

Clerodendrum macrostegium

Velvetleaf glorybower

Verbenaceae

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OVERVIEW

Many *Clerodendrum* species are cultivated in warm regions of the world, including Hawai'i, for their attractive and unusual flowers. Many of these species have at least sparingly naturalized in Hawai'i, some spreading vegetatively and others spreading sexually via bird dispersed seeds. Spread mainly occurs in warm, moist to wet, lowland areas and the invasive potential to natural areas is not yet fully known. *Clerodendrum macrostegium*, native to the Philippines, has recently been documented as naturalized on the island of Kaua'i (Lorence and Flynn 1997, Wagner et al. 1999). This species apparently appeared at Alexander's Nursery in Wailua, Kaua'i after hurricane Iniki in 1992. It seems to be spreading locally by root suckers. Since then, similar naturalized *C. macrostegium* have also been found throughout Olu Pua Gardens. These seem to be spreading in part by seed, perhaps dispersed by birds (Lorence and Flynn 1997, Wagner et al. 1999). *C. macrostegium* has not been observed on Maui yet.

TAXONOMY

Family: Verbenaceae (Verbena family) (Lorence and Flynn 1997, Wagner et al. 1999).

Latin name: *Clerodendrum macrostegium* Schauer (Lorence and Flynn 1997, Wagner et al. 1999).

Synonyms: None known.

Common names: Velvetleaf glorybower (PLANTS 2001).

Taxonomic notes: The genus *Clerodendrum* includes over 450 species of tropical regions (Wagner et al. 1999).

Nomenclature: The name *Clerodendrum* is derived from the Greek *kleros*, meaning chance or fate, and *dendron*, meaning tree, in reference to the uncertain medicinal qualities of some of the plants (Wagner et al. 1999).

Related species in Hawai'i: Neal (1965) refers to several species being cultivated in Hawai'i, including *C. ugandense* Prain., *C. thomsonae* Balf., *C. splendens* G. Don, *C. speciosissimum* Van Geert., *C. minahassae* Teijsm. and Binn., *C. indicum* (L.) Ktze., *C. fragrans* (Vent) R. Br. var. *pleniflorum* Schau., and *C. glabrum* E. Mey. On Maui, *C. buchananii* var. *fallax*, [syn. *C. speciosissimum*], Pagoda flower, whose leaves resembles those of 'awa (*Piper methysticum*), with striking large leaves, bright red flowers, and shiny black fruit, is commonly cultivated in older neighborhoods on Maui, such as Wailuku, Waihe'e, and Kahului (Kepler 1995). Species which have naturalized in Hawai'i including the following. *C. chinense* (Osbeck) Mabberly [syn. *C. philippinum* Schauer, *C. fragrans* Willd.], which is naturalized in open, wet, partly shaded, disturbed areas at the edges of mesic and wet forests, taro paddies, or streams in the lowlands of all

of the main islands except Ni'ihau and Kaho'olawe (Wagner and Herbst 1995, Wagner et al. 1999). On Maui, this species can be observed in wet areas from Nahiku to Hana where it forms thickets on roadsides, in gardens, and pastures. Apparently, it spreads only by root suckers (Wagner et al. 1999). Several *Clerodendrum* species have been reported as escaped from gardens, but not yet naturalized. Wagner et al. (1999) note that *C. indicum* and *C. speciosissimum* are garden escapes at least on O'ahu. Lorence and Flynn (1997) add that *C. quadriloculare* (Blanco) Merrill spreads locally by root suckers when cultivated. *C. laponicum* (Thunb.) (sweet glorybower) is reported as escaped on Kaua'i in the Omalo area, where it is becoming a serious pest and is also reported from Wailau Valley Moloka'i (Smith 1998). *C. inerme* (L.) Gaertn., embret, is also reported as cultivated and sparingly escaped from the garden in south Kihei, Maui and Kona, Hawai'i.

DESCRIPTION

"Large shrub or tree of up to 20 ft tall with large, velvety leaves, white and lilac flowers subtended by large, showy, lilac and pale green bracts. As the fruit matures the calyx becomes engorged, thickens and turns a dark glossy purple, splitting in to a star shape that presents the glossy, blue-black fruits." (Lorence and Flynn 1997, Wagner et al. 1999).

BIOLOGY & ECOLOGY

Cultivation: Many *Clerodendrum* species are grown for their attractive and unusual flowers.

Invasiveness: Numerous *Clerodendrum* species are cultivated in Hawai'i. Two species are reported as naturalized and several are reported as beginning to escape. Most are cultivated in moist to wet lowland areas and many *Clerodendrum* species are currently spreading vegetatively, by root suckering, and while others may be spreading sexually via fruit eating birds. *C. macrostegium* is naturalized on the island of Kaua'i (Lorence and Flynn 1997, Wagner et al. 1999), where it is suspected to be spreading by fruit eating birds. *C. macrostegium* has not been observed on Maui yet. It is uncertain how invasive this species will be in natural areas.

Pollination: Unknown.

Propagation: *Clerodendrum* species can be propagated by seeds and cuttings (Riffle 1998)

Dispersal: *Clerodendrum* species are first dispersed into the landscape of Maui via humans using the plant in landscaping. Plants spread vegetatively to adjacent areas and seeds may be dispersed by birds.

Pests and Diseases: Whiteflies, mealybugs, and aphids are common, according to Brickell and Zuk (1997) and galls, cankers, and a few leaf spots are also known to occur.

DISTRIBUTION

Native range: *C. macrostegium* is native to the Philippines.

Global distribution: *Clerodendrum* species are cultivated in warm climates.

State of Hawai'i distribution: In Hawai'i, *C. macrostegium* is known from Kaua'i (Lorence and Flynn 1997, Wagner et al. 1999).

Island of Maui distribution: No *C. macrostegium* plants have been observed on Maui yet. Photos of the plant would help to gain a search image. Likely places where *C. macrostegium* would be found include gardens of lowland moist to wet areas from Ha'iku to Hana and older neighborhoods where *Clerodendrum* species are popular in landscaping.

CONTROL METHODS

No control methods have been refined or found in literature. Plants can probably be removed mechanically or chemically depending on size of infestation. No biological controls are known.

Noxious weed acts: No noxious weed acts are known.

MANAGEMENT RECOMMENDATIONS

Not yet known from Maui, *Clerodendrum macrostegium* is known from Kaua'i, where it was recently reported as naturalized. It would be good to see the population on Kaua'i and talk to experts there to ascertain its invasive potential. It may be wise to evaluate other *Clerodendrum* species on Maui to assess their potential for invasiveness as well. There seems to be many different species, with some hybrids, and most of them seem to escape from gardens at least sparingly. It would be good to evaluate which ones escape and how far.

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