

NSD

POLYGONACEAE

Colubrina asiatica

(L) Brongn

4. **MUHLENBECKIA**, Meissn.

Flowers mostly diœcious. Perianth of 5 segments, all equal or the outer ones slightly enlarged. Stamens 8 or rarely fewer, filaments short, the anthers oblong in the males, small and imperfect or abortive in the females. Ovary in the females 3-angled, with a very short trifold style and 3 more or less fringed stigmas, small and rudimentary in the males. Nut triangular or nearly globular, enclosed in the persistent membranous or succulent perianth.—Undershubs shrubs or woody twiners, rarely herbaceous from the base; all at least of the Australian species glabrous. Stipules brown and scarious, loosely sheathing, very soon torn or ragged. Flowers small, green or whitish, in whorl-like clusters, axillary or within small sheathing bracts, in

axillary or terminal simple or paniculate interrupted spikes. Radicle usually curved towards the back of the cotyledons (incumbent), rarely here and there towards their edge (accumbent).

The genus extends to New Zealand, extratropical S. America, and along the Andes to Mexico. Of the seven Australian species, one is identical with a New Zealand one, another is closely allied as well to a New Zealand as to a S. American species, the others appear to be endemic.

Leaves more or less cordate hastate or sagittate, usually broad and above 1 in. long. Stem prostrate or climbing.

Fruit globular, obscurely angled, not rugose, with the perianth succulent. Spikes mostly axillary.

Leaves rather thick, obtuse or shortly acuminate 1. *M. adpressa*.

Leaves thin, with a long point. Spikes very slender. Flowers small 2. *M. gracillima*.

Fruit ovoid, more or less 3-angled, very rugose. Leaves rather thick. Spikes mostly in a large terminal panicle 3. *M. rhyticarya*.

Leaves ovate or rounded, under $\frac{1}{2}$ in. long. Stems short, prostrate, and densely matted. Fruit prominently 3-angled 4. *M. axillaris*.

Leaves narrow, tapering at the base. Erect or diffuse undershrubs or shrubs.

Stems stout, decumbent, not much branched. Leaves broadly lanceolate. Spikes axillary. Fruit globular 5. *M. polybotrya*.

Shrub. Leaves on luxuriant branches lanceolate or rarely hastate, on the others small and linear. Clusters axillary, with few small flowers. Fruit globular, 3-angled 6. *M. polygonoides*.

Shrub. Leaves on luxuriant branches linear, on the others very small or none. Clusters mostly in terminal spikes. Fruit prominently 3-angled 7. *M. Cunninghamii*.

7. **M. Cunninghamii**, *F. Muell. Fragm.* v. 91. A shrub, sometimes low and bushy, sometimes attaining 6 to 8 ft. or even taller, with numerous terete sulcate or angular branches, the young and luxuriant ones often with a few linear or linear-lanceolate leaves of 1 to 3 in. contracted into a rather long petiole, but most of the branches rigid or rushlike often clustered and either quite leafless or with a few linear leaves. Stipules deciduous. Flower-clusters solitary or in short spikes at the leafless nodes or in the axils of the small leaves forming long terminal interrupted spikes. Perianth rather above 1 line long. Style 3-branched, with broad peltate terminal stigmas more like those of a *Polygonum* than of a *Muhlenbeckia*, but the flowers quite dioecious. Nut prominently 3-angled, smooth and shining, enclosed in the ovoid slightly thickened perianth which is enlarged to from $1\frac{1}{2}$ to 2 lines in length. Seed scarcely furrowed.—*Polygonum Cunninghamii*, Meissn. in *Linnæa*, xxvi. 364, and in *DC. Prod.* xiv. 85; *Muhlenbeckia florulenta*, Meissn. in *Linnæa*, xxvi. 362; *Polygonum junceum*, A. Cunn.; Lindl. in *Mitch. Trop. Austr.* 85.

N. Australia. Victoria river, *F. Mueller*.

Queensland. Rockhampton, *O'Shanesy*; Suttor river, *Bowman*; Bokhara Creek, *Leichhardt*; Curriwilligbie, *Dalton*; Darling Downs, *Lau*.

N. S. Wales. Liverpool Plains, *Leichhardt*, *C. Moore*; Lachlan river, *A. Cunningham*; Macquarrie river, *Mitchell*; Murray and Darling rivers to the Barrier Range, *Victorian and other Expeditions*.

