



Pest risk assessment

Glory bower (*Clerodendrum chinense*)

This publication has been compiled by Steve Csurhes of Biosecurity Queensland, Department of Primary Industries.

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Contents

Summary	2
Identity and taxonomy.....	2
Description and Biology.....	2
Reproduction and dispersal	3
Preferred habitat and climate	3
Native range and global distribution.....	4
History as a weed overseas	4
Use.....	5
Current distribution and potential impact in Queensland	5
Feasibility of eradication in Queensland	7
References	7

Summary

Clerodendrum chinense (Glory Bower, also known as Honolulu Rose) is a fast-growing, sub-tropical perennial shrub that is generally 2 – 4 m tall. Due to a very long history of use for traditional medicine, its native distribution is obscure. However, it appears to be native to southern China, Taiwan and northern Vietnam. It has attractive and fragrant flowers and is a popular garden ornamental overseas.

Following cultivation as a garden ornamental, it escaped to become a major weed in Hawaii, Fiji, Samoa and American Samoa and has naturalised in numerous other countries across the Pacific. Given sufficient time, it could duplicate these impacts within suitable habitats in Queensland. Impacts are likely to include invading remnant native vegetation (mainly forest edges and riparian areas), pastures and perhaps certain tree-crops. On islands in the Pacific, it has invaded banana, taro, coconut and coffee crops. Habitats most at-risk appear to include high-rainfall, tropical and sub-tropical areas, with fertile soils, along coastal Queensland.

Currently, this species appears restricted to gardens in Queensland, as this study was unable to find any evidence of naturalised populations. It is being sold as a garden plant in Australia. Experience from Hawaii and elsewhere show that there can be a long “lag time” between initial introduction and the development of a significant problem.

Based on the evidence collected in this assessment *C. chinense* appears to be a “high risk” species and a worthy candidate for pre-emptive regulation and control, wherever feasible.

*Important note: This assessment is based on the best available literature at the time of writing. It is acknowledged that new information may come to hand over time and please send any additional information, or advice on errors, to the author.

Identity and taxonomy

Species: *Clerodendrum chinense* Willd.

Synonyms: *Clerodendrum fragrans* Willd, *Clerodendrum philippinum* Schauer, *Volkameria fragrans*, *Clerodendrum fragrans* var. *multiplex*, *Clerodendrum fragrans* var. *pleniflorum*, *Cryptanthus chinensis* Osbeck

Common names: Glory Bower, Honolulu Rose, Stickbush, Spanish Jasmine, Fragrant Clerodendrum

Family: Verbenaceae

Clerodendrum comprises about 400 species of shrubs or small trees native to tropical and warm temperate regions, mostly tropical Africa and southern Asia.

Description and Biology

Clerodendrum chinense is a fast-growing perennial shrub 2 - 4 m tall. Branches are quadrangular and densely strigose. Leaves are simple, opposite, broadly ovate and 6 - 29 cm long/ 5 - 28 cm wide, with fine hairs below and stiff hairs above. Leaf margins are toothed, the apex is acute, the leaf-base is cordate to truncate and petioles are 2 - 23 cm long. Flowers are fragrant, sterile, double (many petals), white-pinkish in a flat-cluster toward the ends of the branches. Foliaceous bracts are lanceolate, 1.5 – 3 cm, pubescent, with several large glands (PIER 2008; Cook Island Biodiversity 2007; Chen and Gilbert 1994; Csurhes and Edwards 1998).

There are numerous *Clerodendrum* species cultivated as ornamentals and the taxonomy of the genus is confused by artificial varieties and hybridisation (Csurhes and Edwards 1998). Moreover, *C. chinense* also has a number of ornamental varieties and multiple synonyms (Csurhes and Edwards 1998).



Image 1. Leaves and flowers of *Clerodendron chinense* (this work is in the public domain in its country of origin and other countries and areas where the copyright term is the author's life plus 70 years or fewer, author: Francisco Manuel Blanco 1880-1883).

Reproduction and dispersal

C. chinense is believed to have two forms: one that can reproduce sexually via seeds and another that spreads vegetatively via root suckers (McGrannachan 2024). The latter is said to be most invasive. Over time, the growth of root-suckers enables the plant to form quite extensive, dense stands. On islands in the Pacific, it has been spread by people dumping unwanted cuttings and root-suckers, as well as soil containing such matter (McGrannachan 2024).

C. chinense has been reported to flower throughout the year in the West Indies (Smithsonian US Herbarium). In North America, flowering is from late spring to early summer.

