***Tecoma stans* (L.) Juss. ex Kunth** ginger-thomas
BIGNONIACEAE

Synonyms: *Bignonia stans L.*
Gelseminum stans (L.) Kuntze
Stenolobium stans (L.) Seem.

Illustration source: USDA-Forest Service collection, Hunt Institute

General Description.—Ginger-thomas, also known as roble amarillo, saíco amarillo, bois caraîbe, trumpet flower, yellow-elder, and many other common names (Little and Wadsworth 1964), is a medium-sized shrub with many branches and basal stems. The leaves are opposite, pinnately compound with 5 to 13 saw-toothed leaflets. The twigs are green, turning brown, and the older bark is light gray and very furrowed. A profusion of bright yellow flowers has made the species much loved throughout the tropics. Ginger-thomas is the official flower of the U.S. Virgin Islands.

Range.—The native range extends from southern Texas, New Mexico, and Arizona to Bolivia and northern Argentina and from Florida and the Bahamas to Trinidad in the Caribbean. It has naturalized in much of tropical and subtropical Africa, Asia, the Pacific islands, and Australia.

Ecology.—Ginger-thomas does not tolerate heavy frost. However, it will grow in most well-drained soils, including calcareous fill, infertile sands, acidic Ultisols, and volcanic regolith in areas receiving from 700 to 1800 mm of rainfall. The species is described as a water spender that is able to convert to a water saver (Tipton 1994). It requires minimal competition and nearly full sunlight to survive (shade intolerant). Roadsides and disturbed areas are the most common habitats. Given a start in secondary forest, it is usually present for only 10 to 20 years following disturbance. Many species of insects feed on ginger-thomas, and it is attacked by the genera of parasitic plants, *Cuscuta*, and a number of disease organisms; but, nothing seems to pose a serious threat to the species.

Reproduction.—Ginger-thomas produces flowers that have functional male and female parts. The tubular flowers are fragrant, 4 to 5 cm in length, and pollinated by bees and other insects and hummingbirds. The 10- to 25-cm pods (capsules) develop in about 1 month and liberate large numbers of papery-winged seeds. The species may flower and fruit nearly throughout the year (Little and Wadsworth 1964) in climates without strong seasonal change, or flower heavily in autumn in seasonal climates such as southern Florida. Developing pollen becomes sterile when temperatures rise above 34 °C. This leads to seed failures during summer months in many areas (Kumar and Singh 1988). Natural reproduction may vary from dense to scattered. In nurseries, ginger-thomas is usually propagated from seed, although greenwood cuttings can also be rooted (Baily 1941). A collection of seeds from Puerto

Rico averaged 208,000 seeds/kg. Germinating began in 3 days and finished with 97 percent germinated (Francis and Rodríguez 1993). No pregermination treatments are necessary.

Growth and Management.—Early growth is relatively rapid. About 1 m of height growth can be obtained during the first year. Depending on the environment, maximum height of plants may vary from 1.5 m to 7 m, and diameters of 8 cm are sometimes achieved. Establishment activities may include removal of competition and disturbance of the soil to encourage natural regeneration, planting (more reliable for smaller numbers of plants), and control of competing vegetation. When control of ginger-thomas is needed, cutting, grubbing out stumps, or poisoning is recommended. In Brazil, tebuthiuron was found to effectively kill plants, but picloram and 2, 4-D were not (Passini and Kranz 1997).

Benefits.—Ginger-thomas is planted as an ornamental throughout the topics and subtropics. It is especially prized as a flowering hedge plant. The shrub is planted and managed to enhance the beauty of green belts and natural forests used for recreation. Used in combination with trees, ginger-thomas contributes to effective windbreaks and sound breaks. Growing in thick patches that shade out grass, the species has become a serious weed in Brazilian pastures (Kranz and Passini 1997). Browsing cattle and goats in Mexico consume up to 20 percent of the leaves and 100 percent of the available flowers (Susano Hernandez 1981). The foliage in one study in India contained 17 percent crude protein, 6 percent ash, 18 percent fat, 25 percent fiber, and 14 percent total polyphenols (Nag and others 1994). Ginger-thomas leaves, bark, and roots contain many biologically active chemicals, and extracts from those tissues have been used in traditional folk medicine to treat many diseases and conditions (Liogier 1990). Perhaps the most promising compounds are monoterpine alkaloids, which have been shown to effectively reduce the symptoms of diabetes mellitus in rats, dogs, and mice (Aguilar and others 1993, Lozoya-Meckes and Mellado-Campos 1985, Perez and others 1984)

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