Victoria. Wendu Vale, *Robertson*; Melbourne, *Adamson*; Bacchus Marsh and Station Peak, *F. Mueller*; Creswick, *Whan*.

S. Australia. Murray river to St. Vincent's Gulf, *F. Mueller*; Salt Creek, *Behr*; Dombey Bay, *Wilhelmi*; towards Spencer's Gulf, *Warburton*.

W. Australia. Between Moore and Murchison rivers, *Drummond*, 6th coll. n. 218.

3. POLYGONUM, Linn.

Flowers usually hermaphrodite. Perianth of 5, rarely fewer, segments, all equal or the 2 or 3 outer ones enlarged. Stamens 5 to 8, varying often in the same species. Styles or style-branches 2 or 3, with entire terminal stigmas. Nut flattened or triangular, enclosed in or surrounded by the persistent perianth. Embryo lateral, more or less curved, the radicle superior.—Herbs varying much in habit. Stipules in the majority of species thinly scarious, closely sheathing, the lower portion adnate to the petiole, the greater part connate within it; in the section *Avicularia* looser jagged and silvery. Flowers small, pale green or red with white edges, either clustered or rarely solitary in the axils, or in little clusters within a sheathing bract arranged in simple or paniculate spikes.

A large genus, with almost the cosmopolitan range of the Order. Of the thirteen Australian species, four are common European species extending more or less generally over the temperate and subtropical regions of the globe, five are distributed over the warmer portions of Asia, one or two of them being also found in South America, another appears to be also S. American although not yet identified with any Asiatic species; one more extends at least to New Caledonia, and one to New Zealand; the only remaining one may be endemic, although not yet perhaps sufficiently known.

SECT. 1. Avicularia.—*Flowers in axillary clusters. Stems prostrate.*

- Stems elongated and wiry. Perianth about $1\frac{1}{2}$ lines long. Nut minutely granular-striate 1. *P. aviculare*.
 Stems short and compact. Perianth under 1 line long. Nut smooth and shining 2. *P. plebeium*.

SECT. 2. Echinocaulon.—*Flowers in very short spikes on axillary dichotomous peduncles. Stems usually scrambling, with short reversed bristles on the angles.*

- Single Australian species 3. *P. strigosum*.

SECT. 3. Persicaria.—*Flowers spicate, the spikes in terminal panicles, or rarely solitary and terminal or axillary. Embryo curved towards the edge of the cotyledons. Nut flat or convex on both sides or triquetrous.*

- Spikes solitary, mostly axillary. Stem prostrate 4. *P. prostratum*.
 Spikes terminal, long, slender and interrupted, usually single.
 Stem slender, erect. Perianth densely glandular-dotted 5. *P. hydropiper*.
 Spikes usually continuous and 2 or more in a terminal panicle.
 Perianth without any or with few glandular dots. Stem erect or ascending.
 Stipules bordered by bristles usually long, at least the upper ones.
 Glabrous. Spikes few and slender 6. *P. minus*.
 Strigose-hirsute. Spikes slender, pedunculate. Leaves nearly sessile 7. *P. subsessile*.
 Strigose-hirsute. Spikes compact, on short peduncles.
 Bristles of the stipules very long 8. *P. barbatum*.
 Stipules truncate, without any or with a few fine short cilia.
 Strigose-hirsute. Spikes compact 9. *P. articulatum*.
 Glabrous or nearly so 10. *P. lapathifolium*.
 Cottony-white 11. *P. lanigerum*.

SECT. 4. Amblygonon.—*Flowers spicate, the spikes in terminal panicles. Embryo curved towards the back of the cotyledons. Nut usually flat on both sides, with obtuse margins. Stems tall and erect.*

- Stipules, at least the lower ones, dilated and green at the top 12. *P. orientale*.
 Stipules all closely sheathing and scarious to the top 13. *P. attenuatum*.

Muhlenbeckia Cunninghamii has almost the styles and stigmas of *Polygonum*, but the flowers are diceious.

