



## 129 GOODENIACEAE <sup>1</sup>

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Herbs or small shrubs, annual or perennial, erect, ascending or sometimes scrambling; variously hairy, indumentum of simple or multiglandular hairs, sometimes scabrous or viscid. Leaves cauline and alternate, or basal and rosetted, stipules absent; lamina entire, toothed or lobed. Inflorescences terminal or axillary, racemes, umbels, spikes, dichasia, thyrses, or pedunculate cymes and surrounded by an involucre of bracts. Flowers bisexual, zygomorphic, or almost actinomorphic (*Brunonia*); bracteoles often present. Sepals 3 or 5, free or fused. Corolla tubular, fully fused (*Brunonia*) or slit on adaxial side to or near the base, usually bi-labiate or digitately 5-lobed (*Scaevola* & *Selliera*); lobes valvate in bud, the margins infolded, with membranous, undulate wings and small lateral lobes (auricles), differing in texture from the central region of the corolla. Stamens 5, alternating with the corolla lobes, inserted at the base of the corolla tube; filaments sometimes shortly adnate to the tube, or free; anthers free or fused around the style, basifixed, 2-celled, dehiscing introrsely by longitudinal slits, protandrous. Ovary superior to inferior, 2-locular or sometimes imperfectly unilocular; ovules 1-many per locule; style usually simple, terminated by a ciliate-margined cup (indusium) which secondarily presents pollen; stigmas small, usually 2-lobed, and contained within the indusium. Fruit often a capsule, sometimes a nut or drupe. Seeds 1-several, often flattened and winged; endosperm present or absent (*Brunonia*).

A family largely confined to the Southern Hemisphere with 12 genera and about 440 species, mostly Australian, but a few in New Guinea, Malaysia, New Zealand and Chile. In Tasmania there 7 genera and about 15 species (1 genus & 2 species probably extinct in Tas.).

Goodeniaceae are placed in the Asterales near Asteraceae (cosmopolitan) and Calyceraceae (South America). Brunoniaceae (1 sp.; Australia) has until recently been considered to be distinct from Goodeniaceae (see discussion in Carolin 1992a, 2007; Brummitt 2007).

Synonymy: Brunoniaceae, Scaevolaceae.

Key references: Carolin (1992a, 2007); Carolin *et al.* (1992).

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

For the following key and some descriptions, fresh flowering material greatly facilitates the examination of the characters of the ovary, stamens and indusium.

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|----|--|-------------------|
| 1. | Inflorescence a dense, terminal capitulum on a long, erect scape; corolla bright blue, almost actinomorphic; leaves radical              | <b>1 Brunonia</b> |
| 1: | Inflorescence not a terminal head, if scapose then lax; corolla pink, mauve, yellow or white, zygomorphic; leaves radical and/or cauline | 2                 |
| 2. | Anthers connate around the style   | <b>3 Dampiera</b> |
| 2: | Anthers free   | 3                 |

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<sup>2</sup> Tasmanian Herbarium, Tasmanian Museum & Art Gallery, Private Bag 4, Hobart, Tasmania 7001.

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|----|---|-----------------------|
| 3. | Corolla yellow, sometimes with brownish markings  | 4                     |
| 3: | Corolla pink, mauve, white or cream   | 5                     |
| 4. | Ovary inferior to ½ inferior  | <b>4 Goodenia</b>     |
| 4: | Ovary superior  | <b>7 Velleia</b>      |
| 5. | Corolla pink or mauve, 2-lipped, lobes unequal  | <b>2 Coopernookia</b> |
| 5: | Corolla white or cream, 1-lipped, lobes ± equal   | 6                     |
| 6. | Corolla lobes winged; seeds unwinged; leaves not fleshy; plants hairy (not in saline marshes) | <b>5 Scaevola</b>     |
| 6: | Corolla lobes without wings; seeds winged; leaves fleshy; plants glabrous (saline marshes)    | <b>6 Selliera</b>     |

## 1 BRUNONIA

*Brunonia* R.Br., *Prodr. Fl. Nov. Holland.* 589 (1810).

Perennial herbs with appressed, multicellular hairs. Leaves in basal rosettes, not fleshy. Inflorescence a terminal capitulum, subtended by a long scape, composed of several shortly pedunculate cymes, each subtended by an involucre of short bracts. Flowers almost actinomorphic. Calyx lobes joined. Corolla tubular, entire, 5-lobed. Stamens with anthers cohering. Ovary superior, 1-locular, with a solitary ovule; style strongly exerted at anthesis, simple, entire, with cup-shaped indusium enclosing the bifid tip. Fruit a nut, indehiscent, enclosed by the persistent, indurated hypanthium, 1-seeded.

An endemic Australian genus found in all states. Currently a single variable species is recognised though a number of undescribed forms in Western Australia, at specific and subspecific rank, have been recognised and await further research (see APC, APNI).

Key reference: Carolin (1992a).

**1 *Brunonia australis*** Sm. ex R.Br., *Prodr. Fl. Nov. Holland.* 590 (1810)

*Blue Pincushion*

*Illustrations:* Curtis, *The Student's Flora of Tasmania* 2: 406, fig. 91 (1963); Cooke, *Fl. S. Austral.*, ed. 4, 3: 1385, fig. 628A (1977); Carolyn, *Fl. Australia* 35: X, fig. 1 (1992); Carolin, *Fl. New South Wales* 3: 451 (1992); Wrigley & Fagg, *Australian Native Plants*, 4th edn, 138 (1996); Jeanes, *Fl. Victoria* 4: 588, fig. 113 (1999); Gilfedder *et al.*, *The Nature of the Midlands* 74 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 81 (2004); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania*, 4th edn, 125 (2008).

