



## 54 GERANIACEAE<sup>1</sup>

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Annual or perennial herbs, or small shrubs, with or without simple and/or glandular hairs. Leaves opposite or alternate, petiolate, simple or compound, variously toothed or lobed, stipulate, the stipules sometimes interpetiolar. Inflorescences terminal cymose umbels, or flowers paired or solitary with peduncles in a spiral sequence. Flowers actinomorphic or zygomorphic, bisexual, usually 5-merous except for some hybrid forms. Sepals often mucronate, imbricate, sometimes basially fused, with the base extended into a nectariferous spur, persistent in fruit and often  $\pm$  enlarged. Petals free, imbricate, usually alternating with nectar-secreting glands. Stamens 10, in 2 whorls, either all fertile, or a variable number sometimes sterile; filaments free and filiform or the bases dilated and connate; anthers 2-locular, dehiscence introrse by longitudinal slits. Ovary superior, 5-locular, distinctly 5-lobed; ovules 2 per loculus; style stout, 5-lobed. Fruit a schizocarp, splitting into 5 mericarps, each containing a single seed and surmounted by an awn, separating from the central column of the style (rostrum), or sometimes remaining attached at the summit.

A family of 7 genera and about 800 species found mainly in temperate and warm temperate regions of both hemispheres. In Australia there are 3 genera and c. 45 species (15 naturalized). In Tasmania, 3 genera (1 naturalized), 7 native species and 12 introduced species. Geraniaceae are placed in the Geraniales with Melianthaceae (Africa), Francoaceae (Chile), Vivianiaceae (Chile, S Brazil) and Ledocarpaceae (W South America).

The family is of little commercial value, apart from some ornamental and hybrid forms of *Geranium* and *Pelargonium* that are popularly used in the horticultural and perfume industries. The common name 'Geranium' is widely misapplied to many ornamental horticultural forms of *Pelargonium*.

Some species, in all Australian genera, are recognized as 'nuisance' garden or agricultural weeds, but most are of minor consequence. However, the seeds of species of *Erodium*, due to their sharp tips and the corkscrew action of the awn that allows them to burrow into the soil, may cause damage to animals by burrowing into their flesh or body orifices. Some species and ornamental forms may persist in waste places, roadsides etc., as garden escapes, mainly due to garden refuse dumping, but usually remain only locally established.

Note: Ripe fruit is *essential* for the accurate determination of species, especially those of *Erodium* and *Geranium*.

Synonymy: Erodiceae.

Key references: Richardson *et al.* (2006); Albers & Van der Walt (2007).

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

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|----|--|----------------------|
| 1. | Inflorescences with 1 or 2 flowers; awns ± glabrous, detaching from the base of the style column (rostrum) and rolling upwards, not spirally twisting;                                 | <b>3 Geranium</b>    |
| 1: | Inflorescences ± umbellate, usually with more than 2 flowers; awns plumose on the inner surface, detaching from the apex of the style column (rostrum) and twisting spirally downwards | 2                    |
| 2. | Leaves palmate or palmately lobed; flowers zygomorphic; mericarps not sharply pointed  | <b>1 Pelargonium</b> |
| 2: | Leaves pinnate or pinately lobed; flowers actinomorphic; mericarps sharply pointed   | <b>2 Erodium</b>     |

## 1 PELARGONIUM

*Pelargonium* L'Hér. ex Aiton, *Hortus Kew.* (W.Aiton) 2: 417 (1789).

Annual or perennial herbs, or small shrubs. Leaves opposite or alternate, simple or almost compound, dentate or lobed, often aromatic. Inflorescences terminal cymose umbels, arranged in a spiral sequence, 3–12-flowered (in Tas.). Flowers zygomorphic. Sepals connate near the base, the posterior sepal extended downwards, into a nectariferous spur adnate to the pedicel. Petals free, longer than the sepals, usually convolute, often clawed, the 2 dorsal petals usually larger and often ornamented with darker markings. Stamens 10, often ± connate toward the base, 3–8 functional, the remainder anantherous. Mericarps dehiscent along the ventral suture, without a tuft of funicular hairs; awn ± plumose along the adaxial surface, curving upwards, eventually releasing the seed.

A world-wide genus of about 250 species, widespread in temperate regions, with a major centre of diversity in South Africa; about 12 species in Australia, 7 endemic, 4 naturalized; 3 species native to Tasmania, 3 taxa naturalized including 2 hybrids.

Commonly referred to as 'Geraniums', many species and hybrid forms have long been cultivated and widely used as ornamental plants; some species contain aromatic oils and are important in the perfumery industry.

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|----|---|-------------------------|
| 1. | Leaves deeply ternately dissected or pinnatisect; plants coarsely hirsute to scabrous, strongly fragrant  | <b>6 P. Xasperum</b>    |
| 1: | Leaves shallowly lobed to almost entire (if ever lobed c. ½ way to midrib then lobes rather broad and obtuse); plants villous to pubescent or glabrous, hairs when present, rather soft, scarcely or not fragrant | 2                       |
| 2. | Plants semi-woody, petals 15–20 mm long; lacking extensive roots or rhizomes; plants introduced, odorous  | 3                       |
| 2: | Plants herbaceous; petals < 10 mm long, if petals > 10 mm long then roots tuberous or extensively rhizomatous; native plants ± without odour  | 4                       |
| 3. | Leaf margins bluntly toothed; stems, peduncles and pedicels without glandular hairs   | <b>4 P. capitatum</b>   |
| 3: | Leaf margins acutely glandular-toothed; stems, peduncles and pedicels with minute, scattered glandular hairs  | <b>5 P. Xdomesticum</b> |
| 4. | Fertile stamens 6–8; larger petals 6–12 mm long, much exceeding sepals; sepals villous  | <b>1 P. australe</b>    |
| 4: | Fertile stamens 3–5(–7); larger petals 3–6(–12) mm, about as long as the sepals; sepals with short or long hairs and broad-based appressed hairs  | 5                       |
| 5. | Sepal hairs all short, coarse and scattered; larger petals 3–5(–7) mm long; rootstock slender; annual or short-lived perennial (often spontaneous after fires)  | <b>2 P. inodorum</b>    |
| 5: | Sepal hairs long, soft, spreading, often mixed with shorter hairs; larger petals 5–7(–10) mm long; rootstock stout, ± rhizomatous; plants perennial   | <b>3 P. littorale</b>   |

**1 *Pelargonium australe* Willd., *Sp. Pl.* ed. 5 [Willdenow] 3: 675 (1800)***Southern Storksbill*

*Geranium glomeratum* Andrews, *Geraniums* 2: t. 87 (1805). *Pelargonium acugnaticum* Thouars, *Esquisse Fl. Tristan d'Acugna* 44, t. 13 (1808). *Pelargonium erodioides* Hook., *J. Bot.* (Hooker) 1: 252 (1834); *P. australe* var. *erodioides* (Hook.) Benth., *Fl. Austral.* 1: 299 (1863). *Pelargonium australe* var. *majus* Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1: 57 (1855) [as '*P. australe* var. *major*']. *Pelargonium australe* var. *glabrata* Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1: 57 (1855).

