

Flora of South Australia

5th Edition



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Government
of South Australia



Flora of South Australia

5th Edition | Edited by Jürgen Kellermann

CUCURBITACEAE¹

I.R.H. Telford²

Annual or perennial herbs, stems usually trailing or climbing by tendrils which are stipular in position (tendrils absent in *Echallium*); leaves alternate, usually simple, lobed. **Inflorescence** axillary racemes, fascicles or solitary flowers; flowers usually unisexual; perianth lobes inserted on a cup-shaped, obconic or campanulate hypanthium; calyx lobes 5; corolla of 5 free or united petals, usually yellow; male flowers with stamens 5, free (not in S.A.) in subfamily Zanoioideae, usually united into 3 in subfamily Cucurbitoideae; when united into 3 anthers 2 2-locular, and 1 1-locular; locules straight, curved or flexuose female flowers with ovary inferior, 1–3-celled; placentation usually parietal; ovules 1 to many; staminodes sometimes present. **Fruit** usually a fleshy berry or pepo, usually indehiscent (rupturing irregularly in *Momordica*; active discharge in *Echallium*) rarely (not in S.A.) a capsule; seeds usually large, endosperm absent.

About 120 genera and over 800 species. In Australia 16 genera and 44 species of which 13 genera and 35 species are native (Telford 1982). In S.A., 5 genera, of which 2 are native, 8 species, of which 3 are native.

The cultivated genus *Cucurbita* L., which includes pumpkins, zucchini and squash, may occur sporadically around rubbish tips or in garden waste, but is not regarded as fully naturalised.

Reference: Ghebretinsae *et al.* (2007), Renner *et al.* (2007), Schaeffer *et al.* (2008), Sebastian *et al.* (2010), Telford (1982), Telford *et al.* (2011).

1. Tendrils absent; male flowers in racemes; fruit actively discharging seeds when ripe 4. **Echallium**
- 1: Tendrils present; male flowers solitary or in fascicles; fruit not actively discharging seeds
 2. Male flowers subtended by a petaloid bract; seeds with ornamented margins 5. **Momordica**
 - 2: Male flowers not subtended by a petaloid bract; seed margins smooth
 3. Fruit more than 5 cm diam.
 4. Flowers more than 5 cm diam. **Cucurbita**
 - 4: Flowers less than 5 cm diam. 2. **Citrullus**
 - 3: Fruit less than 5 cm diam.
 5. Stamens with apical appendages (sometimes minute) 3. **Cucumis**
 - 5: Stamens lacking apical appendages 1. **Austrobryonia**

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1. AUSTROBRYONIA H.Schaefer

Syst. Bot. 33: 126 (2008).

(From the Latin, *austr-*, southern, and *Bryonia*, the sister genus in the Mediterranean and Eurasia.)

Trailing or climbing annual herbs or perennial rootstocks producing annual herbaceous stems; stems scabrid; tendrils simple; leaves simple, broadly ovate to lanceolate in outline, cordate, dentate to palmately 3–5-lobed. **Inflorescence** of axillary fascicles or flowers solitary (not in S.A.); male flowers with hypanthium campanulate; calyx 5-lobed, lobes ovate to lanceolate; corolla 5-lobed, lobes ovate, yellow; stamens 3, inserted about the middle of the hypanthium; anthers dorsifixed, 2 2-locular, 1 1-locular, locules straight or slightly curved; connective appendages absent; disk gland-like; female flowers in axillary fascicles or solitary, sometimes co-axillary with males; perianth similar to males; staminodes 3, minute, or absent; ovary globose to ellipsoidal; ovules few to many, horizontal; style short; disk annular or (not in S.A.) absent; stigma 3-lobed. **Fruit** fleshy, indehiscent, globose or ellipsoidal (berry); seeds many, ovate, compressed, margin thickened or narrow, smooth, pale.

4 species endemic to Australia; 1 in S.A.

Analysis using DNA sequence data corroborated evidence from pollen morphological studies that indicated four species previously included in *Mukia* or *Zehneria* should be transferred to a new genus (Schaeffer *et al.* 2008), sister to *Bryonia* and *Ecballium* in tribe Bryonieae.

Treated by Black (1929, 1957) under *Melothria*, Telford & Marsden (1981) under *Mukia*, Telford (1982) under *Mukia*, Harden (1990) under *Zehneria*.

1. **Austrobryonia micrantha** (F.Muell.) I.Telford, *Syst. Bot.* 33: 126 (2008). — *Cucurbita micrantha* F.Muell., *Trans. Philos. Soc. Vic.* 1: 17 (1854); *Zehneria micrantha* (F.Muell.) F.Muell., *Fragm.* 1: 182 (1859); *Mukia micrantha* (F.Muell.) F.Muell., *Fragm.* 2: 180, 193 (1861). *Melothria micrantha* (F.Muell.) F.Muell. ex Cogn. in A. & C.DC., *Monogr. Phan.* 3: 603 (1881); *Cucumis muelleri* Naudin, *Ann. Sci. Nat. sér.* 4, 11: 22 (1859); *Melothria muelleri* (Naudin) Benth., *Fl. Austral.* 3: 320 (1867). — **Illustr.:** *Fl. Austral.* 8: 185, fig. 40H–K (1982); *Fl. Centr. Austral.* 231, fig. 270C–E (1981); all as *Mukia micrantha*.

