

# Flora of South Australia

5th Edition



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Government  
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# Flora of South Australia

5th Edition | Edited by Jürgen Kellermann

## PAPAVERACEAE (partly)<sup>1</sup>

Neville G. Walsh<sup>2</sup> (subfam. Fumarioideae) & Jürgen Kellermann<sup>3</sup> (family description)

Herbaceous annuals or perennials, sometimes becoming shrubby as the inflorescence develops; most parts of the plant produce latex and contain alkaloids, leaves entire and often deeply dissected, pinnately or palmately compound, exstipulate. **Inflorescence** cymose or racemose, often a thyrse with leaf-like or membranous bracts; flowers bisexual, sepals 2 or 3, caducous; petals 4 or 6; stamens 4, 6 or numerous; ovary superior, carpels 2 or 3 or numerous (not in S.A.); in FUMARIOIDEAE: flowers either almost regular with petals in 2 whorls of differently shaped petals, stamens 4 (*Hypecoum* only), or flowers zygomorphic with sepals 2, in a lateral position, usually the same colour and texture as the corolla, and petals 4, in two whorls, with the 2 lateral ones being the inner ones, with the large dorsal one pouched or spurred at the base (with nectary scale), stamens 6, joined in an anterior and a posterior bundle, each consisting of 3 stamens, ovary surmounted by a style with a terminal 2- or 3-fid stigma, carpels 2, ovule 1 or more; in PAPAVEROIDEAE: flowers regular, stamens numerous, ovary unilocular with numerous ovules; flowers regular, sepals caducous, stamens 4, ovary unilocular with numerous ovules. **Fruit** a capsule opening by valves or pores; seeds with small embryo, endosperm mealy or oily. **Poppies, fumitories.**

The family is distributed throughout the temperate N hemisphere with some species in E Africa and S America; often grow in open areas or disturbed sites. About 43 genera and 820 spp.; in Australia 10 genera with 25 spp. are introduced.

The 4<sup>th</sup> edition of *Flora of South Australia* recognised three families, Papaveraceae, Fumariaceae and Hypecouaceae, but the latter two have been treated as one family for some time. Recent molecular analyses support a broad view of Papaveraceae (Culham 2007, Stevens 2001–), though some authors recognise the separate families Papaveraceae, Fumariaceae (incl. Hypecouaceae) and Pteridophyllaceae. Here a broad approach is presented, consistent with the Australian Plant Census. The family is divided into 2 subfamilies (Stevens 2001–) and 6 tribes, of which the following are represented in S.A.: subfam. Papaveroideae, tribes Chelidoniae (*Glaucium*), Eschscholtzieae (*Eschscholtzia*) and Papavereae (*Argemone*, *Papaver*, *Roemeria*); subfam. Fumarioideae, tribes Fumariae (*Fumaria*) and Hypecoae (*Hypecoum*, *Platycapnos*). This treatment only includes Fumarioideae, as preparation of the remaining genera is still in progress.

Many species are grown as ornamentals; some species are grown for narcotics and food seeds (*Papaver*). All species in S.A. are weeds in gardens and agricultural areas, spreading into the native vegetation.

References: Culham (2007); Kiger & Ownbey (2007); Walsh & Norton (2007).

- 1. Stamens 4 ..... 2. **Hypecoum**
- 1: Stamens 6 or more
  - 2. Stamens 6; flowers zygomorphic
    - 3. Lobes of compound leaves broader than the rhachis, dorsiventrally flattened; dorsal petal with a pronounced spur (about one-third the length of the petal) ..... 1. **Fumaria**

<sup>1</sup> This work can be cited as: Walsh, N.G. & Kellermann, J. (2013). Papaveraceae (partly) (version 2). In: Kellermann, J. (ed.), *Flora of South Australia* (ed. 5). 8 pp. (State Herbarium of South Australia: Adelaide). [www.flora.sa.gov.au/ed5](http://www.flora.sa.gov.au/ed5)

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- 3: Lobes of compound leaves as thick as or narrower than the rhachis, terete or almost so; dorsal petal without a spur but broadened into a pouch..... 3. **Platycapnos**
- 2: Stamens 12 or more, flowers regular
  - 4. Fruits globose to ellipsoid, rarely more than 3 times longer than broad
    - 5. Sepals 3; petals 6..... **Argemone**
    - 5: Sepals 2; petals 4..... **Papaver**
  - 4: Fruits long and more or less cylindrical, at least 4 times longer than broad
    - 6. Sepals united into a glabrous calyptra; capsule ribbed ..... **Eschscholtzia**
    - 6: Sepals free, hairy; capsule not ribbed
      - 7. Lobes of leaves usually irregularly toothed, at least 4 mm broad; capsule dehiscing by 2 valves..... **Glaucium**
      - 7: Lobes of leaves linear, 1–2 mm broad, capsule dehiscing by 3 valves ..... **Roemeria**

## 1. FUMARIA L.

*Sp. Pl.* 1: 699 (1753).

