

Ochna serrulata

Mickey Mouse plant

Ochnaceae

Forest Starr, Kim Starr, and Lloyd Loope
United States Geological Survey--Biological Resources Division
Haleakala Field Station, Maui, Hawai'i

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OVERVIEW

Ochna species are ornamental shrubs and trees native to tropical woodlands of Africa and Asia. Several species, including *Ochna serrulata*, are cultivated in Hawai'i for their colorful flowers and unusual fruits. On Maui, *Ochna* species are commonly seen in gardens as specimen plants or as hedges in residential and urban areas. During roadside surveys on Maui in 2000, it was found that *Ochna* spp. were particularly popular and widely planted and naturalized in a few lowland residential areas, including Lahaina, Wailuku, and Kahului. *Ochna* species were less commonly observed in Kapalua, Ha'iku, Pukalani, Kula, and Kipahulu. During these surveys, plants were only identified to genus level, so it is uncertain whether the majority of these were *O. serrulata* or *O. thomasiانا* or a combination of both. Regardless, in Hawai'i both species are known to spread from initial plantings via bird dispersed fruits, frequently volunteering near homes and gardens and nearby disturbed areas. *O. serrulata* is naturalized at Manuka, Hawai'i. It is not documented as naturalized on Maui yet. *O. thomasiانا* is naturalized on both West and East Maui (Oppenheimer 2003, in press, Starr et al. 2003, in press). On East Maui, *Ochna thomasiانا* was recently discovered by Park staff in a disturbed mesic lowland forest in the Ka'apahu district of Haleakala National Park. While *Ochna* spp. are fairly widespread in cultivation on Maui, they are not common in natural areas yet. Early detection and rapid control of discrete incipient populations in and near protected natural areas may help prevent future infestations of *Ochna* spp. in sensitive areas.

TAXONOMY

Family: Ochnaceae (Ochna family) (Herbarium Pacificum Staff 1998, Wagner et al. 1999).

Latin name: *Ochna serrulata* (Hoshst.) Walp. (Herbarium Pacificum Staff 1998, Wagner et al. 1999).

Synonyms: *Diporidium serrulata* Hochst., *Ochna atropurpurea* auct., *O. multiflora*, *O. serratifolia* (Brickell and Zuk 1997, GRIN 2003).

Common names: Mickey Mouse plant, bird's eye bush (Brickell and Zuk 1997).

Taxonomic notes: The genus, *Ochna*, is made up of over 80 species of deciduous or semi-evergreen trees and shrubs from the tropical woodlands of Africa and Asia.

Nomenclature: The common name (Mickey Mouse plant) is derived from the large drupelet fruits that look like mouse ears (Whistler 2000).

Related species in Hawai'i: Two species of *Ochna* are documented as naturalized in Hawai'i, *Ochna serrulata* and *Ochna thomasiانا*. Other *Ochna* species that are

cultivated in Hawai'i include *Ochna integerrima* (Vietnamese Mickey Mouse plant) and *Ochna mossambicensis* (African Mickey Mouse plant).

DESCRIPTION

"Diffuse shrub to 3.3 m tall with copiously lenticellate twigs and branchlets; oblong, subsessile leaf blades with serrulate margins; and usually 5 or less drupelets." (Herbarium Pacificum Staff 1998, Wagner et al. 1999).

"Bushy, semi-evergreen shrub or small tree, with bronze shoots covered with close-set, raised, corky dots. Shiny, bright green leaves, 2 1/2 in (6 cm) long, are narrowly elliptic and finely toothed. Saucer-shaped flowers, to 3/4 in (2 cm) across, each with 5 or 6 spreading, bright yellow petals, are borne singly or in small cymes, mainly in late spring and summer; after the petals fall, the receptacle and sepals turn glossy red. Produces clusters of 5 or 6 spherical, lustrous black fruit." (Brickell and Zuk 1997).

"*O. serrulata* differs from *O. thomasi* by having narrower leaves with sharp teeth rather than bristle-bearing margins." (Whistler 2000).

