

Thunbergia species

Thunbergia spp.



The four species of thunbergia declared under the *Land Protection (Pest and Stock Route Management) Act 2002* in Queensland are:

- *Thunbergia laurifolia*—laurel clockvine (Class 1)
- *Thunbergia annua* (Class 1)
- *Thunbergia fragrans* (Class 1)
- *Thunbergia grandiflora*—blue trumpet vine or blue sky vine (Class 2).

T. grandiflora is the most widespread pest species, having been used as a garden ornamental for its attractive large leaves and hanging groups of large, pale lavender flowers. While other species of thunbergia (black-eyed susan, scarlet clock vine, golden glory vine, lady's slipper) are not declared, they are not recommended for planting because of their potential to spread into surrounding bush.



Queensland Government

T. arnhemica is the only native species and occurs in northern parts of Queensland, the Northern Territory and Western Australia (can be confused with *T. fragrans*).

Thunbergia species are a major threat to remnant vegetation in the wet tropics.

In the past *T. grandiflora* and *T. laurifolia* were promoted and sold in Queensland as attractive garden plants, and both became widespread in Queensland gardens. These vigorous plants soon escaped into native bushland and began causing considerable environmental damage.

The plant climbs and blankets native vegetation, with the weight of the vine often pulling down mature trees. Smothered vegetation also has dramatically reduced light levels to lower layers of vegetation, drastically limiting natural growth and killing many native plants. Large tubers degrade creek and river banks and make destruction of the pest difficult.

In garden situations, it will also quickly spread and the large tubers may cause damage to paths, fences and foundations.

Declaration details

T. laurifolia, *T. fragrans* and *T. annua* are declared Class 1 plants and *T. grandiflora* is declared Class 2 under the *Land Protection (Pest and Stock Route Management) Act 2002*. Declaration requires landholders to control declared pests on the land and waters under their control. A local government may serve a notice upon a landholder requiring control of declared pests.

It is an offence to introduce, keep or supply Class 1 or 2 pests without a permit issued by Biosecurity Queensland. Penalties of up to \$80 000 apply.

Description and general information

All thunbergia species are vigorous perennial twining vines.

T. grandiflora

The leaves are opposite along the stem and are choko-like: up to 15 cm long and 10 cm broad, broad-based narrowing to a pointed tip, usually with deeply scalloped lobes towards the base.

The trumpet-shaped flowers have a short, broad tube, white on the outside, yellowish inside, which expands to five rounded, pale lavender-blue petals, one larger than the others. The flowers are up to 8 cm long and 6–8 cm across.

The seed pod is inconspicuous, cone shaped, 3–5 cm long, with a rounded base. The seed is flat, up to 1 cm long and covered with brown scales. It is catapulted several metres when the ripe pod splits.

The plant develops a very tuberous root system, some tubers being as large as 70 kg. The root system, when cut, persistently sprouts from its many dormant buds.



Thunbergia laurifolia infestation

Other species of thunbergia

T. laurifolia is very similar in appearance and habit to *T. grandiflora*. It has similar flowers; leaves are of similar size but with a different shape and texture, being oval and narrowing to a pointed tip. 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.

T. fragrans is a small low vine with slender climbing stems and white flowers. It is being reported more frequently in Queensland.

T. annua has not been found in Australia to date.

T. arnhemica, the native species, has only slender stems 1–3 m long, arising from woody rootstock. The opposite, arrowhead-shaped leaves, up to 7 cm long and 3 cm wide, are spaced at intervals of up to 20 cm along the stem. Pure white, bell-shaped flowers about 5 cm across are produced during the northern wet season. It is an attractive climber for use in rockeries or shrubbery in open positions.

Life cycle and dispersal

Thunbergia species are native to northern India and tropical Africa, and grow best in frost-free locations. They are perennial, living for many years.

Initially it was believed thunbergia did not set viable seed, but this has now been disproved.

Most propagation, however, is from stem cuttings or shoots from the tuberous roots, particularly when damaged or severed.

Dispersal of thunbergia can often be traced to transport of root pieces along river banks during floods, or transport from infested sites with earth removed for fill or other soil use.

Habitat and distribution

Infestations of *T. grandiflora* are patchy and are mostly scattered along coastal streams from the Tully River to the Daintree. Areas of acute infestation are the Mulgrave River, the Johnstone River and lower Mossman River.

T. laurifolia infestations are more isolated throughout the same area. Early control of these isolated plants is essential to prevent establishment of further infestations.

T. fragrans is recorded as a ‘principal’ weed in Hawaii, is naturalised in the United States and is being found to have a fairly wide distribution in Queensland.

T. annua is a weed in Sudan and has not yet been recorded in Australia. Every effort should be made to prevent this weed from entering Queensland, as prevention is better than cure.

Prevention

Thunbergia was originally sought for its attractive lavender flowers, and spread primarily via the ornamental plant trade.

Illegal sale of declared thunbergia species should be reported to Biosecurity Queensland.

Public awareness of this garden escapee, with its vigorous growth and alarming potential to spread, is increasing.

Existing garden specimens should be destroyed and replaced with other species. Plant cuttings should not be dumped—this is a frequent source of new weed infestations.

The origin of new top soil or fill should be checked as physical transportation of plant segments in soil or flood waters is a major method of spread.

Control

Mechanical control

The cutting of the vines at ground level will give a smothered tree a reprieve, but regeneration of the vine from tubers will soon occur.

Only small plants can be dug out, as established plants normally have extensive underground tubers.

Spraying or injecting with herbicides is often the only option.



Thunbergia laurifolia flower and leaves

Herbicide control

Chemical treatment is often the only option available and provides fast and effective control.

Imazapyr is the only herbicide active registered for the control of thunbergia—see Table 1. It is systemic so when applied as a foliar spray it is transported within the plant to kill the underground tubers.

Imazapyr is very effective in killing thunbergia but it does not drastically affect surrounding vegetation. Good application technique should result in few non-target plants being killed.

Although very effective, one application by either overall spraying or injection rarely achieves 100 per cent kills.

Ongoing monitoring and follow-up is needed.

Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland (call 13 25 23 or visit our website at www.biosecurity.qld.gov.au).



Thunbergia fragrans flower

Table 1 Herbicides registered for the control of thunbergia

Situation	Herbicide active ingredient	Rate	Comments
Around agricultural buildings and other farm non-crop situations Commercial, industrial, and public service areas Rights of way and wasteland Away from desirable vegetation	imazapyr 250 g/kg (e.g. Arsenal® 250 A)	7.5 ml/L water	Apply sufficient spray to wet the surface visibly to the point of run-off. For effective control, apply when the plant is actively growing

Read the label carefully before use. Always use the herbicide in accordance with the directions on the label.