Stems to several metres, annual from a perennial rootstock, hispid; leaves with petioles 1–3 cm long; lamina broadly ovate to suborbicular in outline, 1.5–6 × 1–4.5 cm, crenate to 3–7-lobed, lobes obtuse, dentate, hispid on both surfaces, sparsely so above. **Inflorescence** fasciculate; male flowers in 2–5-flowered fascicles; pedicels 3–5 mm long; hypanthium broadly campanulate, 1–1.5 mm long, hispid; calyx lobes ovate, 2–3 mm long; c. 1 mm long; corolla lobes ovate, 2–3 mm long, ciliate with glandular hairs, greenish-yellow; anther-lobules slightly curved, c. 0.8 mm long; connective appendages absent; disk minute; female flowers in 2–5-flowered fascicles, usually coaxillary with males; pedicels 3–8 mm long; staminodes minute or absent; ovary subglobose to ellipsoidal, 2–4 mm diam., sparsely hispid or glabrous; style inserted in a thick disk. **Fruit** ellipsoidal, 10–14 × 7–13 mm diam., glabrescent, greenish-yellow, on pedicels elongating to 18 mm long; seeds many, ovate, 4–6 mm long, compressed, smooth, pale-buff. **Desert cucumber, mallee cucumber. Fig. 2L–M, Pl. 1A–E.**

S.A.: GT, LE, MU; N.T.; Qld; N.S.W.; Vic. Grows on alluvial flood plains. Flowers: summer.

2. CITRULLUS Schrader

in Eckl. & Zeyh., *Enum. Pl. Afr. Austral.* 279 (1836).

(From Latin *citrus*, orange; alluding to the orange-like fruit.)

Trailing or climbing annual herbs or with perennial rootstocks producing annual stems; stems variously hairy; tendrils simple or 2–4-branched; leaves ovate in outline, deeply palmately to pinnately 3–5-lobed, mostly scabrid. **Inflorescence** of axillary, solitary flowers; male flowers with peduncle subtended by a bract; hypanthium campanulate; calyx 5-lobed, lobes lanceolate; corolla deeply 5-lobed, lobes ovate, yellow; stamens 3, inserted at the base of the hypanthium; anthers basifixed, 2 2-locular, 1 1-locular, locules flexuose; disk absent; female flowers with perianth similar to males; ovary subglobose to ellipsoid, pilose; ovules many, horizontal; stigma 3-lobed; staminodes 3; disk absent. **Fruit** large, fleshy, firm-skinned, indehiscent, subglobose to ellipsoid (pepo); seeds many, ovate, compressed, more or less smooth.

3 species native to Africa and Asia; 2 species widely naturalised in Australia, both in S.A.