(Latin *fumus*, smoke; a translation of the Greek name for some of the species, the sap of which causes eye-irritation similar to that caused by smoke.)

Glabrous, herbaceous annuals with erect, semi-erect or weakly climbing stems, inodorous; mature leaves 2–4-pinnatisect; immature leaves simple to ternate. **Inflorescence** a leaf-opposed or terminal elongated raceme; pedicel short, each subtended by a simple bract; flowers zygomorphic; sepals often peltately attached, lateral; petals 4, entire; dorsal petal produced into a rounded spur; inner pair of petals joined at apex; stamens 6; stigma usually 2-lobed. **Fruit** nut-like, indehiscent, 1-seeded, approximately spherical, with 2 apical pits. **Fumitories**.

A genus of c. 50 species, mostly European with a few species extending into S Asia and E Africa; 7 species naturalised in Australia, all of these in S.A. Locally common, sometimes troublesome weeds of cultivated land and wastelands.

Plants grown in shaded sites or flowering late summer or autumn frequently produce small, cleistogamous flowers. The key below allows for identification of such plants. Corolla lengths are measured from the end of the posterior spur of the dorsal petal to the distal tip of the flower.

- 1. Corolla 9 mm long or more
  - 2. Flower predominantly white (rarely flushed pink after fertilisation); sepals 4 mm long or more; fruiting pedicel strongly recurved..... 2. **F. capreolata**
  - 2: Flower predominantly pink from outset; sepals less than 4 mm long; fruiting pedicel erect to slightly recurved
    - 3. Inner petals with pale yellow median streak (becoming more prominent on drying); lower petal more than 0.5 mm wide medially; peduncle and pedicel rather stout; pedicel remaining erect in fruit; fruit rather straight-sided, truncate at base, distinctly tuberculate-rugulose at maturity ..... 1. **F. bastardii**
    - 3: Inner petals not or rarely with median yellow streak; lower petal less than 0.5 mm wide medially; peduncle and pedicel slender; pedicel commonly spreading to slightly recurved in fruit; fruit rounded, smooth to minutely tuberculate..... 5. **F. muralis** subsp. **muralis**
- 1: Corolla less than 9 mm long
  - 4. Sepals less than 1.5 mm (usually less than 1 mm) long; bracts exceeding flowering pedicel
    - 5. Flowers white (sometimes becoming flushed red after fertilisation), rarely distinctly pink and then inner petals without dark purplish apex; largest leaf segments to c. 0.5 mm wide, very rarely more in aberrant plants ..... 7. **F. parviflora**
    - 5: Flowers pink from outset; largest leaf segments more than 0.5 mm wide..... 4. **F. indica**
  - 4: Sepals more than 1.5 mm long; bracts longer or shorter than flowering pedicel
    - 6. Sepals broadly ovate to subrotund, wider than corolla; bracts exceeding flowering pedicel ..... 3. **F. densiflora**

- 6: Sepals ovate, narrower than corolla; bracts shorter than or equal to flowering pedicel
- 7: Inner petals with median yellow streak; pedicel remaining erect in fruit; fruit rather straight-sided, truncate at base, distinctly tuberculate-rugulose ..... 1. **F. bastardii**
- 7: Inner petals not or rarely with median yellow streak; pedicel commonly arcuate and spreading in fruit; fruit rounded, smooth to minutely tuberculate ..... 5. **F. muralis** subsp. **muralis**

1. \***Fumaria bastardii** Boreau in Duch., *Rev. Bot.* 2: 359 (1847). — *F. officinalis* subsp. *wirtgenii* auct. non (W.D.J.Koch) Arcang.: Toelken in Jessop & Toelken, *Fl. S. Austral.* 1: 371 (1986), partly. — **Illustr.:** S.Ross-Craig, *Drawings Brit. Pl.* 2: t. 16 (1948); M.Lidén, *Opera Bot.* 88: 71, fig. 60 (1986).

