicels.

Courtallum. Western slopes of the Neilgherries.

(11) H. ROSTRATA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1013–14.

SPEC. CHAR. Tree: leaves digitate; leaflets 5–9, ovate-lanceolate, acuminated, serrated: thyrses solitary, terminal: lateral peduncles bracteated, 1–3-umbelled: petals 5, dehiscing before falling:

stamens and styles 5, exserted, cohering and forming a beak, persistent in the fruit: ovary and fruit 5-celled.

Common in woods near Nedawuttem and Sispara on the Neilgherries.

## ORDER LXXIX. LORANTHACEÆ.

Shrubs almost parasitical with entire opposite leaves which are rarely alternate and sometimes wanting: calyx with a smaller calyx or bracts at the base of its tube: limb entire or lobed: petals 4–8, distinct or united; æstivation valvular: stamens as many as the petals and opposite to them: filaments more or less combined with the petals: anthers versatile or erect or adnate: ovary 1-celled, 1-ovuled: style filiform or almost wanting: stigma capitate: fruit fleshy, crowned with the calyx, 1-celled, 1-seeded: embryo straight, in the axis of a fleshy albumen.

### GENUS I. VISCUM.

**Monœcia Tetrandria.** *Sex: Syst:*

*Deriv.* From *Viscus*, bird-lime, in allusion to the clammy nature of the berries.

Gen. Char. Parasitical shrubs growing on dicotyledonous trees: branches often jointed: leaves opposite, rarely alternate, often wanting: flowers fascicled or in spikes, diœcious or monœcious: margin of the calyx obsolete and entire: petals 4, rarely 3–5, thick, nearly triangular, from a broad base, united at the base or distinct: stamens wanting in the female, in the male without filaments, and with the anthers adnate to the petals: stigma almost sessile, obtuse: berry umbilicated, mucilaginous inside.

#### (1) V. Orientale. (*Willd.*)

*Ident.* W. & A. prod. I. p. 379.—Dec. prod. IV. p. 278.

*Syn.* V. Heyneanum, *Dec. l. c.*—V. cruciatum, *Sieb.*—V. verticillatum, *Roxb. fl. Ind.* III. *p.* 764.

Spec. Char. Stem and older branches even: branches verticillate or opposite or dichotomous from the abortion of the central shoot, younger ones furrowed or angled: leaves from narrow-oblong to obovate, attenuated at the base, tapering or rounded at the apex, flat, 3, (rarely 5)-nerved: peduncles axillary, 3–5-flowered: berry purple, somewhat globose, copiously and very minutely dotted.

Coromandel, flowering in the hot season.

(2) V. Wallichianum. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 379.

*Syn.* V. Wightianum, *Wall. W. & A. prod.* I. p. 380.

Spec. Char. Stem and branches terete, swollen at the joints, verticillate or dichotomous or opposite: leaves flat, narrow-oblong, thick and coriaceous, 3-nerved.

Peninsula.

(3) V. capitellatum. (*Sm.*)

*Ident.* W. & A. prod. I. p. 380.—Dec. prod. IV. p. 279.

Spec. Char. Stem and older branches terete; young branches obscurely 4-angled, all verticillate or opposite: leaves obovate or spathulate, obtuse, tapering at the base, concave upwards, fleshy, obscurely 3-nerved: peduncles axillary, lower ones about 3 together, upper often solitary, bearing a head of 3–6 sessile flowers: berries oval.

Peninsula.

(4) V. ramosissimum. (*Wall.*)

*Ident.* W. & A. prod. I. p. 380.

*Engrav.* Wight's Icon. t. 1017.

Spec. Char. Entirely or almost leafless, much branched: stem and branches verticillate or opposite; younger branches usually long and slender: leaves, when present, narrow-oblong, 3-nerved: flowers usually 3 together, axillary, sessile: berries almost globose.

Peninsula.

(5) V. grossum. (*R. W.*)

*Ident.* W. & A. prod. I. p. 380.

Spec. Char. Leafless: stems terete, sparingly dichotomous: branches jointed, equal between the joints: flowers fascicled at the joints.

Dindigul Hills.

(6) V. angulatum. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 380.—Dec. prod. IV. p. 283.

Spec. Char. Leafless: stem and older branches terete or obscurely angled, dichotomous; young ones opposite or verticillate, 4-angled, jointed, equal between the joints: flowers sessile, opposite or verticillate at the joints: berries nearly globose.

Peninsula. Chorla Ghaut, flowering in April.

(7) V. ATTENUATUM. *(Dec.)*

*Ident.* W. & A. prod. I. p. 380.—Dec. prod. IV. p. 284.

*Syn.* V. opuntioides, *Roxb. fl. Ind.* III. p. 764.

SPEC. CHAR. Leafless: branches dichotomous or opposite or verticillate, compressed, jointed; articulations elongated, gradually attenuated from their apex to the base, much longer than broad, striated longitudinally: flowers 3–5 together, on each side of the apex of the joint: berries globose.

Coromandel.

(8) V. MONILIFORME. *(Blume.)*

*Ident.* W. & A. prod. I. p. 380.—Dec. prod. IV. p. 284.

*Engrav.* Wight's Icon. t. 1018.—Spicil. I. t. 87.

SPEC. CHAR. Leafless: stems terete at the base: branches opposite or fascicled, compressed; articulations obovate-oblong, tapering at the base, longer than broad, costate along the middle, but not striated: flowers sessile at the apex of the joints, opposite or in opposite fascicles of 3 together, sometimes nearly verticillate.

Neilgherries.

(9) V. ORBICULATUM. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1016.—Spicil. I. t. 86.

SPEC. CHAR. Monoicous: branches 4-sided, angled: leaves opposite, orbicular, much waved on the margin, slightly 3–5-nerved: flowers sessile, axillary, aggregated, male and female mixed: anthers sessile, on the lobes of the calyx, flat: berries oval, oblong, obtuse at both ends.

Neilgherries, very rare.

(10) V. MONOICUM. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 763.

SPEC. CHAR. Monoicous: branches opposite and dichotomous, jointed, round and smooth: leaves opposite, subsessile, lanceolar, 3–5-nerved: flowers axillary and at the divisions of the branchlets, sessile, usually 3 together, the centre one of which is generally male and the lateral ones female: berry long.

Banks of the Ganges, flowering about the beginning of the hot season.

(11) V. CONFERTUM. *(Roxb.)*

*Ident.* Roxb. fl. Ind. III. p. 764.

SPEC. CHAR. Monoicous: much branched, smooth: leaves opposite, subsessile, lanceolar, 3–5-nerved: flowers sessile, crowded in the axils: berries oblong.

Silhet, growing on Mango trees.

## GENUS II. LORANTHUS.

**Pentandria Monogynia.** *Sex Syst.*

*Deriv.* From *Lorum*, a thong, and *Anthos*, a flower, in allusion to the shape of the petals.

Gen. Char. Shrubs, usually parasitical: leaves opposite or alternate, entire, usually thick and coriaceous: flowers spiked or racemose or panicled, usually bisexual: calyx-tube ovate: limb truncated or toothed: petals 4–8, usually 5–6, distinct or united: æstivation valvular: stamens as many as the petals and opposite to them: filaments adnate to the base of the petals: anthers 2-celled, adnate or erect or versatile: style filiform: stigma simple, capitate or turbinate: berry 1-celled, 1-seeded, usually crowned with the calyx.

### (1) L. Hookerianus. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 381.

Spec. Char. Branches speckled with small tubercles: leaves scurfy when young, afterwards glabrous, oblong-lanceolate, acuminated, opposite: spikes axillary, simple, solitary, about the length of the leaves, many-flowered: flowers a little immersed in the hollows of the rachis, scurfy: petals 4, linear. anthers ovate, adnate: stigma capitate: berries globose.

Peninsula.

### (2) L. Wallichianus. (*Schult.*)

*Ident.* W. & A. prod. I. p. 381.—Schult. Syst. VII. p. 100.—Dec. prod. IV. p. 294.

*Syn.* L. polystachyus, *Wall. in Roxb. fl. Ind.* II. *p.* 217. (*ed. Wall.*)—L. terrestris, *Heyne.*—L. tetrandrus, *Do.*

*Engrav.* Wight's Icon. t. 143.

Spec. Char. Glabrous: leaves somewhat alternate, ovate, obtuse, acute at the base: racemes 1–3, axillary, shorter than the leaves, fascicled at the knots of the branches, simple: flowers small, pedicelled: bract lateral, hooded: petals 4, linear-cuneate: berry almost globular, at length reflexed.

Courtallum. Parwar Ghaut.

### (3) L. obtusatus. (*Wall.*)

*Ident.* W. & A. prod. I. p. 381.

*Engrav.* Wight's Ill. II. t. 119.

Spec. Char. Branches speckled: leaves opposite or alternate, ovate, rather obtuse, glabrous: racemes 1–2, axillary, about as long

as the leaves, simple: flowers pedicelled: bract lateral, concave: flower-bud sharply 4-angled: petals 4, linear: berry nearly globose, at length reflexed.

Peninsula. Mahableshwur Ghaut. Flowering in May.

(4) L. NEILGHERRENSIS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 382.

*Engrav.* Wight's Icon. t. 1020.—Spicil. I. t. 88.

SPEC. CHAR. Glabrous: young branches obscurely angled: leaves alternate, elliptic-oblong, thick and somewhat fleshy: peduncles axillary, aggregated, very short, about the length of the petiole, bearing an umbel of 3–7 short-pedicelled flowers: bract solitary under the ovary, lateral, ovate: corolla ventricosely-gibbous at the base, equally 5-cleft to beyond the middle: segments cuneate-linear, recurved: flowers red.

Neilgherries.

(5) L. LONICEROIDES. *(Linn.)*

*Ident.* W. &. A. prod. I. p. 382.—Dec. prod. IV. p. 299.—Roxb. fl. Ind. II. p. 216. (ed. Wall.)

*Syn.* L. coriaceus, *Desr. in Lam. Enc. Meth.* III. *p.* 297.—L. umbellatus, *Roth. Nov. Sp. p.* 192.—*Dec. l. c. p.* 316.

*Engrav.* Rheede Mal. VII. t. 29.—Wight's Icon. t. 203.

SPEC. CHAR. Glabrous: young branches slightly 2-edged: leaves opposite, ovate or oblong-lanceolate, acuminated: peduncles opposite, axillary, solitary, bearing at the apex a few and somewhat capitate or several and more or less spiked sessile flowers: bracts 3 at the base of each ovary, roundish, acute, concave: margin of the calyx entire: corolla tubular, curved, slightly gibbous on one side, equally cleft into 6 (sometimes 5) cuneate-linear spreading lobes: anthers linear.

Courtallum. Concans. Island of Caranjah.

(6) L. CAPITELLATUS. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 382.

*Engrav.* Wight's Icon. t. 304.

SPEC. CHAR. Glabrous: young shoots compressed and 2-edged: leaves opposite, oblong-lanceolate, obtuse: petiole sharply-keeled at the back: flowers sessile, capitate, few together, each with 3 acute concave bracts at the base: limb of the calyx entire: flower-buds gibbous, 6-angled upwards: corolla-tube short, infundibuliform; limb cleft into 6 equal cuneate-linear spreading segments as long as the tube.

Malabar Coast, frequent on Jack trees. Chorla Ghaut.

(7) L. RECURVUS. (*Wall.*)

*Ident.* W. & A. prod. I. p. 383.

SPEC. CHAR. Leaves alternate, elliptical, obtuse, acute at the base: peduncles axillary and lateral, branched, 2–5-flowered and with the densely-pubescent flowers recurved: bract broad, obliquely cup-shaped: limb of the calyx toothed: flower-bud terete; petals 5, oblong: anthers oblong.

Neilgherries.

(8) L. BUDDLEIOIDES. (*Desr.*)

*Ident.* W. & A. prod. I. p. 383.—Dec. prod. IV. p. 302.—Desr. in Lam. Enc. Meth. III. p. 600.

*Syn.* L. Scurrula, *Roxb. fl. Ind.* I. *p.* 550 and II. *p.* 186.—*Dec. l. c. p.* 301.—L. Heynei, *Dec. l. c. p.* 300.

SPEC. CHAR. Branches terete; young shoots sometimes tomentose: leaves opposite, petioled, from elliptical to cordate-ovate, rather obtuse, thinnish, firm, at first scurfy on the under side: peduncles axillary, crowded, very short, simple, few-flowered: bract lateral and with the peduncles, ovary, calyx and corolla covered with mealy tomentum; flowers nearly sessile: calyx-margin entire, thickish, incurved: flower-bud cup-shaped at the apex: fruit turbinate.

Southern districts of the Peninsula. Khandalla. Flowering in February and March.

(9) L. MEMECYLIFOLIUS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 383.

*Engrav.* Wight's Icon. t. 142.

SPEC. CHAR. Branches very woody, terete: leaves narrow-oblong, obtuse, coriaceous, alternate or somewhat opposite: peduncles 1–3 together, axillary, short, about the length of the petiole, bearing at the apex an umbel of 2–5 short-pedicelled flowers: bract lateral, obliquely-cupulate: limb of the calyx cup-shaped, irregularly and bluntly 5-toothed: flower-bud equal, 5-angled, slightly swollen a little above the middle: corolla 5-cleft, one of the fissures deeper than the others: lobes cuneate-linear, acuminated: anthers linear.

Peninsula.

(10) L. SARCOPHYLLUS. (*Wall.*)

*Ident.* W. & A. prod. I. p. 384.

SPEC. CHAR. Branches terete: leaves somewhat alternate, elliptic or obovate, obtuse, attenuated at the base into a short thick petiole, thick and fleshy: racemes 1–3 together, axillary or from the

knots of the branches, spreading, 6–12-flowered : flowers pedicelled, drooping : bract small, lateral : calyx-limb bluntly and irregularly 5-toothed : corolla fleshy, curved, 5-cleft, one of the fissures the longest : lobes very narrow, cuneate-linear, acuminated : anthers linear.

Cumbum.

(11) L. LONGIFLORUS. (*Desr.*)

*Ident.* W. & A. prod. I. p. 384.—Desr. in Lam. Enc. Meth. III. p. 498.—Roxb. fl. Ind. (ed. Wall.) II. p. 217.—Dec. prod. IV. p. 304.

*Syn.* L. bicolor, *Roxb. fl. Ind.* I. *p.* 548 and II. *p.* 185.—*Ed. Wall.* II. *p.* 205.—*Dec. l. c. p.* 305 —L. Koenigianus, *Dec. l. c. p.* 307.—L. falcatus, *Linn. Suppl. p.* 211.—*Dec. prod. l. c.*

*Engrav.* Roxb. Cor. II. t. 139.—Rheede Mal. X. t. 4.—Wight's Icon. t. 302.

SPEC. CHAR. Branches terete : leaves usually opposite, from linear to oblong-lanceolate or ovate, obtuse : racemes axillary, solitary or in pairs, erect or spreading, simple, many-flowered, much shorter than the leaves : bract solitary, concave, oblique : calyx-limb entire : corolla long infundibuliform, gibbous on one side, curved : segments 5, linear, recurved, with one of the fissures deeper than the others : anthers linear : fruit oblong : flowers greenish-white, or scarlet-orange with green petals.

Common in the Peninsula. Concans. Guzerat.

(12) L. AMPLEXIFOLIUS. (*Dec.*)

*Ident.* W. & A. prod. I. p. 384.—Dec. prod. IV. p. 305.

*Engrav.* Wight's Icon. t. 301.

SPEC. CHAR. Branches terete : leaves opposite, sessile, orbicular or ovate, obtuse, cordate at the base, coriaceous : racemes axillary, solitary, many-flowered, shorter than the leaves : bract concave, orbicular : calyx-limb entire : corolla infundibuliform, gibbous on one side, curved : segments 5, linear-spathulate, recurved, unilateral, one fissure longer than the others : anthers linear, very oblong : flowers purple.

Neilgherries. Dindigul.

(13) L. TOMENTOSUS. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 385.—Heyne in Roth. Nov. Sp. p. 191.

*Syn.* L. bracteatus, *Heyne in Roxb. fl. Ind.* (*Ed. Wall.*) II. *p.* 220.—*Dec. prod.* IV. *p.* 306.—L. Heyneanus, *Schult. Syst.* VII. *p.* 106.

*Engrav.* Wight's Icon. t. 378.

Spec. Char. All over greyish with starry tomentum: branches terete: leaves alternate, roundish-obovate, obtuse, somewhat cuneate at the base: peduncles axillary, solitary, bearing an umbel of 3–5 pedicelled villous flowers: bract foliaceous, much larger than the ovary, unilateral, cuneate-obovate, obtuse: calyx-limb 5-toothed: corolla tubular, gibbous on one side above the middle, curved: segments 5, linear, recurved, unilateral, one of the fissures much deeper than the rest: filaments muricated: anthers linear.

Gingie and Dindigul hills.

(14) L. cuneatus. *(Heyne.)*

*Ident.* W. & A. prod. I. p. 385.—Heyne in Roth. Nov. Sp. p. 193.

*Syn.* L. Candolleanus, *W. & A. prod. l. c.*—L. goodeniiflorus, *Dec. prod.* IV. *p.* 306.—*W. & A. prod. l. c.*—L. lobeliiflorus, *Dec. prod. l. c.*

*Engrav.* Wight's Icon. t. 305.—Comp. Bot. Mag. I. t. 13.

Spec. Char. Branches terete: leaves alternate, obovate-cuneate: flowers 1–3, pedicelled, axillary; bract solitary, ovate, acute: corolla sometimes hoary, afterwards glabrous, slightly gibbous above the middle on one side, curved: segments 5, linear, reflexed, unilateral, one of the fissures deeper than the rest: fruit ovoid: flowers yellow.

Parwar ghaut and Tullawarree. Cumbum. Madura hills. Neilgherries.

(15) L. elasticus. *(Desr.)*

*Ident.* W. & A. prod. I. p. 386.—Desr. in Lam. Enc. Meth. III. p. 599.—Dec. prod. IV. p. 306.—Roxb. fl. Ind. (ed. Wall.) II. p. 217.

*Syn.* L. Euphorbiæ, *R. W. var. Wight's Icon. vol.* III.

*Engrav.* Rheede Mal. X. t. 3.—Wight's Icon. t. 1063.

Spec. Char. Glabrous, dichotomous: branches terete: leaves sessile, oblong or ovate-lanceolate, usually attenuated with a blunt point at the apex and acute at the base, thick and coriaceous, obscurely 5-nerved: 2 of the lateral nerves from the base, the other 2 from the midrib below the middle: flowers sessile or nearly so, fascicled round the knots of the branches: calyx-limb entire: corolla infundibuliform, 5-cleft, one of the fissures deeper than the others: segments narrow-linear, elastically revolute: limb before expansion tumid at the base, then tapering and forming a long sharp beak as long as the tube: anthers oblong-linear, fruit ovoid.

Peninsula. Vingorla. Flowering in July.

(16) L. involucratus. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 552.—Dalz. Bomb. flor. p. 109.

Spec. Char. Leaves short-petioled, ovate and ovate-cordate: umbellets axillary, crowded, subsessile: involucres 4-leaved, 4-flowered: leaflets ovate-lanceolate, smooth: tube of the corolla villous, 5-parted: segments linear, revolute: ovary sericeous.

Beemasunker. Forests East of Bengal. Flowering nearly all the year.

(17) L. lageniferus. (*R. W.*)

*Ident.* Wight's Icon. vol. I.—Dalz. Bomb. flor. p. 110.

*Engrav.* Wight's Icon. t. 306.

Spec. Char. Glabrous: branches terete: leaves opposite, elliptic-oblong, obtuse, rounded at the base: peduncles fascicled, having at the apex a large campanulate 4–5-lobed involucre enclosing 4–5-flowers.

Malabar. High hills in the North Concan.

(18) L. globosus. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 550.—Ed. Wall. II. p. 206.—Dec. prod. IV. p. 297.

Spec. Char. Leaves generally opposite, oblong, smooth, entire, thick and coriaceous: spikes axillary or from between the leaves, solitary or 2–3 together: tube of the corolla gibbous; border 6-cleft; segments equal, reflected: stamens 6: stigma glandular: berry oval: flowers opposite, 3–6 pairs, sessile, small, greenish-orange.

Common on trees in Bengal, flowering all the year.

(19) L. ampullaceus. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 552.

Spec. Char. Branches spreading: leaves opposite, oblong, smooth: racemes axillary, solitary or in pairs, much shorter than the leaves: bracts oval, one at the base of each pedicel and two at the base of the ovary, resembling a two-lipped calyx; tube of the corolla gibbous: segments 6, revolute, somewhat spathulate; filaments 6: style longer than the corolla: berry long-oval, smooth: flowers opposite, largish, greenish-yellow.

Forests of Silhet, flowering in the hot season.

(20) L. clavatus. (*Roxb.*)

*Ident.* Roxb fl. Ind. I. p. 553.

Spec. Char. Leaves opposite, broad-lanceolate: flowers axillary, few, tetrandrous: corollas irregular, 4-cleft: berries clavate.

Silhet forests.

(21) L. pentapetalus. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 553.

Spec. Char. Leaves opposite, from lanceolate to ovate-cordate, obliquely attenuated from the middle to the apex: racemes axillary, solitary, or paired, straight, often as long as the leaves: bract oval, solitary: petals 5, swollen and triangular at their base, tongue-shaped, recurved: stamens 5: anthers obovate: style 4-sided, apparently jointed near the middle: berries oblong: flowers very numerous, short-pedicelled, small, red.

Forests of Silhet, flowering in June.

(22) L. trigonus. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 386.

Spec. Char. Branches acutely triangular: leaves somewhat verticillate in threes, oval, obtuse or slightly cuneate at the base, coriaceous: petiole thick: peduncles lateral, very short, bearing a short almost umbel-shaped raceme of a few approximated pedicelled spreading flowers: bract solitary under the fruit, unilateral, ovate: limb of the calyx irregularly and bluntly toothed: berry obovoid.

Peninsula.

(23) L. biflorus. (*Desr.*)

*Ident.* Desr. in Lam. Enc. Meth. III. p. 600.—W. & A. prod. I. p. 386.—Dec. prod. IV. p. 302.

Spec. Char. Leaves ovate-roundish, thickish: branches terete: petioles channelled: peduncles solitary or in pairs, axillary a little shorter than the petioles, bearing two flowers on pedicels about the length of the peduncle: bract solitary under the ovary and girding its base, lateral, ovate, short: limb of the calyx truncated: flower-bud slender, much curved, slightly clavate at the apex, covered with thin rusty pubescence.

Peninsula.

(24) L. turbinatus. (*Dec.*)

*Ident.* W. & A. prod. I. p. 386.—Dec. prod. IV. p. 305.

Spec. Char. Branches terete: leaves somewhat alternate, oval or oblong, obtuse or slightly acute, thick: peduncles axillary, much shorter than the leaf, 2–3-cleft: bract ovate, solitary under the turbinate ovary: limb of the calyx unequally and obtusely 5-cleft.

Neilgherries.

(25) L. rugulosus. (*Roth.*)

*Ident.* Roth. Nov. Sp. p. 194.—Dec. prod. IV. p. 317.—W. & A. prod. I. p. 386.

Spec. Char. Branches terete, ultimate ones compressed: leaves opposite or alternate, very shortly petioled, oblong-elliptical, obtuse, glaucous, rugosely reticulated, with a smooth cartilaginous margin:

racemes axillary, opposite, simple, shorter than the leaf: pedicels recurved: bract solitary, lateral, orbicular, concave, embracing the base of the calyx: calyx-limb truncated, slightly oblique, with a small tooth on one side: flower-bud terete: corolla tubular, gibbous about the middle, curved, 4-cleft: segments lanceolate, obtuse: anthers linear.

Peninsula.

(26) L. KANNELI. (*Schult.*)

*Ident.* W. & A. prod. I. p. 387.—Schult. Syst. VII. p. 153.

*Engrav.* Rheede Mal. X. t. 5.

SPEC. CHAR. Branches terete: leaves opposite, elliptic-oblong, short-petioled, thick: racemes short, lateral, 4–7-flowered: corolla small, tubular, 4-cleft: fruit ovoid.

Peninsula. Travancore.

(27) L. PATULUS. (*Jack.*)

*Ident.* Calc. Jour. Nat. Hist. IV. p. 357.—Walp. Ann. I. p. 363.

SPEC. CHAR. Leaves opposite, elliptic-ovate, coriaceous: racemes shorter than the leaf, and between the leaves: tube of the corolla acutely 6-sided: segments equal: bracts surrounding the ovary resembling a 3-cleft calyx: margin of the calyx entire: stamens 6; flowers green, purplish towards the base.

Interior of Bengal.

(28) L. LEPIDOPHYLLUS. (*Walp. Mss.*)

*Ident.* Walp. Ann. II. p. 730.

*Syn.* L. Arnottianus, *Wight in Calc. Jour. Nat. Hist.* VI. t. 361.

SPEC. CHAR. Fruticose: much branched: branchlets and younger leaves covered with small rusty scales; leaves opposite or somewhat alternate, coriaceous, obovate, very obtuse or orbicular: spikes axillary, solitary, as long as the leaves, many-flowered: flowers sessile on the rachis: petals 4, linear, gibbous at the apex; limb of the calyx 4-toothed: style filiform, persistent: stigma capitate: berry small, globose.

Courtallum.

(29) L. INTERMEDIUS. (*R. W.*)

*Ident.* Wight in Calc. Jour. Nat. Hist. VI. p. 361.—Walp. Ann. II. p. 730.

SPEC. CHAR. Branches terete: leaves obovate, obtuse, and often retuse at the apex, cuneate towards the base: racemes axillary, 1–3-fascicled, sometimes longer than the leaves: flowers pedi-

celled: bract 1, lateral, hooded at the base of the ovary: petals 4, linear, thickened at the apex: flower-buds quadrangular; angles somewhat winged towards the apex: berries globose-pea-shaped.

Neilgherries. Travancore.

(30) L. Blumeanus. (*R. W.*)

*Ident.* Calc. Jour. Nat. Hist. VI. p. 362.—Walp. Ann. II. p. 730.

Spec. Char. Branches terete: younger ones scurfy: leaves broad-ovate, or somewhat cordate at the base, subacuminate: racemes simple, axillary or 2–3-fascicled at the knots of the branches, much shorter than the leaves: flowers pedicelled: bract anterior, gibbous below: flower-bud cylindric, acuminate, scurfy: calyx truncated, entire: petals 4, linear, acute: ovary globose.

Courtallum.

## ORDER LXXX. CAPRIFOLIACEÆ.

Shrubs with opposite exstipulate leaves: flowers terminal, corymbose or axillary: calyx-limb 5, rarely 4-lobed: segments of the corolla alternate with the sepals: æstivation imbricated: stamens alternating with the petals: filaments subulate: anthers ovate, 2-celled: ovary cohering with the calyx-tube, 3, rarely 4–5-celled: ovules few, pendulous: style 1, exserted or wanting: stigmas either distinct or combined into one capitate stigma: fruit crowned by the calyx, fleshy, many-celled or 1-celled by abortion: seeds solitary or in pairs or several in each cell: embryo straight, in the centre of a fleshy albumen.

### GENUS I. SAMBUCUS.

**Pentandria Trigynia.** *Sex: Syst:*

*Deriv.* From *Sambuca*, a musical instrument which is supposed to have been made of elder-wood.

Gen. Char. Shrubs or herbaceous plants: leaves opposite, unequally pinnated: divisions toothed or serrated, sometimes again pinnated or laciniated, with 2 stipules or glands at the base of the petiole: corymbs or cymes terminal: calyx 5-cleft: corolla 5-cleft: petals obtuse: style wanting: stigmas sessile: berry pulpy, 1-celled, 3–5-seeded: seeds oblong, angled on one side.

(1) S. JAVANICA. *(Reinw.)*

*Ident.* Reinw. in Blume Bijd. p. 657.—Jour. Proc. Linn. Soc. vol. II. p. 180.—Dec. prod. IV. p. 322.

SPEC. CHAR. Suffruticose: branches somewhat terete: leaflets adnate with a sessile base, or petioled, cuneate or cordate: stipules rarely foliated: cyme leafy at the base, with the branches elongated: berries black.

Khasia mountains. Assam. Flowering in July and August.

## GENUS II. LEYCESTERIA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* Named by Wallich in honor of William Leycester, once Chief Judge in Bengal, and a munificent Patron of Horticulture.

GEN. CHAR. Calyx-limb 5-lobed: lobes linear: corolla infundibuliform: ovary 5-celled: ovules very many, pendulous: berry fleshy, 5-celled, many-seeded.

(1) L. FORMOSA. *(Wall.)*

*Ident.* Roxb. fl. Ind. (ed. Wall.) II. p. 181.—Dec. prod. IV. p. 338.

*Engrav.* Wall. Pl. As. Rar. II. t. 120.—Wight's Ill. II. t. 121.—D.

SPEC. CHAR. Erect shrub: branches fistular, rising from scaly buds: leaves ovate-lanceolate, acuminated, subcordate at the base: petioles pilose: flowers white, with a tinge of purple, middle-sized and sessile, fascicled and arranged in approximate whorls of fives and sixes, the whole forming short leafy drooping racemes terminating the branches: bracts large and leafy, purplish, pubescent and ciliated, lanceolate-acuminate, surrounding the rachis with their concave bases: berries deep-purple, as large as a gooseberry, pulpy; cells 8–10-seeded.

Khasia mountains, flowering from June to August.

## GENUS III. VIBURNUM.

**Pentandria Trigynia.** *Sex: Syst:*

*Deriv.* Said to be from *Vieo*, to tie, because of the pliability of some of the branches.

GEN. CHAR. Shrubs: leaves entire or lobed: corymbs terminal: calyx 5-cleft, persistent: corolla rotate or tubular, 5-lobed: style none or very short: berry 1-seeded, ovate or globose: seed compressed.

(1) V. PUNCTATUM. *(Ham.)*

*Ident.* Ham. in Don. prod. p. 142.—Dec. prod. IV. p. 324.

*Syn.* V. acuminatum, *Wall. W. & A. prod.* I. *p.* 388.—*Dec. l. c.*

*Engrav.* Wight's Icon. t. 1021.—Spicil. I. t. 89.

SPEC. CHAR. Large ramous shrub: young branches petioles and peduncles dotted with small rusty-coloured scales: leaves elliptical, acuminated at both ends, coriaceous, quite entire, slightly recurved at the margins, covered beneath with small rusty-coloured dots: corymb large, trichotomous: stigmas sessile: berry oval-oblong: flowers whitish.

Neilgherries. Concan and Canara hills. Flowering from January to March.

(2) V. CORIACEUM. *(Blume.)*

*Ident.* Jour. Proc. Linn. Soc. II. p. 179.—V. capitellatum, W. & A. prod. I. p. 388. *var.*

*Engrav.* Wight's Icon. t. 1022.

SPEC. CHAR. Free from scales and quite glabrous except in the axils of the nerves: leaves oval-lanceolate, with a few distant wavy teeth, pointed at the apex, woolly in the axils of the nerves beneath: cymes compound, 3–6-partite: flowers umbellate, several together, nearly sessile at the extremity of the ultimate divisions; flower-buds viscous and shining: berries oval-oblong.

Neilgherries. Pulney hills. Khasia mountains. Flowering from November to May.

(3) V. HEBANTHUM. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 388.

*Syn.* V. pubigerum, *W. & A. prod.* I. *p.* 389.

*Engrav.* Wight's Icon. t. 1023.

SPEC. CHAR. Shrub or small tree: branches glabrous: leaves elliptic-oblong or lanceolate, acute, obscurely-toothed: corymb pedunculed, terminal, glabrous: pedicels bracteolate, and with the flowers densely pubescent.

Neilgherries, flowering in March.

(4) V. ERUBESCENS. *(Wall.)*

*Ident.* Walp. Pl. As. Rar. II. p. 29.—Dec. prod. IV. p. 329.

*Syn.* V. Wightianum, *Wall. W. & A. prod.* I. *p.* 388.

*Engrav.* Walp. Pl. As. Rar. II. t. 134.—Wight's Icon. t. 1024.—Spicil. I. t. 90.

SPEC. CHAR. Shrub or small tree: leaves oval, shortly acuminated towards the apex: nerves densely pubescent and their axils

woolly: corymbs panicled, puberulous: bracts linear, pubescent and ciliated.

Neilgherries, flowering from March to May.

(5) V. LUTESCENS. *(Blume.)*

*Ident.* Blume Bijd. p. 655.—Dec. prod. IV. p. 324.

*Syn.* V. Colebrookeanum, *Wall.*

SPEC. CHAR. Shrub: petioles and corymbs spuriously axillary or terminal in very short inconspicuous axillary branchlets: scurfy with stellate pubescence: leaves oblong or elliptic, often coarsely serrate or dentate, glabrous on both sides: lobes of the calyx oblong concave: berries small, red: flowers small, without bracts.

Assam. Silhet. Khasia mountains. Flowering in March and April.

(6) V. CORYLIFOLIUM. *(H. F. & T.)*

*Ident.* Jour. Proc. Linn. Soc. II. p. 174.

SPEC. CHAR. Branchlets petioles and corymbs short-peduncled, stellately-tomentose or somewhat villous: leaves broad, ovate-cordate, acuminated, softly pubescent on both sides: rays of the corymb elongated: berries small, broad-ovate, acute, furrowed on both sides, much compressed.

Khasia mountains.

(7) V. FETIDUM. *(Wall.)*

*Ident.* Walp. Pl. As. Rar. I. p. 49.—Dec. prod. IV. p. 325.

*Engrav.* Wall. l. c. t. 61.

SPEC. CHAR. Shrub: branchlets petioles and corymbs and nerves of the leaves below scurfy with stellate pubescence: leaves elliptic-oblong, cuneate at the base, 3-nerved, coarsely toothed or serrated: corymbs composite, without bracts or with 1–4 leafy involucres: flowers small, bracteolate: berry ovate, acute, shining: style short, broad-conical.

Khasia mountains, flowering in June.

(8) V. ODORATISSIMUM. *(Ker.)*

*Ident.* Jour. Proc. Linn. Soc. II. p. 177.

*Engrav.* Bot. Reg. VI. t. 456.

SPEC. CHAR. Glabrous shrub: leaves very coriaceous, smooth on both sides, elliptic-ovate, obovate or lanceolate, acuminated, quite entire or serrated: petioles thick: corymb terminal, panicled, with thick few-flowered brachiate branches: calyx-limb cup-shaped, dilated, scarcely lobed: corolla small, rotate: berry ovoid.

Khasia mountains, flowering in November.

(9) V. Simonsii. (*H. F. & T.*)

*Ident.* Jour. Proc. Linn. Soc. II. p. 177.

Spec. Char. Shrub or small tree: leaves quite glabrous, ovate or elliptic-lanceolate, acuminated, smooth on both sides, serrated above the middle: nerves numerous, parallel. petioles red: corymb terminal, long-peduncled, pubescent: branchlets and flowers bracteolate: lobes of the calyx ovate, obtuse style conical. stigma broad-capitate: berry oblong.

Khasia mountains, flowering in June.

## GENUS IV. LONICERA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* Named after Adam Lonicer, a German Botanist, who died in 1586.

Gen. Char. Erect or climbing shrubs: leaves opposite, sometimes cuneate, entire or occasionally slightly runcinate: inflorescence axillary: calyx 5-toothed: corolla tubular, campanulate or infundibuliform, 5-cleft, often irregular: style filiform; stigma capitate: berry 3-celled: cells few-seeded: seeds crustaceous.

(1) L. Leschenaultii. (*Wall.*)

*Ident.* W. & A. prod. I. p. 389.—Roxb. fl. Ind. (Ed. Wall.) II. p. 178.—Dec. prod. IV. p. 334.

*Syn.* L. mollis, *Wall.*

*Engrav.* Wight's Ill. II. t. 120, 121. *b.*

Spec. Char. Twining, tomentose or villous all over except the upper side of the leaves: leaves ovate, acute, quite entire: peduncles very short, 2-flowered, axillary and solitary, or terminal and fascicled: bracts 3 under each flower, the middle one longer and subulate: tube of the corolla equal at the base, long, villous or pubescent: berries distinct.

Neilgherries. Cunnawady. Flowering from January to March.

(2) L. ligustrina. (*Wall.*)

*Ident.* W. & A. prod. I p. 389.—Roxb. fl. Ind. (Ed. Wall.) II. p. 179.—Dec. prod. IV. p. 334.

*Engrav.* Wight's Icon. t. 1025.—Spicil. I. t. 91.

Spec. Char. Stem somewhat erect and bushy: younger branches hairy or pubescent: leaves ovate-lanceolate, acute, quite entire, shining, hairy on the margin: peduncles a little longer than the petioles, 2-flowered, axillary and solitary: bracts 2, one at the back of each ovary and one cup-shaped enclosing both ovaries. limb of

the calyx constricted in the middle: corolla puberulous, infundibuliform: tube gibbous on one side at the base: berries distinct, both covered by the common bract: flowers whitish.

Khasia mountains. Neilgherries. Flowering in March and April.

(3) L. JAPONICA. (*Thunb.*)

*Ident.* Thunb. fl. Jap. p. 89.—Wall. in Roxb. fl. Ind. II. p. 174.

*Syn.* L. macrantha, *Dec. prod.* IV. p. 333.—L. flexuosa, *Lod. Bot. Cab. t.* 1037.—L. Chinensis, *Dec. l. c.*—Caprifolium macranthum, *Don. flor. Nep. p.* 140.—L. confusa, *Dec. l. c.*—L. hirtiflora, *Champion.*

*Engrav.* Bot. Reg. IX. t. 712.—Bot. Mag. LXI. t. 3316.

SPEC. CHAR. Scandent: branchlets petioles and peduncles hairy: leaves short-petioled, ovate-lanceolate, acuminate, cordate at the base, ciliated, tomentose beneath; flowers axillary, solitary or disposed on terminal spikes, or in axillary capitate branchlets: bracts short and with the small bracteoles ciliated: ovary glabrous: corolla very long, hirsute: flowers yellow.

Khasia mountains, flowering in May.

(4) L. GLABRATA. (*Wall.*)

*Ident.* Wall. in Roxb. fl. Ind. II. p. 175.—Dec. prod. IV. p. 334.

SPEC. CHAR. Scandent: branchlets glabrous or pubescent: leaves ovate-cordate or ovate-oblong, acuminated, glabrous or puberulous beneath: flowers shortly racemose towards the apices of the axillary branchlets: bracts very short, subulate: bracteoles small: corolla quite glabrous: tube infundibuliform.

Assam, flowering from October to December.

## ORDER LXXXI. CINCHONACEÆ.

Trees shrubs or herbaceous plants: leaves simple, quite entire, opposite or verticillate, with interpetiolar stipules: calyx coherent: sepals as many as the petals: corolla tubular with a definite number of divisions, valvate or imbricated in æstivation: stamens springing from the corolla and alternating with the petals: ovary inferior, crowned with a fleshy disk, 2-celled, occasionally with more cells: ovules numerous and attached to a central

placenta, or else few and erect: style occasionally divided: stigma simple or divided: fruit either dehiscing into 2 cocci or indehiscent and dry or succulent, sometimes many-celled: embryo small, surrounded by horny or fleshy albumen.

## GENUS I. NAUCLEA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Naus*, a ship, and *Kleio*, to enclose, alluding to the half-capsule which is hull-shaped.

Gen. Char. Unarmed trees or shrubs: leaves opposite or 3–4-verticillate, petioled or sessile: stipules deciduous: partial peduncles terminal at the end of the branches or at the extremity of 2-leaved terminal or axillary general peduncles, bearing each one globose head of sessile flowers: bracts or floral leaves at the end of the general peduncle, none at the base of the head: paleæ or bracteoles among the flowers linear: calyx-tube oblong: limb truncated or 5-partite with linear lobes: corolla infundibuliform, with a slender tube and naked throat: lobes 5, patent, oval-oblong: anthers included or protruded, shorter than the petals: style protruding: stigma oblong or ovate, tumid, undivided: capsules 2-celled, sessile upon a receptacle: seeds several, imbricated, winged or with a gland at the hilum: embryo inverted in a fleshy albumen.

### (1) N. parvifolia. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 391.—Roxb. fl. Ind. I. p. 313.—Dec. prod. IV. p. 334.

*Syn.* N. parviflora, *Pers.*—N. Orientalis, *Linn.*—Cephalanthus pilulifer, *Lam. Dec. l. c. p.* 539.

*Engrav.* Roxb. Cor. I. t. 52.—Wight's Ill. II. t. 123.

Spec. Char. Tree: branches brachiate: stipules oval: leaves petioled, ovate or obovate-obtuse, with a bluntish point: general peduncles opposite, terminal, resembling and often passing into flower-bearing shoots and having a pair of small deciduous leaves: partial ones scarcely so long as the globose head of flowers, the terminal one on the branch usually without a general one: limb of the calyx very short and almost truncated: anthers shortly protruded: stigma narrow-oblong, cup-shaped: capsules containing 2 cocci splitting at the inner angle: flowers yellow.

Common throughout India, flowering nearly all the year.

### (2) N. cordifolia. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 391.—Roxb. fl. Ind. I. p. 314.—Dec. prod. IV. p. 346.

*Engrav.* Roxb. Cor. I. t. 53.

Spec. Char. Tree: stipules oval: leaves petioled, cordate, roundish, pubescent above, tomentose beneath: general peduncles 1–3 together, axillary, bearing at the apex a pair of small scariose roundish deciduous bracts: partial one shorter than the general and rather longer than the globose head of flowers: sepals clavate: corolla pubescent: anthers slightly protruded: stigma almost capitate: flowers yellow.

Common throughout the country, flowering in the rainy season.

(3) N. Cadamba. (*Roxb.*)

*Ident.* Roxb. fl Ind. I. p 512.—Dec. prod. IV. p. 344.

*Engrav.* Rheede Mal. III. t. 33.

Spec. Char. Tree: leaves petioled, oval, smooth: stipules triangular: peduncles terminal, solitary: stigmas clavate; heads of flowers globose, orange-coloured: capsules 4-sided, tapering to the base, 4-celled at the apex and 2-celled at the base.

Bengal. Silhet. Flowering in the hot season.

(4) N. elliptica. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 118

Spec. Char. Large tree: leaves elliptic, acute at both ends, rather thick and coriaceous, shining, glabrous: peduncles axillary and terminal, solitary: calyx-segments subulate, hairy: heads of flowers globose: stigmas long, exserted, thick, smooth, capitate: corolla tubular, widening upwards, yellowish-white: petals oval-obtuse, with a mucro on the back below the apex.

Near Chorla ghaut

(5) N. ovalifolia. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 516 —Dec. prod. IV. p. 344.

Spec. Char. Tree: leaves sessile, oval and elliptic: flowers terminal, solitary.

Silhet.

(6) N. sessilifructus.

*Ident.* Voigt. Hort. Calc p. 375.

*Syn.* Uncaria sessilifructus, *Roxb. fl. Ind.* I. *p.* 520.—*Dec. prod.* IV. *p.* 349.

Spec. Char. Large scandent shrub: hooks spiral, axillary: leaves oblong, smooth above, soft beneath: peduncles axillary, 1–3-flowered: terminal ones many-flowered: capsules sessile.

Chittagong forests, flowering in the cold season.

(7) N. SCANDENS. (*Sm.*)

*Ident.* Sm. in. Rees' Cycl. XXIV.

*Syn.* Uncaria pilosa, *Roxb. fl. Ind.* I. *p.* 520.—*Dec. prod.* IV. *p.* 348.

*Engrav.* Wall. Pl. As. Rar. II. t. 170.

SPEC. CHAR. Scandent shrub: hooks spiral, axillary, hairy: young parts very hairy: leaves ovate-oblong, acuminated; stipules 2-cleft: pedunces axillary, 1-flowered.

Forests of Chittagong, flowering in February and March.