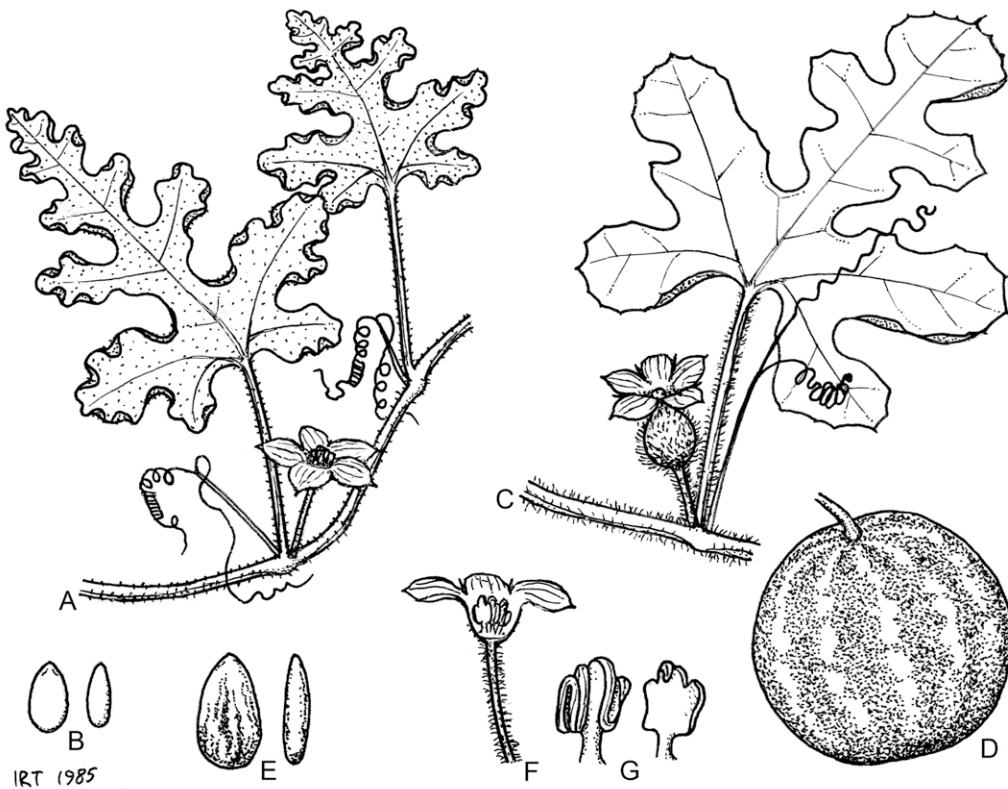


Fig. 1. *Citrullus*. A–B, *Citrullus colocynthis*: A, stem with male flower; B, seed. C–G, *Citrullus lanatus*: C, stem with female flower; D, fruit; E, seed; F, male flower with part of perianth removed; G, anthers. Illustration by I.R.H. Telford, from *Flora of South Australia* 2: 884, Fig. 458 (1986).

- 1. Leaves scabrid on both surfaces; seeds 5–9 mm long..... 1. **C. colocynthis**
- 1. Leaves scabrid on the lower surface only, and glabrescent above; seeds 9–12 mm long..... 2. **C. lanatus**

1. ****Citrullus colocynthis*** (L.) Schrad., *Linnaea* 12: 414 (1838) — *Cucumis colocynthis* L., *Sp. Pl.* 2: 1011 (1753) — **Illustr.:** *Fl. Centr. Austral.* 230, fig. 269D–F (1981).

Trailing or climbing herb with a perennial rootstock producing annual stems; stems to 3 m long, scabrid; tendrils simple or 2-branched; leaves with petioles 1–6 cm long, scabrid; lamina ovate in outline, 2–10 × 2–7 cm, cordate, palmately 3–5-lobed; lobes ovate, pinnately lobulate, obtuse to apiculate, scabrid on both surfaces. **Flowers** solitary; male flowers on peduncles 8–20 mm long; bract 1.5–2 mm long; calyx lobes lanceolate, 2–4 mm long; corolla lobes ovate, 6–8 mm long; female flowers on peduncles 10–45 mm long; ovary 7–9 mm long. **Fruit** 5–12 cm diam., glabrous, green irregularly mottled or striped yellow to all yellow; seeds 5–9 mm long, smooth, dull, yellow-brown. **Colocynth.** **Fig. 1A–B, Pl. 1F.**

S.A.: *NW, *LE, *GT, *FR, *EA, *EP, *MU; W.A.; N.T.; Qld; N.S.W.; Vic. Native to northern Africa and south-western Asia. Grows in disturbed, open areas, particularly on roadsides. Flowers: summer.

2. ****Citrullus lanatus*** (Thunb.) Matsum. & Nakai, *Cat. Semin. Spor. Hort. Bot. Univ. Imp. Tokyo* 30: 854 (1916). — *Momordica lanata* Thunb., *Prodr. Fl. Cap.* 13 (1794); *Cucurbita citrullus* L., *Sp. Pl.* 2: 1010 (1753); *C. vulgaris* Schrad. in Eckl. & Zeyh., *Enum. Pl. Afr. Austral.* 279 (1836). — **Illustr.:** B.D. Morley & Toelken, *Fl. Pl. Austral.* 101, fig. 60a–c (1983); *Pl. W. N.S.W.* 625 (1982).

Trailing or climbing annual herb; stems to 3 m long, villous or pilose; tendrils 2–4-branched, rarely simple; leaves with petioles 2–14 cm long, pilose; lamina ovate in outline, cordate, 3–20 × 3–15 cm, palmately 3–5-lobed; lobes ovate, sinuate-dentate to pinnately lobulate, emarginate to apiculate; on the upper surface glabrescent, on the lower surface scabrid. **Male** flowers on peduncles 12–80 mm long; calyx lobes lanceolate, 3–5 mm long; corolla lobes ovate, 5–16 mm long; female flowers on peduncles 3–35 mm long; ovary 6–12 mm long. **Fruit** 6–15 cm diam., glabrescent, green with paler irregular stripes; seeds 9–12 mm long, smooth or slightly rough, brown with darker markings. **Bitter melon, wild melon, camel melon.** **Fig. 1C–G, Pl. 1G–I.**

