

Omalanthus populifolius

Queensland poplar

Euphorbiaceae

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OVERVIEW

Omalanthus populifolius (Queensland poplar) is a large shrub native to Australia that is sometimes cultivated in other regions of the world as an ornamental garden plant. *O. populifolius* has escaped in Sri Lanka and is considered a potential pest plant in South Africa (Cavanagh 1997, Esser 1997). In Hawai'i, *O. populifolius* was recently collected from naturalized populations on both Maui and Hawai'i. The infestations are locally established and appear to be in the early stages of invasion. Based on information from its native range, it seems likely that *O. populifolius* could threaten disturbed mesic forests and other areas up to 1,000 m (3,281 ft) in Hawai'i. Further survey and investigation is needed to determine the extent of the infestations on Maui and Hawai'i. It could also be searched for on other islands and discouraged from further plantings.

TAXONOMY

Family: Euphorbiaceae (Spurge family) (Wagner et al. 1999).

Latin name: *Omalanthus populifolius* R.C. Graham (det. George Staples).

Synonyms: *Homalanthus populifolius* R.C. Graham, *Carumbium populifolium* (R.C. Graham) Benth. & F.J. Muell. (Bailey and Bailey 1976), *Omalanthus nutans* (Cavanagh 1997).

Common names: Queensland poplar, bleeding heart, poplar leaved omalanthus (Bailey and Bailey 1976, Cavanagh 1997, Steenbeeke 1998)

Taxonomic notes: The family Euphorbiaceae is comprised of about 300 genera and 7,500 species cosmopolitan in distribution, and best developed in tropical and subtropical regions (Wagner et al. 1999). The genus, *Omalanthus* or *Homalanthus*, is comprised of about 40 species of monoecious or dioecious shrubs and trees, with milky sap, native to tropical Asia and Australia (Bailey and Bailey 1976). *Omalanthus*, is commonly applied as "*Homolanthus*" by Bailey and Bailey (1976) and Esser (1997). Others, report that the current name is *Omalanthus nutans* (G. Forst.) Guillemin (Cavanagh 1997). Esser (1997) disagrees and reports that *O. nutans* is a distinct species from *O. populifolius*. For the purposes of this report, we will call this species *Omalanthus populifolius* as was determined by Bishop Museum herbarium staff.

Nomenclature: The genus name refers to the flowers and the species name refers to the poplar like leaves.

Related species in Hawai'i: None known.

DESCRIPTION

"Glabrous, monoecious shrub or small tree; leaves triangular-ovate, to 6 in. long; racemes 2-4.5 in. long; female flowers on long pedicels, male flowers on very short pedicels; fruit about 3/8 in. in diameter." (Bailey and Bailey 1976).

"Shrub or tree, up to 12 m tall, dbh 5 cm, with straight bole and open, spreading crown. Glabrous. Stipules c. 1.5 cm long. Leaves: petiole 1.5--7 cm long, glandless; lamina orbiculate to ovate, 3--11.5 by 2.5--9 cm, index 1.1--1.8, base obtuse, very base often attenuate, not peltate, apex acuminate, lower surface whitish with most of venation of different colour, side veins in 9--13 pairs below the apex, angle of divergence 45--60°, hardly joined towards the margin, tertiary veins percurrent, quaternary veins reticulate, adaxially with an undivided, disc-shaped, prominent gland on junction lamina base/petiole, 0.75--1 mm in diam., abaxially with 0--2 laminar glands c. 0.25 mm in diam. and c. 2--4 mm distant from leaf margin, basal ones not enlarged. Inflorescences 4--9 cm long, bisexual, staminate part c. 6 mm in diam. Bracts of staminate cymules 0.75--1 mm long, with a comparatively small pair of roundish to pillow-shaped glands c. 0.25(-0.6) mm long, distinctly overtopped by the bract, sometimes with 2--3 pairs of glands, rarely glandless (most bracts of Brass 28722). Staminate flowers 1(--3) per cymule; pedicel 0.75--2 mm long; sepals 2, 0.6--1 mm long; stamens 6--8 per flower, with filaments c. 0.3 mm long and anthers c. 0.4 mm long. Pistillate flowers 1--4 per thyrses; pedicel c. 5--15 mm long; sepals 2, 0.75--1.25 mm long; ovary 1.5--2 mm long, bicarpellate, papillate or glabrous, style c. 0.25--1 mm long, stigma 1--4 by 0.4--0.5 mm, undivided, with a minute apical gland c. 0.4 mm long or rarely glandless. Fruits 1--4 per infructescence; bract sometimes persistent; pedicel 1.2--3.8 cm long; calyx hardly persistent; fruit excl. style 5--8 by 6--8 mm, sulcate, not carinate, papillate or not, style persistent; regularly opened fruits not seen. Seeds not studied in Malesian specimens." (Esser 1997).

