

Threatened species of the Northern Territory

Burmannia sp. Bathurst Island

Conservation status

Australia: Endangered

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Endangered

Territory Parks and Wildlife Conservation Act 1976

Description

This species is an herbaceous leafless saprophyte to 12 cm tall, with a small tuber. All parts, including the stem, are translucent white. This species is undescribed, but closely related to the Javan species *B. bifaria*¹.

Flowering: June, November.

Fruiting: June.

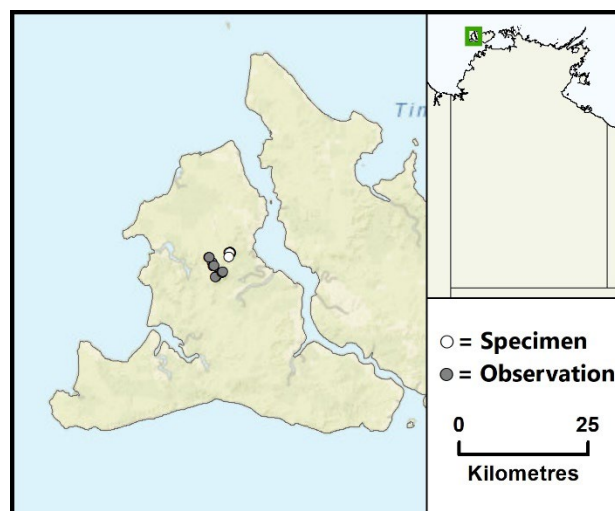
Distribution

Burmannia sp. Bathurst Island is entirely restricted to a small area on Bathurst Island. All of the occurrences are in spring-fed rainforest situated either side of a ridge of more elevated country which appears to act as a source of groundwater for the forests². This ridge includes the highest point on the island.

NT conservation reserves where reported: None



Credit: I.D. Cowie



Caption: Known locations of *Burmannia* sp. Bathurst Island in the NT (nrmaps.nt.gov.au)

Ecology

The species occurs in evergreen, spring-fed rainforest on permanently wet, organic substrates beside flowing water. *Burmannia* seems to favour sites with more relief and disturbed by seasonal flooding beside small perennial streams.

While the species may be able to persist in areas lightly disturbed by pigs, individual plants were recorded in areas of pig rooting only where the

plants were protected within a network of sizeable tree roots³. The saprophytic habit requires soil organic material and this species may be unable to establish on mineral soil³.

Threatening processes

Feral pigs are likely to dig up *Burmannia* plants to eat their small tubers, and the general rooting and disturbance by pigs in these wet rainforests may detrimentally affect this plant.

It is also likely to be susceptible to the effects of excessive water extraction from the aquifers which supply water to its spring fed rain forest habitat. Once ground water levels are reduced, the margins of these small forest patches are especially susceptible to invasion by introduced grassy weeds and the effects of intensified fire regimes. Development of an area for horticulture for land adjacent to the known occurrences would greatly increase the demand for ground water for irrigation potentially affecting rainforest patches.

Conservation assessment

This species is known from seven rainforest patches within a 5 km by 5 km area².

It was recorded from two localities in 1991 with a total estimated number of plants between 500-2000 individuals in a 0.4 km² area³. None were detected in the area in the next searches, from 1998-2000. Only one occurrence of six individuals was recorded in 2001. Searches and surveys in 2006 re-located these two occurrences and discovered three new nearby (D. Liddle *pers. obs.*).

Conservation objectives and management

A Recovery Plan for this species, and other threatened plants on the Tiwi Islands has been released and many actions have been implemented.

Further research on the impact of pig disturbance, the environmental requirements of the species and the dynamics of the population

are required. A monitoring program was established in 2006, and should be maintained. Fencing of some areas of habitat is required to afford protection from pigs, and was recommended as urgent in 1993³.

References

- ¹ Jonker, F.P. 1954. Burmanniaceae. *Flora Malesiana* 4, 13-26.
- ² Liddle D.T. and Elliott L.P., 2008. *Tiwi Island threatened plants 2006 to 2008: field survey, population monitoring including establishment of a program to investigate the impact of pigs, and weed control*. Report to Natural Resource Management Board (NT), NHT Project 2005/142, Northern Territory Government Department of Natural Resources, Environment, The Arts and Sport, Palmerston.
- ³ Fensham, R.J. 1993. The impact of pig rooting on populations of *Burmannia* sp., a rare rainforest herb on Bathurst Island. *Proceedings of the Royal Society of Queensland* 103, 5-12.