BIOLOGY & ECOLOGY

Cultivation: *Ochna serrulata* is widely cultivated as an ornamental garden plant for its yellow flowers and unusual fruits.

Invasiveness: *Ochna serrulata* spreads from initial plantings via bird dispersed fruits and is naturalized in lowland disturbed mesic forests in at least Hawai'i and Australia (Herbarium Pacificum Staff 1998, Wagner et al. 1999, PIER 2003).

Pollination: Unknown.

Propagation: *Ochna serrulata* can be propagated from seeds (Brickell and Zuk 1997).

Dispersal: Seeds are likely dispersed by birds who are attracted to the fruits (Csurhes and Edwards 1998).

Pests and diseases: Brickell and Zuk (1997) report that *Ochna serrulata* is susceptible to spider mites.

DISTRIBUTION

Native range: *Ochna serrulata* is native to the eastern Cape of Good Hope region in South Africa (Palgrave 1988).

Global distribution: *Ochna serrulata* is naturalized in lowland disturbed mesic forests in at least Hawai'i and Australia (Herbarium Pacificum Staff 1998, Wagner et al. 1999, PIER 2003). In Australia, *O. serrulata* is naturalized in dry sclerophyll forest and riparian vegetation throughout most of coastal, south-east Queensland (Csurhes and Edwards 1998).

State of Hawai'i distribution: Based on voucher specimens in Bishop Museum, Honolulu, Hawai'i, *Ochna serrulata* is not as commonly cultivated as *Ochna thomasiiana* (Herbarium Pacificum Staff 1998). *Ochna serrulata* was recently reported as naturalized on the island of Hawai'i from Manuka State Park and Manuka Natural Area Reserve. *O. serrulata* is cultivated at Manuka State Park and was found naturalized in surrounding scrub forest behind the park and about 1 mile away in Manuka NAR in *Metrosideros polymorpha* (ohia) forest on a'a lava flow about 730 m (2,395 ft) (Herbarium Pacificum Staff 1998).

Island of Maui distribution: On Maui, *Ochna* species are commonly seen in gardens as specimen plants or as hedges in residential and urban areas. During roadside surveys on Maui in 2000, it was found that *Ochna* spp. were particularly popular and widely planted and naturalized in mostly lowland residential areas, including Lahaina, Wailuku, and Kahului. *Ochna* species were less commonly cultivated and naturalized in Kipahulu, Kapalua, Ha'iku, Pukalani, and up to about 4,000 ft (1,219 m) elevation in Kula. During these surveys, plants were only identified to genus level, so it is uncertain whether the majority of these were *O. serrulata* or *O. thomasiiana* or a combination of both. Regardless, in Hawai'i both species are known to spread from initial plantings via bird dispersed fruits and frequently volunteer near homes and gardens and nearby disturbed areas.

CONTROL METHODS

Physical control: Smaller *Ochna* plants can probably be mechanically removed either by pulling or digging out the plants. This is likely a good way to control small populations of unwanted plants with little non-target effects.

Chemical control: In a larger infestation, chemical control may be necessary. Methods for woody species, such as cut stump or basal bark applications of herbicide are likely effective in controlling *Ochna serrulata*.

Biological control: None known.

Cultural control: The public could be made aware that *Ochna* species spread and be asked not to plant them, especially near natural areas.

Noxious weed acts: None known.

MANAGEMENT RECOMMENDATIONS

Ochna species are widely cultivated in Hawai'i as ornamental garden plants. Two species, *Ochna serrulata* and *Ochna thomasiiana* frequently volunteer near homes and gardens as well as disturbed mesic forests nearby plantings. On Maui, *O. serrulata* is not yet documented as naturalized, though it does volunteer near where it is planted. *Ochna* spp. are popular garden ornamentals and have already been planted in numerous neighborhoods. The public could be discouraged from future plantings, especially near natural areas. Natural area managers should become familiar with *Ochna* species so that they can be detected and controlled as early as possible to prevent large infestations.

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