Weakly erect or scrambling herb, to c. 1 m high; largest ultimate segments of leaves to 5 mm × 2 mm, rarely more. **Raceme** usually much longer than the relatively stout peduncle; bracts 1/3–3/4 as long as pedicel; pedicel rather thick, straight, remaining suberect; sepals peltately attached, ovate, 2–3 × 1–2 mm, dentate, narrower than corolla; corolla (7–) 9–12 mm long, pink; inner petals dark purplish at the apex with a yellowish central stripe; upper petal concolorous or rarely purplish at apex; lower petal linear or narrowly spatulate, commonly recurved, more than 0.5 mm wide medially. **Fruit** 2–2.25 mm long and wide, rather straight-sided, keeled toward base, truncate at base, rounded at apex, rugulose-tuberculate when dry, with prominent apical pits. **Bastards fumitory. Fig. 1D–E.**

S.A.: \*EP, \*NL, \*MU, \*YP, \*SL, \*KI; \*W.A.; \*Qld; \*N.S.W.; \*Vic.; \*Tas. Native to the Mediterranean and W Europe. Mostly a weed of disturbed sites, roadsides etc., but occasionally in intact native vegetation (mallee, dune scrub, open forest etc.). Flowers: Mostly Aug.–Nov.

Flowers of shade forms are often pale and may not exceed 7 mm in length, but the squarish, tuberculate fruits remain characteristic.

2. \***Fumaria capreolata** L., *Sp. Pl.* 1: 701 (1753) — **Illustr.:** *Pl. W. N.S.W.* 315; M.Lidén, *Opera Bot.* 88: 68, fig. 58A–H (1986).

Erect, trailing or weakly climbing, often glaucous herb to c. 1 m high; largest ultimate segments of leaves often more than 5 × 2 mm. **Raceme** shorter than or subequal to the peduncle; bracts half as long to as long as pedicel which is strongly recurved in late flower and fruit; sepals peltately attached, ovate, 4–6 × 2.5–4 mm, about as wide as corolla, obscurely to distinctly dentate; corolla 10–14 mm long, white or flushed pinkish, with the upper and inner petals blackish red at the apex. **Fruit** 2–2.5 mm long and wide, rounded at base, obscurely keeled, obtuse to truncate at apex, smooth, or slightly tuberculate toward the keel, with small, rounded apical pits. **White fumitory, ramping fumitory. Fig. 1A–C, Pl. 1A–D.**

S.A.: \*FR, \*EP, \*NL, \*MU, \*YP, \*SL, \*KI, \*SE; \*W.A.; \*Qld; \*N.S.W.; \*Vic. Native to N Africa, S Europe, W Asia. Scattered but locally abundant in southern parts from Saint Francis Is east to the Vic. border, particularly in dry and/or rocky areas but also on coasts, riverbanks and disturbed sites generally. Flowers: Sep.–Nov.

3. \***Fumaria densiflora** DC., *Cat. Pl. Horti Monsp.* 113 (1813). — *F. micrantha* Lag., *Gen. Sp. Pl.* 21 (1816). — **Illustr.:** *Pl. W. N.S.W.* 315 (1981); M.Lidén, *Opera Bot.* 88: 84, fig. 72D–G (1986).

Erect or slightly spreading herb to c. 40 cm high; largest ultimate segments of leaves to c. 4 × 1 mm. **Raceme** sessile to subsessile; peduncle and axis rather stout; bracts longer than flowering pedicel; pedicel thickened at apex, remaining suberect in fruit; sepals peltately attached, orbicular to broadly ovate, to 3 mm long and wide, wider than corolla, dentate, at least near base; corolla with broad rounded spur, 5.5–7 mm long, usually deep pink, darker at apex; inner petals with a median yellow streak. **Fruit** 2–2.3 mm long and wide, rounded at base and apex, sometimes minutely apiculate, finely tuberculate, with small but distinct apical pits. **Dense-flowered fumitory. Fig. 1P–Q.**

S.A.: \*FR, \*EP, \*NL, \*MU, \*YP, \*SL; \*Qld; \*N.S.W.; \*Vic.; \*Tas. Native to N Africa, central and S Europe and W Asia. Commonly a weed of cereal crops, but also in disturbed sites, paddocks, and occasionally bushland, particularly rocky creeklines. Mostly near-coastal between Port Lincoln and Adelaide, but inland occurrences in Gawler Ranges and northern Flinders Ranges. Flowers: Mainly Aug.–Oct.

4. \***Fumaria indica** (Hausskn.) Pugsley, *J. Linn. Soc., Bot.* 44: 313 (1919). — *F. vaillantii* var. *indica* Hausskn., *Flora* 56: 443 (1873). — **Illustr.:** M.Lidén, *Opera Bot.* 88: 89, fig. 79A (1986).