(8) N. ROTUNDIFOLIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 516.—Dec. prod. IV. p. 345.

SPEC. CHAR. Tree: leaves petioled, roundish-oval, obtuse: stipules oblong: flowers terminal, somewhat panicled: capsules distinct.

Chittagong, flowering in October.

## GENUS II. ANTHOCEPHALUS.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Anthos*, a flower, and *Kephalos*, a head, in allusion to the inflorescence.

GEN. CHAR. Flowers densely capitate, arranged on a globose common receptacle, slightly pedicellate: calyx-limb 5-partite, persistent: corolla long-tubular; limb 5-cleft: style much exserted: stigma 2-lobed: fruit covered with the limb of the calyx, 4-coccous: cocci ovoid, 1-celled, indehiscent, truncated at the base, 4–5-seeded.

(1) A. INDICUS. (*Rich.*)

*Ident.* W & A. prod. I p. 450.

*Syn.* Nauclea purpurea, *Roxb. Dec. prod.* IV. *p.* 346.—Cephalanthus Chinensis, *Lam.*

*Engrav.* Roxb. Cor. I. t. 54.

SPEC. CHAR. Small tree: stipules oval: leaves petioled, oval-oblong, acute at both ends: peduncles terminal, solitary or in threes, often with two deciduous small leaves at the apex, partial ones usually shorter than the general one: limb of the calyx hirsute; segments clavate: anthers scarcely exserted: stigma somewhat capitate capsules splitting from the base upwards: flowers purple.

Moist valleys among the Circar mountains, flowering in the hot season.

## GENUS III. HYMENODYCTION.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Hymen*, a membrane, and *Dyction*, a net. The seeds are girded by a netted membrane.

Gen. Char. Trees: leaves petioled; stipules deciduous, glandularly serrated: flowers small, pubescent, crowded and fascicled in a terminal panicle which is composed of opposite, simple or slightly-branched peduncled racemes, the lower one or two pairs of which are subtended by a pair of opposite long-petioled convex dry floral leaves: calyx-tube ovate; limb 5-toothed: corolla infundibuliform, the limb 5-lobed: stamens very short: filaments inserted under the throat of the corolla: anthers slightly protruded: style filiform, much protruded: stigma clavately capitate: capsule 2-celled, 2-valved, loculicidal: seeds flat, imbricated, surrounded by a wing which is 2-cleft at the base: embryo erect in fleshy albumen.

### (1) H. excelsum. (*Wall.*)

*Ident.* W. & A. prod. I. p. 392.—Roxb. fl. Ind. (Ed. Wall.) II. p. 149.—Dec. prod. IV. p. 358.

*Syn.* Cinchona excelsa, *Roxb. fl. Ind.* I. p. 529.

*Engrav.* Roxb. Cor. II. t. 106.

Spec. Char. Leaves from oblong to roundish-ovate, pubescent: stipules cordate: floral leaves oblong, coloured, bullate: panicles terminal and axillary: anthers nearly sessile in the mouth of the corolla: flowers small, greenish.

Circars. Columala. Common on the Western ghauts. Flowering in the rainy season.

### (2) H. obovatum. (*Wall.*)

*Ident.* W. & A. prod. I. p. 392.—Roxb. fl. Ind. (Ed. Wall.) II. p. 153.—Dec. prod. IV. p. 358.

*Engrav.* Wight's Icon. t. 1159.

Spec. Char. Leaves obovate, abruptly and shortly acuminate, glabrous, finely reticulated with coloured veins beneath, aggregated towards the ends of the branches: stipules ovate, glanduliferous on the margins, very deciduous: racemes axillary, spicate, with one or two short branches: tube of the corolla contracted; limb campanulate, 5-cleft: stamens inserted on the throat: filaments much longer than the anthers: flowers greenish.

In dry and stony soils about Matecarry, near Coimbatore, flowering in May and June.

(8) H. UTILIS. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 80.

SPEC. CHAR. Leaves roundish-ovate, abruptly-acuminate, glabrous above, villous beneath: stipules broad-ovate, obtuse, glanduliferous on the margin; panicles terminal, loose: branches racemose: corolla subrotate; filaments inserted on the throat and a little shorter than the oblong ovate anthers: flowers pedicelled, bracteolate, fascicled, greenish.

Common in the Palghaut jungles. The wood is nearly the colour of Mahogany and is extensively used for furniture under the name of the Bastard Cedar.

(4) H. THYRSIFLORUM. (*Wall.*)

*Ident.* Dec. prod. IV. p. 358.

*Syn.* Cinchona thyrsiflora, *Roxb. fl. Ind.* I. p. 530.

SPEC. CHAR. Leaves ovate, downy, pale beneath, the floral ones coloured and reticulated; thyrse terminal and axillary, drooping, very dense: stipules oblong, fringed with coloured glands: limb of the corolla urceolate: flowers small, fascicled, greenish-yellow.

Interior parts of Bengal. Chittagong. Rajmahal. Flowering in June and July.

## GENUS VI. MUSSÆNDA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* The Cinghalese name latinized.

GEN. CHAR. Small trees or shrubs: leaves petioled: stipules 2 on each side, distinct or united at the base: flowers corymbose, terminal: bracts small, situated under the pedicels and branches of the corymb: calyx-tube oblong-turbinate: limb 5-partite: lobes erect, acute, one of them sometimes produced into a large petioled coloured leaf: corolla infundibuliform: limb 5-partite: throat villous: anthers 5, sessile within the tube, linear, included or slightly protruded: stigma 2-cleft: fruit ovoid, fleshy, not crowned with the calyx, indehiscent, 2-celled: cells many-seeded: seeds lenticularly compressed, roughish: albumen fleshy.

(1) M. CORYMBOSA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 393.—Roxb. fl. Ind. I. p. 556.—Dec. prod. IV. p. 371.

Spec. Char. Shrub: leaves oblong, glabrous. stipules cordate at the base, cuspidate at the apex: segments of the calyx subulate, glabrous, one of them in some of the axillary flowers of each corymb produced into an ovate-lanceolate leaf: style about half the length of the tube of the corolla: fruit oval. flowers middle-sized, bright-orange.

Malabar. Silhet. Flowering from August to November.

(2) M. frondosa. *(Linn.)*

*Ident.* W. & A. prod. I. p. 393.—Roxb. fl. Ind. I. p. 557.—Dec. prod. IV. p. 370.

*Syn.* M. flavescens, *Ham. in Linn. Soc. Trans.* XIV. *p.* 203.

*Engrav.* Wight's Ill. II. t. 124.—Rheede Mal. II. t. 17.—Burm. Zeyl. t. 76.—Bot. Reg. VI. t. 517.

Spec. Char. Erect shrub: leaves oval, acuminated, from villous or hirsute to nearly glabrous: branches and corymbs when young pubescent or tomentose: calyx-segments subulate, much longer than the ovary, hirsute, one of them in some of the axillary flowers of the corymb produced into a large pubescent or villous leaf: corolla externally hirsute: style the length of the tube: fruit at first hairy, afterwards glabrous, obovoid: flowers middle-sized, gold-coloured.

Common in the Peninsula. Khasia mountains. Flowering nearly all the year.

(3) M. tomentosa. *(Wight.)*

*Ident.* W. & A. prod. I. p. 394.

Spec. Char. Shrub: branches somewhat villous: leaves oval, acuminated, hirsutely villous on both sides. corymbs villous: calyx-segments subulate, somewhat unequal, as long or twice as long as the ovary, none of them expanding into a leaf. corolla hirsute on the outside: fruit obovoid. flowers white.

Gingie Hills.

## GENUS V. GARDENIA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* Named in honor of Dr. Garden, of Charleston, U. S., a correspondent of Linnæus.

Gen. Char. Trees or shrubs, unarmed or thorny: leaves opposite or sometimes verticillate: flowers axillary or terminal, usually solitary, white, often becoming yellowish and generally fragrant: calyx-tube ovate, even or ribbed; limb tubular, truncated, or toothed or divided: corolla infundibuliform or hypocrateriform; tube much longer than the calyx; limb spreading, 5-9-partite, twisted in æstivation: anthers 5-9, linear, nearly sessile in the throat of the

corolla: ovary 1-celled: stigma clavate, 2-cleft or 2-toothed: lobes thick and erect: berry fleshy, crowned with the calyx, internally chartaceous or with a nut, imperfectly 2–5-celled: seeds minute, immersed in parietal fleshy placentas.

(1) G. LATIFOLIA. *(Ait.)*

*Ident.* W. & A. prod. I. p. 395.—Roxb. fl. Ind. I. p. 706.—Dec. prod. IV. p. 380.

*Syn.* G. enneandra, *Koen. W. & A. prod.* I. *p.* 394.

*Engrav.* Wight's Icon. t. 759.

SPEC. CHAR. Unarmed tree: leaves opposite or in threes, very shortly petioled, oval or obovate, glabrous, with a small hairy gland in the axils of the nerves beneath: limb of the calyx campanulate, irregularly divided, hirsute on the inside: corolla hypocrateriform; tube long, hirsute on the outside; limb about 9-cleft, the divisions obliquely obovate, hirsute towards the one margin on the outside: stigma clavate, thick and fleshy, bipartite: segments 2-cleft: berry nearly globose, even, crowned with the calyx: nut thin, brittle and bony, with 4 parietal receptacles: flowers terminal, solitary, very shortly-pedicelled, very large, pure white in the morning, yellow in the evening, fragrant.

Hills of the Circars and Carnatic. Southern Provinces. Guzerat. Khandeish jungles. Flowering in April.

(2) G. LUCIDA. *(Roxb.)*

*Ident.* W. & A. prod. I. p. 395.—Roxb. fl. Ind. I. p. 707.—Dec. prod. IV. p. 381.

*Syn.* G. resinifera, *Roth.*

*Engrav.* Wight's Icon. t. 575.

SPEC. CHAR. Unarmed tree with resinous buds: leaves very shortly petioled, oblong or oval or obovate, obtuse or with a short blunt point, glabrous, hard, shining, with simple parallel nerves and connecting prominent veins: divisions of the calyx long-subulate, sprinkled internally with erect bristles: corolla hypocrateriform; tube long, glabrous, striated; limb 5-partite; divisions obovate-oblong, as long as or a little shorter than the tube, glabrous: stigma entire: drupe even, oblong: nut very hard, thick and bony, with 2 parietal receptacles: flowers somewhat terminal, solitary, shortly-pedicelled, pure-white, fragrant.

Circars. Columala. South Mahratta country. Chittagong. Flowering in March and April.

(3) G. GUMMIFERA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 395.—Dec. prod. IV. p. 381.—Roxb. fl. Ind. I. p. 709.

*Syn.* G. arborea, *Roxb.*

*Engrav.* Wight's Icon. t. 576.

Spec. Char. Unarmed tree with resinous buds: leaves sessile, from narrow-elliptic-oblong to ovate-oblong, obtuse, puberulous and slightly scabrous when young, afterwards shining, with simple parallel nerves: calyx densely puberulous, and slightly scabrous: limb short, with 5 ovate-acuminate segments; corolla hypocrateriform: tube long and slender, widening at the mouth, slightly pubescent: petals 5, narrow-oblong, almost glabrous: stigma clavate, entire, striated: drupe even, oblong, crowned with the calyx: nut with 4–5 parietal receptacles: flowers terminal, 1–3-together, almost sessile, large, white, becoming yellow in the evening, fragrant.

Circars, Gingie Hills, North Canara. Flowering in March and April.

(4) G. montana. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 396.—Roxb. fl. Ind. I. p. 709.—Dec. prod. IV. p. 383.

*Engrav.* Wight's Icon. t. 577.

Spec. Char. Tree with short rigid spines: leaves oblong, obtuse, nearly sessile, with revolute margins, upper side glabrous and shining, under slightly pubescent: flowers 3–6-together, fascicled, springing from the young leafless shoots, short-pedicelled: corolla 5–7-cleft, glabrous in the throat: anthers included: stigma 2-cleft: drupe roundish; nut hard and bony, with 4–6 parietal receptacles; flowers large, white, becoming yellow, very fragrant.

Circar mountains, flowering in March and April.

(5) G. coronaria. (*Buch.*)

*Ident.* Syme's Emb. to Ava, p. 474.

*Syn.* G. costata, *Roxb. fl. Ind.* I. *p.* 704.—*Dec. prod.* IV. *p.* 380.

Spec. Char. Unarmed tree: leaves cuneiform-oblong, smooth, resinous when young with numerous large parallel veins: calyx cylindrical: limb irregularly 5-lobed, resinous outside and prominently 5-angled: segments of the corolla 5, obliquely ovate; tube cylindrical: anthers sessile, included: stigma large, 2-lobed; lobes grooved: berry drupaceous, oblong, ventricose, 5-ribbed: flowers terminal, very large, white, changing to yellow, very fragrant.

Mountainous parts of the country, Chittagong. Flowering in April.

(6) G. campanulata. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 710.—Dec. prod. IV. p. 383.

*Engrav.* Wight's Icon. t. 578.

Spec. Char. Armed shrub: thorns single, usually terminating the lateral opposite branchlets: leaves short-petioled, broad-lanceolate, tapering towards the base: stipules triangular, acute; calyx

cylindric, 5-toothed: tube of the corolla campanulate, 5-sided: segments 5, obliquely-ovate: anthers sessile, included: style short: stigma somewhat 5-grooved, situated deep in the tube: berry round-ovate, smooth, depressed, slightly 5-furrowed at the apex and base: nut thin and firm, with 5 parietal receptacles: flowers small, pale yellowish white, short-peduncled, crowded on the extremities of short lateral spinous branchlets.

Forests of Chittagong, flowering in March.

## GENUS VI. RANDIA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* Named after Dr. Rand, formerly of the Chelsea Botanical Gardens.

Gen. Char. Small trees or shrubs, much branched: thorns when present axillary, opposite or verticillate: leaves sessile or short-petioled: stipules solitary on both sides, two opposite ones often united by their margins into one that is intrafoliaceous; flowers axillary, somewhat sessile, usually solitary: calyx-tube obovate; limb 5-lobed or toothed: corolla hypocrateriform; limb 5-partite: anthers sessile within the throat of the corolla, oblong-linear: stigma thick, 2-partite, glabrous: berry crowned with the calyx, somewhat dry, with a thickish rind: 2-celled: seeds several in each cell, attached to a central placenta, either nestling in pulp or imbricated downwards: albumen cartilaginous.

### (1) R. dumetorum. *(Lam.)*

*Ident.* W. & A. prod. I. p. 397.—Dec. prod. IV. p. 385.

*Syn.* Gardenia dumetorum, *Retz.*—G. spinosa, *Linn.*—Posoqueria dumetorum, *Roxb. fl. Ind.* I. *p.* 713.—Cerisus Malabaricus, *Gaertn.*

*Engrav.* Wight's Icon. t. 580.—Lam. Ill. t. 156. f. 4.—Roxb. Cor. II. t. 136.—Pluk. t. 98. f. 6.

Spec. Char. Small tree: spines opposite: leaves oval, cuneate at the base, slightly pubescent when young: limb of the calyx campanulate; lobes oblong: corolla hirsute on the outside: tube rather longer than the segments of the calyx, furnished on the inside near the base with a ring of erect dense hairs: fruit usually globose: flowers solitary, terminal on the young shoots, shortly-pedicelled, small, white.

Coromandel. Western Ghauts. Guzerat. Northern India. Flowering in April.

### (2) R. longispina. *(Dec.)*

*Ident.* W. & A. prod. I. p. 398.—Dec. prod. IV. p. 386.

*Syn.* Posoqueria longispina, *Roxb. fl. Ind.* I. *p.* 716.—Gardenia longispina, *Roxb. Hort. Beng. p.* 15.

*Engrav.* Wight's Icon. t. 582.

Spec. Char. Tree: spines occasionally alternate, horizontal: young branches drooping: leaves from obovate to oblong, cuneate at the base or pubescent on the nerves: limb of the calyx campanulate; lobes ovate, with often a small tooth between them in the sinus: corolla silky on the outside: tube with a dense ring of hairs near the base on the inside: fruit drupaceous, short-ovoid: flowers short-pedicelled, usually 1–3 at the extremities of the young axillary shoots, occasionally solitary and axillary, largish, pure-white, fragrant.

Coromandel. Khandeish jungles. Northern India. Flowering in March and April.

(3) R. tomentosa. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 398.

Spec. Char. Spines opposite, spreading: leaves on the young shoots oval, obtuse, more or less cuneate at the base: upper surface somewhat pubescent, tomentose on the nerves, under and petioles tomentose: flowers solitary at the extremities of the leafy shoots, short-pedicelled: fruit nearly globose, slightly 10-ribbed, villous, more glabrous when ripe.

Peninsula.

(4) R. floribunda. *(Dec.)*

*Ident.* W. & A. prod. I. p. 398.—Dec. prod. IV. p. 386.

*Syn.* Posoqueria floribunda, *Roxb. fl. Ind.* I. *p.* 719.—Gardenia floribunda, *Spreng.*

*Engrav.* Wight's Icon. t. 583.

Spec. Char. Shrub, with axillary spines: leaves opposite and fascicled, obovate, cuneate at the base, glabrous: calyx glabrous: tube cylindric: segments somewhat lanceolate, persistent: corolla silky outside: tube rather shorter than the calyx-segments, with a ring of erect hairs about the middle on the outside: fruit ovate-cordate, shining: flowers short-pedicelled, 4–6 on each of the small lateral scaly leafless young shoots, middle-sized, white, becoming yellow in the evening.

Coromandel, flowering in April and May.

(5) R. uliginosa. *(Dec.)*

*Ident.* W. & A. prod. I. p. 398.—Dec. prod. IV. p. 386.

*Syn.* Gardenia uliginosa, *Retz* —Posoqueria uliginosa, *Roxb. fl. Ind.* I. *p.* 712.

*Engrav.* Wight's Icon. t. 397.—Roxb. Cor. II. t. 135.

Spec. Char. Tree: branches straight, 4-angled: branchlets decussating, horizontal, bearing 1–4 thorns and 1–3 large short-pedicelled white flowers at their extremity: leaves oblong, somewhat

cuneate at the base, glabrous, shining: limb of the calyx tubular, bluntly 5-toothed or nearly entire, a little shorter than the tube of the corolla: corolla villous in the mouth: berry oval, drupaceous, even.

Coromandel. South Mahratta country. Banks of rivers in the Concan. Northern India. Flowering in the hot season.

(6) R. CORYMBOSA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 399.

SPEC. CHAR. Unarmed: leaves long-petioled, oblong-obovate, cuneate at the base, when young with the upper side pubescent, and the under as well as the petioles velvety: calyx almost glabrous; limb campanulate, minutely 5-toothed: corolla hirsute outside: flowers in a slightly-branched sessile corymb.

Peninsula.

(7) R. CANDOLLEANA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 399.

SPEC. CHAR. Unarmed: leaves long-petioled, roundish-obovate, obtuse, cuneate and tapering at the base, glabrous on both sides: calyx glabrous; limb campanulate, nearly truncated, with 5 small acute deciduous teeth: fruit globose: flowers in a small terminal very slightly-branched corymb.

Peninsula.

(8) R. LONGIFLORA. *(Lam.)*

*Ident.* Lam. Dict. III. p. 26.—Dec. prod. IV. p. 386.

*Syn.* Posoqueria longiflora, *Roxb. fl. Ind.* I. p. 718.—P. multiflora, *Blume.*—Gardenia multiflora, *Willd.*

*Engrav.* Lam. Ill. t. 156. f. 3.

SPEC. CHAR. Tree: spines axillary, much recurved, opposite: leaves short-petioled, from broad-lanceolate to oblong: calyx tubular; segments 5, semilunar: tube of the corolla long and slender: segments unequally lanceolate, spreading: anthers linear, attached to the mouth of the corolla-tube: berry linear, smooth, fleshy: corymbs terminal and axillary, short, many-flowered: flowers large, white, becoming yellow.

Chittagong, flowering in the hot season.

(9) R. FASCICULATA. *(Dec.)*

*Ident.* Dec. prod. IV. p. 386.

*Syn.* Gardenia fasciculata, *Roxb. Hort. Beng. p.* 15.—Posoqueria fasciculata, *Roxb. fl. Ind.* I. *p.* 717.

Spec. Char. Shrub: branchlets opposite, dichotomous: spines axillary, short: leaves short-petioled, ovate-oblong: stipules interfoliaceous: calyx hairy: corolla infundibuliform, with 5 oblong segments: anthers linear, one-third of their length within the tube of the corolla: stigma clavate, unequally 2-lobed: fascicles of flowers subsessile in the forks of the branchlets, or axillary, fragrant, white, changing to yellow.

Silhet, flowering in March and April.

(10) R. polysperma. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 527.—Dec. prod. IV. p. 389.

Spec. Char. Shrub: leaves oblong, acuminated, smooth; stipules subulate: spikes panicled, axillary.

Chittagong, flowering in May.

(11) R. scandens. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 401. annot.

*Syn.* Webera scandens, *Roxb. fl. Ind.* I. *p.* 698.—Cupia scandens, *Dec. prod.* IV. *p.* 394.

Spec. Char. Scandent shrub: leaves short-petioled, oblong, acuminated, shining: calyx somewhat campanulate, 5-toothed: tube of the corolla long and slender: segments obliquely oblong: anthers sessile: stigma of 2 thin oval lamina: cymes axillary and in the forks of the branchlets, solitary, divisions generally biternate: flowers large, fragrant, white, becoming yellow.

Silhet, flowering in April and May.

## GENUS VII. PETUNGA.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* The native name in Bengal latinized.

Gen Char. Calyx-tube ovate; limb 4-toothed: corolla funnel-shaped: tube obconical, short: limb 4-partite; throat villous: anthers slightly exserted: style filiform, villous: stigma 2-toothed, slightly exserted: berry globose, depressed and umbilicate at the apex, 2-celled: seeds 2–4 in each cell, fixed to the upper part of the dissepiment: albumen cartilaginous.

(1) P. Roxburghii. (*Dec.*)

*Ident.* Dec. prod. IV. p. 399.

*Syn.* Randia racemosa, *Roxb. fl. Ind.* I. *p.* 525.

Spec. Char. Erect shrub: branches almost horizontal: leaves drooping, elliptic-oblong, glabrous, acuminated at both ends: stipules large, caducous: spikes axillary, much shorter than the leaves, many-flowered: bracts and calyx glabrous: flowers small, pale, greenish-white: berries round, smooth, straw-coloured.

Lukshmeepoor, flowering in the rainy season.

## GENUS VIII. HYPTIANTHERA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Hyptios*, laid back, and *Antheros*, in allusion to the position of the anthers.

Gen. Char. Calyx-tube obovate: limb deeply 5-cleft; segments oblong, acuminated: corolla rotate: tube very short, hairy inside: limb 5-partite, spreading, twisted in æstivation: anthers oblong, large, attached by the back above the middle to the top of the tube of the corolla, free at the base and apex: ovary crowned with a thick fleshy disk, 2-celled, with about 6 suspended ovules in each cell: style very short, perforating the disk: stigma hirsute, large, oblong, 2-partite: segments erect, always close together: berry globose, 2-celled, with a few seeds imbricated in two rows in each cell.

### (1) H. stricta. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 399.

*Syn.* Randia stricta, *Roxb. fl. Ind.* I. *p.* 526.—*Dec. prod.* VI. *p.* 386.—Macrocnemum strictum, *Roem. and Schult. Syst.* V. *p.* 6.—Rondeletia stricta, *Roth.*

Spec. Char. Unarmed shrub: leaves short-petioled, oblong-lanceolate, acuminated, cuneate at the base: stipules solitary on each side, triangular: flowers bracteated, small, collected into small dense globose sessile fascicles in the axils of the leaves, white: fruit about the size of a pea.

Mountains north of Bengal. Peninsula. Flowering in the cold season.

## GENUS IX. GRIFFITHIA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* Named after Dr. Griffith of the Madras Medical Establishment.

Gen. Char. Calyx-tube obovate; limb campanulate, 5-toothed, deciduous: corolla funnel-shaped, hairy in the throat; limb spreading, 5-partite; segments narrow-oblong, acute, slightly twisted in æstivation: anthers long, linear, acuminated, exserted, attached by their back a little above their base to the mouth of the corolla-tube: ovary crowned with a fleshy disk, 2-celled, with several ovules in each cell: style filiform, the length of the tube of the corolla: stigma entire, long, fusiform, striated, exserted: berry globose, marked on the apex with a circular scar where the limb of the calyx has fallen off, 2-celled, with 8–10 seeds in each cell: seeds angled, surrounded with mucilage: albumen cartilaginous.

(1) G. FRAGRANS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 400.

*Syn.* Gardenia fragrans, *Koen.*—G. pandaki, *Vahl.*—Posoqueria fragrans, *Roxb. fl. Ind.* I. *p.* 717.—Randia Malabarica, *Lam.*—Stylocoryne pandaki, *Dec. prod.* IV. *p.* 377.—S. Malabarica, *Dec. l. c.*

*Engrav.* Wight's Icon. t. 310.—Roxb. Cor. II. t. 197.—Rheede Mal. V. t. 35.

SPEC. CHAR. Glabrous shrub, with usually opposite thorns, sometimes unarmed: leaves petioled, from obovate to oblong, cuneate at the base, coriaceous, with concave hairy glands in the axils of the nerves: stipules roundish-ovate, cuspidate, caducous: flowers pedicelled, white, in a short-peduncled umbel-like corymb at the ends of the branches, or on short lateral knobs or leafless young shoots: pedicels with 2 bracts near the base: fruit about the size of a large pea, reddish.

Common in the Peninsula, flowering in June and July.

## GENUS X. STYLOCORYNE.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Stylos*, a style, and *Koryne*, a club. The style is club-shaped.

GEN. CHAR. Trees or shrubs, unarmed: leaves petioled: stipules interfoliaceous, the opposite ones usually united together, broad at the base, sharp-pointed: flowers terminal or axillary: calyx-tube turbinate: limb 5-cleft or toothed, persistent: corolla cup-shaped or funnel-shaped; limb 5-partite: segments spreading or recurved: filaments scarcely any: anthers long, linear, exserted; ovary 2-celled, with 2 or more ovules in each cell: style filiform: stigma much exserted, thick, elongated, fusiform, or somewhat club-shaped, undivided: berry globose, 2-celled: seeds usually angled, few or many: albumen between fleshy and cartilaginous.

(1) S. WEBERA. (*A. Rich.*)

*Ident.* W. & A. prod. I. p. 401.

*Syn.* Webera corymbosa, *Willd.*—*Roxb. fl. Ind.* I. *p.* 696.—Canthium corymbosum, *Pers. Syn.* I. *p.* 200.—Rondeletia Asiatica, *Linn.*—Cupia corymbosa, *Dec. prod.* IV. *p.* 394.—Gardenia Pavetta, *Roxb.*—Tarenna Zeylanica, *Gaertn. Dec. l. c. p.* 395.—Polyozus Maderaspatana, *Dec.*

*Engrav.* Wight's Icon. t. 309 and 584.—Rheede Mal. II. t. 23.

SPEC. CHAR. Glabrous shrub: leaves lanceolate-oblong, shining: calyx limb 5-cleft; tube of the corolla short, slightly widened and bearded at the mouth: segments recurved, oblong, villous at their

base along the middle, about twice as long as the tube: style slightly hairy: stigma with 10 longitudinal somewhat winged angles: berry 2-celled, with 4–8 seeds in each cell: corymbs trichotomous, terminal: flowers white.

Common in the Peninsula, flowering nearly all the year. The young shoots are frequently covered with a resinous exudation.

(2) S. ODORATA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 401. annot.

*Syn.* Cupia odorata, *Dec. prod.* IV. *p.* 394.—Webera odorata, *Roxb. fl. Ind.* I. *p.* 699.

SPEC. CHAR. Large shrub: leaves lanceolate, acuminated, shining: calyx 5-toothed: anthers as long as the segments of the corolla: cells 3–4-seeded: corymbs terminal, villous: flowers numerous, white, very fragrant.

Khasia mountains, flowering in May.

(3) S. MONOSPERMA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 401.

SPEC. CHAR. Glabrous shrub: leaves lanceolate-oblong, shining: calyx-limb cupulate, minutely 5-toothed: corolla tube elongated, funnel-shaped, much longer than the limb of the calyx, pubescent inside: segments oblong glabrous, about half the length of the tube: style slightly hairy: stigma acute, compressed, furrowed on each side: berry white, and about the size of a small cherry, fleshy, 1-celled, 1-seeded: corymbs trichotomous, few-flowered, terminal: flowers white.

Peninsula.

(4) S. RIGIDA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1064.

SPEC. CHAR. Glabrous shrub: leaves elliptic, shortly-acuminate at both ends, coriaceous, shining: calyx-limb 5-cleft; lobes nearly equalling the tube of the corolla: corolla 5-cleft; tube short, with a ring of hairs inside below the stamens: throat hairy: limb spreading or reflexed: segments villous near the base: anthers linear, cuspidate: ovary 2-celled, many-ovuled: cymes terminal and from the axils of the upper leaves, compact, trichotomous: flowers white.

Neilgherries, flowering in February and March.

## GENUS XI. WENDLANDIA.

**Pentandria Monogynia.** *Sex Syst.*

*Deriv.* Named after Henry Wendland, Curator of the Botanic garden at Hanover.

Gen. Char. Trees or shrubs: leaves oval or lanceolate: stipules broad at the base: panicles thyrsoid, terminal, many-flowered: flowers forming spikes or fascicles along the ultimate ramifications of the panicle: calyx-tube somewhat globose, often striated: limb very short, with 5 small persistent teeth: corolla widening at the throat: limb spreading, 5-lobed, slightly twisted in æstivation and forming a globose or oval head to the flower-bud: filaments springing from the very top of the tube, often very short: anthers oblong, exserted, oscillatory: ovary crowned with a fleshy disk: style exserted, filiform: stigma of 2 largish oval thick segments: capsule globose, 2-celled, splitting at the apex, loculicidal: seeds numerous in each cell.

(1) W. exserta. (*Dec.*)

*Ident.* W. & A. prod. I. p. 402.—Dec. prod. IV. p. 411.

*Syn.* Rondeletia exsertia, *Roxb. fl. Ind.* I. *p.* 523.—R. thyrsiflora, *Heyne in Roth. Nov. Sp. p.* 141.—R. Oryssensis, *Roth.*—R. Heynei, *Roem. & Schult.*

Spec. Char. Tree: young branches villous: leaves petioled, oblong-lanceolate, upper side pubescent, under velvety, glaucous: stipules densely pubescent, recurved above, kidney-shaped: branches of the panicle villous, spreading: calyx hoary: corolla scarcely pubescent: tube very short, somewhat campanulate: divisions recurved: filaments nearly as long as the segments of the corolla: capsule villous: flowers small, pure white, fragrant.

Peninsula, flowering in March.

(2) W. Notoniana. (*Wall.*)

*Ident.* W. & A. prod. I. p. 403.

*Syn.* W. thyrsoidea, *Roth.*—Canthium thyrsoideum, *Roem. & Schult.*—Cupia thyrsoidea, *Dec. prod.* IV. *p.* 394.

*Engrav.* Wight's Icon. t. 1033.—Spicil. I. t. 95.

Spec. Char. Tree: young shoots hirsute: leaves oblong, slightly tapering at both ends, upper side glabrous, under somewhat glaucous and more or less pubescent: stipules triangular-ovate, recurved above: branches of the panicle hirsute: calyx hoary: segments of the corolla recurved: capsule sprinkled with short hairs: flowers crowded, forming interrupted spikes, white, very fragrant.

Neilgherries. Dindigul hills. Mysore. Ram Ghaut and Warree country. Flowering in January and February.

(3) W. tinctoria. (*Dec.*)

*Ident.* Dec. prod. IV. p. 411.

*Syn.* Rondeletia tinctoria, *Roxb. fl. Ind.* I. *p.* 522.

Spec. Char. Tree: leaves oblong-lanceolate, smooth above, pubescent on the nerves below: petioles peduncles and calyx pubescent: stipules triangular, cuspidate: lobes of the corolla spreading: panicles terminal, decussate: flowers subsessile, fascicled, small, white.

Burdwan and Midnapore. Flowering from December to February.

## GENUS XII. GREENEA.

**Tetrandria Monogynia.** *Sex Syst*

*Deriv.* Named in honor of B. D. Greene of Boston, U. S.

Gen. Char. Calyx-tube globose; teeth 4, lanceolate, erect: flower-bud clavate: corolla funnel-shaped, pubescent, longer than the limb of the calyx: tube naked in the mouth: limb 4-cleft: segments twisted in æstivation, ovate, acute: filaments scarcely any: anthers attached by the middle of their back to below the mouth of the corolla, linear, 2-cleft at both ends, their apices only exserted: ovary crowned with a fleshy disk: style filiform, soon projecting beyond the corolla: stigma bipartite: segments narrow-linear, recurved: capsule crowned with the calycine teeth, 2-celled, septicidal, bicoccous, the cocci splitting at the apex at the back and separating from the calyx: seeds numerous in each cell, minute, angular.

### (1) G. Wightiana. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 404.

*Engrav.* Wight's Icon. t. 1161.

Spec. Char. Shrub: leaves elliptic, acuminated, much attenuated at the base, glabrous on both sides except on the midrib and nerves: stipules large, tongue-shaped: calyx sprinkled with short bristly hairs: corymbs terminal, trichotomous, spreading: branches hirsutely pubescent, partial ones dichotomous: flowers whitish, nearly sessile along one side of the ultimate divisions of the panicle, each with a subulate bract.

This is a doubtful native of the Peninsula, though it is included in Wight and Arnott's Prodromus.

## GENUS XIII. OPHIORRHIZA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Ophis*, a serpent, and *Rhiza*, a root, alluding to its supposed cure in snake-bites.

Gen. Char. Low perennial herbaceous or suffrutescent plants: leaves petioled, membranaceous, the opposite one often smaller: stipules in pairs on each side, very small and deciduous: peduncles

axillary and terminal: flowers unilateral, nearly sessile: calyx-tube short, turbinate: limb 5-cleft, persistent: corolla tubular, funnel-shaped: tube hairy inside: limb 5-lobed: stamens included: ovary adnate to the calyx, crowned with a 2-lobed disk, 2-celled, many-ovuled: style usually short: stigma 2-cleft: capsule compressed, broad, 2-lobed, crowned with the calycine segments, 2-celled, 2-valved, loculicidal: seeds numerous, somewhat hexagonal.

(1) O. Munghos. (*Linn.*)

*Ident.* W. &. A. prod. I. p. 404.—Dec. prod. IV. p. 415.—Roxb. fl. Ind. I. p. 701.

Spec. Char. Stem suffruticose when old; leaves elliptic-lanceolate, acuminate at both ends, glabrous, very thin: stipules minute, truncated: cymes peduncled, terminal, branched, naked: tube of the corolla short, infundibuliform: style as long as the tube.

Peninsula. Dindigul. Courtallum. Travancore.

(2) O. Brunonis. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 904.

Spec. Char. Stem suffruticose: leaves oblong-lanceolate, attenuated at both ends, glabrous, very thin: stipules acute: cymes peduncled, terminal or axillary, somewhat corymbiform; ultimate divisions usually 2-flowered: bracts long, linear-subulate: tube of the corolla shortish, nearly cylindric: style protruded.

Peninsula.

(3) O. Harrisonii. (*Wall.*)

*Ident.* Dalz. Bomb. flor. p. 117.—Don's Mill. III. p. 523.

*Engrav.* Wight's Icon. t. 1162.

Spec. Char. Herbaceous: stems petioles peduncles and nerves of the leaves beneath pubescent: leaves ovate or roundish-ovate, acutish, paler beneath: peduncles terminal, corymbose and dichotomously branched at the apex.

Ram Ghaut. Courtallum. Flowering in the rainy season.

(4) O. villosa. (*Roxb.*)

*Ident.* Roxb fl. Ind. I. p. 702.

Spec. Char. Suffruticose, erect, villous: leaves oblong, with parallel veins, hairy: stipules ensiform, villous: corolla funnel-shaped: tube as long as the segments, hairy in the throat; corymbs terminal, solitary, rather long-peduncled, subglobular, clothed with rusty pubescence, composed of a few short recurved villous branches, with numerous white subsessile flowers on the upper side.

Chittagong hills in moist places, flowering in May.

(5) O. ERIANTHA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1067.

SPEC. CHAR. Suffruticose, erect, nearly glabrous: leaves elliptic-lanceolate, acuminate, tapering at the base: stipules about the length of the petioles, subulate: bracts long, filiform and with the calyx and corolla hairy: corolla funnel-shaped: tube glabrous within: stamens and style included: stigma deeply 2-cleft.

Western slopes of the Shevagherry mountains.

(6) O. ROXBURGHIANA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1068.

SPEC. CHAR. Suffruticose, erect; young shoots and corymbs villous: leaves from ovate to oblong-lanceolate, acuminate, glabrous, except the veins on the under surface: stipules lanceolate, acute, shorter than the petioles; corymbs terminal, congested, villous; bracts narrow, linear-lanceolate and with the calyx hairy: corolla funnel-shaped, villous without, hairy within: style and stamens included: stigma dilated, 2-lobed.

Western slopes of the Shevagherry mountains.

(7) O. GRANDIFLORA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1069.

SPEC. CHAR. Suffruticose, erect, glabrous: leaves ovate-lanceolate, acuminate: stipules minute, triangular: corymbs terminal, glabrous: bracts linear-subulate and like the calyx glabrous: corolla funnel-shaped, with a few hairs near the base and along the veins; tube glabrous within: style and stamens included: stigma tapering to a point, 2-cleft.

Western slopes of the Shevagherry mountains.

(8) O. ARGENTEA. (*Wall.*)

*Ident.* Don's Mill. III, p. 522.—Wall. Cat. No. 6229.

*Syn.* O. villosa, *Wall.* (*not Roxb.*)

SPEC. CHAR. Suffruticose: stem hispid: leaves ovate, acuminated, tapering at the base, glabrous, white beneath: peduncles axillary and terminal, downy, trichotomous at the apex.

Silhet and Chittagong.

(9) O. GEMINATA. (*Wall.*)

*Ident.* Don's Mill. III. p. 523.—Wall. Cat. No. 6237.

Spec. Char. Stem petioles peduncles and nerves of the leaves beneath downy: leaves large, obovate-oblong, tapering at the base and decurrent down the petiole, acute at the apex, glabrous, pale or reddish beneath: racemes terminal, crowded, secund, alternate.

Silhet.

## GENUS XIV. DENTELLA.

**Pentandria Monogynia.** *Sex Syst:*

*Deriv.* A diminutive of *Dens*, a tooth, each side of the segments of the corolla is furnished with a small tooth.

Gen. Char. Calyx-tube globose: limb 5-cleft; segments lanceolate, acute: filaments very short, inserted a little above the base of the tube: anthers oblong, not reaching above the middle of the tube; style very short: capsule scarcely dehiscent, between globose and ovate, hirsutely villous, crowned with the calyx, 2-celled, seeds numerous in each cell, minute, angled.

### (1) D. repens. (*Forst.*)

*Ident.* W. & A. prod. I. p. 405.—Dec. prod. IV. p. 419.—Roxb. fl. Ind. I. p. 532.

*Syn.* Oldenlandia repens, *Linn.*—Hedyotis repens, *Lam.*

*Engrav.* Rumph. Amb. VI. t. 170. f. 4.—Rheede Mal. IX. t. 39.

Spec. Char. Herbaceous, annual, tufty, creeping: stems filiform, branched: leaves oblong, attenuated at the base; glabrous or with the petioles ciliated at the base: corolla funnel-shaped: tube longer than the calyx-limb, slightly hairy on the inside near the base: limb 5-cleft, spreading: segments ovate, acute, with an acute tooth on each side above the middle: stigmas 2, long, narrow-linear, slightly spreading: flowers white, small, axillary, solitary, alternate, very shortly-pedicelled.

Common in moist places, shady banks of rivers and water-courses throughout the country.

## GENUS XV. HEDYOTIS.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Hedys*, sweet, and *Ous*, an ear, alluding to the sweet-scented ear-like leaves.

Gen. Char. Herbaceous suffrutescent or shrubby plants: stems 4-angled or terete: stipules cohering with the petolies, usually fringed with several bristles, rarely entire: calyx-tube ovate or globose: limb 4-toothed or cleft; teeth or segments persistent: corolla funnel-shaped, tubular or rotate, 4-cleft: segments imbricated in æstivation: stamens inserted at the mouth of the tube or a little below it;

anthers roundish, oblong or short-linear: ovary crowned with a fleshy disk: style filiform: stigma 2-cleft or 2-lobed, rarely entire: capsule obovate, ovate or globose, dehiscing at the apex within the calyx in a direction transverse to the dissepiment, at length sometimes splitting to the middle or the base, and either loculicidal or septicidal: seeds usually minute, numerous and angled, rarely few or solitary in each cell.

(1) H. Lawsoniæ. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 407.

*Syn.* Wendlandia Lawsoniæ, *Dec. prod.* IV. *p.* 413.—Lawsonia purpurea, *Lam.*

*Engrav.* Wight's Icon. t. 1026.—Spicil. I. t. 92.—Rheede Mal. IV. t. 57.

Spec. Char. Glabrous shrub: branches 4-angled: leaves oblong-lanceolate, acuminated at both ends, petioled: stipules deciduous, triangular-ovate, the point thickened and glandular-lobed, the margin entire: panicle spreading: calyx-limb cup-shaped, 4-toothed: corolla villous on the mouth and on the segments: filaments slightly protruded: style much protruded: capsule obovate, dicoccous: flowers whitish or lilac.

Neilgherries. Cochin. Flowering in August.

(2) H. stylosa. (*Brown.*)

*Ident.* W. & A. prod. I. p. 407.

*Syn.* H. Leschenaultiana, *W. & A. prod.* I. *p.* 450. *annot.*

*Engrav.* Wight's Ill. II. t. 125.—Icon. t. 1027.

Spec. Char. Glabrous shrub: branches obtusely 4-angled: leaves from oval to oblong-lanceolate, acuminated at both ends, petioled: stipules somewhat permanent, triangular-ovate, their margin pectinately-pinnatifid; the segments long, filiform, hirsute: panicle spreading: calyx-limb cup-shaped, 4-toothed: corolla villous in the mouth and on the segments: filaments and style protruded: capsule ovoid, dicoccous: flowers lilac or whitish.

Neilgherries, flowering nearly all the year.

(3) H. articularis. (*Brown.*)

*Ident.* W. & A. prod. I. p. 407.

*Engrav.* Wight's Icon. t. 1028.

Spec. Char. Glabrous shrub: branches obscurely 4-angled: leaves approximated, sessile, narrow, oblong-lanceolate, with the margins recurved, coriaceous, minutely papillose: stipules ovate-lanceolate, the opposite ones connate at the base: the margins divided into several filiform rigid segments: panicle contracted:

calyx-limb cup shaped, 4-toothed: corolla externally puberulous, villous in the mouth and on the segments: filament protruded: anthers oblong-linear: style scarcely longer than the corolla-tube: capsule oblong-obovate, dicoccous, yellow.

Neilgherries.

(4) H. FRUTICOSA. *(Linn.)*

*Ident.* W. & A. prod. I. p. 408.

*Engrav.* Burm. Zeyl. t. 107.

SPEC. CHAR. Shrubby, glabrous: leaves oblong-lanceolate, attenuated at the apex, acuminated at the base with numerous line-like simple nearly straight nerves: stipules triangular-ovate, cuspidate, with small gland-like teeth along the margin: flowers corymbose: corymb about 5-rayed, with 2 small leaves at its base: calyx-limb deeply 4-cleft: segments linear-lanceolate, in fruit erect, with the points bent outwards: corolla bearded in the mouth; filaments at length exserted: capsule oblong, dicoccous.

Peninsula.

