

PART XVII.

THE

FLORA SYLVATICA

FOR

SOUTHERN INDIA:

CONTAINING QUARTO PLATES OF ALL THE PRINCIPAL TIMBER TREES IN SOUTHERN INDIA
AND CEYLON, ACCOMPANIED BY A BOTANICAL MANUAL, WITH DESCRIPTIONS
OF EVERY KNOWN TREE AND SHRUB, AND ANALYSIS OF EVERY
GENUS NOT FIGURED IN THE PLATES.

BY .

MAJOR R. H. BEDDOME,

CONSERVATOR OF FORESTS.

Madras:

PRINTED BY GANTZ BROTHERS,

AT THE ADELPHI PRESS, MOUNT ROAD.

1872.

XVII. 3

77-16

I. 21
M70.17.



CARALLIA INTEGERRIMA. (Nat. order Rhizophoraceæ.)

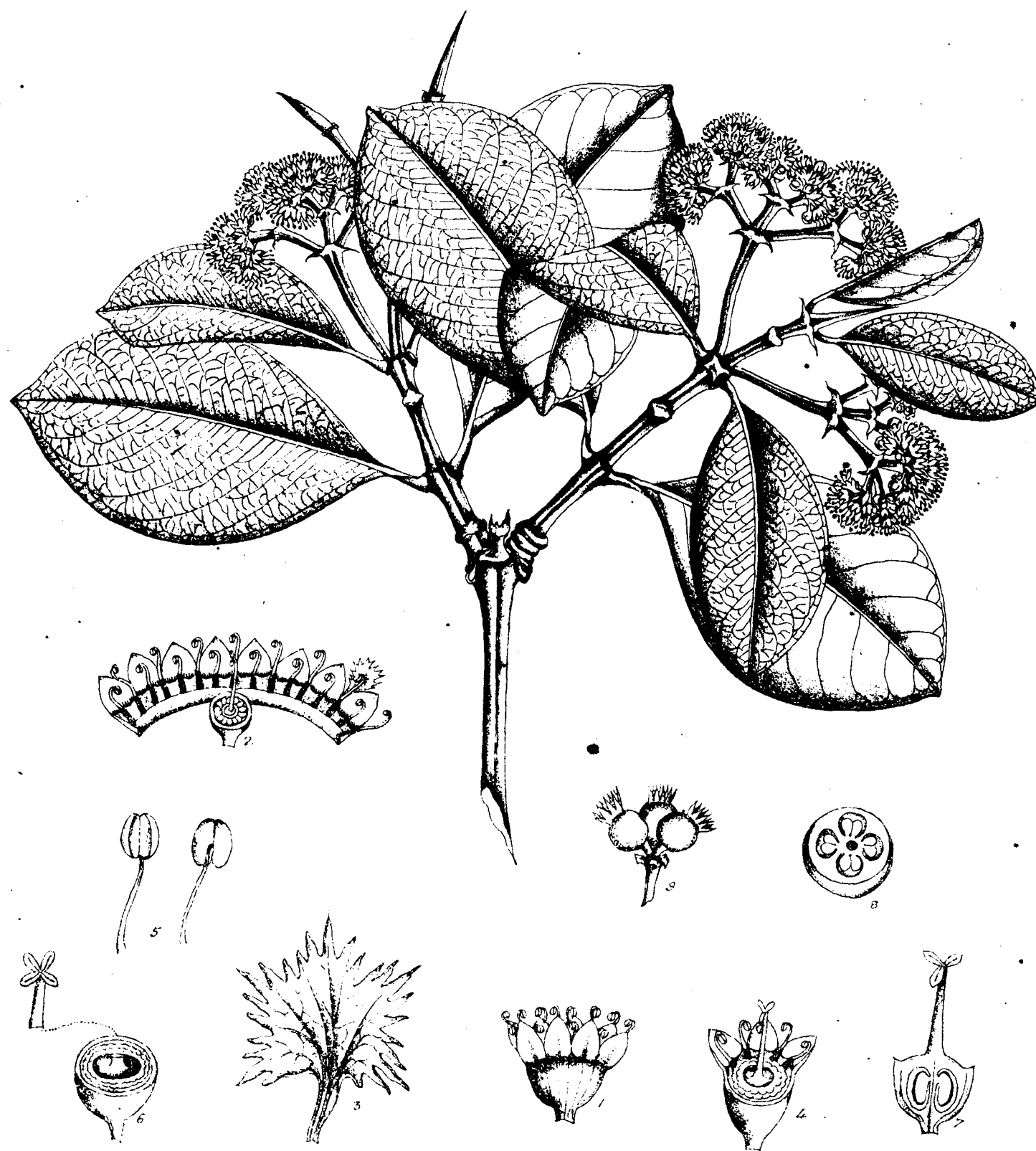
CARALLIA, Roxb.—GEN. CHAR. Calyx minutely bracteolate at the base, tube semi-adnate to the ovary, campanulate above with 5-8 short valvate lobes, petals as many as the lobes of the calyx clawed orbicular, jagged, 2-fid, slightly toothed, or entire, inserted at the margin of the thin stamen tube which lines the calyx tube nearly up to its lobes, disk epigynous 10-16 lobed, stamens twice as many as the petals and inserted with them on the stamen tube at the base of the calyx-lobes, the lower portion of the filaments adherent down to base of the free portion of the tube, anthers small oblong, ovary semi-inferior 3-5 celled, with 2 ovules in each cell, pendulous from the axis above the middle, style subulate or filiform, stigma 3-5 lobed. Fruit small globose coriaceous, generally 1-celled, 1-seeded, seed globosely reniform, testa fibrous, albumen fleshy, embryo curved not growing before the seed falls. Trees or shrubs very glabrous, branchlets 4-angled or terete, leaves opposite petiolate, ovate or elliptic, very glabrous shining entire or serrulate stipules interpetiolar (as in Rubiaceæ) caducous, flowers small in axillary pedunculate usually trichotomous cymes.—*Petalotoma*, DC. *Prod.* iii. p. 294. *Diatoma*, Lour. *Fl. Coch.* 296. *Symmetria*, Bl. *Bijd.* 1130. *Barraldeia*, Thouars, *Gen. Nov. Madag.* 24.

CARALLIA INTEGERRIMA. (DC.) A tree, glabrous in all its parts, leaves petiolate entire obovate-oblong or elliptic obtuse or more or less acuminate, coriaceous, deep green and shining above, paler beneath, 3-5 inches long by about 2 broad, petioles 2-3 lines long, cymes axillary or from the old leafless nodes often furnished with much gummy substance, on short peduncles, each short branchlet bearing 3-5 sessile flowers, calyx short broad campanulate not 3 lines in diameter, 8-toothed, petals white clawed orbicular much lobed and jagged, stamens 16 as in the generic character on filaments nearly equal in length, but the 8 opposite the sinuses are less recurved and appear much longer from being more exserted, ovary 3-4 rarely 5-celled, styles 3-4 rarely 5, fruit globular about 3 lines in diameter crowned by the calyx-teeth.—DC. *Prod.* iii. 33. *C. Ceylanica*, Arnt. *Wight Ill. tab.* 90. *C. corymbosa* and *Sinensis*, Arnt. in *Tayl. Ann. Nat. Hist. Vol. i. p. 371.* *C. Timorensis*, Bl. *Mus. Bot. Vol. i. p. 128.* *C. octopetala*, F. Muller. *Pootia cereopsisifolia*, Mig. *Pl. Hochst.*

A very common tree in our Western ghat forests up to 4000 feet from Bombay down to Cape Comorin, also on the Cuddapah hills, most abundant in S. Canara (where it is called in Canarese 'Andi pinar') and in Coorg; in Bombay it is called Panschi, and in Ceylon, where it is met with up to 3000 feet, it is called Davatu, it is a highly ornamental tree on account of its beautiful foliage; it is also indigenous in Bengal, Birmah, Hongkong and tropical Australia. The timber is ornamental and of a reddish color, and is used in S. Canara for furniture and cabinet purposes, and in Ceylon for furniture and fittings, it is tough and not easily worked, brittle and not durable, and has a pretty wavy appearance, and is peculiar in structure, having a great deal of cellular tissue; a cubic foot unseasoned weighs about 56-60 lbs. and 44 lbs. when seasoned, and its specific gravity is .684; in Birmah where the tree is known by the name of Manioga, it is used for planks and rice pounders. In Calcutta it is in use for house building under the name of Kierpa (Bengalee.)

Analysis.

1. A flower, the petals fallen off, showing the valvate calyx.
2. The same open, showing the stamen tube lining the calyx to the base of its lobes, the 16 stamens inserted on it, and 1 of the petals (the other 7 removed).
3. A petal.
4. A flower (5 lobes of the calyx and the petals removed), showing that the calyx-tube is adnate to the ovary in near whole length.
5. Anthers, front and back view.
6. Ovary with its 16 lobed epigynous disk, style, and a 4-cleft stigma.
7. Ovary cut vertically, showing the pendulous ovules and a 3-lobed stigma.
8. A 4-celled ovary (it is sometimes 3 or 5 celled) cut transversely, showing the cells 2-ovuled.
9. Fruit.



Carallia integerrima, DC.

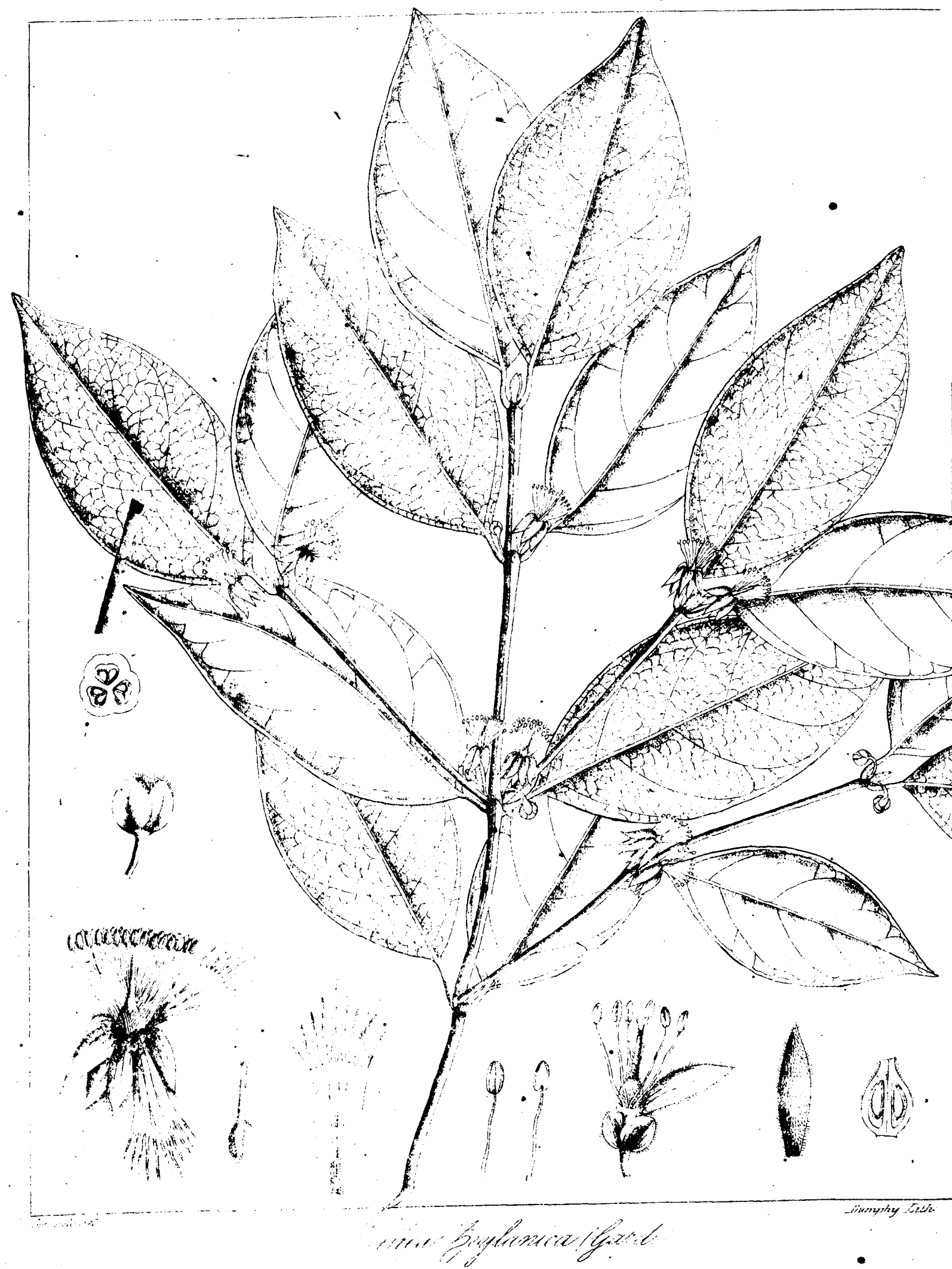
Dumphy Lith.

WEIHEA ZEYLANICA. (Nat. order Rhizophoraceæ.)

WEIHEA, *Spreng.*—GEN. CHAR. 2 bracteoles connate into a cup, enclosing the flower bud, more distant when the flower expands. Calyx tube very shortly turbinate adnate to the base of the ovary, limb 4-5 parted, the segments valvate at length spreading or reflexed, petals 4-6 inserted under the margin of the obscure disk, unguiculate spatulate fimbriately lacerated; stamens 10-30 inserted on the disk, filaments filiform, anthers oblong, ovary superior adnate to the base of the calyx ovoid-globose 3-5 sulcate or lobed 2-4-celled, style filiform, stigma 2-4-lobed, ovules 2 in each cell collateral pendulous, fruit globose fleshy 3-4 celled, tardily septically 3-4-valvate, valves thick, cells 1-2 seeded. Seed arillate ovoid compressed and subtrigonal, testa coriaceous, albumen fleshy, embryo straight, cotyledons plane elliptic venose, radicle terete. Trees or shrubs, leaves glabrous opposite, petiolate, entire or obtusely serrate penniveined, stipules interpetiolar (as in Rubiaceæ) deciduous, peduncles axillary solitary or fascicled 1-flowered.—*Anstrutheria*, *Gard. in Calc. Journ. Nat. Hist.* vi. 344, t. 4. *Richiæa*, *Thouars Gen. Nov. Madag.* 25.