Prostrate to suberect herb, to c. 50 cm high; largest ultimate segments of leaves to c. 10 × 1.5 mm. **Raceme** subsessile or shortly pedunculate; bracts subequal to or longer than flowering pedicel; pedicel much thickened in fruit, remaining suberect; sepals attached virtually at base, triangular to almost linear, 0.5–1.5 mm long, dentate to lacinate, narrower than corolla; corolla 5–6 mm long, pale to rosy pink; inner petals deep reddish purple at apex, without apparent yellow median streak. **Fruit** 2–2.3 mm long, usually slightly wider than long, squarish near base, rather straight-sided, truncate or slightly retuse at apex, tuberculate, with small but distinct apical pits. **Indian fumitory. Fig. 1J–L.**

S.A.: \*FR, \*EA, \*SL; \*N.T.; \*Qld; \*N.S.W.; \*Vic. Native to central and SW Asia. Collected from Leigh Creek and Aroona Dam in N Flinders Ranges, and from a market garden in Athelstone. Generally an uncommon weed in Australia, mainly from irrigated, inland areas. Flowers: Aug.–Oct.

Very close to *F. parviflora* (particularly var. *indicoides*), distinguished by the longer, wider leaf segments and larger fruits that are truncate or slightly retuse.

5. \***Fumaria muralis** Sond. ex W.D.J.Koch subsp. **muralis**, *Syn. Fl. Germ. Helv.* ed. 2, 1017 (1845) — *F. officinalis* subsp. *wirtgenii* auct. non (W.D.J.Koch) Arcang.: Toelken in Jessop & Toelken, *Fl. S. Austral.* 1: 371 (1986), partly; *F. vaillantii* auct. non Loisel.: Toelken in Jessop & Toelken, *Fl. S. Austral.* 1: 372 (1986); *F. muralis* subsp. *boraei* auct. non (Jord.) Pugsley: Toelken in Jessop & Toelken, *Fl. S. Austral.* 1: 371 (1986). — **Illustr.:** *Fl. Austral. Cap. Terr.* 183, fig. 170A (1970); *Pl. W. N.S.W.* 315 (1981).

Weakly erect, sprawling or climbing herb to c. 1.5 m high; largest ultimate segments of leaves to 5 mm × 3 mm, rarely more. **Raceme** subequal to the slender peduncle; peduncle slender; bracts usually half to three-quarters as long as pedicel; pedicel slender, spreading to slightly recurved in fruit; sepals peltately attached, ovate, 2.5–4 mm long, dentate, narrower than corolla; corolla (6–) 9–11 mm long, pink, with upper and inner petals blackish at the apex, the inner petals rarely with faint median yellow streak; lower petal less than 0.5 mm wide medially, linear to narrowly spatulate. **Fruit** 2–2.25 mm long, usually slightly longer than wide, tapered near base, slightly keeled, obtuse to broadly acute at apex, smooth to minutely rugulose-tuberculate towards keel, with shallow apical pits. **Wall fumitory. Fig. 1F–G, Pl. 1E–G.**

S.A.: \*FR, \*EP, \*MU, \*YP, \*SL, \*KI, \*SE; \*W.A.; \*Qld; \*N.S.W.; \*Tas. Native to W Europe, widely naturalised in temperate countries. From the tip of Eyre Peninsula to the Vic. border, mostly near-coastal, but as far inland as Leigh Creek. Common weed of gardens, cultivated land and disturbed sites. Flowers: Mainly Aug.–Nov.