(5) H. PRUINOSA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 408.

SPEC. CHAR. Shrubby. stems terete and branches angled: leaves oblong-lanceolate, acuminated at both ends, with several line-like slightly-curved nerves: stipules pinnatifid: the segments filiform; corymbs trichotomous, branched, terminal, panicled: branches with the calyx and corolla minutely pubescent: calyx 4-partite; segments recurved in fruit: corolla hairy in the mouth: capsule covered with short pruinose somewhat mealy pubescence, dicoccous.

Peninsula.

(6) H. MACROPHYLLA. *(Wall.)*

*Ident.* W. & A. prod. I. p. 408.

SPEC. CHAR. Stems stout, acutely 4-angled: leaves petioled, oval, slightly pointed at both ends, scabrous above, slightly puberulous beneath: flowers axillary, forming dense globose sessile heads about half the length of the petioles: fruit obovoid, hispidly pubescent, dicoccous.

Peninsula.

(7) H. VERTICILLARIS. *(Wall.)*

*Ident.* W. & A. prod. I. p. 409.

*Engrav.* Wight's Spicil. t. 94.—Icon. t. 1029.

SPEC. CHAR. Glabrous: upper leaves linear-lanceolate, opposite or with a few upper ones verticillate: stipules lanceolate, with bristle-shaped teeth along the margin, especially near the point: flowers

sessile, capitate and terminal or verticillate in the axils of the verticillated leaves: calyx-segments long, linear-lanceolate, longer than the tube of the corolla: corolla widely funnel-shaped, hairy in the throat and along the base of the lobes: stamens much exserted: style short: stigma of 2 thickish segments: flowers lilac.

Neilgherries, in moist and swampy situations, flowering nearly all the year.

(8) H. Rheedii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 409.

*Engrav.* Rheede Mal. X. t. 25.

Spec. Char. Herbaceous, ascending, glabrous: leaves oval, obtuse or acute, acuminated at the base into a very short petiole peduncles dichotomous, with a solitary flower in the forks: calyx 4-toothed: teeth triangular: corolla shortly cup-shaped, glabrous inside: anthers oblong-linear; ovary with 2 ovules in each cell: capsule didymous, compressed, encircled by the calycine teeth about the middle, free from the calyx in its upper half, splitting to the base, 4-seeded; the valves divaricating: seeds cup-shaped.

Malabar.

(9) H. Wightiana. *(Wall.)*

*Ident.* W. & A. prod. I. p. 410.

Spec. Char. Herbaceous, diffuse, hairy: hairs jointed: stems rooting near the base, 4-angled: leaves ovate or oval, short-petioled: stipules entire, with a longish linear point: flower-heads terminal or axillary, small, sessile: capsule compressed, crowned with the erect teeth of the calyx, 4-seeded.

Neilgherries.

(10) H. monosperma. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 410.

*Engrav.* Wight's Icon. t. 1031.

Spec. Char. Herbaceous, procumbent, rooting: stems and branches hairy towards the extremities: leaves with the petioles more than one-half the length of the limb, deltoid-ovate, acute, sprinkled with flat jointed hairs on both sides: stipules with 2–4 hairy bristles on each side: corymb somewhat terminal, simple, small, few-flowered: corolla shortly funnel-shaped, the tube about twice the length of the calyx-segments: capsule compressed-globose: seeds solitary in each cell.

Neilgherries. Malabar. Courtallum.

(11) H. deltoidea. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 410.

*Engrav.* Wight's Icon. t. 1030.

Spec. Char. Herbaceous, procumbent: stems flexuose: leaves deltoid-ovate, acute, upper sides sprinkled with flat jointed hairs, under pale, slightly hairy: bristles of the stipules about 2 on each side, much shorter than the petioles: corymbs terminal, peduncled, trichotomous: calyx-segments oblong, enlarged after flowering: corolla funnel-shaped: tube slender, much longer than the calyx-limb: filaments considerably exserted.

Dindigul mountains. Neilgherries. *H. affinis* and *H. Leschenaultiana*, W. & A. prod. I. p. 411, are probably merely varieties of the above, distinguished by glabrous or hairy corymbs and larger or smaller leaves.

(12) H. auricularia. (*Linn.*)

*Ident.* W. & A. prod. I. p. 412.—Dec. prod. IV. p. 420.

*Syn.* H. hirsuta, *Lam.*

*Engrav.* Rheede Mal. X. t. 32.—Burm. Zeyl. t. 108. f. 1.

Spec. Char. Stems or branches 4-angled, hirsute towards the extremities and under the joints: leaves nearly sessile, ovate-lanceolate, acute, pubescent on the nerves beneath: stipules with several bristles: flowers axillary, nearly sessile, crowded and nearly verticillate, scarcely exceeding the stipules: capsule spherical, glabrous, crowned with the lanceolate calyx-segments.

Travancore. Malabar.

(13) H. nitida. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 412.

Spec. Char. Diffuse: branches elongated, 4-angled, glabrous, slightly scabrous on the angles: leaves oblong-lanceolate, acuminated at both ends, nearly sessile, upper side shining, scabrous: stipules with numerous longish bristles: flowers sessile, usually solitary in the axils, scarcely so long as the stipular bristles: capsule glabrous, crowned with the converging stiff ciliated segments of the calyx.

Peninsula.

(14) H. cærulea. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 412.

Spec. Char. Annual; branched from the root, diffuse; leaves setaceous, bristle-pointed: stipules with several bristles; flowers nearly sessile, arranged on axillary or terminal peduncled slightly dichotomous leafy corymbs, lower ones solitary, in the forks of the corymbs, upper ones approximated and somewhat capitate: capsule nearly globose, crowned with the lanceolate erect calyx-segments: flowers blue.

Munargoody, in Tanjore, in the moist soil of the edge of a tank among grass. Said by Dr. Wight to be a very remarkable species. It bears the native name of Bashap-pilloo, or poison-grass.

(15) H. UMBELLATA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 413.

*Syn.* H. hispida, *Roth.*—H. Indica, *Roem. and Schult.*—Oldenlandia umbellata, *Linn. Dec. prod.* IV. *p.* 426.—*Roxb. fl. Ind.* I. *p.* 421.

*Engrav.* Roxb. Cor. I. t. 3.—Pluk. t. 119. f. 4.

SPEC. CHAR. Suffruticose, erect or diffuse, slightly scabrous: leaves opposite or verticillate, linear, paler beneath, margin recurved: stipules ciliated with bristles: peduncles alternate, axillary, bearing a short raceme: partial peduncles, 1–3-flowered: capsule globose, with a wide dehiscence: flowers white.

Peninsula. Much cultivated on the shores of Coromandel where the root is used as a red dye for cotton cloth.

(16) H. ALATA. *(Koen.)*

*Ident.* W. & A. prod. I. p. 413.

*Syn.* Gonotheca Blumei, *Dec. prod.* IV. *p.* 429 (?)

SPEC. CHAR. Annual, glabrous: leaves narrow-oblong, tapering at the base: flowers short-pedicelled, 1–3 in the alternate axils and upon a terminal naked common peduncle, white: limb of the calyx in fruit widely cup-shaped, 4-lobed: lobes roundish-ovate, acute, in fruit with the sinus rather acute-angled: capsule shortly-turbinate, with two broadish wings and two narrower ones decurrent from the points of the calyx-lobes to the middle of the pedicels.

Circars.

(17) H. BIFLORA. *(R. Br.)*

*Ident.* W. & A. prod. I. p. 413.

*Syn.* Oldenlandia biflora, *Linn.*

SPEC. CHAR. Annual or biennial, glabrous: leaves elliptic-oblong, attenuated at the base: flowers pedicelled, white, 2–3-together, on longish alternate axillary or terminal peduncles: limb of the calyx deeply 4-cleft: segments triangular, acuminated, in fruit with the sinus rounded: capsule shortly turbinate, with two prominent sharp keels and two less prominent on the apex of the teeth to its base.

Peninsula.

(18) H. RACEMOSA. *(Lam.)*

*Ident.* W. & A. prod. I. p. 414.

*Syn.* Oldenlandia alata, *Roxb. fl. Ind.* I. *p.* 421.—O. paniculata, *Linn.* (?)

*Engrav.* Lam. Ill. t. 62. f. 2.—Wight's Icon. t. 312.

Spec. Char. Annual or biennial, diffuse, glabrous: leaves elliptic-oblong or lanceolate, obtuse or acute, attenuated at the base: limb of the calyx 4-partite: segments triangular-ovate, acute, distant in fruit: capsule shortly turbinate, slightly marked with 4 acute decurrent angles: flowers pedicelled, white, disposed in long-peduncled naked alternate axillary and terminal racemes: partial peduncles 1–3-flowered.

Circars. Tanjore, frequent in moist rich soil. Flowering in the rainy season.

(19) H. trinervia. (*Roem. & Schult.*)

*Ident.* W. & A. prod. I. p. 414.

*Syn.* H. rotundifolia, *Dec. prod.* IV. *p.* 420.—H. serpyllifolia, *Poir. Dec. l. c. p.* 421.—Oldenlandia trinervia, *Retz.*—O. repens, *Burm.*

*Engrav.* Burm. Ind. t. 15. f. 2.

Spec. Char. Herbaceous, branched, procumbent, rooting near the base: stems slender, from glabrous to slightly hairy: leaves petioled, roundish-ovate or oval, sprinkled with a few hairs at the margin, somewhat 3-nerved: stipules slightly hairy, bipartite: flowers short-pedicelled, usually in pairs in the axils of the leaves: corolla rotate, 4-partite, glabrous within: tube scarcely any: capsule hirsutely villous, crowned with the teeth of the calyx.

In damp soil under the shade of hedges in the Peninsula. Malwan. Flowering in July.

(20) H. pumila. (*Linn.*)

*Ident.* W. & A. prod. I. p. 414.

*Syn.* Oldenlandia pumila, *Dec. prod.* IV. *p.* 425.—O. cristallina, *Roxb. fl. Ind.* I. *p.* 422.—*Dec. l. c. p.* 426.

Spec. Char. Annual, diffuse, glabrous or slightly scabrous: leaves from elliptic-oblong to oblong-lanceolate, attenuated at the base into a short petiole: peduncles solitary, axillary, alternate, either about the length of the leaves and 1-flowered or about half the length of the leaves and with 2 pedicellate flowers: the peduncles and pedicels together somewhat longer than the leaves: corolla shortly tubular, hairy in the mouth: calyx-segments triangular-acuminated, in fruit separated by a rather acute angle: capsule turbinate-oblong compressed; flowers white.

Peninsula. Monghyr. Flowering in the rainy season.

(21) H. intermedia. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 415.

Spec. Char. Annual or biennial, diffuse, glabrous or slightly scabrous: leaves linear-lanceolate, tapering at both ends: peduncles solitary, axillary, alternate, 1–2-flowered, with the pedicels shorter

than the leaves: corolla shortly tubular: calyx-segments in fruit somewhat subulate, distant: capsule glabrous, shortly turbinate-oblong.

Peninsula.

(22) H. BURMANNIANA. (*R. Br.*)

*Ident.* W. & A. prod. I. p, 415.

*Syn.* H. biflora, *Lam.*—H. diffusa, *Willd.*—Oldenlandia biflora, *Lam.* (not *Linn.*) *Dec. prod.* IV. *p.* 426.—*Roxb. fl. Ind.* I. *p.* 422.

*Engrav.* Burm. Zeyl. t. 11.—Rheede Mal. X. t. 35.

SPEC. CHAR. Annual, diffuse, glabrous or scabrous: leaves linear or linear-lanceolate, tapering at both ends: peduncles solitary, axillary, alternate, shorter than the leaves, 1–3-flowered: corolla shortly-tubular: calyx-segments in fruit somewhat subulate, distant, with the sinus wide: capsule glabrous, roundish-ovate, gibbous at the base, narrower towards the crown: flowers small, white.

Peninsula. Bengal. Flowering in the rainy season.

(23) H. BRACTEATA. (*Wight.*)

*Ident.* W. & A. prod. I. p. 415.

SPEC. CHAR. Annual, more or less scabrous, branched at the base: branches erect or ascending, short: leaves narrow-linear or subulate, rigid, mucronate; margins recurved: flowers long-pedicelled, arranged singly or in pairs in terminal (or from the upper axils) lax naked racemes: corolla tubular: capsule shortly hemispherical or somewhat didymous.

Peninsula.

(24) H. NUDICAULIS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 416.

*Syn.* Oldenlandia medicaulis, *Roth.*

SPEC. CHAR. Annual, with a filiform root: leaves 4–5, all radical, roundish-ovate, sessile, sprinkled with hairs: scapes 2–3, slender, scabrous with fuscous hairs, bearing each about the middle a lax corymbose spreading 3–4-chotomous panicle: pedicels bristle-shaped: corolla with a very short tube, with white hairs on the throat: capsule somewhat globose.

Peninsula.

(25) H. HEYNEI. (*Br.*)

*Ident.* W. & A. prod. I. p. 416.

*Syn.* H. herbacea, *Willd.* (not *Linn.*)—Oldenlandia herbacea, *Roxb. fl. Ind.* I. *p.* 424.—*Dec. prod.* IV. *p.* 425.

*Engrav.* Rheede Mal. X. t. 23.

Spec. Char. Annual or biennial, erect or decumbent with erect branches, dichotomous: stems above, and the branches acutely 4-angled: leaves linear or linear-lanceolate: stipules with short bristles or truncated; pedicels 1-flowered, axillary, solitary or in pairs in the opposite or alternate axils, shorter than the leaves, much longer than the fruit, rigid: corolla infundibuliform: anthers somewhat included; capsule roundish-ovate, gibbous at the base, crustaceous, opening with a very elevated widely-dehiscent ridge across the apex: lips of the opening erect: flowers small, pure white.

Peninsula, flowering in the rainy season.

(26) H. dichotoma. (*Koen.*)

*Ident.* W. & A. prod. I. p. 416.

*Syn.* H. affinis, *Roem. & Schult.*—H. linifolia, *Willd.*—H. diffusa, *Spr.*—Oldenlandia linifolia, *Dec prod.* IV. *p.* 425.—O. capillaris, *Dec.*—O. affinis, *Dec.*—O. pusilla, *Rottl. Dec. l. c. p.* 428.

Spec. Char. Annual, erect or decumbent with erect branches: branches slightly 4-angled, scabrous on the angles: leaves linear, attenuated at both ends, flaccid: stipules usually with 2–3 bristles, sometimes without any: flowers on long and capillary pedicels, rarely axillary and solitary, sometimes 2–3 from the apex of a slender elongated peduncle, usually several, arranged in very lax peduncled axillary or terminal naked racemes: corolla infundibuliform: capsule nearly globose, with a not very prominent ridge on the apex: flowers white.

Trichinopoly. Travancore. Flowering in the rainy season.

(27) H. maritima. (*Wall.*)

*Ident.* W. & A. prod. I. p. 417.

*Syn.* Oldenlandia stricta, *Linn. Mant. p.* 200.

Spec. Char. Perennial, diffuse, procumbent, glabrous and somewhat glaucous: stems and branches twiggy: leaves linear-lanceolate, attenuated at both ends: stipules united with the petioles into a membranous truncated sheath: flowers pedicellate, alternate on the branches of longish terminal or subterminal simple or dichotomously-branched racemes: calyx-limb 4-partite: corolla funnel-shaped: stamens exserted: capsule coriaceous, oval.

Sea-coasts in sandy soils in the Southern districts of the Peninsula.

(28) H. aspera. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 417.—Heyne in Roth. Nov. Sp. p. 94.

*Syn.* Oldenlandia aspera, *Dec. prod.* IV. *p.* 498.

Spec. Char. Annual, erect, simple, or with few branches, rough with minute points: leaves linear-acuminated: stipules membranous,

with 1–3 longish subulate points: cymes terminal, long-peduncled, usually of one short central branch and two longish lateral ones: flowers usually in pairs, shortly-pedicelled, pale blue, with long slender tubes: calyx-teeth distant in fruit: anthers included: capsule nearly globose, somewhat didymous, truncated.

Arcot. Dindigul hills. Surat and the Deccan. Flowering in August.

(29) H. HISPIDA. *(Retz.)*

*Ident.* Roxb. fl. Ind. I. p. 364. *var. villosa.*

*Syn.* H. auricularia, *Lam. Roxb. fl. Ind.* I. *p.* 365.

SPEC. CHAR. Stem short, somewhat dichotomous, slightly 4-sided, densely villous, sometimes rooting at the base: leaves lanceolate, tapering at both ends, slightly villous on the nerves beneath, margins scabrous: uppermost petiole longer, hispid: stipules villous, membranaceous and uniting with the petiole, and terminated by long hispid ciliæ: corolla-tube scarcely longer than the calyx, pubescent in the throat: stamens exserted: filaments pubescent: style bearded: capsule round, slightly furrowed, villous: flowers crowded into sessile, globose, axillary, villous verticels, white.

Khasia mountains, flowering nearly all the year.

(30) H. LINEATA. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 365.—Dec. prod. IV. p. 420.

SPEC. CHAR. Annual, diffuse, hairy: leaves sessile, ventricose-lanceolar, longitudinally marked with simple parallel veins: peduncles axillary, 2–3-together, longish, many-flowered: capsules round, hairy.

Chittagong, flowering in the rainy season.

(31) H. SCANDENS. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 364.—Dec. prod. IV. p. 422.

SPEC. CHAR. Perennial: stems and branches round, scandent: leaves short-petioled, broad-lanceolate, smooth: stipules cup-shaped, connecting the leaves, with a short process on each side between the leaves: panicle corymbiform, terminal, somewhat globular, trichotomous, slightly villous: bracts linear, spreading: corolla-tube longer than the calyx; mouth very woolly: apex of the style woolly: stigma 2-cleft: capsule ovate.

Silhet, flowering in the hot season.

(32) H. COSTATA. *(R. Br.)*

*Ident.* Don's Mill. III. p. 526.

SPEC. CHAR. Stem downy, quadrangular: leaves lanceolate, tapering at both ends, glabrous, with many parallel veins: flowers sessile, crowded in the axils, somewhat verticillate.

Silhet.

(33) H. VESTITA. *(R. Br.)*

*Ident.* Don's Mill. III. p. 526.

SPEC. CHAR. Stems peduncles and petioles villous: stem 4-sided: leaves ovate-lanceolate, much acuminated, tapering at the base, downy, particularly on the veins beneath: stipules villous, each with 3 long bristles: peduncles axillary, trichotomous, each division bearing a head of flowers.

Silhet.

(34) H. POLYCARPA. *(Wall.)*

*Ident.* Don's Mill. III. p. 527.

SPEC. CHAR. Branches 4-sided: leaves elliptic-lanceolate, acuminated, tapering to the base: stipules joined to the petioles and furnished with a tooth on each side: panicle terminal, corymbose, trichotomous: lobes of the calyx separated by broad sinuses.

Silhet.

(35) H. OXYPHYLLA. *(Wall.)*

*Ident.* Wall. Cat. No. 6193.

*Syn.* Oldenlandia oxyphylla, *Don's Mill.* III. *p.* 531.

SPEC. CHAR. Glabrous shrub: leaves linear-lanceolate, tapering at both ends: stipules broad at the base, with 2 subulate points at the apex and a small tooth on each side: peduncles terminal and axillary, dichotomous, panicled: pedicels short, bracteate: teeth of the calyx distant.

Khasia mountains.

(36) H. LATIFOLIA. *(Dalz.)*

*Ident.* Dalz. in Hook. Jour. Bot. II. p. 133.—Bomb. flor. p. 116.

SPEC. CHAR. Stem erect, glabrous, 4-sided, almost winged, trichotomous: leaves ovate, acute, rounded at the base, short-petioled, slightly hispid on the nerves beneath: lower stipules truncated, upper ones with 3–6 ciliated bristles: tube of the corolla 3–4 times longer than the calyx-teeth: capsule with the calycine teeth about the middle, splitting to the base, 4–12-seeded: seeds cup-shaped: flowers few, small, pale rose, on longish trichotomously-branched peduncles.

Malwan, flowering in July.

(37) H. FETIDA. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 116.—Hook. Jour. Bot. II. p. 132.

SPEC. CHAR. Erect, glabrous, scarcely branched: stems acutely 4-sided: leaves linear, with recurved margins, scabrous above;

calyx-teeth with callous points: capsule much compressed, dehiscing only within the calyx, 4–12-seeded: flowers purple, capitate, clustered in threes or fives on the apex of longish peduncles, very fetid.

Malwan, common in stony soils, flowering in the rainy season.

(38) H. CARNOSA. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 116.—Hook. Jour. Bot. II. p. 133.

SPEC. CHAR. Herbaceous, much branched, ascending, glabrous: leaves lanceolate, elliptic, obtuse, thick and fleshy, attenuated into a short petiole: margins recurved: flowers and capsules the same as in the preceding species.

Malwan, on the sea-shore. This is supposed to be a variety of *H. fetida*. The difference is in the leaves, &c., being caused by the influence of the salt spray.

(39) H. LANCIFOLIA. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 116.—Hook. Jour. Bot. II. p. 133.

SPEC. CHAR. Herbaceous, erect, branched: leaves lanceolate, acuminate, pubescent above, and on the nerves beneath: stipules pubescent, furnished with 4–5 ciliated bristles: peduncles with spreading hairs: tube of the corolla 6–7 times longer than the calyx-teeth: capsule hispid, compressed, dehiscing only within the calyx, 4–6-seeded: flowers numerous, in heads of five.

Phoonda Ghaut, flowering in September.

(40) H. SENEGALENSIS. (*Cham. & Schlecht.*)

*Ident.* Cham. & Schlecht. in Linn. 1829 p. 156.—Dalz. Bomb. flor. p. 117.

*Syn.* Kohautia Senegalensis, *Dec. prod.* I. *p.* 430.

SPEC. CHAR. Stem 1 foot in height: leaves linear, floral ones subulate: stipules furnished with 2 bristles: lobes of the corolla lanceolate: flowers short-pedicelled near the apex of the branches, distant, few, dingy white.

Barren places in the Deccan.

## GENUS XV. CARLEMANNIA.

**Diandria Monogynia.** *Sex. Syst*

*Deriv.* Named in honor of Dr. Charles Lemann, an ardent promoter of Botany.

GEN. CHAR. Calyx-limb 4-partite: tube of the corolla slender: limb spreading: lobes 4, imbricated in æstivation, exterior one

somewhat larger: stamens inserted in the middle of the tube, included: filaments short: anthers oblong, with parallel distinct cells: style shortly 2-cleft at the apex: lobes thickish, smooth within, stigmatose; disk epigynous, annular, somewhat 2-partite: ovary 2-celled: placentæ erect from the base of the cells, many-ovuled: capsule globose, crowned with the limb of the calyx, membranaceous, dehiscing by cells: valves entire: seeds numerous, small: testa coriaceous; internal membrane adnate to the albumen, thickly reticulated: albumen thickly granulated: embryo small, scarcely to be distinguished from the grains of the albumen.

(1) C. Griffithii. *(Benth.)*

*Ident.* Hook. Jour. Bot. V. p. 308. (1853)

Spec. Char. Herbaceous, glabrous, oppositely branched: branches terete, flexuose at the joints: stipules reduced to a slightly elevated line, sometimes minutely toothed, connecting the petioles: leaves opposite, petioled, ovate or ovate-lanceolate, longish-acuminated, serrato-crenate on the margin, roundish or cuneate at the base, membranaceous, feather-nerved: cymes terminal or peduncled in the dichotomous divisions of the upper branches, many-flowered, ultimate branchlets and pedicels alternate: bracts small, linear: ovary globose: lobes of the calyx oblong, unequal, much shorter than the tube of the corolla; segments of the corolla much shorter than the tube, broad-ovate, obtuse, gibbous under the apex at the back or submucronate.

Khasia hills.

## GENUS XVI. MORINDA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* *Morus Indica*, the Indian Mulberry.

Gen. Char. Erect or climbing shrubs or trees: leaves opposite, rarely verticilled: stipules within the petioles: peduncles solitary or several, axillary or leaf-opposed or terminal: flowers aggregated, sessile upon a globose receptacle: capituli changing in fruit to a spurious or compound berry: calyx-tube obovate, usually concrete with those of the nearest flowers: limb short, scarcely toothed: corolla funnel-shaped: tube somewhat terete: limb spreading, 5–4-lobed: æstivation valvular; stamens occasionally 4: filaments usually very short and with the anthers included: style filiform: stigma 2-cleft, with filiform segments: berries containing 2–4 nuts, usually concrete into one compound fruit, marked on the apex by the traces of the calyx: nuts 1-seeded: embryo terete, in fleshy albumen.

(1) M. CITRIFOLIA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 419.—Dec. prod. IV. p. 446.—Roxb. fl. Ind. I. p. 541.

*Syn.* M. tinctoria, *Roxb. Dec. l. c. p.* 447.

*Engrav.* Rheede Mal. I. t. 52.—Rumph. Amb. III. t. 99.

SPEC. CHAR. Small tree: branchlets 4-angled: leaves oval, attenuated at both ends, shining: stipules membranaceous, obtuse: capituli shortly-peduncled, leaf-opposed, without bracts: corolla long-funnel-shaped; limb 5, occasionally 4–7-cleft: anthers half hid in the tube: style the length of the tube: concrete berries ovate, shining: flowers white.

Common in most parts of India, flowering all the year.

(2) M. BRACTEATA. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 419.—Roxb. fl. Ind. I. p. 544.—Dec. prod. IV. p. 447.

*Engrav.* Wight's Ill. II. t. 126.—Rumph. Amb. III. t. 98.

SPEC. CHAR. Tree: leaves oval-oblong, pointed at both ends, shining: stipules broader than long, rounded: heads of flowers short-peduncled, leaf-opposed, solitary, bracteated: bracts few, foliaceous, their petiole adnate with the calycine tubes: corolla long-funnel-shaped: limb 5-cleft: anthers quite included: stigmas raised above the mouth of the tube: berries concrete into a roundish smooth fruit: flowers small, white.

Ganjam. Malwan and Vingorla. Flowering nearly all the year.

(3) M. EXSERTA. (*Roxb.*)

*Ident.* W. &. A. prod. I. p. 419.—Roxb. fl. Ind. I. p. 545.—Dec. prod. IV. p. 447.

SPEC. CHAR. Tree: leaves from broadly-oval to oblong-lanceolate, pointed, tapering at the base: stipules broadly-oval, obtuse, entire or 2-cleft: heads of flowers usually solitary, sometimes in pairs, without bracts: corolla long-funnel-shaped; limb 5-cleft: filaments inserted into the mouth of the tube, between the segments, and with the anthers much exserted: style the length of the tube: drupes concrete into an oval or roundish fruit: flowers small, white.

Ataveesy jungles, flowering nearly all the year.

(4) M. ASPERA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 420.

SPEC. CHAR. Young branches compressed, harshly pubescent: leaves oblong-lanceolate, acuminated, rough on the upper side and on the nerves beneath, with bristly hairs or points: stipules broadly

oval, obtuse, entire or 2-cleft: heads of flowers globose, on short axillary peduncles, without bracts: corolla funnel-shaped, externally glabrous; limb 5-cleft, the segments unequal: anthers included.

Peninsula.

(5) M. STENOPHYLLA. (*Spr.*)

*Ident.* W. & A. prod. I. p. 420.—Dec. prod. IV. p. 448.

*Syn.* M. angustifolia, *Roth.* (not *Roxb.*)

SPEC. CHAR. Young branches somewhat 4-angled, covered with an ashy-coloured tomentum: leaves elliptic-lanceolate, acuminated at both ends, clothed on both sides with ashy tomentum: stipules lanceolate, at length reflexed: peduncles axillary, solitary, alternate, tomentose: flowers externally tomentose.

Bednore, in Mysore.

(6) M. TOMENTOSA. (*Heyne.*)

*Ident.* W. & A. prod. I. p. 420.—Dec. prod. IV. p. 448.

*Syn.* M. mudia, *Ham. in Linn. Soc. Trans.* XIII. *p.* 356.—*Dec. l. c.*

SPEC. CHAR. Small tree: branches glabrous and shining, young ones 4-angled and tomentose: leaves roundish-ovate, acuminated, shortly tomentose on both sides: stipules usually 2-cleft: peduncles axillary, solitary, longer than the petiole, tomentose: heads of flowers without bracts, oval; flowers white.

Common in the Concan. Deccan. Flowering in April.

(7) M. UMBELLATA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 420.—Dec. prod. IV. p. 449.

*Syn.* M. scandens, *Roxb. fl. Ind.* I. p. 548.—*Dec. l. c.*—M. padavara, *Juss.*

*Engrav.* Rheede Mal. VII. t. 27.

SPEC. CHAR. Glabrous climbing shrub: leaves from oblong-lanceolate to cuneate-oblong, pointed, usually with a small hairy gland in the axils of the nerves beneath: stipules membranaceous, united into a truncated sheath: peduncles 3-7, in a sessile terminal umbel, about half the length of the leaves: heads of flowers globose; margin of the calyx entire: corolla with a short tube; limb 4, occasionally 5-cleft: filaments short, included, inserted into the bottom of the dilated part of the tube, among much hair: anthers exserted.

Courtallum. Travancore. Malabar. Flowering in March.

(8) M. MULTIFLORA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 546.

SPEC. CHAR. Small tree: leaves oval, tapering at both ends, acute, tomentose on both sides: peduncles axillary or leaf-opposed

or terminal, solitary or aggregated, often compound, various: heads of flowers somewhat globular, many-flowered: anthers included: drupe ovate-oblong.

Nagpore.

(9) M. ANGUSTIFOLIA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 517.

SPEC. CHAR. Erect shrub, with few branches: leaves subsessile, recurved, lanceolate, smooth: stipules subcordate, united into a sheath, persistent: peduncles solitary, short, leaf-opposed: heads of flowers globular: flowers very numerous, pure white: calyx almost entire: corolla funnel-shaped: filaments inserted below the middle of the tube: anthers included: stigma exserted, 2-lobed: berries succulent, deep shining black, distinct.

Chittagong, flowering in March.

## GENUS XVII. VANGUERIA.

**Pentandria Monogynia.** *Sex Syst:*

*Deriv.* Name altered from Voa-Vanguer, the Madagascar name of the first species.

GEN. CHAR. Small trees or shrubs: stipules solitary on both sides: calyx-tube obovate: limb spreading, 5-toothed, deciduous: corolla globular-campanulate, 5-cleft, very hairy in the throat: lobes ovate or lanceolate, acute, recurved: filaments very short: anthers scarcely exserted: ovary 5-celled, with one ovule in each cell: style about the length of the corolla: stigma exserted, mitriform, or capitate and 5-angled: berry succulent, marked with the traces of the calyx and containing five 1-seeded nuts: seeds oblong; albumen fleshy.

(1) V. EDULIS. (*Vahl.*)

*Ident.* W. & A. prod. I. p. 421.—Dec. prod. IV. p. 454.

*Syn.* V. cymosa, *Gaertn. fr. p.* 75. *t.* 193.—V. Madagascariensis, *Gmel.*—V. Commersonia, *Desf.*

SPEC. CHAR. Small tree, unarmed: leaves ovate or oblong, membranaceous, glabrous: cymes below the leaves from the old scars; stigma thick, shortly cylindrical and mitriform: fruit round, smooth, size of an apple: flowers greenish-white.

Common in the Concans and on the Ghauts. Flowering in the cold season. The fruit is eatable.

(2) V. SPINOSA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 536.—Dec. prod. IV. p. 454.

*Syn.* Meynia spinosa, *Link.*

Spec. Char. Large shrub: leaves opposite or three in a whorl, ovate-oblong: spines decussate: cymes axillary, fascicled on a short peduncle: stigma 4–5-lobed: berry size of a cherry, turbinate, smooth, yellow when ripe, succulent: flowers greenish-white.

Bengal, flowering in March and April.

## GENUS XVIII. MEPHITIDIA.

**Tetrandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Mephitis*, damp of the earth, in reference to the unpleasant smell of the shrubs.

Gen. Char. Shrubs or undershrubs: flowers crowded, axillary and terminal: limb of the calyx 3–6-partite or toothed: corolla funnel-shaped, 4–6-cleft, hairy: stamens 4–6, inserted towards the throat: filaments very short: anthers exserted or included: stigmas 4–9, linear, thick: drupe baccate, crowned by the permanent calyx, containing 4–9 3-cornered arillate 1-seeded stones.

### (1) M. venulosa. (*R. W.*)

*Ident.* Walp. Annal. II. p. 761.

*Syn.* Santia venulosa, *W. & A. prod.* I. p. 422.—Lasianthus venulosus, *R. W.*

*Engrav.* Wight's Spicil. I. t. 96.—Icon. t. 1032.

Spec. Char. Glabrous shrub: stipules triangular, hairy: leaves coriaceous, short-petioled, elliptic-oblong, cuspidate or acuminate, glabrous above, sprinkled with hairs beneath: cymes axillary, short-peduncled, few-flowered: bracts small, hairy: segments of the calyx subulate, as long as the corolla-tube: corolla 4–5-cleft: throat and lobes hairy: style 3–5-lobed, often longer than the corolla: flowers pale-yellow or cream-coloured.

Common in woods about Ootacamund. The blue succulent berries are about the size of a pea.

### (2) M. Jackiana. (*R. W.*)

*Ident.* Calc. Jour. Nat. Hist. VI. p. 502.—Walp. Annal. II. p. 760.

Spec. Char. Fruticose, clothed on all sides with long yellowish hairs: branches terete, with short internodes: stipules triangular, broad at the base: leaves subsessile, ovate-lanceolate, shortly and abruptly acuminated: flowers axillary, subsessile, aggregated, few: bracts 2, leafy, lanceolate: calyx deeply 4-cleft: segments ovate-lanceolate, hairy on both sides: corolla about equalling the calyx: segments ciliated: ovary 3–4-celled: drupe small.

Neilgherries.

(3) M. Roxburghii. *(R. W.)*

*Ident.* Calc. Jour. Nat. Hist. VI. p. 502.—Walp. Annal. II. p. 760.

*Syn.* Triosteum hirsutum, *Roxb.*

Spec. Char. Fruticose, hirsute: leaves short-petioled, lanceolate, acuminated: flowers axillary, sessile, much shorter than the numerous lanceolate bracts: berries 5-seeded.

Chittagong.

(4) M. Wallichii. *(W. & A.)*

*Ident.* Calc. Jour. Nat. Hist. VI. p. 503.—Walp. Annal. II. p. 760.

*Syn.* Nonatelia hispida, *Wall. in Roxb. fl. Ind.* II. p. 187.

Spec. Char. Fruticose: leaves subsessile, oblong, acuminated, unequal at the base, coriaceous, younger ones hairy, at length somewhat glabrous: stipules linear-lanceolate, hispid: bracts numerous, linear-lanceolate, 3-nerved, hispid, ciliated, somewhat equalling the corolla: flowers numerous, axillary, sessile: segments of the calyx lanceolate, acuminate: corolla funnel-shaped, hispid: segments linear, obtuse, hairy, shorter than the tube: ovary 5-celled: stigma 5-lobed.

Silhet.

(5) M. Blumeana. *(R. W.)*

*Ident.* Calc. Jour. Nat. Hist. VI. p. 507.—Walp. Annal. II. p. 761.

Spec. Char. Fruticose, glabrous: leaves short-petioled, elliptic-lanceolate, acuminate: stipules triangular, acute: flowers aggregated, few: bracts short, subulate, hairy: limb of the calyx deeply 4-cleft: segments lanceolate, acute: corolla 4-cleft, hairy within: ovary 4-celled: style equalling the corolla: stigma hairy: drupe globose.

Courtallum.

(6) M. dichotoma. *(R. W.)*

*Ident.* Calc. Jour. Nat. Hist. VI. p. 508.—Walp. Annal. II. p. 761.

Spec. Char. Fruticose; branches terete, compressed at the knots: leaves elliptic-ovate or subcordate at the base, glabrous, (except the short petiole,) sparingly hairy on the veins: stipules lanceolate, equalling the petioles: cymes axillary, solitary, long-peduncled, once or twice-dichotomous, with racemose divisions: flowers secund: bracts subulate, sparingly bristly: calyx deeply 4-cleft: segments lanceolate, acute, often apiculated with a bundle of

hairs: corolla funnel-shaped, 4-cleft; throat and segments hairy: stamens included: style exserted: stigma 4-cleft: ovary 4-celled.

Shevagherry hills.

(7) M. CILIATA. (*R. W.*)

*Ident.* Calc. Jour. Nat. Hist. VI. p. 509.—Walp. Annal. II. p. 761.

SPEC. CHAR. Fruticose: branches terete, tomentose: leaves coriaceous, ovate-lanceolate, acute: petioles and leaves beneath hairy, ciliated on the margin: stipules short, triangular, hairy on both sides: flowers aggregated, axillary, sessile: bracts minute, hairy: calyx 3–4-partite: divisions ovate, hairy on both sides: corolla small, 3–5-cleft, very hairy: anthers sessile: style short: stigma 3–4-cleft: ovary 3–4-celled: nuts blistered and wrinkled at the back.

Neilgherries.

(8) M. ROSTRATA. (*R. W.*)

*Ident.* Calc. Jour. Nat. Hist. VI. p. 510.—Walp. Annal. II. p. 761.

SPEC. CHAR. Fruticose: branchlets somewhat compressed at the knots, very hairy; leaves elliptic-oblong or linear-lanceolate, roundish at the base or sometimes attenuated, contracted at the apex into a point, glabrous above, pubescent below: stipules small, acute, hairy: flowers few, sessile: bracts inconspicuous: calyx very hairy, 4-cleft; divisions broad-sinuate: margins ciliated with long hairs: corolla pubescent within: anthers subsessile, style far exceeding the tube of the corolla: stigma 4-lobed: ovary 4-celled.

Courtallum and Shevagherry hills.

(9) M. CAPITULATA. (*R. W.*)

*Ident.* Calc. Jour. Nat. Hist. VI. p. 511.—Walp. Annal. II. p. 762.

SPEC. CHAR. Fruticose, strigosely pubescent: leaves coriaceous, ovate-elliptic, acuminated or ovate or oblong-lanceolate, attenuated towards the apex, glabrous: stipules small, triangular: peduncles axillary somewhat equalling the petioles, 3–4-flowered: flowers sessile, capitellate: bracts small, subulate: calyx 4–5-cleft: segments broad-ovate, obtuse: corolla hairy before expansion: ovary 4–5-celled.

Neilgherries.

(10) M. ACUMINATA. (*R. W.*)

*Ident.* Calc. Jour. Nat. Hist. VI. p. 511.—Walp. Annal. II. p. 762.

Spec. Char. Fruticose: branchlets pubescent: leaves coriaceous, shining, glabrous, puberulous on the nerves, lanceolate, acuminated at both ends, mucronately cuspidate at the apex: stipules subulate, pubescent: flowers axillary, somewhat sessile, 2–3-together: bracts inconspicuous: calyx hairy, 4-cleft: segments triangular, obtuse: corolla 4-cleft, glabrous, hairy within: style equalling the tube, scarcely exserted: stigma 3–4-cleft: ovary 3–4-celled.

Pulney hills.

(11) M. parvifolia. *(R. W.)*

*Ident.* Calc. Jour. Nat. Hist. VI. p. 512.—Walp. Annal. II. p. 762.

Spec. Char. Fruticose, glabrous: leaves obovate-lanceolate, obtuse, attenuated at the base, glabrous on both sides: veins elegantly reticulated: flowers axillary, sessile, aggregated, 2–3-together: bracts small or wanting: calyx 4-lobed: corolla 4-cleft: throat and segments hairy; anthers exserted: ovary 3–4-celled: fruit pea-shaped.

Courtallum.

(12) M. fætens. *(R. W.)*

*Ident.* Calc. Jour. Nat. Hist. VI. p. 517.—Walp. Annal. II. p. 763.

Spec. Char. Fruticose or subarboreous: leaves ovate-elliptic, acute or subacuminate, attenuated towards the base: stipules minute, cuspidate: peduncles axillary, jointed, bibracteate and 1-flowered at the joints: bracteoles twin at the base or the calyx: corolla 4-cleft, funnel-shaped: stamens inserted on the tube: anthers not exserted: style equalling the corolla: stigma somewhat club-shaped, 2-lobed: ovary 2-celled with 2 erect ovules.

Neilgherries.

## GENUS XIX. EUPYRENA.

**Pentandria Monogynia.** *Sex. Syst*

*Deriv.* From *Eu*, well, and *Pyrene*, the stone of a fruit, in allusion to the hard distinct nuts of the drupe.

Gen. Char. Calyx-tube obovate; limb persistent, 4-toothed; the teeth triangular-acuminate: corolla funnel-shaped, hirsute externally: tube slender: limb 4-cleft: æstivation valvular: anthers linear, attached by the middle of their back to the throat of the corolla: ovary 6–12-seeded with one ovule in each cell: style shorter than the tube with a simple stigma: drupe globose, 6–12-furrowed, crowned at the apex with the calycine teeth, and containing 6–12 slightly curved 1-seeded bony distinct nuts: seeds cylindric: albumen fleshy.

(1) E. GLABRA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 423.

SPEC. CHAR. Shrub: young shoots glabrous: stipules deciduous, shorter than the petioles: leaves oval-lanceolate, acuminated at both ends, glabrous, hairy underneath on the midrib and nerves: peduncles towards the extremities of the branches axillary, opposite and springing from within the stipules, once or twice bifid, with the flowers unilateral and sessile along the branches: bracts small, solitary under each flower: drupe with 8–12 nuts.

Peninsula.

## GENUS XX. HAMILTONIA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* Named after William Hamilton, an eminent American Botanist.

GEN. CHAR. Calyx-tube ovate: limb 5-partite: segments subulate, persistent: corolla funnel-shaped, densely pubescent: tube long: lobes 5, oblong: stamens inserted into the throat, included: anthers linear: stigma 5-cleft: capsule crowned with the calyx, dehiscing at the apex, containing 5 nuts: nuts triquetrous, 1-seeded: seeds covered with a dry reticulated membrane: albumen very thin.

(1) H. MYSORENSIS. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 423.—Dalz. Bomb. flor. p. 115.

SPEC. CHAR. Small erect shrub, with slender rigid branches: leaves oblong or oval-lanceolate, slightly pubescent, reticulated beneath: panicles corymbose, trichotomous, pubescent: flowers fascicled, small, white.

Mysore. Island of Caranjah. Common on the Ghauts in rocky places.

(2) H. SUAVEOLENS. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 554.—Dec. prod. IV. p. 462.

*Syn.* Spermadictyon suaveolens, *Roxb.*—Lasianthus tubiflorus, *Blume.*

*Engrav.* Roxb. Cor. III. t. 236.—Bot. Reg. IV. t. 348.

SPEC. CHAR. Glabrous shrub: leaves broad-lanceolate: stipules broad, ensiform: calyx beset with glandular hairs: flowers sessile, terminal, corymbosely capitate, white, on short trichotomous branchlets, very fragrant.

Rajmahal hills, flowering in October.

## GENUS XXI. EPITHINIA.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Epi*, upon, and *Thin*, the sea-shore. The shrub grows among mangroves on the sea-coast.

Gen. Char. Calyx-tube somewhat cylindrical; limb cup-shaped, inconspicuously 4-toothed: corolla tubular, with a 4-partite limb: tube hairy inside: segments recurved: æstivation imbricated and slightly twisted: ovary 2-celled, with 2 ovules in each cell: stamens exserted, with pointed linear anthers: style exserted: stigma 2-cleft; divisions linear, spreading: drupe oblong-clavate, 8-furrowed, containing two 1-celled hard long nuts: seeds 2 in each cell, placed one above the other.

(1) E. Malayana. *(Jack.)*

*Ident.* W. & A. prod. I. p. 424.—Hook. Bot. Misc. II. p. 67. —Dec. prod. IV. p. 477.