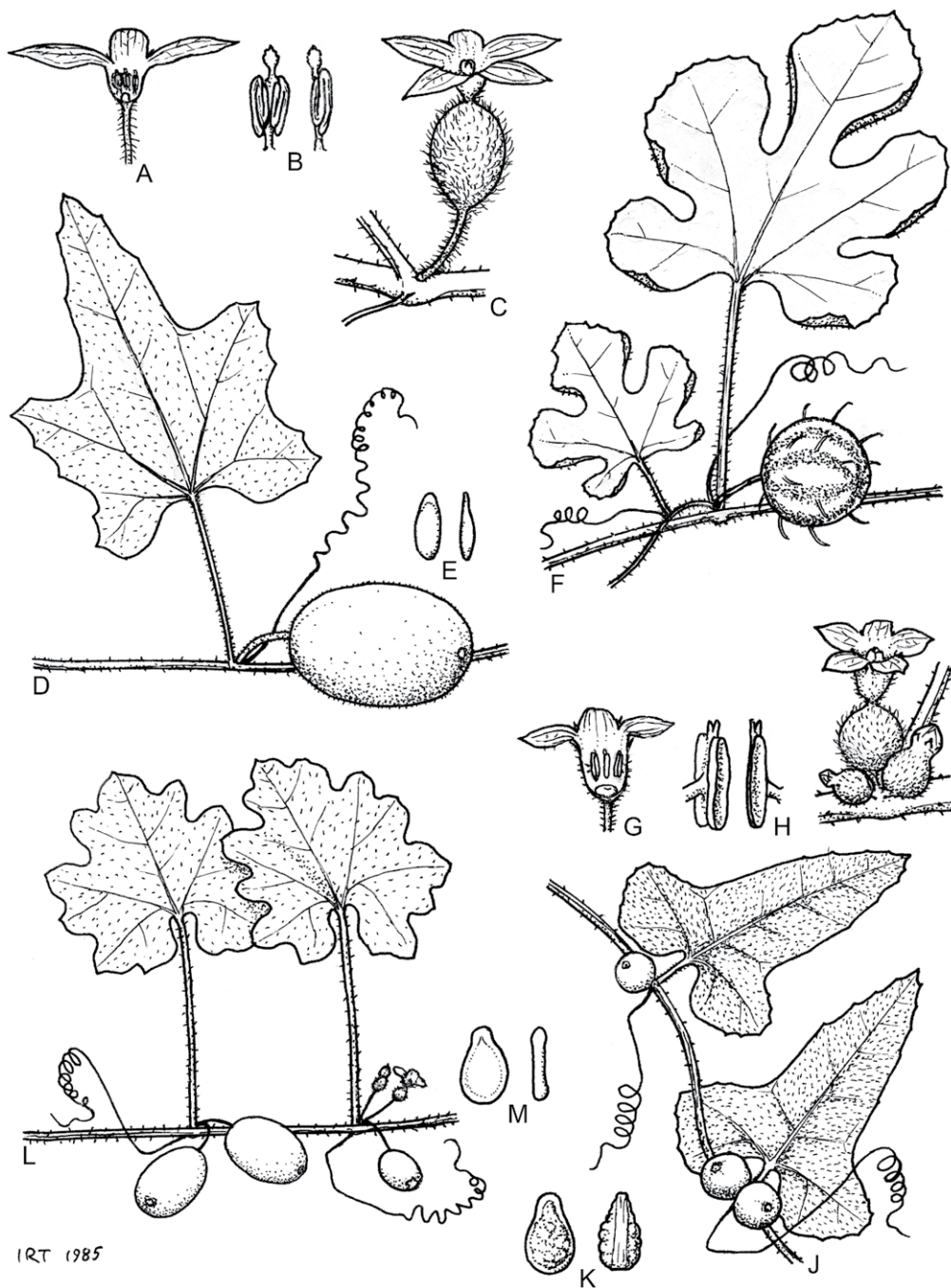


Fig. 2. A–K, *Cucumis*. A–E, *C. melo*: A, male flowers with perianth removed; B, anthers; C, female flower; D, fruiting stem; E, seed. F, *C. myriocarpus*. G–K, *C. argenteus*: I, male flower, part of perianth removed; J, anthers; K, female flower fascicle; L, fruiting stem; M, seeds. L–M, *Austrobryonia micrantha*: G, fruiting stem; H, seeds. Illustration by I.R.H.Telford, from *Flora of South Australia* 2: 886, Fig. 459 (1986).

S.A.: *LE, *GT, *FR, *EA, *EP, *NL, *MU, *YP, *SL, *SE; W.A.; N.T.; Qld; N.S.W.; Vic. Native to tropical and southern Africa. Grows in disturbed, open areas, particularly on roadsides. Flowers: summer.

Watermelon is a cultivated variant of this species.

3. CUCUMIS L.

Sp. Pl. 2: 1011 (1753).

(From Latin *cucumis*, cucumber.)

Mukia Arn., *Madras J. Lit. Sci.*, 12: 50 (1840).

Trailing or climbing annual herbs, rarely with perennial rootstocks; stems ridged, hispid; tendrils simple; leaves simple, dentate to palmately lobed. **Inflorescence** of axillary fascicles, short racemes or solitary flowers; male flowers in fascicles or racemes; hypanthium campanulate; calyx 5-lobed, lobes lanceolate to ovate; corolla deeply 5-lobed,

lobes lanceolate to ovate, yellow; stamens 3, inserted about the middle of the hypanthium; anthers basifixed, 2 2-locular, and 1 1-locular, locules sinuous, slightly curved or straight; connective appendages expanded or minute, linear; disk gland-like; female flowers solitary or in fascicles, sometimes co-axillary with the males; perianth similar to males; staminodes 3, rarely absent; ovary globose to ellipsoidal, variously hairy; ovules many; style inserted in the annular disk; stigma 3-lobed. **Fruit** globose or ellipsoidal, fleshy, indehiscent; seeds few to many, elliptic, turgid or compressed, smooth or pitted, pale or black.

