Thunbergia laurifolia

Blue trumpet vine
Acanthaceae

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OVERVIEW

T. laurifolia, native to India, is an aggressive vine that is commonly cultivated and sometimes escaped. In Hawai'i, *T. laurifolia* was cultivated on O'ahu as early as the late 1800's and is now naturalized on Kaua'i, O'ahu, and Maui (Starr et al. 1999, Wagner et al. 1999). On Maui, *T. laurifolia* is not as widely cultivated as the related species *T. grandiflora* and is known from naturalized populations in Wailua, Honomanu, and Kokomo, mostly lowland moist disturbed areas of East Maui. Once established, this aggressive vine is extremely difficult to control. The public could be discouraged from planting this species near vulnerable areas. Prevention and early detection in natural areas is needed to avoid infestations.

TAXONOMY

Family: Acanthaceae (Acanthus family) (Wagner et al. 1999).
Latin name: *Thunbergia laurifolia* Lindl. (Wagner et al. 1999).
Synonyms: *T. grandiflora* var. *laurifolia* (Lindley) Benoist, *T. harissi* Hook. (PIER 2003).
Common names: Blue trumpet vine, purple allamanda, laurel-leaved thunbergia, laurel clock vine (Wagner et al. 1999, PIER 2003).
Taxonomic notes: The genus *Thunbergia* is made up of about 200 species from warm areas of central and southern Africa, Madagascar, and Asia (Wagner et al. 1999).
Nomenclature: The genus is named after the Swedish botanist and explorer, Carl Peter Thunberg (1743-1822) (Turner and Wasson 1997).
Related species in Hawai'i: Numerous *Thunbergia* species are cultivated in Hawai'i and some are naturalized. Other naturalized species include *T. alata* (black-eye Susan vine), *T. fragrans* (sweet clock vine), and *T. grandiflora* (trumpet vine). A few *Thunbergia* species are cultivated but are not yet naturalized, including *T. erecta* (king's mantle) and *T. mysorensis* (mysore clock vine).

DESCRIPTION

"Similar to *T. grandiflora* except: leaves broadly elliptic to narrowly ovate, 8-15 cm long, 2.5-5.5 cm wide, margins entire. Corolla pale blue with a white or pale yellow throat." (Wagner et al. 1999).

"Climbers with ovate-oblong or sublanceolate subentire to slightly crenate leaves, obtuse or subcordate, acute-acuminate, pinnately nerved, glabrous, mostly 7-18 cm long and 2.5-6 cm wide, on petioles up to 6 cm long; bracteoles persistent, 4-5 cm long; calyx truncate;

corolla blue-violet to white, tube 3.5-4.5 cm long, limb 6-8 cm broad; capsule up to 1.5 cm wide, the beak to 3 cm long." (Stone 1970).

BIOLOGY & ECOLOGY

Cultivation: *T. laurifolia* is widely cultivated for its attractive large white to purple colored flowers (Whistler 2000) and sprawling habit. *T. laurifolia* is grown on trellises and fences, as a ground cover, and as a screen plant. According to Riffle (1998), *T. laurifolia* is similar to *T. grandiflora*, yet more attractive, and capable of growing to greater heights. In Hawai'i, *T. laurifolia* was cultivated as early as 1890 on O'ahu (Wagner et al. 1999).

Invasiveness: *T. laurifolia* is infrequently naturalized where planted (Whistler 2000). In Hawai'i, cultivated since the late 1800's, *T. laurifolia* is now naturalized and found in similar situations as the related vine, *T. grandiflora* on Kaua'i, O'ahu, and Maui (Starr et al. 1999, Wagner et al. 1999). In Hawai'i, this vigorous vine is capable of aggressive growth and can blanket other vegetation where it grows. *T. laurifolia* climbs high into the canopy of other trees, attaining height up to at least 15 m (50 ft) in some areas.

Pollination: Unknown.

Propagation: *T. laurifolia* is propagated from seeds, cuttings, and fragments of roots (Whistler 2000, PIER 2003). Fruit has not yet been observed on Maui.