Spec. Char. Glabrous shrub, exuding gum from the extremities of the young shoots: stipules connate, sheathing, truncated: leaves obovate, obtuse, somewhat fleshy: cymes somewhat above the axils on short horizontal peduncles, bifid, shorter than the petiole: flowers white.

Mangrove swamps in the Peninsula.

## GENUS XXII. PŒDERIA.

**Pentandria Monogynia.** *Sex Syst:*

*Deriv.* From *Pœderos*, opal, in allusion to the transparent berries.

Gen. Char. Calyx-tube ovate: limb 5-toothed, persistent: corolla funnel-shaped, hirsute inside, 5-lobed, with a folded æstivation: stamens sometimes abortive: anthers oblong, almost sessile on the middle of the tube: style not exserted: stigma 2-cleft: berry ovate-globose, 2-celled, 2-seeded: albumen fleshy.

(1) P. fœtida. (*Linn.*)

*Ident.* W. & A. prod. I. p. 424.—Dec. prod. IV. p. 471.—Roxb. fl. Ind. I. p. 683.

*Syn.* Apocynum fœtidum, *Burm. Ind. p.* 71.

*Engrav.* Rumph. Amb. V. t. 160.

Spec. Char. Climbing shrub: leaves oblong or lanceolate, cordate at the base, glabrous: stipules solitary on each side. panicles

axillary and opposite or terminal: flowers sessile along the ultimate divisions, small, white or purplish: bracteoles minute: berry ovate, somewhat compressed.

Peninsula. Bengal. Assam. Flowering in the cold season.

## GENUS XXIII. CANTHIUM.

**Pentandria Monogynia.** *Sex: Syst.*

*Deriv.* The Malabar name latinized.

Gen. Char. Shrubs or small trees, with unarmed or thorny branches: leaves opposite: stipules solitary on both sides: peduncles axillary, several-flowered: calyx-tube ovate; limb 4–5-toothed: corolla bearded in the throat: tube short; lobes 4–5, spreading: anthers 4–5, inserted into the throat, scarcely exserted: style exserted: stigma thick, ovate-globose or mitre-shaped, undivided or 2-cleft at the apex: drupe globose or compressed, crowned with the calycine teeth, fleshy, 2-celled: seeds solitary in each cell, inverted, incurved: albumen fleshy.

### (1) C. didymum. *(Gaertn.)*

*Ident.* W. & A. prod. I. p. 425.—Dec. prod. IV. p. 473.—Roxb. fl. Ind. I. p. 535.

*Syn.* C. cymosum, *Pers.*—Psydrax dicoccos, *Gaertn. Dec. l. c. p.* 476.—Webera cymosa, *Willd.*—Rondeletia cymosa, *Poir.*—Cupia cymosa, *Dec. l. c. p.* 394.—Gardenia parviflora, *Poir.*

*Engrav.* Gaertn. fr. III. p. 94. t. 196.

Spec. Char. Unarmed shrub: leaves oval, more or less acuminated, glabrous, coriaceous: upper side shining, under with glandular hollows in the axils of the nerves: cymes axillary, peduncled, much shorter than the leaves: calyx-limb with 5 often inconspicuous teeth: corolla-tube hairy inside: stigma much exserted, mitre-shaped, slightly 2-lobed at the apex; drupe when ripe compressed and somewhat didymous, obovate, wrinkled and tubercled, marked with a furrow on each side: flowers white, very fragrant.

Interior mountains of the Coromandel Coast.

### (2) C. parviflorum. *(Lam.)*

*Ident.* W. & A. prod. I. p. 426.—Dec. prod. IV. p. 474.—Roxb. fl. Ind. I. p. 534.

*Syn.* Webera tetrandra, *Willd.*

*Engrav.* Roxb. Cor. I. t. 53.—Rheede Mal. V. t. 36.—Pluk. t. 97. f. 4.

Spec. Char. Shrub; usually with opposite horizontal thorns a little above the axils, sometimes nearly unarmed: leaves ovate, gla-

brous, often fascicled on the young shoots: racemes short, axillary, few-flowered: stamens 4: stigma somewhat globose, often more or less bifid or marked with a longitudinal furrow: drupe obovate, furrowed on each side: flowers small, yellow.

Coromandel. South Mahratta country. Flowering in the hot season.

(3) C. Rheedii. *(Dec.)*

*Ident.* W. & A. prod. I. p. 426.—Dec. prod. IV. p. 474.

*Engrav.* Rheede Mal. V. t. 37.

Spec. Char. Shrub, armed with supra-axillary thorns: branches hirsute: leaves ovate or oval-lanceolate, acuminated, upper side shining, under with a tuft of hairs in the axils of the nerves: flowers axillary, short-pedicelled, few, fascicled or in a very short raceme: stigma mitre-shaped: drupe obovate, emarginate.

Malabar. Said by Graham to grow in the Concan and at Sewree Fort, Bombay.

(4) C. Leschenaultii. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 426.

*Engrav.* Wight's Icon. t. 826.

Spec. Char. Shrubby, climbing (?): old branches armed with thorns; young shoots often unarmed: petioles twisted: leaves opposite or 3–4-verticillate, oblong, much acuminated, acute at the base: cymes axillary, 3–5-flowered: corolla-tube campanulate, with a ring of hairs inside: segments of the limb linear-lanceolate, acuminated, reflexed: anthers exserted, afterwards reflexed: style thicker about the middle and hairy downwards: stigma mitre-shaped, cleft to about the middle: drupe obcordate.

Courtallum mountains and other subalpine jungles in the Peninsula.

(5) C. umbellatum. *(R. W.)*

*Ident.* Wight's Icon. vol. III.—Dalz. Bomb. flor. p. 113.

*Engrav.* Wight's Icon. t. 1034.—Spicil. I. t. 97.

Spec. Char. Small tree, unarmed: young branches 4-sided: leaves oval, acuminated, coriaceous: flowers axillary, umbelled on a short thick peduncle, white: corolla-tube hairy within: style exserted: stigma mitre-shaped, 2-lobed. fruit obovate, didymous.

Neilgherries. Shevagherry hills. Common above the Ghauts. Flowering from September to December. Closely allied to *C. didymum.*

(6) C. parvifolium. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 534.—Dec. prod. IV. p. 474.

Spec. Char. Middling-sized shrub, armed: young shoots hairy: leaves oval, hairy beneath: tube of the corolla with a ring of white bristles pointing downwards: flowers axillary, crowded.

Chittagong, flowering in the rainy season.

(7) C. angustifolium. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 533.—Dec. prod. IV. p. 479.

Spec. Char. Armed shrub: leaves fascicled on the older branches, opposite on the young shoots, lanceolate, tapering: flowers axillary, several together, small, short-peduncled, greenish-yellow: style the length of the corolla: stigma large, bifid at the apex.

Chittagong and Silhet, flowering from March to July.

(8) C. Neilgherrense. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1064. *bis.*

Spec. Char. Shrub or small tree, unarmed: branchlets obsoletely 4-sided: leaves ovate, bluntly acuminated, membranous, somewhat hirsute beneath: peduncles axillary, about the length of the petioles, bearing an umbel of 5–7 flowers, furnished with subulate bracts: corolla hairy in the throat: stigma capitate: drupe obovate, compressed, succulent: flowers white.

Sispara, on the Neilgherries, flowering nearly all the year.

## GENUS XXIV. IXORA.

**Tetrandria Monogynia.** *Sex. Syst.*

*Deriv.* A corruption of *Iswara*, a Hindoo Deity, to whom the flowers are occasionally offered.

Gen. Char. Shrubs or small trees: leaves opposite: stipules from a broad base acute or ending in a setaceous simple or bifid awn: corymbs terminal, usually trichotomous: calyx-tube ovate; limb 4-toothed or 4-partite: corolla hypocrateriform; tube slender: limb 4-partite, spreading: anthers somewhat sessile in the throat or on short filaments: style scarcely exserted, 2-cleft at the apex: divisions of the stigma diverging or revolute: berry somewhat globose, 2-celled: nuts chartaceous, flat or concave on the inner side, gibbous on the back, 1-seeded: albumen cartilaginous, solid: embryo erect, incurved.

(1) I. coccinea. (*Linn.*)

*Ident.* W. & A. prod. I. p. 427.—Roxb. fl. Ind. I. p. 375.

*Syn.* I. grandiflora, *Dec. prod.* IV. *p.* 486.—I. obovata, *Heyne in Roth. Nov. Sp. p.* 90.

*Engrav.* Rheede Mal. II. t. 12.—Burm. Zeyl. t. 57.—Pluk. t. 59. f. 2.—Bot. Reg. II. t. 152.

Spec. Char. Glabrous shrub: leaves nearly sessile, oval or oblong or cuneate-obovate, acute or acuminated, mucronate: corymb nearly sessile, thin: calycine lobes acute, connivent in fruit: segments of the corolla ovate-lanceolate or elliptical, acute: style shortly exserted: berry size of a large pea, purple when ripe: flowers bright scarlet.

Common in the Concans. Travancore. Flowering all the year.

(2) I. Wallichii. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 428.

Spec. Char. Shrub: young shoots and branches of the corymb pubescent: leaves lanceolate-oblong, acuminated, short-petioled, pubescent beneath: stipules with a laterally-compressed subulate long point: corymbs trichotomous, branched, open: calyx-segments as long as the tube, narrow-oblong: lobes of the corolla soon reflexed, narrow-oblong, obtuse: style much exserted: divisions of the stigma linear, recurved: flowers crowded on the ultimate divisions.

Peninsula.

(3) I. nigricans. (*Br.*)

*Ident.* W. & A. prod. I. p. 428.

*Engrav.* Wight's Icon. t. 318.

Spec. Char. Shrub: leaves oblong-lanceolate, short-petioled, shining on both sides, turning black by drying: stipules with a subulate point: corymbs trichotomous, large, open: tube of the corolla slightly widened upwards; lobes oblong, recurved: filaments shortly exserted: style much exserted: divisions of the stigma filiform: flowers lax, white.

Peninsula. Common in the jungles of the Ghauts.

(4) I. undulata. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 385.—W. & A. prod. I. p. 428.—Dec. prod. IV. p. 488.

*Engrav.* Wight's Icon. t. 708.

Spec. Char. Shrub: leaves broadly-lanceolate, much waved on the margin: corymbs trichotomous, decompound, open: branches pubescent: calycine-segments short-lanceolate, acute: lobes of the corolla narrow-oblong, reflexed: filaments exserted: style scarcely exserted: divisions of the stigma recurved, linear: berries transversely oval: flowers numerous, pure white, fragrant.

Forests of Bengal. Monghyr. Flowering in March and April.

(5) I. Notoniana. (*Wall.*)

*Ident.* W. & A. prod. I. p. 428.

Spec. Char. Shrub; leaves obovate-oblong, shortly pointed: corymbs long-peduncled, trichotomous: primary branches distant and horizontal, glabrous; ultimate ones more or less pubescent, with numerous flowers: calycine-segments oblong-linear, twice as long as the tube: tube of the corolla slightly hairy in the mouth; lobes oval, obtuse, spreading: style shortly exserted; divisions of the stigma linear-oblong: flowers red.

Neilgherries.

(6) I. cuneifolia. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 428.—Roxb. fl. Ind. I. p. 380.—Dec. prod. IV. p. 487.

*Engrav.* Wight's Icon. t. 709.—Bot. Reg. VIII. t. 648.

Spec. Char. Shrub: leaves oblong-lanceolate, more or less cuneate at the base, pointed, glabrous: corymbs trichotomous, open: calyx-segments narrow-oblong, thrice the length of the tube: corolla-tube slender: lobes oval, obtuse: filaments slightly exserted: divisions of the stigma linear, recurved: flowers small, white, fascicled at the extremities of the ultimate subdivisions: berry roundish-turbinate.

Dacca, flowering in March.

(7) I. brachiata. (*Roxb.*)

*Ident.* W. & A. prod. I. p. 429.—Roxb. fl. Ind. I. p. 382.—Dec. prod. IV. p. 488.

*Syn.* I. micrantha, *Heyne.*—Pavetta breviflora, *Dec. l. c. p.* 491.

*Engrav.* Wight's Icon. t. 710.

Spec. Char. Shrub, with opposite spreading branches: leaves short-petioled, lanceolate-oblong, obtuse, tapering at the base, glabrous: stipules triangular, acute: corymbs sessile, trichotomous, open: primary branches long; lateral ones horizontal: calyx with 4 small broad-acute teeth: lobes of the corolla obovate, retuse, forming a globose head during æstivation: anthers sessile: style scarcely exserted: divisions of the stigma oblong, short, erect: flowers numerous on the ultimate divisions, small, white.

Peninsula. Travancore. Forests of Bengal. Flowering in March and April.

(8) I. parviflora. (*Vahl.*)

*Ident.* W. & A. prod. I. p. 429.—Dec. prod. IV. p. 488.—Roxb. fl. Ind. I. p. 383.

*Syn.* I. alba, *Sm. in Rees' Cycl.*—I. arborea, *Do. Dec. l. c.*—I. pavetta, *Andr. Bot. Rep.*—I. decipiens, *Dec. l. c.*—Webera corymbosa, *Herb. Sm.*

*Engrav.* Wight's Icon. t. 711.—Vahl. Symb. III. p. 2. t. 52.—Andr. Bot. Rep. I. t. 78.

Spec. Char. Tree: leaves from linear-oblong to cuneate-obovate, bluntish or short-pointed, coriaceous and hard, shining: stipules with a long subulate point: corymbs or panicles terminal, trichotomous, sessile or peduncled, often with leafy bracts subtending the primary branches: calyx with 4 small teeth: lobes of the corolla oblong-linear, obtuse, reflexed, forming an oval head during æstivation: style exserted: divisions of the stigma oblong, erect: berry somewhat didymous: flowers very small, numerous, white or pink.

Coromandel. Common on the Ghauts. Jungles about Nagpore. Travancore. Flowering in March and April. This makes excellent firewood. The dâk runners make torches of it.

(9) I. lanceolaria. (*Colebr.*)

*Ident.* W. & A. prod. I. p. 429.—Roxb. fl. Ind. I. p. 687.—Dec. prod. IV. p. 488.

*Syn.* I. leucantha, *Heyne.*

*Engrav.* Wight's Icon. t. 827.

Spec. Char. Shrub: branches slender, drooping, glabrous: leaves narrow or oblong-lanceolate, acuminated, upper surface dull, glaucous, glabrous, under pale, glabrous or pubescent: calyx-segments linear-oblong, much longer than the tube, connivent in fruit: lobes of the corolla linear-oblong, obtuse, slightly pubescent: ovary crowned with a series of fleshy sphacelate bristles round the inside of the limb of the calyx: filaments shortly exserted: anthers long-linear, the base bifid and ending in two subulate spine-like processes: style much exserted: divisions of the stigma long-linear, spreading: berry somewhat didymous: corymbs small, few-flowered, sessile, trichotomous, open: flowers lax, white.

Travancore, flowering in March and April.

(10) I. pedunculata. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 113.—Hook. Jour. Bot. III. p. 121.

Spec. Char. Shrub: leaves short-petioled, elliptic, coriaceous, glabrous: stipules triangular, shortly-cuspidate: panicle terminal, trichotomous, small, lax, on a long naked peduncle: flowers numerous, small, pink.

Near Parwar Ghaut, Kala-Kooda and Beemasunker. Flowering in February.

(11) I. Bandhuca. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 376.—Dec. prod. IV. p. 486.

*Engrav.* Bot. Reg. VI. t. 513.—Wight's Icon. t. 149.

Spec. Char. Shrub: leaves stem-clasping, oblong, obtuse, with a small point: stipules annular, with a subulate process on each

ide: calyx 4-toothed: tube of the corolla long, slender: segments 4, ovate, spreading: filaments inserted on the mouth of the tube: anthers linear, spreading: corymbs terminal, crowded: flowers numerous, bright scarlet.

Hindostan. South Concans. Flowering all the year. This is probably identical with *I. coccinea* as above.

(12) I. ROSEA. (*Wall.*)

*Ident.* Roxb. fl. Ind. Ed. Car. I. p. 398.—Dec. prod. IV. p. 187.

*Engrav.* Bot. Mag. 50. t. 2428.—Bot. Reg. VII. t. 540.—Bot. Cab. t. 729.

SPEC. CHAR. Shrub: leaves almost sessile, oblong, acute, contracted at the base and somewhat emarginate, rather downy on the nerves beneath as well as on the branchlets: corymbs terminal, decompound, lax: calycine lobes acute, somewhat ciliated: lobes of the corolla oblong-cuneate, acute: stigma exserted: flowers rose-coloured, largish.

Khasia mountains, flowering nearly all the year.

(13) I. ACUMINATA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 383.—Dec. prod. IV. p. 488.

SPEC. CHAR. Shrub: leaves petioled, broad-lanceolate, acuminated, smooth, glaucous: floral leaves stem-clasping and broader: corymbs supra-decompound, crowded, almost sessile: calycine lobes awl-shaped: lobes of the corolla ovate-oblong, obtuse: stigma exserted, undivided: flowers large, pure white, very fragrant.

Assam, flowering in April and May.

(14) I. VILLOSA. (*Roxb.*)

*Ident.* Roxb. fl. Ind. I. p. 383.—Dec. prod. IV. p. 488.

*Engrav.* Wight's Icon. t. 150.

SPEC. CHAR. Shrub: leaves broad-cuneate-lanceolate, acuminated, short petioled, villous beneath: corymbs trichotomous or 6–7 times divided, with the branches trichotomous and villous: calycine-lobes oblong, ciliated: corolla with a very long slender tube and oblong obtuse lobes: stipules and branches villous: flowers white, fragrant.

Silhet, flowering in April and May.

(15) I. POLYANTHA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1066.

SPEC. CHAR. Shrub: leaves elliptic-oblong, obtuse or bluntly cuminated: stipules acuminated or subulate, pointed: corymbs

terminal, contracted, many-flowered, branches and tube of the calyx densely hairy: scariose bracts and lobes of the calyx glabrous: calycine-lobes 4, subulate, pointed: corolla glabrous, with a long slender tube and 4 obtuse reflexed segments: style exserted: stigma 2-lobed.

Calicut, in Malabar, flowering in March.

(16) I. SUBSESSILIS. (*Wall.*)

*Ident.* Wall. Cat. No. 6139.—Don's Mill. III. p. 572.

SPEC. CHAR. Shrub: leaves oblong, tapering at both ends, petioled, glabrous: corymbs almost sessile, dense: calycine-lobes subulate: lobes of the corolla acute: stigma exserted: stipules subulate at the apex: flowers apparently white.

Khasia mountains.

(17) I. OXYPHYLLA. (*Wall.*)

*Ident.* Wall. Cat. No. 6159.—Don's Mill. III. p. 572.

SPEC. CHAR. Shrub: leaves elliptic-lanceolate, long-acuminated, glabrous, short-petioled: stipules subulate at the apex. calycine-lobes subulate: stigma exserted: flowers apparently white.

Khasia mountains.

## GENUS XXV. PAVETTA.

**Tetrandria Monogynia.** *Ser: Syst*

*Deriv.* The Malabar name latinized.

GEN. CHAR. Shrubs: leaves opposite: stipules with a subulate point: tube of the calyx ovate: limb 4-toothed: corolla hypocrateriform; tube cylindrical or clavate: limb 4-partite; lobes spreading, more or less unequal: anthers somewhat sessile in the throat of the corolla: style much exserted and longer than the corolla, entire, clavate: stigma undivided: berry drupaceous, crowned with the limb of the calyx, globose, 2-celled: cells 1-seeded: albumen cartilaginous, solid: embryo dorsal, erect, incurved.

(1) P. INDICA. (*Linn.*)

*Ident.* W. & A. prod. I. p. 431.—Dec. prod. IV. p. 490.

*Syn.* P. alba, *Vahl.*—Ixora paniculata, *Lam.*—I. pavetta, *Roxb. fl. Ind* I. p. 386.

*Engrav.* Wight's Icon. t. 148.—Rheede Mal. V. t. 10.—Bot. Reg. III. t. 198.—Pluk. t. 367. f. 5.

SPEC. CHAR. Shrub: leaves oval-oblong, acuminated, tapering at the base, petioled, upper surface glabrous and shining: stipules broad, upper ones often concrete at the base: corymbs terminal and from the upper axils: calycine-teeth minute: lobes of the corolla

2–3 times shorter than the tube, oval, obtuse: style twice the length of the corolla, glabrous: stigma clavate, hispid: flowers white, fragrant.

Coromandel and Malabar coasts, Chittagong, Silhet and Assam. Flowering in April and May. There are occasionally 5 lobes to the corolla and 5 stamens. The leaves on the under side and the young shoots are either pubescent or glabrous.

(2) P. HISPIDULA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 431.

SPEC. CHAR. Branches, divisions of the corymb and calyx densely pubescent: leaves narrow, oblong-lanceolate, acuminated at both ends, upper side hispidly pubescent, under tomentose: corymbs sessile: flowers on longish pedicels, lax: calycine-teeth recurved: lobes of the corolla linear-oblong, obtuse, recurved: style more than twice the length of the corolla, thickened about the middle: stigma clavate, slightly hispid.

Peninsula.

(3) P. TOMENTOSA. (*Smith.*)

*Ident.* Smith in Rees' Cycl.—W. & A. prod. I. p. 431.—Dec. IV. p. 490.

*Syn.* Ixora tomentosa, *Roxb. fl. Ind.* I. p. 386.

*Engrav.* Wight's Icon. t. 186.

SPEC. CHAR. Young branches, divisions of the corymb and calyx densely pubescent: leaves longish-petioled, cuneate-obovate, upper side thinly tomentose, densely so beneath: corymbs panicled, large, lax: flowers longish-pedicelled, white, fragrant: calycine-teeth small, acute: lobes of the corolla more than half the length of the tube, oval, spreading: style about a half longer than the corolla and with the clavate stigma hairy.

Peninsula. Bengal. Flowering in March and April.

(4) P. SIPHONANTHA. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 112.—Hook. Jour. Bot. II. p. 133.

SPEC. CHAR. Shrub: leaves membranaceous, elliptic-oblong, suddenly acuminated, attenuated into a short petiole: stipules cuneate, mucronate, hairy inside: corymbs axillary and terminal: tube of the corolla very long: style long and slender, twice the length of the corolla: flowers white.

Parpoolea Ghaut, flowering in May.

(5) P. BRUNONIS. (*Wall.*)

*Ident.* Wight's Icon. vol. III.—Dalz. Bomb. flor. p. 112.

*Syn.* Pavetta villosa, *Roth.*

*Engrav.* Wight's Icon. t. 1065.

Spec. Char. Shrub, soft and villous all over: leaves obovate: stipules and bracts broad, membranous: peduncles trichotomous, with dense and corymbose branches: lobes of the calyx triangular, obtuse.

Vingorla. Northern slopes of the Neilgherries. Malabar and Mysore. Flowering in April and May.

(6) P. breviflora. (*Dec.*)

*Ident.* Dec. prod. IV. p. 491.

*Engrav.* Wight's Icon. t. 1035.

Spec. Char. Shrub: leaves oval acute at the base, acuminated, short-petioled, glabrous: panicles corymbose: tube of the corolla scarcely longer than the lobes: style clavate at the apex: stipules broad, membranaceous.

Ootacamund, flowering in March and April.

(7) P. Weberæfolia. (*Wall.*)

*Ident.* Wall. Cat. No. 6182.—Don's Mill. III. p. 575.

Spec. Char. Shrub: leaves broad-lanceolate, glabrous, tapering to both ends: corymbs downy: fruit spherical.

Chittagong.

## GENUS XXVI. GRUMILEA.

**Pentandria Monogynia.** *Sex. Syst:*

*Deriv.* From *Grumila*, a little heap, in allusion to the albumen.

Gen. Char. Glabrous shrubs with opposite petioled leaves: stipules usually with hair at their base on the inside: corymbs terminal: calyx-tube obovate: limb cup-shaped, truncated and 5-toothed: corolla funnel-shaped: tube short, villous in the mouth: segments incurved at the apex: æstivation valvular: stamens inserted upon the tube: filaments short: anthers exserted: style the length of the tube or of the corolla, surrounded at the base by a 5-lobed fleshy disk: stigma 2-occasionally 3-partite: divisions thick: berry crowned with the calyx-limb, ovate-globose, 2-occasionally 3-celled: seeds solitary in each cell, plano-convex or angled: albumen somewhat cartilaginous, grumose: embryo erect, slightly curved.

(1) G. subinteger. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 432.

Spec. Char. Erect: leaves long-petioled, oblong-lanceolate, tapering at the base: stipules oval, caducous: corymbs long-peduncled, with rarely a pair of leaves at the lowest branches: tube of the corolla very short: berry globose, not furrowed.

Peninsula.

(2) G. CONGESTA. *(W. & A.)*

*Ident.* W. & A. prod. I. p. 432.

*Engrav.* Wight's Spicil. I. t. 98.—Icon. t. 1037.

SPEC. CHAR. Erect: leaves short-petioled, oblong, acuminated at both ends: stipules broadly triangular, cuspidate, caducous: corymbs sessile, at first compact and scarcely longer than the stipules, afterwards larger, naked: tube of the corolla short: berry ovoid, not furrowed: flowers white.

Ootacamund. Courtallum. Shevagherry mountains. Flowering in August and September.

(3) G. ELONGATA. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1036.

SPEC. CHAR. Glabrous shrub: leaves short-petioled, obovate-oblong, cuspidately acuminate: stipules ovate-oblong, broadly-pointed, caducous: cymes elongated, enlarging somewhat in fruit: throat of the corolla clothed with hairs: flowers white.

Ootacamund, flowering in March and April.

(4) G. VAGINANS. *(Dalz.)*

*Ident* Dalz. Bomb. flor. p. 111.

*Syn.* Psychotria vaginans, *W. & A. prod.* I. *p.* 434.—*Dec. prod.* IV. *p.* 520.

SPEC. CHAR. Glabrous, erect shrub: leaves large, obovate: stipules ovate or lanceolate, acute, combined into a sheathing tube: corymbs terminal, peduncled, panicle-shaped, trichotomous, puberulous: flowers small, white.

Chorla Ghaut. Mahableshwur.

## GENUS XXVII. PSYCHOTRIA.

**Pentandria Monogynia.** *Sex. Syst:*

*Deriv.* Said to be from *Psyche,* life, in allusion to the medical qualities of some of the species.

GEN. CHAR. Trees or shrubs, rarely herbaceous plants: calyx-tube ovate: limb 5-lobed or somewhat entire: corolla funnel-shaped, usually short, 5–rarely 4-cleft, regular: throat glabrous or bearded: limb spreading or recurved: segments incurved at the point: æstivation valvular: stamens rarely 4: anthers exserted or included: stigma bifid: berry drupaceous, containing 2 nuts, crowned with the calyx, and usually marked with 10 ribs by drying, sometimes 4-angled and 4-furrowed, sometimes even: nuts ribbed, angled or even, 1-seeded. seed erect, with a cartilaginous solid albumen.

(1) P. AMBIGUA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 433.

*Engrav.* Wight's Ill. II. t. 127.

SPEC. CHAR. Erect, glabrous shrub: leaves oblong-lanceolate, tapering much at the base: lower ones long-petioled: stipules triangular-ovate, acuminated or cuspidate: corymbs terminal, trichotomous, peduncled, somewhat fleshy: limb of the calyx shortly cup-shaped, minutely 5-toothed: flower-bud clavate and curved: corolla somewhat tubular, wider at the mouth, much longer than the calyx; slightly hairy about the insertion of the stamens: filaments short: anthers exserted: stigma somewhat included; the segments linear: fruit globose, with 10 small ribs, even between the ribs: flowers purplish-white.

Parwar Ghaut. Courtallum mountains. Flowering in the rainy season.

(2) P. LÆVIGATA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 433.

*Engrav.* Wight's Icon. t. 828.

SPEC. CHAR. Glabrous shrub: leaves oblong-lanceolate, acuminated, very short-petioled: stipules lanceolate, twice the length of the petioles: corymb terminal, long-peduncled: primary rays and those on the central primary one in fives, subtended by 4 bracts, the other rays in threes and subtended by 2 bracts: bracts lanceolate and connate at the base: flowers aggregated at the extremities of the partial rays, intermixed with broad-lanceolate bracts: lobes of the calyx slightly ciliated: tube of the corolla much bearded in the throat, scarcely longer than the segments of the calyx: filaments longish exserted: anthers oblong: stigma short, bilamellate, scarcely exserted: berry ovate, with 4 deep furrows.

Courtallum.

(3) P. BISULCATA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 434.

*Engrav.* Wight's Icon. t. 1039.

SPEC. CHAR. Diffuse shrub: leaves with a short petiole, slightly dilated at the base, oblong-lanceolate; stipules triangular-acuminated, caducous: corymb terminal, peduncled, small, few-flowered, trichotomous or with the primary rays in fives, with small bracts subtending the ramifications: lobes of the calyx 5, roundish-ovate: tube of the corolla bearded in the throat: filaments exserted: stigma nearly included, short and thick, bipartite: berry ovate, 4-furrowed dy drying.

Ootacamund.

(4) P. SARMENTOSA. (*Blume.*)

*Ident.* Dec. prod. IV. p. 522.

*Engrav.* Wight's Icon. t. 1038.

SPEC. CHAR. Stem climbing, rooting: leaves short-petioled, lanceolate, acuminated at both ends, coriaceous: stipules connate: corymbs terminal, divaricately-trichotomous,: drupes elliptic, globose, furrowed by drying.

Malabar.

(5) P. SPHEROCARPA. (*Wall.*)

*Ident.* Roxb. fl. Ind. (Ed. Wall.) II. p. 161.

SPEC. CHAR. Glabrous shrub: leaves ovate-elliptic, acuminated, coriaceous, with parallel veins: stipules ovate, recurved at the apex and acutely 2-cleft: corymbs peduncled, compact, villous: corolla densely bearded in the throat: berries globose, pale-red, without ribs: flowers very small, crowded.

Khasia mountains.

(6) P. ADINOPHYLLA. (*Wall.*)

*Ident.* Roxb. fl. Ind. (Ed. Wall.) II. p. 166.

SPEC. CHAR. Glabrous shrub: leaves lanceolate, acuminated: nerves parallel, with glands in the axils: stipules ovate, blunt, connate at the base: racemes terminal, cylindrical, slightly branched at the base: peduncles compressed: bracts aristate-acuminate: corolla villous in the throat: flowers greenish, fascicled, almost sessile.

Silhet.

(7) P. OPHIOXYLOIDES. (*Wall.*)

*Ident.* Roxb. fl. Ind. (Ed. Wall.) II. p. 168.

SPEC. CHAR. Climbing shrub, smooth, dichotomous: leaves lanceolate, short petioled, acuminated: stipules ovate, long-acuminated, often bifid: corymbs small, terminal: corolla long, slender, tubular, with incurved lobes.

Silhet.

## GENUS XXVIII. COFFEA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* Named from Coffee, a province of Narea in Africa, where it grows abundantly.

GEN. CHAR. Trees or shrubs: leaves opposite: calyx-tube ovate, globose or turbinate: limb 4–5-toothed: corolla tubular, funnel-shaped: limb 4–5-partite: lobes oblong: æstivation twisted: stamens 4–5, inserted on the summit or middle of the tube, exserted

or included: style 2-cleft at the apex: berry umbilicated, naked or crowned with the calyx-limb, containing two 1-seeded nuts: seed convex on the outer side, flat and marked with a longitudinal furrow on the inner; embryo erect in horny albumen.

(1) C. Bengalensis. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 540.—W. & A. prod. I. p. 435.—Dec. prod. IV. p. 499.

Spec. Char. A bushy shrub: leaves oblong or ovate, obtusely pointed, glabrous on both sides or hairy on the nerves beneath: stipules subulate: limb of the calyx almost entire; corolla 5-cleft, glabrous within: segments oval-oblong: anthers attached by the middle of their back, linear, with the point curved and alone exserted: style about half the length of the corolla: berry shortly ovoid: flowers somewhat sessile, usually 1–3 together, pure white.

Khasia mountains. Assam. Flowering from March to May. The *C. Travancorensis, W. & A. prod. l. c.*, is probably a mere variety of the above.

(2) C. Wightiana. *(Wall.)*

*Ident.* W. & A. prod. I. p. 436.

*Engrav.* Wight's Icon. t. 1598.

Spec. Char. Bushy shrub with occasionally short axillary spinescent branchlets: leaves ovate, obtuse, glabrous: stipules subulate, rigid and spinescent: flowers usually solitary, sessile, axillary or at the apex of short 2-leaved axillary branchlets. limb of the calyx with about 10 small gland-like teeth: corolla 5-cleft, pubescent or viscous outside, glabrous within: anthers attached by the middle of their back, linear, included: style not half the length of the corolla: berry somewhat didymous.

Courtallum. Coimbatore, in dry plains near the foot of the hills. Flowering in March and April.

(3) C. tetrandra. *(Roxb.)*

*Ident.* Roxb. fl. Ind. I. p. 548.

Spec. Char. Erect shrub: branches slender: leaves broad-lanceolate, acute: stipules 2-cleft: peduncles axillary and terminal, in fascicles, long, slender, 1-flowered: corolla usually 4-cleft, with a long slender tube: anthers included: berries globose, blackish-purple when ripe.

Silhet and Chittagong, flowering in May.

(4) C. alpestris. *(R. W.)*

*Ident.* Wight's Spicil. vol. I. p. 83.

*Engrav.* Wight's Icon. t. 1040.—Spicil. I. t. 100.

Spec. Char. Glabrous shrub. leaves lanceolate, cuneate at the base, pointed, coriaceous. peduncles axillary, longer than the petioles, aggregated and forming terminal corymbs: corolla 5-cleft: segments much longer than the tube, lanceolate, obtuse: anthers exserted: style gibbous near the base, hairy: stigma clavate: berry oval, 2-seeded: flowers white with a hairy throat and a line of hairs along the segments of the corolla.

Neilgherries, flowering in March and April.

(5) C. grumelioides. (*R. W.*)

*Ident.* Wight's Spicil. I. p 84.

*Engrav.* Wight's Icon. t. 1041.—Spicil. I. t. 101.

Spec. Char. Large shrub or small tree: leaves obovate-cuneate, shortly and bluntly acuminated, coriaceous: peduncles axillary, confined to the upper axils, about 3-flowered, forming terminal corymbs: corolla 5-cleft, hairy in the throat: segments oblong, elliptic: anthers exserted: style not gibbous: stigma clavate, slightly cleft at the apex: berry ovoid, crowned with the persistent calyx: flowers white.

Pycarah, Neilgherries. Flowering in February.

## GENUS XXIX. GEOPHILA.

**Pentandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Ge*, the earth, and *Phileo*, to love, alluding to the trailing habit of the plant.

Gen. Char. Calyx-tube obovate: limb 5-partite; segments linear, spreading or recurved: corolla tubular, hairy in the throat, with 5 ovate somewhat recurved lobes: anthers included: stigma 2-cleft. berry ovoid, with glandular ribs, crowned with the calyx, 2-celled, 2-seeded.

(1) G. reniformis. (*Don.*)

*Ident.* Don prod. fl. Nep. p. 136.—W. & A. prod. I. p. 436.—Dec. prod. IV. p. 537.

*Syn.* Psychotria herbacea, *Linn. Roxb. fl. Ind.* I. p. 533.

*Engrav.* Rheede Mal. X. t. 21.—Wight's Icon. t. 54.

Spec. Char. Herbaceous creeping plant: leaves petioled, roundish-cordate: petioles and peduncles hirsute or pubescent: peduncles terminal, solitary, 2–3-flowered, shorter than the leaf: flowers somewhat sessile, umbellate, involucred by several bracts, small, pure white.

Malabar. Vingorla Khasia mountains. Flowering in May and June

## GENUS XXX. BIGELOVIA.

**Tetrandria Monogynia.** *Sex. Syst.*

*Deriv.* Named after Jacob Bigelow, an American Botanical author.

Gen. Char. Herbaceous or suffrutescent plants: leaves opposite or apparently verticillate from the presence of some axillary fascicled young ones: stipules connate with both petioles, more or less sheathing and fringed with bristles: flowers axillary or terminal: calyx-tube ovate: limb 2–4-toothed: corolla cup-shaped or funnel-shaped, 4-lobed: stamens exserted or included: stigma 2-cleft or undivided: capsule crowned with the calyx, 2-celled, splitting in divisions from the apex downwards; the cocci 1-seeded, each dehiscing equally by a longitudinal chink along the inner surface: seeds ovate-oblong with a longitudinal furrow on the inner side.

(1) B. LASIOCARPA. (*W. & A.*)

*Ident.* W & A. prod I. p. 437.

*Syn.* Spermacoce stricta, *Roxb. Ind.* I. p 370.—*Dec prod.* IV. *p.* 554.

Spec. Char. Stem herbaceous, erect, acutely 4-angled, the angles scabrous from recurved prickles. leaves linear-lanceolate, scabrous. bristles of the stipules longer than the sheath, glabrous, rigid: verticils of flowers globose, axillary, remote. fruit obovate-globose, glabrous at the base, very hispid towards the apex. flowers small, white.

Native of wet rice fields in the Peninsula, flowering in the rainy season.

(2) B. Roxburghiana (*W & A.*)

*Ident.* W. & A. prod. I. p. 437.

Spec. Char. Stems herbaceous, 4-angled, glabrous and smooth: leaves oblong-lanceolate, slightly scabrous: bristles of the stipules much longer than the sheath, glabrous: verticils of flowers globose, axillary: fruit somewhat hemispherical, compressed, hispid, crowned with the 4 erect calycine lobes.

Dindigul. Travancore, and other Southern provinces.

## GENUS XXXI. SPERMACOCE.

**Tetrandria Monogynia.** *Sex Syst*

*Deriv.* From *Sperma*, a seed, and *Akoke*, a point, in allusion to the capsule being crowned by the calycine points.

Gen. Char. Herbaceous or suffrutescent plants: stems and branches usually 4-angled: leaves opposite: stipules cohering with both petioles, sheathing and fringed with bristles: flowers axillary, sessile, verticillate: calyx-tube ovate or turbinate: limb 2–4-toothed with sometimes accessory ones: corolla cup-shaped or funnel-shaped, 4-lobed: stigma 2-cleft or entire: capsule crowned with the calyx, 2-celled: cocci 1-seeded, splitting from the apex downwards, the one shut by the dissepiment, the other open: seeds oval-oblong, with a longitudinal furrow on the inner side.

(1) S. articularis. (*Linn.*)

*Ident.* W. & A. prod. I. p. 438.—Dec. prod. IV. p. 555.—Roxb. fl. Ind. I. p. 372.

Spec. Char. Herbaceous, diffuse, hairy and scabrous: leaves from broad-lanceolate to obovate-oblong: bristles of the stipules longer than the hispid sheath: flowers 2–4, axillary, sessile, white: tube of the corolla slender, much longer than the calycine teeth: capsule oval, hirsute or villous, crowned with the calycine teeth.

Peninsula, flowering nearly all the year.

(2) S. hispida. (*Linn.*)

*Ident.* W. & A. prod. I. p. 438.—Dec. prod. IV. p. 555.—Roxb. fl. Ind. I. p. 373.

*Syn.* S. scabra, *Willd. Dec. l. c.—Roxb. l. c. p.* 371.

*Engrav.* Rheede Mal. IX. t. 76.—Burm. Zeyl. t. 20. f. 3.

Spec. Char. Herbaceous, diffuse, hairy or scabrous: leaves from obovate-oblong to roundish or slightly lanceolate and pointed, flattish or waved: bristles of the stipules longer than the hirsute sheath: tube of the corolla rather wide: fruit hirsute or villous, oval: flowers usually 1–4 together, sessile, white.

Peninsula, flowering nearly all the year.

(3) S. compressa. (*Wall.*)

*Ident.* Wall. Cat. No. 6187.—Don's Mill. III. p. 621.

Spec. Char. Procumbent, diffuse, densely clothed with woolly scabrous hairs: leaves ovate or oblong, acute: heads of flowers axillary and terminal, verticillate: fruit compressed, crowned with the teeth of the calyx.

Silhet.

## GENUS XXXII. KNOXIA.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* Named after Robert Knox, who lived many years in Ceylon, and published an account of it in 1781.

GEN. CHAR. Herbaceous or suffrutescent plants: stems terete or 4-angled: leaves opposite or apparently verticillate on account of the fascicled young ones: stipules undivided, or with bristles connecting the base of the petioles: cymes terminal, sessile or pedunculed, the branches elongating in fruit and becoming spike-shaped: calyx-tube ovate, somewhat ribbed: limb of 4 unequal teeth, which are somewhat connivent in fruit: corolla cup-shaped or funnel-shaped, usually bearded in the throat: lobes 4: æstivation valvular: stamens inserted upon the throat: filaments shortish or wanting: anthers oblong: stigma 2-lobed: fruit 2-celled, composed of 2 indehiscent 1-seeded cocci, which either separate from each other from the base upwards or fall off cohering together: seeds ovate, triquetrous: albumen fleshy. embryo erect.

(1) K. CORYMBOSA. *(Willd.)*

*Ident.* W. & A. prod. I. p. 439.—Willd. Sp. I. p. 582.

*Syn.* K. teres, *Dec. prod.* IV. *p.* 569.—K. umbellata, *Spr.*—K. exserta, *Dec. l. c.*—K. Sumatrensis, *Wall.*—Spermacoce teres, *Roxb. fl. Ind.* I. *p.* 367.—S. exserta, *Roxb. l. c.*—S. Sumatrensis, *Retz.*

*Engrav.* Wight's Ill. I. t. 128.—Pluk. t. 482. f. 2.

SPEC. CHAR. Erect shrub, villous or more or less hirsute, terete or obtusely 4-angled: leaves lanceolate, hispid above, pubescent beneath: stipules with long erect bristles: cymes corymbose: corolla funnel-shaped: tube very villous inside: anthers included, with the style exserted, or filaments exserted, with the style included: fruit oval, falling off entire: flowers small, white, tinged with purple.

Circars. Dindigul. Colamala. Courtallum. Flowering in the rainy season.

(2) K. MOLLIS. *(Brown.)*

*Ident.* W. & A. prod. I. p. 439.

*Syn.* K. Sumatrensis, *Dec. prod.* IV. *p.* 569.

SPEC. CHAR. Erect shrub, obsoletely 4-sided, villous: leaves lanceolate, pubescent: stipules with several bristles or subulate divisions: cymes corymbose, with umbellate ramifications: corolla with a short tube: anthers included: fruit oblong, splitting from the base upwards.

Circars.

(3) K. HEYNEANA. *(Dec.)*

*Ident.* W. & A. prod. I. p. 440.—Dec. prod. IV. p. 570.

*Syn.* Spermacoce corymbosa, *Roth.*

SPEC. CHAR. Stem somewhat shrubby, obsoletely 4-angled, roughish or smooth: leaves lanceolate, roughish or quite smooth:

stipules with longish bristles: cymes trichotomous: corolla long-funnel-shaped; tube much dilated at the mouth: anthers included or exserted fruit oval, splitting from the base upwards.

Peninsula.

(4) K. Wightiana. (*Wall.*)

*Ident.* W. & A. prod. I. p. 440.

Spec. Char. Glabrous shrub: stems 4-sided: leaves lanceolate, upper ones narrow and linear, bluntish, somewhat coriaceous: stipules lanceolate, entire or with a subulate process on either side: cymes trichotomous: corolla funnel-shaped, with a shortish tube: anthers exserted or included: fruit compressed-orbicular, splitting from the base upwards.

Courtallum.

(5) K. Zeylanica. (*Linn.*)

*Ident.* Linn. Sp. p. 151.—W. & A. prod. I. p. 440.—Dec. prod. IV. p. 569.