Perennial herbs. Leaves green, 3–16 cm long, 0.3–4.5 cm wide, oblanceolate to obovate, both surfaces silky-villous, base attenuated and petiolate, apex acute. Scapes terminal, one to several, erect, 5–32 cm long, unbranched, silky-hairy. Flower head hemispherical, 12–25 mm diam., surrounded by an involucre of greyish, silky-hairy bracts, outer ones 3–8 mm long, inner ones a little shorter. Sepals 5, fused, 3–5 mm long, subulate and often gland-tipped, plumose. Corolla bright blue; tube narrow, to 5 mm long; lobes linear, spreading, about as long as the tube. Stamens 5, the filaments free but the anthers cohering around style. Style purple, sparsely hairy about the middle, strongly exerted; stigma shortly 2-lobed, at first enclosed within a pale yellow, bilobed indusium, but later protruding through this; indusium orbicular to broad elliptic, c. 1 mm long. Nut c. 3 mm long. Flowering & fruiting Oct.-Jan.

Tas. (BEL, FLI, TNM, TNS); all Australian states. Widespread and locally abundant on poor or sandy soils, in dry grasslands, open woodlands and roadsides in the north and central north of the state; not extending any further south than about the 42nd parallel; from sea level to c. 350 m alt. Listed as Rare under the *Tasmanian Threatened Species Protection Act 1995*.

## 2 † COOPERNOOKIA

*Coopernookia* Carolin, *Proc. Linn. Soc. New South Wales, ser. 2* 92(3): 209 (1968).

Small shrubs with stellate and usually glandular hairs, often viscid. Leaves cauline, not fleshy. Inflorescence a terminal leafy thyrse or raceme. Flowers strongly zygomorphic; bracteolate; pedicels articulate. Sepals 5, free, subulate. Corolla split almost to the base, scarcely bi-labiate, with an obscure anterior pouch; corolla lobes unequal, broadly winged, with long, stiff bristles inside, auricles obsolete. Stamens epigynous; filaments free; anthers free, minutely apiculate. Ovary inferior, incompletely 2-locular. Style simple, ± straight, villous; indusium obovoid, 2-lipped, with long bristles on the lips; stigma 2-lobed. Fruit a capsule, 2- or 4-valved, dehiscent. Seeds few, glossy, carunculate, not winged.

An Australian genus of 6 species; presumed extinct in Tasmania. A single species doubtfully recorded for Tasmania (see note below).

Key reference: Carolin (1992b).

**1 † *Coopernookia barbata*** (R.Br.) Carolin, *Proc. Linn. Soc. New South Wales, ser. 2* 92(3): 213 (1968)

*Purple Native-primrose*

*Goodenia barbata* R.Br., *Prodr. Fl. Nov. Holland.* 576 (1810).

*Illustrations:* Carolin, *Fl. New South Wales* 3: 454 (1992); Carolyn *et al.*, *Fl. Australia* 35: XII, fig. 16 (1992); Wrigley & Fagg, *Australian Native Plants*, 4th edn, 145 (1996); Jeanes, *Fl. Victoria* 4: 594, fig. 114i (1999).

Erect or procumbent shrubs to c. 1 m high; stems ± terete, ribbed, glandular-hairy, ± viscid, but becoming scabrid. Leaves sessile, 10–40 mm long, 1–6 mm wide, linear, both surfaces with scattered glandular-stellate hairs, becoming scabrous, margins entire or obscurely toothed, recurved to narrowly revolute. Inflorescence: pedicels to 20 mm long; bracteoles 2, above middle of pedicel, leaf-like. Sepals 3–6 mm long, lanceolate to narrow elliptic. Corolla bluish-mauve, 10–15 mm long, glandular- and stellate-pubescent externally; wings of lobes 1(–3) mm wide. Ovules usually 2. Capsule cylindrical to ovoid, 5–7 mm long, valves entire. Seeds ellipsoidal, 4–5 mm long. Flowering & fruiting most of year (data from other states).

Tas. (FLI<sup>o</sup>); also NSW, Vic. Records of this species in Tasmania (eg. Rodway 1903; Carolyn 1992b; Jeanes 1999) is based on the type material of the species which is a collection made by Robert Brown in 1804 from Port Dalrymple (Tamar R., N Tas.). This specimen appears to be the only record of the species (and genus) in Tasmania. Its occurrence in Tasmania was doubted by Rodway (1903) and the species was not listed by Curtis (1963). There is the possibility that the genus and species may not be native in Tasmania. Listed as Extinct under the *Tasmanian Threatened Species Protection Act 1995*.

## 3 DAMPIERA

*Dampiera* R.Br., *Prodr. Fl. Nov. Holland.* 587 (1810).

Small perennial shrubs, or herbs (not in Tas.), glabrous or ± tomentose with stellate or variously branched hairs. Leaves cauline, not fleshy. Inflorescences terminal, flowers solitary or in a leafy thyrse with the flowers in racemes or irregularly branched cymes; bracteoles present. Flowers strongly zygomorphic; receptacle epigynous; ovary inferior. Sepals 5, free, very small. Corolla bi-labiate, shortly tubular; tube deeply slit on the adaxial side, often with calli in the throat around the indusium, usually deciduous, circumscissile just above the base; lobes unequal, the 3 lower lobes broadly and equally winged, the 2 upper lobes each with the wing infolded and prolonged downward, forming a relatively thick auricle surrounding the indusium. Stamens with anthers coalesced forming a ring surrounding the style. Ovary inferior, usually unilocular; indusium globose, sometimes 2-lipped. Fruit a small nut or a drupe. Seeds not winged.

An Australian genus of about 66 species with most species being found in south-western Western Australia.

Key reference: Carolin (1992b).

**1 *Dampiera stricta*** (Sm.) R.Br., *Prodr. Fl. Nov. Holland.* 589 (1810)

*Blue Dampiera*

*Goodenia stricta* Sm., *Trans. Linn. Soc. London* 589 (1794); *Dampiera stricta* var.  $\alpha$  Hook.f., *Bot. Antarct. Voy. Ill. (Fl. Tasman.)* 1: 230 (1856). *Dampiera oblongata* R.Br., *op. cit.* 588 (1810); *D. stricta* var.  $\beta$  Hook.f., *op. cit.*; *D. stricta* var. *oblongata* (R.Br.) Benth., *Fl. Austral.* 4: 116 (1868).