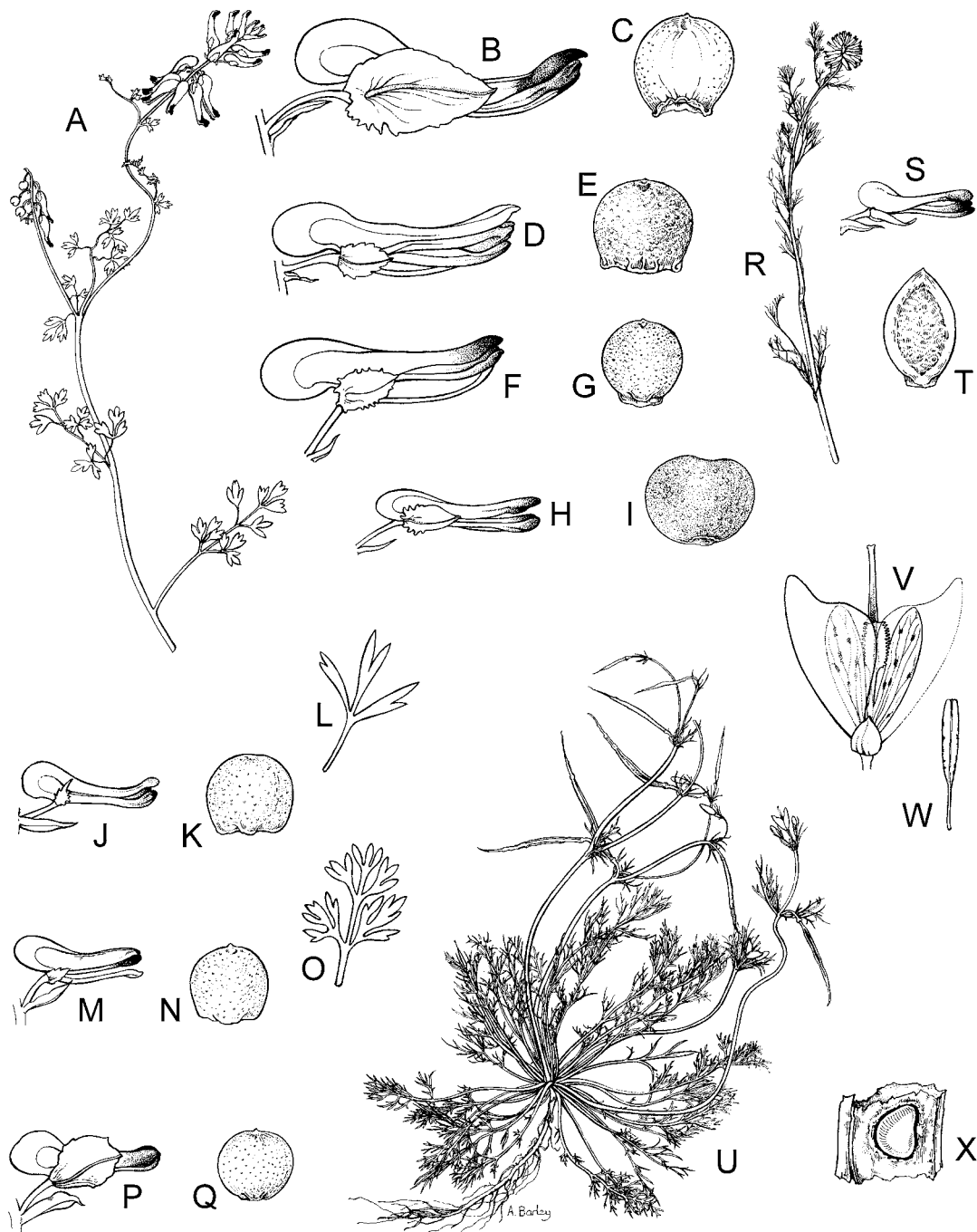
Shade, or late-season plants with small, pale, cleistogamous flowers 6–8 mm long, are common and have sometimes been referred to subsp. *boraei* (Jord.) Pugsley but this differs from the typical subspecies in having longer flowers (11–12 mm) with larger sepals (4–5 mm long), and slightly larger fruit. Although there is considerable variation in flower size in Australia, no specimens reliably referable to subsp. *boraei* have been detected.

6. \***Fumaria officinalis** L. subsp. **officinalis.**, *Sp. Pl.* 1: 700 (1753) — *Fumaria officinalis* subsp. *wirtgenii* auct. non (W.D.J.Koch) Arcang.: Toelken in Jessop & Toelken, *Fl. S. Austral.* 1: 371 (1986), partly. — **Illustr.:** S.Ross-Craig, *Drawings Brit. Pl.* 2: t. 20 (1948); M.Lidén, *Opera Bot.* 88: 82, fig. 70B, E–H, 83, 71C (1986).

Suberect to spreading herb to c. 50 cm high; largest ultimate segments of leaves to c. 5 × 1.5 mm. **Raceme** much longer than peduncle, often subsessile; bracts half to as long as the thickish pedicel; pedicel remaining suberect in fruit; sepals peltately attached, ovate, 2–3.5 mm long, usually deeply toothed, rarely subentire, slightly narrower than corolla; corolla 6.5–8.5 mm long, pink, blackish purple at apex; upper and lower petals spatulate; inner petals with a median yellow streak. **Fruit** slightly to distinctly wider than long, c. 2 × 2–2.5 mm, rounded at base, truncate to shallowly emarginate at apex, rugulose-tuberculate, with shallow apical pits. **Common fumitory. Fig. 1H–I.**

S.A.: \*EP, \*NL, \*MU, \*SL; \*Qld; \*N.S.W.; \*Vic.; \*Tas. Native through much of Europe, N America and W Asia. Uncommon in S.A., collected from E Eyre Peninsula and scattered sites between Burra and Murray Bridge, mainly as a weed of cereals and vegetables, and probably a transitory introduction as a seed contaminant. Flowers: Mainly Jul.–Nov.