About 40 species of tropical and southern Africa, tropical Asia to Australia; 9 species native to Australia, 5 more or less naturalised; 2 species native to S.A., 1 naturalised.

Circumscription of the genus was considerably broadened based on analyses using DNA sequence data (Ghebretinsae *et al.* 2007; Renner *et al.* 2007).

In Australia, *Mukia* was subsumed into *Cucumis*.

- 1. Fruit less than 12 mm diam. 1. **C. argenteus**
- 1: Fruit more than 12 mm diam.
 - 2. Fruit ellipsoid, lacking soft bristles 2. **C. melo**
 - 2: Fruit globose, with soft bristles 3. **C. myriocarpus**

1. **Cucumis argenteus** (Domin) P.Sebastian & I.Telford, *Syst. Bot.* 36: 385 (2011). — *Melothria argentea* Domin, *Biblioth. Bot.* 22: 1189 (1929). *Melothria maderaspatana auct. non* (L.) Cogn.: J.M.Black, *Fl. S. Austral.* 4: 544 (1929); *Mukia maderaspatana auct. non* (L.) Roem.: I.Telford in A.S.George, *Fl. Austral.* 8: 183 (1982); I.Telford in Jessop & Toelken, *Fl. S. Austral.* 2: 889 (1986). — **Illustr.:** *Fl. Austral.* 8: 185, fig. 40A–G (1982); as *Mukia maderaspatana*.

Stems trailing or climbing to 3 m, annual from a perennial rootstock, scabrous; leaves subsessile or with petioles to 2 cm long (to 9 cm not in S.A.); lamina ovate, lanceolate or triangular, 2–11 × 1–11 cm, cordate, unlobed to 3–5-lobed, lobes rounded to triangular, dentate, obtuse or acute, hispid. **Inflorescence** fasciculate; male flowers in 2–15-flowered fascicles or short racemes on peduncles to 6 mm long; pedicels 1–6 mm long; hypanthium narrowly campanulate, 2–4 mm long, hispid; calyx lobes triangular to subulate, 0.5–1 mm long; corolla lobes ovate, 1.5–4 mm long, yellow; disk gland-like; anthers c. 2 mm long; connective appendages minute; female flowers in 2–20-flowered fascicles, rarely co-axillary with males; subsessile or on pedicels to 4 mm long; perianth similar to males; ovary globose, 1.5–3 mm diam., hispid; style inserted on an annular disk; stigma 3-fid. **Fruit** subglobose, 5–12 mm diam., glabrescent, red, subsessile or on pedicels to 5 mm long; seeds 3–8, 4–5.5 mm long, turgid, ±smooth, buff to black. **Fig. 2G–K, Pl. 2E–G.**

S.A.: NW, LE, GT, FR, EA; W.A.; N.T.; Qld. Grows in woodland or grassland, mostly on sandy soils. Flowers: summer.

Previously treated under *Cucumis* (*Mukia*) *maderaspatanus* L. which has been shown to be an heterogeneous assemblage (Sebastian *et al.* 2010) and several Australian species have been segregated or reinstated (Telford *et al.* 2011).

2. **Cucumis melo** L., *Sp. Pl.* 2: 1011 (1753). — *C. chate* Hasselq. ex L., *Iter. Palest.* 491 (1757); *C. pubescens* Willd., *Sp. Pl.* ed. 4, 4: 614 (1805); *C. trigonus* Roxb. *Fl. Ind.* 1: 722 (1832); *C. pubescens* T.Mitch., *J. Exped. Trop. Austral.* 110 (1848), *nom. nud.*, *non* Willd. (1805); *C. melo* var. *agrestis* Naudin, *Ann. Sci. Nat., Bot.*, sér. 4, 11: 73 (1859); *C. jucundus* F.Muell., *Trans. & Proc. Philos. Inst. Victoria* 3: 45 (1859); *C. melo* subsp. *agrestis* (Naudin) Pangalo, *La Turquie Agricole* 534 (1933). — **Illustr.:** *Fl. Centr. Austral.* 232, fig. 272A–D (1981).