WEIHEA ZEYLANICA, (Gardn.) A small tree, leaves along to elliptic more or less rounded at the base or gradually attenuated, gradually or rather suddenly produced into an acute or obtuse point at the apex, veins penniveined and looped, glabrous, submembranaceous 2-5 inches long, by $\frac{3}{4}$ -2 inches broad, petioles glabrous or slightly hairy 2-3 lines long, stipules oblong hairy caducous, peduncles solitary or 2 in the axils, about as long as the petioles, bracteoles ciliate, flowers about $\frac{3}{4}$ inch long, 5-merous, calyx segments reflexed hairy on the outside and ciliate, glabrous within, stamens about 25, anthers subbasifixed, petals a little longer than the calyx, lobes lacerated into about 10 fimbriations, ovary and the 3-lobed style hairy.—*Anstrutheria Zeylanica*, *Gardn. in Calc. Journ. of Nat. Hist.* vol. vi. p. 344. t. 4.

A small tree not uncommon on the South Tinnevelly and Travancore mountains at no great elevation, also in Ceylon (Galle and Trincomalee), in flower in September.



GYROCARPUS JACQUINI. (Nat. order Combretaceæ.)

GYROCARPUS. *Jacq.*—GEN. CHAR. Calyx tube adnate to the ovary, or none in male flowers, limb 4 to 7 cleft. Petals none. Stamens 4 to 6, alternating with as many club shaped staminodia, or fewer or none in the female flowers. Ovary inferior, with 1 pendulous ovule and a sessile stigma, abortive in the male flowers. Drupe dry, crowned by 2 much elongated, erect, spatulate, wing like calyx lobes. Seed oblong, pendulous, without albumen, cotyledons petiolate, convolute round the radicle. A tree. Leaves alternate, broad, entire or lobed. Flowers polygamous, very small, crowded in dense corymbose cymes.

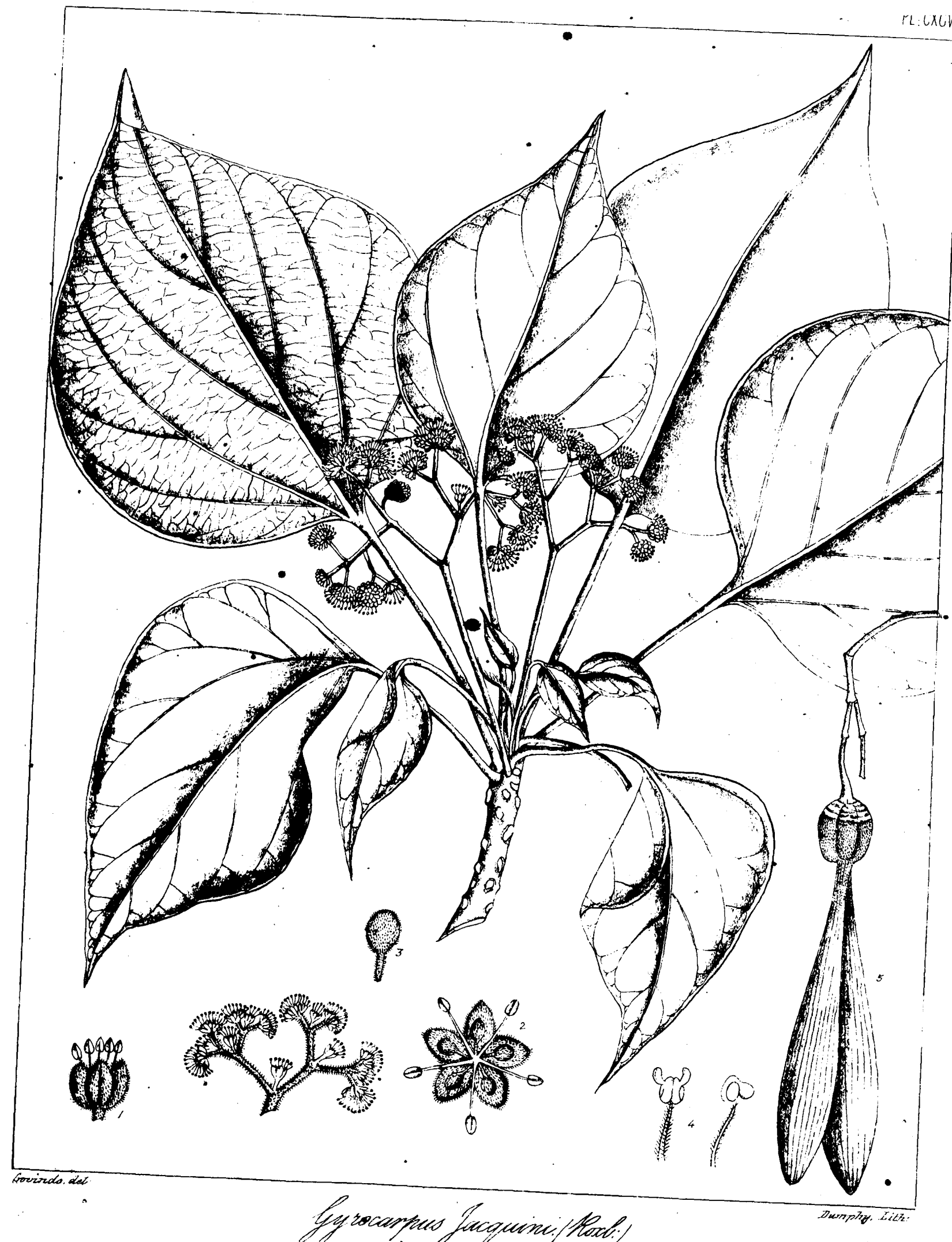
A genus consisting of a single species, a tree widely distributed in the tropical regions of Asia, Central America and Australia, it is of anomalous structure and has been associated by many botanists with Laurineæ chiefly on account of its anthers opening by 2 valves. Prof. Lindley first placed it in this order, with which its fruit and seed quite agree.

GYROCARPUS JACQUINI. (Roxb.) A tree often of large size. Leaves deciduous, crowded at the ends of the thick branchlets, broadly ovate or orbicular, on young trees often 8 to 10 inches long and broad and deeply 3 lobed, on older trees usually smaller and entire or broadly and shortly lobed, usually more or less acuminate, truncate or cordate at the base, glabrous or tomentose underneath or on both sides, the petioles varying from 1 to 4 inches. Peduncles in the upper axils or close above the last leaves, rarely exceeding the petioles, bearing each a repeatedly branched cyme with densely crowded exceedingly small flowers forming little globular heads before expanding, sometimes entirely males, sometimes with a few hermaphrodite or female flowers scattered in the cyme or chiefly in the forks. Drupes ovoid, usually about $\frac{3}{4}$ inch long, the wings erect, oblanceolate, rounded at the end, much narrowed below the middle, from under 2 inches long and about $\frac{1}{2}$ inch broad to 2 $\frac{1}{2}$ inches long and about 5 lines broad. *Pers. Syn. i.* 143. *G. Americanus, Jacq. Meissn. in DC. Prod. xv.* 247. *G. Asiaticus, Willd. —Meissn. l. c.* 248. *G. acuminatus, Meissn. l. c.* *G. sphenopterus, R. Br. Endl. Iconogr. t.* 43; —*Meissn. l. c.* *G. rugosus, R. Br. Meissn. l. c.*; —*Benth. Fl. Aust. 11, p.* 505.

This tree is common throughout the plains in India and Ceylon, and is widely distributed in tropical regions throughout the world; it is called *Tanaku* and *Kumar pulki* in Telugu, and *Zaitun* in Hindustani, the wood is very light, soft, and white, and is much used at Condapilly in the Northern Circars for making light cavatie boxes and toys, and it takes paint and varnish well, it is also preferred before all other woods for making catamarans; necklaces and rosaries are made from the seed. The plate only represents male flowers and a fruit, as I unfortunately have no fertile flowers at hand.

Analysis.

1. A male flower, showing the imbricate calyx and the 6 exserted stamens.
2. The same open, showing the 6 stamens alternate with 6 spatulate staminodes.
3. A staminode.
4. An anther, front and side view, showing that it opens by a valve (as in Lauraceæ.)
5. A fruit, showing its 2 long wings (enlarged lobes of the calyx.)



EUGENIA JAMBOLANA. (Nat. order Myrtaceae.)

For Gen. Char. see the Order in the Manual.

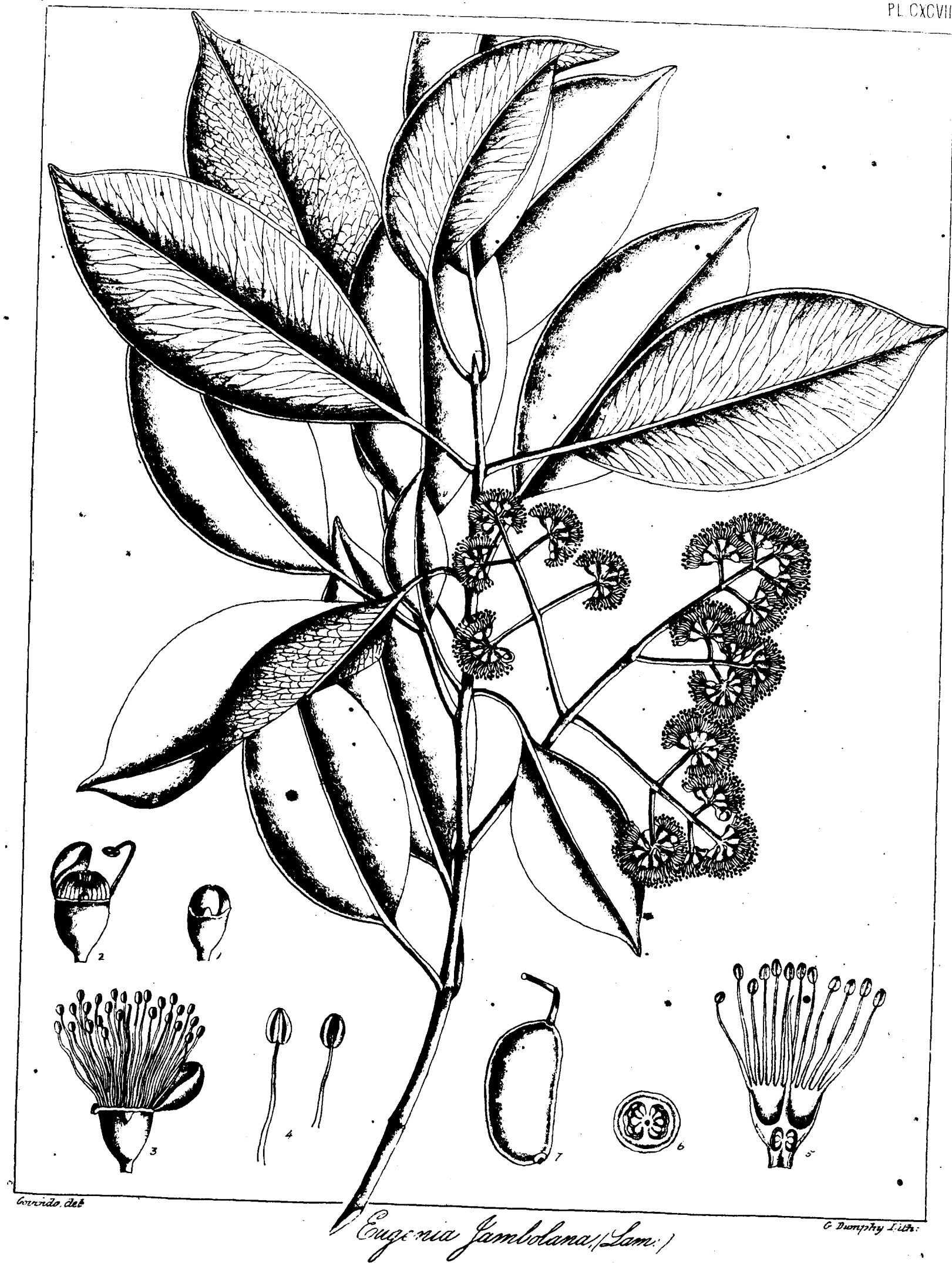
EUGENIA JAMBOLANA. (Lam.) A very large tree, quite glabrous, leaves oval oblong obtuse or shortly acuminate, usually 4-6 inches long by 2-3 inches broad but sometimes larger, very firm shining with numerous fine pinnate veins, and reticulated between them, the principal ones confluent into a faint or more or less prominent marginal vein, panicles large broad, trichotomous numerous, lateral on the old wood below the leaves, the ultimate cymes loose, flowers rather small very sweet scented, calyx sessile turbinate campanulate, lobes short and inconspicuous often obsolete, petals cohering in a transparent cup-shaped calyptra and falling off in that state as the anthers unroll, fruit oblong to roundish deep-purple, from the size of a pea to that of a pigeon's egg usually with a single seed. *Lam. Dict.* iii. 198;—*Roxb. Fl. Ind.* ii. p. 484;—*Wight's Icones* tab. 535, and *E. fruticosa*, tab. 624. *Syzygium jambolanum*, *DC.* iii. 259. *E. Moorei*, *F. Muell. Fragm.* v. 33. *E. caryophyllifolia*, *Lam.*;—*Wight Icones* 553.

This large and beautiful tree is the commonest of the *Syzygium* section of *Eugenia*, it is found almost everywhere throughout the plains of India, whereas most of the other species affect the mountains; it is much planted in tops and avenues in this Presidency, and it ascends the mountains to 4000 or rarely 5000 feet elevation; it is also indigenous in the Archipelago and in Australia; the bark is strongly astringent and dyes excellent durable browns, and it yields an extract like the gum kino. The fruit is universally eaten, and that from some of the larger fruiting varieties (when it is as large as a cherry or much larger) is very agreeable, the fruit of the very small fruiting variety (*E. caryophyllifolia*, *Lam.*) is not eaten, and is not larger than a pea.

This tree is called Jaman in Hindoostanee, Nawal and Nawar in Tamil, Narala in Canarese, Nareyr in Telugu, Jambool in the Bombay Presidency, and Madang in Ceylon; the panicles of flowers are always produced from the old wood just below the shoots of new wood, and if this is borne in mind it cannot be confounded with any of the other species except *E. nervosa*, which has much more prominent venation; it generally flowers in March and April and the flowers have a strong smell of honey; the wood is much used in native house building, for cart framing, agricultural implements and a variety of purposes, it resists the action of water very well, and is used for well work, it is tolerably close and even grained, not very strong or durable except in water, and in color dirty brown (reddish when fresh), a cubic foot unseasoned weighs 60-62 lbs. and when seasoned 48 lbs. and its specific gravity is .768.

Analysis.