There are several records of *F. officinalis* subsp. *wirtgenii* (W.D.J.Koch) Arcang. from S.A. and other Australian states, but most are misdeterminations of small-flowered forms of *F. muralis* or *F. bastardii*. Genuine subsp. *wirtgenii* is



**Fig. 1. A–Q. *Fumaria*.** A–C. *F. capreolata*: A, habit; B, flower; C, fruit. D–E. *F. bastardii*: D, flower; E, fruit. F–G. *F. muralis* subsp. *muralis*: F, flower; G, fruit. H–I. *F. officinalis* subsp. *officinalis*: H, flower; I, fruit. J–L. *F. indica*: J, flower; K, fruit; L, leaf. M–O. *F. parviflora* var. *parviflora*: M, flower; N, fruit; O, leaf. P–Q. *F. densiflora*: P, flower; Q, fruit. R–T. *Platycapnos spicatus*: R, habit; S, flower; T, fruit. U–X. *Hypecoum pendulum*: U, habit; V, flower; W, stamen; X, article of fruit. Illustration by A. Barley, from *Flora of Australia* 2: 404, Fig. 76 (2007), reproduced with permission from ABRIS.

known in Australia from a single gathering from near Wagga Wagga, N.S.W. It differs from the typical subspecies in being a distinctly glaucous plant with slightly larger sepals and fruit, the latter with a persistent apical point.

7. \**Fumaria parviflora* Lam., *Encycl.* 2: 567 (1788)

Erect or weakly climbing, green to glaucous herb to c. 1 m high; largest ultimate segments of leaves to c. 2 mm × 0.5 mm (rarely more), often subterete. **Raceme** exceeding peduncle, sometimes sessile; bracts longer than flowering pedicel; pedicel thickening in fruit, remaining suberect; sepals attached basally, oblong or ± triangular, 0.5–1 mm long, often deeply incised; corolla with short, broad spur, 4.5–6 mm long, mostly white, sometimes flushed pink after fertilisation, rarely pink from outset; inner petals lacking a distinct yellow median streak. **Fruit** c. 2 mm long and wide, sometimes squarish near base, distinctly keeled, blunt to acute at apex, tuberculate, with very shallow apical pits. **Small-flower(ed) fumitory.**

1. Foliage and stems green to glaucous; occasionally ultimate leaf segments broader than 0.5 mm; corolla white or flushed pink after fertilisation; inner petals with blackish tips; fruit suborbicular to acuminate, often with a persistent apical point..... 7b. **F. parviflora** var. **parviflora**
- 1: Foliage and stems distinctly glaucous; ultimate leaf segments never more than 0.5 mm wide; corolla pink, the inner petals lacking contrasting blackish tips; fruit suborbicular, lacking a persistent apical point..... 7a. **F. parviflora** var. **indicoides**

7a. \***Fumaria parviflora** var. **indicoides** Pugsley, *J. Linn. Soc., Bot.* 44: 325 (1919). — **Illustr.:** M.Lidén, *Opera Bot.* 88: 89, fig. 79G (1986).

Foliage and stems distinctly glaucous; ultimate leaf segments never more than 0.5 mm wide. **Corolla** pink, the inner petals lacking contrasting blackish tips; upper petal with emarginate wings. **Fruit** suborbicular, lacking a persistent apical point.

S.A.: \*NL. Native to W Asia. A specimen growing as a weed in a canola crop near Owen represents the only known occurrence of this taxon in Australia (*G.Norton s.n.*, 9 Oct. 2000, MEL). Flowers: Jul.

7b. \***Fumaria parviflora** var. **parviflora** — **Illustr.:** S.Ross-Craig, *Drawings Brit. Pl.* 2: t. 22 (1948); M.Lidén, *Opera Bot.* 88: 89, fig. 79A (1986).

Foliage and stems green to glaucous; occasional ultimate leaf segments broader than 0.5 mm. **Corolla** white, sometimes flushed pink after fertilisation; inner petals with blackish tips; upper petal with narrow and entire, to wide emarginate wings. **Fruit** suborbicular to acuminate, often with a persistent apical point. **Fig. 1M–O.**

S.A.: \*FR, \*NL, \*YP, \*SL, \*MU, \*KI, \*SE; \*W.A.; \*Qld; \*N.S.W.; \*Vic.; \*Tas. Native to N Africa, central and S Europe and W Asia. Fairly common, particularly in cereal crops, from near Port Augusta to Murray Bridge and within c. 150 km from the coast; rare in far SE. The occurrence in some regions needs to be confirmed. Often occurring with *F. densiflora*. Flowers: Mainly Aug.–Oct.

