

Cotula L.

Cotula australis (Spreng.) Hooker f., AUSTRALIAN WATERBUTTONS. Annual, taprooted and fibrous-rooted, when young appearing rosetted, several–many-stemmed at base, commonly rooting at nodes, procumbent to decumbent and spreading, 0.3–20 cm tall; shoots pilose to villous. **Stems:** cylindric, < 1 mm diameter, light green, flexible, with short internodes. **Leaves:** helically alternate, deeply 1–2(–3)-pinnately dissected with 3–5 lateral primary lobes per side, petiolate (lower cauline leaves) and ± sessile (upper cauline leaves), without stipules; petiole to 30 mm long and 1/2 blade length, pilose, with diminutive lateral lobes; blade oblanceolate to ovate or obovate in outline, 10–60 × 7–20 mm, the lateral primary lobes opposite or alternate, the primary lobes typically with 3–5 segments, ultimate segments narrowly elliptic to oblanceolate, 0.5–5.5 × 0.5–2 mm, acute with minute point at tip, inconspicuously veined, dull, pilose. **Inflorescence:** heads solitary, terminal (sympodial) but appearing lateral and opposite a leaf and its axillary bud, 3–6 mm across, head discoid, 40–60-flowered, with 2–3 series of marginal pistillate flowers and ca. 20 central bisexual flowers, pistillate flowers on short pedicels, bisexual flowers subsessile, soft-hairy; bract subtending peduncle leaflike and subsessile; peduncle 25–50 mm long increasing to 2× in fruit, sericeous, bracts along peduncle typically 2 below midpoint, leaflike but smaller; **involucre** shallowly cup-shaped, 2.8–6 mm wide, spreading to become platelike with upcurved edge, phyllaries 13–22+ in 2 ± identical series, oblong to ovate, 2 mm long, green with membranous margins becoming scarious after fruits abscise; receptacle ± flat, lacking bractlets (paleae), becoming minutely bumpy with persistent pedicels; pedicel of pistillate flower initially ± fleshy and 0.5 mm long increasing to 2× becoming fingerlike, spreading, and radiating, greenish, pedicel of bisexual flowers short-conic. **Pistillate flower:** bilateral, 0.4 mm across; **perianth** absent; **stamens** absent; **pistil** 1; ovary inferior, lenticular-obovate compressed front-to-back, 0.8–1 mm long, glandular-puberulent on faces, with thin margins lacking glandular hairs, 1-chambered with 1 ovule; style exerted, ± 0.5 mm long, 2-branched at midpoint, pale green; stigmas yellow. **Bisexual flower (disc flower):** radial, 0.4 mm across; **calyx (pappus)** absent; **corolla** 4-lobed, 0.7–0.9 mm long; tube cylindric, greenish; throat abruptly wider; lobes broadly deltate, ca. 0.2 mm long, whitish to pale yellowish green; **stamens** 4, fused to corolla tube, included; filaments short; anthers fused into cylinder surrounding style, basifixed, dithecal, 0.4 mm long, yellow, longitudinally dehiscent; pollen yellow; **pistil** 1; ovary inferior, ovoid, 0.3–0.5 mm long, pale green; style included, 2-branched. **Fruits:** cypselae, dimorphic, abscised from persistent pedicels; of pistillate flowers lenticular with wings, ± 1.2 mm long, body brown and glandular, wings tan; of bisexual flowers ovoid typically without wings, 0.7–0.8 mm long, brown, resembling body of marginal fruits but lacking glandular hairs. Mid-December–late May.

Naturalized. A delicate, weedy annual of lawns and gardens, occasionally found growing along hiking trails. Normally low to the ground, in deep shade *Cotula australis* can be taller and leggy. *Cotula* is the only genus of Asteraceae in range with pedicellate flowers, and the pedicels are persistent and therefore easy to observe on the receptacle after the fruits have fallen.

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