13. **P. attenuatum**, *R. Br. Prod.* 420. A tall species, very nearly allied to *P. orientale*, the stems and foliage more or less sprinkled with rather fine appressed hairs, hoary when young, or sometimes nearly glabrous. Leaves lanceolate, tapering into a very long point and contracted into a rather long petiole, mostly above 6 in. long. Stipules entirely sheathing, truncate and shortly ciliate, without the green limb of *P. orientale*. Spikes continuous, $1\frac{1}{2}$ to 3 in. long, few on rather long peduncles in a terminal panicle. Bracts rather thick, truncate, shortly ciliate or entire. Perianth, stamens, style, nut and embryo entirely of *P. orientale*.—Meissn. in DC. Prod. xiv. 117.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; Upper Victoria river, Sturt's Creek, Wentworth, Flinders and Macarthur rivers, *F. Mueller*.

N. S. Wales? Near the Darling river, *Victorian Expedition* (a very imperfect specimen).

S. Australia. Cooper's Creek, *Howitt's Expedition*; Cooper's and Thomson's rivers, *A. C. Gregory*.

I have not identified this with any Asiatic species, but I am unable to distinguish it from the Brazilian *P. spectabile*, Mart.; Meissn. in DC. Prod. xiv. 119, and in Mart. Fl. Bras. Polygon. 13. t. 3, in the seeds of which I find the radicle incumbent as in *Amblygonum*. Meissner has not figured the embryo either in this or in *P. hispidum*.

8. **P. barbatum**, *Linn.*; *Meissn. in DC. Prod.* xiv. 104. Stems ascending or erect, glabrous or nearly so, 2 to 3 ft. high. Leaves lanceolate, contracted into a short petiole although not so short as in *P. subsessile*, 3 to 6 in. long, sprinkled with appressed hairs never wanting on the midrib underneath. Stipules sheathing hairy, outside, bordered by very long cilia. Spikes in the common form compact, 1 to 1½ in. long, on short peduncles in a narrow terminal panicle, in some Asiatic varieties drawn out and slender. Bracts always ciliate on the margin. Stamens 5 or 6. Style-branches (always?) 3. Nut triangular.

Queensland. Roper and Burnett rivers, *F. Mueller*; Port Curtis, *M' Gillivray*.
The species is common in tropical Asia and Africa.

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POLYGONIACEAE
Polygonum glabrum

6. **P. minus**, *Huds.*; *Meissn. in DC. Prod.* xiv. 111. Rather slender, erect or decumbent, smaller and less branched than *P. lapathifolium*, rarely exceeding 2 ft., quite glabrous in the typical form. Leaves shortly petiolate, lanceolate, acuminate. Stipules closely sheathing, the margins ciliate. Spikes 1 to 1½ in. long, few in a terminal panicle, more slender than in *P. lapathifolium*, much less so than in *P. hydropiper*. Bracts small, naked or shortly ciliate. Perianth small, not glandular. Stamens 5 or 6. Style-branches 2 or 3, varying often in the same spike, more frequently 3 than 2 in the Australian specimens.—Hook. f. *Fl. Tasm.* i. 306; *P. decipiens*, *R. Br. Prod.* 420; *Meissn. in DC. Prod.* xiv. 104.

Queensland. Brisbane, Burnett, and Barlekin rivers, *F. Mueller*; Moreton island, *M'Gillivray*; Rockhampton, *O'Shanesy*; Rockingham Bay, *Dallachy*; in the interior, *Mitchell*.

N. S. Wales. Port Jackson, *R. Brown*, *Woolfs*; Argyle county, *Backhouse*; New England, *C. Stuart*.

Victoria. Murray and Yarra rivers, *F. Mueller*, *Robertson*; Portland, *Allitt*; Emu Creek, *Whan*.

Tasmania. Common in the northern parts of the island, *J. D. Hooker*.

S. Australia. Murray and Torrens rivers and Holdfast Bay, *F. Mueller*.

W. Australia. *Drummond*, n. 20; Moore river, *Oldfield*.

The species is very common in the temperate, subtropical, and even tropical regions of the Old World, and varies much. In Australia some specimens agree with the commonest European forms, in others, chiefly from Queensland, the cilia of the stipules are longer, there are a few small strigose hairs on the under side of the leaves, and the pistil is almost always 3-merous. These constitute probably (with corresponding European forms) the *P. serrulatum*, *Lag.* cited from Australia and New Zealand by *Meissn. in D.C. Prod.* xiv. 110.