

8. ALSTONIA, R. Br.

APOLYNACEAE

(Blaberopus, A. DC.)

Calyx without any or with very minute glands. Corolla-tube cylindrical, more or less swollen round the anthers, the lobes spreading, contorted in the bud, the throat without scales. Anthers enclosed in the tube. No hypogynous scales. Ovary of 2 distinct carpels united by the style; stigma ovoid or conical; ovules numerous, in about 4 rows in each carpel. Fruit of 2 long linear follicles. Seeds oblong, compressed, peltately attached, bordered with hairs of which those at each end usually very long; albumen scanty.— Trees or tall shrubs with a milky juice. Leaves in whorls of 3 or more, or in a few species opposite. Flowers in terminal corymbose cymes, usually 1 in the axil of each leaf of the terminal whorl. Bracts small.

The species are not numerous, spread over tropical Asia and the Pacific islands. Of the seven Australian species, one is the commonest of the Asiatic ones, another, if correctly identified, is also in Java, the other five are endemic.

- Corolla-lobes with the left-hand margin overlapping. Leaves whorled, with transverse parallel veins.
- Flowers sessile or nearly so in dense cymes, pubescent. Ovary villous . . . . . 1. *A. scholaris*.
- Flowers pedicellate in loose cymes, glabrous as well as the ovary. 2. *A. verticillosa*.
- Corolla-lobes with the right-hand margin overlapping.
- Leaves in whorls of 3 or 4.
- Veins numerous, nearly transverse and parallel . . . . . 3. *A. ophioxylodes*.
- Veins distant, more or less arcuate and anastomosing.
- Leaves oval elliptical or oblong, softly villous underneath . . . . . 4. *A. villosa*.
- Leaves linear, glabrous . . . . . 5. *A. linearis*.
- Leaves opposite. Veins distant.
- Quite glabrous . . . . . 6. *A. constricta*.
- Softly pubescent . . . . . 7. *A. mollis*.

N3B

APOCYNACEAE

*Alstonia actinophylla*

5. **A. linearis**, *Benth.* A small tree of robust growth, quite glabrous. Leaves in whorls of 3 or 4, linear, almost acute, contracted into a short slender petiole, the primary veins few distant and oblique, mostly 2 to 3 in. long. Cymes terminal. Flowers not seen. Follicles 8 to 10 in. long. Seeds pubescent, the hairs of each end about as long as the seed itself, as in *A. ophioxyloides*.

**N. Australia.** Cliffs of Brunswick Bay and Regent's River, N. W. coast, *A. Cunningham*.

3. *CARISSA*, Linn.

APOCYNACEAE

Calyx without glands. Corolla-tube cylindrical, slightly swollen round the anthers; lobes spreading, contorted in the bud, the throat without scales. Anthers oblong or lanceolate, included in the corolla-tube. Ovary single, 2-celled; ovules several in each cell, in 2 rows; style filiform, with a more or less thickened or conical stigma. Fruit ovoid or globular, succulent, indehiscent. Seeds usually 1 or 2, without hairs, albuminous.—Shrubs or trees, often armed with opposite axillary spines. Leaves opposite. Flowers in terminal or axillary cymes. Bracts very small.

The genus is dispersed over tropical and southern Africa, East India, and the Indian Archipelago. The Australian species are endemic.

Leaves 2 to 3 in. long, acuminate. Pedicels longer than the calyx . . . 1. *C. laxiflora*.

Leaves on the flowering branches under 2 in. Flowers sessile or the pedicels shorter than the calyx.

Leaves ovate rhomboidal or orbicular, those of the smaller branches broadly elliptical.

Glabrous or very slightly pubescent . . . . . 2. *C. ovata*.

Young leaves densely pubescent, adult ones very scabrous . . . . . 3. *C. scabra*.

Leaves lanceolate or narrow-elliptical . . . . . 4. *C. lanceolata*.

