



Threatened Species of the Northern Territory



Photo: I Cowie, J Egan

Typhonium praetermissum

Conservation status

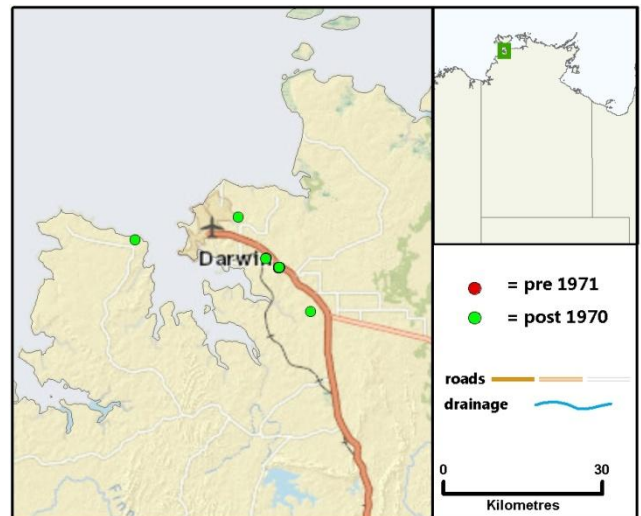
Australia: Not Listed

Northern Territory: Vulnerable

Description

Typhonium praetermissum is a perennial herb with aerial parts emerging annually from a bulbous corm. One to five small blue-green leaves appear flat against the ground following flowering. Leaf shape varies from simple elliptic to deeply divided, with blade length to 4.5cm on a sheathing, partly underground petiole to 5.5 cm long.

A solitary and apparently unpleasant-smelling inflorescence appears either before or with the leaves, emerging next to rather than amongst them. The lance-shaped spathe is 4 cm long, grey-brown outside and maroon to black inside. The tubular base of the spathe is constricted where it meets the ground. The spike-like spadix is about 4.5 cm long, succulent and comprised of a long dark purple sterile tip above a reddish male zone, a purple naked zone, a pale red sterile zone and a pale greenish female zone at the base. The position of sterile organs above the female zone is diagnostic. Small fruit occur at or partially below ground level and have been recorded in November and December.



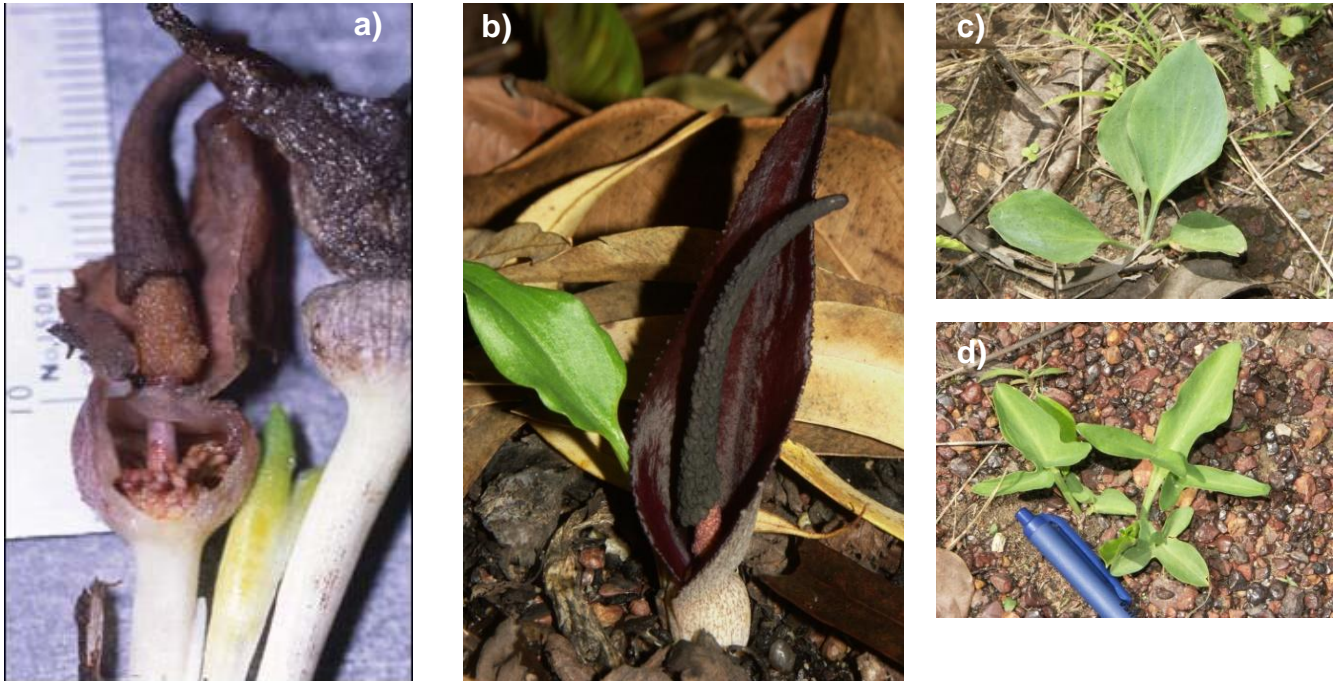
Known locations of *Typhonium praetermissum*