*Illustrations:* Carolin, *Fl. S. Austral.*, [J.H.Black], ed. 4, 2: 722, fig. 390b (1986); Harden, *Fl. New South Wales* 3: 30 (1992); Smith & Walsh, *Fl. Victoria* 4: 240, fig. 45a (1999); Gilfedder *et al.*, *The Nature of the Midlands* 110 (2003); Whiting *et al.*, *Tasmania's Natural Flora* 185 (2004); Simmons *et al.*, *A Guide to Flowers and Plants of Tasmania* ed. 4, 160 (2008); Wapstra *et al.*, *Tasmanian Plant Names Unravelling* 158 (2010).

Perennial herbs; tap root stout, fleshy; stems wiry, c. (5–)10–75 cm high, erect or ascending, with sparse to dense, long or short, soft villous or pubescent hairs and scattered, minute glandular hairs. Leaves opposite; petiole 6–10(–18) cm long, sparsely to densely villous or pubescent; lamina 2–6(–10) cm long and wide, reniform-ovate to orbicular or reniform-cordate, entire or shallowly 3–7 lobed, lobe margins dentate-crenate, adaxial surface pilose to softly velvety or almost glabrous, abaxial surface softly pubescent or with hairs along the veins only, often burgundy-purplish; scarcely aromatic. Umbels 6–12-flowered; peduncle 3–10 cm long; pedicels 3–12 mm long. Sepals usually green, 3–8 mm long, ovate, acute, sparsely to densely villous, sometimes with a few shortly stalked or sessile glands; sepal spur 1–4(–8) mm long. Petals bright pink, the larger 2 with darker purple striations or blotchings, 6–12 mm long, obovate. Fertile stamens 6 or 8. Fruit 6–15 mm long; mericarps pilose to villous. Flowering & fruiting Sep.–Apr.

Tas. (BEL, FLI, KIN, TCH, TNM, TNS, TSE, TSR, TWE); also WA, SA, Qld, NSW, Vic. Widespread and locally common, from coastal rocky slopes to open forests in drier localities, often favouring rocky slabs and crevices; from sea-level to c. 1200 m alt. The species is very variable, ranging from large, robust plants to smaller specimens, possibly due to confined growing habitats and limited soil availability for normal development. It is likely that there is more than one taxon present within this variable complex. Extensive field collections with critical taxonomical research is necessary to clarify the status of these entities. Some forms make very attractive rockery or pot specimens.

**2 *Pelargonium inodorum* Willd., *Enum. Pl.* [Willdenow] 2: 702 (1809)***Annual Storksbill*

*Pelargonium clandestinum* L'Hér. ex Hook.f., *Bot. Antarct. Voy. II. (Fl. Nov.-Zel.)* 1(1): 41 (1852).

*Illustrations:* Harden, *Fl. New South Wales* 3: 30 (1992); Smith & Walsh, *Fl. Victoria* 4: 240, fig. 45d (1999).

Loosely tufted, annual or short-lived perennial herbs, with flowering stems spreading and elongating to 30–45 cm; roots fibrous or thinly fleshy-tuberous; stems with long and short, patent, eglandular hairs. Leaves radical and cauline; radical leaves with petioles 5–10 cm long; cauline leaves with petioles 0.5–5(–10) mm long; lamina ovate to cordate, 1–2.5(–3.5) cm long and as wide, shallowly 3–5(–7) lobed, with scattered, coarse, spreading or sub-erect hairs, margins often ± undulate, crenate; not aromatic. Umbels 3–8-flowered; peduncle 3–8 cm long; pedicels 0.5–5 mm long. Sepals often purplish, 2–3(–5) mm long, broadly ovate, densely to sparsely hairy, particularly nearer the base, or glabrescent, the hairs short, coarse, with broad bases, rarely with scattered, longer hairs, the margins of the 2 smaller sepals hyaline, the 2 larger sepals ciliolate, apex acute-apiculate, sometimes with a few long hairs, but without a distinct tuft of tangled hairs at the tip; sepal spur 0.25–1 mm long. Petals pale to mid pink, the larger 2 with dark purple veins radiating distally from the base, 3–5(–7) mm long, obovate. Fertile stamens 3–5. Fruit 10–15 mm long; mericarps pilose. Flowering & fruiting Sep.–Mar.

Tas. (BEL, FLI, KIN, TCH, TNM, TSE, TSR); also in SA, NSW, Vic., New Zealand. Widespread and locally common in a variety of habitats, including coastal and inland drier heaths, open forests and grassy/stony places; from sea-level to c. 1000 m alt. The species is very often a primary colonizer in disturbed ground, or following a bushfire, germinating amongst swards of Fire Moss, *Funaria hygrometrica* Hedw.

**3 *Pelargonium littorale*** Endl., *Bot. Arch.* (Huegel) t. 5 (1837)*Coast Storksbill*

*Illustrations:* Carolin, *Fl. S. Austral.*, [J.H.Black], ed. 4, 2: 722, fig. 390d (1986); Smith & Walsh, *Fl. Victoria* 4: 240, fig. 45g (1999); Whiting *et al.*, *Tasmania's Natural Flora* 186 (2004).

Loosely tufted, or ± compact perennial herbs, sometimes apparently 'miniaturized' due to harsh growing environment; flowering stems spreading and elongating to 25–30 cm, arising from a slender, fleshy rootstock or thick, stout, perennating taproot; stems with long and short, patent, eglandular hairs. Leaves radical and cauline; radical leaves with petioles 5–10(–15) cm long; cauline leaves with petioles 0.5–5(–10) mm long; lamina ovate to cordate or almost orbicular, 1–2.5(–3.5) cm long and as wide, shallowly 3–5(–7) lobed, with scattered, coarse, spreading or sub-erect hairs, margins often ± undulate, crenate; not aromatic. Umbels 3–8-flowered; peduncle 3–8 cm long; pedicels 0.5–5 mm long. Sepals often purplish, 2–3(–5) mm long, ovate, densely to sparsely pilose-hairy, particularly nearer the base, sometimes ± glabrous towards the apex, the hairs fine, soft, sometimes with scattered shorter, coarser hairs, margins of the 2 smaller sepals hyaline, the 2 larger sepals ciliolate, apex acute-apiculate, sometimes with a few longer hairs, or with a distinct tuft of long, tangled hairs at the tip; sepal spur 1–1.5 mm long. Petals pale flesh pink or dark pink, the larger 2 with dark purple veins radiating distally from the base, 5–7(–12) mm long, obovate. Fertile stamens 3–7. Fruit 10–15 mm long; mericarps pilose. Flowering & fruiting Oct.–Jul.

Tas. FLI, TCH, TSE, TSR, TNS, TWE); also in WA, SA, Vic. Widespread though scattered and occasional, usually in dry situations, in open forests and grassy/stony places; often growing in crevices and small soil pockets on dolerite rock out-crops and slabs. Found from sea-level to c. 650 m alt.