4. **C. lanceolata**, *R. Br. Prod.* 468. An erect, divaricately-branched glabrous shrub. Leaves lanceolate or elliptical, acute or rarely obtuse, narrowed into a short petiole, very obliquely penniveined, from under 1 in. to about  $1\frac{1}{2}$  in. long. Flowers in small compact sessile or very shortly pedunculate cymes, mostly terminating short leafy branchlets. Calyx-segments more subulate, and corolla-lobes narrower, longer, and more acute than in *C. ovata*, but otherwise the same. Berry ovoid, about 3 lines long, with 1 or 2 smooth or scarcely wrinkled seeds.

**N. Australia.** Victoria river, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; Strangways river, *Waterhouse*.

**Queensland.** Suttor river, *Bowman*; Flinders river, *Sutherland*.

*F. Mueller* unites this with *C. ovata*. If it be the same species, it is a very marked and apparently constant variety.

2. **C. ovata**, *R. Br. Prod.* 468. An erect, much-branched shrub of 3 or 4 ft., quite glabrous or rarely the young shoots minutely pubescent, more or less armed with opposite horizontally divaricate simple or rarely forked spines, which appear to be abortive peduncles. Leaves ovate rhomboidal or almost orbicular, obtuse or shortly acute, coriaceous, penniveined but the lower veins sometimes very near the base, usually  $\frac{1}{2}$  to  $\frac{3}{4}$  in. long on the flowering branches, but sometimes twice that size, especially on sterile branches. Flowers in small compact sessile or shortly pedunculate axillary cymes. Calyx-segments lanceolate-subulate, about 1 line long or the inner ones smaller. Corolla-tube nearly 4 lines long, the lobes scarcely  $1\frac{1}{2}$  lines, obliquely ovate or oblong, obtuse or scarcely acute, the right-hand edges overlapping in the bud. Anthers above the middle of the tube, minutely apiculate. Fruit ovoid, usually 1-seeded,  $\frac{1}{2}$  to  $\frac{3}{4}$  in. long.—*A. DC. Prod.* viii. 334.

**N. Australia?** Victoria river, *Bynoe* (in *Herb. Hook.*, but possibly some error).

**Queensland.** Thirsty Sound, *R. Brown*; Brisbane river, Moreton Bay, *A. Cunningham*, *F. Mueller*, and many others; Rockhampton, *Dallachy* and others; Port Nelson, *A. Cunningham*; Fitzroy and Bowen rivers, *Bowman*; Port Denison, *Fitzalan*, *Dallachy*; in the interior, Mooni and Marauoa rivers, *Mitchell*; Armadillo, *Barton*.

**N. S. Wales.** Clarence river, *Beckler*.

*F. Mueller*, *Fragm.* iv. 45, unites this and the two following species under the name of *C. Brownii*.

N20

APOCYNACEAE

*Ervatamia orientalis*

N33

APOCYNACEAE

*Ervatamia pubescens*



11. **PARSONSIA**, R. Br.

(Heligme, *Blume*.)

APOCYNACEAE

Calyx with an irregular ring of minute glands inside at the base or with few or none. Corolla-tube cylindrical or nearly globular; lobes spreading, contorted in the bud, the edges slightly overlapping, the throat without scales. Stamens inserted at or below the middle of the tube, the filaments often twisted together under the anthers; anthers oblong lanceolate or linear, wholly or partially exerted, cohering in a cone or ring round the stigma, each with 2 rigid basal lobes usually devoid of pollen. Hypogynous scales 5, as long as the ovary, free or united in a plicate ring. Ovary 2-celled, with numerous ovules in each cell. Stigma surrounded by a ring or membranous expansion at the base, usually 2-lobed. Fruit elongated, nearly terete, separating more or less completely into 2 follicles. Seeds with a coma or tuft of long silky hairs at the hilum.—Tall and woody or slender climbers. Leaves opposite. Flowers in terminal or axillary corymbose cymes. Bracts small.

A small genus, extending over E. India, the Archipelago, the South Pacific islands, and New Zealand. The Australian species appear all to be endemic. The overlapping of the corolla-lobes is sometimes slight, but is easily observed on the unexpanded bud.

Corolla-tube cylindrical or ovoid. Anthers without appendages on the back.

