

U. BRYONIA, Lam.

(Bryonopsis, Blume.)

Calyx in the males, and free part of it in the females, broadly campanulate, 5-toothed. Corolla campanulate, deeply 5-lobed. Stamens in the males 3; filaments free; anthers two with 2 cells, one with 1 cell, the cells flexuose. Ovary in the females fusiform, ovoid or globular, contracted at the top, with 3 placentas and few horizontal ovules; style slender, with 3 reniform or bifid stigmas. Fruit a globular or ovoid-conical berry. Seeds few, compressed, or with convex faces and a thickened margin enveloped in pulp.—Climbing herbs with simple or 2-branched tendrils. Leaves palmately lobed. Flowers greenish-yellow, small as well as the fruits, in axillary racemes sometimes reduced to clusters.

The genus, taken in the above extended sense given to it by most botanists, although not numerous in species, ranges over the warmer and temperate regions both of the New and the Old World. The Australian species, however, belongs to the section *Bryonopsis*, now adopted by Naudin as a distinct genus, limited to 2 or perhaps 3 Asiatic and African species, of which the Australian is one.

1. **B. laciniosa**, Linn.; Ser. in DC. Prod. iii. 308. Stems rather slender, but extending to a great length. Leaves broad, very deeply palmatifid or almost pedatifid, the lobes ovate ovate-lanceolate or sometimes linear-lanceolate, often 3 to 4 in. long, and more or less angular or sinuate-toothed. Tendrils usually 2-branched, but one branch sometimes small or quite wanting. Flowers small, in very short axillary racemes usually reduced to clusters, the males and females often in the same axil, the rachis rarely 3 to 4 lines long. Pedicels slender, from 1 to 5 or 6 lines long. Calyx $1\frac{1}{2}$ to 2 lines diameter. Corolla scarcely twice the size of the calyx. Berry globular, yellow or red, about 1 in. diameter. Seeds with a very thick transversely-furrowed border, the faces convex or conical within the border.—Wight, d. c. t. 500; Naud. in Ann. Sc. Nat. ser. 4. xii. 139, with the synonyms adduced; *Zehneria erythrocarpa*, F. Muell. in Hook. Kew Journ. viii. 51 (from the character given).

N. Australia. Sir Charles Hardy's Island, *Henne*; Port Essington, *Armstrong*.
Queensland. Broad Sound, *R. Brown*; N.E. coast, *A. Cunningham*; Burdekin river, *F. Mueller*; Suttor river, *Bowman*; Rockhampton, *Thozet*, *Dallachy*; Brisbane river, Moreton Bay, *F. Mueller*.

N. S. Wales. Macleay river, *Beckler*; Clarence river, *Wilcox*.
 The species is dispersed over tropical Asia and Africa. Naudin, Ann. Sc. Nat. ser. 4. xii. 140, and xviii. 193, distinguishes this species, with 1 or 2 closely allied ones (or perhaps

varieties) as the above-mentioned genus *Bryonopsis*. This name was originally proposed by Blume for several old *Bryonias* now referred to *Zehneria* and other groups, and is now limited by Naudin to *B. laciniosa* and its allies, characterized especially by the seed, but also by monœcious not diœcious flowers, the clustered not racemose inflorescence, and branched not simple tendrils. But one of our European true *Bryonias* is monœcious, the clusters of *B. laciniosa* are nothing but short racemes, and the branched tendrils, although general, are not constant, and the genus rests solely on the seed, which appears to me to be a much better sectional than generic character.

2. 00000000, 111111.
Calyx in the males, and free part of it in the females turbinate or campanulate, with 5 teeth or lobes. Corolla campanulate, deeply 5-lobed or divided to the calyx. Stamens 3; filaments short, free; anthers two with 2 cells, one with 1 cell; cells linear, flexuose, connective produced into a crest-like appendage beyond the cells. Ovary in the female with 3 (rarely 5) placentas and numerous horizontal ovules; style short, with 3 (rarely 5) obtuse stigmas. Fruit variously shaped, fleshy with a hard rind, indehiscent or rarely tardily opening in 3 valves. Seeds oblong, compressed, the margin not thickened.—Climbers either annual or with a perennial rhizome, more or less hispid. Tendrils simple. Flowers yellow, the males in axillary clusters or rarely solitary, the females solitary, usually sessile or shortly pedicellate.

