

***Duranta erecta* L.**
VERBENACEAE

golden dewdrop

Synonyms: *Duranta repens* L.
Duranta ellisia Jacq.
Duranta plumieri Jacq.



General Description.—Golden dewdrop, also known as skyflower, pigeon berry, angels-whisper, duranta, cuentas de oro, azota-caballo, fruta de paloma, lila, lluvia, and grão de galo, is an upright to drooping shrub that sometimes takes the form of a scrambling shrub or rarely a small tree (Liogier 1995, Little and others 1974). It usually matures with a height 1 to 3 m. The species develops tap and lateral root systems with abundant fine roots. There are normally several stems arising from below and just above the ground line. Crowns of golden dewdrop are replete with fine branches and twigs that are often thorny. The bark is light gray, becoming rough and fissured when old. Light-green, opposite leaves are elliptic to ovate and 1.5 to 8 cm long. Light-blue, lavender, or white, tubular, five-lobed flowers are borne on terminal or axillary racemes. The yellow or yellow-orange fleshy fruits are ellipsoidal with five lobes and grow in hanging clusters. These fruits may contain up to eight nutlets (Hardin and Arena 1969, Howard 1989, Liogier 1995, Little and others

1974).

Range.—Golden dewdrop is a native of Mexico, Central America, South America to Argentina, southern Florida (possibly naturalized), Bermuda, the Bahamas, and the West Indies (Howard 1989, Liogier 1995, Little and others 1974). The species is widely cultivated and escaped in the tropics and subtropics including Hawaii, American Samoa, and Guam (Pacific Islands Ecosystems at Risk 2002).

Ecology.—Golden dewdrop grows wild mostly in dry coastal areas (750 to 900 mm of annual precipitation in Puerto Rico) from near sea level to over 100 m in elevation (Little and others 1974). It also grows in disturbed areas in moister habitat, especially along roads (Pacific Island Ecosystems at Risk 2002). Because it is moderately intolerant of shade and does not compete well with taller vegetation, golden dewdrop is usually found in rocky or sandy areas with low shrubs and sparse grass and herbs. Although it is more common on limestone, the shrub also grows in areas with igneous rocks. The species tolerates light to moderate salt spray. In natural stands, golden dewdrop may be found in small tangled stands or as occasional plants. Plants under droughty and infertile natural conditions tend to be short (about 1 m in height). Where cultivated in deep, moist, fertile soils, golden dewdrop grows faster and to larger sizes. As an ornamental, it can be grown in moderate shade at elevations up to 1,300 m (Bruggeman 1974). Plants in the northerly extent of the naturalized range die to the ground after frosts but resprout from the roots in the spring (Floridata 1999). The species is subject of attack by scale, mealy bugs, caterpillars, and nematodes (Watkins and Sheehan 1975, Woman's Club of Havana 1958).

Reproduction.—Natural stands of golden dewdrop in Puerto Rico flower and fruit in spring and summer (Little and others 1974). However, ornamental plants in Puerto Rico flower and fruit throughout the year (author's observation), and in

Florida, both flowers and fruit are present on the shrubs at the same time (Nelson 1996). A collection of golden dewdrop fruits from Puerto Rico averaged $0.515 \pm .009$ g/fruit. Air-dried seeds separated from them averaged 0.0346 ± 0.0005 g/seed or 28,900 seeds/kg. Set to germinate on moist filter paper without any pretreatment, 29 percent of the seeds germinated beginning 128 days after sowing (Francis and Rodríguez 1993). Birds disseminate the seeds (Watkins and Sheehan 1975). However, seedlings are seldom common. After establishment, plants thicken and spread laterally a few decimeters vegetatively. Golden dewdrop are produced commercially from seeds, cuttings, and by layering (Floridata 1999).

Growth and Management.—Golden dewdrop plants live at least 15 years. The species has a moderate growth rate, usually about 0.5 m/year for the first few years. Ornamental plants need regular thinning and pruning to keep them under control and to remove dead branches (Floridata 1999). Although they withstand poor soil and drought well, plants grow best if watered and fertilized (Woman's Club of Havana 1958).

Benefits and Detriments.—Golden dewdrop forms a part of the coastal scrub community and contributes to soil and ecosystem stability. It is a popular ornamental used for accent plants and hedges in tropical and subtropical parts of the world because of its profuse displays of flowers and fruits (Floridata 1999). Golden dewdrop flowers attract butterflies and hummingbirds (Floridata 1999). It is sometimes grown in greenhouses in areas too cold for natural plants. The wood is light brown and hard and useful for stakes and fuel. Golden dewdrop is a poisonous plant and has caused deaths of children. Saponins in the fruits and foliage cause gastroenteric irritation, drowsiness, fever, nausea, vomiting, and convulsions. Dermatitis sometimes occurs from handling the plants (Hardin and Arena 1969, Westbrook and Preacher 1986). However, birds feed on the fruits without difficulty (Nelson 1996). Ethyl acetate and aqueous extracts of leaves showed significant antimalarial activity when administered to mice (Castro and others 1996). In small quantities, fruits are used to treat intestinal worms (Whistler 2000).

References

Bruggeman, L. 1964. Tropical plants and their cultivation. Thames and Hudson, London. 228 p.

Castro, O., M. Barrios, M. Chinchilla, and O. Guerrero. 1996. Chemical and biological evaluation of the effects of plant extracts against *Plasmodium berghei*. *Revista de Biología Tropical* 44(2A): 361-367.

Floridata. 1999. *Duranta erecta*. http://floridata.com/ref.d.dra_ere.cfm. 3 p.

Francis, J.K. and A. Rodríguez. 1993. Seeds of Puerto Rican trees and shrubs: second installment. Research Note SO-374. U.S. Department of Agriculture, Forest Service, Southern Forest Experiment Station, New Orleans, LA. 5 p.

Hardin, J.W. and J.M. Arena. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, NC. 167 p.

Howard, R.A. 1989. Flora of the Lesser Antilles. 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.

Little, E.L., Jr., R.O. Woodbury, and F.H. Wadsworth. 1974. Trees of Puerto Rico and the Virgin Islands. Vol. 2. Agriculture Handbook 449. U.S. Department of Agriculture, Washington, DC. 1,024 p.

Nelson, G. 1996. The shrubs and woody vines of Florida. Pineapple Press, Inc., Sarasota, FL. 391 p.

Pacific Island Ecosystems at Risk. 2002. *Duranta erecta* L., Verbenaceae. <http://www.hear.org/pier3/duere.htm>. 2 p.

Watkins, J.V. and T.J. Sheehan. 1975. Florida landscaping plants, native and exotic. The University Presses of Florida, Gainesville, FL. 420 p.

Westbrook, R.G. and J.W. Preacher. 1986. Poisonous plants of Eastern North America. University of South Carolina Press, Columbia, SC. 226 p.

Whistler, W.A. 2000. Tropical ornamentals, a guide. Timber Press, Inc., Portland, OR. 542 p.

Woman's Club of Havana. 1958. Flowering plants from Cuban gardens. Criterion Books, New York. 365 p.

John K. Francis, Research Forester, U.S. Department of Agriculture, Forest Service, International Institute of Tropical Forestry, Jardín Botánico Sur, 1201 Calle Ceiba, San Juan PR 00926-1119, in cooperation with the University of Puerto Rico, Río Piedras, PR 00936-4984