Dispersal: *T. laurifolia* may be spread from dumping of garden cuttings (PIER 2003). It is transported long distances by humans who grow the plant for ornament. In Australia, Land Protection (2001), reports that seeds of the related species *T. grandiflora* are catapulted several meters out of pods when they are ripe. In Hawai'i, vines seem to spread vegetatively to surrounding areas and can form rather large patches. In Australia, major dispersal modes include movement of plant parts in soil and flood waters (Land Protection 2001).

Pests and diseases: According to Brickell and Zuk (1997), *Thunbergia* species are susceptible to spider mites, whiteflies, and scale insects.

DISTRIBUTION

Native range: *T. laurifolia* is native to India (Wagner et al. 1999). Whistler (2000) reports the native range of *T. laurifolia* as Myanmar (Burma) and Malaysia.

Global distribution: *T. laurifolia* has escaped from gardens in at least Hawai'i and Australia (Wagner et al. 1999, Land Protection 2001). In Australia, both *T. laurifolia* and *T. grandiflora* have been promoted as ornamental gardens plants and are now widely cultivated in the Queensland area. Plants have escaped from cultivation and are spreading in native bushland (Land Protection 2001). Infestations of *T. laurifolia* are not as large as those of *T. grandiflora*, but more and more infestations are being found over a wide area (Land Protection 2001). In Australia, infestations of *T. laurifolia* are scattered along coastal streams (Land Protection 2001). PIER (2003) reports that *T. laurifolia* is

present on Fiji, French Polynesia (Tahiti, Tahaa, Riatea), Guam, Hawai'i, Marshall Islands (Majuro (cult.)), Samoa (Upolu), and Australia. PIER (2003) notes that *T. laurifolia* is present in French Polynesia, but is not particularly invasive there.

State of Hawai'i distribution: In Hawai'i, *T. laurifolia* was first collected on O'ahu in 1890 and is now sparingly adventive along hiking trails or margins of urban areas at least on Kaua'i, O'ahu, and Maui (Starr et al. 1999, Wagner et al. 1999). There are large patches of *T. laurifolia*, most likely originally from plantings, along the roadside in lowland moist areas.

Island of Maui distribution: During island wide surveys on Maui, *T. laurifolia* was found as sparingly cultivated from sea level to 3,500 ft (1,067 m). *T. laurifolia* is not as widely planted as the related species, *T. grandiflora*. Cultivated plants were observed in Wailuku, Paia, Ha'iku, Makawao, Pukalani, Kula, and Hana. Naturalized populations were observed in Wailua, Honomanu, and Kokomo. In these areas, *T. laurifolia* appeared to be spreading vegetatively from plantings into nearby disturbed lowland scrub.

CONTROL METHODS

Physical control: Only small plants can be dug out as large mature plants have extensive underground root systems and will bounce back (Land Protection 2001).

Chemical control: Spraying or injecting with herbicides is often the only option (Land Protection 2001). The authors have personal experience with attempts to control the related species, *T. grandiflora*. Store bought herbicides, such as Brush-B-Gon and Roundup have been used with foliar and cut stump methods. These attempts have not been effective and the plant has repeatedly bounced back from underground roots. Perhaps a stronger concentration may be effective.

Biological control: None known.

Cultural control: The public could be discouraged from planting *T. laurifolia*, especially near natural areas.

Noxious weed acts: *T. laurifolia* is a declared plant under Queensland legislation which requires landholders to control it on the land and waters under their control (Land Protection 2001).

MANAGEMENT RECOMMENDATIONS

T. laurifolia is a vine that is often cultivated on trellises for its attractive hanging blue flowers. It is considered a pest in several areas, including Australia, where it invades remnant wet forests and coastal river habitat. Once established, *T. laurifolia* vines are extremely difficult to control. In Hawai'i, *T. laurifolia* is sparingly naturalized on at least Kaua'i, O'ahu, and Maui (Starr et al. 1999, Wagner et al. 1999). On Maui, T. laurifolia is not as widely cultivated as *T. grandiflora*. Currently, most spread appears to be vegetative and most plants appear to be cultivated at this time, with a few locations that are considered naturalized. It is uncertain whether *T. laurifolia* will become a major

threat to Maui's natural areas. It could be discouraged from plantings, especially near natural areas. It could be controlled if found in or near natural areas to prevent its establishment.

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