Spec. Char. Glabrous shrub: leaves lanceolate, glabrous: stipules with several longish bristles: cyme composed of 1–3 very long erect spike-like branches: corolla funnel-shaped; tube long, bearded in the throat: fruit ovate, splitting from the base upwards

Peninsula.

(6) K. lævis. (*Dec.*)

*Ident.* Dec. prod. IV. p. 570.

*Syn.* Spermacoce lævis, *Roxb. fl. Ind.* I. *p.* 368.—S. Roxburghiana, *Schult.*—S. Roxburghii, *Spr.*

*Engrav.* Wight's Icon. t. 193.

Spec. Char. Stem herbaceous, stiff, terete, smooth: leaves almost sessile, lanceolate, glabrous: corymbs terminal: corolla funnel-shaped, with a bearded throat and hidden anthers: flowers middle-sized, pale rose.

Interior of Bengal, flowering in the rainy season.

## GENUS XXXIII. HYDROPHYLAX.

**Tetrandria Monogynia.** *Sex. Syst.*

*Deriv.* From *Hydor*, water, and *Phylax*, a keeper or guardian. The plant always grows by the sea-side.

Gen. Char. Calyx-tube angled: limb 4-partite: segments acute, erect: corolla somewhat fleshy, widely funnel-shaped, tubular and cylindrical below, above much widened and campanulate with 4

dense ring of moniliform hairs on the inside at the base of the campanulate portion, 4-lobed: filaments exserted, decurrent from between the lobes of the corolla to the ring of hairs: anthers oblong: ovary crowned with a fleshy disk: style perforating the disk, the length of the corolla-tube: stigma obtuse, divided by a slight furrow with 2 lobes: fruit oblong, fleshy, when dry somewhat corky, compressed, acutely 4-angled with smaller intermediate ribs on the sides, crowned with the calycine-segments, 2-celled: seeds solitary in each cell, one of them usually abortive, oblong: albumen hard: embryo erect.

(1) H. MARITIMA. *(Linn.)*

*Ident.* Linn. f. suppl. p. 126.—W. & A. prod. I. p. 441.—Dec. prod. IV. p. 576.—Roxb. fl. Ind. I. p. 373.

*Syn.* Sarissus anceps, *Gaertn.*

*Engrav.* Roxb. Cor. III. t. 233.—Wight's Icon. t. 760.—Gaertn. fr. I. p. 118. t. 25.

SPEC. CHAR. Herbaceous, glabrous, with long creeping terete stems, throwing out leafy branches: leaves opposite, obovate-oblong, sharp, fleshy: stipules combined with the petioles into short truncated entire or toothed sheaths: flowers axillary, sessile, solitary or in pairs, pale rose-coloured.

Sand-hills along the sea-coast of Coromandel and Malabar. Flowering all the year.

## GENUS XXXIV. SAPROSMA.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Sapros*, rancid, and *Osme*, smell. The wood and berries are very fetid.

GEN. CHAR. Trees or shrubs with opposite leaves: flowers crowded, rarely axillary, sessile: calyx-tube ovate: limb 4-toothed: limb of the corolla 4-cleft: throat hairy: stamens inserted in the mouth of the corolla: filaments short: stigma 2-cleft: berry oval, smooth, 1-seeded, crowned by the calyx: embryo erect, in fleshy albumen.

(1) S. INDICUM. *(Dalz.)*

*Ident.* Dalz. Bomb. flor. p. 112.—Hook. Jour. Bot. III. p. 37.

*Syn.* Dysidodendron glomeratum, *Gardn. in Calc. Jour. Nat. Hist.* VII. *p.* 3.

SPEC. CHAR. Shrub: branches round, dichotomous, glabrous: leaves sessile, obovate-elliptic, attenuated at the base: margins recurved: stipules solitary between the petioles and sheathing the stem: flowers few, terminal, fascicled, on very short pedicels: berries ovoid, smooth, blue, very fetid, 1–2-seeded.

Chorla Ghaut.

## GENUS XXXV. ARGOSTEMMA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Argos*, white, and *Stemma*, a crown, in reference to the terminal racemes of snow-white flowers.

Gen. Char. Herbs usually covered with short down: leaves opposite, sometimes verticilled: stipules foliaceous: peduncles terminal: flowers fascicled: calyx-tube obconical: limb 3–5-cleft: lobes acute, valvate in æstivation: corolla rotate, spreading: limb 3–5-cleft: stamens alternating with the lobes of the corolla: anthers large, exserted, cohering at the apex: style perforating a fleshy disk: stigma globose: capsule crowned by the calyx and an operc·lar disk, 2-celled, dehiscing in a radiating manner from the apex: receptacles convex, adnate to the dissepiment: seeds numerous, angular.

(1) A. glaberrimum. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 118.—Hook. Jour. Bot. III. p. 345.

Spec. Char. Herbaceous, erect: leaves 4-verticilled, lanceolate-acuminate, unequal and unequal-sided: umbels trichotomous, few-flowered, shorter than the leaves: flowers pentamerous: filaments much swollen at the apex.

On trees in the Warree country.

(2) A. cuneatum. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 118 —Hook. Jour. Bot. l. c.

Spec. Char. Stem pubescent: leaves 2–4-verticilled, subsessile, ovate, unequal, sparingly puberulous on both sides: peduncle simple, glabrous, bearing a short many-flowered umbel: bracts leafy, cuneate: flowers tetramerous: calyx and pedicels pubescent: anthers without beaks.

On rocks at the Chorla Ghaut, flowering in August.

(3) A. sarmentosum. (*Wall.*)

*Ident.* Roxb. fl. Ind. (Ed. Wall.) II. p. 324.

Spec. Char. Rather villous, creeping at the base and stoloniferous: upper part of the stem erect: leaves ovate, obtuse, almost sessile, downy above, villous on the nerves beneath, disposed in two approximate pairs: umbel or corymbiform raceme terminal: flowers 3–4-parted, pure white: corolla 5 times longer than the calyx.

On rocks on the hills at Schukragiri, near Rajmahal.

(4) A. rostratum. (*Wall.*)

*Ident.* Roxb. fl. Ind. (Ed. Wall.) II. p. 326.

Spec. Char. Erect, smooth: leaves in 2–4 approximate pairs, narrow-lanceolate, acuminated, petioled: stipules ovate, recurved, ciliated, upper ones becoming enlarged and leafy: umbels pedunculed, terminal, many-flowered: pedicels an inch long, clavate, a little ventricose above the middle: flowers white, largish.

Pundua mountains, near Silhet.

(5) A. Courtallense. (*Arn.*)

*Ident.* Arn. in Ann. of Nat. Hist. III. p. 22.

*Engrav.* Wight's Icon. t. 1160.

Spec. Char. Stem creeping; extremities erect, pubescent: leaves glabrous, verticilled or with 2 approximated pairs towards the apex: stipules obsolete: umbel peduncled, 2–6-flowered, shorter than the leaves: pedicels and calyx pubescent: flowers tetramerous: filaments bent: anthers distinct: corolla white, with a yellowish-green tube.

Courtallum.

## GENUS XXXVI. DISCOSPERMUM.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Discos*, a disk, and *Sperma*, seed, in allusion to the shape of the seeds.

Gen. Char. Calyx-tube turbinate; limb deeply 4-lobed: corolla shortly hypocraterıform: tube cylindrical: throat pubescent: lobes of the limb 4, obtuse, imbricated in æstivation, revolute in flowering and equalling the tube: stamens inserted on the throat of the corolla, exserted: filaments very short: ovary 2-celled; ovules 4–5 in each cell: style short, thickish, 2-cleft to the middle: divisions divaricate, acuminate: fruit globose or obovate, coriaceous, indehiscent, crowned with the limb of the calyx, umbilicate or crowned below the apex with the circular base of the calyx: seeds inserted in linear placentæ, adnate on both sides to the dissepiment, compressed-lenticular, vertical, separated by membranaceous partitions or lamellated vertical aril: embryo erect in the axis of cartilaginous albumen.

(1) D. sphærocarpum. (*Dalz.*)

*Ident.* Dalz. Bomb. flor. p. 120.—Hook. Jour. Bot. II. p. 257.

*Syn.* D. Dalzellii, *Thwait's Enum. pl. Ceyl. p.* 158.

Spec. Char. Middle-sized tree: branchlets with the bark pale: leaves opposite, elliptic, coriaceous, glabrous, petioled, with hollow hairy in the axils of the primary veins: stipules solitary, triangular-cuspidate: flowers in the opposite axils, small, sessile, clustered;

fruit nearly an inch in diameter, globose, fetid, 2-celled, with 5–6 seeds in each cell.

The Ghauts. Dalzell mentions another species, *D. apiocarpum*, found in the same locality, which is in all respects similar to the above except that the fruit is pear-shaped and has a circular ring somewhat below the apex.

## GENUS XXXVII. CEPHALANTHUS.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Kephale*, a head, and *Anthos*, a flower, in allusion to the flowers being disposed in globular heads.

Gen. Char. Shrubs or small trees: leaves opposite or verticillate: stipules distinct or slightly combined: peduncles naked, terminal or from the upper axils: heads of flowers globose: calyx-tube obversely pyramidal: limb angular, 4-toothed: corolla-tube slender: limb 4-cleft: stamens inserted in the upper part of the tube, scarcely exserted: style much exserted: stigma capitate: fruit inversely pyramidal, crowned by the limb of the calyx: cells 1-seeded, indehiscent: seeds oblong, terminating in a small callous bladder: albumen somewhat cartilaginous: embryo inverted.

### (1) C. naucleoides. (*Dec.*)

*Ident.* Dec. prod. IV. p. 539.

*Syn.* Nauclea tetrandra, *Roxb. fl. Ind.* I. *p.* 516.

Spec. Char. Small tree: leaves opposite or 3–4 in a whorl, ovate-lanceolate, acuminated, short-petioled, villous beneath: branchlets villous: stipules intrafoliaceous, acuminated: peduncles 3–4 in whorled panicles: flowers yellow, intermixed with filiform clavate scales: capsules turbinate, 2-celled, 2-seeded.

Silhet, flowering in the hot season. The flowers are very fragrant.

## GENUS XXXVIII. LUCULIA.

**Pentandria Monogynia.** *Sex: Syst:*

*Deriv.* The Nepaulese name of the tree latinized.

Gen. Char. Calyx 5-parted: segments leafy: corolla tubular: limb 5-lobed, imbricated in æstivation: stamens scarcely exserted: anthers linear: stigma bipartite: capsule 2-celled, dehiscing from the apex, many-seeded, crowned by the calyx: seeds samaroid, surrounded by a jagged membranous margin.

(1) L. GRATISSIMA. (*Sweet.*)

*Ident.* Sweet. Brit. fl. Gard.—Dec. prod. IV. p. 358.

*Syn.* Cinchona gratissima, *Wall. Roxb. fl. Ind. (Ed. Wall.)* II. p. 154.—Mussænda luculia, *Ham. in Don. prod. fl. Nep. p.* 139.

*Engrav.* Sweet. l. c. t. 145.

SPEC. CHAR. Small tree: branches pubescent: leaves elliptic, acuminated, short-petioled, glabrous above, villous on the veins beneath: stipules solitary on each side, cuspidate, longer than the petioles: segments of the calyx deciduous: cymes terminal, many-flowered: flowers rose-coloured, rather fleshy, fragrant.

Khasia mountains, flowering in August and September.

## GENUS XXXIX. LAWIA.

**Pentandria Monogynia.** *Sex: Syst.*

*Deriv.* Named after J. S. Law, Esq. of the Bombay Civil Service, an ardent promoter of Botany.

GEN. CHAR. Calyx-limb 5–6-parted: corolla tubular, gibbous at the apex: limb 5–6-cleft: stamens 5–6, attached to the very base of the corolla: filaments very short: ovary 5–6-celled, with numerous ovules: placentæ free, attached to the inner angle of the cell: seeds small, irregularly shaped, (resembling grains of gunpowder) black.

(1) L. ACUMINATA. (*R. W.*)

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1070.

SPEC. CHAR. Herbaceous, puberulous all over: leaves long-petioled, oblong-oval, acuminated, glaucous beneath: stipules triangular, acute: cymes terminal, 2–3-trichotomous, lax; each division embraced by 2 connate bracts: calyx-tube short-campanulate: corolla about the length of the calyx, somewhat hairy within: stigma large, 5–6-lobed: segments acute: flowers small, yellow.

Courtallum and Western slopes of the Shevagherry hills. Flowering in August.

## ORDER LXXXII. GALIACEÆ.

Shrubs or herbaceous plants: leaves opposite, bearing buds in their axils, forming a vertical with the 1–3 leaf-shaped sti-

pules on each side: flowers bisexual or unisexual: corolla rotate or funnel-shaped: æstivation valvular: styles 2, distinct or more or less concrete: stigmas capitate: fruit composed of 2 indehiscent 1-seeded mericarps: albumen horny.

## GENUS I. RUBIA.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Ruber*, red, in allusion to the colour of the roots.

Gen. Char. Calyx-tube ovate-globose: limb scarcely any: corolla 4–5-partite, rotate: stamens 4–5, short: styles short: fruit baccate, didymous, somewhat globose, fleshy and juicy.

### (1) R. cordifolia. *(Linn.)*

*Ident.* W. & A. prod. I. p. 442.—Dec. prod. IV. p. 588.

*Syn.* R. Munjista, *Roxb. fl. Ind.* I. *p.* 374.—R. Munjith, *Desv. Journ. Bot.* II. *p.* 207.

*Engrav.* Wight's Icon. t. 187.—Ill. II. t. 128. *bis.* f. 1.

Spec. Char. Herbaceous: stem 4-angled, rough with prickles on the angles: leaves in fours, long-petioled, oblong or ovate, acuminated, more or less cordate, 3–7-nerved; the margins middle nerve and triquetrous petioles rough with minute prickles: panicles in the upper axils peduncled, trichotomous: bracts small, opposite, not forming an involucre: flowers usually 5-cleft, white.

Neilgherries. Dindigul. Mahableshwur. Khasia mountains.

## GENUS II. GALIUM.

**Tetrandria Monogynia.** *Sex: Syst:*

*Deriv.* From *Gala*, milk, as some of the species are used for curdling milk.

Gen. Char. Herbaceous branched plants: leaves with the stipules forming a verticil: calyx-tube ovate-globose or oblong with scarcely any limb: corolla 4-partite, rotate: stamens and styles short: fruit didymous, roundish, dry, composed of 2 indehiscent 1-seeded mericarps.

### (1) G. asperifolium. *(Wall.)*

*Ident.* W. & A. prod. I. p. 442.—Roxb. fl. Ind. (Ed. Wall.) I. p. 381.—Dec. prod. IV. p. 598.

*Syn.* G. parviflorum, *Don. prod. fl. Nep. p.* 133.

*Engrav.* Wight's Ill. II. t. 128. *bis.* f. 2.

Spec. Char. Perennial: stems 4-sided: branches flaccid; young ones with much soft recurved hair: leaves in sixes, linear-oblong, somewhat cuneate at the base with a sharp mucronate point, reflexed, upper side scabrous; the recurved margins and midrib underneath with stiff recurved hairs: peduncles axillary, divaricately branched, many-flowered, arranged on a somewhat leafy panicle: segments of the corolla lanceolate with a hair-like point: fruit glabrous, minutely granulated: flowers white becoming yellow in drying.

Dindigul hills.

(2) G. requienianum. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 443.—Wight's Icon. t. 1042.—Spicil. I. t. 102.

Spec. Char. Perennial: stems diffuse, ascending and with the branches 4-angled, clothed with much soft spreading hair: leaves in fours, roundish obovate, mucronate, 3-nerved: upper side sprinkled with hairs, underneath more hairy: peduncles axillary or terminal, few-flowered, trichotomous, hairy: segments of the corolla roundish-ovate, slightly hairy outside: fruit roundish, hispid with hooked bristles.

Neilgherries. Dindigul hills.

## ORDER LXXXIII. VALERIANACEÆ.

Calyx with a limb of various kinds either membranous or resembling a pappus: corolla tubular, usually 5-lobed, inserted into the top of the ovary: tube equal or gibbous or spurred at the base: stamens 1–5, inserted into the tube of the corolla and alternate with its lobes: anthers ovate, 2-celled: ovary 1–3-celled; ovule solitary, pendulous: style filiform: stigmas 1–3, distinct or combined: fruit dry, indehiscent, crowned with the limb of the calyx, 1-celled; seed solitary: albumen none: embryo straight.

### GENUS I. VALERIANA.

**Triandria Monogynia.** *Sex: Syst:*

*Deriv.* Said to be named after Valerian, who first used it in medicine.

GEN. CHAR. Herbaceous or suffrutescent plants: leaves of various shapes on the same specimen: flowers corymbose, capitate or panicled: calyx-limb involute during flowering, afterwards unrolling and forming a deciduous pappus of many plumose bristles: tube of the corolla obconical or cylindrical, equal or gibbous, without a spur at the base; limb obtusely 5-cleft: fruit 1-celled, 1-seeded.

(1) V. BRUNONIANA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 443.

*Engrav.* Wight's Icon. t. 1043.

SPEC. CHAR. Herbaceous, glabrous: stems erect with 1–2 pair of leaves near the root, and another small pair about the middle, slightly hirsute on the knots: leaves somewhat fleshy, lower ones quite entire, ovate, long-petioled, the radical ones often emarginate at the base, uppermost pair somewhat sessile, narrow-oblong, entire or toothed on the margin: corymb terminal, trichotomous, panicled, with a pair of leafy bracts similar to the uppermost leaves subtending the principal branches: fruit linear-oblong, glabrous.

Common in pasture lands on the Neilgherries, flowering in the rainy season.

(2) V. LESCHENAULTII. (*Dec.*)

*Ident.* W. & A. prod. I. p. 444.—Dec. prod. IV. p. 640.

*Engrav.* Wight's Icon. t. 1044.

SPEC. CHAR. Herbaceous; stem erect, with the knots hairy: radical leaves petioled, ovate, obtuse, crenated, hirsute on both sides: stalk-leaves remote, small, sessile, the uppermost cut pinnately into 3–5 linear lobes, the odd one the longest: corymb contracted: fruit villous.

Pasture lands on the Neilgherries.

(3) V. HOOKERIANA. (*W. & A.*)

*Ident.* W. & A. prod. I. p. 444.

*Engrav.* Wight's Ill. II. t. 129.

SPEC. CHAR. Herbaceous: stem erect, simple, with the knots slightly hirsute: radical leaves on very long petioles, pinnated with 5–7 leaflets; lower leaflets oblong, small, odd one cordate-ovate and repand-toothed, all hirsute on the margins: cauline leaves few and distant, the lower ones resembling the radical but much smaller and with the odd leaflet oblong, uppermost pair sessile, narrow-oblong and toothed: corymb panicle-shaped, lax: fruit lanceolate, shortly villous.

Neilgherries.

(4) V. Arnottiana. *(R. W.)*

*Ident.* Wight's Icon. vol. III.

*Engrav.* Wight's Icon. t. 1045–6.

Spec. Char. Herbaceous, erect, puberulous: radical leaves long-petioled, unequally pinnated: lower pair of leaflets alternate, upper pair opposite, all ovate or ovate-cordate, crenate-serrated, the odd one the largest: cauline ones unequally pinnate: leaflets ovate or cordate, crenately-dentate, obtuse: panicle large, diffuse, dichotomous: fruit compressed, with 3 ribs on one side and one on the other, very hairy between.

In woods near Sispara on the Neilgherries. Also on the Pulney mountains. Flowering in April and September.

## ORDER LXXXIV. DIPSACEÆ.

Calyx entire or toothed or pappose: corolla tubular inserted on the apex of the calyx-tube: limb oblique, 4–5-lobed, rarely ringent; æstivation imbricated: stamens inserted on the tube of the corolla, alternate with its lobes and almost always distinct: anthers 2-celled: ovary 1-celled, with one solitary pendulous ovule: style filiform: stigma simple: fruit dry, indehiscent, crowned by the limb of the calyx, usually covered with an outer calyx or involucel, 1-celled, 1-seeded: embryo straight, in the axis of fleshy albumen.

### GENUS I. DIPSACUS.

**Tetrandria Monogynia.** *Sex Syst:*

*Deriv.* Said to be from *Dipsao*, to thirst, in consequence of the leaves holding water.

Gen. Char. Herbaceous, erect, hairy or slightly prickly plants: leaves opposite, often connate at the base, toothed: heads terminal, oblong-ovate or roundish: flowers aggregated upon a common receptacle, separated from each other by paleæ, and each furnished with a partial calyx-shaped involucel: heads surrounded by a general many-flowered involucre which is usually much longer than the paleæ: paleæ somewhat leafy: involucel 8-furrowed: corolla 4-cleft, not ringent. Stigma longitudinal: fruit included within the involucel.

(1) D. Leschenaultii. (*Coult.*)

*Ident.* W. & A. prod. I. p. 445.—Dec. prod. IV. p. 647.

*Engrav.* Wight's Ill. II. t. 130.

Spec. Char. Stem even, slightly hairy, without prickles: leaves lyrately-pinnatifid, acuminated, deeply serrated at the apex, villous or hairy on both sides, lower ones petioled, the lobes 3-nerved at the base: leaflets of the involucre spreading, shorter than the globose head, scarcely longer than the hairy oblong acuminated paleæ: involucel slightly produced beyond the furrows into a membranaceous crown: flowers yellow.

Neilgherries. Dindigul.

(2) D. asper. (*Wall.*)

*Ident.* Dec. prod. IV. p. 646.

Spec. Char. Stems and branches angular, prickly: leaves undivided or pinnatifid, oblong-lanceolate, acuminated, serrated, scabrous on both sides: leaves of the involucre deflexed, shorter than the globose heads, but longer than the ovate, ciliated, mucronate paleæ: involucel scarcely furrowed.

Pundua mountains, Silhet.

# GLOSSARY

OF

# BOTANICAL TERMS.

## A.

*Abortion* .....The non-formation of a plant which theoretically should be present: an incomplete formation.

*Abortive* .....Imperfectly developed.

*Abrupt*.....Suddenly terminating.

*Accrescent* .....Growing larger after flowering.

*Accumbent* .....Lying against anything in distinction to incumbent.

*Acerose* .....Needle shaped.

*Achænium*.....Any small brittle seed-like fruit, such as Linnæus calls a naked seed.

*Achlamydeous*.....Having no floral envelopes.

*Abruptly-pinnate*.....Leaves pinnate without a terminal or odd leaflet.

*Acicular*.....Needle shaped.

*Acinaciform*.....Shaped like a scimitar.

*Aculeate*.....Armed with prickles.

*Aculeus* .....A prickle.

*Acutangular*.....Having sharp or acute angles.

*Acuminate* .....Having a taper point.

*Acuminately-cuspidate*...Taper-pointed, and ending in a bristle.

*Acute* .....Sharp-pointed.

*Adnate*.....Adhering to any thing; anthers are said to be adnate when they are attached to the filament by their whole length.

*Æstivation*.....The calyx and corolla of a flower is said to be in æstivation when in the bud before expansion.

*Agglomerate* .....Collected into a heap or head.

*Aggregate* .....Gathered together, usually applied to the inflorescence.

*Ala*.....Wing. One of the lateral petals of a papilionaceous flower and membranous appendages of the fruit.

*Albumen* .....The substance under the inner coat of the testa of seeds surrounding the embryo; it is sometimes absent.

*Alternate*.....Applied to leaves in contradistinction to opposite.

*Amentum*.....A catkin. A deciduous spike of unisexual apetalous flowers.

*Amplexicaul*.....Embracing; as when a leaf clasps a stem with its base.
*Anfractuose*..... Wavy or sinuous.
*Angular*.....Having angles or forming angles.
*Annual*.....Flowering and fruiting in the same year in which it is raised from seed.
*Annular* .....Circular; producing a ring.
*Anthelmintic* .....Capable of killing worms.
*Antheriferous*.....Bearing anthers.
*Anthers* .....The male parts of a flower containing the fecundating matter.
*Antiseptic* .....Efficacious against putrefaction.
*Apetalous*.....Without petals.
*Apex*..... .....The summit.
*Aphthous*.....Resembling something covered with little ulcers.
*Apiculate*.....Terminating in a little point springing abruptly.
*Appressed* .....Pressed close to anything: hairs lying flat upon the surface of a leaf or stem are said to be appressed.
*Approximate* .....Near together.
*Apterous* .....Without wings.
*Arboreous* .....Being a tree as distinguished from frutescent.
*Arcuate* .....Curved or bent like a bow.
*Aril* .....A peculiar substance covering the seeds.
*Areolate* .....Divided into distinct angular spaces.
*Arillate* .....Having that peculiar appendage called the aril.
*Aristate* .....Having a beard or awn, as the glumes of barley, a term only applied to seeds.
*Articulate* .....Having joints.
*Ascendent or Ascending*..At first trailing on the ground then rising erect, forming a curve.
*Attenuated* .....Tapering gradually to a point.
*Auriculated*.....Having ear-like appendages.
*Auricles* .....Ear-like appendages.
*Auriculately sagittate*...Eared at the base, so as to give the leaf the appearance of the head of an arrow.
*Awl-shaped* .....Narrow pointed, resembling an awl.
*Awned*.....Terminating in an awn or sharp point.
*Awns* .....The beard of corn or any thing else.
*Axil*.....The angle formed by the union of the leaf and stem.
*Axillary* .....Placed in the axils.
*Axis*.....The line real or imaginary, that passes through anything, usually applied to the central placenta of fruits; the axis of a spike of flowers is the stem to which the flowers are attached.

## B.

*Bacca* .....A berry; is a unilocular fruit having a soft outer covering and seeds immersed in pulp.
*Baccate* .....Fleshy.
*Berry* .....A fleshy fruit containing many seeds.
*Biacuminate* .....Having two diverging points.
*Bibracteolate* .....Furnished with two small bracteas.
*Bibracteate* .....Furnished with two bracteas.

*Biconjugate*.....When each of two secondary petioles bears a pair of leaflets.
*Bicuspidate*.....Having two points.
*Bidentate*.....Having two teeth.
*Bifarious*.....Anything placed in two opposite rows.
*Bifariously imbricated*...Anything placed in two opposite rows, as well as being laid over each other, like the tiles of a house.
*Bifid*.....Divided at the top in two parts: two cleft.
*Bifoliate*.....Having two leafs or leaflets.
*Bifurcate*.....Having two forks.
*Biglandular*.....Having two glands.
*Bilabiate*.....Having two lips.
*Bilobed*.....Divided into two lobes.
*Bilocular*.....Containing two cells.
*Biparite*.....Divided into two parts.
*Bipinnate*.....Twice pinnate.
*Bipinnatifid*.....Twice pinnatifid.
*Biplicate*.....Having two plaits.
*Bis*.....Twice, in composition Bi.
*Brachiate*.....Having arms or branches usually placed opposite to each other nearly at right angles with the main stem and crossing each other alternately.
*Bracteate*.....Having bracteas.
*Bracteolate*.....Having small bracteas.
*Bracteoles*.....Small bracteas.
*Bracts*.....Small leaves placed near the calyx on the peduncle or pedicel.
*Branchlets*.....Small branches.
*Bristles*.....Stiff hairs.
*Bulbs*.....Underground buds, resembling roots, consisting of numerous fleshy scales placed one over the other.

## C.

*Caducous*.....Falling off soon.
*Cæspitose*.....Growing in little tufts.
*Calcarate*.....Spurred or having a spur.
*Calceiform*.....Formed like a little shoe.
*Callose*.....Callous, hardened.
*Calyciform*.....Formed like a calyx.
*Calycine*.....Of or belonging to the calyx.
*Calyculate*.....Having bracteas so placed as to resemble an external or additional calyx.
*Calyptriform*.....Shaped like an extinguisher.
*Calyx*.....The outer envelope of a flower as the corolla is the inner.
*Campanulate*.....Shaped like a bell.
*Canescent*.....Hoary approaching to white.
*Capillary*.....Very slender, resembling a hair.
*Capitate*.....Growing in a head: a stigma is said to be capitate when it is large, round and blunt.
*Capituli*.....Small heads.
*Capsule*.....A dry fruit.
*Capsular*.....Like a capsule.

*Carinate* .....Keel shaped.
*Carpel* .....The small parts of which compound fruits are formed as those of Ranunculus, Pœnia and Aconitum.
*Catkin* .....Inflorescence of the Natural Order Amentaceæ, as the Willow.
*Caudate* .....Tailed, having a process like a tail.
*Caulescent* .....Acquiring a stem, having a kind of stem.
*Cellular* .....Composed of cells.
*Cell* .....The hollow part of a capsule in which the seeds are lodged, and the part of anthers which contain pollen.
*Cernuous* .....Nodding, drooping, or pendulous.
*Channelled* .....Having a channel or channels.
*Ciliated* .....Surrounded by hairs like those of the eyelash.
*Cinereous*.....Ash coloured, grey.
*Circinate* .....Curled round like a sharp crook, to make a circle.
*Cirrhose* .....Tendrilled, having tendrils or claspers as the pea.
*Cirrhiferous*.....Bearing tendrils or claspers.
*Claws* .....The unguis of petals, the narrow end.
*Cleft*.....Divided, but not exactly to the base: split.
*Cochleate*.....Twisted so as to resemble the shell of a snail.
*Coma* .....A tuft of hairs or bract occurring beyond the inflorescence.
*Compound* .....Used in Botany to express the union of several things in one; thus a compound umbel is formed by several simple umbels: if above one, it is always called compound; a compound flower by several simple flowers; a compound leaf by several smaller leaflets.
*Compressed* .....Pressed together, and flattened laterally or lengthwise.
*Cone*.....A dry fruit formed by bracts covering naked seeds.
*Conjugate*.....Joined by pairs, chiefly applied to leaves.
*Connate* .....Joined together at the base; when two opposite leaves are joined together at the base, with the stem running through the centre of the joined part, it is called a connate leaf.
*Connivent*..... } Converging, lying close together.
*Conniving* ..... }
*Convolute*.....Rolled together, or over each other.
*Cordate* .....Formed like a hart.
*Coriaceous* .....The consistence of leather, thick and tough.
*Corolla*.....The inner envelope of a flower; the coloured part of a flower, composed of a petal or petals. The term is only applied when the calyx is present; otherwise it is called perianth.
*Corniculate* .....Having processes like small horns.
*Corona*.....Literally a crown; applied in Botany to the crown-like cup, which is found at the orifice of the tube of the corolla in Narcissus or other flowers.
*Corrugate*.....Wrinkled or shrivelled.
*Corticate* .. ... ... .Like bark.

*Corymb* .....A raceme or panicle in which the stalks of the lower flowers are longer than those of the upper, so that the flowers themselves are all on the same level.

*Corymbose* .....Formed or arranged in the manner of a corymb.

*Costate*.....Ribbed: any longitudinal elevations.

*Creeping* .....Spread upon the ground and rooting at the joints.

*Crenate or Crenated* ...Having round notches.

*Crenulate*.....Full of small round notches.

*Crenately-serrated*, *Crenate-serrate*, or *Serrated* ..... } With notched serratures; that is to say, something between crenated and serrated.

*Cucullate*.....A leaf is said to be cucullate when its edge is curved inwards in such a manner as to represent the cowl or hood of a monk.

*Culm*.....The stem of grasses, scitamineous plants and the like.

*Cuneate-obovate* ..... } A form between obovate and wedge-shaped, and
*Cuneate-ovate* ..... } between egg-shaped and wedge-shaped.

*Cuneate* ..... } Wedge-shaped, the broadest end uppermost
*Cuneated* ..... } tapering to the base.
*Cuneiform* ..... }

*Cuneiform-ovate* .....Between wedge-shaped and egg-shaped.

*Cuneately-lanceolate* ,. Between wedge-shaped and lanceolate.

*Cuspidate*.....When a leaf suddenly tapers to a point it is so called.

*Cuspidately-serrated* ...When serratures end abruptly in a point they are so called.

*Cuticle* .....The scarf, skin, or epidermis.

*Cyathiform* .....Cup-shaped, concave.

*Cymbiform* .....Having the shape of a boat.

*Cyme* .....A mode of inflorescence resembling a flattened panicle, as that of the elder.

*Cymose*.....Flowering in cymes.

## D.

*Deciduous* .....Finally falling off; the calyx and corolla of cruciferæ.

*Declinate*.....Bent downwards.

*Decompound* .....Having various compound divisions or ramifications.

*Decreasingly-pinnate* ..,When leaflets diminish insensibly in size from the base of the leaf to its apex.

*Decumbent* .....Reclining upon the earth and rising again from it.

*Decussate*.....Arranged in pairs that alternately cross each other.

*Deflexed* .....Bent downwards.

*Deformation*.....An alteration on the usual form of a organ by accident or otherwise.

*Dehiscence* .....The act of splitting into regular parts or in some manner dependent upon organic structure.

*Dentate* .....Toothed, having short triangular divisions of the margin.

*Denticulate* .....Finely toothed.

*Depressed* .....Broad and dwarf, as if instead of lengthening perpendicularly, growth had taken place horizontally.
*Descending* .....Having a direction gradually downwards.
*Dichlamydeous*.....Having both calyx and corolla.
*Dichotomous* .....Having the divisions always in pairs; a term equally applied to branches, or veins or forks.
*Declinous*.....Having the stamens in one flower and the pistil in another.
*Dicoccous*.....Splitting into two cocci.
*Digitate* .....When several distinct leaflets radiate from the point of a leaf stalk.
*Diffuse*.....Spreading widely.
*Digitato-pinnate* .....When the leaflets of a digitate leaf are pinnate.
*Digiti-nerved* .....When the ribs of a leaf radiate from the top of the petiole.
*Dimidiate* .....When one half an organ is so much smaller than the other as to seem as if missing. Hardly different from oblique, except in degree. Also slit half way up.
*Diœcious; Dioicus.* .....When the sexes of a plant are borne in different flowers by distinct individuals.
*Dipetalous* .....Consisting of two petals.
*Diphyllous* .....Two leaved.
*Discoidal*.....Orbicular, with perceptible thickness, slightly convex and a round border.
*Disk*.....An organ intervening between the stamens and ovary; it assumes many forms, the most common of which is a ring or scales.
*Dissected*.....Cut into many deep lobes.
*Dissepiments* .....The partition in a fruit caused by the adhesion of the sides of carpellary leaves.
*Distichous* .....When parts are arranged in two rows, the one opposite to the other.
*Distinct* .....Separate from.
*Divaricating* .....Straggling, spreading abruptly and at an obtuse angle.
*Dolabriform* .....Fleshy nearly straight, somewhat terete at the base, compressed towards the upper end, one border thick and straight, the other enlarged, convex and thin.
*Dorsal*.....Fixed upon the back of anything.
*Dotted*.....Furnished with transparent receptacles of oil looking like dots; marked with punctures.
*Downy*.....Covered with very short weak close hairs.
*Drupe* (adj. *Drupaceous*)... } A fleshy or succulent fruit, with a bony putamen or lining as a plum.
*uplex*.....Double.

## E.

*Eared* .....Having two small rounded lobes at the base.
*Ebracteate* .....Having no bracts.
*Edentate* .....Not having any teeth.
*Edged* .....When one colour is surrounded by a very narrow rim of another.

*Eglandulose*.....Not having any glands.
*Echinate*.....Furnished with numerous rigid hairs or straight prickles.
*Elliptical*.....A flat body which is oval and acute at each end.
*Elongated*.....Lengthened or stretched out, as it were.
*Emarginate*.....Having a notch at the end, as if a piece had been taken out.
*Embryo*.....The rudimentary plant engendered within a seed by the action of pollen.
*Endocarp*.....The lining of a carpel, the inner surface of a fruit representing at that time the upper surface of a carpellary leaf. The stone of a cherry is its endocarp.
*Endogenous*.....Growing by the addition of new wood to the centre of the stem.
*Ensiform*.....Quite straight, with the point acute, like the blade of a broad sword or the leaf of an Iris.
*Entire*.....Having no kind of marginal divisions: also, nearly destitute of marginal division and not pinnatifid.
*Epicarp*.....The outermost layer of the pericarp corresponding with the under side of the carpellary leaf.
*Epidermis*.....The true skin of a plant below the cuticle.
*Epiphyte*.....Plants which grow upon the surface of others, as many mosses and orchids.
*Equally-pinnate*.....When petioles of a pinnate leaf is terminated by neither leaflet nor tendril.
*Eroded*.....Having the margin irregularly toothed, as if bitten by an animal.
*Estivation*.....The manner in which the parts are arranged in a flower bud.
*Etiolated*.....Deprived of colour by being kept in the dark; blanched.
*Exalbuminous*.....Having no albumen.
*Exogenous*.....Growing by the addition of the outer parts of the stem.
*Exserted*.....Projecting beyond the orifice of an organ.
*Extra*.....On the outside of, or beyond; as Extra-axillaries is beyond the axil.

## F.

*Falcate*.....Plane and curved, with parallel edges like the blade of a reaper's sickle.
*Fan-shaped*.....Plaited like a fan; as the leaf of Borassus flabelliformis.
*Farinaceous*.....Having the texture of flour as the albumen of wheat.
*Fasciated*.....When a stem becomes much flattened instead of retaining its usual cylindrical figure.
*Fascicle*, *Fascicled*, *Fasciculate*.....When several similar things proceed from a common point.
*Feather-veined*.....Having veins which proceed from a midrib at an acute angle.

*Feathery* .....Consisting of long hairs which are themselves hairy.
*Fibrous* .....Containing a great proportion of woody fibre as the rind of a cocoanut.
*Fiddle-shaped* .....Obovate with one or two deep recesses, or edentations on each side.
*Filament* .....The stalk of the anther. Any kind of thread-shaped body.
*Filiform* .....Slender like a thread.
*Fimbriated* .....Having the margin bordered by long slender processes.
*Fistular* .....} This is said of a cylindrical or terete body which
*Fistulous* .....} is hollow but closed at each end.
*Flagelliform*.....Long taper and supple like the thong of a whip.
*Flexuose* .....Zig-zag, having a wavy direction gently bending alternately inwards and outwards.
*Floccose* .....Covered with close hairs, which fall away in little tufts.
*Floral* .....Of or belonging to the flower.
*Florets*.....When many small flowers are collected in clusters or heads, each flower is called a floret.
*Foliaceous* .....Having the texture or form of a leaf.
*Foliole* (adj. *Foliolate*). A leaflet. The secondary division of a compound leaf.
*Follicle*.....A kind of fruit of a single carpel, dehiscing by the ventral suture only
*Fovea* .....A small excavation or pit. *Foveate*, pitted.
*Free*.....Not adhering to anything else; not adnate to any other body.
*Frond* .....A combination of leaf and stem, as in many algals and liverworts; also improperly applied to a leaf which bears reproductive bodies as that of dorsiferous ferns. Linnæus applied it to palm leaves and so destroyed its meaning.
*Frutex* (adj. *Fruticose*) .A shrub, a woody plant which does not form a trunk but divides into branches nearly down to the ground.
*Furcate* .....Having long terminal lobes, like the prongs of a fork.
*Funnel-shaped*.....A calyx or corolla or other organ, in which the tube is obconical gradually enlarging upwards into the limb, so that the whole resembles a funnel,
*Furrowed*.....Marked by longitudinal channels.
*Fusiform* .....Thick, tapering to each end; as the root of the long radish. Sometimes conical roots are called fusiform.

## G.

*Gibbous* .....More convex or tumid at one place than another.
*Glabrous* .....Smooth. Having no hairs.
*Glandular* .....Covered with hairs bearing glands upon their tops.
*Glands*.....Wart like swellings found on the surface of plants or at one end of their hairs.
*Glaucous* .....Covered with a fine bloom.

*.obose* .....Forming nearly a true sphere.
*Glomerate* .....Collected into close heads or parcels.
*Glume* .....The exterior series of the scales which constitute the flowers of a grass.
*Glutinous*.....Covered with a sticky exudation.
*Granular*.....Divided into little knobs or knots.
*Gynæcium* .....The pistil, and all that belongs to it.
*Gynandrous*.....Having the stamens and style and ovary all blended into one common body,

## H.

*Habitat* .....The situation in which a plant grows in a wild state.
*Hastate* .....Shaped like a spear.
*Heart-shaped* .....See Cordate.
*Herbaceous*.....Merely green or thin, green and cellular as the tissue of membranous leaves. Also producing an annual stem from a perennial root.
*Hermaphrodite* .....Containing both stamens and pistils.
*Hirsute* .....Hairy.
*Hispid*.....Covered with very long harsh hairs.
*Hypocrateriform*.....An organ of which the tube is long and slender and the limb flat.
*Hypogynous*.....Growing from below the base of the ovary.

## I.

*Imbricated* .....When bodies overlap each other.
*Imbricative* .....Overlapping at the edge only; a term of æstivation.
*Imparipinnate*.....When the petioles of a pinnate leaf is terminated by a single leaflet.
*Inciso-serrate* .....Having very deep slashed serratures.
*Inciso-dentate* .....Having slashed toothings.
*Inclining* .....Falling back considerably from the horizontal line
*Included* .....Enclosed in anything.
*Incurved* .....Curved inwards.
*Indehiscent* .....Not splitting in a definite manner when ripe.
*Inferior* .....Growing below some other organ; an inferior calyx grows below the ovary; an inferior ovary grows, or seems to grow, below a calyx.
*Inflated* .....Thin membranous, slightly transparent, swelling equally as if inflated with air.
*Inflorescence* .....The manner in which the flowers are arranged.
*Infundibuliform* .....See Funnel-shaped.
*Insertion* .....The manner in which one part is inserted into or adheres to, or originates from another.
*Internode*.....The space which intervenes between two nodes.
*Interrupted*.....When any symmetrical arrangement is destroyed by local causes, a leaf is interruptedly pinnated when some of the pinnæ are much smaller than the others or wholly wanting.
*Involucel* .....A diminutive of involucre; a secondary involucre, usually not containing more than one or two flowers.

*Involucrate* .....Having an involucre.
*Involucre*.....A ring or rings of bracts surrounding several flowers.
*Involute* .....When edges are rolled inwards on each side.
*Irregular*.....Having the parts which constitute one series of a flower dissimilar in size or form.

## J.

*Jointed*.....Falling in pieces at the joints or separating readily there, or furnished with a distinct joint.

## K.

*Keel, Keeled* .....Formed in the manner of the keel of a boat

## L.

*Labiate* .....A term applied to a monapetalous calyx or corolla which is separated into two unequal divisions, the one anterior, and the other posterior, with respect to the axis.
*Lacerated* .....Irregularly divided by deep incisions.
*Laciniate*.....Slashed. A deep taper-pointed incision.
*Lamella, Lamellar* .....A plate or thin part such as is found at the end of any styles.
*Lamina* .....The blade of a leaf; that expanded part which terminates the petiole if there be one.
*Lanceolate* .....Narrowly elliptical, tapering to each end.
*Lanceolate-hastate* .....A hastate leaf whose principal lobe is lanceolate.
*Lanceolate-sagittate* ...A sagittate leaf whose principal form is lanceolate.
*Lateral* .....Fixed near or upon the side of anything.
*Leaflet*.....One of the divisions of a compound leaf.
*Leaf-stalk* .....The unexpanded base of a leaf connecting it with the stem.
*Legume* .....The fruit of leguminous plants; a solitary two-valved carpel, bearing its seeds on the ventral suture only.
*Ligulate* .....Strap-shaped florets, as in dandelion.
*Limb* .....The flat expanded part of a petal.
*Linear*.....Narrow, short, with the two margins parallel.
*Loculicidal* .....The mode of dehiscence which consists in ripened carpels splitting or dehiscing through their backs.
*Lobe*.....Large divisions of a leaf or any other organ, often applied to the divisions of the anther.
*Lunate*..... Crescent-shaped.

## M.

*Marginate* .....Furnished with an edge of a different texture from the remainder of the body.
*Membranous* .....
*Membranaceous* ..... } Thin and semitransparent like a fine membrane.
*Mericarp*.....One of the half fruits of an umbellifer: it is a carpel ripened and separated from a common axis or growing points.