1. A flower bud.
2. The same more advanced, the petals lifted up like a calyptra by the 1st expanding anther.
3. Full flower, the calyptra (petals) still adhering (though generally deciduous before this stage).
4. Anthers, front and back view.
5. Flower cut through vertically, showing the insertion of the stamens at the apex of the calyx tube, and the longitudinal section of the ovary.
6. Cross section of the ovary, showing 2 cells.
7. A fruit. (All drawn from fresh specimens). This species well illustrates the *Syzygium* section of this genus (allied species of which are so characteristic of our higher mountain woods): the petals generally fall off in a lid though they occasionally in some species expand more or less; the flowers are always small and insignificant, and the trees are always perfectly glabrous.



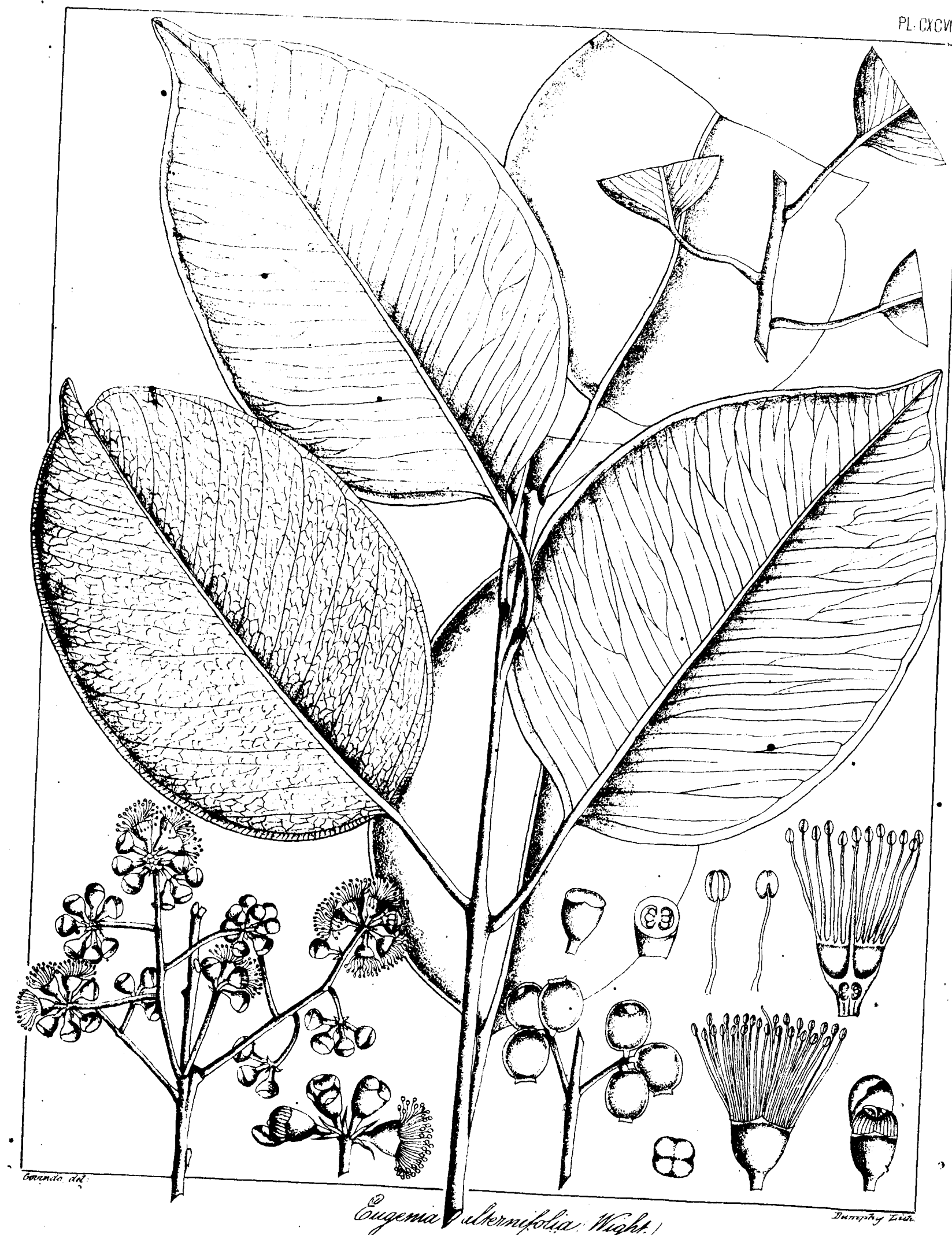
Eugenia Jambolana (Lam.)

EUGENIA ALTERNIFOLIA. (Nat. ord. Myrtaceæ.)

For Gen. Char. see this Order in the Manual.

EUGENIA ALTERNIFOLIA. (Wight.) A large tree, glabrous in all its parts, leaves alternate or occasionally sub-opposite never opposite, very minutely and inconspicuously dotted, very thickly coriaceous, from ovate to almost orbicular, quite rounded at the apex or with a rather sudden blunt acumination, 3-9 inches long of which the petiole is 1 inch or a little more, dark green and shining above much paler beneath, primary veins very numerous obliquely parallel prominent and joined into a very regular continuous vein close to the margin, cymes paniced rising from the old axils of the fallen leaves or congested near the base of the new wood, divisions with 3-10 umbellate flowers at the apex and there furnished with numerous triangular apiculate bracteoles, flowers small yellowish white very sweet scented, calyx viscid and shining truncated and entire or with 4 very minute teeth, petals combined in a transparent calyptra which is thrust off by the anthers as they begin to swell before expansion, fruit sub-spherical size of a cherry. *Wight Icones tab. 537.*

It would require a very large plate to do justice to this beautiful species, the tree is common on the Nallay Mallay mountains in the Kurnool district, (where it is called Manchi Moyadi, Teligoo) and is also found but less abundantly in the dry hill forests of the Cuddapah and North Arcot districts; it does not occur on the western side of the Presidency. Its regularly alternate leaves are anomalous, but there is a tendency to this in some of the other species (montana and hemispharica, &c.), its flowers are quite those of the other species of Syzygium (and are incorrectly figured in Wight's Icones as like the Jambosa section.) The dissections are drawn from fresh specimens, and the fruit is only half grown; the timber is used by the natives for building and other purposes.



Eugenia alternifolia Wight.

Dumphy del.

EUGENIA MALABARICA. (Nat. order Myrtaceæ.)

For Gen. Char. see under this Order in the Manual.

EUGENIA MALABARICA. (Bedd.) A middling sized tree, quite glabrous in all its parts, young branches terete, leaves opposite, (rarely only subopposite) furnished with numerous very minute dots on the under surface, obovate-spathulate or quite obcordate, rarely oblong, penniveined with the marginal looping inconspicuous, 2.5 inches long by 1.2½ inches broad, petioles 4-6 lines long, cymes from the old wood below the leaves or rarely in the lower axils very short about ½ an inch long, flowers numerous very small and inconspicuous bracteolate, calyx-tube when young with 4 rather distinct triangular lobes, in age more or less truncate about 1 line in diameter, petals orbicular with a slight claw and pointed at the apex opening separately and very soon deciduous, fruit spherical about 3 lines in diameter.

This tree is very common in the Wynad (in Malabar), elevation 2000-4500 feet, generally in swampy places, and I have also specimens from the Anamallays: it is a very distinct species. I have introduced it here as illustrating the section of Syzygium with free petals instead of the usual calyptra-like conjunction of the 4 petals, this difference however could not be made even a sub-section of Syzygium, as some of the species present both forms in one and the same cyme, the dissections are drawn from fresh specimens.

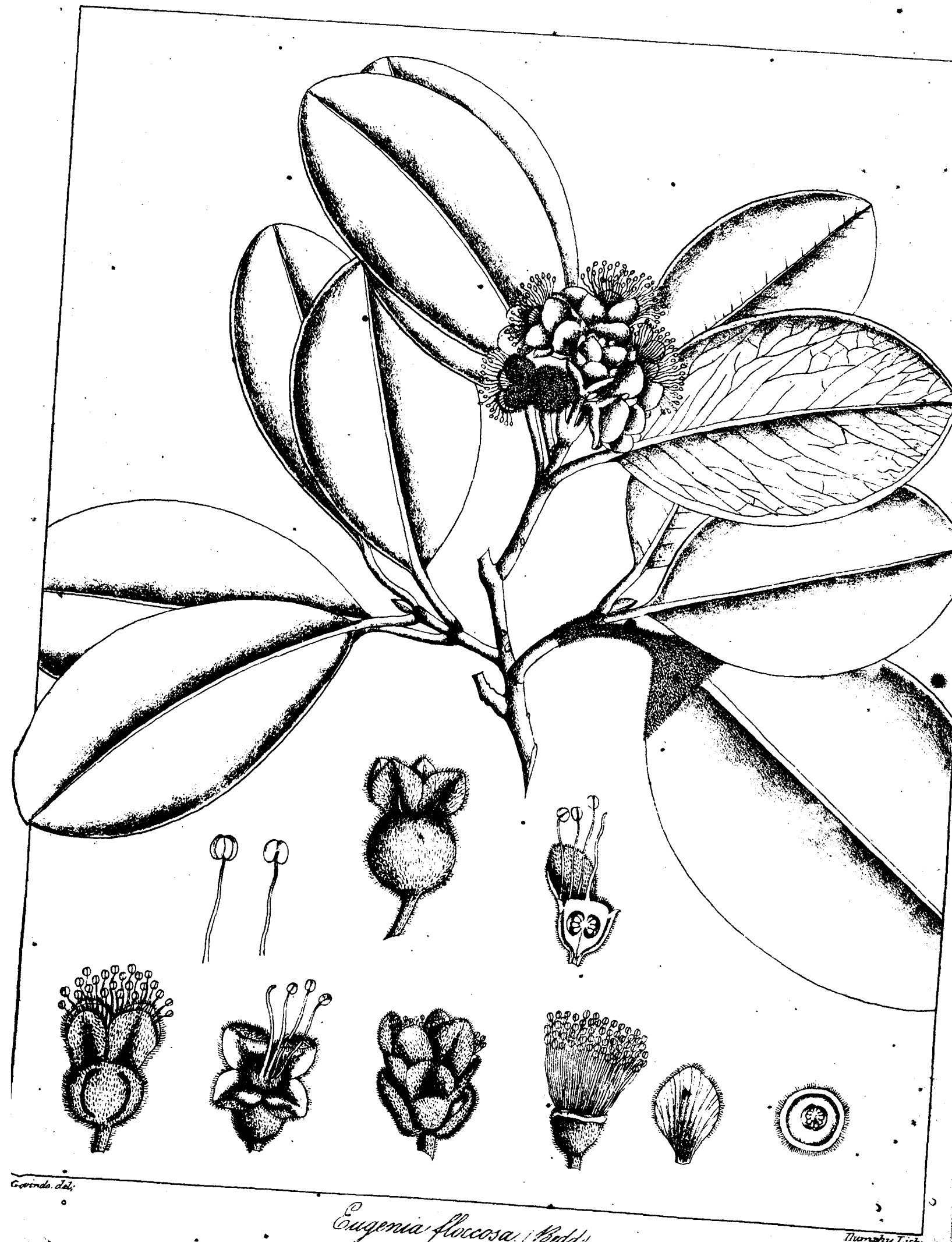


EUGENIA FLOCCOSA. (Nat. Ord. Myrtaceae.)

For Gen. Char. see under this Order in the Manual.

EUGENIA FLOCCOSA. (Bedd.) A good sized tree, young branches nearly terete densely floccose, leaves opposite, oval or sub-orbicular or sometimes lanceolate obtuse at the apex, densely floccose on both sides when young, at length glabrous above and ultimately so beneath except the costa, very thick and coriaceous, minutely dotted beneath, 3-5 inches long by 2-3½ broad, veins quite inconspicuous except in dried specimens, pinniveined with the usual marginal looping or occasionally sub 3 nerved at the base, the 2 lateral nerves not prominent and forming the waved marginal vein, petioles densely floccose 6-8 lines long, flowers terminal in very short few flowered cymes or sometimes solitary large about 1 inch in expansion, calyx very coriaceous and densely aureo-or rufo lanate furnished at the base with 2 very large bracteoles of the same texture as the 4 rounded lobes, petals much larger than the calyx lobes white very hairy on the outside subglabrous within, soon deciduous, disk large sub-globose lanate, fruit size of a pigeon's egg densely lanate crowned with the 4 large orbicular calyx lobes.

This is a most beautiful tree very common in the dense moist woods on the South Tinnevely ghats (above Calcutta) 3000-4000 ft elevation, flowering in August and September; this illustrates the restricted genus Eugenia of authors who uphold the genera Syzygium, Jamboia &c., or the section Eueugenia of the genus as given in this Manual, the dissections are from flowers in spirit.

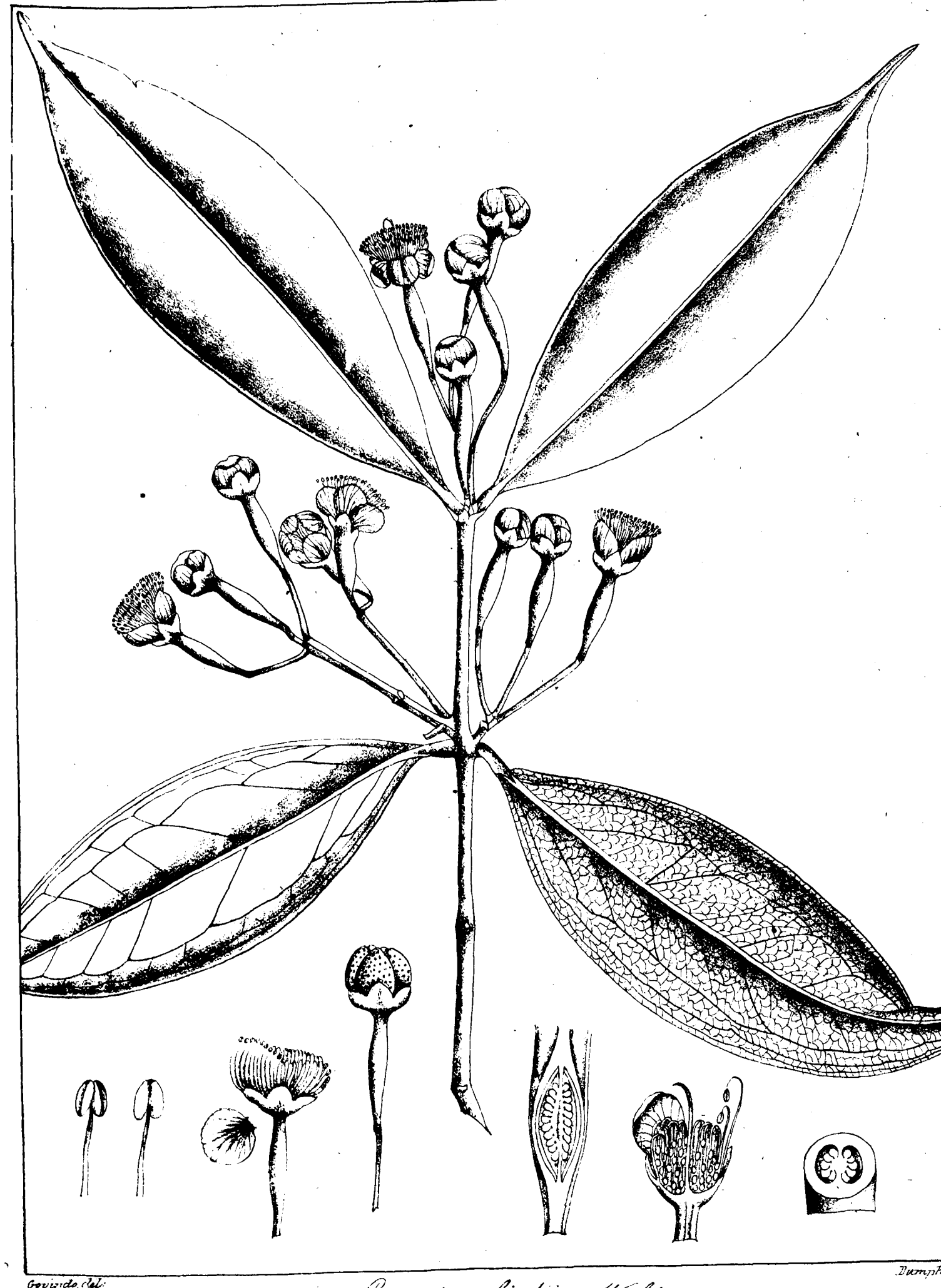


EUGENIA CYLINDRICA. (Nat. order Myrtaceae.)

