

#### 4. *CARDAMINE*, Linn.

Sepals equal at the base. Petals clawed. Pod elongated, linear, compressed; valves usually flat, without conspicuous nerves, opening elastically; septum transparent; style short or long; stigma entire or 2-lobed. Seeds flattened, not bordered, in a single row (except in *C. eustylis*).—Herbs, usually flaccid and glabrous. Leaves entire or more frequently pinnately divided, in a few species not Australian opposite or whorled. Flowers erect or nodding, white, purple, or lilac, not yellow. Pods usually slender.

A large genus, widely spread over the temperate and colder regions both of the northern and southern hemisphere. Of the 7 following species two are identical with or representatives of common northern species; the remainder are endemic or extend only to New Zealand.

Seeds reticulate and pitted, rather large.

Leaves entire or sinuate-toothed, the stem ones sagittate.

Plant of 2 to 5 ft. . . . . 1. *C. stylosa*.

Lower leaves pinnate, all petiolate. Plant erect, under 2 ft. 2. *C. dictyosperma*.

Seeds smooth.

Perennials.

Fruiting racemes short, leafy. Pod fully 2 lines broad . 3. *C. radicata*.

Fruiting racemes loose, leafless. Pod not above 1 line broad.

Flowers rather large, with obovate spreading petals.

Style 1 to 1½ line long . . . . . 5. *C. tenuifolia*.

Stigma sessile or nearly so . . . . . 6. *C. hirsuta heterophylla*.

Flowers very small, with narrow erect petals . . . . 4. *C. laciniata*.

Annuals.

Petals conspicuous, obovate, spreading . . . . . 6. *C. hirsuta heterophylla*.

Petals very narrow, small, nearly erect.

Seeds nearly the breadth of the septum, in a single row 6. *C. hirsuta*.

Seeds numerous, small, almost biserial. Valves of the pod convex . . . . . 7. *C. eustylis*.

7. *C. (P) eustyris*, *F. Muell. in Trans. Vict. Inst.* 1. 114; *Pl. Vict.* i. 37.  
An erect annual, much branched from the base, scarcely exceeding 6 to 8 in.  
in height and quite glabrous. Leaves pinnately divided, the lower ones with  
ovate segments, the others with narrower ones, all usually with a few teeth or  
lobes. Flowers smaller than in *C. hirsuta*, the petals narrow, erect, and  
scarcely exceeding the calyx. Fruiting racemes short, leafless. Pods rather  
spreading, slender, 6 to 9 lines long, tipped by a style of  $\frac{1}{2}$  to near 1 line,  
the valves convex, smooth, without nerves. Seeds very numerous and small,  
much narrower than the septum, and showing 2 distinct rows.

**N. Australia.** On the rivers flowing into the Gulf of Carpentaria, rare, *F. Mueller*.

**Victoria.** Sandy and gravelly banks of the Murray river, *F. Mueller*.

The nearly cylindrical pod and two-rowed seeds are more those of *Nasturtium* than of  
*Cardamine*, but the habit and white flowers may justify the placing the species in the latter  
genus. The degree of elasticity of the valves cannot be judged of in the dried specimens.

Sepals short, equal at the base. Petals short, equal, sometimes wanting. Pod ovate or shortly oblong, rarely orbicular, usually much compressed laterally and notched at the top, the valves boat-shaped, keeled or winged, the septum narrow; style filiform or stigma sessile. Seeds solitary in each cell, suspended from the top of the septum with a free funicle; cotyledons incumbent in all except one species not Australian.—Herbs, undershrubs, or even small shrubs, very variable in habit. Leaves in the Australian species narrow or entire. Flowers small, white, the racemes without bracts.

A large genus, spread over the temperate and warmer regions of the globe, but not alpine and scarcely Arctic. Of the following species, one has a very wide geographical range, the others are confined to Australia, although one has nearly allied representatives in the Pacific islands. For the opportunity of inspecting original specimens of the *Lepidia* published by Desvaux, I am indebted to the kindness of M. La Vallée, of Paris, the present possessor of his herbarium.

Leaves all quite entire. Pod usually conspicuously winged.

Leaves broadly ovate or orbicular . . . . . 1. *L. stronglylphyllum*.

Leaves linear or lanceolate.

Leaves linear-lanceolate. Sepals fully  $2\frac{1}{2}$  lines long. Pod with 2 acute lobes . . . . . 2. *L. linifolium*.

Leaves narrow-linear. Sepals 2 lines or less. Pod-lobes obtuse or very small.

Petals linear. Sepals 2 lines. Stem shrubby . . . . . 3. *L. leptopetalum*.

Petals oblong or ovate. Sepals  $1-1\frac{1}{2}$  lines. Stem herbaceous.