Some plants retain broad, flat leaf segments, typical of juvenile plants, to maturity.

## 2. HYPECOUM L.

*Sp. Pl.* 1: 124 (1753).

(Greek name for these plants.)

Annual, semi-succulent herbs, usually glabrous; stems procumbent to erect, branching from base; leaves 2 (not in S.A.) or 3-pinnatisect. **Inflorescence** cymose with leaf-like bracts exceeding the pedicels; flowers zygomorphic, usually yellow; sepals free, basally attached; outer pair of petals entire or 3-lobed; inner pair smaller, usually deeply 3-lobed with the mid-lobe spatulate and often fringed; stamens 4, usually with winged filaments; ovules numerous; style with 2 stigmas. **Fruit** narrow, linear, breaking transversely into 1-seeded segments, or indehiscent, or rarely an elongate capsule dehiscent by 2 valves; seeds ovoid, octahedral or D-shaped, more or less tuberculate.

About 15 species, mainly in the Mediterranean regions and W Asia, a few extending to NE Asia (Mongolia, N China). One species in Australia.

Reference: Aston (1976), Cullen (1966).

1. \***Hypecoum pendulum** L., *Sp. Pl.* 124 (1753). — *H. trilobum* Trautv., *Trudy Imp. S.-Petersburgsk. Bot. Sada* 9: 366 (1884). — **Illustr.:** H.I.Aston, *Muelleria* 3: 181, fig. 1 (1976); *Fl. Austral.* 2: 404, fig. 76U–X (2007).

Strongly curry-scented annual to 40 cm high; leaves basal and subtending branches, 3-pinnatisect, to 15 × 2.5 cm; ultimate segments narrow-linear. **Inflorescence** a few-flowered dichasium; flowers solitary at each node and subtended by leaf-like bracts; pedicel erect, slender in flower, becoming thickened and strongly recurved in fruit; sepals ovate, 2–2.5 mm long; outer petals rhombic or obscurely trilobed, 6–11 mm long, pale yellow; inner petals deeply trilobed, 5–8 mm long, yellow, flecked purplish brown, with the mid-lobe fringed on the dilated apical part; stamens with winged filaments, brown-spotted; style subequal to inner petals. **Fruit** 4-angled, linear to slightly arcuate, 4–6 cm × 2–5 mm, c. 9-seeded, eventually breaking into 1-seeded articles; seeds D-shaped, flattened, c. 2.5 × 2 mm, brown, minutely areolate. **Fig. 1U–X.**

S.A.: \*NL, \*YP; \*Vic. From Port Pirie area (Apilla) to Adelaide Hills. A weed of agricultural land (9 records only).  
Flowers: Sep.–Oct.

Cullen (1966) recognises 3 varieties, but the differences between them appear to be somewhat arbitrary.

### 3. PLATYCAPNOS (DC.) Bernh.

*Linnaea* 8: 471 (1833).

(Greek *platys*, flat; *kapnos*, smoke, another name for *Fumaria*; i.e. differing from *Fumaria* by the flat fruit.)

*Fumaria* sect. *Platycapnos* DC., *Syst. Nat.* 2: 131 (1821).

Erect to ascending annual or perennial herbs, glabrous, inodorous; leaves 2-pinnatisect; leaflets filiform. **Inflorescence** racemose, globular or elongate (not in Australia), many-flowered; bracts equal to or exceeding the pedicel which is reflexed in fruit; flowers zygomorphic; sepals free, basally attached; petals 4, entire; upper petal with a short, inflated spur; inner pair of petals united along the lower margin; stamens 6; style dilated into 2 lobes below the paired stigmatic arms. **Fruit** nut-like, indehiscent, 1-seeded, flattened.

A genus of 2 or 3 species from N Africa, SW Europe and W Asia; one species recorded as naturalised in Australia but possibly no longer persisting here.

1. \***Platycapnos spicatus** (L.) Bernh., *Linnaea* 8: 471 (1833) — *Fumaria spicata* L., *Sp. Pl.* 700 (1753) — **Illustr.:** M.Lidén, *Opera Bot.* 88: 40, fig. 34C, D (1986); *Fl. Austral.* 2: 404, fig. 76R–T (2007).

