

***Acnistus arborescens* (L.) Schlecht.**
SOLANACEAE

gallinero

Synonyms: *Atropa arborescens* L.
Cestrum cauliflorum Jacq.
Acnistus cauliflorus (Jacq.) Schott
Acnistus frutescens Bello
Cestrum macrostemon Sassi & Moç.
Dunalia arborescens (L.) Sleumer



General Description.—Gallinero is also known as hollow heart, wild tobacco, siyou, bastard sirio, galán arbóreo, mata gallina, tabaco de monte, nigüito, marieneira, and tabak djab. It is an evergreen shrub or small tree to 6 m in height and 15 cm in stem diameter. Multiple stems are usual for older plants. The trunk is supported by extensive lateral roots with “sinkers” and abundant fine roots. The roots are flexible, light tan, and have furrowed bark. Stem bark is light brown or gray and finely fissured. Stem wood is light brown and hard. Twigs of gallinero are stout, light brown or gray and finely hairy. The simple, alternate leaves are elliptical to lanceolate, 5 to 30 cm long by 3 to 14 cm broad, entire, and pointed at both ends. Gallinero bears tiny, fragrant, greenish-white flowers in clusters of 30 or more in axillary fascicles. The fruits (berries) are numerous in each cluster, yellow or orange, globose, 5 to 11 mm in diameter, and have a persistent calyx. The fruit

pulp is juicy, almost tasteless or slightly bitter, and not edible to humans. Each fruit contains numerous yellow, flattened seeds 1.5 to 2 mm wide with a rolled embryo (Howard 1989, Liogier 1995, Little and others 1974, Stevens and others 2001).

Range.—Gallinero is native to the Greater Antilles, the Lesser Antilles, Trinidad and Tobago, Mexico, Central America, and South America through Brazil and Peru (Howard 1989, Little and others 1974).

Ecology.—Gallinero is widespread and rare to common on a wide range of soils over both igneous and sedimentary rocks. In Puerto Rico, it grows in areas that receive from about 1600 to 2500 mm of mean annual precipitation. The species is most common from 700 to 1,500 m in elevation in Costa Rica (Haber 2002) and from 450 to 900 m in Puerto Rico (Little and others 1974). The species is frequently found on roadsides, landslides, old pastures, and young secondary forests (Haber 2002). Disturbance is necessary for establishment. Gallinero is intolerant of shade; at least broken sunlight is necessary for long-term survival and flowering. A number of insect species feed on the leaves and parasitize the fruits (Engriser 1995, Haber 2002, Simpson and others 2002).

Reproduction.—Gallinero flowers in May and June and fruits from May to September in Costa Rica. Occasional individuals may be found in flower at any time during the year (Haber 2002). In Puerto Rico, the species flowers in spring and fruits in late spring and summer (Little and others 1974). The flowers are pollinated by bees, wasps, flies, butterflies, beetles, and occasionally hummingbirds (Haber 2002). A collection of fruits from Puerto Rico averaged 0.2025 ± 0.0084 g/fruit. Seeds separated from them weighed an average of 0.00074 ± 0.00017 g/seed or 1,350,000

seeds/kg. Sown on commercial potting mix, 88 percent germinated between 11 and 35 days after sowing. Some of the seedlings were killed by "damping off" fungi (species unknown). A fruiting tree produces an enormous number of seeds. Birds and bats eat the fruits and disperse the seeds (Engriser 1995). Layering (rooting) occurs whenever the trunk or branches come in contact with the ground; sprouts from prostrate trunks and branches sometimes become independent plants.

Growth and Management.—Gallinero has a moderate growth rate and is relatively short-lived (10 to 20 years). Nursery and management experience has not been published.

Benefits.—Gallinero is used occasionally as an ornamental and for hedges and living fence posts. Chickens eat the fruits (Little and others 1974). The wood is burned for fuel (Espinoza 1985). Practitioners of traditional herbal medicine use extracts of leaves to treat cancerous growths. An alcoholic extract was tested and found to inhibit cancerous cells *in vitro* and *in vivo*. The active ingredients were identified as Withaferin A and Withacnistin (Kupchan and others 1969). Extracts of gallinero were the most effective against hamster lung fibroblasts of 31 Columbian plants used in herbal medicine to treat cancer (Lopez de Cerain and others 1996). The species is used in Brazil as a diuretic, to treat liver infections, as well as an antitumor agent (Minguzzi and Barata 2002). Gallinero helps reforest disturbed areas, protects the soil, and furnishes food and cover for wildlife.

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