Preferred habitat and climate

C. chinense appears best-suited to high-rainfall (greater than 1000 mm per annum) sub-tropical climates, extending into tropical areas. It grows best in moist, fertile, slightly acidic to neutral soils (pH 5 – 7), with full sun, but can tolerate shade (Swarbrick 1997; Desert Tropicals undated, Rojas-Sandoval & Acevedo-Rodríguez 2012). It particularly favours fertile, moist soils of geologically-recent volcanic islands (Waterhouse, 1993). In Hawai'i, it has naturalised in open, wet, partly-shaded, disturbed areas at the edges of mesic and wet forests, taro paddies, or streams at 50 - 670 m altitude (Wagner *et al.*

Glory bower risk assessment)

1999). In Fiji, it exists from near sea level to about 900 m. It is commonly seen naturalized in thickets, fields, and coconut plantations and along roadsides (Smith 1991). The plant is occasionally found growing in disturbed sites along the central and southern peninsula of Florida and Escambia county (IFAS 2008).

Native range and global distribution

Many references state that the species is native to Southern China, Taiwan and Northern Vietnam (eg. PIER 2008, McGrannachan 2024). Its exact native range is uncertain, but is probably the temperate regions of China, including Guangxi, Guizhou and Yunnan (GRIN undated). Wikipedia (2025) states that it is native to Nepal, the eastern Himalayas, Assam, the Andaman and Nicobar Islands, south-central and southeast China, Southeast Asia, and Malesia.

Due to its global popularity as a garden ornamental, this species is widely cultivated in tropical and subtropical regions including American Samoa Manu'a Islands, Tutuila Islands, Cook Islands, Ecuador, Kosrae Island, Pohnpei Island, Fiji, French Polynesia, Niue Island, Papua New Guinea, Philippines, Western Samoa Islands, Tonga Islands, Australia, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Indonesia, Japan, Malaysia, Mexico, New Zealand, Nicaragua, Panama, Perú, Singapore, Thailand and United States and Mauritius (PIER 2008).

In Australia, its distribution appears very limited, generally within gardens, but with one naturalised population near Sydney (iNaturalist record). Cultivated specimens have been recorded in Ipswich, Queensland, in 1976, and in the Brisbane Botanical Gardens (Mt Coot-tha) in 1995. It was also recorded in the Flecker Botanical Gardens in Cairns in the late 1980s but is no longer present. The species, under the name of *C philippinum* var *pleniflorum* has been recorded in the Brisbane Botanical Gardens, Mt Coot-tha (Csurhes and Edwards 1998).

History as a weed overseas

C. chinense is a major weed in Hawaii, Fiji, Samoa and American Samoa (McGrannachan 2024). In Hawaii, it was first collected in 1864-1865 and currently is an invasive weed of wet pastures and forests on all main islands except on Ni'i'hau (Motooka *et al.*, 2003, in Rojas-Sandoval & Acevedo-Rodríguez 2012).

It is listed as a 'cultivation escape, environmental and naturalised weed' in the Global Compendium of Weeds (GCW 2007). Naturalised populations exist in American Samoa Manu'a Islands, Tutuila Islands, Cook Islands, Ecuador, Fiji, French Polynesia, Niue Island, Papua New Guinea, Upolu Island (PIER 2008), Puerto Rico, Pohnpei and the Federated States of Micronesia (Holm *et al.* 1979). It is a serious weed in Samoa (Upolu) (Space & Flynn 2002) and American Samoa (Space & Flynn 2000). Samoa Biodiversity (2003) consider it to be a "major weed" of roadsides and gardens in towns and villages and rapidly invades pastures and plantations wherever it is planted. On some islands in the Pacific it invades crops such as banana, taro and coconut (McGrannachan 2024). In Puerto Rico Britton and Wilson (1925) recorded its escape from cultivation in "lower and middle elevations" and Vélez (1950) reported that it was one of the worst weeds in coffee plantations.

In Samoa, where it forms dense stands, it has been recorded to produce 11 – 30 stems per square metre (McGrannachan 2024). In some places it has damaged infrastructure such as roads. Together with some of its congeners, *C. chinense* is a weed in Florida (Audubon 2006, IFAS 2008). The species is listed as one of Hawaii's most invasive horticultural plants (Hawaii Government 2001). It is the target of biocontrol efforts in the Pacific region (McGrannachan 2024).

Like most weeds, the species favours disturbed habitats such as pastures, along streambanks and forest edges. Where conditions are favourable it can form dense thickets that exclude other plant species (Motooka *et al.* 2003).

C. chinense was ranked as 'high risk' using a risk assessment protocol published by Pacific Island Ecosystems at Risk database (PIER 2008).



Image 2. Flowering infestation of *Clerodendrum chinense* in Keanae, Maui, Hawaii (source: Forest & Kim Starr 2009).



Figure 1. Global distribution of *Clerodendrum chinense* (Source: GBIF 2025).