Trailing or climbing annual herb; stems to 6 m long; hispid or villous; leaves with petioles 25–80 mm long, hispid; lamina ovate in outline, 2–9 × 3–8 cm, mostly shallowly to deeply 3–5-lobed; lobes ovate, sinuate-dentate to lobulate, acute or obtuse. **Inflorescence** of fascicles or solitary flowers; male flowers in 2–4-flowered fascicles; peduncles 3–25 mm long; hypanthium narrowly campanulate, 3–6 mm long; corolla lobes ovate, 5–15 mm long, yellow; female flowers solitary; peduncles 3–30 mm long; ovary ellipsoidal, 5–10 mm long, densely pubescent to (not in S.A.) villous. **Fruit** ellipsoid, 2–5 cm long, 1.5–2 cm diam., glabrescent or hirsute, green to yellow, on pedicels 0.5–2 cm long seeds 5–8 mm long. **Ulcardo melon. Fig. 2A–E, Pl. 2A–C.**

S.A.: NW, LE; W.A.; N.T.; Qld; N.S.W. Southern Asia. Grows in grassland or woodland, mostly on clay soils. Flowers: summer.

Cucumis melo is here treated in a broad sense, including Asian and Australian material of the species. S.A. plants have been referred to *C. melo* subsp. *agrestis*, widespread through tropical Africa, Asia to Australia, but further analysis using DNA sequence data is required to resolve the relationships of Australian *C. melo*. One analysis (Sebastian *et al.* 2010) has already indicated some northern Australian populations belong to the endemic, reinstated *C. picrocarpus* F.Muell., which does not occur in S.A. The early dates of collection and their distribution suggest Australian *C. melo* to be indigenous, perhaps dispersed in pre-European times by the aboriginal people, as it is a wild food (Telford *et al.* 2011).

Rock melon (or cantaloupe) and honeydew melon are cultivated variants of this species.

3. ***Cucumis myriocarpus** Naudin, *Ann. Sci. Nat., Bot. sér.* 4, 11: 22 (1859). — *C. myriocarpus* subsp. *leptodermis* (Schweick.) C.Jeffrey & P.Halliday, *Kew Bull.* 30: 481 (1975). — **Illustr.:** *Fl. Centr. Austral.* 232, fig. 272E (1981).

Trailing or climbing annual herb; stems to 2 m high, hispid; leaves with petioles 10–85 mm long; lamina broadly ovate in outline, 25–75 × 25–80 mm, 3–5-lobed, lobes obovate, dentate to lobulate, obtuse, apiculate, hispid on the lower surface, sparsely so above. **Inflorescence** of fascicles (male flowers) or solitary flowers (females); male flowers in 2–4-flowered fascicles or short racemes with peduncles to 5 mm; pedicels 2–4 mm long; hypanthium c. 3 mm long; calyx lobes subulate, c. 1.5 mm long; corolla lobes ovate, 4–5 mm long, yellow; female flowers solitary or paired; peduncles 3–8 mm long; perianth similar to males; ovary ellipsoidal, attenuate, 2–3 mm long, setose. **Fruit** globose, 15–25 mm diam., with scattered soft bristles to 6 mm long; green with paler longitudinal stripes, ripening yellow; peduncle 6–25 mm long; seeds 3–4 mm long. **Paddy melon, gooseberry cucumber. Fig. 2F.**

S.A.: *NW, *LE, *NU, *GT, *FR, *EA, *EP, *NL, *MU, *YP, *SL, *KI, *SE; W.A.; N.T.; Qld; N.S.W.; Vic.; Tas. Native to southern Africa. Grows in disturbed sites in various soils, often as a weed of cultivation or pasture. Flowers: summer.

S.A. material is referable to subsp. *leptodermis*.

4. **ECBALLIUM A.Rich.**

in Bory, *Dict. Class. Hist. Nat.* 6: 19 (1824).

(From Latin *ecballo*, to throw out; alluding to the active seed discharge.)

Trailing herbs with annual stems from perennial rootstocks; stems thick, scabrid; tendrils absent; leaves simple, triangular to ovate, cordate, pubescent on the lower surface, scabrid on the upper surface. **Inflorescence** axillary, of bracteates racemes (male flowers) or flowers solitary (females), sometimes coaxillary with males; male flowers with hypanthium broadly campanulate; calyx 5-lobed, lobes lanceolate; corolla deeply 5-lobed, lobes ovate, acute, yellow; stamens 3; filaments inserted on the hypanthium; anthers 2 2-locular, 1 1-locular, locules flexuose; disk absent; female flowers with perianth similar to males; staminodes absent; ovary ellipsoidal, setose; ovules many, horizontal; stigmas 3, 2-fid, subulate, recurved. **Fruit** ellipsoidal, juicy at maturity (berry), bristly, discharging seeds actively through ruptured attachment of the pedicel; seeds many, ovate, smooth.

Monotypic genus native to the Mediterranean region and south-western Asia, naturalised in temperate Australia including S.A.

1. ***Ecballium elaterium** (L.) A.Rich.in Bory, *Dict. Class. Hist. Nat.* 6: 19 (1824). — *Momordica elaterium* L., *Sp. Pl.* 2: 1010 (1753). — **Illustr.:** B.D.Morley & Toelken, *Fl. Pl. Australia* 101, fig. 60d–e (1983); *Pl. W. N.S.W.* 626 (1982).

