

# Threatened Species of the Northern Territory

## Typhonium jonesii

### Conservation status

Australia: Endangered

Northern Territory: Endangered



Photo: M. Armstrong

### Description

*Typhonium jonesii* is a cormous perennial herb with annual aerial parts. The leaf blade is deeply trilobed, hastate or auriculate at base, segments linear. The spathe or bract of flower is pale mauve-cream.

Flowering: Dec.

### Distribution

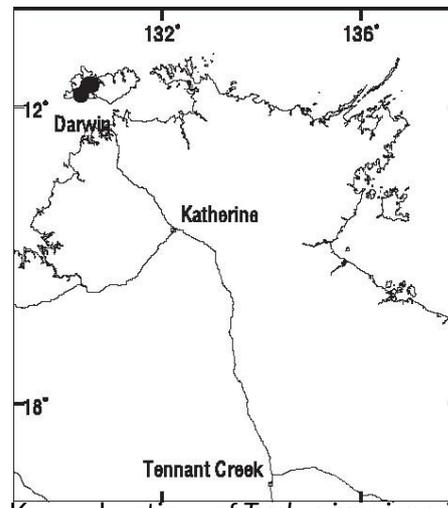
This species is endemic to the NT. It is known only from the Tiwi Islands with herbarium collections from one locality on Bathurst Island and two on Melville Island.

The species was first described in 1993 from material collected by D.L. Jones in 1984 (Hay 1993). Hay (1996) recorded it as locally common on the Tiwi Islands and reported three (probably sterile) non-vouchered collections – one from near Three Ways, one on the Three Ways-Snake Bay Rd on Melville Island, and one from 10 km west of Nguiu on Bathurst Island. Although taken into cultivation at Sydney Botanic Gardens, the plants did not survive and no herbarium specimens were lodged (S Goodwin, RBG *pers. comm.*). Therefore it is not possible to verify the identity of these recordings. Recent targeted survey for this species as part of a biodiversity assessment survey (Woinarski *et al.* 2003) did not relocate the known

populations or uncover any additional populations of this species.

Extent of occurrence based on a minimum convex polygon of NT collections is estimated at 85 km<sup>2</sup> and an area of occupancy estimated at 3 ha (1 ha per population).

*Conservation reserves where reported:*  
None.



Known locations of *Typhonium jonesii*.

### Ecology

Little is known of the ecology of this species. The aboveground annual shoots are seasonally dormant, emerging from an underground corm (bulb) during the wet season. It is difficult to distinguish between species of this genus without reproductive material as the leaves are commonly

polymorphic. Diagnostic characters for the genus include the arrangement of flowers and the timing of emergent leaf parts relative to the emergent inflorescence. This species is documented as having an inflorescence emergent among new season leaves.

All three collections were located on rocky or lateritic hills, two from *Eucalyptus miniata* and *Eucalyptus tetradonta* woodlands.

### Conservation assessment

Although this species is seasonally dormant and cryptic in the landscape, it is considered adequately surveyed, based on the strong survey effort in the area (Woinarski *et al.* 2003) and the high profile of this genus amongst collectors. While more populations may exist the paucity of collections of this species is considered to accurately reflect its very restricted distribution and abundance.

While there are no data on population size for this species, J. Egan (*pers. comm.*) reported that the species can be locally abundant. Based on other populations of similar species in this genus, population size can be estimated to be between 50 and 100 individuals (Brock *et al.* 2000)

This species qualifies as **Endangered** (under criteria B1ab(iii)+2ab(iii); D) based on:

- a small number of locations (<5);
- small number of mature individuals (<250);
- an extent of occurrence <5000 km<sup>2</sup>;
- an area of occupancy <500 km<sup>2</sup>; and
- a inferred decline in the quality of habitat due to habitat clearance for the development of plantation forestry in the area.

### Threatening processes

Clearing of habitat for plantation forestry development is a potential threat for this species. Currently, extensive areas within the western half of Melville Island are set aside for land clearing and plantings of *Acacia mangium*. "Soils, topography and rainfall dictate that environments suitable for plantation development are restricted largely to tall open forests dominated by *Eucalyptus tetradonta*, *E. miniata* and/or *E. nesophila*" (Forsci 1999). The preferred plantation habitat and designated planting region of "the western half of Melville" coincide with known populations and preferred habitat of this species.

The eucalypt forests are also affected by feral buffalo, cattle and horses; and increased clearing, road development and activity in the area around known populations may increase the invasion of exotic plants such as mission grass *Pennisetum polystachion* and gamba grass *Andropogon gayanus* (Woinarski *et al.* 2003). Although the underground corm and seasonal nature of this species offers protection from fire, the effect of perennial grass invasions on this species is unknown.

### Conservation objectives and management

A Recovery Plan for this species, and other threatened plants on the Tiwi Islands, is due to be released in 2007, but many actions in its draft are currently being implemented.

Habitat protection at the known localities is required to maintain the status of the species. The Tiwi Islands Forestry Strategic Plan (Hadden 2000) provided the commitment that all populations of this species would be protected from clearing, with an exclusion buffer of 50 m around their perimeter.

Research priorities are to:

- i. provide a more detailed assessment of its distribution, habitat requirements and population size; and
- ii. provide an assessment of the factors limiting distribution, and/or threats to its survival.

Further survey may yield additional populations, and a monitoring program should be established for at least representative populations.

## Complied by

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## References

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