Lobes of the pod longer than the style (about 1 line). Valves winged to the base . . . . . 4. *L. rotundum*.

Lobes of the pod shorter than the style (not  $\frac{1}{2}$  line).

Valves scarcely winged . . . . . 5. *L. phlebopetalum*.

Petals none. Stamens 4. Pod-wings almost united with the style . . . . . 6. *L. monoplocoides*.

Leaves mostly toothed or lobed. Flowers very small. Pod-wings small or none, except in *L. papillosum*.

Petals none. Leaves narrow-linear, the upper ones auricled.

Stems papillose. Stamens 4. Pod about 2 lines long, with 2 short lobes or wings . . . . . 7. *L. papillosum*.

Stems glabrous. Leaves linear or cuneate, not auricled, the radical ones pinnatifid. Stamens 2. Pod about  $1\frac{1}{2}$  lines, scarcely lobed . . . . . 9. *L. rudemale*.

Petals 4, minute. Leaves oblong-cuneate. Stamens 6. Pod  $2\frac{1}{2}$  to 3 lines long, with distinct lobes . . . . . 8. *L. foliosum*.

BRASSICACEAE

*Lepidium drummondii* Thell

BRASSICACEAE

*Lepidium intricatum*

BRASSICACEAE  
*lepidium oxytrichum*

***L. papinosum***, *F. Muell. in Linnaea*, XXV. 310, and *Fl. Vict.* 1. 40.  
An erect, branching annual, usually under 6 in., but, according to F. Mueller, sometimes 1 ft. high or more, the stems covered with little transparent papillæ, and exhaling an unpleasant scent. Radical leaves petiolate, often 2 in. long or more, linear-oblong, coarsely toothed or irregularly pinnatifid, the upper ones lanceolate or linear-cuneate, with a few remote teeth, and clasping the stem by their auricled base,  $\frac{1}{2}$  to 1 in. long, and all glabrous. Flowers very small, without petals, and with only 4 stamens. Fruiting racemes mostly 2 to 4 in. long, with rigid, flattened, rather spreading pedicels, of about 2 lines. Pod obovate, about 2 lines long, the valves winged only above the middle, forming 2 rounded terminal lobes, a little more than  $\frac{1}{2}$  line long, with the stigma sessile in the rather narrow sinus. Seeds exuding a viscid, clear mucilage in great abundance.

**N. S. Wales.** Interior of the colony, *A. Cunningham*. Between the Darling and Lachlan rivers, *Burkitt*.

**Victoria.** Murray desert, in several localities, *F. Mueller*.

**S. Australia.** In great numbers on the barren hills and plains near Crystal Brook, Rocky River, and to the N.W. of Spencer's Gulf, *F. Mueller*; between Stokes' Range and Cooper's Creek, *Wheeler*.

BRASSICACEAE

*Lepidium pedicellosum*



4. ***L. rotundum***, DC. *Syst. veg.* ii. 331; *Flora* i. 203. Glabrous and erect or branching and decumbent at the base, 3 to 6 in. or rarely nearly 1 ft. high. Leaves linear, obtuse or rarely acute, seldom above 1 in. long, quite entire, narrowed into a petiole. Flowers small, white. Sepals about 1 line. Petals obovate, rather longer. Fruiting racemes rigid, 2 to 4 in. long, with spreading pedicels of about two lines. Pod nearly orbicular, without the wings about two lines diameter, and not so flat as in *L. linifolium*; dorsal wings of the valves continued to their base, but much broader at the top, where they form two obtuse lobes at least 1 line long; style from  $\frac{1}{2}$  to  $\frac{3}{4}$  their length in the sinus, which is usually narrow.—Hook. Ic. Pl. t. 609; *Lepia rotunda*, Desv. Journ. Bot. iii. 166 and 181; *Monoploca rotunda*, Bunge, in Pl. Preiss. i. 260; *Monoploca linifolia*, Bunge, l. c., without the synonyms.

**W. Australia.** Swan River, Drummond, Preiss, n. 1941 and 2070; Princess Royal Harbour, Maxwell; Murchison river, Oldfield.

1. ***L. (F.) strongylophyllum*, F. Muell. Herb.** Apparently shrubby, quite glabrous, with the branches denuded at the base. Leaves in the upper part of the branches, broadly ovate or nearly orbicular, or the upper ones elliptical-oblong,  $\frac{1}{2}$  to  $\frac{3}{4}$  in. long, entire, rather thick, narrowed into a short petiole. Flowers unknown. Fruiting raceme evidently dense, with spreading pedicels of about 2 lines, the thick rhachis 1 to near 2 in. long. Pods only known by the persistent replum, which is oblong-lanceolate, nearly 3 lines long,  $\frac{3}{4}$  line broad in the centre, terminating in a subulate style of about 1 line, and the scars of a funicle on each side at the upper angle of the replum show that there had been a single pendulous seed in each cell as in other *Lepidia*.