Stems trailing; leaves with petioles 5–15 cm long; lamina triangular to ovate, 8–20 × 6–15 cm; cordate, undulate, obtuse, pubescent with dense white hairs on the lower surface, scabrid on the upper surface. **Inflorescence** racemose (male flowers) or of solitary flowers (females); male flowers in racemes to 20 cm long; peduncle 5–15 cm long; pedicels 1–3 cm long; hypanthium 2–3 mm long; calyx lobes 3–5 mm long; corolla lobes 8–12 cm long, yellow; female flowers on peduncles 5–30 mm long; ovary 6–15 cm long. **Fruit** 30–45 × 15–20 mm diam.; peduncle to 18 cm long. Seeds c. 5 mm long, dark-brown. **Squirting cucumber. Fig. 3D–F, Pl. 2H–K.**

S.A.: *FR, *NL, *MU, *SL, *SE; N.S.W.; Vic. Native to the Mediterranean region and south-western Asia. Grows in a various soils in disturbed sites, pasture and roadsides. Flowers: summer.

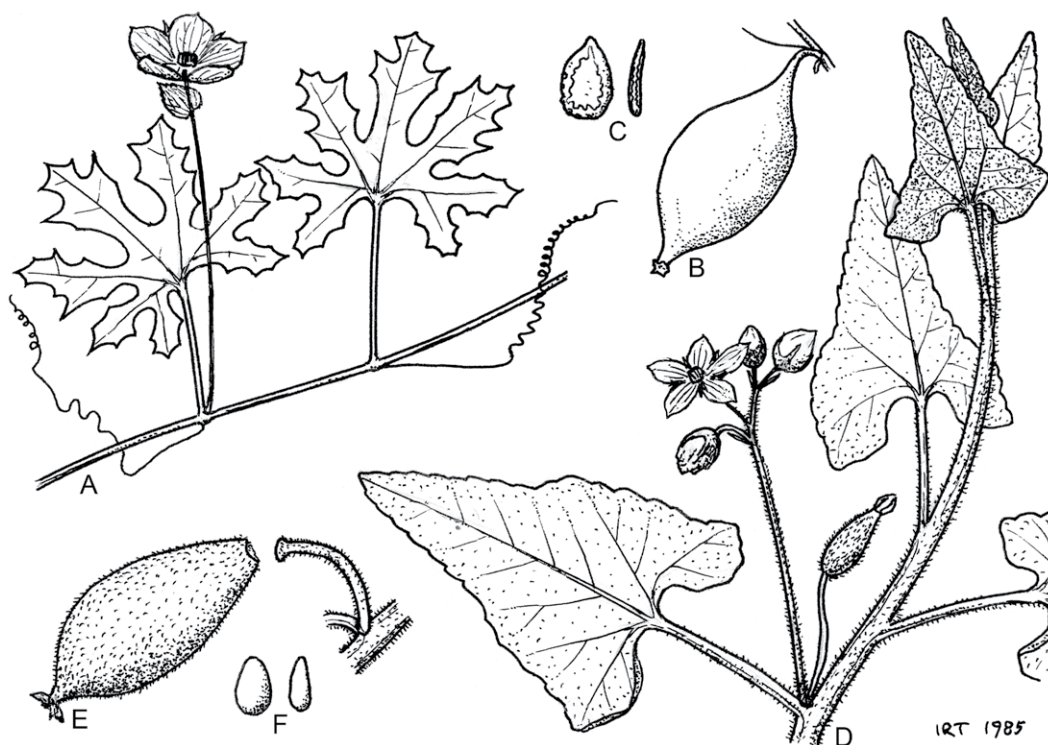


Fig. 3. A–C, *Momordica balsamica*: A, stem with male flowers; B, fruit; C, seed. **D–F, *Ecballium elaterium*:** D, flowering stem; E, fruit; F, seed. Illustration by I.R.H. Telford, from *Flora of South Australia* 2: 888, Fig. 460 (1986).

5. MOMORDICA L.

Sp. Pl. 1009 (1753).

(From the Greek *mordeo*, to bite; alluding to the bitten appearance of the seeds.)

Trailing or climbing annual or perennial herbs; tendrils usually unbranched; leaves usually palmately 3- to 7-lobed. **Inflorescence** of axillary, solitary flowers; male flowers solitary on peduncle with 1 ± petaloid bract; hypanthium obconic; calyx 5-lobed; petals 5, free, 1–3 with incurved scales inside at the base; stamens 3, inserted at the base of the hypanthium; anthers basifixed, 2 2-locular, 1 1-locular, usually free, locules usually flexuose; disk absent; female flowers on peduncle with 1 bract or bract absent; perianth similar to or smaller than the males; ovary ovoid to fusiform; ovules many, horizontal; stigmas 3, 2-lobed. **Fruit** mostly indehiscent, pulpy (berry); seeds ovate, compressed, ornamented.

About 42 species in the Old World tropics and subtropics, 3 in Australia, of which 2 native; 1 introduced in S.A.

1. **Momordica balsamina* L., *Sp.Pl.* 2: 1009 (1753). — **Illustr.:** *Fl. Austral.* 8: 169, fig. 37D–F (1982).