*Illustrations:* Carolyn *et al.*, *Fl. Australia* 35: XII, fig. 11 (1992); Carolyn, *Fl. New South Wales* 3: 452 (1992); Jeanes, *Fl. Victoria* 4: 594, fig. 114a (1999); Whiting *et al.*, *Tasmania's Natural Flora* 186 (2004); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania*, 4th edn, 146 (2008).

Erect perennial, 20–60 cm high, with a stout tap root; stems acutely 3-angled, glabrous. Leaves alternate, often in pseudo-whorls towards the distal portions of the stems, sessile; lamina of lower leaves 16–50 mm long, 2–20 mm wide, obovate, cuneate or  $\pm$  trullate, upper ones narrower, linear-oblong, coriaceous, margins entire or irregularly toothed, stellate pubescent to glabrescent, apex acute to blunt. Inflorescence branches 1 or 2 in upper axils, 1–2-flowered, to 3 cm long with branched and/or simple rusty brown hairs; peduncles 4–30 mm long; pedicels 1–2 mm long; bracteoles 2. Sepals 0.5–1.2 mm long, obscured by the dense indumentum. Corolla pale to dark blue, rarely white, internally, usually with yellowish throat, exterior of tube and centres of lobes with dense reddish-brown appressed, branched hairs, wings 1.5–2.7 mm wide, undulate, becoming narrower towards the base of the lobes. Fruit obloid, 4–5 mm long, ribbed, rusty-hairy. Flowering & fruiting Aug.-Jan.

Tas. (BEL, FLI, TSE); also Qld, NSW, Vic. Locally frequent in open forests, shrubberies and sandy heaths, in the east, north-east including Flinders Island, from sea-level to c. 500 m alt.

## 4 GOODENIA

*Goodenia* Sm., *Sp. Bot. New Holland.* 1: 15 (1793).

*Synonymy:* *Goodenoughia* Siebert & Voss, *Vilmorin's Blumengartneri. Dritte neubearbeitete Auflage* 1: 559 (1896), *nom. illeg.* See APC and APNI for complete list.

Small shrubs, sometimes  $\pm$  woody, or annual or perennial herbs, stems and leaves glabrous, viscid and/or hairy. Leaves in a basal rosette or cauline, not fleshy. Inflorescence a terminal or axillary raceme, spike, thyrse or sub-umbel, or flower solitary. Flowers strongly zygomorphic, with a hypanthium. Sepals 5, free. Corolla shortly tubular, deeply slit posteriorly, with an anterior nectary pouch or spur appressed to the ovary, bi-labiate, often with blunt protuberances internally, sometimes auriculate; lobes unequal, winged, often broadly so. Stamens free. Ovary inferior to half inferior but the apex convex and protruding above the region of the insertion of the sepals; style simple or 2–4-fid, glabrous or villous; indusium bi-labiate,  $\pm$  horizontal, the lips with long bristles; stigma entire to emarginate. Fruit usually a 2- or 4-valved capsule, rarely a nut or drupe. Seeds usually winged.

A genus of about 180 species; 178 in Australia with 3 species extending to South East Asia and 1 species endemic in Java; 5 or 6 species in Tasmania. Rodway (1903) and Curtis (1963) recorded *G. amplexans* F.Muell. for Tasmania in error. The species is considered to be South Australian endemic (see Carolin 1992b; APC) and so is not treated further here.

Key reference: Carolin (1992b).

1. Semi-woody shrubs, 0.5–2 m high; leaves all cauline
- 1: Procumbent or ascending herbs, rarely erect and then < 0.5 m tall, sometimes woody at the base; leaves mainly in a basal rosette or sometimes cauline

**1 *G. ovata***

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- |    |  |                         |
|----|--|-------------------------|
| 2. | Leaves pinnately divided, for ¼–½ the width of the leaf  | <b>6 G. pinnatifida</b> |
| 2: | Leaves entire, or lobed or toothed for less than ¼ width of the leaf   | 3                       |
| 3. | Inflorescences basal, shorter or scarcely longer than the leaves; corolla 10 mm long or less                           | <b>2 G. humilis</b>     |
| 3: | Inflorescences basal or axillary, longer than the leaves; corolla 12–20 mm long  | 4                       |
| 4. | Stems erect or ascending; bracteoles absent; pedicels erect or spreading after anthesis                                | <b>3 G. elongata</b>    |
| 4: | Stems rarely ascending, usually procumbent, creeping or absent; bracteoles present; pedicels ± reflexed after anthesis | 5                       |
| 5. | Plant tufted, without aerial stems; leaves oblanceolate, ± entire (localized in the NW)                                | <b>4 G. geniculata</b>  |
| 5: | Plant with procumbent or creeping stems, rarely ascending; leaves usually obovate, toothed or lobed (throughout state) | <b>5 G. lanata</b>      |

**1 Goodenia ovata** Sm., *Trans. Linn. Soc. London* 2: 347 (1794) *Parrot's foot, Hop Native-primrose*

*Goodenoughia ovata* (Sm.) Siebert & Voss, *Vilmorin's Blumengartneri. Dritte neubearbeitete Auflage* 1: 559 (1896).

*Illustrations:* Cooke, *Fl. S. Austral.*, ed. 4, 3: 1401, fig. 632e (1977); Carolin, *Fl. New South Wales* 3: 459 (1992); Carolyn *et al.*, *Fl. Australia* 35: 219, fig. 70 (1992); Jeanes, *Fl. Victoria* 4: 598, fig. 115c (1999); Gilfedder *et al.*, *The Nature of the Midlands* 85 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 188 (2004).