For Gen. Char. see under this Order in the Manual.

EUGENIA CYLINDRICA. (Wight.) A middling sized tree, glabrous in all its parts, leaves opposite coriaceous, very minutely dotted, ovate to lanceolate with a long terminal acumination, 4-6 inches long by $1\frac{1}{2}$ - $1\frac{3}{4}$ broad, veins very conspicuous beneath, and forming double loops the inner of which is very prominent and only a little more than $\frac{1}{2}$ way between the costa and margin, petioles 3-4 lines long, cymes terminal or from the upper axils shorter than the leaves, 3-8 flowered, flowers large $\frac{1}{2}$ to nearly 1 inch in diameter in full expansion white turning purple, calyx tube cylindrical slender $\frac{3}{4}$ to nearly 1 inch long slightly contracted at the apex and tapering at the base, petals orbicular dotted, fruit sub-spherical urceolate $\frac{1}{2}$ to $\frac{3}{4}$ inch in diameter. *Wight Icones tab. 527. Jambosa cylindrica, Thw. En. Pl. Zey. p. 115.*

A very beautiful tree when in flower, Ceylon Ambagamuwa district 3000 feet elevation, it has not been detected in the peninsula but probably occurs on our Tinnevely mountains. Eugenia Wightii (described in the Manual) so common in our forests, is an allied species, but differs in its flowers being always solitary and much larger though with a shorter tube, and in its leaves being much more membranaceous with a different venation. This illustrates the section Jambosa.



Gouvier del.

Eugenia cylindrica (Wight.)

Thurberf.

EUGENIA ZEYLANICA. (Nat. order Myrtaceæ.)

For Gen. Char. see under this Order in the Manual.

EUGENIA ZEYLANICA. (Wight.) A small or middling sized tree, glabrous in all its parts, leaves opposite rarely alternate or subalternate, densely glanduloso-punctate, very variable in shape from narrow linear to ovato lanceolate; 1-4 inches long by $1\frac{1}{2}$ to 10 lines broad, veins penniveined very inconspicuous, petioles 1-4 lines long, cymes axillary and terminal dense many flowered, shorter than the leaves, flowers white conspicuous about $\frac{1}{2}$ an inch long, calyx-tube glandular and sometimes pruinose, elongato-turbinate, lobes 4-5, rather conspicuous triangular, petals crenated very early deciduous, opening separately or falling off in a calyptra. *Wight's Ill. ii. p. 15. Acmena Zeylanica, Thw. En. Pl. Zey. p. 118.*

Var. B. laxiflora flowers in lax few-flowered cymes, panicles longer than the leaves.

This tree is common on the South Tinnevelly mountains up to 3500 feet where it generally affects beds of rivers, and in Ceylon where it is called Morang; it is very beautiful when in full flower. This illustrates the Acmena section of Eugenia, which only differs from Syzygium in its long calyx-tube.

Variety B. has exactly the foliage and flowers of the ordinary form, and only differs in its longer lax cymes

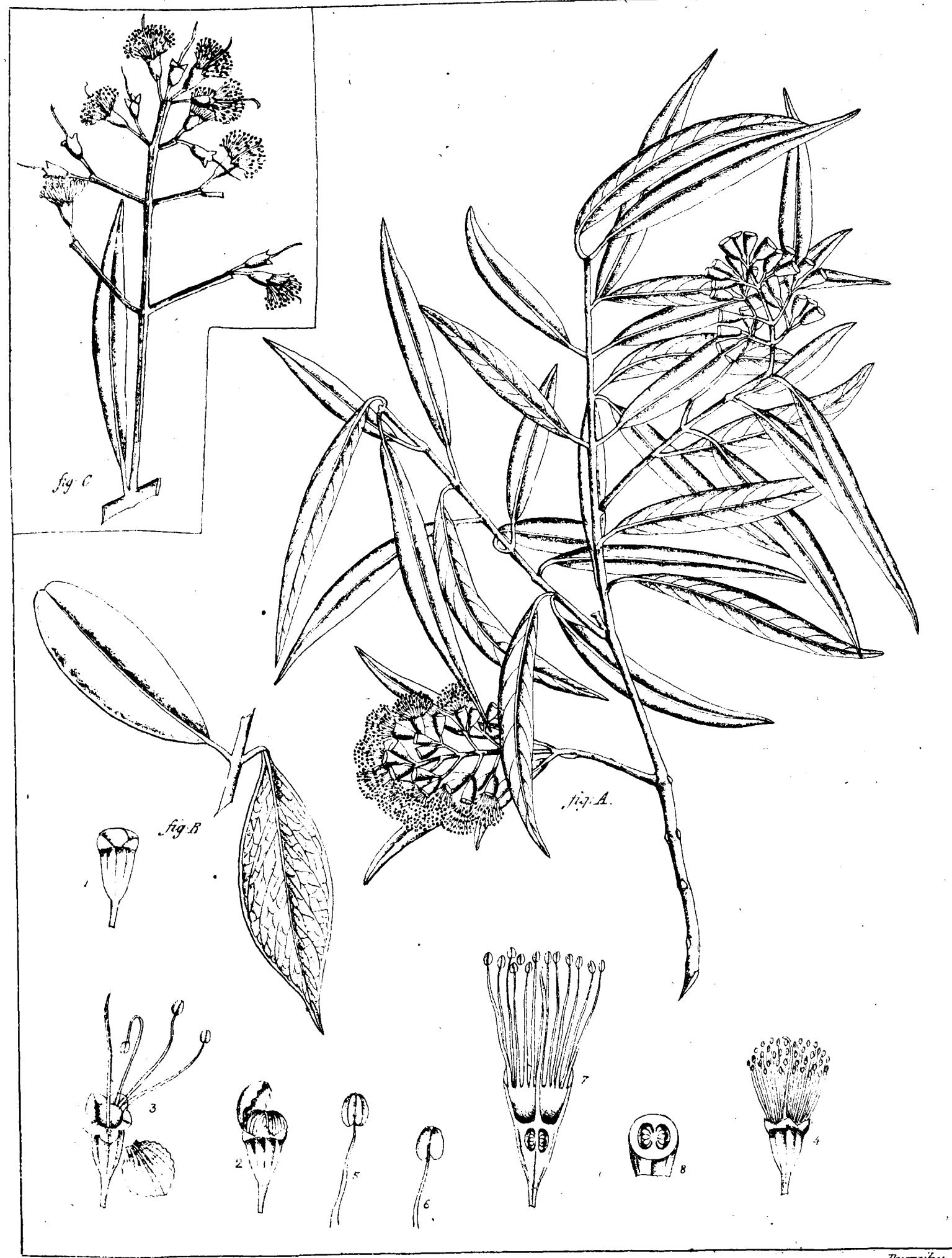
Fig. A. is a flower branch of the ordinary narrow leaved variety.

Fig. B. leaves of the broader leaved variety.

Fig. C. a leaf and cyme of variety B.

Analysis.

1. A bud.
2. A flower, the petals falling off in a crenated calyptra as the anthers swell before expansion.
3. A calyx showing the insertion of the anthers at the apex of the tube, and a single petal, the petals having opened and fallen off separately.
4. A flower after the anthers have opened out.
5. Anther, front view.
6. Anther, back view.
7. Flower cut vertically, showing the calyx tube produced above the ovary, and section of the ovary.
8. Ovary cut transversely.



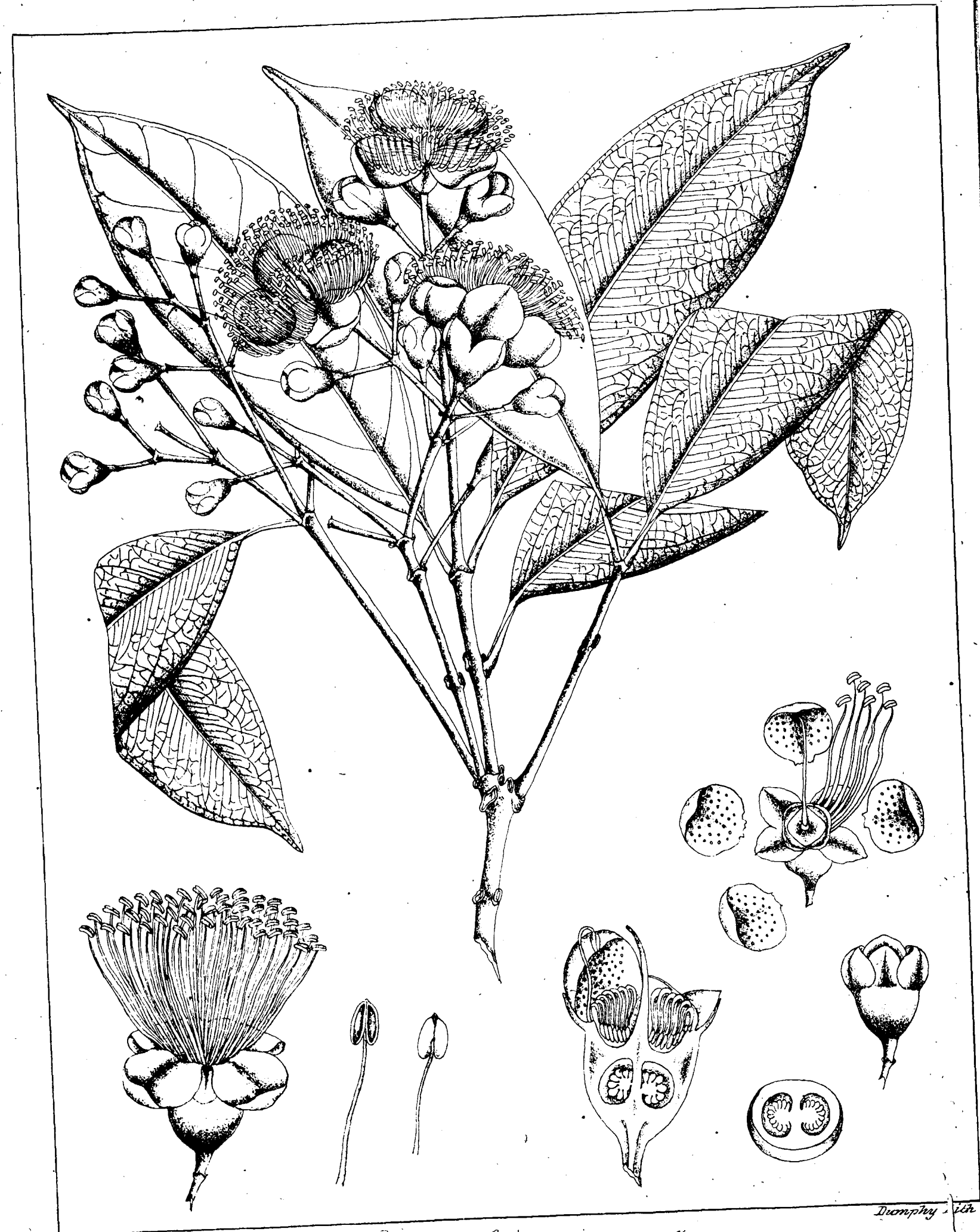
Eugenia Zeylanica (Wight)

EUGENIA HEMISPHERICA. (Nat. order Myrtaceæ.)

For Gen. Char. see Manual under this Order.

EUGENIA HEMISPHERICA. (Wight.) A large tree, glabrous in all its parts, leaves opposite, rarely subalternate minutely dotted lanceolate attenuated at the base, acuminate at the apex, veins inconspicuous above slightly prominent beneath, looped near the margin and there forming a more or less irregular continuous vein, 2-6 inches long by $\frac{3}{4}$ -2 inches broad, petioles 6-7 lines long, cymes axillary and terminal shorter than the leaves many flowered, flowers large white variable in size up to $1\frac{1}{2}$ inches in diameter, calyx-tube subglobose, disk tetragonal 4-5 lines in diameter, petals orbicular dotted, fruit spherical about 1 inch in diameter. *Wight Icones tab. 525. Strongylocalyx hemisphæricus, Bl. Mus. Bot. p. 90.*

This very handsome tree attains a large size and is common in our mountain forests from South Canara down to Cape Comorin at about 3000 feet elevation, it is abundant in Coorg, the Anamallays, and Tinnevely ghats, and it is also found in Ceylon up to 4000 feet; the timber is used for a variety of purposes. The drawing is taken from Coorg specimens. Blume separates this as a distinct genus under the name of Strongylocalyx on account of its rounded (instead of cylindrical) calyx tube and its tetragonal disk, it has certainly no claims to generic distinction nor need it be even kept sectionally distinct from Jambosa. Eugenia lanceolaria is closely allied if indeed a distinct species.



Eugenia hemisphærica, (Wight.)

BARRINGTONIA ACUTANGULA. (Nat. order Myrtaceae.)