Trailing or climbing annual herbs, stems to 1.5 m, slender, glabrous to sparsely pubescent; tendrils simple; leaves with petioles 1–5 cm long, sparsely pubescent; lamina broadly ovate to orbicular in outline, 2–6 × 2–8 cm, cordate, deeply 5–7-lobed, lobes coarsely sinuate-dentate to lobulate, acute, sparsely pubescent on the main veins. **Male** flowers on peduncles 15–35 mm long; bract broadly ovate, cordate, dentate, acute, green-veined, 5–15 × 8–20 mm; pedicels 4–5 mm long; calyx lobes ovate, acuminate, 3–10 mm long; petals ovate, yellow, 12–15 mm long; female flowers on peduncles to 1.5 mm long; bract present or absent; pedicels 4–8 mm long; calyx lobes linear, 2–5 mm long; petals ovate, 7–8 mm long; ovary fusiform, 7–8 mm long, puberulent. **Fruit** indehiscent or irregularly bursting, ellipsoid to fusiform, 3–6 cm long, 2–3 cm diam., orange-red, pulp red, on pedicels to 2 cm; seeds 3–6, 10–12 mm long, dark-grey, margin thickened, grooved, crenulate. **Balsam apple. Fig 3A–C.**

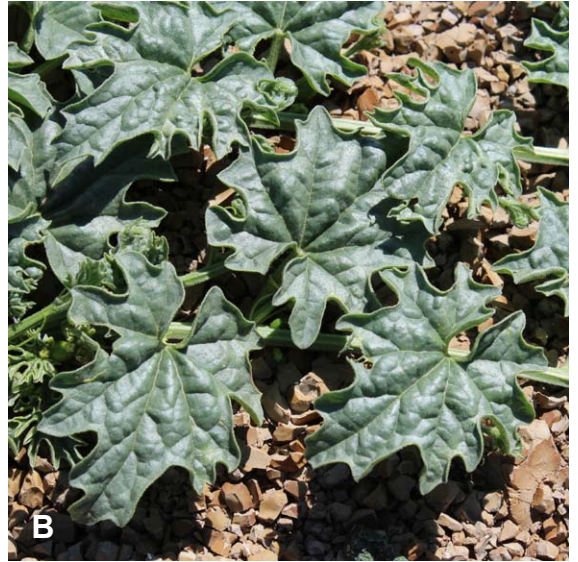
S.A.: *NW, *LE; W.A.; N.T.; Qld; N.S.W. Tropical and subtropical Africa, Asia, America probably by introduction. Grows in riverine woodland in sandy soil. Flowers: summer.

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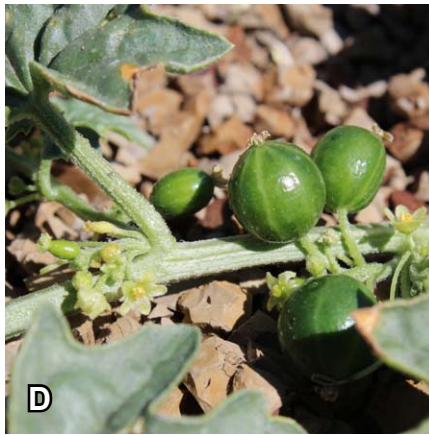
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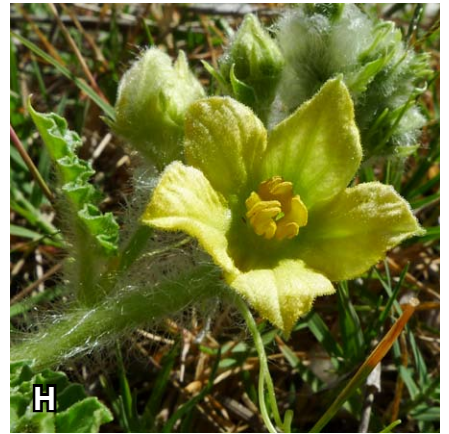
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Pl. 1. A–E. *Austrobryonia micrantha*: A, habit; B, leaves; C, flowers; D, fasciculate inflorescences and immature fruit; E, mature fruit and leaves showing sparse hispid hairs. F. *Citrullus colocynthis* foliage and fruit (form with all-yellow fruit). G–I. *C. lanatus*: G, leaves, H, male flower; I, fruit. Photos: A–E, P.J. Lang, DENR; F, A.C. Robinson, DENR; G & I, L. Jansen; H, D.E. Murfet.



PL. 2. A–C. *Cucumis melo*: A, fruit; B, flower; C, habit. D. *C. argenteus*, trailing stems with mature and immature fruit. E–G. *C. myriocarpus*: E, mature fruit; F, foliage; G, female flowers. H–K. *Ecballium elaterium*: H, immature fruit; I, male flower; J, female flower; K, foliage. Photos: A–C A.C. Robinson, DENR; D, P.D. Canty; E–F, L. Jansen; G–K, D.E. Murfet.