**S. Australia.** Mount Vision, on the clay-slate in the N.W. interior, *M'Donnell Stuart*. A very remarkable species, of which the small remains of a pod in one of the specimens (*Hb. F. Muell.*) have been barely sufficient to give a clue to the genus.

11. **MENKEA**, Lehm.

Sepals spreading, equal at the base. Petals short, clawed. Pod broadly oval or linear-oblong, obtuse, very flat; the valves quite flat, 1-nerved, with reticulate veins; septum none or very narrow, bordering the replum; stigma sessile. Seeds numerous, very small, in two series, suspended from free capillary funicles along the replum; cotyledons incumbent.—Small annuals. Leaves few, linear, entire. Flowers small, white.

The genus is endemic in W. Australia.

Pods ovate, about 2 lines long, in loose slender racemes . . . . 1. *M. australis*.  
Pods narrow-oblong, 4 to 5 lines long, in short dense racemes . . . . 2. *M. draboides*.

BRASSICACEAE

*Menkea sphaerocarpa*

BRASSICACEAE

*Menkea villosula*

Sepals narrow, erect, equal at the base. Petals shortly lanceolate above the claw, tapering to a point, often long and twisted. Pod globular, ovoid, or shortly linear, the valves very convex, usually without any conspicuous nerve; septum membranous; stigma globular, sessile or rarely on a very short style. Seeds several, small, in 2 rows, not bordered, with free filiform funicles; cotyledons incumbent.—Annuals, usually slender and glabrous, rarely tomentose and more rigid. Leaves linear. Flowers orange-yellow or white.

The genus is limited to Australia.

Pods erect, 2 to 4 times as long as broad.

Hoary tomentose. Pedicels as long as the pod. Petals 3 times as long as the calyx . . . . . 1. *S. velutinum*.

Glabrous or slightly tomentose. Pedicels shorter than the pod. Petals about twice as long as the calyx . . . . . 2. *S. lineare*.

Glabrous. Flowers almost sessile. Petals more than twice as long as the calyx . . . . . 3. *S. filifolium*.

Pods spreading or pendulous, globular or ovoid.

Sepals scarcely 1 line, petals not twice as long . . . . . 4. *S. sphærocarpum*.

Sepals 1½ line or more, petals more than twice as long.

Pedicels slender, 2 or 3 times as long as the sepals.

Slightly hoary with appressed hairs. Leaves entire or remotely toothed . . . . . 5. *S. nutans*.

Glabrous. Lower leaves mostly pinnatifid . . . . . 7. *S. pedicellare*.

Pedicels shorter than the sepals . . . . . 6. *S. robustum*

BRASSICACEAE

*Stenopetalum croceum*

5. **S. nutans**, *F. Muell. Fragm.* III. 21. An erect annual, about 5 in. high in the single specimen seen, slightly hoary with appressed hairs. Leaves linear, entire or remotely toothed, about 1 in. long, narrowed at each end. Racemes loose. Pedicels much longer than the calyx, slender, erect when in flower, reflexed when in fruit. Sepals about  $1\frac{1}{2}$  line long. Petals with a filiform point of 4 or 5 lines. Pod broadly oval-oblong, about 4 lines long, very turgid, glabrous, ripening 3 or 4 seeds in each cell.

**S. Australia.** Between Stoke's Range and Cooper's Creek, *F. Wheeler* (a single specimen in *Herb. Mueller*).



1. **S. verumum**, *F. Muell. Fl. & Fruct. 1. 43*. Erect and rather rigid, 1 to 1½ ft. high, white or hoary with a very short stellate tomentum, which disappears from the older leaves and the base of the stem. Leaves narrow-linear, rather thick, entire or with a few minute distant teeth, the lower ones 1½ to 2 in. long, the upper ones much shorter. Flowers erect, on pedicels about as long as the calyx. Sepals about 2 lines long, tomentose. Petals yellowish, the long slender point fully 3 times as long as the calyx. Fruiting pedicels erect, 3 to 5 lines long. Pod elliptical-oblong or almost ovoid, about 3 lines long, very turgid, glabrous; valves nerveless; ovules 8 to 12 in each cell.

**N. S. Wales.** Tributaries of the Darling, *Bowman*; near Mr. Mawson's Robleck station, *Leichhardt*.

**Victoria.** Barren localities on the Murray, rare, *F. Mueller*.

**S. Australia.** Between Stokes range and Cooper's Creek, *Wheeler*.