Distribution

Typhonium praetermissum is endemic to the Northern Territory (NT). It has been recorded from six locations all within the Darwin/Litchfield Shire region including Virginia, Karama, the Palmerston escarpment, Mandorah and Humpty Doo. There is a record apparently from Black Jungle but this requires validation.

Conservation reserves where reported:

Possibly Black Jungle Conservation Reserve though there is some confusion regarding locality details from this collection.



Typhonium praetermissum; a) Cross-section through spathe to expose complete spadix; b) inflorescence and leaf; c) & d) leaf variation. (Photos: I. Cowie, J. Egan)

Ecology

Typhonium species are geophytes, i.e. seasonally dormant plants that emerge annually from underground storage organs, in this case a corm.

Typhonium praetermissum has been collected from open woodland habitats including relatively open, unshaded situations. The species has been found growing in red-brown clay soil and in shallow or gravely lateritic soil.

Conservation assessment

Typhonium praetermissum was previously listed as Data Deficient due to a lack of targeted survey, with the low number of fertile collections thought to be due to the species seasonality rather than its abundance. Despite the high profile of this genus amongst some collectors, *T. praetermissum* remains a cryptic plant with a negative collection bias due to its ephemeral nature and because it tends to flower at about Christmas when few people are collecting. Once detected, identification is usually complicated by the very short flowering period. Most plants are sterile when encountered and must be grown on to flowering for identification or identified using DNA techniques. Consequently, some collections possibly of this taxon have gone unidentified to species level. The species is

known only from the Darwin/Litchfield area, which has a high concentration of herbarium collections and survey records. Nonetheless only few populations have been found and most of these are situated in areas subject to rural or residential development. A pattern of short range endemism is common in the genus in NT and it appears very unlikely that the species is widespread.

The known extent of occurrence of *T. praetermissum* is calculated at 445 km². Area of occupancy is unknown but generously estimating that 10 per cent of the extent of occurrence may represent potential habitat, then area of occupancy would be 45 km².

Typhonium praetermissum is known from six locations and a decline through habitat loss has occurred at least one known population and is projected for others.

Population data include an estimate of approximately 100 individuals in a search area of c.1 ha; and 80 plants at another site that has subsequently been cleared.

This species qualifies as **Vulnerable** in the NT (under criteria B1ab(iv)+ 2ab(iv)), based on:

- the extent of occurrence is <20 000 km² and the area of occupancy is <2 000 km²;
- subpopulations are severely fragmented and known from less than ten locations; and
- there is continuing decline in the number of mature individuals.

Threatening processes

Typhonium praetermissum occurs within Darwin residential and rural areas, and as such is under threat of habitat loss due to clearing for residential expansion and rural subdivision. At least one documented population (Maluka Street, Palmerston) has been cleared for residential development. Other populations are precariously located in Darwin suburban or rural area and likewise subject to ongoing building pressure and habitat fragmentation.

Additional threats in the rural area include the spread of introduced perennial grass species. The effect of invasive grasses on *T. praetermissum* is unknown but Gamba and Mission Grasses are common in the Darwin rural area and these high biomass species are known to hinder recruitment of native herbaceous flora. The underground corm and seasonal nature of the species affords protection from fire. However Gamba and Mission Grasses dramatically increase fuel loads resulting in more intense fires which may reduce habitat quality for *T. praetermissum*.

The *T. praetermissum* population at Black Jungle is protected from habitat-clearance, but is susceptible to soil disturbance by the digging and foraging of feral pigs.

Conservation objectives and management

Targeted survey of potential habitat in the Darwin region is a priority for this species. Survey needs to be conducted at the appropriate season when fertile material is most likely to be available. Survey areas should include local conservation reserves to ascertain whether protected populations exist, including confirmation of the putative record from Black

Jungle Reserve and possible records from Charles Darwin National Park.

Investigation into the size, extent and current status of known populations is also urgently required. Creative conservation measures may need to be adopted where populations conflict with development proposals.

Management of feral pigs at Black Jungle Conservation Reserve would also be important should that population be confirmed.

Compiled by

John Westaway
Ian Cowie
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References

- Hay, A. (1997). Two new species and a new combination in Australian *Typhonium* (Araceae Tribe Areae) *Edinburgh Journal of Botany* **54**, 329-336.
HOLTZE (2010) NT Herbarium collection database.