The above description includes a form from the Eastern Tiers. This form is found at sites receiving strong sun-light and warmth, growing in soil deposition depressions and crevices on insolated dolerite rock slabs in dry, open Eucalypt forests. It is characterised by having a thick, almost massive, perennating taproot, with the leaves densely tufted at the apex, due to compression of the internodes. Flowering stems arising from these tufts may elongate up to 30 cm or possibly more. The hairs on the calyx are usually fine and short, rarely with some short and some longer hairs; the distal portion of the sepal is often glabrescent, or with a dense, terminal tuft of long, tangled hairs. The petals large, up to 10(–12) mm long, pale, flesh pink with dark purple lines especially on the 2 larger petals. Further research using fresh, flowering material and close attention to detail of the calyx is needed to determine if some of the forms within this complex require taxonomic recognition. Some forms make extremely attractive rockery or pot specimens.

**4 \* *Pelargonium capitatum*** (L.) L'Hér. ex Aiton, *Hortus Kew.* (W.Aiton) 2: 425 (1789)*Scented Geranium*

*Geranium capitatum* L., *Sp. Pl.* 2: 678 (1753).

*Illustrations:* Harden, *Fl. New South Wales* 3: 31 (1992); Smith & Walsh, *Fl. Victoria* 4: 240, fig. 45f (1999); Richardson *et al.*, *Weeds of The South-East* 291 (2006).

Shrubby perennials to c. 100 cm high; roots fibrous; stems semi-fleshy, softly villous-hairy, without glandular hairs. Leaves opposite or alternate; petioles 2–6 cm long, densely villous; lamina broadly ovate to reniform-cordate, 2–8 cm long and wide, partially to deeply 3–7 lobed, often undulate, margins crenate or obtusely toothed, adaxial surface sparsely villous-hairy or almost glabrous, but usually with hairs along the main veins, abaxial surface more densely hairy, particularly along the veins; somewhat aromatic. Umbels 6–12-flowered; peduncle 3–15 cm long; pedicels 3–7 cm long. Sepals green, 5–8 mm long, elliptic, acute-apiculate, villous; sepal spur 3–5 mm long. Petals pink, the larger 2 with crimson veins or blotches, 10–20 mm long, obovate. Fertile stamens 6 or 7. Fruit formed but probably most sterile c. 20–30 mm long; mericarps villous. Flowering & fruiting Aug.–Jan.

Tas. (FLI, TSE); also naturalized in WA, NSW, Vic.; native to South Africa. An "old-fashioned" and common garden plant. Establishing, probably vegetatively, and locally persisting from garden refuse dumpings, particularly in coastal, sandy localities; from sea-level to c. 250 m alt.

**5 \* Pelargonium Xdomesticum** L.H.Bailey, *Stand. Cycl. Hort.* 2532 (1916)

Garden Geranium

*Illustrations:* Carolin, *Fl. S. Austral.*, ed. 4, 2: 722, fig. 390c (1986); Harden, *Fl. New South Wales* 3: 31 (1992); Richardson *et al.*, *Weeds of The South-East* 291 (2006).

Small, erect shrubs to c. 1 m high; roots fibrous; stems thick, woody but rather soft; branches spreading, sparsely to densely softly villous-hairy and with minute, scattered, short glandular hairs present. Leaves opposite or alternate; petioles 2–5(–10) cm long, ± densely villous; lamina broadly ovate-semicircular to reniform-cordate, 2–6 cm long, 2–10 cm wide, entire or shallowly 3–5 lobed, margins shallowly, acutely glandular-toothed, both surfaces with scattered pilose hairs, particularly along the main veins; mildly odoriferous. Umbels 3–10-flowered; peduncle 2–10 cm long, pedicels 2–5 cm long. Sepals green, 10–20 mm long, narrowly ovate-elliptic, acute-acuminate, densely villous; sepal spur 5–15 mm long. Petals white, pink, magenta or crimson, often streaked or blotched with darker tones, 15–30 mm long, orbicular to reniform. Fertile stamens few. Fruit formed but probably sterile, 25–40 mm long; mericarps densely pubescent. Flowering and fruiting ± all year.

Tas. (FLI, TNS, TSE, TWE); also naturalized in WA, SA, NSW, Vic. Horticultural hybrid; a plant more usually associated with older gardens, and still quite common. Establishing, probably vegetatively, and locally persisting from garden refuse dumpings, particularly near sandy coasts; from sea-level to c. 250 m alt.

**6 \* Pelargonium Xasperum** Ehrh. ex Willd., *Sp. Pl.* ed. 5 [Willdenow] 3: 678 (1800)

Rose-oil Geranium

*Illustrations:* Carolin, *Fl. S. Austral.*, ed. 4, 2: 722, fig. 390a (1986); Harden, *Fl. New South Wales* 3: 31 (1992); Smith & Walsh, *Fl. Victoria* 4: 240, fig. 45h (1999); Richardson *et al.*, *Weeds of The South-East* 291 (2006).

Shrubs to c. 1 m high; roots fleshy; woody but the tissue rather soft and brittle; branches spreading, hirsute, with coarse eglandular hairs and shorter glandular hairs. Leaves opposite or branch-opposed; petioles 1–5 cm long, glandular-hairy; lamina 4–8 cm long and about as wide, broadly ovate to ovoid-cordate, deeply pinnately dissected or ternate-palmate, with 3–7(–9) toothed or lobed segments, margins ± recurved, both surfaces with coarse, scabrid-pubescent, curved antrorse hairs, abaxial surface also with sessile glandular hairs, pleasantly and sometimes strongly aromatic when bruised or crushed. Umbels 5–10-flowered; peduncle 2–6 cm long; pedicels 1–6 mm long. Sepals green, 6–10 mm long, acute or obtuse-apiculate, hirsute; sepal spur 2–4 mm long. Petals pink, the larger 2 blotched or streaked crimson, 10–15 mm long, obovate. Fertile stamens usually < 5. Fruit 15–20 mm long, rarely forming, if so, then probably sterile; mericarps hirsute. Flowering Sep.–Jan.

Tas. (BEL, FLI, KIN, TCH, TNM, TNS, TSE, TSR, TWE); also naturalized in WA, SA, Qld?, NSW, Vic.; native to South Africa. An occasional garden escape, often establishing, probably vegetatively, and persisting locally from garden refuse dumped on roadsides and in waste places. Common in older gardens, and still popular in many, and also as a patio tub-plant particularly many of the colourful forms. The oil extracted from the plant has long been used in the perfumery industry, particularly in the Mediterranean region; from sea-level to c. 50 m alt.

**2 \* ERODIUM**

*Erodium* L'Hér. ex Aiton, *Hortus Kew.* (W.Aiton) 2: 414 (1789).

