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
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 resemble 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 Willld.], 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., embrert, 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.


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.

REFERENCES


