

Threatened Species of the Northern Territory

Luisia corrugate (previously *L. teretifolia*)

Conservation status

Australia: Not listed

Northern Territory: Vulnerable



Photos: K. Brennan

Description

Luisia corrugate (listed as *L. teretifolia*) is an epiphytic orchid forming straggly clumps of slender, wiry, erect or semi-pendulous stems to 30 cm long. There are two to ten leaves per stem, 15 cm x 5 mm, cylindrical in cross section. The flowers are about 10 mm across, green with a dark burgundy labellum or lip.

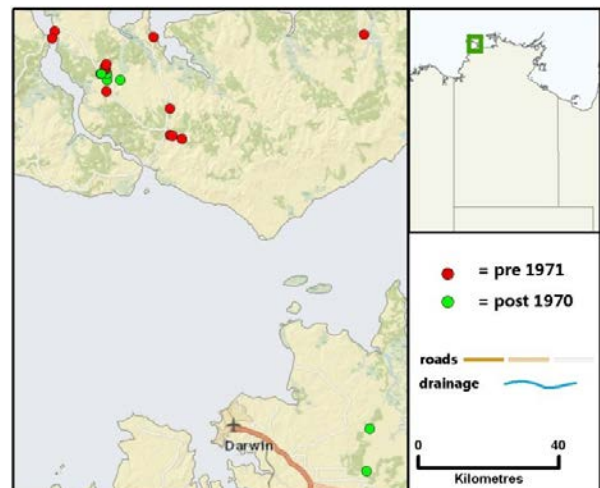
Taxonomic revision by Jones (2006a) has identified the taxon in the Northern Territory as *L. corrugate*.

Flowering: February, November–December.
Fruiting: November.

Distribution

This species appears to be endemic to the Northern Territory (NT) (Jones 2006b). It is known from approximately 11 localities, nine from Melville Island and two on the mainland (Bankers Jungle and Crocodile Creek in Black Jungle Conservation Reserve). However no individuals were seen during surveys of both the Bankers Jungle and Crocodile Creek localities in 2003.

Conservation reserves where reported:
Black Jungle Conservation Reserve.



Known locations of *Luisia corrugate*

Ecology

Within the NT, this species has been collected from the margins of monsoon rainforests; in other parts of its range, it is reputedly more common in coastal and near coastal habitats, including mangroves. It appears to prefer situations of relatively bright light and often occurs on trees that have scaly bark. It may be associated with other epiphytes (e.g. *Dendrobium affine* and *Drynaria quercifolia*); hosts include *Sterculia quadrifida*, *Barringtonia acutangula*, *Canarium australianum* and *Vitex* spp.

Conservation assessment

There is very little information available on the abundance of this species. As an epiphyte with terete leaves, it is recorded as growing in tangled clumps and the number of individuals is difficult to assess. This species does not usually grow high up on trees and is considered easy to see (D. Jones *pers. comm.*). The readily identifiable nature of this species and the extensive rainforest survey of the mid 1980s (Russell-Smith 1991; Liddle *et al.* 1994) offer confidence that the existing collections accurately reflect the abundance and distribution of this species.

It is classified as **Vulnerable** (under criteria D1+2) based on:

- a population size estimated to be <1 000 mature individuals; and
- a restricted area of occupancy estimated to be <20 km².

Threatening processes

Although specific threats have not been identified, orchids are often sought out by collectors. The edge-of-forest habitat seemingly preferred by this species may leave it more prone to stochastic events such as cyclones or fires.

The Tiwi Island rainforest patches where this species occurs have been excised from clearing for plantation forestry. However, the adequacy of buffers around these areas is not known – if buffers are of insufficient width, the rainforests may be more vulnerable to wind damage. Woinarski *et al.* (2003) noted that monsoon rainforest is likely to be susceptible to changes in ground water hydrology as a result of high water use by forestry plantations. There is also a risk of invasion of rainforests by grassy weeds and concomitant increased vulnerability to fire as a result of intensive development and disturbance by forestry activities.

Conservation objectives and management

There is Recovery Plan for this species, and other threatened plants on the Tiwi Islands and many of its actions are being implemented. Research into the status of the populations and further survey are required. Live material has been lodged at Darwin Botanic Gardens.

Commercial availability of this species may relieve any harvesting pressure on wild populations. A monitoring program should be established for at least some representative populations.

Complied by

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References

- Jones, D.L. (1988). *Native Orchids of Australia*. (Reed, Sydney.)
- Jones, D.L. (2006a) Miscellaneous new species of Australian Orchidaceae. *Australian Orchid Research* 5, 84-85
- Jones, D.L. (2006b). *A complete guide to the native orchids of Australia including the island territories*. Reed New Holland: Sydney.
- Liddle, D.T., Russell-Smith, J., Brock, J., Leach, G.J., and Connors, G.T. (1994). *Atlas of the vascular rainforest plants of the Northern Territory*. Flora of Australia Supplementary Series No. 3, (ABRS, Canberra.)
- Russell-Smith, J. (1991). Classification, species richness, and environmental relations of monsoon rain forest in northern Australia. *Journal of Vegetation Science* 2, 259-278.
- Woinarski, J., Brennan, K., Cowie, I., Kerrigan, R., and Hempel, C. (2003). *Biodiversity conservation on the Tiwi islands, Northern Territory. Part 1. Plants and environments*. 144 pp. (Department of Infrastructure Planning and Environment, Darwin.)