



## 102 \* POLEMONIACEAE <sup>1</sup>

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Perennial, or annual herbs, rarely shrubs or climbers. Leaves opposite or alternate, simple, palmate or pinnate. Inflorescences usually cymose in terminal corymbs or dense heads, or flowers rarely solitary; bracteoles present or absent. Flowers hermaphrodite, actinomorphic or, rarely slightly zygomorphic and 2-labiate. Receptacle hypogynous. Sepals 4–5, usually fused into a tube, persisting in the fruiting stage. Corolla 4–5-lobed, fused at the base into a tube; lobes spreading, contorted in bud. Stamens 5, epipetalous, alternating with the lobes and often of varying, unequal heights; anthers dehiscing by longitudinal slits. Nectariferous disc usually present between stamens. Ovary superior, usually 3-locular, 3-lobed; ovules 1-many in each locule; placentation axile; style 1, filiform; stigmas 3, rarely 2. Fruit usually a loculicidal capsule. Seed with endosperm, often sticky when wet.

A family of about 18 genera and 85 species, which are found mainly in North America, with a few taxa in the Andes (South America), Europe and northern Asia; 2 genera introduced in Australia. Polemoniaceae are placed in the Ericales near Fouquieriaceae (SW North America).

The family is of little economic importance, apart from the two introduced weedy species that are of minor consequence. Some species are of horticultural merit including *Polemonium caeruleum* L. (Jacob's Ladder), many species of *Phlox* L., and the spectacular shrub *Cantua buxifolia* Juss. ex Lam. (The Sacred Flower of the Incas), the national flower of Bolivia and Peru.

Key reference: Wilken (2004).

External resources: accepted names with synonymy & distribution in Australia (APC); author & publication abbreviations (IPNI); mapping (ALA, AVH, NVA); nomenclature (APC, APNI, IPNI).

1. Leaves pinnate to pinnatisect, lobes spinous; ovary 3-locular

1 Navarretia

1: Leaves simple, margins entire, not spinous; ovary 2-locular

2 Collomia

## 1 \* NAVARRETIA

*Navarretia* Ruiz & Pav., *Fl. Peruv. Prodr.* 20 (1794).

Erect or spreading to prostrate annuals, simple to divaricately branched. Leaves alternate, entire or pinnately to palmately lobed or dissected, distal leaves bracteate, apices spinous. Inflorescence a dense head of sessile or subsessile flowers subtended or surrounded by spinous bracts. Calyx of 4–5 unequal sepals, entire or toothed, ± free but usually partly united at the base by a scarious membrane. Corolla (4–)5-lobed, funnel-shaped or saucer-shaped, lobes with 1–3 veins. Stamens inserted within throat of corolla tube or in sinuses of lobes. Ovary 3-locular; stigma simple or 2–3-lobed. Capsule 1–3-locular, 3–8 valved, membranous or chartaceous. Seeds 1-numerous per cell, often minutely pitted.

A genus of about 30 species, chiefly North American, but 1 species from South America; 1 species naturalized in Australia.

1 This work can be cited as: Gray AM (2013). Polemoniaceae, **version 2019:1**. In MF de Salas (Ed.) *Flora of Tasmania Online*. 3 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/treatments/polemoniaceae/>

2 Tasmanian Herbarium, Tasmanian Museum & Art Gallery, PO Box 5058, UTAS LPO, Sandy Bay, TAS 7005, Australia.

**1 \* Navarretia squarrosa** (Eschsch.) Hook. & Arn., *Bot. Beechy Voy.* 368 (1839)*Skunkweed, Californian Stinkweed*

*Hoitzia squarrosa* Eschsch, *Mem. Acad. Imp. Sci. St. Petersburg Hist. Acad.* 10: 282 (1826); *Gilia squarrosa* (Eschsch.) Hook. & Arn., *Bot. Beechy Voy.* 151 (1837).

*Illustrations:* Hastings, *Fl. New South Wales* 3: 385, 386 (2001); Jeanes, *Fl. Victoria* 4: 386, fig. 75 (1999); Richardson *et al.*, *Weeds of the South-East, an Identification Guide for Australia* 339 (2006); Wapstra *et al.*, *Tasmanian Plant Names Unravelling* 219 (2010).