The genus extends over the tropical and subtropical regions of the New and the Old World. The only Australian species is a common one in Asia.

1. *C. trigonus*, Hook. f. *Fl. Ind. Austral.* 1847. A rather slender creeper or climber, sometimes rigidly hispid, almost aculeolate, sometimes scabrous-pubescent. Leaves not large, usually broadly ovate-cordate in their outline, either nearly entire or more or less 3-5- or 7-lobed, the lobes slightly or sometimes more deeply toothed, usually scabrous. Flowers small, on short slender pedicels. Calyx in the males from a little more than 1 line to nearly

2 lines long, pubescent-hirsute or densely woolly; lobes short and narrow. Corolla about $\frac{1}{2}$ in. diameter, the lobes acute. Female flowers usually rather larger, the adnate tube ovoid or oblong, 3 to 4 lines long, tomentose-pubescent or densely woolly. Fruit globular or ovoid, often quite glabrous, but sometimes retaining a few scattered hairs, from under 1 in. diameter to more than twice that size.—Wight, *Ic. t. 497*; Naud. in *Ann. Sc. Nat. ser. 4. xi. 30*; *C. pubescens*, Hook. in *Mitch. Trop. Austr. 110*; *C. jucundus* and *C. picrocarpus*, F. Muell. in *Trans. Phil. Inst. Vict. iii. 46*.

N. Australia. Oakover river, Nichol Bay, *Gregory's Expedition*; Victoria river, F. Mueller; Port Essington, *Armstrong*; Albert river, *Henne*; in the interior, *M'Douall Stuart's Expedition*.

Queensland. Suttor and Bogan rivers, *Bowman*; Fort Cooper, *Thozet*.

N. S. Wales. Narran and Balonne rivers, *Mitchell*; Darling river to Cooper's Creek, *Victorian and other Expeditions*.

The only absolute difference to be gathered from Naudin's investigations between *C. trigonus*, and what he concludes to be the wild Melon (*C. Melo*, var. *agrestis*, Naud. in *Ann. Sc. Nat. ser. 4. xi. 73*; *C. pubescens*, of Indian botanists, Wight, *Ic. t. 496*, and probably of Willd.), is, that the former has a perennial root, or rather rhizome, and roots very readily at the joints, whilst the Melon is strictly annual. As, however, the stems are always annual, the existence of the perennial rhizome is rarely ascertained except in cultivation, and no collectors of Australian specimens allude to it. Some of these look very much like Indian specimens of the wild Melon, others have more the appearance of the Indian *C. trigona*, and some are not to be distinguished from the New Caledonian *C. Pancherianus*, Naud. in *Ann. Sc. Nat. ser. 4. xii. 112. t. 8*. Most probably all are forms only of *C. Melo*.

C. myriocarpus, Naud. l. c. xi. 22, with leaves deeply divided into rounded ciliate lobes, nearly glabrous above, rigidly hispid underneath, and with small globular densely prickly fruits on filiform pedicels, commonly known in gardens as *C. prophetarum*, but not the true Linnæan species of that name, is in F. Mueller's collection from the banks of the Torrens river in S. Australia, as an introduced plant.

CURCUBITACEAE

Diplocyclos palmatus (L.)

Jeffrey.

Calyx in the males, and free part of it above a narrow tube in the females, campanulate or turbinate, with 5 teeth. Corolla rotate, deeply divided into 5 oblong-obovate or obcordate lobes. Stamens in the males 3 or rarely 5; filaments free, or two connate and the third free; anthers protruding from the calyx-tube, two with 2 cells, one with 1 cell, the cells flexuose, the connective without any appendage. Ovary in the females elongated, with 3 placentas and many horizontal ovules; style columnar, the stigma divided into 3 bifid lobes; rudimentary gynæcium in the males a small gland. Fruit dry, oblong or cylindrical, terete or ribbed, fibrous inside, the small hard conical end (or base of the style) circumsciss and deciduous. Seeds oblong, compressed.—Prostrate or climbing annuals, often large. Leaves palmately 3- or 7-lobed. Tendrils branched. Flowers rather large, yellow or white, the males in pedunculate racemes, the females solitary. Fruits usually rather large.

