

5. CADABA, Forst.

CAPPARACEAE

Sepals 4, free, the 2 outer ones valvate in the bud. Petals 4, 2, or none, clawed. Torus elongated, bearing at the base on one side a tubular, erect appendage. Stamens 4 to 8, inserted on the summit of the torus. Ovary on a long stalk within the stamens, 1-celled; placentas 2 or 4, with many ovules in 2 rows. Stigma small, sessile. Berry cylindrical. Seeds nearly globular; cotyledons convolute.—Shrubs, unarmed or prickly. Leaves simple, or in species not Australian 3-foliolate or wanting. Flowers axillary, or in terminal racemes or corymbs.

The genus extends over Africa and tropical Asia; the only Australian species is also in the Indian Archipelago.

1. **C. capparoides**, *DC. Prod.* i. 244. A tall shrub, the young branches, foliage, and inflorescence shortly pubescent. Stipulary spines small, recurved, occasionally wanting. Leaves simple, petiolate, from ovate to oblong-lanceolate, obtuse or the upper ones acute, 2 to 3½ in. long, membranous, penninerved, green and pubescent on both sides. Flowers in short, loose, terminal racemes. Pedicels above 1 in. long, in the axils of small bracts. Outer sepals herbaceous, concave, nearly ½ in. long; inner ones smaller. Petals 4, turned towards the side of the flower opposed to the stamens and pistil, 3 with slender claws longer than the calyx, and ovate laminæ of unequal size, but not exceeding 4 lines, the fourth with a shorter, broader claw, and small lamina. Stalk-like torus longer than the calyx, with a much shorter tubular process at the base. Stamens 5 or 6, with slender filaments. Fruit pubescent, slender, 4 or 5 in. long, on a long stalk. Seeds numerous.—*Deless. Ic. Sel.* iii. 5, t. 9 (incorrect as to the sepals and petals, but accurately described in the text).

**N. Australia.** N. coast, *Herb. Mus. Par.*; Vansittart Bay, *A. Cunningham*. It is also found in Timor and Java.

(Busbeckia, Endl.)

Sepals usually 4, rarely 5, free or the outer ones united in the bud into an entire calyx, which splits irregularly as the flower expands. Petals usually 4, imbricate. Stamens indefinite, inserted on the short torus, the filaments free, filiform. Ovary borne on a long stalk, 1 to 4-celled, with 2 to 6 placentas and several or many ovules; stigma sessile. Berry stalked, globose or elongated, very rarely dehiscent. Seeds several, immersed in pulp, with a hard or coriaceous testa and convolute embryo.—Trees or shrubs, sometimes climbing, unarmed or prickly. Leaves simple, membranous or coriaceous; stipules prickly or setaceous, often only on the young or barren shoots.

A large genus, distributed over the tropical and warm regions, both of the New and the Old World; and divisible, chiefly from remarkable differences in the calyx, into several sections, of which two only are Australian, one, *Eucapparis*, comprises the greater number of the Asiatic and African species, but is not American, the other, *Busbeckia*, is confined to Australia and Norfolk Island. The Australian species of both sections are all endemic, and many of them are remarkable for producing slender barren shoots, with very prickly stipules, and small leaves so very differently shaped from those of the flowering-branches, that where we have specimens of these barren branches only, it is impossible to identify them.

SECT. I. *Eucapparis*.—Sepals 4, rather large, imbricate in 2 series. Berry globular or ovoid.

Flowers on slender pedicels in terminal umbels. Outer sepals equal . . . 1. *C. umbellata*.

Flowers lateral or axillary, pedicels solitary or one above the other.

One of the outer sepals larger and saccate or concave at the base.

Stamens 12 or under. Flowers small.

Pedicels usually 2, one over the other. Flowers very tomentose . . . 2. *C. lasiantha*.

Pedicels 4 or 5, one above the other. Flowers slightly pubescent . . . 3. *C. quiniflora*.

Stamens numerous, or more than 15.

Sepals very unequal, the largest  $\frac{3}{4}$  in. . . . . 4. *C. nummularia*.

Sepals slightly unequal, about 3 lines . . . . . 5. *C. sarmentosa*.

SECT. II. *Busbeckia*.—Two outer sepals broad, very concave, completely united in the bud, and separating irregularly as the flower expands.

Leaves mostly ovate or oblong.

Leaves mostly 2 to 4 in. long. Ovary glabrous. Fruit from  $\frac{1}{2}$  to a little more than 1 in. diameter.

Flowers mostly axillary, distant.

Leaves ovate. Buds ovoid, acuminate, 1 in. long, almost woody . . . . . 6. *C. ornans*.

Leaves ovate or oblong. Buds globular,  $\frac{1}{2}$  in. long, coriaceous . . . . . 7. *C. nobilis*.

Leaves ovate. Buds 4-angled . . . . . 8. *C. canescens*.

Flowers in a terminal corymb or short raceme. Buds globular . . . . . 9. *C. lucida*.