*Mesocarp*.....Middle covering of the fruit.
*Moniliform* .....Necklace-shaped, cylindrical or terete and contracted at regular intervals.
*Monochlamydeous* .....Having but one floral envelope.
*Monocotyledonous* .....Having only one cotyledon, or if two are present then having one much smaller than the other and on a different level.
*Monopetalous* .....Having all the petals united by their edges.
*Monosepalous* .....Having the sepals all united into one body by their edges.
*Mucous* .....Covered with a slimy secretion, or with a coat that is readily soluble in water and becomes slimy.
*Mucronate* .....Abruptly terminated by a hard short point.
*Muricated* .....Furnished with numerous short hard excrescences.
*Multifid* .....Cut half way into many segments.

## N.

*Naked-seeds*.....Seeds having no pericarpial covering, as in conifers and cycads.
*Needle-shaped*.....Linear, rigid, tapering to a fine point from a narrow base.
*Nerves*.....The ribs or principal veins of a leaf.
*Nodose, Nodulose* .....Knotted, an irregular form of necklace-shaped; chiefly applied to roots.
*Nuculanium* .....Applied to the fruit of the medlar. Having nucules, sometimes applied to the grape. The nucule is the hard carpel in the medlar.
*Nut* .....A hard indehiscent pericarp, usually containing only one seed.

## O.

*Obcordate* .....Inversely heart-shaped, that is with the divisions of the heart at the opposite end from the stalk.
*Obsolete* .....Imperfectly developed or abortive: applied to the calyx when it is in the form of a rim.
*Oblong*.....Elliptical obtuse at each end.
*Obtuse* .....Blunt or round; thus, obtusely crenated, is when crenatures are quite round, and not at all pointed; obtusely-cut, when incisions are blunt.
*Obverse-lunate*.....Inversely crescent-shaped; that is to say, with the horns of the crescent projecting forward instead of backwards.
*Obvolute* .....Margins of one leaf alternately over-lapping those of the leaf opposite to it.
*Opaque* .....The reverse of shining; dull, not the reverse of transparent.
*Opposite* .....Placed on opposite sides of some other body or thing and on the same plane. Thus, when leaves are opposite, they are on opposite sides of the stem; when petals are opposite, they are on opposite sides of the flowers; and so on.
*Orbicular*.....Perfectly circular.

*Ovate* .....Oblong or elliptical, broadest at the lower end so as to resemble the longitudinal section of an egg.
*Ovary* .....That part of the pistil which contains the ovules.
*Ovule* .....The young seed.

## P.

*Palmate* .....Having five lobes, the midribs of which meet in a common point, so that the whole bears some resemblance to a human hand.
*Palmatifid* .....Cut half-way down in a palmate manner.
*Palmiform-palmatiform* .When numerous ribs of a leaf are arranged as in the palmate form, radiating from the top of the petiole.
*Panduriform* .....Fiddle-shaped.
*Panicle* .....A branched raceme.
*Papilionaceous* .....Having such a corolla as that of the pea.
*Pappus* .....The calyx of compositæ where that organ is reduced to a membrane or scales, or hairs or a mere rim.
*Parallel-nerved* .....Having the lateral ribs of a leaf straight. Also having the veins straight, and almost parallel but united at the summit as in grasses.
*Parasitical* .....Growing into some other plant and deriving its food from its juice.
*Parietal* .....Growing to the walls or interior surface of an ovary.
*Parted, partite*.....Divided into a determinate number of segments which extend nearly to the base of the part to which they belong. Thus, *bipartite* is parted in two, *tripartite* in three, and so on.
*Partitions* .....The deepest divisions into which a leaf can be cut without becoming compound.
*Patent* .....Spreading wide open ; as petals from the calyx.
*Pear-shaped* .....Obconical, with the sides a little contracted.
*Pectinate* .....The same as pinnatifid, but the segments numerous, close and narrow like the teeth of a comb.
*Pedicel, Pedicellate* ...A peduncle of a second or higher order as in the raceme where the principal flowers-stalk is the peduncle and the lateral secondary ones are pedicels.
*Peduncle* .....The stalk of a flower.
*Peltate*.....Fixed to the stalk by the centre or by some point distinctly within the margin.
*Peltatifid*.....A peltate leaf cut into sub-divisions.
*Peltinerved* .....Having ribs arranged as in a peltate leaf.
*Penicillate, Penicilliform*Resembling a camel's hair pencil : consisting of, or covered with hairs which are nearly parallel with each other. Sometimes marked with colour as if laid on streaks with a camel's hair pencil.
*Pepo, Peponida* .....The fruit of the melon cucumber and other cucurbitaceous plants.
*Perennial*.....Lasting for several years and yet flowering every year.

*Perfoliate* .....When the two basal lobes of an amplexicaul leaf are united together, so that the stem appears to pass through the substance of the leaf.

*Perianth* .....The calyx and corolla combined; that is to say, when they look so much alike that they cannot be readily distinguished.

*Pericarp* .....The shell or rind of all fruits, taken as a whole; when it separates into layers, each layer may have a different name, but the whole is still the pericarp.

*Perigynous* .....Applied to the corolla and stamens when attached to the calyx.

*Persistent* .....Not falling off, but remaining green until the part which bears it is wholly matured.

*Pertuse* .....Having slits or lobes.

*Petals* .....The divisions of the corolla, when they are not united to each other by their edges.

*Petaline, petaloid, Petal-like*..... } Having the colour and texture of a common petal.

*Petiole*.....The stalk of a leaf.

*Petiolar* .....Inserted upon the petiole.

*Pilose* .....Covered with hairs; covered with somewhat erect loose distant hairs; having the form of hairs.

*Pinnæ* .....The primary divisions of a pinnated leaf; its leaflets.

*Pinnate* .....When simple leaflets are arranged on each side a common petiole.

*Pinnatifido-sinuate* .....Pinnatifid with the segments sinuated.

*Pistil* .....The female part of a flower, consisting of ovary, style, stigma and ovules.

*Pitcher-shaped* .....The same as campanulate, but more contracted at the orifice with an erect limb.

*Placenta* .....The place or part on which ovules originate.

*Plicate*.....Pliated lengthwise like a lady's fan.

*Pollen* .....The powdery or other matter usually contained in the cells of an anther, by whose action on the stigma the fertilization of the ovules is accomplished.

*Polygamous*.....Having on the same plant, some flowers male, others female, and other hermaphrodite.

*Polypetalous* .....Having the petals perfectly distinct from each other.

*Pome* .....An inferior fleshy many-celled fruit like that of the apple.

*Præmorse* .....The same as truncate, except that the termination is ragged and irregular, as if bitten off.

*Prickles* .....Hard conical sharp elevations of the epidermis.

*Procumbent*.....Lying flat upon the ground.

*Pubescence* .....Short and soft hairs covering a surface which is hence called pubescent.

*Putamen* .....The hard bony lining or stone of the fruit of many plants, as of the plum, cherry, &c.

## Q.

*Quadrifid*.....Four-cleft, cut down into four parts to about the middle.

*Quadripartite*..... Deeply divided into four parts.

*Quinate* .....Growing in fives; as when a petiole bears five leaflets from the same point, it is then however digitate.

*Quintuple-nerved*.....When of five ribs, the four lateral spring from the middle one above its base.

## R.

*Raceme* .....An inflorescence, in which the flowers are arranged singly on distinct pedicels, along a common axis.

*Rachis*.....The divisions of the petiole of the leaves of ferns. Also the axis of an inflorescence.

*Radicle* .....Applied to leaves close to the ground clustered at the base of a flower-stalk.

*Radiate* .....Spreading from a common point, or from the circumference of a circle. Also forming apparent rays in the circumference of a circle by the enlargement of the exterior parts, as the outer florets in the umbels of many umbelliferous plants.

*Receptacle* .....The flattened end of the peduncle or rachis bearing numerous flowers in a head: applied also to the extremity of the peduncle or pedicel.

*Reclinate, reclining* .....Bent down upon some other part. Falling gradually back from the perpendicular, as the branches of many trees.

*Recurved*.....Bent, but not rolled backwards.

*Reflexed* .....Curved backwards excessively.

*Regular* .....Having all the parts of each series of a flower of a smaller form and size.

*Reniform*.....Kidney-shaped.

*Repand* .....Having an uneven, slightly wavy or angular margin.

*Resupinate* ..... Inverted in position by a twisting of the stalk, as the flowers of an orchis.

*Reticulate* .....Having the appearance of network.

*Retuse*.....Terminating in a round end, the centre of which is depressed.

*Revolute* .....Rolled backwards, *i.e.* out of the direction ordinarily assumed by similar other bodies; as certain tendrils and the sides or ends of some leaves.

*Rhizome* .....A prostrate rooting stem, progressively throwing up leaves.

*Rhomboid* .....Oval, a little angular in the middle; as the leaf of Hibiscus rhombifolius.

*Rib* .....The principal vein, or nerve which proceeds from the petiole of a leaf. Also any firm longitudinal elevation.

*Ringent* .....A labiate flower in which the upper lip is much arched.

*Rostrate* .....Peaked, having a long sharp point.

*Rotate*.....Resembling a wheel. A monopetalous corolla, with a spreading limb and very short tube.

*Rough, Roughish*.....Covered with little hard or sharp elevations which produce the sensation of roughness. Also applied to surfaces covered with coarse stiff hairs.

*Rugose*.....Wrinkled.
*Ruminate*.....A pinnatifid leaf with a triangular termination and sharp divisions pointing downwards.

## S.

*Saddle-shaped*.....Oblong with the sides hanging down like the laps of a saddle.
*Sagittate*.....Gradually enlarged at the base into two acute straight lobes, like the head of an arrow.
*Samara*.....An indehiscent fruit producing a membranous expansion, or wing from its back or end.
*Sarcocarp*.....The fleshy part of the pericarp lying between the epicarp and endocarp.
*Scabrous*.....Rough to the touch.
*Scales, Scaly*.....Small rudimentary closed pressed leaves resembling minute scales.
*Scandent*.....Climbing by whatever means except by twisting.
*Scape*.....A long-naked, or nearly naked peduncle which rises up from the crown.
*Scarious*.....Having a thin dry shrivelled appearance.
*Scarred*.....Marked by the scars left by bodies that have fallen off.
*Scattered*.....Used in opposition to whorled or opposite, or ternate or similar terms.
*Scorpoid*.....An inflorescence which is rolled up towards one side in the manner of a crozier, unrolling as the flowers expand.
*Scrobiculate*.....Marked by little depressions.
*Secund*.....Having all the flowers or leaves or other organs turned towards the same side.
*Semicordate*.....Heart-shaped on one side only.
*Semi-hastate*.....Hastate on one side only.
*Sepals*.....The divisions of the calyx.
*Septicidal*.....A mode of dehiscing in which the fruit is resolved into its component carpels, which split asunder through the dissepiments.
*Septum*.....A division in a ovary formed by the sides of the carpels.
*Serrature*.....The saw toothing at the edge of leaves and similar bodies.
*Serrate*.....Having sharp straight-edged teeth pointing to the apex. When these teeth are themselves serrate, we say biserrate or duplicate-serrate and so on.
*Sessile*.....Sitting close upon the body that supports it without any sensible stalk.
*Setose*.....Covered with stiff hairs.
*Sheath*.....A part which is rolled round a stem or other body.
*Silicle*.....A silicua about as broad as long or broader.
*Simple*.....Not consisting of several distinct parts.
*Sinuate*.....Having the margin alternately uneven with deep concavities and convexities.
*Smooth*.....Free from asperities or hairs, or any sort of unevenness.
*Solitary*.....Growing single.
*Spadix*.....A branch or axis bearing numerous closely packed sessile flowers and enclosed in a spathe or spathes. A spike enclosed in a spathe.

*Spathaceous*.....Having the appearance of a spathe, or being furnished with one.
*Spathe*.....A large rolling over an inflorescence and guarding it while young.
*Spathulate*.....Oblong with the lower end very much attenuated.
*Spike*.....An inflorescence consisting of flowers sessile on a long axis.
*Spike-compound*.....A collection of spikes arranged in a racemose manner.
*Spikelet*.....The small terminal collection of florets among grasses.
*Spine*.....A stiff sharp-pointed body consisting of woody tissue covered with cellular tissue.
*Spreading*.....Having a gradually outward direction, as petals from the ovary.
*Spur*.....A hollow terete extension of some part of the flowers.
*Squarrose*.....Covered with bodies which spread at right angles, or at a greater angle from the surface which bears them; or being so arranged.
*Stamen*.....The organ of the flower to which the pollen belongs
*Staminal*.....Consisting of stamens.
*Stellate, Stelliform*.....Having a number of narrow divisions placed round the stem like the rays of a star.
*Stem*.....The part of a plant which bears or has borne leaves or their rudiments; the ascending axis of growth
*Stem-clasping*.....When the base of a leaf surrounds a stem.
*Stemless*.....Having no visible or obvious stem.
*Stigma*.....That surface of a style usually at its extremity to which the pollen adheres when it fertilises the ovules.
*Stipitate*.....Elevated on a stalk which is neither a petiole nor a peduncle.
*Stipulary*.....Of or belonging to, or standing in the place of stipules.
*Stipules*.....Processes of various kinds arising from the base of a leaf and usually from its sides.
*Striated*.....Marked by streaks.
*Strigose*.....Covered with strigæ, *i. e.* sharp close-pressed rigid hairs.
*Stoloniferous*.....Having creeping runners which root at the joints.
*Style*.....The narrowed upper end of a carpellary leaf; the part which bears stigma.
*Sub*.....In composition, usually signifies somewhat, as sub-rotund, somewhat round.
*Subulate*.....Shaped like an awl.
*Succulent*.....Very cellular and juicy, as the stems of stapelias.
*Suffrutex*.....An under-shrub. A shrub of small size and herbaceous at the ends of the roots, though woody at their base.
*Sulcate*.....Furrowed.
*Superior*.....Growing above any thing.
*Supra-axillary*.....Growing above an axil.
*Supradecompound*.....Divided into a multitude of pieces. So much divided, that the number and mode of division cannot be precisely ascertained.
*Suture*.....The parts where separated organs unite, or where the edges of a folded organ adhere.

## T.

*Tendril*... .....A twisting thread-like process by which one plant clings to another.
*Terete* .....Tapering; free from angles, cylindrical or nearly so.
*Terminal* .....Proceeding from the end.
*Ternate* .....When three things are in opposition round a common axis. A whorl of three.
*Tetracoccous* .....Having four cells elastically dehiscing and separating.
*Thyrse* .....A panicle, whose principal diameter is in the middle between the base and apex.
*Tomentose* .....Covered with dense rather rigid short hairs so as to be sensibly perceptible to the touch.
*Tomentum* .....The down which produces the tomentose character.
*Trichotomous* .....Having the division always in threes.
*Tricoccous* .....A fruit consisting of three cocci or elastically dehiscing shells.
*Tridentate* .....Trident-pointed. When the point is truncated and has three indentations.
*Triennial* .....Lasting for three years.
*Trifid* .....Split half way into three parts.
*Trifoliate* .....Bearing three leaflets from the same point.
*Tripartite* .....Parted to the base in three divisions.
*Triple-ribbed*, *Triple-nerved* ..... } When of three ribs the two lateral ones emerge from the middle one a little above its base.
*Trumpet-shaped* .....Hollow and dilated at one extremity like the end of a trumpet.
*Truncate* .....Terminating very abruptly as if a piece had been cut off.
*Tube* .....The part of a monosepalous calyx or monopetalous corolla, formed by the union of the edges of the sepals or petals. Also applied to adhesions of stamens.
*Tuber* .....A roundish under-ground succulent stem covered with buds from which new plants or tubes are produced.
*Tubercle* .....Simple roots which acquire a succulent condition become reservoirs of vegetable food and serve for propagation in consequence of being terminated by a bud. A little tuber.

## U.

*Umbel* .....An inflorescence in which the flowers expand centripetally and their stalks radiate from a common point.
*Unarmed* .....Having no spines, prickles, or other sharp projection.
*Undershrub* .....A woody plant of small size, the ends of whose branches perish every year.
*Undulate* .....Wavy; having an uneven alternately convex and concave margin or surface.

*Unequally-pinnated*.....Having a solitary leaflet at the end of a pinnated leaf.
*Unguiculate*.....A stem exclusively applied to petals, which have an unguis or stalk.
*Unguis*.....Half an inch or the length of the nail of the little finger. Also the stalk of a petal.
*Unilateral*.....One sided.
*Uninterrupted*.....Consisting of regularly increasing or diminishing parts, or of parts, all of the same size.
*Urceolate*.....The same as campanulate, but more contracted at the orifice, with a small limb.
*Utricle*.....A seed vessel consisting of a very thin loose pericarp enclosing a single seed.

## V.

*Valvate*.....United by the margins only.
*Ventricose*.....Swelling unequally on one side, as the corolla of many labiate and personal plants.
*Vertebrate*.....Contracted at intervals, like the vertebræ of animals there being an articulation at each contraction as in some leaves.
*Vertical*.....Placed in a direction from the base to the apex.
*Verticillate*.....When several bodies form a ring round a common axis, as leaves round a stem, sepals, petals and stamens round an ovary.
*Verticle*.....A whorl; a ring of organs on the same plane.
*Vexillum*.....The standard or fifth petal placed at the back of a papilionaceous corolla.
*Villosity, Villous*.....Shagginess, a coating of long weak hairs.
*Virgate*.....Twiggy: producing many weak branches.
*Viscous*.....Clammy like bird-lime.
*Volute*.....Rolled up in any way.

## W.

*Warts*.....Hard or firm excrescences.
*Waved*.....Wavy, see Undulate.
*Wedge-shaped*.....Cuneate.
*Wheel-shaped*.....See Rotate.
*Whip-shaped*.....See Flagelliform.
*Whorl*.....A ring of organs all on the same plane.
*Wings*.....The two lateral petals of a papilionaceous flower.

# INDEX OF TAMIL SYNONYMS.

| | |
|---|---|
| **Agathee** ... ... | ... Agati grandiflora. |
| **Aglay** ... ... | ... Chickrassia tabularis. |
| **Alingie** ... ... | ... Alangium decapetalum. |
| **Alliverei** ... ... | ... Linum usitatissimum. |
| **Ancoruttay** ... | ... Trichosanthes palmata. |
| **Anny** ... ... | ... Odina Wodier. |
| **Areeka** ... ... | ... Bauhinia parviflora. |
| **Atcha** ... ... | ... Bauhinia racemosa. |
| **Aunthooloopavay** ... | ... Momordica dioica. |
| **Auvarymotchy** ... | ... Lablab vulgaris. |
| **Aveemah-marum** ... | ... Careya arborea. |
| **Averie** ... ... | ... Indigofera tinctoria. |
| **Badam** ... ... | ... Canarium commune. |
| **Caat-attie** ... ... | ... Bauhinia tomentosa. |
| **Caat-elloopie** ... | ... Terminalia Belerica. |
| **Caat-kolinjie** ... | ... Tephrosia purpurea. |
| **Caat-korundoo** ... | ... Atalantia monophylla. |
| **Caat-morunghie** ... | ... Ormocarpum sennoides. |
| **Cadali-pua...** ... | ... Lagerstræmia Reginæ. |
| **Cadapum** ... ... | ... Barringtonia racemosa. |
| **Callumpottie** ... | ... Melastoma Malabaricum. |
| **Carry-cheddie** ... | ... Canthium parviflorum. |
| **Carookoova** ... | ... Zizyphus trinervius. |
| **Carpoo-woolandoo** ... | ... Cajanus Indicus. |
| **Carun chembai** ... | ... Sesbania Ægyptiaca. |
| **Casha marum** ... | ... Memecylon tinctorium. |
| **Chadacula** ... ... | ... Vateria Indica. |
| **Chavuntha-aullee-tamaray** | ... Nymphœa rubra. |
| **Chemmanuthee** ... | ... Sethia Indica. |
| **Cheppoo-nerinjie** ... | ... Indigofera enneaphylla. |
| **Chiruparam** ... | ... Riedleia corchorifolia. |
| **Choarkullie** ... | ... Soymida febrifuga. |
| **Collum-kovay** ... | ... Bryonia epigæa. |
| **Condumunnie** ... | ... Abrus precatorius. |
| **Coothera-poodookoo** ... | ... Sterculia fœtida. |
| **Cooti-vella** ... ... | ... Feronia elephantum. |
| **Corie-keeray** ... | ... Portulaca oleracea. |
| **Coruttie** ... ... | ... Trichosanthes palmata. |
| **Covalom** ... ... | ... Ægle marmelos. |
| **Covay** ... ... | ... Coccinia Indica. |
| **Currengalie** ... | ... Acacia Sundra. |
| **Curray murdah** ... | ... Terminalia glabra. |
| **Curry vaymboo** ... | ... Garuga pinnata. |
| **Curray vayghay** ... | ... Acacia odoratissima. |
| **Curvailam** ... ... | ... Acacia Arabica. |
| **Cutchay-cuttay** ... | ... Lagerstræmia microcarpa, |

| | | |
|---|---|---|
| Devadarum | ... | ... Sethia Indica. |
| Daduga ... | ... | ... Nauclea cordifolia. |
| Eetty or Vitty | ... | ... Dalbergia Sissoides. |
| Filandei ... | ... | ... Zizyphus jujuba. |
| E[illegible]vum... | ... | ... Eriodendron anfractuosum. |
| E[illegible]'oopei ... | ... | ... Bassia longifolia. |
| Erroopootoo | ... | ... Dalbergia latifolia. |
| Eroovaloo ... | ... | ... Inga xylocarpa. |
| I-eeverally-codie | ... | ... Bryonia laciniosa. |
| Kadukai ... | ... | ... Terminalia Chebula. |
| Kalacolhe ... | ... | ... Anamirta cocculus. |
| Karapa ... | ... | ... Gardenia gummifera. |
| Karoo[illegible]lum | ... | ... Acacia Arabica. |
| Karoocum | ... | ... Psoralea corylifolia. |
| K[illegible]rawa-pillay | ... | ... Bergera Kœnigii. |
| K[illegible]m-coothe | ... | ... Sida retusa. |
| Ka[illegible]d ghoo | ... | ... Polanisia icosandra. |
| Kaa[illegible]o[illegible]tch | ... | ... Atalantia monophylla. |
| Katoo-adali | ... | ... Osbeckia aspera. |
| Kolugulupe ... | ... | ... Crotalaria verrucosa. |
| Kottay-nagum | ... | ... Eugenia jambolana. |
| Kodavelle ... | ... | ... Acacia tomentosa. |
| Kodawili-por h | ... | ... Chloroxylon Swietenia. |
| Kolingie ... | ... | ... Tephrosia purpurea. |
| Kolungu-kovay | ... | ... Bryonia epigœa. |
| Konnay ... | ... | ... Cassia fistula. |
| Kulleyum ... | ... | ... Odina Wodier. |
| Madoocare... | ... | ... Randia dumetorum. |
| Malay-anwarday | ... | ... Cassia tomentosa. |
| Malay-tayughie | ... | ... Sida acuta. |
| Munnay-poonghoo | ... | ... Sapindus emarginatus. |
| Manietie ... | ... | ... Rubia cordifolia. |
| Marudum ... | ... | ... Terminalia alata. |
| Mamenatie | ... | ... Morinda umbellata. |
| Maroodanie | ... | ... Lawsonia alba. |
| Marukarungha | ... | ... Randia dumetorum. |
| Mavelingum | ... | ... Cratœva Roxburghii. |
| Meelapa ... | ... | ... Myriophyllum verticillatum. |
| Molakaravay | ... | ... Toddalia aculeata. |
| Moodoocoohan | ... | ... Cardiospermum Halicacabum. |
| Moonacaray marum | ... | ... Toddalia aculeata. |
| Moorunghi... | ... | ... Moringa pterygosperma. |
| Mooroopolagum | ... | ... Pavonia odorata. |
| Mooroo[illegible]oo | ... | ... Erythrina Indica. |
| Moo chie marum | ... | ... Do. |
| Mundareh... | ... | ... Bauhinia acuminata. |
| Munja cudambay | ... | ... Nauclea cordifolia. |
| Munja pavattay | ... | ... Morinda citrifolia. |
| Murravetty | ... | ... Hydnocarpus inebrians. |
| Naree-payathencay | ... | ... Phaseolus trilobus. |
| Nattoobadam | ... | ... Terminalia Catappa. |

| | |
|---|---|
| Nawel ... ... | ... Syzygium Jambolanum. |
| Nayavalie ... ... | ... Polanisia Icosandra. |
| Neelatheroovattay ... | ... Bauhinia purpurea. |
| Neelum ... ... | ... Indigofera tinctoria. |
| Neeradimootoo ... | ... Hydnocarpus inebriana. |
| Neer-cudambay ... | ... Nauclea parviflora. |
| Nilavoola ... ... | ... Feronia elephantum. |
| Noona marum ... | ... Morinda umbellata. |
| Nunjoonda... ... | ... Balanites Ægyptiaca. |
| Nuttei-choorie ... | ... Spermacoce hispida. |
| | |
| Pailæ-marum ... | ... Careya arborea. |
| Paloo-paghel-kodie ... | ... Momordica dioica. |
| Paratie ... ... | ... Gossypium herbaceum. |
| Passelie-keeray ... | ... Portulaca quadrifida. |
| Patinga ... ... | ... Cœsalpinia Sappan. |
| Pavutty ... ... | ... Pavetta Indica. |
| Peecumcheddie ... | ... Luffa acutangala. |
| Peenathoo marum ... | ... Sterculia fœtida. |
| Peroonjooly ... | ... Hymenodictyon utile. |
| Peypoodel... ... | ... Trichosanthes cucumerina. |
| Peeramottie ... | ... Pavonia odorata. |
| Perintoothie ... | ... Abutilon Indicum. |
| Peroomarum ... | ... Ailanthus excelsus. |
| Perundei codie ... | ... Vitis quadrangularis. |
| Peycoomuttie ... | ... Citrullus Colocynthis. |
| Pillah-murdoo ... | ... Terminalia Chebula. |
| Pinnay ... ... | ... Calophyllum inophyllum. |
| Pinneh ... ... | ... Dillenia pentagyna. |
| Pitcha ... ... | ... Cucurbita Citrullus. |
| Pokara ... ... | ... Terminalia paniculata. |
| Ponaverie ... ... | ... Cassia Sophera. |
| Pooncanday-marum ... | ... Sapindus emarginatus. |
| Poochay-cotta-marum ... | ... Do. |
| Poodalum ... ... | ... Trichosanthes anguina. |
| Poola ... ... | ... Bombax Malabarica. |
| Pooliaray ... ... | ... Oxalis corniculata. |
| Poollya-marum ... | ... Tamarindus Indica. |
| Poonay-kallie ... | ... Mucuna prurita. |
| Poongum-marum ... | ... Pongamia glabra. |
| Pooshenie ... ... | ... Cucurbita maxima. |
| Pootta-tannim-marum ... | ... Careya arborea. |
| Poovoo marum ... | ... Schleichera trijuga. |
| Poovandie ... ... | ... Sapindus emarginatus. |
| Poorasum ... .. | ... Butea frondosa |
| Porsunga ... ... | ... Thespesia populnea. |
| Purpadagum ... | ... Mollugo cerviana. |
| | |
| Saddacoopie ... | ... Anethum Sowa. |
| Sapatoo-cheddie ... | ... Hibiscus Rosa-sinensis. |
| Sarakoonay ... | ... Cassia fistula. |
| Sawilcodie ... ... | ... Rubia cordifolia. |
| Sayawer ... ... | ... Hedyotis umbellata. |
| Segapoo-shundanum ... | ... Pterocarpus santalinus. |
| Seladottia ... ... | ... Acacia odoratissima. |
| Seloopay marum ... | ... Elœodendron Roxburghii. |
| Sengaray ... ... | ... Canthium parviflorum. |
| Sepoo ... ... | ... Dalbergia acuminata. |
| Shakara-koomatie ... | ... Cucurbita Citrullus. |

Sharunnay... ... ... Trianthema obcordata.
Shayng-cottay ... ... Semecarpus anacardium.
Sheeakay ... ... ... Acacia concinna.
Sheendi-codie ... ... Cocculus cordifolius.
Shembagum ... ... Michelia Champaca.
Shem-marum ... ... Swietenia febrifuga.
Shikroen ... ... ... Acacia amara.
Sirroo-coruttei ... ... Trichosanthes incisa.
Sittamoottie ... ... Pavonia Zeylanica.
Sumpungee-marum ... ... Michelia Champaca.

Tagaray ... ... ... Cassia Tora.
Talura ... ... ... Vatica laccifera.
Tamaray ... ... ... Nelumbium speciosum.
Tambatangai ... ... Lablab cultratus.
Tanikai ... ... ... Terminalia Belerica.
Tholoo-pany ... ... Momordica Charantia.
Thoemoottee ... ... Cucumis pubescens.
Toomuttikai ... ... Bryonia callosa.
Toon-marum ... ... Cedrela Toona.
Toorav... ... ... ... Mollugo spergula.
Tawaray ... ... ... Cajanus Indicus.
Turkolum... ... ... Syzygium Jambolanum.

Vadoothala marum ... ... Dichrostachys cinerea.
Vaghay ... ... ... Acacia speciosa.
Vala-marum ... ... Feronia elephantum.
Valumbiri ... ... ... Ixora coryliifolia
Varie-coomuttie ... ... Cucumis Colocynthis.
Varunghie ... ... ... Cæsalpinia Sappan
Vaylla ... ... ... Gynandropsis pentaphylla.
Vaynghie ... ... ... Pterocarpus bilobus.
Vaypum ... ... ... Azadirachta Indica.
Veda-vulley ... ... Vachellia Farnesiana.
Vedhie ... ... ... Cratœva Roxburghii.
Vel-vlaum ... ... ... Acacia leucophlæa.
Vella-koondricum ... ... Vateria Indica.
Vellangay ... ... ... Feronia elephantum.
Vella-naga ... ... ... Conocarpus latifolius.
Vellay-poottallie ... ... Sterculia urens.
Vellay-shaiunnay ... ... Trianthema obcordata.
Vellee-madenthay ... ... Mussœnda frondosa.
Velvaymghay ... ... Acacia speciosa.
Ventakoo ... ... ... Lagerstrœmia microcarpa.
Vengay ... ... ... Pterocarpus marsupium.
Vetteler-custoorie ... ... Abelmoschus moschatus.
Vullarie ... ... ... Hydrocotyle Asiatica.
Vulvaylum... ... ... Acacia ferruginea.
Vunnarum ... ... Swietenia chloroxylon.
Vunny ... ... ... Prosopis spicigera.
Vumparat o ... ... Gossypium herbaceum.
Vutta-kelloo-kelloopay ... Crotalaria verrucosa.

Woodiam ... ... ... Odina Wodier.
Woomie-marum ... ... Melia sempervirens.
Wodahullay ... ... Acacia Catechu.
Woonjah-marum ... ... Acacia amara.

Yelloonday ... ... Zizyphus Jujuba.
Yolim-buriki ... ... Schleichera trijuga.

# INDEX OF MALAYALIM SYNONYMS.

| | |
|---|---|
| Adamarum... ... | ...Terminalia Catappa |
| Adamboe ... ... | ...Lagerstrœmia Reginæ |
| Amparitı ... ... | ...Hibiscus Rosa-sinensis |
| Ambalam ... ... | ...Spondias mangifera |
| Ambel ... ... | ...Nymphœa pubescens |
| Ameri or Aml ... | ...Indigofera tinctoria |
| Amuthoo ... ... | ...Cocculus cordifolius |
| Anavinga ... ... | ...Casearia Canziala |
| Angolam ... ... | ...Alangium decapetatum |
| Aria-bepou ... | ...Azadirachta Indica |
| Aria vela ... ... | ...Polanisia felina |
| | |
| Balam-pulli ... | ...Tamarindus Indica |
| Bara-mareca ... | ...Canavalia gladiata |
| Belılla ... ... | ...Mussœnda frondosa |
| Belluta-tsjampkam ... | ...Mesua ferrea |
| Beloeren ... | ...Abutilon Indicum |
| Bem-pavel ... ... | ...Momordica dioica |
| Bem-tamara ... | ...Nelumbium speciosum |
| Bentheka ... ... | ...Lagerstrœmia microcarpa |
| Bitı ... ... | ...Dalbergia latifolia |
| Blatti ... ... | ...Sonneratia acida |
| Buparitı ... ... | ...Thespesia populnea |
| | |
| Caca-pallam ... | ...Lagenaria vulgaris |
| Cadpilava ... ... | ...Morinda citrifolia |
| Cadambah ... | ...Barringtonia racemosa |
| Caipa-schora ... | ...Lagenaria, sp. |
| Cars·hcnapou ... | ...Bauhinia tomentosa |
| Car-elu ... ... | ...Sesamum Indicum |
| Cara-veela ... ... | ...Gynandropsis pentaphylla |
| Carambu ... ... | ...Ludwigia parviflora |
| Carettı ... ... | ...Guilandina Bonduc |
| Cattu-carambu ... | ...Jussiœua villosa |
| Cattu custurı ... | ...Abelmoschus moschatus |
| Cattu pacru ... | ...Phaseolus rostratus |
| Chambacam ... | ...Michelia Champaca |
| Chayrooka... ... | ...Capparis Heyneana |
| Chovanna mandarum ... | ...Bauhinia variegata |
| Cit amurdu ... | ...Cocculus cordifolius |
| Codagam ... ... | ...Hydrocotyle Asiatica |
| Colinil ... ... | ...Tephrosia purpurea |
| Conna ... ... | ...Cassia fistula |
| Covalam ... ... | ...Ægle Marmelos |
| Covel ... ... | ...Coccinia Indica |
| Cupi ... ... | ...Stylocoryne Webera |

Entada ... ... ... Entada pusætha
Erima pavel ... ... Momordica dioica (Fem.)

Isora-murri or Valumpiri ... Isora corylifolia

Kada-kandel ... ... Lumnitzer racemosa
Kadali ... ... ... Melastoma Malabathricum
Kakatoddali ... ... Toddalia acuneata
Kaka-valli ... ... ... Mucuna gigantea
Kalisiam or Wodier marum ... Odina Wodier
Kandel ... ... ... Rhizophora gymnorhiza
Kara-angolam ... ... Alangium hexapetalum
Kara tsjera ... ... Portulaca oleracea
Karri-bepou ... ... Bergera Kœnigii
Kari-vetti ... ... ... Olea dioci
Karin-ghota ... ... Samadera Indica
Karin-tagara ... ... Pterocarpus Marsupium
Kartive valli ... ... Bryonia umbellata
Kasjava marum ... ... Memecylon tinctorium
Katou-tsjaca ... ... Nauclea purpurea
Katou kadali ... ... Osbeckia aspera
Katou-tsjeroe ... ... Holigarna longifolia
Katou conna ... ... Inga bigemina
Katou-malnaregam ... ... Atalantia monophylla
Katu-uren ... ... ... Sida cordifolia
Kaurkoal ... ... ... Psoralea corylifolia
Kedanga ... ... ... Sesbana Ægyptiaca
Konni ... ... ... Abrus precatorius
Kurunthodee ... ... Sida retusa

Mail-anschi ... ... Lawsonia alba
Mandajadi ... ... ... Adenanthera pavonina
Mannali ... ... ... Indigofera aspalathoides
Mao, Man, Mangas ... ... Mangifera Indica
Marotti ... ... ... Hydnocarpus inebrians
Modera canni ... ... Hugonia mystax
Moul-elavoo ... ... Salmalia Malabarica
Moulilla ... ... ... Xanthoxylon Rhetsa
Mouricou ... ... ... Erythrina corollodendron or Indica
Mouringou... ... ... Moringa pterygosperma
Mucca piri ... ... ... Bryonia scabrella

Naga valli ... ... ... Bauhinia scandens
Nai corana... ... ... Mucuna prurita
Narum-panel ... ... Uvaria Narum
Nati-schambu ... ... Eugenia Malabarica
Nat-jeam-civa ... ... Cocculus cordifolius
Nehoemeca ... ... Bryonia laciniosa
Nedum schetti ... ... Memecylon amplexicaule
Nela naregam ... ... Naregamia alata
Nela tsjira... ... ... Portulaca quadrifida
Nelem paranda ... ... Ionidium suffruticosum
Neli tali ... ... Sesbania Ægyptiaca
Noel-valli and Pannivalli ... Dalbergia scandens
Nyrvala ... ... ... Cratœva Roxburghii

| | |
|---|---|
| Oepata... ... | ... Avicennia tomentosa |
| Oorelatamaray ... | ... Ionidium suffruticosum |
| Oosingia ... ... | ... Sapindus laurifolius |
| Pada-valli or Pada kelengu | ... Clypea Burmanni |
| Padavara ... ... | ... Morinda umbellata |
| Padvalam ... ... | ... Trichosanthes Cucumerina |
| Paeru ... ... | ... Dolichos sinensis |
| Pandi pavel ... | ... Momordica Charantia |
| Pania, panyala ... | ... Eriodendron anfractuosum |
| Pariti or Tali pariti ... | ... Paritium tiliaceum |
| Pavel ... ... | ... Momordica Charantia |
| Pieni marum ... | ... Vateria Indica |
| Pevetta or Mulleamoothe | ... Pavetta Indica |
| Pee-tandale cotti ... | ... Crotalaria verrucosa |
| Pelou ... ... | ... Careya arborea |
| Penar-valli... ... | ... Zanonia Indica |
| Perin-toddali ... | ... Zizyphus Jujuba |
| Perin-njara ... | ... Syzygium Jambolanum |
| Perin-kaku valli ... | ... Entada Pusœtha |
| Picinna, or Peechengah | ... Luffa acutangula |
| Plasa ... . . | ... Butea frondosa |
| Pœatsjetti ... ... | ... Gomphia angustifolia |
| Ponga ... . . | ... Dalbergia frondosa |
| Pongana or Minari . . | ... Pongamia glabra |
| Pongelion ... ... | ... Ailanthus Malabaricus |
| Ponna ... ... | ... Calophyllum inophyllum |
| Ponnam-tagera ... | ... Cassia Sophera |
| Poutalestsjee ... | ... Lawsonia alba |
| Purinsjee ... ... | ... Sapindus laurifolius |
| Putsja-paeru ... | ... Phaseolus Mungo or radiatus |
| Ramna pumarum ... | ... Sterculia guttata |
| Samstravadi ... | ... Barringtonia racemosa |
| Schakeri-schora ... | ... Cucurbita maxima |
| Schanga-cuspi ... | ... Clitorea ternatea |
| Schem-pariti . . | ... Hibiscus Rosa-sinensis |
| Schembra-valli ... | ... Vitis Indica |
| Schetti ... . . | ... Ixora coccinea |
| Schunambu valli ... | ... Vitis latifolia |
| Syalita ... ... | ... Dillenia speciosa |
| Tagera ... ... | ... Cassia Tora |
| Tamara ... ... | ... Nelumbium speciosum |
| Tandale cotti ... | . . Crotalaria retusa |
| Tani ... ... | ... Terminalia Belerica |
| Tardavel ... ... | ... Spermacoce hispida |
| Thora paerou ... | ... Cajanus Indicus |
| Tsja pangam ... | ... Cœsalpinia Sappan |
| Tsjangelam parenda ... | ... Vitis quadrangularis |
| Tsjerou-ponna ... | ... Calophyllum Calaba |
| Tsjeru uren ... | ... Riedleia corchorifolia |
| Tsjerou jonganam pulla | ... Mollugo spergula |
| Tsjeru parua . . | . . Sida acuta |

Tsjetti mandarum ... ... Poinciana pulcherrima
Tsjoratti ... ... ... Gomphia angustifolia

Ulinja ... ... ... Cardiospermum Halicacabum
Uren, or kungia ... ... Urena sinuata

Valli-caniram ... ... Cocculus acuminatus
Vallia-pira pitica ... ... Vitis latifolia
Vaygha kum ... ... Lagerstræmia Reginæ
Veel elley ... ... ... Mussœnda frondosa
Vella muree ... ... Indigofera tinctoria
Veyngah ... ... ... Dalbergia latifolia
Veyruh ... ... ... Careya arborea
Vukkah ... ... ... Crotalaria juncea

Waga ... ... ... Acacia odoratissima
Wellia tagera ... ... Cassia glauca

INDEX OF

# HINDOOSTANEE & BENGALEE SYNONYMS.

| | | |
|---|---|---|
| Ach, or Atchy ... ... | B & H | Morinda tinctoria |
| Agosthyo ... ... | B | Dillenia scabrella |
| Agumerkee ... ... | H | Bryonia scabrella |
| Ajwan ... ... | H | Ptychotis Ajowan |
| Akar-kanta ... ... | ... | Alangium hexapetalum |
| Akola ... ... | H | Do. |
| Al ... ... | H | Morinda citrifolia |
| Alkooshi ... ... | B | Mucuna prurita |
| Alsi ... ... | H | Linum usitatissimum |
| Am ... ... | B & H | Mangifera Indica |
| Ambara ... ... | H | Spondias mangifera |
| Ambli ... ... | B & H | Tamarindus Indica |
| Ambuj ... ... | H | Nelumbium speciosum |
| Amdhouka ... ... | ... | Vitis Indica |
| Amblee ... .. | B & H | Tamarindus Indica |
| Amlookee ... ... | B | Acacia stipulata |
| Amoora ... ... | ... | Amoora cucullata |
| Amna ... ... | B & H | Spondias mangifera |
| Amultas ... ... | ... | Cathartocarpus fistula |
| Antomoora ... ... | ... | Isora corylifolia |
| Aparajita ... ... | ... | Clitorea ternatea |
| Arhukee, Toor ... ... | ... | Cajanus Indicus |
| Arishta ... ... | ... | Sapindus emargi[illegible] |
| Arishto ... ... | B | Melia Azadirach |
| Arjoon ... ... | ... | Terminalia Arjun |
| Aroona ... ... | ... | Rubia cordifolia |
| Asan ... ... | ... | Terminalia alata or glabra |
| Asphota ... ... | ... | Clitorea ternatea |
| Atchy ... ... | H | Morinda citrifolia |
| Atmagoopta-murkutee... ... | B | Mucuna prurita |
| Atta-jam ... ... | ... | Olea dioica |
| | | |
| Babula ... ... | ... | Acacia Arabica |
| Baclatul-humka ... ... | ... | Portulaca quadrifida |
| Badamie or Badam ... ... | B & H | Terminalia Catappa |
| Bag-achera, Baga-luta... ... | B | Cocculus acuminatus |
| Bagh-Cherenda ... ... | B & H | Lablab cultratus |
| Bagh-ankara ... ... | B | Alangium decapetalum |
| Bahura ... ... | ... | Terminalia Belerica |
| Bair ... ... | ... | Zizyphus Jujuba |
| Bala ... ... | ... | Sida rhombifolia |
| Ban ... ... | H | Moringa pterygosperma |
| Barna ... ... | ... | Cratœva Roxburghii |
| Bebina ... ... | H | Mussœnda frondosa |
| Beedul ... ... | B | Bauhinia purpurea |
| Beel-jhun-jhun ... ... | H | Crotalaria retusa |

| | | |
|---|---|---|
| Beemboo ... ... | B | Coccinia Indica |
| Behura ... ... | H | Terminalia Belerica |
| Bel ... ... | B & H | Ægle marmelos |
| Bel ... ... | H | Cratœva religiosa |
| Bella-wine ... ... | ... | Semecarpus Anacardium |
| Beri ... ... | H | Zizyphus Jujuba |
| Beshulyo-kurunee ... ... | B | Cocculus cordifolius |
| Bhair ... ... | H | Zizyphus Jujuba |
| Bheela ... ... | H | Semecarpus Anacardium |
| Bhimb ... ... | ... | Coccinia Indica |
| Bhinda-tori or Bhindea ... | ... | Abelmoschus esculentus |
| Bhoo-ada or Bhon-ada... ... | B | Do. |
| Bhooe-komra ... ... | H | Trichosanthes cordata |
| Bhooe-okra ... ... | H | Zapania nodiflora |
| Bhooi-sunn ... ... | B | Crotalaria prostrata |
| Bhorar ... ... | ... | Rhiziphora Mangle |
| Bhungi ... ... | ... | Corchorus olitorius |
| Bina ... ... | B & H | Avicennia tomentosa |
| Bil-jhun-jhuri . . ... | B | Crotalaria retusa |
| Bincha ... ... | ... | Flacourtia sapida |
| Birme ... ... | H | Trichosanthes incisa |
| Birmi ... ... | ... | Cratœva Tapia |
| Bishumba . . ... | ... | Cucumis Colocynthis |
| Blunjee pat ... ... | B | Corchorus olitorius |
| Bokenakoo ... ... | H | Zapania nodiflora |
| Bola ... ... | B & H | Paritium tiliaceum |
| Booien-kavite ... ... | ... | Feronia elephantum |
| Bora ... ... | H | Dolichos Catjang |
| Boro-joan ... ... | B | Ptychotis Ajowan |
| Boyra ... ... | ... | Terminalia Belerica |
| Budree ... ... | B | Zizyphus Jujuba |
| Buhura ... ... | B & H | Terminalia Belerica |
| Bukarjun, Bukayun ... . . | H | Melia sempervirens |
| Bukkum . ... | ... | Cœsalpinia Sappan |
| Bulat . . ... | ... | Phaseolus Mungo |
| Bulee . ... | H | Sterculia urens |
| Bulla . . ... | ... | Terminalia Belerica |
| Bun-asarhoo ... . . | ... | Gossypium herbaceum |
| Bun-burbutee ... ... | B & H | Phascolus rostratus |
| Bun-gumuk ... ... | ... | Cucumis pubescens |
| Bunkra . . ... | B | Urena lobata |
| Bun-lubunga ... ... | B & H | Ludwigia parviflora |
| Bun-neel ... ... | ... | Tephrosia purpurea |
| Bun-okra .. ... | B & H | Urena lobata |
| Bun-pat ... . . | B | Corchorus olitorius |
| Bunraj ... ... | ... | Bauhinia racemosa |
| Bunpatal ... ... | ... | Trichosanthes cucumerina |
| Bun-shim ... ... | ... | Lablab vulgaris |
| Bun-sun ... ... | ... | Crotalaria verrucosa |
| Bura-kurella ... ... | H | Momordica Charantia |
| Bura-makhom-shim ... ... | B | Canavalia gladiata |
| Bura-phootica ... ... | ... | Melastoma Malabathricum |
| Buro-reetha . ... | ... | Sapindus emarginatus |
| Buro-ruktokumbal ... ... | ... | Nymphœa rubra |
| Bur butee . ... | B & H | Dolichos Sinensis |