Erect or spreading semi-woody shrubs, 0.5–2.0 m high, glabrous and ± viscid; rhizomes absent. Leaves cauline, shortly petiolate; lamina 2–8 cm long, 0.4–2 cm wide, narrow to broadly ovate or elliptic, minutely glandular, margins denticulate, apex acute. Inflorescence a terminal or axillary raceme or thyrse, usually shorter than the leaves; peduncle c. 3 cm long; pedicels articulate, to c. 8 mm long; bracteoles at about the middle of the pedicel, 1.5–6 mm long, linear. Sepals 3–10 mm long, linear to lanceolate, glabrous. Corolla yellow, c. 10–20 mm long, glabrous externally, pubescent internally; abaxial lobes 5–9 mm long, wings 1–3 mm wide. Indusium depressed-obovate. Capsule 8–12 mm long, cylindrical, tapering toward the base. Seeds pale brown to whitish, shining, tuberculate, with a very narrow wing. Flowering & fruiting Sep.-Jun.

Tas. (BEL, FLI, KIN, TNS, TSE, TSR, TWE); also SA, Qld, NSW, Vic. Widespread and locally abundant, particularly in the north and the south-east of the state. Open situations in damp forests and shrubberies and along roadsides; often a primary coloniser of disturbed ground. The species has horticultural value as an ornamental specimen and as a low, dense hedge plant; easily shaped and maintained and hardy.

**2 Goodenia humilis** R.Br., *Prodr. Fl. Nov. Holland.* 575 (1810) *Swamp Native-primrose*

*Goodenia graminifolia* Hook.f., *Hooker's J. Bot. Kew Gard. Misc.* 6: 265 (1847). *Goodenia nana* de Vriese, *Natuurk. Verh. Holl. Maatsch. Wetensch. Haarlem ser. 2* 10: 132 (1854). *Goodenia humilis* var. *alpigena* F.Muell., *Pap. & Proc. Roy. Soc. Tasmania for 1873* 62 (1874).

*Illustrations:* Cooke, *Fl. S. Austral.*, ed. 4, 3: 1395, fig. 631g, pl. 41 (1977); Carolin, *Fl. New South Wales* 3: 459 (1992); Wrigley & Fagg, *Australian Native Plants*, 4th edn, 161 (1996); Jeanes, *Fl. Victoria* 4: 602, fig. 116h (1999); Whiting *et al.*, *Tasmania's Natural Flora* 187 (2004).

Small perennial herbs to 20 cm high, often with slender, spreading rhizomes; stems ascending, pubescent to glabrescent. Leaves mostly in a basal rosette, base attenuated into a slender petiole; lamina (1–)3–10 cm long, 2–4 mm wide, linear to narrowly oblanceolate, margins entire or sometimes distantly and shallowly toothed, rather thick, ± hirsute to glabrescent, apex acute or ± blunt. Inflorescence a terminal raceme or thyrse, as long as or a little longer than the leaves, or flowers solitary; peduncles equal to or a little longer than the leaves; pedicels articulate 5–12 cm long, usually erect; bracts and bracteoles linear, 3–5 mm long. Sepals 2–3 mm long, linear-lanceolate or narrow triangular, pubescent. Corolla pale yellow, 8–12 mm long, pubescent exter-

nally, ± glabrous internally; abaxial lobes 4–6 mm long, wings c. 1 mm wide; adaxial lobes unequally winged, ± auriculate. Indusium square or broad-oblong. Capsule 3–4 mm long, ovoid. Seeds yellow-brown, pitted, wing vestigial. Flowering & fruiting Nov.-Apr.

Tas. (BEL, FLI, TCH, TNM, TNS, TWE); also SA, NSW, Vic. Frequent in areas subject to flooding or waterlogging, particularly in sandy heaths near the coast, in the north-east and on Flinders Island, but also on the west coast and on the Central Plateau; from sea-level to c. 1000 m alt.

### 3 *Goodenia elongata* Labill., *Nov. Holl. Pl.* 1: 52, t. 75 (1805)

*Lanky Native-primrose*

*Illustrations:* Cooke, *Fl. S. Austral.*, ed. 4, 3: 1395, fig. 628a (1977); Carolin, *Fl. New South Wales* 3: 465 (1992); Jeanes, *Fl. Victoria* 4: 598, fig. 115g (1999); Gilfedder *et al.*, *The Nature of the Midlands* 85 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 187 (2004).

Annual or short-lived perennial herbs; rhizomes absent; stems to 45 cm long, slender, simple or sparingly branched, erect or ascending, glabrous or with spreading or appressed hairs. Leaves mostly cauline, but usually also a loose basal rosette often present, rosette leaves petiolate; lamina 2–9 cm long, 0.4–2 cm wide, oblanceolate to obovate or oblong-spathulate; cauline leaves sessile; lamina 1–5(–7) cm long, elliptic-lanceolate, margins of all leaves distantly and shallowly toothed. Inflorescences loose, terminal, leafy racemes or sub-umbels to 10 cm long, or flowers solitary; pedicels articulate, without bracts, at first erect but spreading in the fruiting stage, 4–10 cm long. Sepals c. 5 mm long, lanceolate, with scattered hairs. Corolla yellow, 12–20 mm long, external surface of the tube and central portion of the lobes shortly glandular-pubescent; abaxial lobes 4–10 mm long, wings 2–4 mm wide; adaxial lobes unequally winged, with the wings of the upper sides prolonged downwards, forming auricles surrounding the indusium. Indusium broad-oblong. Capsule 6–9 mm long, ovoid. Seeds brown, reticulate, wing c. 0.2 mm wide. Flowering & fruiting Oct.-Apr.

Tas. (BEL, FLI, TCH, TNM, TNS, TSE, TSR, TWE); also SA, NSW, Vic. Widespread and locally common in the east of the state, usually in wet or marshy situations, wet heathlands, roadside drainage channels, from sea-level to c. 500 m alt.

### 4 *Goodenia geniculata* R.Br., *Prodr. Fl. Nov. Holland.* 577 (1810)

*Bent Native-primrose*

*Goodenia primulacea* Schltldl., *Linnaea* 20: 601 (1847); *G. geniculata* var. *primulacea* (Schltldl.) Benth., *Fl. Austral.* 4: 63 (1868).