Annual or short-lived perennial herbs, or small shrubs (not in Australia), erect or ascending; rootstock not tuberous. Leaves opposite or alternate, simple or deeply dissected, pinnate, palmate or pinnatisect. Inflorescences cymose-umbellate, (1–)2–12 flowered. Flowers actinomorphic or slightly zygomorphic. Sepals not spurred. Fertile stamens 5, alternating with 5 smaller, anti-petalous staminodes. Mericarps ± hairy with stiff, antrorse hairs, separating from the stylar column (rostrum), awn spirally twisted towards the base, falcate and not twisted above, stiffly plumose along the adaxial surface, reactive to atmospheric humidity thus working the mericarp into the soil. Seeds retained within the body of the mericarps.

A world-wide genus of c. 90 species found mainly in warm-temperate regions; 9 species in Australia, 3 endemic, 6 naturalized; 4 species naturalized in Tas.

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|----|--|------------------------|
| 1. | Leaves ovate-cordate, entire or ± shallowly 5–7 lobed; stylar column (rostrum) ≤ 3 cm long in fruit  | <b>3 E. malacoides</b> |
| 1: | Leaves distinctly lobed to pinnate; stylar column (rostrum) > 3 cm long in fruit   | 2                      |
| 2. | Leaves lobed to deeply pinnatifid, with wings of connecting tissue along rachis  | <b>1 E. botrys</b>     |
| 2: | Leaves distinctly pinnate, without wings of connecting tissue along rachis   | 3                      |
| 3. | Leaflets deeply pinnately lobed, almost to midrib; filaments of stamens widened at base but not toothed; pits on mericarp at base of awn without glandular hairs | <b>2 E. cicutarium</b> |
| 3: | Leaflets toothed or lobed, usually less than ½ way to the midrib; filaments of stamens toothed at the base; pits on mericarp at base of awn with glandular hairs | <b>4 E. moschatum</b>  |

**1 \* Erodium botrys** (Cav.) Bertol., *Amoen. Ital.* 35 (1819)*Long Heronsbill**Geranium botrys* Cav., *Diss. 4. Quatra Diss. Bott* 218 (1787).

*Illustrations:* Carolin, *Fl. S. Austral.*, ed. 4, 2: 718, fig. 388c (1986); Harden, *Fl. New South Wales* 3: 27 (1992); Smith & Walsh, *Fl. Victoria* 4: 235, fig. 44b (1999); Richardson *et al.*, *Weeds of The South-East* 288 (2006).

Robust annual herbs, ascending to decumbent, 10–50 cm high; stems branched from the base, hispid with long simple and glandular hairs. Leaves petiolate; lamina deeply pinnately lobed, oblong-ovate in outline, 2–6 cm long, 1–4 cm wide, the lobes toothed or further divided. Inflorescence a terminal umbel, 1–4-flowered; peduncles 2–7 cm long; pedicels 10–24 mm long, reflexed in the fruiting stage. Sepals densely hairy with glandular and eglandular hairs, enlarged and persistent in the fruiting stage, 5–8 mm long. Petals lilac-mauve with darker longitudinal veins, slightly longer than the sepals. Filaments of the 5 fertile stamens toothed at the base. Mericarps 8–10 mm long, with 2–3 deep, glabrous furrows on either side at base of awn, the furrows bi-sectioned by an acute, narrowly winged, hyaline fold; awn (7–)8–12 cm long. Flowering & fruiting Sep.-Feb.

Tas. (FLI, TNM, TSE); also naturalized in WA, NT, SA, Qld, NSW, Vic.; native to the Mediterranean region. In Tasmania, an occasional but widespread weed of gardens and cultivated ground, roadsides and waste places from sea-level to c. 250 m alt.

**2 \* Erodium cicutarium** (L.) L'Hér. ex Aiton, *Hortus Kew.* (W.Aiton) 2: 414 (1789)*Common Heronsbill**Geranium cicutarium* L., *Sp. Pl.* 2: 680 (1753).

*Illustrations:* Curtis & Morris, *The Student's Flora of Tasmania* 1, ed. 2: 97, fig. 27b-c (1975); Carolin, *Fl. S. Austral.*, ed. 4, 2: 718, fig. 388e (1986); Harden, *Fl. New South Wales* 3: 29 (1992); Smith & Walsh, *Fl. Victoria* 4: 235, fig. 44c (1999); Richardson *et al.*, *Weeds of The South-East* 289 (2006); Wapstra *et al.*, *Tasmanian Plant Names Unravelled* 157 (2010).

Annual or occasionally perennial herbs, ascending or decumbent, 20–45 cm high, or sometimes remaining as a rosette; stems and petioles with long, eglandular hairs and also some very short glandular hairs. Leaves petiolate; lamina pinnate, ± oblong-ovate in outline, 3–15 cm long, 1–4 cm wide, leaflets bi-pinnatifid, 3–15 mm long, coarsely hirsute nearer the margins. Inflorescence a terminal umbel, 1–2(–9)-flowered; peduncle 2–8 cm long, elongating to c. 10 cm in fruit; pedicels spreading, 4–10(–16) mm long. Sepals hirsute, elliptical, elongating in the fruiting stage, 3–6 mm long. Petals pinkish-mauve, often with darker spots or striations nearer the bases of the two dorsal petals, slightly longer than the sepals. Filaments of the fertile stamens flattened and widened at the base but not toothed. Mericarps 5–7 mm long, with 2 opposite, eglandular pits below the awn; awn 3–5 cm long. Flowering & fruiting Aug.-May.

Tas. (BEL, FLI, KIN, TNM, TSE, TSR,); also naturalized in WA, NT, SA, Qld, NSW, Vic.; native to Europe, the Mediterranean region and western and central Asia. In Tasmania a common and widespread weed of agricultural land, gardens, roadsides and disturbed bushland sites from sea level to c. 400 m alt.

**3 \* *Erodium malacoides* (L.) L'Hér. ex Aiton, *Hortus Kew.* (W.Aiton) 2: 415 (1789) *Oval Heronsbill***

*Geranium malacoides* L., *Sp. Pl.* 2: 680 (1753); *Erodium malacoides* (L.) Willd., *Phytographia* 1: 10 (1794), *nom. illeg.*

*Illustrations:* Carolin, *Fl. S. Austral.*, ed. 4, 2: 718 fig. 388H (1986); Harden, *Fl. New South Wales* 3: 28 (1992); Smith & Walsh, *Fl. Victoria* 4: 235, fig. 44e (1999); Richardson *et al.*, *Weeds of The South-East* 289 (2006).

Annual herbs, branched from the base, stems erect or ascending to 50 cm high, with eglandular and glandular hairs, but tending to be only glandular hairs on the upper stem. Leaves petiolate; lamina ovate, entire to shallowly 5–7 lobed, 1.5–4.5 cm long, 1–4 cm wide, base cordate, both surfaces pilose, margins crenate to dentate, apex rounded. Inflorescence a terminal umbel, 4–7-flowered; peduncle 2–5 cm long; pedicels 5–15 mm long. Sepals enlarged and persistent in the fruiting stage, 3–6 mm long. Petals pink to lilac, slightly longer than the sepals. Filaments of the fertile stamens expanded, not toothed. Mericarps 4–5 mm long, pits on either side, at the base of the awn, prominent, with a narrowly acute lower margin and a distinct furrow below, pits and the furrow with scattered glands; awn 2–4.5 cm long. Flowering & fruiting Oct.–Nov.