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| Buroon ... ... | ... | Cratœva Roxburghii |
| Bursunga ... ... | H | Bergera Kœnigii |
| Byajainti ... ... | ... | Sesbania Ægyptiaca |
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| Cachari ... ... | H | Cucumis pubescens |
| Cacri ... ... | ... | Cucumis utilissimus |
| Cachuar ... ... | ... | Bauhinia variegata |
| Cadu ... ... | ... | Lagenaria vulgaris |
| Cadam ... ... | ... | Nauclea parviflora |
| Cahua ... ... | H | Pentaptera Arjuna |
| Camal ... ... | ... | Nelumbium speciosum |
| Camaha ... ... | ... | Cucurbita Pepo |
| Cancra ... ... | H | Pavetta Indica |
| Carang ... ... | ... | Dalbergia arborea |
| Carela ... ... | ... | Momordica Charantia |
| Casandi ... ... | ... | Cassia Sophora |
| Cat-caleji or Catcaranja ... | ... | Guilandina Bonduc |
| Catira ... ... | ... | Sterculia urens |
| Cauha-thenthi ... ... | ... | Clitorea ternatea |
| Caul ... ... | ... | Nelumbium speciosum |
| Chakoonda ... ... | B | Cassia Tora |
| Chakour ... ... | H | Cassia obtusifolia |
| Chalita ... ... | B & H | Dillenia speciosa |
| Champa ... ... | B & H | Michelia Champaca |
| Champuka ... ... | B & H | Do. |
| Chela ... ... | B & H | Alangium decapetatum |
| Chichinga ... ... | ... | Trichosanthes anguina |
| Choota-pushpa ... ... | B | Melastoma aspera |
| Chota-jamb ... ... | B | Eugenia caryophyllifolia |
| Chota-phootika ... ... | B | Osbeckia aspera |
| Chota-soondhi ... ... | ... | Nymphœa esculenta |
| Chouputeeya ... ... | H | Kydia calycina |
| Chowly ... ... | ... | Portulaca quadrifida |
| Chukrasi ... ... | ... | Chickrassia tabularis |
| Chun-hattee ... ... | H | Abrus precatorius |
| Chutka ... ... | B | Bauhinia acuminata |
| Cushmulla ... ... | ... | Odina Wodier |
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| Dadmari ... ... | B | Ammannia vesicatoria |
| Dadmenden ... ... | H | Cassia alata |
| Dadoo-murdun ... ... | B | Do. |
| Dal, Urur ... ... | ... | Cajanus Indicus |
| Deeb-kanchum ... ... | ... | Bauhinia purpurea |
| Dephul dampel ... ... | B | Xanthochymus pictorius |
| Dewudar ... ... | H | Sethia Indica |
| Dhaee phool ... ... | ... | Grislea tomentosa |
| Dhak ... ... | ... | Butea frondosa |
| Dhanattor ... ... | H | Clitorea ternatea |
| Dhangaphul ... ... | B | Grislea tomentosa |
| Dhari ... ... | ... | Do. |
| Dhenroos or Dhendus ... ... | B & H | Abelmoschus esculentus |
| Dhol-sumoodra ... ... | B | Leea macrophylla |
| Dhub ... ... | ... | Grislea tomentosa |
| Dier ... ... | H | Cocculus villosus |

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| Faridbuti ... ... | ... | Cocculus villosus |
| Falsa ... ... | ... | Grewia Asiatica |
| Fool-sola ... ... | B | Æschynomena aspera |
| Feet ... ... | H | Cucumis Momordica |
| Furrud ... ... | ... | Erythrina Indica |
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| Gadha-buni ... ... | ... | Trianthema decandra |
| Gadha-poorna ... ... | ... | Poerhavia procumbens |
| Ghinalita-pat ... ... | B | Corchorus capsularis |
| Ghoosh ... ... | B | Luffa pentandra or acutangula |
| Ghunchi ... ... | H | Abrus precatorius |
| Gila-gach ... ... | B | Flacourtia Pusœtha |
| Gima-shack ... ... | ... | Mollugo cerviana and spergula |
| Gokhoor or Gokhyoor... ... | ... | Tribulus lanuginosus |
| Gooila ... ... | ... | Vitis latifolia |
| Gool ... ... | ... | Cocculus cordifolius |
| Gooli-turah ... ... | ... | Poinciana pulcherrima |
| Gooluncha or Goluncha ... | ... | Cocculus cordifolius |
| Goordal-shim ... ... | B | Lablab vulgaris |
| Gooya-babula ... ... | ... | Acacia Farnesiana |
| Gora-neboo ... ... | B & H | Citrus acida |
| Govila ... ... | B | Vitis latifolia |
| Gudgega ... ... | H | Guilandina Bonduc |
| Guma ... ... | ... | Mollugo cerviana |
| Gurcha ... ... | ... | Cocculus cordifolius |
| Gursoonder ... ... | B | Acacia Arabica |
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| Hakpooch ... ... | B | Psoralea corylifolia |
| Hali-moog ... ... | ... | Phaseolus Mungo |
| Har, or Hara ... ... | H | Terminalia Chebula |
| Har, or Harchara ... ... | B | Cissus quadrangularis |
| Has-jorah ... ... | B & H | Vitis quadrangularis |
| Harpar ... ... | ... | Polanisia icosandra |
| Hier ... ... | H | Cocculus villosus |
| Hijul ... ... | B | Barringtonia acutangula |
| Hijulee-budam ... ... | ... | Anacardium occidentale |
| Hijulee-mendee ... ... | H | Eugenia bracteata |
| Hina ... ... ... | H | Lawsonia inermis |
| Hingun ... ... ... | H | Balanites Ægyptiaca |
| Hollounda ... ... ... | H | Phaseolus rostratus |
| Hoolhool ... ... ... | ... | Gynandropsis pentaphylla |
| Hoor-hoorya ... ... | B & H | Polanisia icosandra |
| Hulda ... ... ... | H | Terminalia Chebula |
| Hur or Hura ... ... | H | Do. |
| Hurin-hura ... ... | H | Amoora Rohituka |
| Huritukee ... ... ... | B | Terminalia Chebula |
| Huttiau ... ... ... | H | Eriodendron anfractuosum |
| Huyer ... ... ... | B | Cocculus villosus |
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| Imli ... ... ... | ... | Tamarindus Indica |
| Indraini or Indrayan ... ... | H | Cucumis Colocynthis |
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| Jahoo ... ... ... | B | Tamarix gallica |
| Jait ... ... ... | H | Sesbania Ægyptiaca. |
| Jainti ... ... ... | B & H | Æschynomene Sesban |

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| Jamoon ... ... ... | ... | Syzygium Jambolanum |
| Jamun ... ... ... | ... | Do. |
| Jarul, Jarool ... ... | B & H | Lagerstræmia Reginæ |
| Jasoon ... ... ... | H | Hibiscus Rosa-sinensis |
| Jawa ... ... ... | ... | Do. |
| Jawasi ... ... ... | ... | Alhagi Maurorum |
| Jharberi ... ... ... | H | Zizyphus Jujuba |
| Jhinga ... ... ... | ... | Luffa acutangula |
| Jhinghora ... ... ... | H | Bauhinia parviflora |
| Jinga ... ... ... | H | Luffa acutangula |
| Jivul ... ... ... | B | Odina Wodier |
| Juba ... ... ... | B & H | Hibiscus Rosa-sinensis |
| Junglee-badam ... ... | H | Canarium commune |
| Do. ... ... | ... | Sterculia fœtida |
| Jungla'-moonghie ... ... | ... | Ormocarpum sennoides |
| Juwasi ... ... ... | H | Alhagi Maurorum |
| Juyrintee ... ... ... | B & H | Sesbania Ægyptiaca |
| Kahoowa ... ... ... | H | Pentaptera Arjuna |
| Kaka-chinchi ... ... | ... | Abrus precatorius |
| Kaka-jambu ... ... | B | Calyptranthus caryophyllifolius |
| Kakamari ... ... ... | ... | Anamirta cocculus |
| Kala-buchnak ... ... | ... | Hymenodictyon excelsum |
| Kalajam ... ... ... | B & H | Syzygium Jambolanum |
| Kala-kustooree ... ... | H | Abelmoschus moschatus |
| Kalikeker ... ... ... | ... | Acacia Arabica |
| Kali-moong ... ... | B | Phaseolus Mungo |
| Kalizer ... ... ... | ... | Clitorea ternatea. |
| Kamal ... ... ... | ... | Nelumbium speciosum |
| Kanala ... ... ... | B | Gynandropsis pentaphylla |
| Kanara ... ... ... | ... | Stylocoryne Webera |
| Kana-raj ... ... ... | H | Bauhinia cannabina |
| Kanchkoori ... ... | ... | Mucuna prurita |
| Kanchun ... ... ... | B | Bauhinia acuminata |
| Kantchi-sim ... ... | B | Lablab cultratus |
| Kapas ... ... ... | B | Gossypium herbaceum |
| Karavela ... ... ... | B & H | Gynandropsis pentaphylla |
| Karia-paak... ... ... | B | Bergera Kœnigii |
| Karpassa ... ... ... | ... | Gossypium herbaceum |
| Kashmulla... ... ... | H | Odina Wodier |
| Kat-kulja ... ... ... | H | Cœsalpinia Bonduc |
| Katira ... ... ... | ... | Sterculia urens |
| Kelikudum... ... ... | B | Nauclea cordifolia |
| Kerula ... ... ... | H | Luffa amara |
| Ket, Kheet... ... ... | H | Feronia elephantum |
| Khagin ... ... ... | H | Clitorea ternatea |
| Khaira ... ... ... | ... | Acacia Catechu or ferruginea |
| Khana ... ... ... | ... | Amoora Rohituka |
| Kherooya ... ... ... | ... | Phaseolus Mungo |
| Khikhri ... ... ... | H | Zizyphus Jujuba |
| Khuera ... ... ... | B & H | Acacia Catechu |
| Kikar ... ... ... | H | Acacia leucophlœa |
| Kingshookha ... ... | B | Butea frondosa |
| Kiwach ... ... ... | B & H | Mucuna prurita |
| Kodaleya-koodaliya ... ... | B & H | Desmodium trifolium |

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| Komol ... ... ... | ... | Nelumbium speciosum |
| Koobedar ... ... ... | ... | Bauhinia variegata |
| Koochunduna ... ... | H | Adenanthera pavonina |
| Kookoora-choora ... ... | ... | Pavetta Indica |
| Kool ... .. ... | ... | Zizyphus Jujuba |
| Kooli ... ... ... | H | Sterculia urens |
| Koolthee ... ... ... | B & H | Dolichos biflorus |
| Koomra ... ... ... | ... | Cucurbita Pepo |
| Koonch ... ... ... | ... | Abrus precatorius |
| Koondoorie ... ... | H | Coccinia Indica |
| Kosderi ... ... ... | ... | Momordica umbellata |
| Koshnanto ... ... | ... | Cucurbita Pepo |
| Koshta ... ... ... | ... | Corchorus capsularis |
| Kotoo ... ... ... | ... | Michelia Champaca |
| Kovidara ... ... ... | ... | Bauhinia variegata |
| Krishna-choora ... ... | B & H | Poinciana pulcherrina |
| Kudoo ... ... ... | B | Cucurbita, sp. |
| Kudum ... ... ... | B & H | Nauclea Cadamba |
| Kulkashinda ... ... | B | Cassia Sophora |
| Kunchun ... ... ... | ... | Bauhinia acuminata |
| Kungia ... ... ... | B | Urena sinuata |
| Kungwel ... ... ... | ... | Nelumbium speciosum |
| Kuretta ... ... ... | B | Sida acuta |
| Kurfa ... ... ... | H | Portulaca oleracea |
| Kurilla ... ... ... | B & H | Momordica Charantia |
| Kurish-churim ... ... | H | Poinciana pulcherrima |
| Kurung ... ... ... | ... | Pongamia glabra |
| Kurunja ... ... ... | ... | Dalbergia arborea |
| Kuthbel ... ... ... | B & H | Feronia elephantum |
| Kyrob ... ... ... | H | Nymphœa pubescens |
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| Lal-bulunga ... ... | B | Jussiœa villosa |
| Lal-chundend ... ... | H | Pterocarpus santalinus |
| Lal-kamal ... ... ... | ... | Nelumbium speciosum |
| Lal-budma ... ... ... | ... | Do. |
| Lal-sabuni ... ... ... | ... | Trianthema obcordata |
| Laoo ... ... ... | ... | Lagenaria vulgaris |
| Lauca ... ... ... | H | Do. |
| Laug ... ... ... | ... | Eugenia caryophyllata |
| Loban ... ... ... | ... | Boswellia serrata |
| Lobia ... ... ... | ... | Dolichos sinensis |
| Lona ... ... ... | ... | Portulaca oleracea |
| Loonia Loomika ... ... | ... | Do. |
| Lubah, Luban ... ... | ... | Boswellia thurifera |
| Lubung ... ... ... | B | Eugenia caryophyllata |
| Luchannoo... ... ... | H | Oxalis sensitiva |
| Lung ... ... ... | B & H | Eugenia caryophyllata |
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| Mahwal ... ... ... | ... | Bauhinia Vahlii |
| Maiuri ... ... ... | ... | Anethum Sowa |
| Majith ... ... ... | ... | Rubia cordifolia |
| Makhal ... ... ... | B & H | Trichosanthes palmata |
| Makhal ... ... ... | B | Cucumus Colocynthis |
| Makhun-shin ... ... | ... | Canavalia gladiata |
| Mala ... ... ... | ... | Bryonia laciniosa |

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| Malkunganee ... ... | H | Celastrus paniculata |
| Maroree ... ... ... | H | Isora corylifolia |
| Mash-kulai... ... ... | B | Phaseolus Roxburghii |
| Mawall ... ... ... | ... | Bauhinia racemosa |
| Mek-hun-shrin ... ... | ... | Canavalia gladiata |
| Mehndi ... ... ... | H | Lawsonia alba |
| Meowrie ... ... ... | ... | Isora corylifolia |
| Mesta-pat ... ... ... | ... | Hibiscus cannabinus |
| Mindee ... ... ... | ... | Lawsonia alba |
| Moganee ... ... ... | B | Phaseolus trilobus |
| Mokka ... ... ... | B | Bryonia scabra |
| Moongay ... ... ... | ... | Hyperanthera Moringa |
| Mooshk-dana ... ... | H | Abelmoschus moschatus |
| Moosnee ... ... ... | B | Linum usitatissimum |
| Moula ... ... ... | B & H | Cassia latifolia |
| Moung or Moong . . ... | H | Phaseolus Roxburghii |
| Mung ... .. ... | ... | Phaseolus Mungo |
| Munjit .. ... ... | ... | Rubia cordifolia |
| Munjista ... ... .. | B | Do. |
| Musina, Musnee ... ... | ... | Linum usitatissimum |
| Musmusa ... ... ... | H | Bryonia scabra |
| Mutkee-pully . . ... | ... | Cyamopsis psoraloides |
| Myn ... . . ... | ... | Randia dumetorum |
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| Nagkeshur... ... ... | B & H | Mesua ferrea |
| Nagkeshura-jamba ... ... | ... | Syzygium Zeylanicum |
| Nalkee ... ... ... | B | Hibiscus cannabinus |
| Nalta-pat ... ... ... | ... | Corchorus capsularis |
| Narikulee-kool ... ... | B | Zizyphus Jujuba |
| Nasurjinghi ... ... | H | Trianthema monogynia |
| Nata, Nata-kanta ... ... | B | Cœsalpinia Bonduc |
| Nata-caranja ... ... | H | Do. |
| Nayor ... ... ... | B | Icica Indica |
| Nazuc ... ... ... | H | Zizyphus Jujuba |
| Neel . . ... ... | B & H | Indigofera tinctoria |
| Nillur ... ... ... | H | Vitis quadrangularis |
| Nilofar . . . . ... | ... | Nymphœa pubescens |
| Nim ... . . ... | B & H | Azadirachta Indica |
| Nincha ... ... ... | ... | Corchorus capsularis |
| Noncha ... . . ... | H | Portulaca oleracea |
| Noonya ... ... ... | B & H | Do. |
| Noonbora ... ... ... | B | Ionidum suffruticosum |
| | | |
| Ochooyot ... ... ... | B | Morinda tinctoria |
| Ocahya ... ... ... | ... | Momordica Charantia |
| Oolut-kumbul . . ... | ... | Abroma Augustum |
| Orjoon ... ... ... | ... | Terminalia, sp |
| Orol ... . . ... | ... | Cajanus Indicus |
| Our-chaka ... . . ... | B | Sonneratia acida |
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| Palita-mandar; Palto-mander ... | B & H | Erythrina Indica |
| Panch-shim ... ... | ... | Lablab cultratus |
| Panee phul... ... ... | ... | Trapa bispinosa |
| Paniayala ... . . ... | B & H | Flacourtia cataphracta |
| Paris, paras-pupil . . . . | ... | Thespesia populnea |

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| Pat ... ... ... | B | Corchorus olitorius |
| Pat-kili ... ... ... | B | Hibiscus Rosa-sinensis |
| Peet-shala ... ... ... | ... | Pterocarpus Marsupium |
| Peeyar Cheroonjie ... ... | H | Buchanania latifolia |
| Petaree ... ... ... | B | Abutilon Indicum |
| Phool-shoola ... ... | H | Æschynomene aspera |
| Phulshasha ... ... | B & H | Grewia Asiatica |
| Phoontee ... ... ... | B | Cucumis Momordica |
| Pilu ... ... ... | ... | Careya arborea |
| Pitalee-jamai-poolishim ... | B | Lablab cultratus |
| Piyalee ... ... ... | B | Buchanania latifolia |
| Poontureka ... ... | ... | Nelumbium speciosum |
| Pudma ... ... ... | B & H | Do. |
| Pulas ... ... ... | ... | Butea frondosa |
| Pundaroo ... ... ... | H | Hymenodictyon excelsum |
| Purush ... ... ... | B & H | Thespesia populnea |
| Putsun ... ... ... | H | Crotalaria juncea |
| Pykassie ... ... ... | ... | Cassia fistula |
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| Rakat-chandan ... ... | ... | Pterocarpus santalinus |
| Rakhal-phul ... ... | B | Schmidelia serrata |
| Ram-turay ... ... ... | H | Abelmoschus esculentus |
| Ranga-makhon-shirn ... ... | B | Canavalia gladiata |
| Rawasan ... ... ... | H | Dolichos sinensis |
| Rawkus-gudda ... ... | ... | Bryania epigœa |
| Reetha ... ... ... | ... | Sapindus detergens |
| Reetha ... ... ... | ... | Acacia concinna |
| Rishta ... ... ... | H | Sapindus emarginatus |
| Ritah ... ... ... | ... | Sapindus, sp. |
| Riuasan ... ... ... | ... | Sesbania Ægyptiaca |
| Rohun ... ... ... | B & H | Swietenia febrifuga |
| Roi ... ... ... | H | Gossypium herbaceum |
| Ructa-numbula ... ... | B | Nymphœa rubra |
| Ructa-chundana ... ... | ... | Adenanthera pavonina |
| Ructa-pudma ... ... | ... | Nelumbium speciosum |
| Ructa canchun ... ... | B | Bauhinia variegata |
| Ructa-chunduna ... ... | B & H | Pterocarpus santalinus |
| Rukhta-chunduna ... ... | H | Nymphœa rubra |
| Rukt-shirrool ... ... | B | Bombax Malabaricum |
| Ruttun-purus ... ... | H | Ionidium suffruticosum |
| Ruviya ... ... ... | B | Dillenia speciosa |
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| Sabuni ... ... ... | ... | Trianthema obcordata |
| Sada-jamal-pooli ... ... | ... | Lablab cultratus |
| Sada-jamai-shim ... ... | ... | Do. |
| Sahajna, Sahunjna ... ... | ... | Hyperanthera Moringa |
| Sal, Salo ... ... | ... | Shorea robusta |
| Salace, Salai ... ... | ... | Boswellia serrata or thurifera |
| Samuka ... ... ... | H | Cucurbita Citrullus |
| San ... ... ... | ... | Crotalaria juncea |
| Sarang ... ... ... | H | Nymphœa pubescens |
| Semal, Sembal ... ... | ... | Bombax Malabaricum |
| Shakul ... ... ... | ... | Cytisus Cajan |
| Shal ... ... ... | B & H | Shorea robusta |
| Shalmuli ... ... ... | B | Bombax Malabaricum |

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| Shalook ... ... ... | ... | Nymphœa pubescens |
| Sheem ... ... ... | ... | Canavalia gladiata |
| Shimool ... ... ... | B | Bombax Malabaricum |
| Shiresh ... ... ... | B & H | Acacia speciosa |
| Shisham ... ... ... | H | Dalbergia Sissoo |
| Shojana ... ... ... | B | Hyperanthera Moringa |
| Shola, Sola... ... ... | ... | Æschynomene aspera |
| Shumee ... ... ... | B | Prosopis spicigera |
| Shwet-gurjun ... ... | B | Dipterocarpus turbinatus |
| Shwet-pudma ... ... | B | Nelumbium speciosum |
| Shwet (or sada) sabuni ... | H | Trianthema obcordatum |
| Shwet-sal ... ... ... | B | Dalbergia latifolia |
| Shwet-shimool ... ... | B & H | Eriodendron anfractuosum |
| Shwet-uparajita ... ... | H | Clitorea ternatea |
| Singara ... ... ... | ... | Trapa bispinosa or natans |
| Singinjanascha ... ... | ... | Corchorus olitorius |
| Siphal ... ... ... | ... | Ægle Marmelos |
| Sirissa ... ... ... | ... | Acacia speciosa |
| Sissoo ... ... ... | B & H | Dalbergia Sissoo |
| Sobhanjunya ... ... | B | Hyperanthera Moringa |
| Sod ... ... ... | H | Anethum Sowa |
| Soie, Soia ... ... ... | ... | Do. |
| Sola ... ... ... | B & H | Æschynomene aspera |
| Sona ... ... ... | H | Bauhinia variegata |
| Sonali ... ... ... | B | Cassia fistula |
| Sona-mookhee ... ... | H | Cassia elongata |
| Sona-pat ... ... ... | B | Do. |
| Soodali ... ... ... | B | Cassia fistula |
| Soovurnuka ... ... | B | Do. |
| Sothali ... ... ... | H | Æschynomene aspera |
| Sowa, Shuta-pooshpa ... ... | ... | Anethum Sowa or graveolens |
| Sphootee ... ... ... | B | Cucumis Momordica |
| Sufed-baryala ... ... | ... | Sida rhomboidea |
| Suffaid or Lalkudsumbal ... | ... | Canavalia gladiata |
| Sujna ... ... ... | ... | Hyperanthera Moringa |
| Suloopha sulpha ... ... | ... | Anethum Sowa |
| Sultan-champa ... ... | H | Calophyllum inophyllum |
| Sunn ... ... ... | B & H | Crotalaria juncea |
| Suphura-koomra ... ... | B & H | Cucurbita maxima |
| Surj ... ... ... | B | Shorea robusta |
| Surpunka ... ... ... | H | Calophyllum inophyllum |
| Surpunkha... ... ... | B | Tephrosia purpurea |
| Sweta-koonch ... ... | ... | Abrus precatorius |
| Swet-baryala ... ... | ... | Sida rhomboidea |
| Swetu-shala ... ... | ... | Dalbergia latifolia |
| | | |
| Talis-putrie ... ... | ... | Flacourtia cataphracta |
| Tamarhinda ... ... | H | Tamarindus Indica |
| Tapia ... ... ... | ... | Cratœva Nurvala |
| Tarbuz ... ... ... | H | Cucurbita Citrullus |
| Tela-koooha ... ... | ... | Coccinea Indica |
| Telkaiha ... ... ... | H | Do. |
| Teora ... ... ... | B | Lathyrus sativus |
| Thikeree ... ... ... | ... | Phaseolus radiatus |
| Thulkurie ... ... ... | B | Hydrocotyle Asiatica |

| | | |
|---|---|---|
| Tikta-raj ... ... ... | B | Amoora Rohituka |
| Tikul, Tikoor ... ... | H | Garcinia pedunculata |
| [illegible] ... ... | B | Cocculus acuminatus |
| [illegible] ... ... | ... | Dipterocarpus lœvis |
| [illegible] ... ... ... | ... | Linum usitatissimum |
| Tito dhoon-dhool ... ... | B | Luffa amara |
| Tittha-pat ... ... ... | ... | Corchorus capsularis |
| Tomri ... ... ... | ... | Lagenaria vulgaris |
| Toolsoo-moodriya ... ... | B | Leea macrophylla |
| Toombo ... ... ... | ... | Cucurbita lagenaria |
| Toon ... ... ... | B & H | Cedrela Toona |
| Toor ... ... ... | H | Cajanus Indicus |
| Tooti ... ... ... | ... | Cucumis Momordica |
| Triang-guli... ... ... | ... | Phaseolus trilobus |
| Tselkache ... ... ... | ... | Coccinia Indica |
| Tuar ... ... ... | ... | Cajanus Indicus |
| Tula ... ... ... | B | Gossypium herbaceum |
| Turbooz, Turmooj ... ... | B & H | Cucurbita Citrullus |
| Turooi ... ... ... | ... | Luffa acutangula |
| Turwur ... ... ... | ... | Cassia auriculata |
| | | |
| Ulsee ... ... ... | H | Linum usitatissimum |
| Umbutee ... ... ... | ... | Oxalis corniculata |
| Umul-koochi ... ... | ... | Cœsalpinia digyna |
| Undum ... ... ... | H | Pterocarpus santalinus |
| Uparajita ... ... ... | ... | Clitorea ternatea |
| Urjoon ... ... ... | ... | Pentaptera Arjuna |
| Uroona ... ... ... | ... | Rubia cordifolia |
| Urur ... ... ... | B & H | Cajanus Indicus |
| Usan ... ... ... | B | Terminalia tomentosa |
| | | |
| Veleytie-aghati ... ... | H | Cassia alata |
| Vurtuli ... ... ... | ... | Dichrostachys cinerea |

# INDEX OF TELUGU SYNONYMS.

| | |
|---|---|
| Abuba ... ... | ... Capparis Roxburghii |
| Abuvva ... ... | ... Trichosanthes palmata |
| Adda morinika ... | ... Cadaba Indica |
| Ada syamali ... | ... Isora corylifolia |
| Adavi avisa ... | ... Bauhinia racemosa |
| Adavi bira ... ... | ... Luffa amara |
| Adavi chamma ... | ... Canavalia virosa |
| Adavi chikkudu kaya ... | ... Lablab vulgaris |
| Adavi goranta ... | ... Sethia Indica |
| Adavi kakara ... | ... Momordica mixta |
| Adavi munaga ... | ... Moringa pterygosperma |
| Adavi nimma ... | ... Sclerostylis atalantoides |
| Adavi nitya malle ... | ... Hibiscus hirtus |
| Adavi pippali ... | ... Rhizophora mucronata |
| Adavi potla ... | ... Trichosanthes cucumerina |
| Adavi pratti ... | ... Hibiscus lampas |
| Adda ... ... | ... Bauhinia Vahlii |
| Adonda ... ... | ... Capparis horrida |
| Agakara ... ... | ... Momordica dioica |
| Agni vendrapaku ... | ... Ammannia vesicatoria |
| Aguba ... ... | ... Capparis Roxburghu |
| Akasa garuda gadda ... | ... Bryonia epigœa |
| Alabuvu ... ... | ... Lagenaria vulgaris |
| Alachandalu ... | ... Dolichos sinensis |
| Alla gili gich-cha ... | ... Crotalaria verrucosa |
| Alli chettu ... ... | ... Memecylon capitellatum |
| Allipayaru ... ... | ... Grewia lævigata |
| Allo neredu ... | ... Eugenia, sp. |
| Ambala chettu ... | ... Spondias mangifera |
| Ambati madu ... | ... Trianthema obcordatum |
| Anapa chikkudukaya ... | ... Lablab vulgaris |
| Anapa kaya ... | ... Lagenaria vulgaris |
| Anasandra or chandra ... | ... Acacia ferruginea |
| Anduga chettu ... | ... Boswellia glabra |
| Anghriparnika ... | ... Uraria lagopodioides |
| Ankadosa ... ... | ... Leea staphylea |
| Ankolamu ... ... | ... Alangium decapetalum |
| Antintalu ... ... | ... Desmodium diffusum |
| Anuga kaya ... | ... Lagenaria vulgaris |
| Anumulu ... ... | ... Lablab vulgaris |
| Aramanda ... ... | ... Eugenia bracteata |
| Are ... ... | ... Bauhinia racemosa |
| Arikota ... ... | ... Poivrea Roxburghii |
| Arimedamu ... | ... Vachellia Farnesiana |
| Arivita ... ... | ... Eugenia bracteata |
| Arudonda ... ... | ... Capparis horrida |
| Arudu ... ... | ... Ruta angustifolia |
| Asokam ... ... | ... Guatteria longifolia |

Atasi ... ... ... Linum usitatissimum
Attbala chettu ... ... Sida rhomboidea
Ati muktamu ... ... Hiptage madablota
Atta patti ... ... ... Mimosa pudica
Atukula baddu ... ... Vitis tomentosa
Avelaga ... ... ... Capparis, sp.
Aviri ... ... ... Indigofera tinctoria
Avva guda ... ... ... Trichosanthes palmata
Avisi ... ... ... Linum usitatissimum

Babbasa ... ... ... Hydrocotyle rotundifolia
Badadam ... ... ... Erythrina sublobata
Badam chettu ... ... Terminalia Catappa
Badaniki ... ... ... Loranthus longiflorus
Badapu chettu ... ... Erythrina Indica
Badise chettu ... ... Do.
Bagala ... ... ... Cucurbita, sp.?
Bakanu chakka ... ... Cæsalpinia Sappan
Bali komma ... ... Opilia amentacea
Balusa kura ... ... Canthium parviflorum
Bandara chettu ... ... Hymenodyction excelsum
Bandaru? ... ... ... Nauclea cordifolia
Bandaru ... ... Dodonœa Burmanniana
Bandhujivakamu ... ... Pentapetes phœnicea
Bandhukamu ... ... Ixora Bandhuca
Bandigarjana ... ... Dalbergia volubilis
Bandi gurivenda ... ... Adenanthera pavonina
Bandi kattu tige ... ... Combretum ovalifolium
Bandi murugudu ... ... Getonia floribunda
Banka baddu ... ... Vitis Linnæi
Banka chettu ... ... Zizyphus, sp.
Banka pavili ... ... Portulaca, sp.
Bapanamushti ... ... Olax scandens
Baragadam... ... ... Indigofera glandulosa
Baranki chettu ... ... Butea superba
Barapatalu... ... ... Indigofera glandulosa
Barburamu ... ... Acacia Arabica
Barjamu ... ... ... Erythrina Indica
Barre bach-chali ... ... Vitis setosa
Bedali ... ... ... Griffithia fragrans
Bedesa tivua ... ... Vitis latifolia
Begada ... ... ... Nauclea purpurea
Benda ... ... ... Abelmoschus esculentus
Bendu ... ... ... Æschynomene Indica
Betta ganappa ... ... Nauclea cordifolia
Bhallataki ... ... ... Semecarpus anacardium
Bhavanchi chettu ... ... Psoralea corylifolia
Bhu-dadimbah ... ... Careya herbacea
Bhu-sarkara ... ... Niebuhria oblongifolia
Bikki ... ... ... Gardenia latifolia
Billudu chettu ... ... Chloroxylon Swietenia
Bilvamu ... ... ... Ægle marmelos
Bimbika ... ... ... Coccinea Indica
Bira ... ... ... Elœodendron Roxburghii
Birakaya ... ... ... Luffa fœtida
Bobbarlu ... ... ... Dolichos sinensis

Boda chandra ... ... Mimosa rubicaulis
Bodanki chettu. ... ... Balsamodendron agallocha
Bodanta chettu ... ... Bauhinia purpurea
Bodda mamili ... ... Cupania canescens
Boddu kura ... ... Portulaca tuberosa
Boddu pavili kura ... ... Portulaca oleracea
Boja ... ... ... Inga xylocarpa
Bokkudu ... ... ... Hydrocotyle Asiatica
Bomma papata ... ... Stylocoryne Webera
Bomma sari ... ... Polycarpæa corymbosa
Bommidapu chettu ... ... Indigofera glandulosa
Bonta vempali ... ... Tephrosia purpurea
Bota kadimi ... ... Nauclea parvifolia
Botla benda ... ... Abutilon Indicum
Budadanedi ... ... Careya arborea
Budama ... ... ... Cucumis, gen.
Budamara ... ... ... Grewia salvifolia
Budareni ... ... ... Capparis divaricata
Budda kakara ... ... Cardiospermum Halicacabum
Budda tumma ... ... Acacia Roxburghii
Budide gamadi ... ... Cucurbita Pepo
Bukkapu chettu ... ... Cæsalpinia Sappan
Burija ... ... ... Hymenodictyon excelsum
Buruga ... ... ... Eriodendron anfractuosum

Chalapachchi ... ... Indigofera enneaphylla
Chamma ... ... ... Canavalia gladiata
Champakamu ... ... Michelia Champaca
Chandam ... ... ... Pterocarpus santalinus
Chandra chettu ... ... Acacia Sundra
Chara ... ... ... Buchanania latifolia
Chatarasi kura ... ... Mollugo spergula
Chedarasi ... ... ... Do.
Chedu bira... ... ... Luffa amara
Chedu potla ... ... Trichosanthes cucumerina
Chega gada ... ... Vangueria spinosa
Chekonadi ... ... ... Cadaba Indica
Chennangi ... ... ... Lagerstrœmia, sp.
Chepputata ... ... Desmodium polycarpum
Cheti anapa kaya ... ... Lagenaria vulgaris
Cheti bira ... ... ... Luffa amara
Cheti potla... ... ... Trichosanthes cucumerina
Chetipa ... ... ... Hymenodyction excelsum
Chikya ... ... ... Acacia concinna
Chikkudu chettu ... ... Lablab cultratus
Chilaka duduga ... ... Guatteria suberosa
Chillanki ... ... ... Inga umbellata
Chimurudu ... ... Cadaba Indica
China avaguda ... ... Trichosanthes incisa
China karinguva ... ... Gardenia lucida
Chinduga ... ... ... Acacia odoratissima
China mandula mari ... ... Vitis Linnæi
China moralli ... ... Buchanania latifolia
China muttama ... ... Sida alba
China navuli ... ... Niebuhria linearis
China valasa ... ... Walsura ternata

Chinna jammi ... ... Acacia cineraria
Chinna galiuga ... ... Dillenia pentagyna
Chinna nare ... ... Eugenia salicifolia
Chinna nidrakanti ... ... Desmanthus triquetrus
Chinni chettu ... ... Celastrus emarginata
Chinta chettu ... ... Tamarindus Indica
Chipudi ... ... ... Grewia salvifolia
Chipuru tige ... ... Cocculus villosus
Chiranji ... ... ... Rubia?
Chiratala bodi ... ... Brachypterum scandens
Chiri benda ... ... Sida cordifolia
Chiri bikki ... ... ... Gardenia gummifera
Chiri duduga ... ... Uvaria lutea
Chiri galigeru ... ... Trianthema, sp.
Chiri giligichcha ... ... Crotalaria laburnifolia
Chiri koti goru ... ... Pterolobium lacerans
Chiri manu ... ... Conocarpus latifolia
Chiri palleru ... ... Tribulus lanuginosus
Chiri veru ... ... ... Oldenlandia umbellata
Chiri ulava ... ... Rhynchosia rufescens
Chitikeswarum ... ... Poinciana elata
Chiti muti ... ... ... Sida acuta
Chitrika ... ... ... Limonia, sp.
Chittadudaga ... ... Guatteria cerasoides
Chittamatta ... ... Gardenia gummifera
Chittenta kura ... ... Riedleia corchorifolia
Chitti benda ... ... Pavonia odorata
Chitti gara ... ... ... Capparis brevispina
Chitti papara ... ... Citrullus Colocynthis
Chukka kada ... ... Bigelovia lasiocarpa

Daduga ... ... ... Nauclea cordifolia
Dampara ... ... ... Odina Wodier✓
Danti chettu ... ... Celastrus montana
Dari gummadi ... ... Pueraria tuberosa
Dasana ... ... ... Hibiscus Rosa-sinensis
Deva-daru ... ... ... Sethia Indica
Deva-kanchanamu ... ... Bauhinia variegata✓
Devata-malle ... ... Randia uliginosa
Dhataki kusmamu ... ... Grislea tomentosa
Dintena ... ... ... Clitorea ternatea
Dirasana chettu ... ... Acacia speciosa ✓
Donda ... ... ... Coccinea Indica
Draksha chettu ... ... Vitis vinifera
Dudduga ... ... ... Guatteria cerasoides
Dudi chettu ... ... Abutilon Indicum
Dulagondi ... ... ... Mucuna prurita
Dusari tige ... ... ... Cocculus villosus

Edakula mandula mari... ... Vitis pedata
Egisa ... ... ... Pterocarpus marsupium✓
Ekkudu tige ... ... Cardiospermum Halicacabum
Elaka chevikura ... ... Hydrocotyle rotundifolia
Elamavi ... ... ... Mangifera Indica
Enuga pesalu ... ... Phaseolus, sp.
Epe chettu .. ... ... Hardwickia binata ✓

| | |
|---|---|
| Erikata ... ... | ... Celastrus paniculata |
| Erra chandanam ... | ... Pterocarpus santalinus |
| Erra chikkudu ... | ... Dolichos glutinosus |
| Erra galijeru ... | ... Trianthema obcordatum |
| Erra jiluga... ... | ... Sesbania aculeata |
| Erra kaluva ... | ... Nymphœa rubra |
| Erra kuti ... ... | ... Pavonia odorata |
| Erra maddi... ... | ... Terminalia Arjuna |
| Erra munaga ... | ... Moringa pterygosperma |
| Erra pachchari ... | ... Dalbergia frondosa |
| Erra sala barta ... | ... Hibiscus hirtus |
| Erra tamara padmam ... | ... Nelumbium speciosum |
| Erra vegisa ... | ... Pterocarpus Dalbergioides |
| Eru maddi ... ... | ... Terminalia Berryi |
| Eti puchcha ... | ... Citrullus Colocynthis |
| | |
| Gaba ... ... | ... Desmodium collinum |
| Gachcha chettu ... | ... Guilandina Bonduc |
| Gadda goru ... | ... Scutia Indica |
| Gadda pisinike ... | ... Grislea tomentosa |
| Gadda putike ... | ... Getonia floribunda |
| Gadi chikkudu kaya ... | ... Rhynchosia medicaginea |
| Gaja pushpamu ... | ... Mesua, sp. |
| Gaji ... ... | ... Grislea tomentosa |
| Gaja chinni ... | ... Celastrus montana |
| Galaga ... ... | ... Tephrosia racemosa |
| Galuchi ... ... | ... Cocculus cordifolius |
| Ganga pavali kura ... | ... Trianthema decandrum |
| Ganga ravi... ... | ... Michelia Champaca |
| Ganga regu ... | ... Portulaca oleracea |
| Gara chettu ... | ... Thespesia populnea |
| Garaga or Garaga ... | ... Zizyphus Jujuba |
| Garugu chettu ... | ... Balanites Ægyptiaca |
| Gatrinta ... ... | ... Hugonia Mystax |
| Gavakshi vrikshamu ... | ... Cucumis, sp. |
| Gayapu aku ... | ... Sida humilis |
| Gechchangi ... | ... Celastrus montana |
| Gede dulagondi ... | ... Mucuna atropurpurea |
| Gede peyyara chettu ... | ... Combretum ovalifolium |
| Ghantaravamu ... | ... Crotalaria, sp. |
| Gidugudu ... ... | ... Casearia tomentosa |
| Gila goranta ... | ... Crotalaria verrucosa |
| Gilaka chettu ... | ... Crotalaria, sp. |
| Gila tige ... ... | ... Entada pusætha |
| Gilugudu ... ... | ... Casearia tomentosa |
| Girikarnika ... | ... Alhagi Maurorum |
| Gita naram... ... | ... Desmodium Gangeticum |
| Godari ... ... | ... Grislea tomentosa |
| Goddu pavili ... | ... Portulaca quadrifida |
| Golla pulleda ... | ... Dodonœa Burmanniana |
| Golugu ... ... | ... Glycosmis pentaphylla |
| Gongura ... ... | ... Hibiscus canabinus |
| Gonji pandu ... | ... Glycosmis pentaphylla |
| Goragamudi ... | ... Eugenia bracteata |
| Goranta ... ... | ... Lawsonia alba |
| Gorre pentika ... | ... Leea, sp. |

Goru chikkudu ... ... Cyamopsis psoraloides
Gostani draksha ... ... Vitis vinifera
Gotte or Gotti chettu ... ... Zizyphus xylopyrus
Guaku ... ... ... Randia uliginosa
Gubbakaya ... ... Lagenaria vulgaris
Gudama tige ... ... Vitis adnata
Guddi marala ... ... Bryonia Garcini
Guduchi ... ... ... Cocculus cordifolius
Guggulu ... ... ... Vatica robusta
Guggilapu chettu ... ... Boswellia glabra
Gujju mamidi ... ... Mangifera Indica
Gullum chettu, Guli ... ... Capparis grandis
Gulivinda ... ... ... Abrus precatorius
Gummali kaya ... ... Cucurbita maxima
Gumpena chettu ... ... Odina Wodier
Gundu meda ... ... Celastrus paniculata
Gunja ... ... ... Abrus precatorius
Gunta kaminam ... ... Stemodia viscosa
Gurrapu badam chettu... ... Sterculia fœtida
Guruginja ... ... ... Abrus precatorius
Gurugudu .. ... ... Cascaria tomentosa
Gutti bira ... ... ... Luffa racemosa
Guvva dada ... ... Grewia abutilifolia

Hemangamu ... ... Michelia Champaca
Hemapushpakamu ... ... Do.