*Illustrations:* Cooke, *Fl. S. Austral.*, ed. 4, 3: 1397, fig. 631a (1977); Carolin, *Fl. New South Wales* 3: 451 (1992); Jeanes, *Fl. Victoria* 4: 608, fig. 117i (1999).

Perennial herbs to c. 20 cm high, rhizomes absent; stems decumbent, often stoloniferous and often terminating in a rosette of leaves, not developing aerial stems. Leaves mainly basal, base attenuated into an indistinct petiole; lamina 3–10 cm long, 0.3–1 cm wide, linear to oblanceolate, rather thick, hirsute, margins entire or with distant, shallow teeth, apex acute or obtuse. Flowers usually solitary, axillary, rarely flowers in an axillary terminal raceme to c. 5 cm long, usually longer than the leaves; peduncle 2–7 cm long, often geniculate at bracteoles at anthesis; pedicels non-articulate, 2–6 cm long; bracteoles 4–5 mm long, linear. Sepals 4–6 mm long, oblong to narrow oblong, both surfaces hirsute. Corolla bright yellow, c. 14–18 mm long, hirsute externally, pubescent internally, abaxial lobes c. 8 mm long, wings 1.5–3 mm wide. Indusium broad-ovate, folded. Capsule c. 10 mm long, obovoid. Seeds yellow-brown, papillose, wing vestigial. Flowering & fruiting Oct.-Jan.

Tas. (KIN); also SA, Vic. Known only from Rocky Cape, in northern Tasmania, in dry, sandy heathlands and open areas near the coast. Listed as Rare under the *Tasmanian Threatened Species Protection Act 1995*.

### 5 *Goodenia lanata* R.Br., *Prodr. Fl. Nov. Holland.* 577 (1810)

*Trailing Native-primrose*

*Goodenia geniculata* var. *lanata* (R.Br.) Rodway, *Tasman. Fl.* 102 (1903). *Goodenia hederacea* sensu J.D.Hooker,

*Bot. Antarct. Voy. III. (Fl. Tasman.)* 1: 232 (1856), non Sm. (1784).

*Illustrations:* Curtis, *The Student's Flora of Tasmania* 2: 399, fig. 89 (1963); Jeanes, *Fl. Victoria* 4: 606, fig. 117e (1999); Gilfedder *et al.*, *The Nature of the Midlands* 85 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 188 (2004); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania*, 4th edn, 124 (2008).

Perennial herbs, prostrate, decumbent or ascending; stems softly silvery-grey hairy, to 50 cm long, sometimes rooting at the nodes. Rosette leaves attenuated into an indistinct petiole; lamina 1–8 cm long, 0.5–2 cm wide, obovate to lyrate, both surfaces pubescent to glabrescent, margins lobed or coarsely and distantly dentate, apex acute, blunt or rounded; cauline leaves smaller. Inflorescence a terminal, leafy raceme to 20 cm long or flowers solitary in axils, usually longer than the leaves; peduncles 2–6 cm long, often articulate at bracteoles at anthesis; pedicels non-articulate, 10–40 mm long; bracteoles 3–5 mm long, linear. Sepals 5–6 mm long, narrow-oblong, pubescent. Corolla yellow, 10–15 mm long, pubescent externally and internally; abaxial lobes 5–6 mm long, wings c. 2 mm wide. Indusium broad-oblong, slightly folded. Capsule 6–7 mm long, ovoid-cylindric. Seeds yellowish, papillose, wing vestigial. Flowering & fruiting Jun.–Mar

Tas. (BEL, FLI, KIN, TCH, TNM, TNS, TSE); also SA, Vic. Widespread and abundant, especially in the north and east of the state. Found in open woodlands, grassy shrubberies, sandy heaths and open, rocky places, from sea-level to c. 300 m alt.

**6 † *Goodenia pinnatifida*** Schtdl., *Linnaea* 21: 450 (1848)

*Cutleaf Native-primrose*

*Illustrations:* Cooke, *Fl. S. Austral.*, ed. 4, 3: 1401, fig. 632f (1977); Carolin, *Fl. New South Wales* 3: 465 (1992); Jeanes, *Fl. Victoria* 4: 602, fig. 116c (1999).

Erect or decumbent herbs to c. 35 cm high, often ± woody at the base, rhizome absent; stem glabrous or sparsely pubescent, the hairs antrorse, crisped. Rosette leaves petiolate, ascending; lamina 2–8 cm long, 0.4–2 cm wide, pinnatisect, with oblong or linear lobes, or the margins toothed, sparsely pubescent, oblong to lanceolate; cauline leaves few, or often absent, smaller, sessile, lamina entire to pinnate. Inflorescence a terminal raceme, or sometimes subumbellate, erect to spreading, 8–10 cm long; pedicels articulate, 4–20 cm long; bracteoles absent. Sepals 3–6 mm long, lanceolate, glabrous. Corolla yellow, 8–20 mm long, ± glabrous externally, densely pilose internally; abaxial lobes 3.5–10 mm long, wings 2–4 mm wide. Indusium depressed-ovate. Capsule c. 6–8 mm long, sub-globose. Seeds elliptic to orbicular, glossy black, smooth, wing c. 0.5 mm wide. Flowering & fruiting Sep.–Dec. (information from other states).

Tas. (?TNM, ?TNS); also WA, NT, SA, Qld, NSW, Vic. Possibly extinct in Tasmania as the only Tasmanian record for this species is a single collection made by Robert Brown in 1804 from Port Dalrymple, in the far north of the state. Interstate, the species is widespread in grassy woodlands and open forests in lowland situations.

## 5 SCAEVOLA

*Scaevola* L., *Mant. Pl.* 2: 145 (1771).

Synonymy: *Merkusia* de Vriesse, *Ned. Kruidk. Arch.* 2: 150 (1850). See APC and APNI for complete list.