The genus comprises a few Asiatic and a greater number of African species. The Australian species appear both of them to be included in the Asiatic ones; one of them also abundant in Africa.

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| Fruit smooth | 1. <i>L. aegyptiaca</i> . |
| Fruit tuberculate or muricate | 2. <i>L. graveolens</i> . |

2. *L. graveolens*, Roxb. Fl. Ind. iii. 716? A much more slender and smaller plant than *L. ægyptiaca*, the leaves smaller and less divided, the lobes short and broad, sometimes very obscure, all rounded and slightly sinuate-denticulate, or the central lobe more acute. Flowers smaller than in *L. ægyptiaca*, the males in long racemes, but also a solitary male on a rather long pedicel in the same axil as the female one in all the Australian specimens. Fruits ovoid, 2 to 3 in. long, not ribbed, muricate with scattered rigid tubercles or very short spines. Seeds flat, smooth, about 3 lines long.—Naud. in Ann. Sc. Nat. ser. 4. xii. 124; F. Muell. Fragm. iii. 106.

N. Australia. N.W. coast, *Bynoe*; tributaries of the Victoria river, F. *Mueller*.

The species, if correctly determined, is also on the coast of Coromandel, but the specimens are so imperfect that it is impossible to establish without doubt the identity concluded by Naudin from the fruit. In several of the Australian specimens the leaves are much more acutely lobed than they are represented in Roxburgh's drawing, and the calyx-lobes have a hollow protuberance at the base, which suggested to F. Mueller the specific name of *L. saccata* which he had given to his plant. These protuberances do not appear in the Indian species, nor can I find them in some of the Australian specimens with leaves more like Roxburgh's, but the few flowers are too ill-dried to ascertain the point. Naudin says the fruit is scarcely bigger than a pigeon's egg. Some of those in the Kew herbaria are nearly 3 in. long.

Calyx in the males, and upper free part of it in the females, campanulate, shortly 5-toothed. Corolla rotate, deeply 5-lobed, with narrow lobes. Stamens in the males 3; filaments short, free; anthers often slightly cohering, two with 2-cells, one with 1 cell, the cells straight and parallel, 3 small staminodia in the females. Ovary in the females with 3 placentas and several horizontal ovules; style short, with 3 capitate, dilated or bifid stigmas. Fruit a small globular ovoid or fusiform berry. Seeds flat, oval or oblong, enveloped in pulp.—Slender climbing or prostrate herbs. Leaves triangular or palmately lobed. Tendrils simple. Flowers very small, yellow, the males in short racemes almost reduced to pedunculate umbels or sessile clusters, the females on slender axillary pedicels, solitary or clustered.

The genus is dispersed over the tropical and subtropical regions of the New and the Old World, most abundant in Africa. The Australian species are both endemic.

Leaves broadly triangular or hastate. Male flowers in a pedunculate umbel-like raceme. Females on long filiform pedicels 1. *M. Cunninghamii*.
Leaves palmately 5- or 7-lobed. Male and female flowers minute, clustered in the same axils on filiform but rather short pedicels . 2. *M. Muellieri*.

1. **M. Cunninghamii**, F. Muell. (as *Zehneria*). Stems very slender, often filiform. Leaves broadly triangular or hastate, irregularly but not deeply toothed, or rarely obscurely 3- or 5-lobed, thin and somewhat scabrous, the larger ones nearly 3 in. long, but mostly smaller. Tendrils simple, filiform. Male peduncles slender, bearing at the end a short corymbose raceme almost reduced to an umbel of about 6 small yellow flowers. Female flowers usually solitary in the axils, on filiform pedicels of 1 to 2 in., with rarely a male flower in the same axil. Calyx about 1 line diameter. Corolla about 2 lines diameter. Ovary or calyx-tube of the females attenuate into a slender neck. Stigmas capitate. Berry globular, 3 to 4 lines diameter.—*Zehneria Cunninghamii*, F. Muell. in Hook. Kew Journ. viii. 51.