BIOLOGY & ECOLOGY

Cultivation: According to Bailey and Bailey (1976), *O. populifolius* is sometimes grown in the southern United States as an ornamental. *O. populifolius* is often cultivated in botanical gardens (Esser 1997). In Australia, *O. populifolius* is used as a pioneer species in landscape rehabilitation projects (Esser 1997). The bark and leaves of *O. populifolius* yields a black dye (Bailey and Bailey 1976).

Invasiveness: The use of *O. populifolius* as a pioneer species in rehabilitation projects in its native Australia demonstrates the hardiness of this species. Frequently planted in botanical gardens and as a landscape plant, *O. populifolius* has been known to spread and has become naturalized in at least Sri Lanka (Esser 1997). In South Africa, *O. populifolius* is considered a potential pest plant and is discouraged from plantings (Cavanagh 1997). In Hawai'i, *O. populifolius* has recently been collected from naturalized plants on the islands of Maui and Hawai'i.

Pollination: Not known.

Propagation: *O. populifolius* is propagated from seeds (Steenbeeke 1998). Plants require some shade when young (Steenbeeke 1997).

Dispersal: Uncertain. *O. populifolius* is spread long distances in horticulture trade.

Pests and diseases: None known.

DISTRIBUTION

Native range: *O. populifolius* is native to Ceylon and Pacific Islands (Bailey and Bailey 1976). Esser (1997) lists the distribution as northeast and eastern Australia, including Queensland and New South Wales, Solomon Islands and Melesia, including New Guinea (Papua New Guinea and Admiralty Islands). In its native range, *O. populifolius* grows along stream banks (Steenbeeke 1997). *O. populifolius* is locally occasional to common from sea level up to 1,000 m (3,281 ft) in lowland and lower montane forest re-growth, secondary forest, well drained or swamp forest, on ridges, and riversides (Esser 1997).

Global distribution: *O. populifolius* is occasionally cultivated as an ornamental in the southern United States (Bailey and Bailey 1976). So far, no reports of it being invasive there have been found. It is reported as escaped in Sri Lanka, probably from a planting in a botanical garden (Esser 1997). In South Africa, it is considered a potential pest plant. In Hawai'i, it was recently collected as naturalized on Maui and Hawai'i.

State of Hawai'i distribution: *O. populifolius* is now known from Maui and Hawai'i and will be published as a new naturalized record in the near future. It was first collected in 2002 from Ha'iku, Maui. A few weeks later, it was collected from the island of Hawai'i, from Ocean View Estates, near Manuka State Park, elevation 2,000-2,200 ft (630 m), in mesic forest. Numerous plants were observed. Plants are likely spreading from cultivated material grown in nearby gardens.

Island of Maui distribution: *O. populifolius* was first collected on Maui from naturalized plants in April, 2002 in Ha'iku, elevation 1,400 ft (425 m). Plants had come up in an un-maintained portion of a yard. Apparently, *O. populifolius* is spreading in the area, under *Eucalyptus* spp. and into Maliko Gulch (Fern Duvall pers. comm.). Further detailed mapping of this species on Maui is needed.

CONTROL METHODS

Physical control: Small seedlings can likely be pulled. Small plants can likely be dug up. It is uncertain if cutting at ground level without herbicide applications will result in effective control or if plants will re-sprout.

Chemical control: Herbicide applications using cut stump, frill, or basal bark methods are likely effective means of control.

Biological control: None known.

Cultural control: This plant has been introduced to various places of the world by people who grow it for ornamental purposes. The public in Hawai'i could be discouraged from planting *O. populifolius*.

Noxious weed acts: None known. *O. populifolius* is considered a potential pest plant in South Africa and is discouraged from plantings there (Cavanagh 1997).

MANAGEMENT RECOMMENDATIONS

Previously not known from the state of Hawai'i, *O. populifolius* was recently collected on the islands of Maui and Hawai'i. It is locally established and spreading in Ha'iku, Maui and Ocean View Estates, Hawai'i. *O. populifolius* has also escaped from plantings in Sri Lanka and is considered a potential pest plant in South Africa. Based on habitat and hardiness in its home range, it seems likely that *O. populifolius* could threaten mesic forests and other areas up to at least 1,000 m (3,281 ft). *O. populifolius* has not yet spread very far and is not yet widely cultivated. More refined mapping to pinpoint the exact extent of the infestation on Maui and Hawai'i is needed. This would help guide control / containment strategies. The public could be discouraged from planting *O. populifolius*. Other islands could search for the presence of *O. populifolius*.

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