Perennial herbs or shrubs (not in Tas.), stems variously hairy. Leaves not fleshy. Inflorescence terminal, racemes, spikes or thyrses, or flowers solitary and axillary. Flowers strongly zygomorphic; bracteoles present. Sepals 5, fused, with the lobes obscure or absent. Corolla slit and open along the anterior side; corolla lobes equal, winged, the 5 lobes spreading, digitate, fan-like, not auriculate but often with simple hairs and multi-cellular trichomes in the throat. Stamens free; anthers free. Ovary inferior, usually 2- or sometimes 1-locular; ovules 1 per cell; style simple; indusium ± horizontal, usually with bristles on the lips; stigma 2-lobed. Fruit indehiscent, endocarp hard, the exocarp often ± succulent but usually thin and membranous. Seeds not winged or flattened.

A genus of 96 species in Australia and the tropical Indo-Pacific region; 71 spp. in Australia, 70 endemic; 3

species in Tasmania.

*Scaevola calendulacea* (Andrews) Druce was recorded in error for Tasmania by Curtis (1963) though she does state it is found on the islands of Bass Strait. The type material of *S. cuneiformis* Labill. reputedly comes from Tasmania though the species is now considered to be endemic to Western Australia (see Hooker 1856; APC).

Key reference: Carolin (1992b).

- |    |   |                     |
|----|---|---------------------|
| 1. | Plants prostrate, rooting at the nodes; flowers shortly pedunculate                         | <b>3 S. hookeri</b> |
| 1: | Plants decumbent or ascending, not rooting at the nodes; flowers sessile                    | 2                   |
| 2. | Plants coarsely hispid; leaves 2–5(–10) cm long; corolla 15–25 mm long; ovary 2-celled      | <b>1 S. aemula</b>  |
| 2: | Plants sparsely pubescent; leaves 0.5–1(–1.5) cm long; corolla 5–12 mm long; ovary 1-celled | <b>2 S. albida</b>  |

**1 *Scaevola aemula*** R.Br., *Prodr. Fl. Nov. Holland.* 584 (1810)

*Fairy Fanflower*

*Scaevola sinuata* R.Br., *Prodr. Fl. Nov. Holland.* 584 (1810); *Merkusia sinuata* (R.Br.) de Vriese, *Ned. Kruidk. Arch.* 2: 160 (1850). *Lobelia aemula* (R.Br.) Kuntze, *Revis. Gen. Pl.* 2: 378 (1891).

*Illustrations:* Cooke, *Fl. S. Austral.*, ed. 4, 3: 1409, fig. 635a (1977); Carolin, *Fl. New South Wales* 3: 468 (1992); Jeanes, *Fl. Victoria* 4: 611, fig. 118f (1999); Whiting *et al.*, *Tasmania's Natural Flora* 189 (2004).

Decumbent or ascending herbs to c. 50 cm high; stems not rooting at the nodes; stems and leaves coarsely hispid, with white or yellowish appressed hairs. Lower leaves shortly petiolate; lamina 2–5(–10) cm long, 0.4–3 cm wide, spatulate to obovate, both surfaces appressed-hispid, margins coarsely toothed, the teeth gland-tipped, apex acute or obtuse; upper leaves smaller, sessile and almost entire. Flowers solitary, subsessile, in long, interrupted, leafy or bracteate terminal spike-like branches to 20 cm long; bracteoles lanceolate, 4–8 mm long. Sepals c. 0.5 mm long, ± connate at base, lobes triangular, ciliolate. Corolla bright blue or deep purplish blue, yellowish in the throat, 15–25 mm long, tube slender, appressed-pubescent externally, internally with long hairs along the lines of junction of the lobes; wings 1–1.5 mm wide. Indusium depressed-obovate, with a posterior tuft of long, purplish bristles and with white bristles around the orifice. Fruit 3–4 mm long, ovoid, rugose, pubescent. Flowering & fruiting Oct.–Apr.

Tas. (TSE); also ?WA, SA, NSW, Vic. Uncommon in the east of the state on dry sandy or stony soils, in light forest or open, grassy shrubberies from sea-level to c. 200 m alt. Listed as Endangered under the *Tasmanian Threatened Species Protection Act 1995*.

**2 *Scaevola albida*** (Sm.) Druce, *Rep. Bot. Exch. Club Brit. Isles 1916, Suppl.* 2: 644 (1917) *Pale Fanflower*

*Goodenia albida* Sm., *Trans. Linn. Soc. London* 2: 348 (1794); *Scaevola laevigata* var. *albida* (Sm.) Pers., *Syn. Pl. (Persoon)* 1: 195 (1805). *Scaevola microcarpa* Cav., *Anales Hist. Nat.* 1: 97, t. 9 (1799); *Merkusia microcarpa* (Cav.) de Vriese, *Ned. Kruidk. Arch.* 2: 157 (1850); *Lobelia microcarpa* (Cav.) Kuntze, *Revis. Gen. Pl.* 2: 378 (1891). *Scaevola pallida* R.Br., *Prodr. Fl. Nov. Holland.* 585 (1810); *Merkusia pallida* (R.Br.) de Vriese, *op. cit.* 2: 159 (1850); *Scaevola microcarpa* var. *pallida* (R.Br.) Benth., *Fl. Austral.* 4: 101 (1868); *Scaevola albida* var. *pallida* (R.Br.) Carolin, *Fl. S. Austral.*, ed. 4, 3: 1410 (1986).

*Illustrations:* Cooke, *Fl. S. Austral.*, ed. 4, 3: 1409, fig. 635b (1977); Carolin, *Fl. New South Wales* 3: 468 (1992); Jeanes, *Fl. Victoria* 4: 611, fig. 118g (1999).