Annual herbs with a strong, unpleasant smell, 5–65 cm high, much branched above the base; all parts glandular pubescent. Leaves sessile; lamina ovate to oblong-lanceolate, 1–3 cm long, 1.0–2.5 cm wide, entire or once or twice pinnatisect, the lobes deeply incised into rigid, lanceolate, spine-tipped segments. Inflorescences dense terminal heads, 2–3 cm diam.; flowers sessile to subsessile, subtended by pinnately or palmately lobed, rigid, spinous leafy bracts. Sepals 6–12 mm long, tubular, joined below the middle by scarious membranes, narrow-lanceolate, apex spinous. Corolla pale lilac or blue, broadly funnel-shaped, 9–12 mm long, lobes c.  $\frac{1}{3}$  as long as the tube, ovate-lanceolate, spreading. Stamens inserted at about the middle of the corolla tube; anthers included. Stigma 3-lobed. Capsule ovoid, 3-locular, enclosed by the persisting calyx. Seeds numerous. Flowering & fruiting Dec.-Jun.

Tas. (BEL, TCH, TNM, TNS, TSE, TSR); also naturalized in SA, Qld, NSW, Vic.; native to North America. In Tasmania, occasional but locally common in disturbed areas and open, waste places, particularly along roadsides; from sea-level to c. 900 m alt.

**2 \* COLLOMIA**

*Collomia* Nutt. *Gen. N. Amer. Pl.* [Nuttall]. 1: 126 (1818).

Herbs, annual or perennial, often rhizomatous, erect or prostrate. Leaves alternate, entire to pinnate. Inflorescence a bracteate, head-like cluster. Calyx campanulate to obconic, membranous or herbaceous, angled between the 5 erect lobes. Corolla 5-lobed, trumpet to funnel-shaped, the lobes spatulate to lanceolate. Stamens inserted in the throat of the corolla; filaments equal or unequal in length. Ovary 2-locular. Capsule obovoid to ellipsoid. Seeds 1–3 per locule, sometimes mucilaginous when wet.

About 15 species in North and South America; 1 species naturalized in Australia.

**1 \* Collomia grandiflora** Douglas ex Lindl., *Edwards's Bot. Reg.* 14: sub t. 1174 (1828)*Tiny Trumpet*

*Collomia linearis sensu* W.M.Curtis, *The Student's Flora of Tasmania* 3: 485 (1967), *non* (Cav.) Nutt. (1818).

*Illustrations:* Hastings, *Fl. New South Wales* 3: 385 (2001); Richardson *et al.*, *Weeds of the South-East, an Identification Guide for Australia* 339 (2006).

Erect annual herbs, with a strong, musky smell on drying, 10–75 cm high; stems simple or branched. Leaves sessile or very shortly petiolate; lamina lanceolate to linear-lanceolate, 1.5–6.0 cm long, 3–10 mm wide, lower leaves puberulent, upper leaves with simple and stalked glandular hairs, margins entire, apex acute. Inflorescences terminal or axillary; bracts leafy. Calyx campanulate, 3–8 mm long, membranous; lobes narrow-triangular, about as long as the tube, both surfaces pilose with simple and stalked hairs. Corolla pink to mauve, narrowly funnel-shaped, almost as long as the calyx. Capsule ellipsoid, c. 5 mm long, with 1 seed per locule. Flowering & fruiting June (Tas.), Summer (NSW).

Tas. (KIN); also naturalized in NSW. Doubtfully naturalized in Tasmania where it is known from two records only (both made in 1957) and not recorded since.

## REFERENCES

ALA (Atlas of Living Australia) <http://www.ala.org.au/>

APC (Australian Plant Census) <https://biodiversity.org.au/nsl/services/apc>

APNI (Australian Plant Name Index) <https://biodiversity.org.au/nsl/services/apni>

AVH (Australia's Virtual Herbarium) (Council of Heads of Australasian Herbaria) <http://avh.chah.org.au/>

IPNI (International Plant Name Index) <http://www.ipni.org> or <http://www.us.ipni.org>

Jeanes JA (1999) Polemoniaceae. *Flora of Victoria* **4** 385–386.

NVA (Natural Values Atlas) (Department of Primary Industries and Water: Hobart)  
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Richardson FJ, Richardson RG, Shepherd RCH (2006) *Weeds of the South-East, an Identification Guide for Australia*. (RG & FJ Richardson: Meredith, Victoria)

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**NOTE:** Web addresses can and do change: a list of current web addresses is maintained in the web version of this treatment on the *Flora of Tasmania Online* website at <https://flora.tmag.tas.gov.au>

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