N. Australia. Arnhem N. Bay, R. Brown.

Queensland. Brisbane river, Moreton Bay, F. Mueller; Breakfast Creek, Bowman; Rockhampton, Dallachy.

N. S. Wales. Paramatta, Wootts; Clarence river, Beckler.

This species is nearly allied to the African *M. triangularis*, Benth. The northern specimens in Herb. R. Brown, have the leaves broadly cordate, the flowers rather longer and the fruits rather larger, almost ovoid, but they appear to belong to the same species.

CUCURBITACEAE

Melothria maderaspatana

Calyx in the males, and free part of it in the females, turbinate-campulate, 5-toothed. Corolla rotate, divided to the calyx into 5 acute lobes. Stamens in the males 3, filaments short, free; anthers two with 2 cells, one with 1 cell, the cells parallel and straight, the connective produced into a short point beyond them; the females without staminodia. Ovary in the females with 2 or 3 placentas and several horizontal ovules; style clavate, with a thick 2- or 3-lobed stigma. Fruit a globular berry. Seeds few, compressed, scrobiculate.—Scabrous-hispid annuals, with the habit of *Cucumis*. Leaves angular or rarely lobed. Flowers small, yellow, the males clustered and pedicellate, the females solitary and sessile or nearly so.

Besides the Australian species, which is widely spread over tropical Asia and Africa, there may be a second African one.

CUC

Mukia maderaspatana

1. TRICHOSANTHES, Lam.

Calyx in the males and free part of it in the females oblong or cylindrical, dilated upwards, 5-lobed. Corolla rotate, deeply divided into 5 oblong or lanceolate lobes, bordered by long hair-like lobes or cilia. Stamens in the males 3, filaments very short, free; anthers 2 with 2 cells, one with 1 cell, the cells conduplicate. Ovary in the females oblong or globular, with 3 placentas; style slender, with 3 linear stigmas, the gynoecium reduced in the males to 3 filiform rudiments. Fruit-succulent, often large, with a hard rind. Seeds smooth or with undulate or crenate margins.—Climbing annuals or perennials. Tendrils 2- or 3-branched. Flowers white, large or small, the males in pedunculate racemes, the females solitary.

The genus is dispersed over tropical Asia and America. Of the four Australian species two are common Asiatic ones, the other two are endemic, but as yet insufficiently known.

Leaves palmately or pedately divided into petiolate segments . . . 1. *T. pentaphylla*.
Leaves palmately lobed.

Male racemes without bracts. Fruits acuminate. 2. *T. cucumerina*.

Male racemes with large broad leafy bracts. Fruits not acuminate . . . 3. *T. palmata*.

Leaves ovate-cordate, not lobed, softly villous. Male racemes with small oblong or lanceolate bracts 4. *T. Hearnii*.

CUCURB.

Trichosanthes ambrozii

2. *T. cucumerina*, Linn. *Spec. Pl.* 1452. Stems slender, although sometimes extending to a great length. Leaves nearly orbicular or reniform

in their outline, broadly cordate at the base, mostly 3 to 4 in. diameter, palmately 3- to 7-lobed, the lobes broad, rarely reaching to the middle and irregularly toothed, more or less scabrous-pubescent. Tendrils 3-branched. Male flowers in a short raceme at the end of a long slender peduncle, without bracts. Calyx-tube, in the young bud, short broad and rounded at the base; teeth very short and recurved. Corolla-lobes narrow-oblong, $\frac{1}{2}$ in. long, besides the fringe of long cilia. Female flowers shortly pedicellate. Calyx-tube attenuate above the ovary into a long slender neck. Fruit ovoid-conical, acuminate, not exceeding 2 in., orange-red or yellow when ripe. Seeds about 8 or 10, thick but flattened, with the margin more or less crenate.—Naud. in Ann. Sc. Nat. ser. 4. xviii. 191.

N. Australia. Victoria river, *F. Mueller*; bare rocky hills, Nichol Bay, *Gregory's Expedition*. Common in hedges, etc., in East India.