Slender, prostrate to ascending herbs to 50 cm high; stems not rooting at the nodes, glabrous or sparsely pubescent with antrorse hairs. Leaves shortly petiolate; lamina 5–10(–15) mm long, 2–25 mm wide, obovate to elliptic or obovate-cuneate, both surfaces appressed-pubescent to glabrescent, margins entire to coarsely toothed in the distal portion, apex acute to blunt. Upper leaves smaller. Flowers sessile in terminal leafy spikes to c. 25 cm long; bracteoles 3–9 mm long, narrow elliptic. Sepals c. 0.5 mm long, almost free, ciliolate, trian-

gular. Corolla pale blue to almost white, 5–12 mm long, tube slender, appressed-pubescent externally, sparsely bearded internally, wings to 1 mm wide. Indusium broad-triangular with a posterior tuft of short white or purplish bristles and short, white bristles around the orifice. Fruit 2–4 mm long, ellipsoid, rugose, pubescent or glabrous. Flowering & fruiting Nov.-Feb.

Tas. (FLI, KIN); also SA, Qld, NSW, Vic. The species has a very restricted distribution in Tasmania, being recorded only from Temma in the far north-west and from Flinders Island. Occurs in open woodlands, shrubby heaths and is a coloniser of disturbed ground. Listed as Rare under the *Tasmanian Threatened Species Protection Act 1995*.

**3 *Scaevola hookeri*** (de Vriese) F.Muell. ex Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1: 231 (1856)

*Creeping Fanflower*

*Merkusia hookeri* de Vriese, *Ned. Kruidk. Arch.* 2: 159 (1850); *Lobelia hookeri* (de Vriese) Kuntze, *Revis. Gen. Pl.* 2: 378 (1891).

*Illustrations:* Carolin, *Fl. New South Wales* 3: 469 (1992); Carolyn *et al.*, *Fl. Australia* 35: 215, fig. 56 (1992); Wrigley & Fagg, *Australian Native Plants*, 4th edn, 121 (1996); Kirkpatrick, *Alpine Tasmania* 102, fig. 45a (1997); Jeanes, *Fl. Victoria* 4: 594, fig. 118d (1999); Gilfedder *et al.*, *The Nature of the Midlands* 124 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 189 (2004); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania*, 4th edn, 100 (2008).

Prostrate perennial herbs, stoloniferous and often mat-forming; stems to 30 cm long, rooting at the nodes, hispid to pilose. Leaves shortly petiolate, often clustered on short lateral branchlets; lamina 1–5 cm long, 2–15 mm wide, oblong-ovate to oblanceolate, both surfaces with sparse, appressed-pubescent hairs, margins entire to coarsely and distantly toothed, apex blunt, rounded or acute. Flowers solitary, axillary, on short lateral branchlets; peduncles 1–6 mm long; bracteoles 4–6 mm long, elliptic-oblong. Sepals minute or absent. Corolla white or blue, usually yellowish in the throat, 5–8 mm long, hispid externally, sparsely pubescent internally, wings c. 1 mm wide. Indusium depressed-obovate, with sparse, long bristles at the base, orifice  $\pm$  glabrous. Fruit c. 3 mm long, obovoid, rugose, pubescent. Flowering & fruiting Dec.-May.

Tas. (BEL, FLI, KIN, TCH, TNS, TSE, TSR, TWE); also NSW, Vic. Widespread and abundant in damp forests, wet heaths, wet ditches, on stony outcrops and also colonising disturbed areas, from sea-level to c. 1200 m alt.

## 6 SELLIERA

*Selliera* Cav., *Anales Hist. Nat.* 1: 41, t.5 (1799).

Glabrous perennial herbs; stems prostrate, much branched, rooting at the nodes, forming matted patches. Leaves alternate or in dense clusters at the nodes, sessile, entire, flat, fleshy. Inflorescence axillary, a much condensed raceme or flowers solitary. Flowers strongly zygomorphic; bracteolate. Sepals free at or just above hypanthium. Corolla tubular, open along the posterior slit; lobes  $\pm$  equal, not winged. Stamens free, epigynous; anthers free. Ovary inferior, 2-celled; style hairy, simple, bent forward below the indusium; stigma emarginate; indusium  $\pm$  horizontal, 2-lipped, minutely ciliate. Fruit  $\pm$  indehiscent. Seeds lenticular, with a thick, mucilaginous wing.

A monotypic genus occurring in Australia, New Zealand and South America.

Key reference: Carolin (1992b).

**1 *Selliera radicans*** Cav., *Annales Hist. Nat.* 1: 41, t.5 (1799)

*Shiny Swampmat*

*Goodenia radicans* (Cav.) Pers., *Syn. Pl. (Persoon)* 1: 195 (1805). *Goodenia repens* Labill., *Nov. Holl. Pl.* 2: 378 (1891); *Selliera repens* (Labill.) Vriese, *Natuurk. Verh. Holl. Maatsch. Wetensch. Haarlem ser. 2* 10: 163 (1854).

*Selliera herpystica* Schltldl., *Linnaea* 20: 598 (1847).

*Illustrations:* Curtis, *The Student's Flora of Tasmania* 2: 402, fig. 90 (1963); Cooke, *Fl. S. Austral.*, ed. 4, 3: 1415, fig. 637 (1977); Carolyn *et al.*, *Fl. Australia* 35: 220, fig. 75 (1992); Carolin, *Fl. New South Wales* 3: 466 (1992); Wrigley & Fagg, *Australian Native Plants*, 4th edn, 122–123 (1996); Jeanes, *Fl. Victoria* 4: 614, fig. 119a (1999); Gilfedder *et al.*, *The Nature of the Midlands* 124 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 190 (2004); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania*, 4th edn., 160 (2008).

Prostrate herbs; stems yellowish, sometimes subterranean, often spreading widely, to a metre or further, sometimes with tips ascending. Leaves very variable in size and shape; lamina spatulate to oblanceolate-obovate, 1–10 cm long, 0.3–3.5 cm wide, base attenuated, thick, both surfaces glabrous, margins entire, apex blunt. Peduncles to 5 cm long; bracteoles linear, 1–3 mm long; pedicels to 12 mm long. Sepals 5, lobes 1.5–3 mm long, ovate to oblong, adnate to ovary, free above hypanthium. Corolla dull crimson to purplish externally, white internally, 5–8 mm long slightly fleshy, glabrous, lobes spreading digitately. Indusium sub-globose, with silky hairs at the base, ciliate at the orifice. Fruit 4–5 mm long, obovoid-truncate. Seed flattened, c. 2 mm wide, wing crumpled, sticky when wet. Flowering Nov.–Apr.; fruiting Apr.–May.

