

***Triumfetta semitriloba* Jacq.**
TILIACEAE

burweed

Synonyms: *Triumfetta hirta* Vahl
Triumfetta ovata DC.
Triumfetta tiliifolia Vahl
Heliocarpus hirta (Vahl) R.O. Williams & Sandw.



General Description.—Burweed is also known as Sacramento bur, black bush, cadillo de perro, cousin-petit, petit mahot-cousin, mahot-cousin rouge, tête à nègre, and nedyah (Howard 1989, Liogier 1994, Pacific Island Ecosystems at Risk 2001). It is a single-stemmed, short-lived shrub that reaches 1 to 2 m in height and 3 cm in stem diameter. The stems have gray, smooth bark and a woody center. Burweed plants are supported by a weak taproot and many lateral roots. The roots are tan colored, flexible, and have a fleshy outer layer over a woody center. The leaves have petioles from 0.8 to 9.5 cm long, growing progressively shorter toward the plant apex. The leaves, 3 to 8 cm long, are broadly ovate to rhombic-ovate, and sometimes three-lobed, nearly hairless above, but densely stellate-pubescent below. The flowers, which are located at the leaf axils, have yellow

petals about 5 mm long. The fruits, round burs 6 to 8 mm in diameter with numerous hooked spines, are borne in groups of two or three. Each fruit has three compartments and contains three seeds, if complete (Howard 1989, Liogier 1994, Long and Lakela 1976).

Range.—Burweed is native to southern Florida, Bermuda, the West Indies, Mexico, Central America, and South America (Howard 1989, Liogier 1994, Long and Lakela 1976). It was thought that burweed had been recently introduced to Rapa Nui (Easter Island), but fossil pollen indicates that it has been present for at least 35,000 years (National Geographic Society 2001). The species has naturalized in Hawaii, Guam, Western Samoa and a number of other Pacific Islands, and in fact is reported to be a pantropical weed (Pacific Island Ecosystems at Risk 2001).

Ecology.—Burweed grows in pinelands and hammocks in Florida (Long and Lakela 1976) and in roadsides, neglected pastures, and wastelands in Puerto Rico. It grows in sand to clay soils with pH values from about 5.5 to 8.0. In Puerto Rico, burweed grows from near sea level to about 700 m in elevation. This diverse habitat receives annual precipitation from about 900 to 2200 mm. In Hawaii, it grows from sea level to 1,067 m in elevation in areas with annual rainfalls of 760 to 1500 mm (Haselwood and Motter 1966). The species needs disturbance for establishment. If given an equal start, it competes well with other herbs, grasses, and shrubs in full sun or partial shade. Burweed may be found growing in small patches and as single, dispersed plants.

Reproduction.—Burweed blooms and fruits continuously (Long and Lakela 1976), beginning at about 6 months of age. Seed production is guaranteed by self-pollination, but cross-pollination increases seed set and probably quality (Collevatti and others 1997a). The species has a chromosome count of $2n = 32$ (Long and Lakela 1976). In Brazil, solitary and social bees visit and

pollinate burweed (Collevatti and others 1997b). It is an abundant seed producer. Fruits collected in Puerto Rico averaged 0.0040 ± 0.0016 g/fruit. Seeds separated from those fruits averaged 0.0039 ± 0.0001 g/seed or 256,000 seeds/kg. Placed on filter paper, 41 percent germinated between 10 and 119 days from sowing. Germination is epigeal. Seeds are dispersed when they cling to passing animals.

Growth and Management.—Burweed lives between 1 and 3 years. In seasonally dry habitat, this species behaves as an annual. The plants grow about 1 m the first year, with growth slowing in subsequent years. Because of its weedy nature, planting burweed is unlikely, and ill-advised outside its native range. Indeed, control is often needed in croplands and pastures. Treatments follow normal practice for coarse broadleaf weeds: mechanical cultivation or grubbing and spraying with herbicides such as 2,4-D.

Benefits.—The stem wood has moderate strength and hardness, but because of the plant's small size the wood is of little value. Fibers from the stem bark were once used by the inhabitants of Rapa Nui to make fishing lines (Moanalua Gardens Foundation 1999). Burweed is reported to have little or no forage value for domestic livestock (Haselwood and Motter 1966).

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