Indivara ... ... ... Nymphœa stellata
Irugudu chettu ... ... Dalbergia latifolia
Iruvudu ... ... ... Do.
Isakarasi manu ... ... Sapindus rubiginosus
Iska dasari kura ... ... Gisekia pharnaceioides
Ita munge tige ... ... Dolichos falcatus
Ivuru mamidi ... ... Spondias mangifera

Jalari chettu ... ... Vatica laccifera
Jale chettu... ... ... Acacia, sp.
Jambuneredu ... ... Eugenia Jambolana
Jammi chettu ... ... Prosopis spicigera
Janna chettu ... ... Grewia, sp.
Jane ... ... ... Trichaurus ericoides
Janumu ... ... ... Crotalaria juncea
Japa pushpamu ... ... Hibiscus Rosa-sinensis
Jaru mamidi ... ... Buchanania latifolia
Java pushpamu ... ... Hibiscus Rosa-sinensis
Jena chettu ... ... Grewia, sp.
Jibilika chettu ... ... Grewia Rothii
Jibilike chettu ... ... Uraria lagopodioides
Jidi chettu ... ... ... Semecarpus anacardium
Jidi mamidi ... ... Anacardium occidentale
Jiluga bendu ... ... Æschynomene aspera
Jittegi ... ... ... Dalbergia latifolia
Jyotishmati ... ... Cardiospermum Halicacabum

Kadamba ... ... ... Nauclea Cadamba
Kadapa chettu ... ... Do.

| | |
|---|---|
| Kadimi manu ... | ... Nauclea Cadamba |
| Kadipa tige ... | ... Cissus carnosa |
| Kaggera ... ... | ... Pongamia glabra |
| Kakamari ... ... | ... Anamirta cocculus |
| Kakara ... ... | ... Momordica Charantia |
| Kaki champa ... | ... Anamirta cocculus |
| Kaki donda ... | ... Coccinea Indica |
| Kaki kalavagadda ... | ... Nymphœa, var. |
| Kaki pasara ... | ... Phaseolus, sp. |
| Kakiti chettu ... | ... Gardenia latifolia |
| Kala ginja ... ... | ... Psoralea corylifolia |
| Kalava ... ... | ... Nymphœa, gen. |
| Kalharamu... ... | ... Nymphœa edulis |
| Kalinga ... ... | ... Dillenia speciosa |
| Kalu gachcha ... | ... Psoralea corylifolia |
| Kalugudu ... ... | ... Garuga pinnata |
| Kamala ... ... | ... Nymphœa |
| Kampu irugudu chettu | ... Dalbergia, sp. |
| Kampu tumma ... | ... Vachellia Farnesiana |
| Kanapu chettu ... | ... Barringtonia acutangula |
| Kanapa tige ... | ... Cissus carnosa |
| Kana regu ... ... | ... Flacourtia sepiara |
| Kanchana ... ... | ... Bauhinia acuminata |
| Kanchanamu ... | ... Michelia Champaca |
| Kanchi chikkudu kaya | ... Dolichos ciliatus |
| Kandulu ... ... | ... Cajanus Indicus |
| Kani apa tige ... | ... Cissus pedata |
| Kani gichettu ... | ... Barringtonia acutangula |
| Kannem ... ... | ... Cissus pedata |
| Kantena ... ... | ... Crotalaria anthylloides |
| Kanaga chettu ... | ... Pongamia glabra |
| Kapitthamu ... | ... Feronia elephanta |
| Kappa tiyya ... | ... Terminalia Chebula |
| Kar alli ... ... | ... Carallia lucida |
| Karamanulu ... | ... Dolichos sinensis |
| Karavalli ... ... | ... Carallia lucida |
| Karinguva ... ... | ... Gardenia latifolia |
| Kari vepa ... ... | ... Bergera Kœnigii |
| Karkandhavu ... | ... Zizyphus Jujuba |
| Karkarukamu ... | ... Cucurbita, sp. |
| Karkata sringi ... | ... Terminalia Chebula |
| Karpasamu ... | ... Gossypium herbaceum |
| Karpura benda ... | ... Abelmoschus moschatus |
| Karra antinta ... | ... Dicerma pulchellum |
| Karra chika ... | ... Acacia pennata |
| Karra sirli ... ... | ... Dalbergia rubiginosa |
| Karra vadala ... | ... Getonia floribunda |
| Karra ulava ... | ... Rhynchosia suaveolens |
| Karu alachanda ... | ... Phaseolus rostratus |
| Karu boppayi ... | ... Erythropsis Roxburghiana |
| Karu chamma ... | ... Canavalia virosa |
| Karu sikaya ... | ... Acacia pennata |
| Karu chikkudu ... | ... Dolichos glutinosus |
| Karu gili gichcha ... | ... Crotalaria hirta |
| Karu kandi ... | ... Dolichos glutinosus |
| Karu minumulu ... | ... Phaseolus radiatus |

Karu munaga ... ... Moringa pterygosperma
Karu nili ... ... ... Indigofera cœrulea
Karu patti ... ... ... Hibiscus vitifolius
Karu ulava... ... ... Cantherospermum pauciflorum
Kasana ... ... ... Bauhinia acuminata
Kasarakaya ... ... Luffa tuberosa
Kasamardakamu, S. ... ... Cassia Sophora
Kasinda ... ... ... Cassia occidentalis
Kasturi tumma ... ... Vachellia Farnesiana
Katte tige ... ... ... Cocculus villosus
Katti papara ... ... Cucumis, sp.
Katolamu, S. ... ... Mucuna, sp.
Kavanchi ... ... ... Isora corylifolia
Kavile ... ... ... Sterculia urens
Kasaramu ... ... ... Mesua Roxburghii
Khadiramu... ... ... Acacia Catechu
Kimsukamu ... ... Butea frondosa
Kinjalkamu ... ... Mesua Roxburghii
Kodi-budama ... ... Cucumis pubescens
Kodi juttu manu ... ... Erythropsis Roxburghiana
Kokketa ... ... ... Gardenia latifolia
Kokketa yarala ... ... Cissus adnata
Kola ponna ... ... Uraria lagopodioides
Kolupu ... ... ... Grewia Rothii
Komma chettu ... ... Ixora parviflora
Kommi chettu ... ... Stylocoryne Webera
Kommukakara ... ... Momordica, sp.
Kommu potla ... ... Trichosanthes dioica
Konda alachandalu ... ... Dolichos sinensis
Konda benda ... ... Hibiscus eriocarpus
Konda buruga ... ... Salmalia Malabarica
Konda gilichcha ... ... Crotalaria montana
Konda gogu ... ... Cochlospermum gossypium
Konda gongura ... ... Hibiscus furcatus
Konda golugu ... ... Glycosmis arborea
Konda kasinda ... ... Cassia Sophora
Konda korinda ... ... Acacia cæsia
Konda mamidi ... ... Protium Roxburghianum
Konda manga ... ... Gardenia latifolia
Konda nakkera ... ... Ximenia Americana
Konda nimma ... ... Atalantia monophylla
Konda papata ... ... Stylocoryne Webera
Konda regu ... ... Zizyphus, sp.
Konda tantepu chettu ... ... Cassia glauca
Konda tangedu ... ... Inga xylocarpa
Konda vempali ... ... Tephrosia suberosa
Konda ulava ... ... Cantherospermum pauciflorum
Korimi pala ... ... Ixora parviflora
Korindam ... ... ... Acacia Intsia
Korivipala ... ... ... Ixora parviflora
Korjashtam ... ... Psoralea corylifolia
Kora chettu ... ... Schmidelia serrata
Kosa taki ... ... ... Luffa, sp.
Kotadi ... ... ... Terminalia, sp.
Koti goru ... ... ... Pterolobium lacerans
Kotiki ... ... ... Olax scandens

Koti vanne kranuga ... ... Guilandina, sp.
Kovile chettu ... ... Ixora undulata
Kranuga ... ... ... Pongamia glabra
Kshira kadambam ... ... Nauclea, sp.
Kuchandanam ... ... Pterocarpus santalinus
Kukka budda ... ... Grewia pilosa
Kukka pavili ... ... Portulaca, sp.
Kukkudu ... ... ... Sapindus emarginatus
Kukka vaminta ... ... Polymisia Icosandra
Kumbhi ... ... ... Careya arborea
Kumuda ... ... ... Nymphœa pubescens
Kundanuga ... ... Lagenaria vulgaris
Kudi velaga ... ... Sida Mysorensis
Kuna gili gichcha ... ... Crotalaria Orixensis
Kunkudu chettu ... ... Sapindus emarginatus
Kunkuma donda ... ... Bryonia rostrata
Kuranji vamam ... ... Cnidium diffusum
Kura palleru ... ... Vitis auriculata
Kuru dinne ... ... Vitis carnosa
Kurumbi ... ... ... Cassia florida
Kurukiti ... ... ... Gardenia latifolia
Kushmandamu ... ... Cucurbita maxima
Kuturu budama ... ... Bryonia scabrella
Kuvalayamu ... ... Nymphœa

Laghubrahmi chettu ... ... Trigonella corniculata
Linga donda ... ... Bryonia laciniosa
Linga potla ... ... Trichosanthes anguina, var.
Loluga ... ... ... Pterospermum Heyneanum
Loukada ... ... ... Bigelovia lasiocarpa

Madana or Madina ... ... Spermacoce hispida
Madana ginjalu ... ... Linum usitatissimum
Maddi chettu ... ... Morinda, sp.
Maddi chittu ... ... Terminalia glabra
Madhavi tige ... ... Hiptage madablota
Madhameda ... ... Erythrina Indica
Makandamu ... ... Mangifera Indica
Mala erikata ... ... Celastrus paniculata
Maluramu ... ... ... Ægle Marmelos
Mamidi ... ... ... Mangifera Indica
Manapala ... ... ... Cocculus cordifolius
Manchi jiluga ... ... Sesbania procumbens
Manda ... ... ... Randia dumetorum
Manda motuku ... ... Dalbergia Oojeinensis
Mundula mari tige ... ... Vitis carnosa
Maneru ... ... ... Celastrus paniculata
Manga ... ... ... Randia dumetorum
Manjishta ... ... ... Rubia cordifolia
Mankena ... ... ... Pentapetes Phœnicea
Manmadha bana chettu ... Ixora Banduca
Manne ... ... ... Crotalaria laburnifolia
Maredu chettu ... ... Ægle Marmelos
Matsa kanda ... ... Pterospermum acerifolium
Mavi ... ... ... Mangifera Indica

Mayala erikata ... ... Celastrus paniculata
Mayi ... ... ... Schleichera trijuga
Medakava ... ... ... Grewia pilosa
Mekamettani chettu ... ... Vitis carnosa
Mekamettani tige ... ... Niebuhria oblongifolia
Menika tige ... ... Do.
Meshakshi kusuma ... ... Cassia, sp.
Metta kakara ... ... Momordica Charantia, var.
Metta tamra ... ... Cassia alata
Minumulu ... ... ... Phaseolus Roxburghii
Mirapa kandra ... ... Toddalia aculeata
Moduga chettu ... ... Butea frondosa
Mogulu kadimi ... ... Nauclea Cadamba
Morinika ... ... ... Niebuhria oblongifolia
Motta sirli ... ... ... Brachypterum scandens
Movi chettu, Moyich ... ... Eugenia alternifolia
Mullu jiluga ... ... Æschynomene Roxburghii
Mulu dosa ... ... ... Cucumis muricatus
Mulu gogu... ... ... Hibiscus Surattensis
Mulugu chettu ... ... Morinda citrifolia
Mulu moduga ... ... Erythrina sublobata
Mulu vempali ... ... Tephrosia spinosa
Munaga ... ... ... Moringa pterygosperma
Munga ... ... ... Crotalaria antheloides
Muni gangaravi ... ... Thespesia populneoides
Munta jiluga mokka ... ... Sesbania paludosa
Munta mamedi ... ... Anacardium occidentale
Munta mandu ... ... Desmodium triflorum
Muru donda ... ... Bryonia epigœa
Muttava ... ... ... Sida cordifolia
Muttava pulagam chettu ... Sida acuta
Muvi ... ... ... Uvaria lutea
Muyyaku ponna ... ... Pseudarthria viscida

Naga donda ... ... Bryonia rostrata
Naga giligichcha ... ... Crotalaria trifoliastrum
Naga golugu ... ... Murraya exotica
Naga kisara chettu ... ... Mesua Roxburghii
Naga mushini ... ... Cocculus acuminatus
Nagaru tige ... ... Tephrosia racemosa
Naga tumma ... ... Vachellia Farnesiana
Nakka narayana ... ... Indigofera, sp.
Nakka naru ... ... Indigofera trita
Nakka neradu ... ... Flacourtia sapida
Nakka toka ponna ... ... Uvaria lagopoides
Nakkina ... ... ... Canthium didymum
Nalla agissi ... ... Linum usitatissimum
Nalla balusu ... ... Canthium didymum
Nalla budama ... ... Cucumis turbinatus
Nalla chandra ... ... Acacia Sundra
Nalla chikkuda ... ... Lablab, sp.
Nalla chuckka kada ... ... Eleiotis sororium
Nalla daduga ... ... Uvaria villosa
Nalla dintena ... ... Clitorea ternatea
Nalla gili gichcha ... ... Crotalaria hirsuta
Nallagiri gili gichcha ... ... Crotalaria linifolia

| | |
|---|---|
| Nalla guli vinda ... | ... Abrus precatorius |
| Nalla jidi chettu ... | ... Semecarpus anacardium |
| Nalla jiluga ... | ... Cassia pumila |
| Nalla kakara ... | ... Momordica, sp. |
| Nalla kakasi ... | ... Randia uliginosa |
| Nalla kaluva ... | ... Nymphœa stellata |
| Nalla kasana ... | ... Ormocarpum sennoides |
| Nalla kavani ... | ... Dicerma biarticulatum |
| Nalla maddi ... | ... Terminalia tomentosa |
| Nalla manga ... | ... Randia, sp. |
| Nallany padmam ... | ... Euryale ferox |
| Nallay palleru ... | ... Indigofera echinata |
| Nalla pesalu ... | ... Phaseolus Mungo |
| Nalla regu ... ... | ... Acacia amara |
| Nalla tumma ... | ... Acacia Arabica |
| Nalla vegisa ... | ... Pterocarpus, sp. |
| Nalla udata ... | ... Opilia amentacea |
| Nalla uduga ... | ... Alangium hexapetalum |
| Nalla uppi... ... | ... Capparis sepiara |
| Nalla yirugudu chettu... | ... Dalbergia latifolia |
| Nalleru ... ... | ... Cissus quadrangularis |
| Nalli ... ... | ... Grewia pilosa |
| Nalupu mushti kaya ... | ... Microelus Rœperianus |
| Nam papata ... | ... Pavetta tomentosa |
| Nandi ... ... | ... Cedrela Toona |
| Narabotuku ... | ... Eriochlœna Hookeriana |
| Nara epe ... ... | ... Hardwickia binata |
| Nayaku ponna ... | ... Pseudarthria viscida |
| Nela alumu ... | ... Rhynchosia nuda |
| Nela benda ... | ... Abelmoschus ficulneus |
| Nela jammi ... | ... Acacia cineraria |
| Nela kobbari ... | ... Ionidium suffruticosum |
| Nelanuga ... ... | ... Lagenaria vulgaris |
| Nela ponna ... | ... Cassia, sp. |
| Nela tangedu ... | ... Cassia obtusa |
| Nela vaminta ... | ... Polynisia Icosandra |
| Nela velaga ... | ... Feronia elephantum |
| Nemmi chettu ... | ... Dalbergia Oojeinensis |
| Nerasi or Nirasi ... | ... Elœodendron Roxburghii |
| Nerija manu ... | ... Do. |
| Neti bira ... ... | ... Luffa pentandra |
| Neti donda... ... | ... Bryonia umbellata |
| Nidra kanti ... | ... Desmanthus triquetrus |
| Nili chettu... ... | ... Indigofera tinctoria |
| Nili pallera ... | ... Indigofera echinata |
| Nimba ... ... | ... Azadirachta Indica |
| Nimiri ... ... | ... Terminalia paniculata |
| Nippula vanne kranuga. | ... Pongamia, sp. |
| Niralli ... ... | ... Canthium didymum |
| Nirija ... ... | ... Elœodendron Roxburghii |
| Niru chikkudu ... | ... Lablab, sp. |
| Niru gili gichcha ... | ... Crotalaria quinquefolia |
| Niru jiluga... ... | ... Æschynomene aspera |
| Niru pavela ... | ... Bergia verticillata |
| Niru talavapu ... | ... Desmanthus natans |
| Nityamalle... ... | ... Hibiscus hirtus |

Nolika ... ... ... Pterospermum Heyneanum
Nugu benda ... ... Abutilon, sp.
Nugu dosa ... ... ... Bryonia scabrella
Nuliti ... ... ... Isora corylifolia
Nuli tada chettu ... ... Grewia, sp.
Nune bira ... ... ... Luffa pentandra
Nune gichcha ... ... Cæsalpinia digyna
Nune papata ... ... Pavetta Indica
Nuti kasinda ... ... Cassia Sophora

Omamu ... ... ... Ptychotis Ajowan

Pabasa chettu ... ... Trichaurus cricoides
Pachcha janumu ... ... Crotalaria, sp.
Pachchani padamu ... ... Nelumbium, sp.
Pachcha pedda goranta. ... Lawsonia alba
Pachcha pesulu ... ... Phaseolus mungo
Pach chari ... ... ... Dalbergia paniculata
Pachcha yirugudu ... ... Dalbergia, sp.
Pachi manu ... ... Anogeissus acuminatus
Padmam ... ... ... Nelumbium speciosum
Paidi tangedu ... ... Cassia Sophora
Pakke or Pakhi chettu... ... Tamarix Gallica
Pala samu ... ... ... Butea frondosa
Palleke or Palaki ... ... Capparis brevispina
Pallem ... ... ... Tribulus lanuginosus
Pam bira ... ... ... Luffa echinata
Pamidi patti ... ... Gossypium acuminatum
Pamidi tangidu ... ... Poinciana pulcherrima
Pandiki ... ... ... Kydia calycina
Panke ruhamu ... ... Nymphœa, gen.
Papara budama ... ... Citrullus Colocynthis
Papata ... ... ... Pavetta Indica
Parage and Paringi ... ... Zizyphus œnoplia
Parike gadda ... ... Trapa bispinosa
Parimi ... ... ... Zizyphus œnoplia
Parinta ... ... ... Corchorus olitorius
Parpataka ... ... ... Mollugo cerviana
Parupu benda ... ... Abelmoschus ficulneus
Parupu velaga ... ... Feronia elephantum
Pasupu kadimi ... ... Nauclea cordifolia
Patali tivva ... ... Cardiospermum Halicacabu
Palanga chekka ... ... Cæsalpinia Sappan
Pata veru ... ... ... Cocculus acuminatus
Patalas ... ... ... Trichosanthes cucumerina
Pattu tige ... ... ... Niebuhria oblongifolia
Patti ... ... ... Gossypium herbaceum
Pavilla kura ... ... Portulaca meridiana
Pedali or Pedayi ... ... Griffithia fragrans
Pedda are ... ... ... Bauhinia purpurea
Pedda benda ... ... Abutilon Indicum
Pedda bira ... ... ... Luffa, sp.
Pedda cheti anuga ... ... Luffa tuberosa
Pedda chilaka daduga ... ... Uvaria tomentosa
Pedda dante ... ... Celastrus montana
Pedda dosa ... ... Cucumis Momordica

Pedda dulagondi ... ... Mucuna prurita
Pedda giti gichcha ... ... Crotalaria laburnifolia
Pedda kalinga ... ... Dillenia speciosa
Pedda kana rigu ... ... Flacourtia sapida
Pedda konda kandulu ... ... Cajanus Indicus
Pedda manu ... ... Ailanthus excelsus
Pedda moralli ... ... Buchanania angustifolia
Pedda manga chettu ... ... Randia uliginosa
Pedda nili chettu ... ... Indigofera cœrulea
Pedda papara chettu ... ... Cucumis, sp
Pedda pavili kura ... ... Portulaca quadrifida
Pedda sopara ... ... Dalbergia frondosa
Pedda vamanta ... ... Polanisia Icosandra
Penke tige ... ... ... Gouania leptostachia
Penu vempali ... ... Indigofera hirsuta
Pera mutti ... ... Hibiscus Zeylanicus
Perinta kura ... ... Corchorus olitorius
Pasalu ... ... ... Phaseolus Mungo
Peyyapa ... ... ... Ailanthus excelsus
Peyya regu ... ... Grewia orientalis
Pichuka kalu ... ... Pharnaceum cerviana
Pilaka sare... ... ... Mollugo spergula
Piliya mankena ... ... Urena sinuata
Pilli pisara... ... ... Phaseolus trilobus
Pilli vatta chettu ... ... Crotalaria biflora
Pinna buruga ... ... Salmalia Malabarica
Pinna yelaki chettu ... ... Hydrocotyle Asiatica
Pita vrikshamu ... ... Spondias mangifera
Podala manu ... ... Acacia Catechu
Poallkaya ... ... ... Trichosanthes anguina
Polumorinika ... ... Cadaba Indica
Ponna chettu ... ... Calophyllum inophyllum
Porila sapura ... ... Dalbergia paniculata
Posuku ... ... ... Schleichera trijuga
Potari ... ... ... Kydia fraterna
Potla kaya... ... ... Trichosanthes anguina
Potti budama ... ... Bryonia scabrella
Potti giligichcha ... ... Crotalaria retusa
Potti kakara ... ... Momordica Charantia
Potu agakara ... ... Momordica dioica
Potu donda ... ... Bryonia umbellata
Potu kandulu ... ... Cajanus Indicus
Potu vadla ... ... Hiptage madablota
Prakke chettu ... ... Tamarix Gallica
Pratti ... ... ... Gossypium herbaceum
Prenkhanamu ... ... Nauclea Cadumba
Priyadarsini ... ... Prosopis spicigera
Pu agakara ... ... Momordica dioica
Puli chinta... ... ... Oxalis corniculata
Puli mada ... ... ... Vitis pedata
Puli todugu ... ... Pterolobium lacerans
Puli velaga... ... ... Feronia elephantum
Pulla bachchali ... ... Vitis setosa
Pulla chanchali ... ... Oxalis corniculata
Pulla pavili ... ... Portulaca, sp.

Pundarikamu ... ... Nelumbium speciosum
Punnaga ... ... ... Calophyllum inophyllum
Purudona ... ... ... Mallea Rothii
Purusha ratnam ... ... Ionidium suffruticosum
Putiki ... ... ... Grewia salvifolia
Putiki ... ... ... Grewia Asiatica
Putta pala ... ... ... Ixora parviflora
Putta tige ... ... ... Niebuhria oblongifolia

Rachcha manu ... ... Xanthoxylon Rhetsa
Rachcha mamidi ... ... Mangifera Indica
Raktachandanam ... ... Pterocarpus santalinus
Rampa maredu ... ... Combretum ovalifolium
Rana billa ... ... ... Mallea Rothii
Ravudana ... ... ... Dillenia pentagyna
Regu chettu ... ... Zizyphus Jujuba
Regu raku tige ... ... Hiræa Indica
Regutti ... ... ... Capparis grandis
Reyyi papu ... ... Grislea tomentosa
Rohitakah ... ... ... Amoora Rohituka
Rudraksha chettu ... ... Guazuma tomentosa
Rudraksha kamba ... ... Nauclea Cadamba

Sadapa ... ... ... Ruta angustifolia
Sahadevi chettu ... ... Sida acuta
Sala ... ... ... Vatica robusta
Salla budata ... ... Hibiscus, sp.
Sambrani manu ... ... Parkia biglandulosa
Sampenga chettu ... ... Michelia Champaca
Sandra ... ... ... Acacia Sundra
Sanna pavili ... ... Portulaca meridiana
Sarpakshi ... ... Ophiorrhiza mungos
Savirala chettu ... ... Pœderia fœtida
Sikaya ... ... ... Acacia concinna
Sima avisi ... ... ... Cassia alata
Sima chinduga } ... ... Inga dulcis
Sima chinta }
Sima jiluga... ... ... Parkinsonia aculeata
Sinduva chettu ... ... Acacia speciosa
Sirijana ... ... ... Grewia Rothii
Siri manu ... ... ... Conocarpus latifolia
Siri ulava ... ... ... Rhynchosia rufescens
Sissu ... ... ... Dalbergia Sissoo
Somida manu ... ... Soymida febrifuga
Sominta ... ... ... Sesbania Ægyptiaca
Sorakaya ... ... ... Lagenaria vulgaris
Suku kada ... ... ... Bigelovia lacsiocarpa
Sumi ... ... ... Soymida febrifuga
Sundara ... ... ... Viscum orientale
Sunkeswaram ... ... Poinciana elata
Sunuru ... ... ... Ochna squarrosa
Surapadi ... ... ... Leea hirta
Sura ponna ... ... Barringtonia speciosa
Suritkaya ... ... ... Mucuna capitata
Surli ... ... ... Brachypterum scandens

Surya kanti chettu ... ... Ionidium suffruticosum

Suvarnam ... ... ... Cassia fistula / Mesua Roxburghii / Sida cordifolia

Syamali ... ... ... Isora corylifolia

Tabati ... ... ... Mallea Rothii
Tada chettu ... ... Grewia tiliœfolia
Tadi chettu ... ... Terminalia Belerica
Tadica chuvva ... ... Grewia Rothii
Tagirise kura ... ... Cassia, sp.
Talanoppy chettu ... ... Xanthium orientale
Talisapatri ... ... ... Flacourtia cataphracta
Tamala chettu ... ... Xanthochymus pictorius
Tamara ... ... ... Nelumbium speciosum
Tamma ... ... ... Canavalia gladiata
Tamravalli ... ... Rubia cordifolia
Tangedu ... ... ... Cassia auriculata
Tangedu manu ... ... Inga xylocarpa
Tantepu chettu ... ... Cassia Tora
Tantisa ... ... ... Schmeidelia serrata
Tavakanchanam ... ... Bauhinia, sp.
Tavatiki ... ... ... Schmeidelia serrata
Teddapala ... ... ... Ixora parviflora
Telaga ... ... ... Gardenia, sp.
Telasu ... ... ... Acacia odoratissima
Telantisa, Tella antisa... ... Sida cordifolia
Tella birakaya ... ... Luffa, sp.
Tella chandra ... ... Acacia Suma
Tella chikkudu kaya ... ... Lablab cultratus
Tella diutena ... ... Clitorea ternatea
Tella dirasana ... ... Acacia speciosa
Tella duradagondi ... ... Mucuna, sp.
Tella galijeru ... ... Trianthema decandrum
Tella giniya chettu ... ... Alhagi Maurorum
Tella gorra chettu ... ... Sida cordifolia
Tella gumudu ... ... Vitis lanceolaria
Tella gurivenda ... ... Abrus precatorius
Tella virugudu ... ... Dalbergia latifolia
Tella janumu ... ... Crotalaria, sp.
Tella kakara ... ... Momordica Charantia
Tella kakisa ... ... Gardenia montana
Tella kaluva ... ... Nymphœa pubescens
Tella korindá ... ... Acacia Cæsia
Tella maddi ... ... Terminalia glabra
Tella manga ... ... Gardenia lucida
Tella moduga ... ... Butea frondosa
Tella motuku ... ... Dalbergia Oojeinensis
Tella munaga ... ... Moringa pterygosperma
Tella nela vemu ... ... Hedyotis Heynei
Tellani padmam ... ... Nelumbium speciosum
Tella pachari ... ... Dalbergia paniculata
Tella papata ... ... Pavetta Indica
Tella salla barta ... ... Hibiscus hirtus
Tella sapara ... ... Acacia elata
Tella tamara ... ... Nelumbium speciosum

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|---|---|---|
| Tella tige ... | ... | ... Dalbergia rubiginosa |
| Tella tumana | ... | ... Acacia leucophlœa |
| Tella vadala | ... | ... Getonia nutans |
| Tella vempali | ... | ... Tephrosia purpurea |
| Tella udata... | ... | ... Opilia amentacæa |
| Tella ulimide | ... | ... Cratœva Roxburghii |
| Ternalla benda | ... | ... Sida alnifolia |
| Tige gummudu | ... | ... Vitis Linnæi |
| Tige jiluga ... | ... | ... Æschynomene Indica |
| Tige kranuga | ... | ... Pongamia uliginosa |
| Tige moduga | ... | ... Butea superba |
| Tige mushidi | ... | ... Cocculus acuminatus |
| Tige vempali | ... | ... Tephrosia, sp. |
| Tika tivva | ... | ... Entada Pusœtha |
| Tilla kada ... | ... | ... Mucuna atropurpurea |
| Tippa tige ... | ... | ... Cocculus cordifolius |
| Tivva moduga | ... | ... Butea superba |
| Tivva mushidi | ... | ... Cocculus acuminatus |
| Tivva potike | ... | ... Hugonia mystax |
| Tivva donda | ... | ... Karivia umbellata |
| Tivva mamidi | ... | ... Mangifera Indica |
| Togaru chettu | ... | ... Morinda citrifolia |
| Togaru moduga | ... | ... Butea frondosa |
| Togaru mogali | ... | ... Morinda exserta |
| Torelaga ... | ... | ... Limonia acidissima |
| Torravelaga | ... | ... Feronia, sp |
| Tota dula gonda | ... | ... Mucuna utilis |
| Trikala malle | ... | ... Malva rotundifolia |
| Tuma chettu | ... | ... Acacia Arabica |
| Tummeda mamidi | ... | ... Semecarpus Anacardium |
| Turaka vepa | ... | ... Melia azedarach |
| Turayi ... | ... | ... Poinciana pulcherrima |
| Tutti ... | } | ... Abutilon Indicum |
| Tutturu benda | } | |
| | | |
| Ubbukada | ... | ... Rothia trifoliata |
| Uduga ... | ... | ... Alang'um decapetalum |
| Ulimidi ... | ... | ... Cratœva Roxburghii |
| Ullena tige... | ... | ... Cardiospermum Halicacabum |
| Undra ... | ... | ... Mimosa rubicaulis |
| Undurugu ... | ... | ... Sapindus rubiginosus |
| Upparinta ... | ... | ... Cardiospermum Halicacabum |
| Uppi chettu | ... | ... Capparis sepiaria |
| Uppu ponna | ... | ... Rhizophora mucronata |
| Ura kakara | ... | ... Momordica Charantia |
| Ura nakkera | ... | ... Ximenia Americana |
| Uravada ... | ... | ... Bruguiera parviflora |
| Urimidi ... | ... | ... Cratœva Roxburghii |
| Usiki manu | ... | ... Do. |
| Uvva ... | ... | ... Dillenia speciosa |
| | | |
| Vadanike ... | ... | ... Loranthus longiflorus |
| Vadavalasa | ... | ... Walsura ternata |
| Vadla yarala... | ... | ... Hiptage madablota |
| Valaka duda | ... | ... Pterolobium lacerans |
| Valambrikaya | ... | ... Isora corylifolia |

Valarasi ... ... ... Walsura piscidia
Vaminta ... ... ... Gynandropsis pentaphylla
Vangareddi kura ... ... Sesuvium repens
Varagoki ... ... ... Toddalia aculeata
Varavada ... ... ... Bruguiera parviflora
Varra kasimi ... ... Toddalia aculeata
Vasanta kadimi ... ... Barringtonia, sp.
Vegisa ... ... ... Pterocarpus Marsupium
Vekkudu tige ... ... Cardiospermum Halicacabum
Velaga ... ... ... Feronia elephantum
Veluma sandhi chettu ... ... Leea hirta
Veluturu ... ... ... Dichrostachys cinerea
Vempali ... ... ... Tephrosia purpurea
Ventra ... ... ... Mimosa rubicaulis
Venutum ... ... ... Dichrostachys cinerea
Vepa ... ... ... Azadirachta Indica
Verrichatarasi ... ... Mollugo pentaphylla
Verri nela vemu ... ... Oldenlandia herbacea
Verri nili ... ... ... Indigofera cinerea
Verri puchcha ... ... Citrullus ciliatus
Verri ulava ... ... Dolichos falcatus
Verri yadala ... ... Hippocratea Indica
Veta patri ... ... ... Protium caudatum
Virugadu ... ... ... Dalbergia latifolia
Vodala ... ... ... Poivrea Roxburghii
Vudapa chettu ... ... Hugonia mystax
Vudam vitulu ... ... Terminalia Catappa
Vudata chettu ... ... Opilia amentacea
Vula ... ... ... Cadaba Indica
Vuni ... ... ... Acacia ferruginea

Yadala ... ... ... Combretum ovalifolium
Yashti ... ... ... Abrus precatorius

# APPENDIX.

The three following Orders were inadvertently omitted during the progress of the Work, and are here inserted with the view of rendering this Volume more complete, as according to the arrangement of modern authors, the first should come after *Magnoliaceæ*, the second and third after *Menispermaceæ*.

## ORDER SCHIZANDRACEÆ.

Climbing shrubs with entire or toothed leaves: flowers unisexual: sepals and petals hypogynous, arranged in threes or fives in several rows, imbricated in æstivation: stamens definite or indefinite, inserted on a depressed or conical disk: filaments free or more or less combined: anthers adnate, 2-celled: ovaries indefinite, combined into an oblong or subglobose head: ovules 2–3: berries 2-(rarely 3)-celled, 2-seeded: seeds superposed, reniform, nestling in pulp: testa smooth, crustaceous: albumen copious, oily: embryo very minute.

### GENUS I. KADSURA.

**Dioecia Polyandria.** *Sex: Syst:*

*Deriv.* The Japanese name Latinised.

Gen. Char. Sepals 3: petals 6–9: stamens 15 or more: filaments distinct or combined into a globe: ovaries numerous: style obconical, lateral: carpels baccate, free, forming a globose head.

(1) K. Roxburghiana. *(Arn.)*

*Ident.* Arn. in Jard. Mag. Zool. Bot. II. p. 546.—Hook. & Thoms. Flor. Ind. I. p. 83.

*Syn.* Kadsura Japonica, *Wall. tent. Nep.* 12.—Uvaria heteroclita, *Roxb. fl. Ind.* II. *p.* 663.

Spec. Char. Branchlets smooth, sometimes with scales at the base: leaves articulated with the stem, acute or acuminated, quite entire or remotely and obscurely toothed: peduncles longer than the petiole, furnished with scales at the base and bearing 4–6 ovate bracts below the middle: petals roundish, convex, fleshy, inner ones smaller: filaments combined into a column, outer ones few, slightly free above, thick and dilated at the apex into a fleshy broad-cuneate connectivum: upper ones combined as far as the anthers: anthers linear-oblong, dehiscing lengthwise: berries cuneate-globose, scarlet: seeds 1–2.

Assam. Silhet. Flowering in May and June.

(2) K. Wightiana. *(Arn.)*

*Ident.* Arn. l. c.—Hook. & Thoms. Flor. Ind. I. p. 84.

Spec. Char. Leaves cuneate at the base, entire or scarcely toothed, pale beneath: peduncles axillary, scarcely exceeding the petiole, with hairy scale-like deciduous ovate bracts: sepals unequal: petals 9, oval, obtuse: berries the same as in the preceding species.

Malabar.

## GENUS II. SPHÆROSTEMA.

**Dioecia Polyandria.** *Sex. Syst.*

*Deriv.* From *Sphaira*, a globe, and *Stema*, a stamen: the stamens are massed together on a globose disk, the anthers only being free.

Gen. Char. Sepals 3: petals 6–9: stamens 15 or more, monadelphous: carpels globose, spiked together with the cylindric disk.

(1) S. elongatum. *(Bl.)*

*Ident.* Blume. fl. Jav. 17.—Hook. & Thoms. Flor. Ind. I. p. 85.

*Syn.* S. grandiflorum, *Wall.*

*Engrav.* Blume l. c. t. 5.

Spec. Char. Branches glaucescent, with scales at the base: leaves ovate, acute, often long-acuminated, pale or glaucous below with a reddish petiole; peduncles axillary, often several at the axils of the fallen leaves, exceeding the petioles, sometimes with a single bracteole at the middle: flowers yellowish: berries size of a peppercorn, somewhat stalked, globose, marked above with a longish linear scar.

Khasia hills, flowering all the hot season.

(2) S. AXILLARE. *(Bl.)*

*Ident.* Bl. Bidjr. 22.—Hook. & Thoms. Flor. Ind. I. p. 86.

*Engrav.* Blume. fl. Jav. 14. t. 3.

SPEC. CHAR. Branchlets angled, rufescent: leaves lanceolate, long-acuminate, rounded or cuneate at the base, shining above, pale below, quite entire or remotely toothed: peduncles axillary, shorter than the petiole, often very short, covered with scariose imbricated scales: flowers scarlet or rose-coloured: petals 9 in three rows: berries numerous, globose: seeds 2, or solitary by abortion.

Khasia hills, flowering in the hot season.

## ORDER SABIACEÆ.

Climbing shrubs with alternate quite entire leaves, and axillary, solitary, cymose or panicled flowers. flowers hermaphrodite, rarely polygamous: sepals 5, (very rarely 4) small, combined at the base, imbricated in æstivation, two outer ones furnished at the base with a small exterior bract: petals 5, (or 4) opposite the sepals, hypogynous, pellucid-dotted with coloured lines, deciduous or withering if persistent, imbricated in æstivation: stamens equal in number to the petals and opposite to them, alternate with the teeth of the disk: filaments compressed, fleshy or smooth, ligulate or subulate, narrowed at the apex: anthers didymous, laterally adnate to the connectivum, ovoid, 2-celled, extrorse or introrse, dehiscing lengthwise, valves free from the connectivum wherefore the anthers after dehiscing become 1-celled: disk hypogynous, 5-lobed; ovaries 2, very rarely 3, 2-ovuled: styles 2, erect: stigmas simple: carpels 2, or solitary by abortion, drupaceous, gibbous at the back: seed solitary, reniform: testa coriaceous, marked with coloured dots: embryo exalbuminous.

### GENUS SABIA.

**Pentandria Digynia.** *Sex. Syst.*

*Deriv.* The native name Latinised.

GEN. CHAR. Same as that of the Order.

(1) S. PURPUREA. *(H. F. & T.)*

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 209.—S. parviflora, Wall. (in part.)

SPEC. CHAR. Leaves oblong, long attenuated, younger ones puberulous: cymes long-peduncled, shorter than the leaves, purplish, 3–5-flowered: flowers small, purple: petals ovate-lanceolate, 5-nerved.

Khasia hills, flowering in March and April.

(2) S. LANCEOLATA. (*Colebr.*)

*Ident.* Colebr. in Linn. Trans. XII. p. 355.—Hook. & Thoms. Flor. Ind. I. p. 210.—Roxb. fl. Ind. (Ed. Wall.) II. p. 309.

*Engrav.* Colebr. l. c. t. 14.

SPEC. CHAR. Climbing: leaves oblong-lanceolate, acute at the base, or obtuse, quite glabrous, paler beneath: peduncles slender, axillary, branches alternate or usually verticillate, branchlets irregularly divided: bracts and bracteoles minute, deciduous: drupes pulpy, bluish: flowers greenish, fragrant: putamen wrinkled, compressed: testa with long red spots.

Assam hills. Khasia. Silhet. Flowering in October and November.

(3) S. LIMONIACEA. (*Wall.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 210.

SPEC. CHAR. Climbing: leaves lanceolate or oblong, acute or acuminated, thickly coriaceous, quite glabrous: panicles reddish, sometimes leafy and elongated, more often leafless and equalling or shorter than the leaves, axillary, alternately branched: sepals somewhat ciliated, rounded: petals obovate, very shortly clawed, with a longitudinal furrow at the base inside: filaments incurved at the apex: ovaries slightly compressed: flowers small, yellowish.

Assam. Khasia hills. Silhet. Chittagong. Flowering in September and October.

## ORDER LARDIZABALACEÆ.

Twining shrubs: flowers by abortion unisexual or polygamous: sepals 6, arranged in a double series, rarely 3, hypogynous, valvate or slightly imbricated in æstivation: petals 6, rarely wanting, opposite the sepals and often much less, scale-

shaped: stamens 6, in the male flowers opposite the sepals and petals: filaments free or combined into a tube: anthers free, adnate, extrorse: ovaries 3, rarely 6–9, linear-oblong, 1-celled: ovules numerous: carpels large, as many as the ovaries, pulpy, indehiscent or dehiscent lengthwise within, follicular, many-seeded: albumen copious, oily.

## GENUS I. PARVATIA.

**Diœcia Monadelphia.** *Sex: Syst:*

Gen. Char. Sepals 6, in two rows, outer row valvate in æstivation: petals 6, lanceolate, much smaller than the sepals: stamens monadelphous in the males with a connectivum apiculated beyond the oblong anthers, in the females less free and abortive: ovaries 3, ovoid, apiculated with the acute oblong style: ovules scattered, immersed in hairs.

### (1) P. Brunoniana. (*Decaisne.*)

*Ident.* Hook. & Thoms. Flor. Ind. I. p. 214.

*Syn.* Stauntonia Brunoniana, *Wall.*

Spec. Char. Climbing: branchlets purple: leaves long-petioled, petioles thickened at the base: leaflets ovate or ovate-lanceolate, obtusely or sharply acuminated, rarely obtuse, glabrous, glaucous below: peduncles axillary, fascicled, inserted on a scaly tubercle, flexuose, slender: pedicels long, furnished with a linear membranaceous bracteole: female flowers nearly twice as large as the males: carpels ovoid: seeds nestling in pulp.

Khasia hills, flowering in October.

## GENUS II. HOLBÖLLIA.

**Monœcia Hexandria.** *Sex: Syst:*

*Deriv.* Named after F. L. Holböll, Superintendent of the Botanic Gardens at Copenhagen.

Gen. Char. Sepals 6, in two rows: petals 6, scale-like: stamens free: anthers linear, extrorsely 2-celled: ovaries (rudimentary in the males) linear-oblong, filled with pulp, terminated by the oblong stigma: ovules numerous, immersed in hairs: carpels indehiscent, baccate: seeds solitary in the cells.

(1) H. LATIFOLIA. *(Wall.)*

*Ident.* Wall. tent. Nep. 24.—Hook. & Thoms. Flor. Ind. I, p. 215.

*Syn.* H. acuminata, *Lindl. Journ. Hort. Soc.* II. 313.—Stauntonia latifolia, *Wall.*

*Engrav.* Wall. l. c. t. 16.

SPEC. CHAR. Climbing: leaves 3–5-foliolate: petioles equalling the leaves, angular: leaflets 3-nerved at the base, ovate or oblong, coriaceous, rigid, very various in size: partial petioles articulated at both ends, middle one longer, lateral ones (when five) gradually shorter: racemes fascicled towards the base of the branchlets, elongated or shortened, pea-flowered, flowers fragrant, white or greenish or purplish.

Khasia hills, flowering in April and May.

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