Use

C. chinense is sold and cultivated as a garden ornamental around the world, and in Australia. It is used for some forms of traditional medicine in Asia and the Caribbean (McGrannachan 2024).

Current distribution and potential impact in Queensland

C. chinense appears best-suited to high rainfall (> 1000mm per annum), tropical and sub-tropical climates and appears to pose a risk mainly to coastal regions in the wet tropics, central Queensland (around Mackay) and south-east Queensland.

Climate-matching software called 'CLIMATCH' (BRS 2009) was applied to predict areas of Queensland where climate is similar to that experienced where *C. chinense* is believed to be native. This study decided to base the model on GRIN (undated) which stated that its native range was probably the

Glory bower risk assessment)

temperate regions of China, including Guangxi, Guizhou and Yunnan, as well as many references that include north Vietnam. The species' exact origin appears to have been obscured by a very long period of cultivation and use, perhaps for traditional medicine.



Figure 2. Location of Guangxi (red highlight) and adjacent Guizhou, Yunnan and north Vietnam, used to model the species climatic range in Australia.

Coastal areas of Queensland appear most suitable (Figure 3).

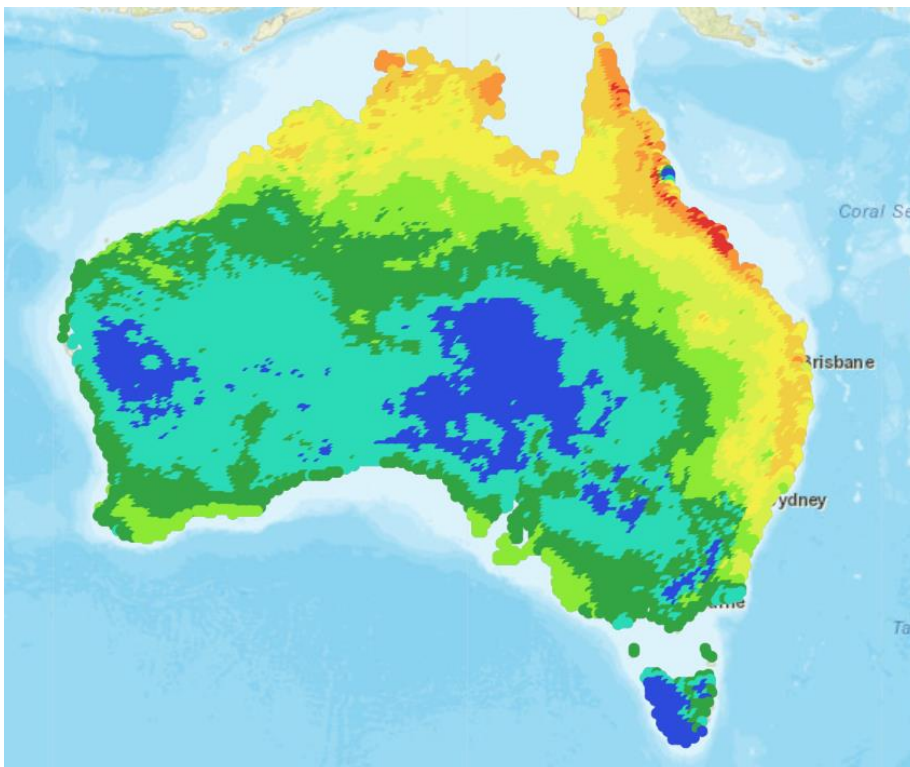


Figure 3. Area of Australia where climate appears suitable for survival of *Clerodendrum chinense*.

The red and orange indicate areas where climate is highly suitable, yellow indicates area where climate is marginally suitable. Green and blue indicate areas where climate is considered unsuitable for this species.

This study was unable to find evidence that this species has naturalised in Queensland. However, it is certainly being offered for sale on-line as a garden ornamental, and there are records in GBIF and Glory bower risk assessment)

elsewhere, possibly of ornamental specimens. Hence, there appears to be an opportunity to take pre-emptive action to avoid its inevitable escape from cultivation. Widespread cultivation is predicted to result in naturalisation, as has occurred in numerous places overseas.

If permitted to establish, long-term impacts could include damage to remnant native vegetation, loss of pastures and perhaps damage to certain tree crops, primarily in high-rainfall, coastal areas.

Based on the evidence collected in this assessment *C. chinense* appears to be a “high risk” species and a worthy candidate for preventative control, wherever feasible.

Feasibility of eradication in Queensland

To date, *C. chinense* has not yet naturalised in Queensland. In the event that a naturalised population was detected, the feasibility of eradication would need to be assessed and would depend on the extent of the population (among other factors).

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