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|---|-----------------------------|
| <b>Anthers wholly exerted from the corolla-tube.</b>  |                             |
| Cymes terminal or on short axillary branches. Leaves narrow or broad, not cordate, glabrous or tomentose . . . . .                | 1. <i>P. lanceolata</i> .   |
| Cymes on long axillary peduncles. Leaves broad, usually cordate. Plant usually rusty pubescent . . . . .                          | 2. <i>P. velutina</i> .     |
| <b>Anthers with the tips only protruding. Cymes terminal or on short axillary branches. Plant glabrous or nearly so . . . . .</b> |                             |
| <b>Corolla-tube nearly globular. Anthers with a prominent longitudinal appendage or wing on the back . . . . .</b>                | 3. <i>P. Leichhardtii</i> . |
|   | 4. <i>P. ventricosa</i> .   |

2. ***P. velutina***, R. Br. *Prod.* 466. A tall woody climber, softly pubescent or villous, the hairs usually rusty or rarely nearly glabrous. Leaves on rather long petioles, from broadly ovate to ovate-oblong, truncate or cordate at the base, the primary veins distant and prominent underneath, 2 to 5 in. long. Cymes rather small and dense, solitary or few on opposite axillary peduncles. Calyx-segments lanceolate, nearly 1 line long, the tips usually spreading. Corolla scarcely 2 lines long, the tube shorter than the calyx, the lobes broad, rather longer than the tube, bearded inside below the middle. Hypogynous scales truncate, usually convolute. Stamens inserted near the base of the corolla; filaments flattened, not twisted, hirsute under the anthers; anthers wholly exerted, the basal lobes rather short. Ovary crowned by 4 small glands. Fruit hard, 3 to 6 in. long, tomentose or glabrous, tardily separating more or less completely into 2 follicles.—A. DC. *Prod.* viii. 401; *Echites velutina*, Spreng. *Syst.* i. 634.

**N. Australia.** Victoria river, *F. Mueller* (in fruit only).

**Queensland.** Endeavour river, *Banks and Solander*; Keppel Bay, *R. Brown*; Port Denison and Edgecombe Bay, *Dallachy*; Rockhampton, *O'Shaneey*; Broad Sound, *Bowman*.

**N. S. Wales.** Hastings and Clarence rivers, *Beckler*.

Var. ? *glabrescens*. Foliage at length nearly glabrous.—Victoria river, *F. Mueller*; South Goulburn Island, *A. Cunningham*; Cape York, *Daemel*. The specimens of this form are none of them perfect, and require further comparison with the New Caledonian *Lyonsia scabra*, A. DC.

10. **WRIGHTIA**, R. Br.

APOCYNACEAE

(*Balfouria*, R. Br.)

Calyx with 5 to 10 broad scales inside at the base. Corolla-tube cylindrical, usually short; lobes spreading, contorted in the bud, the throat with a corona of 5 or 10 erect scales, either distinct or united in a ring. Stamens inserted in the throat; filaments very short and broad; anthers sagittate, exerted, united or connivent in a cone round the stigma. No hypogynous disk or scales. Ovary of 2 carpels, distinct or connate, but readily separable; ovules numerous. Fruit long, terete, at length separating into 2 follicles. Seeds oblong, with a tuft of hairs at the end furthest from the hilum.—Trees or shrubs, the branches often slender but not twining. Leaves opposite. Flowers in terminal corymbose cymes, appearing sometimes axillary after the development of one branch only of the fork. Bracts small.

A small genus dispersed over tropical Asia. Of the three Australian species, one is also in the Indian Archipelago, and closely allied to a common E. Indian one; the two others are endemic, and very distinct.

Corolla-lobes with the left-hand edges overlapping, and longer than the tube.

Pubescent. Leaves ovate or elliptical. Corona of 10 distinct scales . . . . .

1. *W. pubescens*.

Glabrous. Leaves linear or lanceolate. Corona a truncate or toothed ring . . . . .

2. *W. saligna*.

Corolla-lobes with the right-hand edges overlapping and shorter than the tube. Leaves linear or lanceolate. Corona of 5 or 10 distinct scales . . . . .

3. *W. Cunninghamii*.