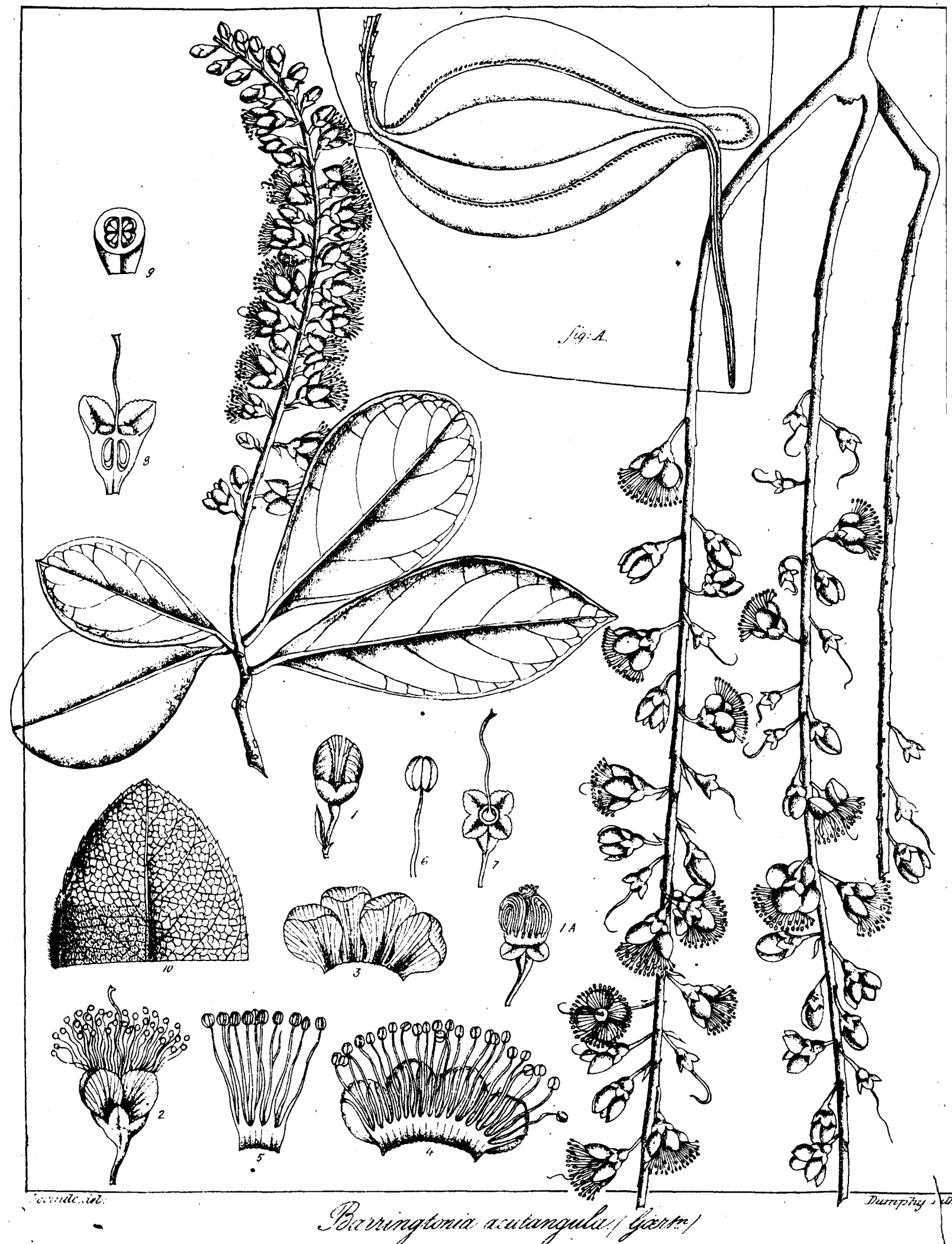
BARRINGTONIA. *Forst.*—**GEN. CHAR.** Calyx tube ovoid or turbinate, not at all or scarcely produced above the ovary, the limb either closed in the bud and splitting into 2 to 4 valvate segments or rarely with 3 or 4 lobes, imbricate in the bud. Petals 4 or 5, adhering at the base to the staminal cup. Stamens numerous, in several series, shortly united at the base into a ring or cup; anthers small, with parallel cells opening longitudinally. Ovary inferior with an annular disk on the top within the stamens, 2 to 4 celled, with 2 to 8 ovules in each cell, horizontal or pendulous, in 2 rows; style filiform with a small stigma. Fruit pyramidal ovoid or oblong, hard and fibrous, indehiscent. Seed usually solitary, with a thick testa; exalbuminous embryo undivided, consisting of a thick woody stratum, and a more or less distinct pith in the centre, no cotyledons. Trees. Leaves alternate, usually crowded at the ends of the branches, pinnateveined and not dotted. Flowers in terminal or lateral spikes or racemes. Bracts small and deciduous. —*Benth. Fl. Aust.* iii. p. 287. *Stravadium*, *Juss.* *Batonia*, *Mig. Fl. Ind. Bot.* 1. pars. 1. 485. *Botryoropsis*, *Presl. Epimel. Bot.* 220. *Meteorus*, *Lour.*

BARRINGTONIA ACUTANGULA. (Gærtn.) A large handsome tree. Leaves from obovate or oblong-cuneate to almost elliptical, obtuse or shortly acuminate, rarely much above 4 inches long, serrulate or entire, narrowed into a short petiole. Flowers red, rather small in very long slender pendulous racemes. Bracts oblong, very deciduous. Pedicels 2 to 4 lines long, calyx tube ovoid globose, about 1 line long; lobes 4, rather longer than the tube, orbicular. Petals about twice as long as the calyx-tube. Stamens not much longer than the petals. Ovary 4 celled or spuriously 4 celled, with 2 pendulous ovules in each cell. Fruit oblong, 4 angled, 1 inch long or rather more. *Wight and Arn. Prod.* 333. *Stravadium rubrum*, *DC. Prod.* iii. 289; —*Benth. Fl. Aust.* iii. p. 288. *Botryoropsis*, *Presl. Epimel. Bot.* 220. *Tsjeria samstravadi*, *Rheede Mal.* 4 t. 7.

This beautiful tree is common throughout this Presidency, as well as in most parts of India, Birmah and Ceylon, on the banks of rivers, and it is also found in the Archipelago and in Australia; it is called Kurpā in Telugu, Piwar in Bombay, and Kyutha in Birmah; the wood is of a beautiful red color, tough and strong and stands a good polish, a cubic foot unseasoned weighs 65-70 lbs. and 56 lbs. when seasoned, and its specific gravity is '896, it is greatly in request by cabinet makers, and the native workmen in Madras call it Munneelancha from its susceptibility of turning black when buried in mud. The bark, the juice of the leaves, and the kernels of the fruit, are in use medicinally with the natives; the tree flowers at the end of the hot season or at the beginning of the rains, and is a beautiful object on the banks of some of our western coast backwaters.

Analysis.

1. A flower bud showing the bracteole at the base.—1a. Petals removed from the bud, showing the much bent filaments all fertile.
2. A full flower.
3. The 4 petals removed, showing that they are slightly joined at the base.
4. Petals and stamen tube removed and opened out, the former are adnate to the back of the tube and the stamens are in 3 rows, the filaments are often broken and appear like staminodes, but all bear fertile anthers in the bud.
5. A portion of the staminal tube more highly magnified.
6. An anther, showing that it is basifixed.
7. A flower, petals and stamens removed, showing the ring-like disk at the apex of the ovary.
8. Ovary cut vertically, showing the pendulous ovules.
9. Ovary cut transversely, showing 4 cells with 2 ovules in each cell.
10. Magnified portion of a young leaf underside showing the venation, the small serratures, and slight pubescence. The dissections all taken from fresh flowers. (This species is generally described as having a 2 celled ovary; in all the ovaries that I have examined there were 4 cells.) F. a. is a drawing showing a germinating seed of *Barringtonia racemosa* after Dr. Roxburgh's drawing.



Barringtonia acutangula (Gærtn.)

ORDER XXXVIII—MYRTACEÆ.

Calyx-tube adnate to the ovary at the base or up to the insertion of the stamens ; limb more or less divided (usually to the base) into 4 or 5 very rarely 3 or more than 5 lobes or teeth, or reduced to a narrow border, or entirely wanting ; lobes usually imbricate or open in the bud. Petals usually as many as calyx-lobes, very much imbricate in the bud, the external one sometimes larger than the others but usually all nearly equal when expanded, sometimes all concrete and falling off in a single operculum, or rarely entirely wanting. Stamens indefinite, usually numerous or rarely few and definite, inserted in one or several rows on a disk, either thin and lining the calyx-tube above the ovary and forming a thickened ring at its orifice or thicker and forming a ring close round the summit of the ovary ; filaments free or rarely united into a ring or tube at the base, or into as many bundles as there are calyx-lobes ; anthers 2-celled, versatile or attached by the base, the cells opening in longitudinal slits, or rarely in terminal pores. Ovary inferior or rarely almost superior, but enclosed in the calyx-tube, sometimes 1-celled, with a placenta attached to the base or adnate to one side, more frequently 2 or more celled, with the placentas in the inner angle of each cell, very rarely 1-celled, with 2 parietal placentas. Style simple, with a small or a capitate or peltate, very rarely lobed stigma. Ovules 2 or more to each placenta, in 2 or more rows, or very rarely solitary, erect pendulous or laterally attached, anatropous or amphitropous. Fruit inferior, adnate to the calyx-tube, and crowned by the persistent limb or marked by its scar when deciduous, or very rarely half or almost wholly superior, and surrounded at the base by the persistent calyx tube, either capsular and opening loculicidally at the summit, in as many valves as cells, or indehiscent, dry, and 1-seeded, or succulent and indehiscent. Perfect seeds usually very few or solitary in each cell, even when the ovules are numerous, or rarely numerous and perfect ; testa either thin and membranous or crustaceous, fleshy or bony. Albumen none, or very scanty near the hilum. Embryo straight or variously curved, fleshy with minute cotyledons at one end, or with large flat, or variously folded cotyledons, or with thick fleshy distinct or consolidated cotyledons, and an exceedingly short radicle, or rarely apparently homogeneous, the cotyledons inconspicuous before germination. Abortive ovules in many capsular genera enlarged without being fertilized and simulating the seeds, but of a hard nearly homogeneous, woody or granular consistence. Trees or shrubs, very rarely undershrubs. Leaves simple, entire or rarely obscurely crenate-toothed, opposite or less frequently alternate, more or less dotted in all but most of the *Lecythideæ*, with small resinous glands, either pellucid or black and superficial, often scarcely visible when the leaf is thick. Stipules none or rarely very minute and fugacious. Flowers solitary or in racemes, panicles or cymes, axillary or apparently terminal from the terminal bud not growing out till after the flowering is over. Bracts solitary at the base of the peduncles, or forming an imbricate involucre from the abortion of the lower flowers. Bracteoles 2 at the base of or on the pedicel, sometimes very small or abortive, and often exceedingly deciduous.

Tribe I, Myrtææ.—Ovary divided into 2 or more cells or very rarely 1 celled with 2 parietal placentas, fruit an indehiscent berry or rarely a drupe indehiscent, leaves opposite or very rarely alternate.

Ovary with 2-4 or 6 rows of superposed ovules separated by vertical septa, the ovules themselves separated by transverse septa (1-2 or 3-celled with double rows of ovules in each cell all separated by spurious septa) ..	RHODOMYRTUS.
Ovary 2 or rarely 3 celled with many rarely 2-ovules in each cell, embryo thick and fleshy either indivisible or with 2 thick fleshy cotyledons and a short radicle	EUGENIA.

Tribe II, Lecythideæ. (Sub-tribe *Barringtoniææ*.)—Ovary divided more or less completely into 2 or more cells, fruit indehiscent hard and fibrous or fleshy, leaves alternate or crowded at the ends of the branches, large, very rarely dotted.

Stamens all perfect, fruit angular fibrous with a single seed	BARRINGTONIA.
Outer or inner stamens or both without anthers, fruit ovoid or globular not angular with several seeds in pulp...	CAREYA.

The tribe *Myrtææ*, or rather the genus *Eugenia*, is a most important one to the forester, as the latter gives 50 or 60 species of trees or large shrubs most of them being valuable timber, they are generally known by the native name of *Nawal* ; a few are found in the plains, but they are most characteristic of the moist woods or sholas on our higher mountains. *Rhodomyrtus* has only 1 species, a large shrub common on our higher mountains, and to this tribe belongs the *Guava* (*Psidium Guajava*, Linn.) so common in our gardens, but an introduction from tropical America, and also *Rhodamnia spectabilis* (Monoxa, Wight Icones tab. 524.) *Nelitris paniculata* (Wight Icones tab. 521) and *Pimenta acris* (Wight Ill. vol. ii. tab. 97) trees introduced into our gardens and of Asiatic origin, though not indigenous to the Peninsula.

The tribe *Lecythideæ* yields 3 species of *Barringtonia*, handsome trees confined to the plains or at no great elevation, and commonest near the sea, all valuable timber ; and one species of *Careya*, a good sized tree most abundant throughout the presidency and ascending the hills to 5000 feet elevation and also yielding a good timber.

Very numerous species of trees and shrubs belonging to this order have been introduced on our mountain ranges from Australia, the most important of which are the *Eucalypti*, which belong to the tribe *Leptospermeæ* (differing from *Myrtææ* in their fruit opening at the summit in as many valves as there are cells), the *Eucalyptus globulus* (blue gum) and *E. obliqua* (stringy bark) are the most common of these, and they in part quite a new feature to the scenery on our mountains ; most of the species yield valuable timbers ; to the same tribe belong the *Leptospermum* and *M. lalucas* bottle brushes), very ornamental shrubs, many species of which now grow in our hill gardens.

RHODOMYRTUS. DC.

Gen. Char. Calyx-tube turbinate, oblong or nearly globular, scarcely or not at all produced above the ovary ; lobes 4 or 5, herbaceous, persistent. Petals 4 or 5, spreading. Stamens numerous in several series, free ; filaments filiform ; anthers versatile or attached near the base, with parallel cells opening longitudinally. Ovary really 1-2-or 3-celled, with several ovules in 2 rows in each cell, but owing to spurious dissepiments interposed between the ovules, appearing either 2-4-or 6 celled or divided into numerous 1-ovulated cells superposed in 2, 4, or 6 rows ; style filiform with the stigma usually peltate. Fruit a berry or almost a drupe, globular, ovoid, or cylindrical, divided into 1-seeded cells or nuts superposed in 2 to 6 or almost in a single row. Seeds compressed, reniform, or nearly orbicular, with a hard testa, embryo horse-shoe-shaped or ring shaped, with a long radicle and very small cotyledons. Trees or shrubs more or less tomentose or villous. Leaves opposite, penniveined or triplinerved. Peduncles axillary, bearing 1 or 3

or rarely a raceme or cyme of 5 or more flowers, pink or white. Bracts small, or when the peduncles are several-flowered the lowest sometimes leaf-like. Bracteoles small and deciduous. *Benth. Fl. Aust.* iii. p. 271.