Leaves mostly 1 to 1 $\frac{1}{2}$  in. long. Ovary tomentose. Fruit 2 in. diameter . . . . . 10. *C. Mitchelli*.

Leaves lanceolate or long and narrow.

Leaves obtuse at the base. Petiole very short . . . . . 11. *C. loranthifolia*.

Leaves narrowed into a rather long petiole . . . . . 12. *C. umbonata*.

2. **C. lasiantha**, *R. Br. in DC. Prod. i. 247.* A much-branched shrub, clothed with a soft tomentum, usually rust-coloured on the young branches and inflorescence, afterwards paler, and sometimes disappearing on the old leaves. Leaves from ovate to narrow-oblong or almost lanceolate, obtuse, 1 to 2 in. long, rounded at the base, with a very short petiole, thickly coriaceous when full grown, with very oblique primary nerves. Pedicels axillary, solitary or 2 together one above the other, much shorter than the leaves. Outer sepals very concave and unequal, slightly imbricate, softly tomentose, the larger one about 3 lines long and almost saccate at the base; inner sepals and petals ovate, 4 to 5 lines long, very tomentose outside. Stamens about 12. Ovary glabrous, with 10 to 12 ovules to each placenta. Young fruit ovoid, on a slender stipes of  $1\frac{1}{2}$  in.

**N. Australia.** N.W. coast, *A. Cunningham*; Victoria river, *F. Mueller*; Thomson river, *A. C. Gregory*.

**Queensland.** N.E. coast, *R. Brown*; Narran river, *Mitchell*; Brisbane river, *A. Cunningham* (from a specimen without flowers).

**N. S. Wales.** Tributaries of the Upper Darling river, *Bowman*.

11. **C. loranthifolia**, *Lindl. in Mitch. Trop. Aust. 220.* A scrubby bush, with more or less tomentose branches. Leaves from oblong-linear to broadly lanceolate, obtuse or acute,  $1\frac{1}{2}$  to  $2\frac{1}{2}$  in. long, obtuse at the base, on a petiole of 1 or rarely 2 lines, coriaceous and at length glabrous. Pedicels in the upper axils about 1 in. long, thickened upwards. Buds ovoid, scarcely acuminate, the outer calyx not so thick as in the other species of the section *Busbeckia*. Inner sepals larger, thickened in the centre. Petals longer, thinner, villous inside. Stamens numerous. Ovary glabrous.

**Queensland.** Scrub, near Mount Faraday, *Mitchell*.

**N. S. Wales.** Between Darling river and Cooper's Creek, *Neilson*.

9. **C. lucida**, *R. Br. Herb.* A shrub, very nearly allied to *C. nobilis*, but more often pubescent. Leaves ovate or oblong, obtuse, 2 to 3 or rarely 4 in. long, coriaceous and shining when old, but often thinner than in *C. nobilis* and more reticulate. Flowers white, rather smaller than in *C. nobilis*, and usually several together in a terminal cluster or short raceme, the outer ones in the axils of the uppermost leaves. Buds globular, on pedicels of about 1 in. Fruit globular, like that of *C. nobilis*.—*Thylacium lucidum*, DC. Prod. i. 254; *Busbeckia corymbiflora*, F. Muell. Fragm. i. 163.

**N. Australia.** N.W. coast, *A. Cunningham*; Booby islands, Torres Straits, *Herb. Banks.*

**Queensland.** N.E. coast, *R. Brown*, *A. Cunningham*; islands of Howitt's group and on the Burdekin river, *F. Mueller*; Howitt's isles, Hope islets, and Port Molle, *M'Gilivray*; Port Denison, *Fitzalan*.

3. **C. quiniflora**, DC. *Prod.* i. 247. Branches weak and flexuose, the young ones and very young leaves rusty-tomentose, but soon becoming glabrous. Leaves ovate, obtuse or acuminate, 3 to 4 in. long, rounded or almost cordate at the base, on petioles of 3 to 4 lines, rather coriaceous. Pedicels usually under  $\frac{1}{2}$  in. long, 3 to 5 together, one above the other, in lateral clusters along the leafless tops of the side-branches, or above the upper axils. Outer sepals thin, slightly pubescent, unequal, the larger one saccate at the base and about 3 lines long; inner sepals and petals longer, oval-oblong, pubescent. Stamens few. Fruit glabrous, globular,  $\frac{1}{2}$  to 1 in. diameter, on a stipes of about 1 in. Some barren shoots, with very small ovate, rhomboid, or oblong leaves, assume a totally different aspect from the rest of the plant.

**N. Australia.** N. coast, *Baudin*.

**Queensland.** N.E. coast, *R. Brown*, *A. Cunningham*; Cape York, *M'Gillivray*; Hammond Island, Torres Straits, *Rayner*. Also in New Caledonia.