Tas. (TNM); also naturalized in SA, NSW Vic.; native to the Mediterranean region and western Asia. In Tasmania known only from 3 early collections from the Cataract Gorge, near Launceston; possibly occurring elsewhere near cultivated ground but overlooked.

**4 \* *Erodium moschatum* (L.) L'Hér. ex Aiton, *Hortus Kew.* (W.Aiton) 2: 414 (1789) *Musky Heronsbill***

*Geranium circularum* var. *moschatum* L., *Sp. Pl.* 2: 680 (1753); *Erodium malacoides* (L.) Willd., *Phytographia* 1: 10 (1794), *nom. illeg.*

*Illustrations:* Curtis & Morris, *The Student's Flora of Tasmania* 1, ed. 2: 97, fig. 27a (1975); Carolin, *Fl. S. Austral.*, ed. 4, 2: 718, fig. 388i (1986); Harden, *Fl. New South Wales* 3: 28 (1992); Smith & Walsh, *Fl. Victoria* 4: 235, fig. 44f (1999); Richardson *et al.*, *Weeds of The South-East* 289 (2006).

Robust, ascending annual or biennial herbs 20–90 cm high, with a musky odour; stems and petioles pilose to hirsute with eglandular and glandular hairs, rather more dense on the upper stems. Leaves petiolate; lamina pinnate, ± oblong in outline, 4–15 cm long, 2–5 cm wide, leaflets sessile, ovate to elliptic, toothed-lobed but seldom more than ½ way to the midrib, pilose with eglandular hairs and sessile glands. Inflorescence a terminal umbel, 1–12-flowered; peduncles 4–10 cm long, and to 15 cm in fruit; pedicels 6–20 mm long. Sepals glandular-pilose, elliptical, enlarged and persistent in the fruiting stage 3–6 mm long, up to 10 mm in fruit. Petals pink, slightly larger than the sepals. Filaments of the fertile stamens toothed at the base. Mericarps 5–6 mm long, pits on either side, at the base of the awn, shallow with a low, acute lower margin and a shallow furrow below; pit and furrow, or only the pit with scattered glands; awn 2.5–4 cm long. Flowering & fruiting Apr.–Feb.

Tas. (BEL, FLI, KIN, TNM, TNS, TSE); also naturalized in WA, SA, Qld, NSW, Vic.; native to Europe and the Mediterranean region. In Tasmania a widespread and common weed in gardens, agricultural land and waste places, particularly on moist, fertile soils; from sea level to c. 200 m alt.

**3 GERANIUM**

*Geranium* L., *Sp. Pl.* 2: 676 (1753).

Annual or perennial herbs, often with a tuberous rootstock and 1 or more thick basal stems. Leaves cauline and opposite, rarely alternate, or leaves in a basal rosette, palmatifid, palmatisect (with primary to tertiary lobing), or pinnately dissected. Flowers bisexual, actinomorphic, solitary or paired, usually pedicillate, or sessile, terminal but apparently axillary due to sympodial branching, with 2 or 4 bracteoles at the base of the pedicels or along the length of the peduncle. Sepals not spurred. Petals free, longer than sepals, alternating with nectariferous glands. Functional stamens 10, or rarely only 5 fertile; filaments broad, free or connate at the base. Mericarps

with awns curving upwards towards the apex and usually remaining attached to the stylar column (rostrum) until the seed is released; awn  $\pm$  glabrous adaxially, hairs often present at the base of the funicle.

A cosmopolitan genus of c. 460 species in cool temperate regions and at high altitudes in tropical areas. In Australia there are c. 10–20 species native and 5–7 naturalized; Tasmania 4 native and 5 naturalized species.

Some species of *Geranium* are extremely difficult to separate and many forms, possibly including new taxa, exist within the species complexes. Major characters separating the forms and species involve details of the indumentum and, to a lesser extent, the mericarps. For accurate assessment of the single or paired flower characteristic, the degree of leaf lamina dissection and indumentum, as much material as practicable should be examined and compared. The genus, throughout Australia, requires critical revision.

*Geranium dissectum* forma *tasmanicum* Gand., based on Tasmanian material (see APNI), can not be applied to a known taxon.

Key reference: Smith & Walsh (1999).

- |    |  |                            |
|----|--|----------------------------|
| 1. | Lamina of lower leaves usually much larger than 12(–25) cm long, deeply palmatisect to almost ternate with 3–5 primary lobes and 2 or more secondary lobes; awns of sepals 3–5 mm long | <b>8 G. yeoi</b>           |
| 1: | Lamina of lower leaves rarely larger than 6(–12) cm long, palmatifid to palmatisect with 3–9 primary lobes and never more than 2 secondary lobes; awns of sepals up to 2.5 mm long     | 2                          |
| 2. | Sepals usually reflexed in ripe fruit; 2 inner sepals broadly obovate; margins broadly hyaline   | <b>9 G. homeanum</b>       |
| 2: | Sepals usually erect in ripe fruit; 2 inner sepals ovate to broad lanceolate; margins not or only narrowly hyaline,  | 3                          |
| 3. | Lamina divided to 2/3 of length or less  | 4                          |
| 3: | Lamina divided to more than 2/3 or more  | 5                          |
| 4. | Ripe mericarps distinctly wrinkled, glabrous; seeds smooth   | <b>2 G. molle</b>          |
| 4: | Ripe mericarps smooth, glabrous or pilose; seeds $\pm$ reticulate  | <b>5 G. rotundifolium</b>  |
| 5. | Annual or rarely biennial; hairs on pedicel and dorsal surface of awn glandular  | <b>1 G. dissectum</b>      |
| 5: | Perennial; hairs on dorsal surface of awn eglandular   | 6                          |
| 6. | Stems very short; leaves rosetted; flowers sessile at anthesis, elongating in fruit; petals narrow, not exceeding sepals   | <b>6 G. brevicaule</b>     |
| 6: | Stems elongated, leafy; leaves not rosetted, or if so only in young plants; flowers pedicellate; petals broad, usually longer than the sepals  | 7                          |
| 7. | Flowers solitary, rarely few paired  | <b>3 G. potentilloides</b> |
| 7: | Flowers paired, rarely few solitary  | 8                          |
| 8. | Indumentum of short, retrorse, appressed hairs   | <b>4 G. retrorsum</b>      |
| 8: | Indumentum consisting of short and long, patent to retrorse, non-appressed hairs   | <b>7 G. solanderi</b>      |

**1 \* *Geranium dissectum* L., Cent. Pl. I: 21 (1755)***Cutleaf Cranesbill*

*Illustrations:* Curtis & Morris, *The Student's Flora of Tasmania* 1, ed. 2: 94, fig. 26c (1975); Carolin, *Fl. S. Austral.*, ed. 4, 2: 720, fig. 389a (1986); Harden, *Fl. New South Wales* 3: 26 (1992); Smith & Walsh, *Fl. Victoria* 4: 226, fig. 41d (1999); Richardson *et al.*, *Weeds of The South-East* 290 (2006); Wapstra *et al.*, *Tasmanian Plant Names Unravelling* 157 (2010).