Tas. (BEL, FLI, KIN, TCH, TNM, TNS, TSE, TSR, TWE); also SA, NSW, Vic., New Zealand, Chile. Widespread and locally abundant, mostly in coastal salt-marshes, littoral herb lawns and rocky wave ledges, but also inland on the landward margins of swampy areas, lakes and slow-running streams, from sea-level to c. 200 m alt.

## 7 VELLEIA

*Velleia* Sm., *Trans. Linn. Soc. London* 4: 217 (1798)

Synonymy: See APC and APNI for complete list.

Annual or perennial herbs, glabrous or hairy; flowering stems sympodially branched, the branches subtended by conspicuous bracts. Leaves radical or cauline, not fleshy, almost entire or toothed to pinnatifid, flat, with conspicuous axillary hairs. Inflorescence axillary, a dichasium or flowers solitary. Flowers strongly zygomorphic, bracteolate. Sepals free or shortly fused at the base and adnate to the receptacle, dorsal sepal often larger. Corolla tube short, opened along the posterior slit, 2-lipped, the posterior lip smaller and the 2 lobes almost separated to the base, lobes ± winged, the wings usually unequal. Stamens free; anthers free. Ovary superior, almost unilocular but with a short septum at the base. Style simple; stigma entire or emarginate; indusium erect, 2-lipped. Fruit a 2- or 4-valved dehiscent capsule. Seeds lenticular, with a wing or thickened rim.

A genus of 21 species; 20 endemic in Australia, 1 in New Guinea; 2 species in Tasmania.

Key reference: Carolin (1992b).

- |    |  |                      |
|----|--|----------------------|
| 1. | Inflorescence shorter than the leaves; leaves almost entire; sepals 3; seeds wingless                | <b>1 V. montana</b>  |
| 1: | Inflorescence longer than the leaves; leaves variously toothed; sepals 5; seeds conspicuously winged | <b>2 V. paradoxa</b> |

**1 Velleia montana** Hook.f., *Hooker's J. Bot. Kew Gard. Misc.* 6: 265 (1847)

*Mountain Velleia*

*Illustrations:* Carolin, *Fl. New South Wales* 3: 456 (1992); Kirkpatrick, *Alpine Tasmania* 87, fig. 38a (1997); Jeanes, *Fl. Victoria* 4: 614, fig. 119b (1999); Gilfedder *et al.*, *The Nature of the Midlands* 85 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 190 (2004).

Glabrous or pubescent herbs. Leaves in a basal rosette, shortly petiolate; lamina 1.5–8 cm long, 0.6–3 cm wide, obovate to oblanceolate, appressed-pubescent to glabrescent, particularly nearer the margins, margins almost entire, apex rounded. Flowering scapes ascending or decumbent, 5–(10) cm long, usually much shorter than the leaves, and often appearing ± sessile; bracteoles 3–5 mm long, linear. Flower not perfumed. Sepals 3, 3–6

mm long, free, ovate to oblong, margins ciliolate. Corolla deep yellow, brownish-orange at the throat, 7–10 mm long, pubescent externally and internally, wings c. 0.5 mm wide. Indusium depressed-ovate, with long hairs at the base and shorter bristles at the orifice. Fruit 2–3 mm diam., subglobose, sparsely hairy or glabrous. Seeds elliptical, with a thickened rim. Flowering & fruiting Nov.-Mar.

Tas. (BEL, TCH, TNM, TNS, TSE, TSR, TWE); also NSW, Vic. Widespread and locally abundant in wet sub-montane heaths and grasslands, on the Central Plateau and the north-east highlands, sometimes in extensive swards or patches.

**2 *Velleia paradoxa*** R.Br., *Prodr. Fl. Nov. Holland.* 580 (1810)

*Spur Velleia*

*Illustrations:* Cooke, *Fl. S. Austral.*, ed. 4, 3: 1417, fig. 638e, Pl.40 (1977); Carolin, *Fl. New South Wales* 3: 455 (1992); Carolyn *et al.*, *Fl. Australia* 35: 220, fig. 74 (1992); Jeanes, *Fl. Victoria* 4: 614, fig. 119d (1999); Gilfedder *et al.*, *The Nature of the Midlands* 85 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 191 (2004); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania*, 4th edn, 40 (2008).

Perennial herbs, softly pubescent. Leaves in a radical rosette, subsessile to long-petiolate; lamina broadly oblanceolate to spatulate, (3–)5–25 cm long (including petiole), 1.5–3.5 cm wide, glabrous or with scattered short hairs along the midrib and margins, margins entire, or distantly and shallowly toothed or lobed, apex blunt. Inflorescence racemose or sub-umbellate; bracteoles oblong to ovate, 1–4 cm long, often toothed or lobed. Flowers with a strong, sweet, 'fruity' fragrance. Sepals 5, mostly 4–10 mm long, lanceolate, free, sparsely pubescent to glabrescent. Corolla yellow, 10–20 mm long, spurred, pubescent externally, sparsely hairy to glabrous internally, wings to 3 mm wide. Indusium ovate with short hairs at the base, orifice curved, with short bristles. Fruit compressed-ovoid, 6–9 mm diam., villous; seed orbicular, wing to c. 1 mm wide. Flowering & fruiting Nov.-Jan.

Tas. (BEL, TNM, TNS, TSE, TSR); also SA, Qld, NSW, Vic. Widespread but local in grasslands, dry, open forests and stony banks, from sea level to c. 600 m alt. Listed as Vulnerable under the *Tasmanian Threatened Species Protection Act 1995*.

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