3. **W. Cunninghamii**, *Benth.* A slender glabrous shrub with the habit and nearly the foliage of *W. saligna*. Leaves linear-lanceolate or lanceolate, acutely acuminate, narrowed into a long slender petiole, the veins irregular and scarcely visible above, impressed as well as the reticulate veinlets underneath, 3 to 5 in. long. Cymes shortly pedunculate, terminal or axillary from the development of a side branch. Calyx-segments ovate, almost acute, with short broad obtuse or acuminate scales inside at the base, about 5 to the whole calyx. Corolla-tube about 3 lines long; lobes rather broad, ovate-falcate, the right-hand edges overlapping in the bud; corona of 5 bifid or 10 simple scales shortly acuminate, all behind the anthers. Anthers shorter than in the preceding species and more ovate with recurved points, but exserted and connivent in a cone or ring round the stigma. Ovary of 2 distinct carpels. Fruit not seen.

**W. Australia.** Enderby island, Dampier's Archipelago, *A. Cunningham*. Although this plant differs from the other species in several particulars, they do not seem sufficient in the absence of the fruit to constitute a distinct genus.

1. **W. pubescens**, *R. Br. Prod.* 467. A tall shrub or small tree, the foliage and inflorescence more or less pubescent or velvety-tomentose. Leaves shortly petiolate, ovate to elliptical-oblong, acuminate, the primary veins rather distant and prominent underneath, 2 to 4 in. long. Flowers white, sessile or shortly pedicellate in terminal trichotomous corymbose cymes not exceeding the leaves. Calyx-segments broadly ovate, almost orbicular, nearly 2 lines long, with 1 or 2 ovate scales inside at the base of each. Corolla-tube broad, scarcely exceeding the calyx, contracted at the throat; lobes twice as long as the tube, the left-hand edges overlapping in the bud; corona of 10 erect scales, 5 larger ones alternating with the stamens irregularly several-toothed, 5 smaller behind the stamens 2-toothed. Anthers in a cone of above 3 lines. Carpels of the ovary connate or coherent at the base, distinct at the top; stigma dilated and membranous at the base, with 2 linear lobes. Fruit hard, about 6 in. long, the follicles not separating until maturity.—*A. DC. Prod.* viii. 405.

**N. Australia.** Islands off the N. coast of Arnhem's Land, *R. Brown*; Port Essington, *Armstrong*; Fitzmaurice river, *F. Mueller*; also in the Indian Archipelago. *Cuming's* n. 1293, from the Philippine Islands, appears to be the same; n. 1453 referred here by *A. De Candolle* has larger, rather differently shaped flowers. *W. tomentosa* of East India has the same foliage, but the corolla-tube is generally rather longer in proportion to the calyx, and the corona is shortly lobed only, not divided to the base. All may, however, prove to be varieties of one species.

2. **W. saligna**, *F. Muell. Herb.* A tall shrub or small tree, quite glabrous. Leaves linear or linear-lanceolate, acutely acuminate, contracted into a short petiole, almost veinless except the midrib, 3 to 5 in. long. Flowers yellow, in short cymes either terminal or apparently axillary from the development of a side branch. Calyx-segments nearly orbicular,  $\frac{3}{4}$  line diameter, with 1 or 2 broad scales at the base of each more than half as long as the calyx. Corolla-tube broad, not twice as long as the calyx, contracted at the throat; lobes narrow, fully twice as long as the tube, the left-hand edges overlapping in the bud; corona-scales united in a truncate or sinuate-toothed ring round the anthers. Anthers in a cone of about 2 lines. Carpels of the ovary coherent but separable. Stigma dilated at the base, 2-lobed. Fruit hard, acuminate, nearly terete, 6 to 8 in. long, the follicles not separating till maturity.—*Balfouria saligna*, R. Br. Prod. 467; Endl. Iconogr. t. 75; A. DC. Prod. viii. 403.

**N. Australia.** Barren ridges, Sea Range, Victoria river, and M'Adam Range, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; Port Essington, *Armstrong*; Albert river, *Henne*.

**Queensland.** Port Denison, *Fitzalan*, *Dallachy*; Elliott and Suttor river, *Bowman*.