1. *RHODOMYRTUS TOMENTOSA*, DC.—A large shrub, the branches, the under surface of the leaves, the peduncles and calyx hoary with a very short soft tomentum, leaves oval elliptic obtuse 1-2½ inches long with 3 or rarely 5 thick prominent nerves starting from near the base, peduncles axillary shorter than the leaves bearing 1-3 rather large pink flowers. Calyx tomentose with 2 small bracts at the base, petals ½-¾ inch in diameter tomentose outside. *DC. Prod.* iii. 240 ;—*Wight Icones* t. 522.

Abundant on the higher mountains in this presidency and in Ceylon, at Ootacamund it is known as the hill gooseberry and the fruit is eaten raw or made into jams, &c., it is called by the Burghers Thaontay ; the wood is white with a pink heart, close grained and dense, cuts like cheese but splits in seasoning, it is excellent for small turnery purposes.

Analysis of Genera, Pl. XIV, fig. 3.

RHODOMYRTUS TOMENTOSA.

1. A piece of a branch in fruit.
2. Under surface of a leaf.
3. A full flower.
4. A petal, inside view.
5. The same, outside.
6. Anthers, front and back view.
7. Style.
8. Flower cut vertically, showing the insertion of the stamens, and the ovary with transverse spurious cells 3 on each side, (there are sometimes 4-6).
9. A fruit cut vertically.
10. The same cut transversely.

EUGENIA. LINN.

Gen. Char. Calyx-tube from globular to narrow-turbinate, not at all or more or less produced above the ovary ; lobes 4, very rarely 5, from large and imbricate to very short and scarcely prominent above the truncate margin. Petals 4, very rarely 5, either free and spreading, or more or less connivent or connate, and falling off in a single calyptra. Stamens numerous, in several series, free or obscurely collected in 4 bundles ; anthers versatile, usually small, the cells parallel or very rarely divaricate, opening longitudinally. Ovary 2-celled or very rarely 3-celled, with several ovules in each cell, or only 2 (in an American section). Fruit a berry or sometimes almost a drupe, or nearly dry with fibrous rind. Seeds either solitary and globose, or few and variously-shaped by compression ; testa membranous or cartilaginous, embryo thick and fleshy, with a very short radicle, the cotyledons either united in an apparently homogeneous mass or more or less separable. Trees or shrubs. Leaves opposite, penniveined. Flowers either solitary in the axils, or in lateral or terminal trichotomous cymes or panicles. *Benth. Fl. Aust.* iii. 280. *Jossinea, Comm. Jambosa, DC. Syzygium, Gaertn. Acmena, DC. Strongylocalyx, Bl. Gelpkea, Bl. Cleistocalyx, Bl. Cerocarpus, Hassk. Macromyrtus, Mig. Pl. Ind. Bat. Microjambosa, Bl. Caryophyllus, Linn. Greggia, Gaertn. Guapurium, Juss. Syllisium, Mey. and Schau. Plinia, Linn. Phyllocalyx, Berg. Catinga, Aubl. Hexachlamys, Berg. Myrciaria, Berg. Siphonoeugenia, Berg.*

The different sections, *Syzygium*, *Acmena*, *Strongylocalyx*, *Jambosa* and *Eugenia*, have till lately been treated by most botanists as separate genera. The *Syzygiums* are most abundant in all our mountain woods, and many of them are very large trees, always glabrous, yielding most valuable timber ; they are distinguished by their small flowers and by the petals generally cohering and falling off like a lid. The *Acmenas* only differ from *Syzygium* in their calyx tube being elongated and tapering at the base ; they are small trees, very showy when in blossom. *Jambosa*, *Strongylocalyx* and *Eugenia* have free and spreading petals, the 2 former are glabrous and have their flowers in trichotomous panicles or cymes (except *Wightii*), and the calyx tube more or less produced above the ovary, prominently lobed and the lobes generally persistent ; the last named are almost always more or less downy in their young parts and have short generally 1 flowered or rarely 3 flowered pedicels, solitary or 2 together in the axils or at the old nodes, calyx tube not at all or scarcely produced above the ovary. The *Jambosas* are beautiful trees in the moist mountain forests generally at no great elevation, and *Strongylocalyx* is a fine large mountain tree ; the trees of the *Eugenia* section are generally small and not of such value as the *Syzygiums*. *Eugenia floccosa* is a very beautiful tree characteristic of the S. Tinnevely mountains.

SECTION SYZYGIUM.—Flowers in trichotomous panicles or cymes, calyx tube more or less produced above the ovary, the border entire or very shortly sinuately lobed or with more prominent but very deciduous lobes, petals more or less cohering in a calyptra and falling off together, rarely spreading and separately deciduous, flowers small and inconspicuous. Perfectly glabrous trees or large shrubs.

1. *EUGENIA JAMBOLANA*, Linn.—For description, &c. see Pl. cxvii.

2. *EUGENIA NERVOSA*, DC.—A very large tree, quite glabrous, leaves ovate or oval-elliptic, obtuse or shortly acuminate, 3-6 inches long usually of a pale green, the principal lateral veins distant from each other and very prominent underneath, panicles usually arising from the leafless nodes of the former year's wood, 3-4 inches long, very spreadingly branched from the base, the flowers usually 3 together, sessile at the ends of the ultimate branches, calyx not distinctly toothed, berry very juicy.—*Syzygium nervosum, DC. Prod.* iii. 260 not *E. nervosa, DC. p. 284* ;—*Benth. Fl. Hongkong* p. 119. *Eugenia operculata, Roxb.* ;—*Wight Icones* 552. *E. Paniala, Roxb.* ;—*Wight Icones* 615, and *E. cerasoides, Roxb.* ;—*Wight Icones* 616. *Syzygium nodosum, costatum* and *angolanum, Mig. Fl. Ned. Ind.* i. 448.—Nearly allied to *Jambolana* in habit and inflorescence, but with fewer and much more prominent veins, shorter petioles, and larger flowers.

This large and valuable timber tree is found at low elevations on the mountains on the west side of this Presidency and in Ceylon up to 3000 feet, its timber is similar to that of *Jambolana* and useful for building purposes, &c. The tree is widely spread over India and the Archipelago and in S. China.

3. *EUGENIA CALOPHYLLIFOLIA*, Wight.—A large spreading tree with a fine umbrageous head, young branches 4 sided, leaves glabrous oval obtuse obovate or orbicular, very coriaceous, about 1 inch long by ¾ inch broad, veins parallel but inconspicuous, reticulated beneath when dry, not dotted, cymes terminal corymbose short peduncled many flowered, calyx repandly 4 toothed, petals orbicular falling off as a single lid, fruit oval oblong succulent dark purple, edible. *Wight Icones* tab. 1000.

A large beautiful tree abundant in the moist woods on the higher ranges of the Nilgiris and in Ceylon (Adam's Peak), its very small Calophyllum-like thick leaves distinguish it from all the other species, its timber is valuable and used for building and other purposes, it is in flower more or less all the year round.

4. *EUGENIA ARNOTTIANA*, Wight.—A very large spreading tree but with a low trunk, leaves glabrous elliptic with a longish acumination coriaceous shining obscurely dotted, 2-3 inches long by 1-1½ inches broad, petioles ½ to nearly 1 inch long, cymes terminal dense corymbose, the peduncle and its branches acutely or obtusely 4 sided, flowers cream-colored numerous small sessile or subsessile (when in bud of a lively crimson), bracteoles long ovate lanceolate crimson very caducous, calyx shortly turbinate, limb cup-shaped shortly and bluntly 4 toothed or subentire, petals falling off in a lid or expanding and falling off separately, fruit oblong oval dark purple succulent. *Wight Icones* tab. 999. *Syzygium densiflorum, Wall.* ;—*Wd. Prod.* p. 329.

This is one of the largest and commonest trees in the moist woods on the Nilgiris and Pulneys, 6-7000 feet elevation, and I also have it from 4000 feet on the Anamallays ; it is a valuable timber and generally known under the name of Nawal, the fruit is eaten but it is very astringent.

5. *EUGENIA ASSIMILIS*, Thw.—A middling sized tree, leaves glabrous lanceolate to obovate, or broadly oval abruptly acuminate or obtuse narrowed or rounded at the base, 2-5 inches long by 1-1½ inches broad, petioles 2-7 lines long, cymes crowded at the apex of the branches or in the upper axils ½ or less than ½ the length of the leaves, peduncles obtusely 4 sided, flowers rather large, 6-7 lines in diameter, petals falling off in a lid, fruit spherical blackish purple about ¾ inch in diameter.—*Thw. En. Pl. Zey.* p. 116.

Ceylon, central provinces, up to 5000 feet elevation, the leaves are larger and the flowers 3 times larger than in *Arnottiana*, and the fruit differs in shape.

6. *EUGENIA MONTANA*, Wight.—A very large tree, young shoots acutely 4 angled winged and concave between the wings, leaves occasionally alternate or subalternate coriaceous glabrous lanceolate with a short blunt acumination to obovate or orbicular obtuse, 5-6 inches long by about 2½ broad, petioles 3-5 lines long, cymes terminal very numerous corymbose many flowered, peduncles angled and often very flat and broad, flowers small sessile or subsessile in threes at the apex of each extreme division, calyx obtusely 4 lobed, petals adhering and falling off as a lid, fruit globose purple size of a currant crowned by the calyx. *Wight Icones* tab. 1960.

A very common tree in the woods of the higher ranges of the Nilgiris, the leaves are often alternate or subalternate ; it is to be met with in flower at all seasons ; the wood is in use for building purposes, &c.

7. *EUGENIA SYLVESTRIS*, Moon.—A very large tree, leaves glabrous from lanceolate with a blunt point to obovate or spatulate obtuse coriaceous, about four inches long by 1½-2½ broad, petioles ¾ inch long, cymes corymbose terminal crowded or from the extreme axils longish peduncled, flowers very small, fruit spherical black-purple ¼ inch in diameter. *Wight Icones* tab. 532.

Ceylon, up to 3000 feet elevation, called Aloobo.

8. *EUGENIA NEESIANA*, Arnt.—A good sized tree, leaves subsessile or petiolate oblong lanceolate blunt pointed subcoriaceous pellucid dotted, penniveined, cymes terminal and from the upper axils laxly corymbose trichotomous, peduncles 4 sided, the partial ones umbellately 3-7 flowered, pedicels half the length of the shortly turbinate slightly 4 lobed calyx, flowers small, petals free or cohering and falling off as lid. *Wight Icones* tab. 533.

Ceylon, common up to 3000 feet, called Panookaara. I have this or a closely allied species (with the leaves petioled) from the S. Tinnevely mountains.

9. *EUGENIA REVOLUTA*, Wight.—A middling sized tree, branches obscurely 4 angled, leaves from lanceolate with a small blunt point to oval or broadly obovate very obtuse, very coriaceous, often revolute at the margins, very variable in size, penniveined, polished above, dull glaucous beneath, cymes terminal longish peduncled, flowers sessile congested at the ends of the branchlets, calyx 4-5 toothed petals free or cohering and falling off as a lid, fruit spherical reddish, the size of a small cherry. *Wight Icones* tab. 534.

Ceylon at an elevation of 3000 to 6000 feet.

10. *EUGENIA ANDROSEMIOIDES*, Linn.—A large handsome tree, glabrous, leaves coriaceous, penniveined ovato-lanceolate acuminate, sessile, cordate, stem clasping, 6-8 inches long by about 3 inches broad ; cymes corymbose much shorter than the leaves terminal and axillary, flowers small, calyx slightly 4 toothed, petals cohering and falling off as a lid, fruit subspherical 1 inch in diameter.—*Eug. cordifolia, Wight Icones* tab. 544 ;—*Thw. En. Pl. Zey.* p. 116.

Ceylon, Ambagamwa and Ratnapoora, up to 3000 feet elevation, a most distinct and beautiful species.

11. *EUGENIA MALABARICA*, Bedd.—For description, &c. see Pl. excix.

12. *EUGENIA ALTERNIFOLIA*, Wight.—For description, &c. see Pl. cxcviii.

13. *EUGENIA GRANDIS*, Wight.—A large tree, glabrous, leaves coriaceous shining obovate abruptly and very shortly acuminate obtuse or retuse, narrowed at the base, 4-8 inches long by 3-3½ inches broad, veins numerous subparallel prominent on both sides, petioles ¾ 1 inch long, panicles terminal and from the upper axils shorter or about as long as the leaves, flowers large, (for the genus), calyx attenuated into a short pedicel the 2 together ½ an inch long, and the former 4 lines broad, segments short rounded,

petals distinct and falling off separately. *Wight. Ill. ii. 17, and Icon. 614. Eug. firma, Wall. cat. 3603A. not DC. Prod. iii. p. 282. Syzygium firmum, Thw. En. Pl. Zey. p. 417, and S. montana, Thw. l. c. p. 116. (not Wight.) E. cymosa, Roxb. Fl. Ind. ii. 492, not Lam. Jambosa grandis and firma, Blume Mus. Bot.*

Ceylon, Ambagamwa district at 4000 feet elevation, also in Bengal.

14. *EUGENIA CARYOPHYLLÆA, Gaertn.*—A large shrub or sometimes a middling sized tree, glabrous, leaves obovate or spatulate or more rarely ovato-lanceolate, obtuse or with a very short acumination, somewhat coriaceous, inconspicuously dotted, cymes terminal corymbose trichotomous lax, flowers small, calyx turbinate inconspicuously repand or 4 toothed, petals cohering and falling off as a lid, fruit globose size of a pea. *Wight Icones. tab. 540.*

Very common in S. Canara, Malabar, &c., particularly near the banks of rivers, generally in the form of a large shrub only; it is also common in Ceylon up to 3000 feet elevation, where it is called Dāng, the fruit is eaten.

15. *EUGENIA GARDNERI, Thw.*—A middling sized tree, leaves glabrous pale green, ovato-lanceolate rostrate-acuminate beneath delicately parallel veined, pellucidly punctate, $2\frac{1}{2}$ -4 inches long by $1\frac{1}{4}$ broad, petiole slender 4-5 lines long, cymes shorter than the leaves terminal and axillary, flowers small, calyx obscurely 4 toothed, petals cohering and falling off as a lid. *Thw. En. Pl. Zey. p. 117.*

Anamallays and Tinnevely mountains up to 4000 feet, and in Ceylon 2000-4000 feet. (This much resembles *E. toddalioides*, *Wight*, and should be compared with that plant.)

