

Pittosporum pentandrum

Taiwanese cheesewood

Pittosporaceae

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OVERVIEW

Pittosporum pentandrum (Taiwanese cheesewood), native to China, Taiwan, Indonesia, and Philippines (PIER 2003) is cultivated in warm regions of the world as an ornamental street tree. *P. pentandrum* is known to spread from initial plantings in at least southern Florida and Hawai'i (Judd 1996, Herbarium Pacificum Staff 1999, Wagner et al. 1999). In Hawai'i, *P. pentandrum* was originally introduced to the island of O'ahu some time in the early 1970's (Herbarium Pacificum Staff 1999). It is now spreading rapidly from initial plantings via bird dispersed fruit and is no longer recommended for landscaping (Herbarium Pacificum Staff 1999). It is also known from the island of Hawai'i (Herbarium Pacificum Staff 1999). *P. pentandrum* is not currently known from Maui. However, due to sharing of plants between islands, it is likely that it either exists in limited numbers already and has not been detected, or that it will be introduced some time in the future. The full potential threat of *P. pentandrum* to Maui is not yet known, however, it is probable that it will have invasive characteristics similar to other weedy *Pittosporum* spp., such as *P. undulatum* and *P. viridiflorum*. Gaining a search image, observing the infestations on O'ahu, and keeping an eye open for *P. pentandrum* on Maui is suggested.

TAXONOMY

Family: Pittosporaceae (*Pittosporum* family) (Wagner et al. 1999).

Latin name: *Pittosporum pentandrum* (Blanco) Merr. (Herbarium Pacificum Staff 1999, Wagner et al. 1999).

Synonyms: None known.

Common names: Pittosporum, Taiwanese cheesewood, mamalis (PIER 2003).

Taxonomic notes: Pittosporaceae is a family made up of 9 genera and about 200 species from tropical and warm temperate areas of the Old World, being best developed in Australia (Wagner et al. 1999). The genus *Pittosporum* is made up of about 150 species of tropical and subtropical Africa, Asia, Australia, New Zealand, and some Pacific Islands (Wagner et al. 1999).

Nomenclature: The genus name, *Pittosporum*, is derived from the Greek word, *pittos*, meaning pitch, and *sporos*, meaning seeds, in reference to the black seeds covered with viscid resin (Wagner et al. 1999).

Related species in Hawai'i: In Hawai'i, *Pittosporum* is represented by 10 endemic species and 3 naturalized species which include *P. pentandrum*, *P. undulatum*, and *P. viridiflorum* (Herbarium Pacificum staff 1999, Starr et al. 1999, Wagner et al. 1999). In addition, *P. tobira* is cultivated in Hawai'i.

DESCRIPTION

"A small tree or shrub, the bark greenish-white, with conspicuous lenticels; branchlets brownish pubescent. Leaves obovate-lanceolate or elliptic lanceolate, 4-11 cm long, 1.3-4 cm broad, acute at both ends, entire to crenate; petioles 0.4-1.5 cm long. Inflorescence in terminal, small, crowded, brown-pubescent panicles, 2-8.6 cm long, the flowers small, crowded about 5 mm across; sepals 5, ovate, 1-2 mm long, distinct; petals 5, oblong-linear, 5 mm long truncate. Capsule globose, 7-8 mm across, slightly apiculate, 2-valved, the valves subwoody. Seeds 5-6, about 3 mm thick, angled." (Flora of Taiwan 1993).

BIOLOGY & ECOLOGY

Cultivation: *P. pentandrum* is cultivated in warm regions of the world, often as an ornamental street tree. In Hawai'i, this species was introduced in the early 1970's (Herbarium Pacificum Staff 1999).

Invasiveness: *P. pentandrum* has escaped from cultivation in at least southern Florida and Hawai'i on the islands of O'ahu and Hawai'i (Judd 1996, Herbarium Pacificum Staff 1999, Wagner et al. 1999). Seeds of this species are in bright yellow capsules which split open to reveal orange-red seeds. These are attractive to birds which readily spread the seeds (Herbarium Pacificum Staff 1999).

Pollination: Not known.

Propagation: *Pittosporum* spp. can be propagated from seeds as soon as they are ripe. Semi-ripe cuttings or air layers are also effective propagation methods (Brickell and Zuk 1997).

Dispersal: *P. pentandrum* are spread long distances by humans who use the plant in landscaping. Seeds of *P. pentandrum* are spread by fruit eating birds (Herbarium Pacificum Staff 1999).

Pests and diseases: According to Brickell and Zuk (1997), *Pittosporum* spp. are susceptible to aphids, spider mites, mealybugs, scale insects, leaf spots, dieback, root knot nematode, galls, and cankers.

DISTRIBUTION

Native range: *P. pentandrum* is native to China, Taiwan, Indonesia, and the Philippines (PIER 2003).

Global distribution: *P. pentandrum* is cultivated in various regions including Hawai'i and Florida (PLANTS 2003).

State of Hawai'i distribution: In Hawai'i, *P. pentandrum* is thought to have been introduced to O'ahu in the early 1970's where it was planted as an ornamental street tree and in gardens (Herbarium Pacificum Staff 1999). It was recently reported as naturalized from O'ahu and Hawai'i. On O'ahu, naturalized *P. pentandrum* was collected in 1998

from He'eia State Park, 100 ft (30 m) elevation, where many different plants of various sizes were observed in an alien forest along with *Syzygium cumini*, *Ochna*, and *Passiflora*. On the island of Hawai'i, naturalized *P. pentandrum* was collected in 1996 from the Kohala Mountains, in the vicinity of Wai'aka Gulch, Pu'u o 'Umi Natural Area Reserve, 61 m (200 ft) elevation (Herbarium Pacificum Staff 1999).

Island of Maui distribution: *P. pentandrum* is not yet known from Maui. However, since *P. pentandrum* is already known from the state of Hawai'i, it is probable that it either exists in limited numbers on Maui and has not yet been detected, or it will be introduced in the future.

CONTROL METHODS

Physical control: Seedlings can likely be hand pulled. Small trees can probably be dug up.

Chemical control: Cut stump, frill, and basal bark methods employing herbicides are likely effective means of control for *P. pentandrum*.

Biological control: None known. With numerous endemic *Pittosporum* species in Hawai'i, any biological control should be done with extreme caution.

Cultural control: The public could be discouraged from planting *Pittosporum* species that are known to spread.

Noxious weed acts: None known. A related species, *P. undulatum*, is a Hawai'i state noxious weed (HDOA 1992).

MANAGEMENT RECOMMENDATIONS

Pittosporum pentandrum is cultivated in warm regions of the world, often as an ornamental street tree. Recently, it has been reported as naturalized and spreading via bird dispersed fruits in at least southern Florida and the Hawaiian Islands of O'ahu and Hawai'i. *P. pentandrum* is not yet known from Maui. Because it is already established in the state, it is likely that it may be present on Maui in limited numbers and has not yet been detected. Gaining a search image, observing the infestations on O'ahu, investigating potential threat, and keeping an eye open for *P. pentandrum* on Maui is suggested.

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