Erect or decumbent annual herbs with slender taproot; flowering stems spreading and elongating 10–50 cm high; stems with retrorse and patent eglandular hairs. Leaves mostly opposite; stipules ± triangular, deeply bi- or tri-lobed; petioles 3–8(–15) cm long; lamina 2–4(–6) cm long, ± reniform to orbicular, deeply palmatisect, primary lobes 3–5, each deeply 5–7-lobed, ultimate lobes broad, obtuse, or linear and acute in distal leaves, adaxial surface sparsely antrorse-hirsute, particularly along the veins, abaxial surface more densely so. Flowers paired; peduncle 1–2 cm long; pedicels 0.5–1.5 cm long. Sepals 5–10 mm long, broadly-lanceolate to ovate, pilose, with long glandular and eglandular hairs, margins very narrowly hyaline, apical mucro filiform, c. 2 mm long. Petals purplish-magenta, 6–10 mm long, obovate, deeply emarginate. Anthers purplish or yellow, the lines of dehiscence blue-purple. Fruit 12–15(–20) mm long; rostrum with long glandular and short eglandular hairs; mericarps smooth, hirsute-hairy; hairs on dorsal surface of awn glandular; seed strongly rugose, the alveolae distinctly iso-diametric. Flowering & fruiting Oct.–May.

Tas. (BEL, FLI, KIN, TCH, TNM, TNS, TSE, TSR); also naturalized in WA, SA, NSW, Vic., New Zealand; native to Europe. Widespread and locally common in waste places, roadside verges, and neglected gardens; from sea-level to c. 1200 m alt.

**2 \* *Geranium molle* L., Sp. Pl. 2: 682 (1753)***Soft Cranesbill*

*Illustrations:* Curtis & Morris, *The Student's Flora of Tasmania* 1, ed. 2: 94, fig. 26E, (1975); Carolin, *Fl. S. Austral.*, ed. 4, 2: 720, fig. 389b (1986); Harden, *Fl. New South Wales* 3: 24 (1992); Smith & Walsh, *Fl. Victoria* 4: 266, fig. 41c (1999); Richardson *et al.*, *Weeds of The South-East* 290 (2006).

Annual or short-lived perennial herbs with slender taproot; flowering stems, procumbent or ascending, spreading and elongating 10–50 cm high; pubescent with short, spreading glandular and eglandular hairs also with some spreading, longer, shining eglandular hairs. Leaves usually opposite; stipules narrow-ovate, to oblong, lacerate to lacinate; petioles 3–10(–20) cm long; lamina 0.5–3.5 cm long, reniform to orbicular, palmatifid, irregularly 5–9-lobed, lobes broadly 3-fid or obscurely further divided, ultimate lobes truncate to obtuse, both surface sparsely to moderately pilose, particularly along the veins, the hairs spreading, shining. Flowers paired; peduncles 1–5 mm long; pedicels 1–2.5 mm long. Sepals ovate to elliptic, 4–4.5 mm long, with short glandular and longer eglandular hairs, margins narrowly hyaline, apical mucro absent or to c. 0.5 mm long. Petals pinkish-magenta, a little longer than the sepals, deeply emarginate. Anthers pale purple, lines of dehiscence a little darker. Fruit 7–12 mm long; rostrum with long eglandular hairs and minute glandular hairs; mericarps transversely rugose, glabrous; hairs on dorsal surface of awn eglandular; seed mostly smooth. Flowering & fruiting ± all year.

Tas. (BEL, FLI, KIN, TNS, TSE, TSR, TWE); also naturalized in WA, SA, Qld, NSW, Vic., New Zealand; native to Europe. Common to occasional on disturbed ground, in waste places, neglected gardens and urban bushland; from sea-level to c. 1000 m alt. *Geranium molle* var. *aequale* Bab. (= *G. aequale* (Bab.) Aedo; see APC, APNI) has been attributed to Tasmania by Smith and Walsh (1999), but no material attributable to this taxon has been located at the Tasmanian Herbarium. It differs from *G. molle* in having smooth mericarps.

**3 *Geranium potentilloides* L'Hér. ex DC., Prodr. (DC.) 1: 639 (1824), var. *potentilloides* Mountain Cranesbill**

*Geranium microphyllum* Hook.f., *Bot. Antarct. Voy. I. (Fl. Antarct.)* 1(3): 8, t. 5 (1844). *Geranium dissectum* var. *australe* Benth. subvar. *potentilloides* (DC.) Benth., *Fl. Austral.* 1: 296 (1863).

*Illustrations:* Curtis & Morris, *The Student's Flora of Tasmania* 1, ed. 2: 94, fig. 26b (1975); Carolin, *Fl. S. Austral.*, ed. 4, 2: 720, fig. 389c (1986); Harden, *Fl. New South Wales* 3: 24 (1992); Kirkpatrick, *Alpine Tasmania* 87, fig. 38b (1997); Smith & Walsh, *Fl. Victoria* 4: 230, fig. 42c (1999) Gilfedder *et al.*, *The Nature of the Midlands* 110

(2003); Whiting *et al.*, *Tasmania's Natural Flora* 185 (2004); Wapstra *et al.*, *Tasmanian Plant Names Unravelling* 157 (2010).

Prostrate or semi-erect perennial herbs with a single or several stout, thickened taproots; sometimes stoloniferous; flowering stems spreading up to c. 1m; hairs on the stems sparse to dense, short, soft, spreading to recurved and appressed. Leaves opposite; stipules ovate to lanceolate, acuminate or sometimes lacinate, margins sometimes hyaline; petioles 1–5(–15) cm long; lamina 0.5–5 cm long, reniform or orbicular, usually deeply palmatisect with 3–7 fid or sometimes further dissected lobes, each widened at the apex and ± deeply incised, the lobes obtuse, with a small terminal gland, adaxial surface with short, spreading hairs, abaxial surface very sparsely hairy to almost glabrous except for a few short hairs along the veins. Flower solitary; peduncle up to 4.5 cm long; pedicel 1–3.5 cm long. Sepals 3–5 mm long, ovate to oblanceolate, margins hyaline, apical mucro 0.3–1 mm long. Petals white to pale pink, sometimes a little darker, 4–8 mm long, obtuse to retuse. Anthers yellow to orange, lines of dehiscence usually a little darker. Fruit 10–20 mm long; rostrum ± glabrous; mericarps sparsely pubescent to pilose; hairs on dorsal surface of awn eglandular; seed smooth to ± rugose, alveolae elongate to isodiametric. Flowering & fruiting Oct.–May.