16. *EUGENIA MICRANTHA, Thw.*—A middling sized tree, leaves glabrous ovate or elliptic obtusely rostrate-acuminate, venose, obscurely punctulate, narrowed at the base, 2-4 inches long (of which the point is $\frac{1}{2}$ to $\frac{3}{4}$ inch), $\frac{1}{2}$ -2 inches broad, petiole 2-5 lines long, cymes about equalling the leaves, flowers small, calyx acutely 4-toothed, berry spherical reddish as large as a pea. *Thw. En. Pl. Zey. p. 117.*

Ceylon, central provinces, elevation 3000-5000 feet.

17. *EUGENIA RUBICUNDA, Wd.*—A small tree or large shrub, glabrous, leaves narrow oblong attenuated at both ends obtuse at the very point, coriaceous pellucid-dotted striated with numerous parallel transverse veins. $2\frac{1}{2}$ -3 inches long by about $\frac{1}{2}$ inch broad, petioles 2-4 lines long, cymes corymbose terminal longer than the leaves, flowers minute, calyx repand 4-lobed shortly turbinate. *Wd. Prod. p. 330;—Wight Icones tab. 538.*

Tinnevely district very common up to 3000 feet elevation.

18. *EUGENIA LISSOPHYLLA, Thw.*—A middling sized tree, leaves ovato-lanceolate acuminate very smooth finely striated below with numerous parallel transverse veins, punctulate, $1\frac{1}{2}$ -3 inches long by 6-13 lines broad, petioles 2-3 lines long, cymes generally longer than the leaf, calyx-teeth short rounded. *Thw. En. Pl. Zey. p. 117.*

Ceylon, central provinces 3000-5000 feet, perhaps not distinct from *E. rubicunda*.

19. *EUGENIA UMBROSA, Thw.*—A middling sized tree, very ramous, leaves ovate shortly and obtusely acuminate or retuse narrowed at the base, very smooth on both sides, almost veinless, 1-2 inches long by 6-10 lines broad, petiole $1\frac{1}{2}$ -2 lines long, cymes longer than the leaf. *Thw. En. Pl. Zey. p. 13.*

Ceylon, open grassy places, central provinces 5000-6000 feet, similar to the last species in inflorescence but differing in the shape and venation of the leaves.

20. *EUGENIA SPATHULATA, Thw.*—A small tree, leaves spatulate-obovate or lanceolate obtuse, above shining below opaque, sparingly parallel-venose, densely glanduloso-punctate, $1\frac{1}{2}$ inches long by 4-8 lines broad, petiole $1\frac{1}{2}$ lines long, cymes about as long as or shorter than the leaves, flowers small shortly pedicellate, fruit spherical, reddish black, size of a pea. *Thw. En. Pl. Zey. p. 118.*

Ceylon, central provinces, 3000-5000 feet elevation.

21. *EUGENIA SCLEROPHYLLA, Thw.*—A middling sized tree, leaves glabrous very coriaceous obovate or rotundate sessile cordate, venose beneath, costa thickened at the base, $\frac{1}{2}$ to 1 inch long by 4-10 lines broad cymes about equalling the leaves, berry spherical blackish as large as a small cherry. *Thw. En. Pl. Zey. p. 118.*

Ceylon, central provinces 6000-7000 feet, nearly allied to *Eugenia rotundifolia*.

22. *EUGENIA OLIGANTHA, Thw.*—A small tree, leaves obovate retuse or shortly pointed narrowed at the base, punctate, obscurely venose, 4 lines to 1 inch long by 3-8 lines broad, petiole 1 line long, capitula few flowered, shortly pedunculate terminal, fruit spherical reddish black, size of a pea. *Thw. En. Pl. Zey. p. 118.*

Ceylon, Ambagamwa district, 3000-5000 feet elevation.

23. *EUGENIA ROTUNDIFOLIA, Arnt.*—A small tree or large shrub, leaves orbicular very obtuse or obscurely pointed subcordate at the base or a little narrowed, coriaceous, scarcely punctate, above glossy, veinless beneath, penniveined, 4-8 lines long, petiole $\frac{1}{2}$ to $1\frac{1}{2}$ lines long, cymes terminal sessile capituliform few flowered, calyx obovate shortly toothed, fruit spherical reddish-black, size of a small cherry. *Arnt. ;—Wight. Ill. p. 17.*

Ceylon, Ambagamwa district, 3000-5000 feet elevation.

24. *EUGENIA SALICIFOLIA, Graham.*—A small tree or large shrub, leaves glabrous linear lanceolate tapering at both ends obtusely acuminate, transversely finely parallel veined, pellucid dotted, 4-5 inches long by $\frac{3}{4}$ inch broad, cymes numerous lax trichotomous from the scars of the fallen leaves (as in *E. jambolana*), flowers small white. *Graham Cat. of Bombay Plants ;—Dalz. Bombay Flora p. 94 ;—Wight Ill. ii. p. 16, and Icones tab. 532.*

Bombay ghats, banks of streams at the higher elevations; called Panjambool; Jubbulpore bed of the Nerbuddah; the wood is much used for rafters.

SECTION ACMEHA.—*Characters the same as Syzygium, only the calyx tube is elongated and tapers at the base, and the flowers are more showy.*

25. *EUGENIA ZEYLANICA, Wight.*—For description, &c. see Pl. ccii.

26. *EUGENIA LANCEOLATA, Wight.*—A small tree, leaves glabrous elliptic oblong slightly tapering at both ends, thinly coriaceous inconspicuously dotted marked beneath with the transverse veins, 3-5 inches long by about $1\frac{1}{2}$ broad, peduncles 4 angled terminal axillary or from the former year's axils, flowers numerous and arranged in umbels on the partial lateral pedicels, or few about 3 together at the apex and 2-3 at the sides of each peduncle, calyx glabrous (sometimes glaucous) elongate obovate repandly 4-5 toothed, petals falling off as a lid or occasionally the outer ones expanding. *Wight. Ill. ii. p. 15, & Icones tab. 530. Eugenia (Acmena) Wightiana, Wight. Ill. p. 15, & Icones tab. 529.*

A very showy tree when in full blossom. I have specimens from all parts of our Western ghats and Ceylon; they differ much in the length of the calyx-tube and number of flowers.

SECTION JAMBOSA.—*Flowers in terminal or axillary short panicles or cymes or rarely on short axillary 1 flowered peduncles (E. Wightii), calyx tube turbinate usually elongate and tapering at the base or hemispherical (Strongylocalyx), more or less produced above the ovary, prominently lobed, the lobes usually persistent, glabrous trees.*

Strongylocalyx, Bl., belongs to this section, and only differs in having a rounded instead of a cylindric calyx-tube (unde nomen) and is not generally admitted even as a distinct section from Jambosa.

27. *EUGENIA CYLINDRICA, Wight.*—For description, &c. see Pl. cci.

28. *EUGENIA WIGHTII, Bald.*—A middling sized very graceful tree, glabrous, leaves submembranaceous lanceolate attenuated at the base and ending in a longish blunt acumen, 4-5 inches long by about $1\frac{1}{2}$ inch broad, punctate, veins inconspicuous above more prominent beneath with large single connecting loops at some distance from the margin, petioles 2-3 lines long, peduncles axillary or from the old axils solitary 1 flowered, $\frac{1}{2}$ to $1\frac{1}{4}$ inches long, flowers very large 2 to 3 inches in full expansion generally crimson but white in one variety, calyx tube cylindrical very long and slender and generally attenuated into a pedicel, limb 4 cleft, lobes rounded.—*Eugenia paniciflora. Wight Icones tab. 526—(not DC. Prod. iii. p. 269.)*

A very elegant tree common in all our moist Western ghat forests from Canara downwards, it is very distinct from *Eugenia cylindrica*, the peduncles are always only 1 flowered, the calyx tube much more slender and the flowers much larger, the leaves much more membranaceous, and the veins only forming single loops, not double as in *cylindrica*.

29. *EUGENIA MUNRONI, Wight.*—A middling sized tree glabrous, leaves very coriaceous more or less cordate at the base, from linear-lanceolate to broad lanceolate ending in a blunt acumen 6-9 inches long by $\frac{3}{4}$ -3 broad, punctate, veins very prominent beneath and meeting within the margin and forming a thick coarse nerve waved or sometimes very regular and straight, petioles 1-2 lines long, cymes terminal, flowers white very large, calyx tube much attenuated at the base, lobes somewhat membranaceous. *Wight Icones tab. 546.*

A very beautiful tree common in our moist Western ghat forests from Canara down to Cape Comorin. *Wight's* figure is good, but the leaves are often very much narrower.

30. *EUGENIA AQUEA, Rumph.*—A middling sized tree, glabrous, leaves from oval to oblong or lanceolate, almost sessile more or less cordate at the base, very coriaceous, black-dotted, $1\frac{1}{2}$ -2 $\frac{1}{2}$ inches long by $1\frac{1}{2}$ broad, veins a little prominent beneath (when dry) forming inconspicuous loops near the margin, petioles about 1 line long, peduncles terminal or from the upper axils 3-many flowered, flowers rather large white or red, calyx tube cylindric and slightly turbinate upwards about 1 inch long, lobes 4 subreniform, petals subrotundate small. *Roxb. Fl. Ind. ii. 492 ;—Wight Icones 216 and 550 ?*

Anamallay mountains, banks of rivers 6000 feet elevation, Ceylon central provinces up to 5000 feet very common, called Wal-jambou. A very handsome tree; both my Ceylon and Anamallay specimens have the leaves exactly oval and not more than $2\frac{1}{4}$ inches long, the Anamallay specimens have slightly smaller and more numerous flowers, and the calyx tube is very gradually broader upwards and not at all contracted near the apex as it is in those from Ceylon; the Anamallay tree has the young ramuli acutely 4-angled, and they appear nearly quite terete in the Ceylon plant, and in the former the veins run exactly at right angles with the midrib, though in the Ceylon plant they are oblique; the two however cannot be different species. *Wight's* figures 216 and 550 (the latter copied from Roxburgh) give no idea of our tree, the calyx tube is much shorter and broader, and the leaves very much larger.

31. *EUGENIA HEMISPHERICA, Wight.*—For description, &c. see Pl. cciii.

This is the *Strongylocalyx hemisphaerica* of Blume; it differs very much in the size of its flowers, and I believe *Eugenia lanceolaria, Roxb.*, to be the same plant, at least unless I have confounded the 2 species. Some of my specimens quite agree with Roxburgh's figure of *lanceolaria*.

To this section *Jambosa*, belong *Eugenia caryophyllata* (the Clove), *Eugenia jambos* (the rose-apple), *Eugenia Malaccensis* and *Eugenia alba*, handsome trees of Asiatic origin introduced into gardens in S. India, but not indigenous in the presidency.

SECTION EU-EUGENIA.—*Peduncles generally solitary or several together 1-flowered rarely forming short few flowered racemes; calyx tube not at all or scarcely produced above the ovary, lobes generally prominent and persistent, petals free and spreading, flowers (much like the myrtle) more conspicuous than in Syzygium, less so than in Jambosa, young parts and inflorescence generally more or less floccose or silky.*

32. *EUGENIA FLOCCOSA*, *Bedd.*—For description, &c. see Pl. cc.

33. *EUGENIA BRACTEATA*, *Roxb.*—A shrub or rarely a small tree, young shoots, petioles, peduncles and calyx clothed with a rusty pubescence, leaves ovate-oblong tapering or cuneate at the base obtuse or with a short blunt acumination, at first slightly downy at length quite glabrous and shining above, pellucid-dotted, peduncles usually axillary or sometimes terminal short 1-flowered longer than the petioles 1-4 together with 2 small bracteoles under the calyx, calyx segments 4 unequal linear-oblong obtuse ciliate, petals 4, style slender, fruit globose 1-2 seeded. *Roxb. Pl. Ind. ii. p. 290;—W.A. Prod. p. 331. E. Roxburghii, DC. iii. 271.*

A shrub or small tree very common in the plains of S. India and Ceylon, particularly so on the seacoast, where it is only a shrub; in subalpine jungles it grows to be a small tree, and I have specimens from the Anamallays 5000 feet elevation.

34. *EUGENIA WILDENOVII*, *DC.*—A small tree or large shrub, the young shoots, young leaves, and inflorescence pubescent, leaves lanceolate at length glabrous or subglabrous obtusely pointed not dotted coriaceous, veins not prominent joined into a waved continuous one near the margin, $1\frac{1}{2}$ to 2 inches long by $\frac{1}{2}$ - $\frac{3}{4}$ inch broad, petioles 2-4 lines long, peduncles filiform 1 flowered $\frac{3}{4}$ to 1 inch long solitary or in pairs in the axils or on the leafless branchlets, with 2 short subulate bracteoles under the calyx. *Wight Icones tab. 545.* (Not characteristic, and the peduncles are represented as 2 flowered, which they never are).—*E. Zeylanica, W.A. Prod. p. 331.*

Very common in the plains of S. India and Ceylon, called Tambaleya in the latter island; wood strong and in use but of small size.

35. *EUGENIA ROTTLEIANA*, *W.A.*—A small tree or shrub, much branched, young shoots, petioles and inflorescence covered with rust colored tomentum, leaves from lanceolate to linear lanceolate tapering at both ends obtuse at the point at length glabrous, pellucid-dotted 1-2 inches long by $\frac{1}{4}$ to $\frac{1}{2}$ inch broad, petioles 1-3 lines long, peduncles axillary solitary or several together or on small lateral shoots, filiform 1 flowered, $\frac{1}{4}$ - $\frac{1}{2}$ inch long, bracteoles 2 under the calyx, calyx lobes 4 triangular ovate obtuse, petals much longer than the calyx. *W.A. Prod. p. 331;—Wight Icones tab. 100 (bad.)*

Tinnevely ghats up to 4000 feet, a very pretty little tree. There are two distinct forms, one with the leaves 1-1 $\frac{1}{2}$ inches long and $\frac{1}{2}$ inch broad, the other with them about 2 inches long and only $\frac{1}{4}$ inch wide; the former variety comes very near to *Willdenovii*.

36. *EUGENIA MICROPHYLLA*, *Bedd.*—A small tree, much branched and very dense, glabrous in all its parts, young branches angled and winged, leaves opposite occasionally alternate or subalternate thickly coriaceous linear obtuse, 4-6 lines long by 2-3 lines broad, when young bright red and quite glabrous, veins quite inconspicuous prominently black dotted, petioles 1 line long, peduncles axillary solitary shorter than the leaves 1 flowered, fruit the size of a large grain of pepper.