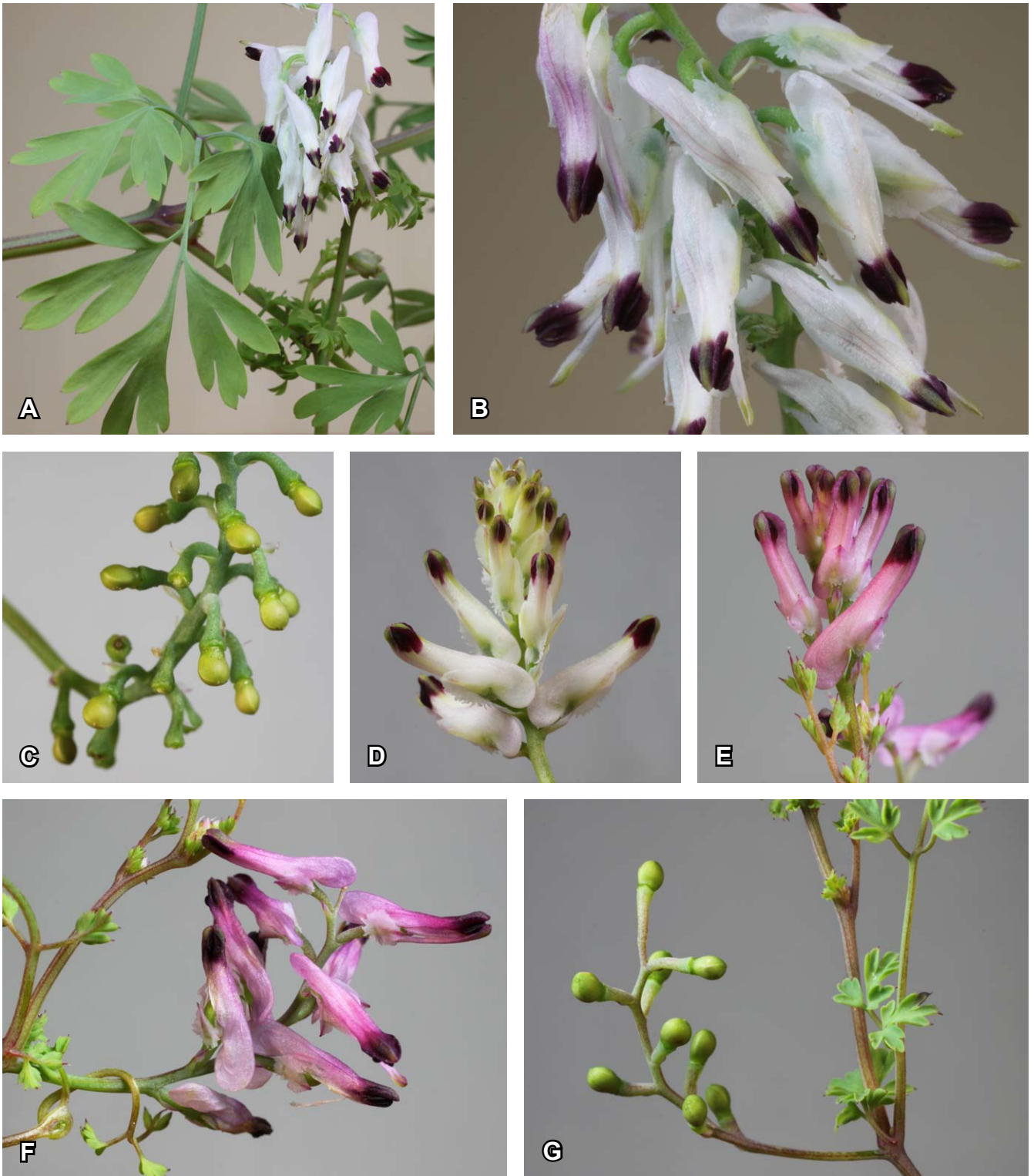
Slender glaucous annual to c. 25 cm high, several-branched from base; leaflets to 5 mm long, apiculate. **Racemes** globular to ovoid, c. 5–20 mm long, very dense, to 60-flowered; sepals oblong, to 2 mm long; corolla 5–6 mm long, white or pink, prominently veined green, dark at the apex, reddening after fertilisation. **Fruit** ovate, c. 3 mm long, acute, muricate. **Fig. 1R–T.**

S.A.: NL. Known only by collections from Snowtown (1937) and Balaklava area (1937, 1941), one from a railway yard but the situation of the others not recorded. Apparently not persisting at any of these sites, and perhaps no longer in Australia. Flowers: Sep.–Oct.

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Pl. 1. A–D. *Fumaria capreolata*: A, foliage and inflorescence; B, flowers; C, developing fruit showing recurved pedicels; D, raceme in bud. E–G. *F. muralis* subsp. *muralis*: E, raceme in bud; F, flowers; G, developing fruit. Photos: P.J. Lang.