Tas. (BEL, FLI, KIN, TCH, TNM, TNS, TSE, TSR, TWE); also SA?, Qld, NSW Vic. Widespread and common, particularly in montane habitats, in rock crevices and damp places; from sea-level to c. 1200 m alt.

**4 *Geranium retrorsum*** L'Hér. ex DC., *Prodr.* (DC.) 1: 644 (1824)

*Grassland Cranesbill*

*Geranium dissectum* var. *retrorsum* (L'Hér. ex DC.) Hook.f, *Bot. Antarct. Voy. II. (Fl. Nov.-Zel.)* 1(1): 39 (1852).

*Illustrations:* Harden, *Fl. New South Wales* 3: 25 (1992); Smith & Walsh, *Fl. Victoria* 4: 226, fig. 41i (1999); Gilfedder *et al.*, *The Nature of the Midlands* 110 (2003).

Erect to decumbent perennial herbs; taproot stout, often napiform; flowering stems spreading to c. 50 cm long; stems with sparse to dense short, retrorse-appressed hairs, some spreading hairs also present. Leaves opposite; stipules narrow-ovate to lanceolate, acuminate, margins sometimes hyaline; petioles 1–5(–10) cm long; lamina 1–4.5 cm long, orbicular-reniform, deeply palmatisect with 3–7 very narrow primary lobes that are often deeply tri-sected or further divided, ultimate lobes with apices obtuse to acute, adaxial surface with very small, sparse, curved to retrorse hairs or glabrescent, abaxial surface with short, curved, appressed hairs, mainly along the veins. Flowers solitary or paired; peduncles 0.5–3(–4.5) cm long; pedicels 0.5–2.5 cm long. Sepals 4.5–6.5 mm long, ovate to narrow-elliptic, pubescent with minute glandular and eglandular hairs, some longer hairs usually present, margins hyaline, apical mucro 0.5–1 mm long. Petals bright pink to purplish, 5–9 mm long, retuse to truncate. Anthers yellow, lines of dehiscence undifferentiated. Fruit 10–15 mm long; rostrum with short, erect hairs; mericarps with very short, recurved hairs, longer towards the awn and few, scattered eglandular long hairs on awn; seed slightly rugose, with small isodiametric alveolae. Flowering & fruiting Sep.–Dec.

Tas. (FLI, TCH, TNM, TSE, TSR,); also WA, SA, NSW, Vic., New Zealand. An uncommon to rare species, known only from a few collections from widely separated low-land areas in the south-east, north-east and Midlands localities within the state. Habitat details are obscure.

**5 \* *Geranium rotundifolium*** L., *Sp. Pl.* 2: 683 (1753)

*Roundleaf Cranesbill*

*Illustrations:* Curtis & Morris, *The Student's Flora of Tasmania* 1, ed. 2: 94, fig. 26d (1975).

Erect or ascending annual herbs with a slender taproot, flowering stems 10–60 cm long; stems moderately to densely pubescent with short glandular hairs and some longer, eglandular hairs. Leaves mostly opposite; stipules ovate-lanceolate; petioles 2–8(–10) mm long; lamina 1.5–3(–5.5) long, reniform to orbicular, shallowly 3–7-lobed, each lobe shallowly incised with 3–5 obtuse teeth or lobes, apices mucronate, both surfaces sparsely pilose with short, appressed-antrorse hairs. Flowers paired; peduncle 0.5–4 cm long, pedicels spreading, 0.5–2.5 cm long. Sepals 4–5 mm long, ovate-oblong, with short, glandular, spreading hairs and long eglandular hairs, apical mucro c. 0.5 mm long. Petals rose-pink, with whitish bases, longer than the sepals, rounded or truncate. Fruit

1–1.5 cm long; rostrum with scattered short, glandular hairs; mericarps with scattered, short hairs; seed strongly rugose, the alveolae deep, isodiametric. Flowering & fruiting Jun.-Dec.

Tas. (FLI, TNM, TSE); native to Europe, south-west and central Asia. An uncommon, species of disturbed areas; from sea-level to c. 50 m alt.

**6 *Geranium brevicaule*** Hook., *J. Bot.* (Hooker) 1: 252 (1834)

*Alpine Cranesbill*

*Geranium sessiliflorum* Cav., *Diss. 4. Quatra Diss. Bott:* 198, t.77, fig.2 (1787), subsp. *brevicaule* (Hook.) Carolin, *Proc. Linn. Soc. New South Wales* 89: 357 (1964)

*Illustrations:* Harden, *Fl. New South Wales* 3: 26 (1992); Kirkpatrick, *Alpine Tasmania* 87, fig. 38e (1997); Smith & Walsh, *Fl. Victoria* 4: 232, fig. 43a (1999); Wapstra *et al.*, *Tasmanian Plant Names Unravelled* 158 (2010).

Perennial herbs with a fleshy or woody taproot, rarely with flowering stems elongating, if so then not exceeding the rosetted leaves; stems when present with short, retrorse, closely appressed hairs and some scattered, longer, spreading hairs. Leaves opposite; stipules broad elliptic to ovate, apex shortly acuminate; peduncles 1–5(–10) cm long; lamina 1–3 cm long, orbicular to reniform, palmatifid to palmatisect with 5–7 broad lobes, that are tri-lobed and often toothed, the apices of the lobes acute, both surfaces with sparse, straight or antrorse, eglandular hairs, particularly nearer the margins and along the veins. Flowers solitary; sessile or with peduncles to 0.5 mm long; pedicels to 1 cm long. Sepals 4–6 mm long, oblanceolate or narrowly-ovate, hirsute, apical mucro 1–1.5 mm long. Petals reddish-crimson, 3–5 mm long, obtuse. Anthers yellow, lines of dehiscence blue. Fruit 10–13 mm long; rostrum sparsely pubescent; mericarps sparsely hairy; hairs on dorsal surface of awns eglandular; seed smooth, alveolae shallow, elongate. Flowering & fruiting Oct.-Feb.

Tas. (BEL, TCH, TNM, TSE, TNS, TSE); also NSW, Vic. Common in montane habitats where often miniaturised due to exposure, but occasionally in lowland situations in shaded areas and damp soils; from sea-level to c. 1300 m alt.

**7 *Geranium solanderi*** Carolin, *Proc. Linn. Soc. New South Wales* 89: 350 (1964)

*Southern Cranesbill*

*Geranium pilosum* G.Forst., *Fl. Ins. Austr.* 91 (1786), *nom. illeg.*; *G. dissectum* var. *pilosum* (G.Forst.) Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1: 57 (1855). *Geranium australe* Nees, *Pl. Preiss.* 1(2): 162 (1845). *nom. illeg.*; *G. dissectum* var. *australe* Benth., *Fl. Austral.* 1: 296 (1863).

*Illustrations:* Curtis & Morris, *The Student's Flora of Tasmania* 1, ed. 2: 94, fig. 26a (1975); Harden, *Fl. New South Wales* 3: 25 (1992); Smith & Walsh, *Fl. Victoria* 4: 226, fig. 41f (1999); Gilfedder *et al.*, *The Nature of the Midlands* 110 (2003).

