Cotula coronopifolia L. (Asteraceae)
Brass Buttons

Description. Perennial, sometimes flowering the first year, herbaceous; central stems 8-50 cm long, prostrate to decumbent, somewhat succulent, glabrous, the lateral stems erect to ascending, rooting at the nodes. Leaves alternate, 2-7 cm long, linear to oblong or lanceolate, entire, deeply toothed to pinnately lobed, the lobes linear to lanceolate, the leaf base tapered, sheathing the stem. Heads discoid (all corollas radial and salverform), 6-15 mm wide, hemispherical, stalked, solitary, terminal. Phyllaries in 2-3 unequal series, oblong, margins scarious, apices rounded. Flowers of two forms, the outer stalked, corollas absent or much reduced, pistillate, the inner sessile, bisexual, with bright yellow 4-lobed corollas. Achenes of two forms, the outer 1.5-2 mm long, winged, short-stalked, papillose, the inner 1-1.5 mm long, not winged, sessile; pappus absent. Flowering in California from April to August (Bruhl and Quinn 1990, Clapham et al. 1962, Ferris 1960, Gleason and Cronquist 1991, McClintock 1993, Munz 1959, Tutin 1976).

The closely related species *C. australis* (Sieber) Hook. f. (Australian cotula) differs by its smaller size, strictly annual habit, slender stems, pinnately to bipinnately dissected leaves, and sparsely villous pubescence.

Geographic distribution. *Cotula coronopifolia* is generally believed native to southern Africa (Arnold and de Wet 1993, Clapham et al. 1962, Munz 1959, Tutin 1976). It occurs along both the Pacific and Atlantic coasts of North America, and has been introduced into Australia, New Zealand, the coast of western Europe (but considered a waif in Great Britain), and has been reported for South America (Chapman 1991, Gleason and Cronquist 1991, Tutin 1976, Webb et al. 1988). *Cotula australis* is native to Australia and New Zealand (Chapman 1991, Webb et al. 1988) and has been introduced into southwestern Europe (Tutin 1976).

Cotula coronopifolia was first reported from California (San Francisco) by Bolander (1870). *Cotula australis* was apparently known from California as early as 1865 (Brewer et al. 1876). Both species were reported to occur widely along the California coast by the beginning of the 20th century (Robbins 1940).

Naturalized populations of *Cotula coronopifolia* occur on all the Channel Islands except for Santa Barbara. *Cotula australis* is found on all the Channel Islands except San Miguel (Junak et al. 1997). Both species have been reported from most coastal counties and *C. australis* from the Great Central Valley (Anonymous 1998).

Ecological distribution. In both natural and naturalized geographic ranges, *Cotula coronopifolia* occurs on mud or moist banks, wet sites, irrigation canals, and coastal marshes, but almost entirely in saline areas infiltrated by springs or brackish water. *Cotula australis* occurs primarily in waste areas and open fields (Munz 1959, Robbins et al. 1970).

Reproductive and vegetative biology. No literature was found that discussed reproductive or vegetative biology of either species. Brass buttons presumably reproduces by seeds and by tillering, based on descriptive morphology. Australian cotula, an annual, presumably reproduces entirely by seeds. Like many small-flowered Asteraceae, they are presumably self-compatible and self-pollinating (Proctor et al. 1996, Richards 1978).

Weed status. Neither species are considered serious noxious weeds in agricultural or horticultural practice, at least at a global level (not listed by Holm et al. 1977), nor are they considered noxious weeds by the State Dept. of Food and Agriculture (Anonymous 1996) or elsewhere in the United States (Lorenzi and Jeffery 1987).

Fungal and insect pathogens. No literature was found that reported either species as a host of detrimental fungal or insect pathogens.

Herbicide control. No literature was found that reported herbicide treatment of either species.

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