NSB

CAPPARACEAE

*Capparis sepioria*

NIB

CAPPARACEAE

*Capparis spinosa*

1. **C. umbellata**, *R. Br. in DC. Prod. i. 247.* Shrubby, with the young branches tomentose. Stipulary spines small, nearly straight or recurved. Leaves from ovate to narrow-oblong, mostly  $1\frac{1}{2}$  to 2 in., or when

full grown 3 in. long, at first membranous, softly pubescent or tomentose, at length stiff and usually glabrous, on petioles of about two lines. Pedicels slender, 6 to 9 lines long, usually 6 to 8 together in terminal umbels, sessile above the last leaves, or sometimes on short, lateral, leafless branches. Buds small, globular. Outer sepals thin but stiff, equal, 2 to  $2\frac{1}{2}$  lines long, orbicular, concave, slightly imbricate, glabrous, inner ones scarcely longer, much imbricate. Petals about 3 lines long, pubescent. Stamens numerous. Ovary glabrous, with 8 to 10 ovules to each placenta. Berry globular, smooth, in our specimens not 1 in. diameter, on a stipes of 1 in. Seeds separated by spurious partitions.

**N. Australia.** Careening Bay, N.W. coast, *A. Cunningham*; barren plains of the Fitzmaurice and Victoria rivers, *F. Mueller*; Gulf of Carpentaria, *R. Brown*; Port Essington, *Armstrong*.

**Queensland.** Cape York, *M' Gillivray*; Port Denison, *Fitzalan*.

The species is most nearly allied to the common Indian *C. separia*, differing chiefly in its sessile umbels and less numerous flowers.

12. **C. umbonata**, Lindl. in *Mitch. Trop. Austr.* 257. A shrub, with tomentose branches like the last, but the leaves usually much longer, often 7 to 8 in. long, and rarely under 3 in., always lanceolate and narrowed into a rather long petiole. Pedicels axillary, thickened upwards, 1 to  $1\frac{1}{2}$  in. long. Buds ovoid, the outer calyx very thick and coriaceous. Petals as in *C. Mitchellii*. Fruit apparently small, glabrous, not always marked with the terminal protuberance which suggested the specific name; the stipes very long.

**N. Australia.** Victoria river and dry ridges towards Fitzmaurice river, *F. Mueller*: Depuch Island, *Bynoe*.

**Queensland.** Brigalow scrub, on the Belyando, *Mitchell*; Dawson river, *Herb. F. Mueller*.

1. **CLEOME**, Linn.

Sepals 4, sometimes united in a 4-toothed calyx. Petals 4, nearly equal. Stamens 6, rarely 4 or 8, all or some only perfect, inserted on the short torus immediately within the petals. Ovary sessile or stalked, with many ovules, the stigma sessile or on a short subulate style. Capsule usually elongated, sessile or stipitate. Seeds many, reniform, usually rough or woolly.—Herbs, either glabrous or glandular-pubescent. Leaves with 3 to 7 digitate leaflets, or in some species not Australian simple. Flowers solitary or in terminal racemes.

A large genus chiefly abundant in the warm parts of America, and in the hot sandy districts of N.E. Africa and S.W. Asia.

Stemless, with radical leaves and 1-flowered scapes . . . . . 1. *C. oxalidea*.  
Erect and leafy, with racemose flowers . . . . . 2. *C. tetrandra*.

1. **C. oxalidea**, *F. Muell. Fragm. i. 69*. A little, glabrous, glaucous, almost stemless annual. Leaves radical, consisting of 3 obovate or orbicular leaflets, 2 to 4 lines long, on a slender petiole longer than themselves. Scapes filiform, 1-flowered,  $1\frac{1}{2}$  to 2 in. long. Sepals about 1 line long. Petals of a pale pink, ovate, about 2 lines long. Stamens 6 to 8, with linear-oblong anthers attached near the base. Capsule sessile, linear-oblong or narrow-linear,  $\frac{1}{4}$  to 1 in. long.

**N. Australia.** Gravelly plains on the Upper Victoria river, and table land at the head of Sturt's Creek, *F. Mueller*.

2. **C. tetrandra**, *Banks, in DC. Prod. i. 240.* An annual, either glabrous or sprinkled with a few short glandular hairs, the stems often several together, slender, ascending from a few inches to  $1\frac{1}{2}$  ft. Leaves chiefly at the base of the stems on long petioles, with 3 or 5 linear-lanceolate or narrow-oblong leaflets sometimes above an inch long, the upper leaves few, small, with only 3 leaflets or simple. Raceme loose and slender, with filiform pedicels. Sepals  $\frac{1}{2}$  to 1 line long. Petals narrow, 3 to 6 lines long, nearly equal. Stamens 4 to 6. Capsule sessile, slender, 1 to  $1\frac{1}{2}$  in. long, with a short subulate style, the valves thin and minutely striate. Seeds transversely wrinkled.

**N. Australia.** N.W. coast, *Bynoe*; Victoria river, *F. Mueller*; Port Essington, *Armstrong*; Gulf of Carpentaria, *R. Brown*.

NSB

CAPPARACEAE

*Cleome uncinifera*

NSD

CAPPARACEAE

Cleome viscosa

NSB

CAPPARACEAE

*Justago cleomoides*