Decumbent to ascending perennial herbs with spherical to napiform taproot; flowering stems spreading and elongating to 30–60 cm long; stems with short, spreading or recurved but scarcely appressed hairs and long, patent to recurved or crisped hairs. Leaves opposite; stipules triangular to ovate, shortly acuminate to lacinate; petioles 1.5–8(–12) cm long; lamina 2–6 cm long, orbicular to reniform, palmatisect with 5–7 lobes that are deeply 2–3-fid, or sometimes more, ultimate lobes obtuse to sub-acute, adaxial surface glabrescent, or with scattered, curved hairs, abaxial surface with long, patent hairs. Flowers solitary or paired; peduncles 0.5–3 cm long; pedicels 0.5–2.5 cm long. Sepals 4–6 mm long, ovate to narrow elliptic, with minute glandular and eglandular hairs and scattered, longer spreading hairs, margins ± hyaline, apical mucro 0.5–1 mm long. Petals usually bright pink, 5–8 mm long, ± truncate to retuse. Anthers bright yellow with purple lines of dehiscence. Fruit 1–1.5 cm long; rostrum with sparse, short eglandular hairs; mericarps pubescent, the hairs shorter nearer the apex; hairs on dorsal surface of awn eglandular; seed rugose, alveolae large, isodiametric. Flowering & fruiting Oct.-May.

Tas. (BEL, FLI, KIN, TCH, TNM, TNS, TSE, TSR, TWE); also WA, SA, Qls, NSW, Vic., New Zealand. Scattered to locally common in grassy, open places, dry open woodlands and shrubberies; from sea-level to c. 1200 m alt.

**8 \* *Geranium yeoi*** Aedo & Muñoz Garm., *Kew Bull.* 52: 727 (1997) *Madeira Cranesbill, Greater Herb-Robert*

*Illustrations:* Smith & Walsh, *Fl. Victoria* 4: 226, fig. 41b (1999); Richardson *et al.*, *Weeds of The South-East* 291 (2006).

Erect or decumbent biennials, 60–75 cm high, with a slender taproot; stems deep reddish-burgundy, rather fleshy, but becoming hard, glabrescent. Leaves opposite; stipules ovate or broad-lanceolate, ciliolate; petioles 3–15(–25) cm long; lamina (3–15(–25) cm long, ovate to broadly ovate, deeply palmatisect with 4–5 bi-pinnatisect primary lobes, ultimate lobes acutely to bluntly, irregularly toothed, apices distinctly mucronate, adaxial surfaces with scattered, short broad-based eglandular hairs and very short, fine hairs along the veins, abaxial surface with short, scattered hairs, to glabrescent. Flowers paired; peduncles to 6 cm long; pedicels 0.5–2.5 cm long. Sepals 5–8 mm long, with long, dense glandular hairs, apical mucro 3–5 mm long, filiform. Petals magenta to bright pink, 15–20 mm long, obovate. Stamens yellow, lines of dehiscence undifferentiated. Fruit 20–30 mm long; rostrum ± glabrous or the apex finely pubescent; mericarps ± glabrous to pubescent, rugose; awn ± glabrous; seed smooth. Flowering & fruiting Nov.–Jan.

Tas. (TSE); also naturalized in Vic.; native to Madeira. A very infrequent garden escape, or persisting from refuse dumping in disturbed bushland close to suburban areas.

**9 ?\* *Geranium homeanum*** Turcz., *Bull. Soc. Imp. Naturalistes Moscou* 36: 591 (1863) *Rainforest Cranesbill*

*Geranium dissectum* var. *glabratum* Hook.f., *Bot. Antarct. Voy. II. (Fl. Nov.-Zel.)* 1(1): 39 (1852). *Geranium potentilloides* var. *parviflora* Hook.f., *Bot. Antarct. Voy. III. (Fl. Tasman.)* 1: 57 (1855).

*Illustrations:* Harden, *Fl. New South Wales* 3: 25 (1992); Smith & Walsh, *Fl. Victoria* 4: 230, fig. 42b (1999); Richardson *et al.*, *Weeds of The South-East* 288 (2006).

Prostrate or weakly ascending perennial herbs, stems elongating 30–80 cm, with stout, branched taproot; sometimes rhizomatous; stems with recurved to retrorse hairs. Leaves opposite; stipules narrowly-triangular, long-acuminate; petioles 1–6(–10) cm long; lamina 1–4.5 m long, reniform to ± pentagonal, palmate to palmatisect, with 5–7 broad tri-sected lobes, sometimes irregularly toothed, ultimate lobes truncate to obtuse with a short mucro, adaxial surface with sparse, curved hairs, or glabrescent. Flowers solitary or paired; peduncles 1.5–2.5 cm long; pedicels 1.5–2.5 cm long. Sepals 2.5–3.5 mm long, elliptic to obovate, ± glabrescent or with very small appressed, eglandular hairs, sometimes with a few longer hairs, margins, at least of the inner pair, broadly-hyaline, apical mucro 1–1.5 mm long. Petals bright pink, fading to pale at the apex, 3.5–5.5 mm long, obovate, truncate or retuse. Anthers pale creamish, lines of dehiscence purple. Fruit 10–14 mm long; rostrum with short, sparse retrorse hairs; mericarp surface sparsely pubescent, the hairs short, recurved; awn with scattered, eglandular hairs; seed slightly rugose, alveolae small, shallow, elongated. Flowering & fruiting throughout year (other states).

Tas. (FLI, TSE, TSR); also in Qld, NSW, Vic., New Zealand. In Tasmania, known only from a very few dubious collections from last century, all with very vague locality data, as well as two recent collections, one from Maydena in southern Tasmania, and another from Hogans Island in the Furneaux Island group.

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Melianthaceae ..... 1

Musky Heronsbill ..... 7

**O**

Oval Heronsbill ..... 7

**P**

<i>Pelargonium</i> .....	1, 2
<i>Pelargonium acugnaticum</i> .....	3
<i>Pelargonium australe</i> .....	3
<i>Pelargonium australe</i> var. <i>erodioides</i> .....	3
<i>Pelargonium australe</i> var. <i>glabrata</i> .....	3
<i>Pelargonium australe</i> var. <i>majus</i> .....	3
<i>Pelargonium capitatum</i> .....	4
<i>Pelargonium clandestinum</i> .....	3
<i>Pelargonium erodioides</i> .....	3
<i>Pelargonium inodorum</i> .....	3
<i>Pelargonium littorale</i> .....	4
<i>Pelargonium Xasperum</i> .....	5
<i>Pelargonium Xdomesticum</i> .....	5

**R**

Rainforest Cranesbill .....	12
Rose-oil Geranium .....	5
Roundleaf Cranesbill .....	10

**S**

Scented Geranium .....	4
Soft Cranesbill	9
Southern Cranesbill .....	11
Southern Storksbill .....	3

**V**

Vivianiaceae .....	1
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