A most beautiful little tree, Muti-kuli-vayal, a valley on the Asamboos hills (Travancore), 4500 feet elevation, banks of a river abundant in fruit in August. I unfortunately could not procure it in flower.

37. *EUGENIA MOONIANA*, *Wight.*—A shrub or small tree, young shoots puberulous, leaves pellucid dotted, short petioled ovate tapering at the base acuminate, acumen either short and blunt or prolonged and tapering to a fine point, peduncles axillary solitary or in pairs 1 flowered, flowers small, calyx tube ventricose oblong, limb 4 cleft, segments reflexed pointed, fruit globose size of a cherry. *Wight. Icones tab. 551.*

Western ghats of the Madras Presidency from Canara downwards and in Ceylon up to 4000 feet. *E. gracilis, Bedd. Linn. Trans. vol. xxv.*, is I believe only a form of this, although it has oblong instead of globose fruit. I have another species nearly allied to this, which I think will prove new, but my specimens are not very perfect, it has the peduncles several flowered.

38. *EUGENIA WYNADENSIS*, *Bedd.*—A small tree or shrub, young leaves ramuli and inflorescence densely fulvo-tomentose, leaves oblong lanceolate with a long blunt acumination, when old quite glabrous on both sides, 3-3 $\frac{1}{2}$ inches long by 1-1 $\frac{1}{4}$ broad, petioles 3-4 lines long, peduncles supra-axillary 6 times long, calycine lobes 4 lanceolate acuminate a little longer than the corol, bracts 2 linear much longer than the sepals, stamens inserted round the edge of the disk, ovary 2-celled, ovules pendulous from the apex, about 4 in each cell. *Bedd. Mad. Lit. Soc. Journ.*

Common about Devallicottah in the Wynad, elevation 2000-3000 feet.

39. *EUGENIA ARGENTEA*, *Bedd.*—A small tree or shrub. Stems, petioles, peduncles and under surface of the leaves densely silvery-pubescent, leaves ovate-elliptic to lanceolate rounded at the base, terminating in a longish fine acumination at the apex not dotted, 4-5 $\frac{1}{2}$ inches long by 1 $\frac{1}{4}$ -1 $\frac{1}{2}$ broad, veins rather prominent beneath running into a regular looped vein near the margin, peduncles 1 inch long filiform from the old axils or axillary furnished with a long filiform bract at the base, flowers 4-5 lines across in expansion furnished at the base with 2 long filiform bracteoles double the length of the calyx lobes.

In the Wynad 3000 feet elevation, a rare tree.

40. *EUGENIA CALCADENSIS*, *Bedd.*—A small tree, young shoots, young leaves and inflorescence covered with dense rusty pubescence, leaves sometimes subalternate coriaceous not dotted, elliptic to subobovate obtuse at the apex, very rugose on the upper

side but glabrous in age except the channelled costa, venation quite inconspicuous above, slightly prominent beneath the primary veins joined into a marginal one, 2 $\frac{1}{2}$ -3 inches long by 1-1 $\frac{1}{4}$ broad, petioles 3-4 lines long, peduncles axillary solitary about as long or a little longer than the petiole, 2-flowered at the apex rarely only 1 flowered, pedicels, 1-1 $\frac{1}{4}$ inches long furnished with a subulate bract at the base of each and 2 at the apex below the calyx, flowers showy white, 1-1 $\frac{1}{4}$ inches in diameter, calyx lobes rounded about 3 lines long, petals oblong ciliate 6-8 lines long, disk suborbicular woolly covering the top of the ovary, stamens inserted all over it.

A very beautiful little tree only observed on the Calcad hills, South Tinnevely, elevation 2000 feet.

41. *EUGENIA TERPNOPHYLLA*, *Thw.*—A middling sized tree, branchlets terete, young branches, young leaves and inflorescence ferrugineo-pilose, leaves membranaceous lanceolate or oblongo-lanceolate with a long acumination more or less attenuated at the base, 2 $\frac{1}{2}$ -5 inches long by $\frac{1}{2}$ -2 inches broad, primary veins 5-8 prominent beneath, looped, marginal veins double, the inner one most prominent, petiole $\frac{1}{4}$ - $\frac{1}{2}$ inch long, peduncles axillary and terminal short few flowered, pedicels equalling the petiole, petals white twice as long as the rounded lobes of the calyx, fruit spherical puberulous as large as a small cherry generally 1 seeded. *Thw. En. Pl. Zey. p. 114.*

Ceylon, Ambagamwa and Ratnapoora and Reigan Corle at no great elevation.

42. *EUGENIA RUFO-FULVA*, *Thw.*—A tree 30-40 feet high, young parts short rufo- or fulvo-pilose, leaves lanceolate with a long sharp acumination glabrous and shining above (except whilst young) channelled on the costa beneath shortly clothed with adpressed rufous or fulvous tomentum, at length subglabrous, primary veins joined near the margin in a waved continuous one, 4-5 inches long 1-1 $\frac{1}{2}$ inches broad, petiole $\frac{1}{2}$ an inch long, peduncles axillary short 1-3 flowered, pedicels longer than the petiole, calyx with small subulate bracteoles. *Thw. En. Pl. Zey. p. 416.*

Ceylon, Gattehatte near Avishaucelle.

43. *EUGENIA XANTHOCARPA*, *Thw.*—A low tree, young parts and inflorescence ferrugineo-pilose, leaves elliptic lanceolate obtusely acuminate glabrous acute at the base channelled above at the costa, the primary veins numerous and joined near the margin into a continuous vein; 2 $\frac{1}{2}$ -4 inches long 1-1 $\frac{1}{2}$ inches broad, petiole 3 lines long, peduncles axillary several flowered, pedicels about equal to the petioles, fruit 1-4 seeded subspherical, ferrugineo-pilose and minutely glanduloso verrucose, 3-6 lines in diameter yellowish. *Thw. En. Pl. Zey. p. 416.*

Ceylon, between Galle and Colombo near the sea coast.

44. *EUGENIA AMENA*, *Thw.*—A small tree, ramuli terete, leaves sessile cordate or ovato-lanceolate acuminate glabrous reticulate beneath, 2-6 inches long by 1 $\frac{1}{4}$ -2 $\frac{1}{4}$ inches broad, flowers generally terminal subfasciculate, pedicels 7-10 lines long rarely shorter, petals 4 white oblong about 3 lines long longer than the rounded lobes of the calyx. *Thw. En. Pl. Zey. p. 114.*

Ceylon, Kokool Corle, and Dolosbage district up to an elevation of 1500 feet.

45. *EUGENIA MABEIDES*, *Wight.*—A rigid shrub, quite glabrous in all its parts, very ramous, leaves short petioled obovate-spathulate glabrous rigid shining above densely glanduloso-punctate, $\frac{1}{2}$ -2 inches long by $\frac{1}{4}$ -1 $\frac{1}{4}$ broad, pedicels very short fascicled on short subaxillary tubercles, calyx-tube ventricose, limb 4-parted, fruit spherical as large as a small cherry. *Wight Ill. ii. p. 13;—Thw. En. Pl. Zey. p. 114.*

Ceylon, central provinces, at 4000-7000 feet elevation.

46. *EUGENIA FLOCCIFERA*, *Thw.*—A small tree, young parts and inflorescence densely fulvo-tomentose, branches terete, leaves oblongo-lanceolate with a very long gradual acumination, at length glabrous, 4-8 inches long by 1-2 inches broad, primary veins rather prominent beneath joined in a marginal loop-vein, petiole 3-4 lines long, pedicels axillary short fascicled, calyx-lobes 4 lanceolate much longer than the tube, equalling the petals, petals white 4 lines long. *Thw. En. Pl. Zey. p. 115.*

Ceylon, Reigan Corle at no great elevation.

47. *EUGENIA FULVA*, *Thw.*—A small tree, branches terete, young parts and inflorescence fulvo-tomentose, leaves elliptic or oblong abruptly and shortly acuminate rounded at the base, venose beneath, 4-6 inches long by 2 $\frac{1}{4}$ -3 inches broad, petiole 4 lines long, flowers axillary and cauline small sessile crowded. *Thw. En. Pl. Zey. p. 115.*

Ceylon, Pasdoon Corle, at no great elevation.

48. *EUGENIA RIVULORUM*, *Thw.*—A small tree, branchlets terete, leaves lanceolate acuminate narrowed at the base, below, minutely fulvo-pilose, at length glabrous, 10-14 inches long 3-4 $\frac{1}{2}$ inches broad, petiole about $\frac{1}{2}$ inch long, flowers large sessile axillary and cauline, calyx pilose on the outside, lobes 4 rounded as long as the tube, petals oblong pale purple 5 lines long. *Thw. En. Pl. Zey. p. 115.*

Ceylon, banks of streams, Singhe Rajah forest between Galle and Ratnapoora, at no great elevation.

49. *EUGENIA INSIGNIS*, *Thw.*—A low ramous tree, young parts villous with fugaceous white down, leaves glabrous oblong acuminate, slightly acute at the base smooth above, channelled at the costa, paler beneath, (primary veins about 12 on each side prominent looped at the margin in a continuous vein, areoles smooth almost veinless,) 6-8 inches long by 2-3 $\frac{1}{2}$ inches broad, petioles 6-8 lines long, flowers axillary and on the branches few sessile small, calyx albo-villous on the outside, segments oblong 2 lines long, petals a little longer ciliate, fruit spherical albo-villous or floccose. *Thw. En. Pl. Zey. p. 416.*

Ceylon, Galpara in the Reigan Corle.

50. *EUGENIA DECORA*, Thun.—A small tree, branches terete, leaves oblong acuminate rounded at the base glabrous shining above, beneath paler and minutely reticulate, 4-5 inches long by about 2 inches wide, petiole 4 lines long, flowers white sessile crowded axillary and cauline, fruit transversely oblong reddish black 6 lines long by 8 lines wide, 2-seeded. Thun. En. Pl. Zey. p. 115.

Ceylon, near Galle at no great elevation.

51. *EUGENIA CONCINNA*, Thun.—A tree, branchlets terete, young parts pilose, leaves firm very slightly pilose at length glabrous ovate rather abruptly acuminate obtuse a little acute at the base, primary veins 12-16 on each side with a marginal connecting vein, areoles obscurely venoso-reticulate, 3-5 inches long by 1½-2½ inches broad, petiole 2-3 lines long, pedicels axillary fasciculate twice as long as the petiole, flowers small, fruit spherical glabrous shining red 6 lines in diameter. Thun. En. Pl. Zey. p. 416.

Ceylon, Ambagawwa district.

52. *EUGENIA CUNEATA*, Heyne.—A small tree or shrub, leaves short petioled obovate-spathulate, glabrous on both sides, peduncles axillary solitary or congested sometimes from the abortion of the leaves, corymbose on the ends of the branches 1-flowered, tube of the calyx globose clothed with soft white tomentum, limb 4-lobed persistent, fruit the size of a shoe. Heyne in Herb. Wall. 3625. Jossinia Indica, Wight Icones tab. 523;—Bl. Mus. Bot. 1. p. 122.

Sevagherry hills (Tinnevely district).

53. *EUGENIA CONYENSIS*, Munro.—Shrubby glabrous, leaves short petioled from ovate oblong to obovate with a short blunt acumens tapering towards the base, pellucid-dotted, flowers subsessile aggregated forming terminal capituli on the points of short abortive branches, or they are axillary solitary or a few together, calyx tube small clothed with silky tomentum somewhat globose, limb persistent, lobes ciliate, petals twice the length of the calyx, lobes ciliate, style and stigma simple, fruit globose 1-2 seeded. Wight Ill. ii. p. 13.

Coorg, near Mercara, flowers sweet scented. I have never found these last 2 species.

I have in my Herbarium several undescribed species of the Syzygium section, but my specimens are not perfect enough for description; further search will undoubtedly add some new species from the higher ranges of the Palghat hills, Anamallays, Tinnevely, Travancore, &c. From Ceylon I have an undescribed species from Dr. Thwaites, labelled *Eugenia hypoleuca*.

I have figured 7 species, exhibiting the most marked forms of this large genus; space will not allow of more figures as it is proposed to complete the work in 25 numbers.

BARRINGTONIA. Forst.

For Gen. Char. see letter-press to Pl. cciv.

1. *BARRINGTONIA ACUTANGULA*, Gaertn.—For description, &c. see Pl. cciv.

2. *BARRINGTONIA RACEMOSA*, Roxb.—A good sized tree, leaves cuneate-oblong acuminate serrulate or crenulated, 3-12 inches long by 1-4 broad, flowers large pale pink forming a long pendulous raceme, pedicels scarcely so long as the flower, 1-bracteate at the base, calyx at length 2-3 cleft, ovary 2-celled, ovules attached to the middle of the dissepiments, fruit ovate size of an egg bluntly 4-angled. Roxb. Fl. Ind. ii. 634;—WA, Prod. p. 333;—Rheede. Mal. 4. t. 6;—Wight Icones t. 152.

Malabar, Travancore about the backwaters, and Ceylon, in the latter place it is called Deya-midella, it is a very beautiful tree when in blossom, the bark and root are used medicinally by the natives, the timber is lighter in color than that of *B. acutangula*, closer grained and of less specific gravity and nearly as strong, it works well and gives a good even surface, unseasoned it weighs 60-65 lbs. the cubic foot, and seasoned 53 lbs., and its specific gravity is .848, it is used for house building, cart-framing, &c.

3. *BARRINGTONIA SPECIOSA*, Linn.—A large handsome tree, leaves sessile obovate entire attaining more than 1 foot in length, flowers very large in short terminal racemes, the rachis thick, the pedicels 1-2 inches long, calyx deeply divided into 2-3 oval oblong concave almost leaf like segments above 1 line long, petals from half as long again to twice as long as the calyx-segments, stamens very numerous red 2-4 inches long, ovary imperfectly 4-celled with about 6 ovules in each cell, fruit large pyramidal 4 angled crowned by the persistent calyx-lobes. Wight Icones tab. 547;—Benth. Fl. Aust. iii. p. 288.

Ceylon, common on the sea-shore between Galle and Matura, has been introduced into gardens in S. India, but is not I believe found in a wild state; it is indigenous in the Archipelago, and the Pacific Islands and Australia (Queensland).

CAREYA. Roxb.

For Gen. Char. see letter-press to Pl. ccv.

1. *CAREYA ARBOREA*, Roxb.—For description, &c. see Pl. ccv.

