

Capraria biflora L.
SCROPHULARIACEAE

goat-weed

Synonyms: *Capraria lanceolata* Vahl



General Description.—Goatweed, also known as wild tea, savadilla, té del país, thé du pays, ditay paye, and balsamina, is an evergreen (or sometimes suffruticose) shrub to 1.5 m in height and 6 mm in basal stem diameter. The plant is supported by a well-developed taproot with laterals through its length. The shrub usually has multiple stems and many fine branches and twigs. The degree of hairiness is variable. Most plants have foliage the full length of their stems. The leaves are sessile, narrowly lanceolate to obovate, 2 to 12 cm long, with entire to serrate margin. The white, five-lobed, campanulate, 5 mm-long flowers are borne in groups of one to three in the leaf axils. Ovoid, 5-mm capsules contain many tiny, yellow seeds about 0.4 mm long (Howard 1989, Liogier 1995, Stevens and others 2001).

Range.—Goatweed is native to Florida and Texas, the Bahamas, the West Indies, Trinidad, Mexico through Central America, South America as far

south as Bolivia, and the Galapagos Islands (Flora of Texas Consortium 2002, Grisebach 1963, Pezzatti and others 1998). The species has naturalized in Ghana, the Cape Verde Islands, and Mauritius (Burkill 2000).

Ecology.—Goatweed is intolerant of shade. It is usually open-grown but may be found in stands of brush and in the understory of open forest. It will die as the shade becomes dense. In Puerto Rico, it grows in pastures, occasionally burned grasslands, dry, early secondary forest, rocky coasts, and sandy areas behind beaches. It is reported to grow on beaches, sandy soils, and disturbed areas in Florida (Long and Lakela 1976). The species grows on soils derived from both sedimentary and igneous rocks in a wide range of soil textures and fertility but requires well-drained conditions. In Puerto Rico, goatweed occurs in areas that receive from 750 to about 1700 mm of precipitation. It grows at elevations from near sea level to 1,000 m in Nicaragua (Stevens and others 2001). Disturbance is probably required for establishment. Once established, goatweed competes relatively well with grass, weeds, and low brush. It is little browsed by cattle.

Reproduction.—Goatweed blooms and fruits all year (Long and Lakela 1976, Stevens and others 2001). A collection of seeds from Puerto Rico averaged 42,300 seeds/g. Placed on moist filter paper, 21 percent germinated between 10 and 35 days after sowing. Germination is epigeal. The tiny seeds are apparently dispersed by wind and water, or by fortuitously sticking to animals or machinery. Natural seedlings are not abundant. Plants readily sprout from the lower stem or root when cut or burned.

Growth and Management.—Individual goatweed stems live 2 or 3 years or more and are replaced by other sprouts. The plant may live for many years. Sprouts grow about 0.5 m in their first year, much less in succeeding years. Large numbers of seeds can be collected by picking unopened capsules, drying them in a paper bag, and separating with a fine screen. Nursery procedures have not been published. Goatweed is considered weedy in pastures. In the absence of tested procedures for its

control, standard techniques of grubbing or spot spraying with broadleaf herbicides is recommended. Mowing has little lasting effect on stands.

Benefits.—Goatweed helps revegetate disturbed areas, protects the soil, and furnishes cover for wildlife. It is a nectar source for butterflies and is recommended in natural landscaping (University of Florida Extension 2002). Goatweed has many uses in herbal medicine. A tea prepared from the leaves is used as an eyewash (Burkill 2000), to soothe skin itch (Secretaría de Medio Ambiente y Recursos Naturales 2002), and as a general tonic. However, overindulgence can result in stupor, disorientation, and paralysis (Guzmán 1975). The infusion is also used to treat fever, flu, vomiting, childbirth recovery, diarrhea, hemorrhoids, rheumatism, and swelling (Scofield 2002). The alkaloid, biflorine, present in the leaves has antibiotic properties (Burkill 2000), and sesquiterpenoids, caprariolides A and B from aerial parts, have demonstrated strong insecticidal activity against adult sweet potato weevils, *Cylas formicarius elegantulus* (Collins and others 2000).

References

- Burkill, H.M. 2000. The useful plants of West Tropical Africa. Vol. 5. Royal Botanical Garden, Kew, UK. 686 p.
- Collins, D.O., W.A. Gillimore, W.R. Reynolds, L.A.D. Williams, and P.B. Reese. 2000. New skeletal sesquiterpenoids, caprariolides A-D, from *Capraria biflora* and their insecticidal activity. *Journal of Natural Products* 63: 1,515-1,518.
- Flora of Texas Consortium. 2002. Texas vascular plant checklist: Scrophulariaceae. http://csdl/tamu.edu/FLORA/ftc/dft/ftc_scr.htm. 5 p.
- Grisebach, A.H.R. 1963. Flora of the British West Indian Islands. J. Cramer-Weinheim. New York. 789 p.
- Guzmán, D.J. 1975. Especies útiles de la flora Salvadoreña. Ministerio de Educación, Dirección de Publicaciones, San Salvador, El Salvador. 703 p.
- Howard, R. A. 1989. Flora of the Lesser Antilles, Leeward and Windward Islands. Vol. 6. Arnold Arboretum, Harvard University, Jamaica Plain, MA. 658 p.
- Liogier, H.A. 1995. Descriptive flora of Puerto Rico and adjacent islands. Vol. 4. Editorial de la Universidad de Puerto Rico, San Juan, PR. 617 p.
- Long, R.W. and O. Lakela. 1976. A flora of Tropical Florida. Banyon Books, Miami, FL. 962 p.
- Pezzatti, B., T. Irzan, and D. Cherix. 1998. Ants (Hymenoptera, Formicidae): Lost paradise. Darwin Foundation, Galapagos, Ecuador. <http://www.darwinfoundation.org/articles/n5900049802.html>. 10 p.
- Scofield, D. 2002. Medicinal usage: *Capraria biflora* L. (Scrophulariaceae). http://www.cassiakeyensis.com/sofl_plants/med_caprariabiflora.html. 1 p.
- Secretaría de Medio Ambiente y Recursos Naturales. 2002. Especies con usos do maderables en bosques de encino, pino, y pino-encino. <http://www.semarnat.gob.mx/pfnm/CaprariaBiflora.html>. 2 p.
- Stevens, W.D., C. Ulloa-U., A. Pool, O.M. Montiel, eds. 2001. Flora de Nicaragua. Monographs in Systematic Botany Vol. 85, No. 3. Missouri Botanical Garden, St. Louis, MO. p. 1,911-2,666.
- University of Florida Extension. 2002. Ask a master gardener: List of native Florida specimens for butterfly gardening. http://volusia.org/extension_service/butterfly.htm. 2 p.
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