

Threatened Species of the Northern Territory

Monochoria hastate

Conservation status

Australia: Not listed

Northern Territory: Vulnerable



Photo: I. Cowie

Description

Monochoria hastata is an emergent aquatic herb with stems approximately 0.7-1.2 m long. The basal leaves are arrow-shaped. The inflorescence of 25- 60 flowers is in a dense spike 6-9 cm long. The flowers are 13-16 mm long, purple or whitish. One anther is coloured blue, c. 6 mm long, the other 5 anthers are yellow and c. 4 mm long. The seed capsule is 7 mm long, and 5-6 mm diameter.

Flowering: Mar – June.

Fruiting: Apr – June.



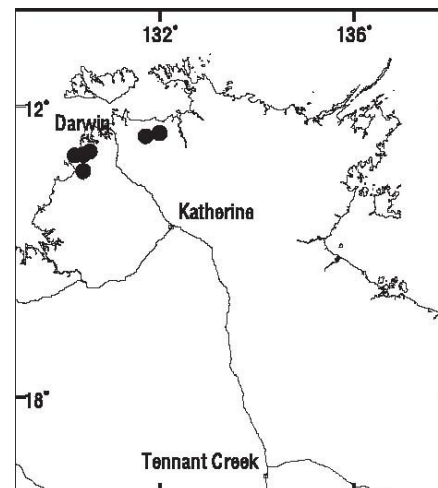
Photo: I. Cowie

Distribution

This species occurs in India, Sri Lanka and SE Asia, extending to New Guinea and Australia. In Australia, the only records are from the NT,

on floodplains of the Finniss, Reynolds and Wildman Rivers.

Conservation reserves where reported:
Kakadu National Park.



Known locations of *Monochoria hastata*.

Ecology

This species is recorded as a component of floating mat vegetation in both the Finniss and Reynolds Rivers. It also occurs on near-permanently wet back-swamps and drainage channels, and in permanent billabongs.

Conservation assessment

Within Australia, this species has been recorded from only three floodplain localities. There is a negative collection bias associated

with the swampy habitat in which this species occurs. However, extensive coverage of floodplains in the Kakadu region by Joye Maddison detected this species at only one location in that region (Wildman River). Furthermore, it is considered that the extensive surveys of the Top End floodplain communities (Wilson *et al.* 1991) during the 1990s would have detected this species more often had it been more common or widespread.

This species has been classified as **Vulnerable** (under criteria B1ab(iii,iv)+2ab(iii,iv); D2) based on:

- an inferred decline in quality of habitat and population numbers as a result of invasion by exotic weeds;
- a population estimated to be approximately 5000 (Kerrigan 2003); and
- an area of occupancy of known populations estimated to be <20 km² and an extent of occurrence of 3487 km².

Threatening processes

Invasion by introduced plant species such as para grass (*Urochloa mutica*), *Hymenachne amplexicaulis* and *Mimosa pigra* appears to be the most imminent threat to this species. Saltwater intrusion of wetlands resulting from rising sea levels triggered by global warming or other factors would have an adverse impact on this species. As a floodplain species, changes to hydrology would affect populations, although no such changes are envisaged in the near future.

The Wildman River population, when first discovered, had been extensively grazed by buffalo, and *Monochoria* individuals were found only in areas protected from buffalo activity. With the removal of animals from the area, the *Monochoria* population expanded and relatively large stands were observed in open water (Joye Maddison *pers. comm.*). The

same locality is now considerably congested with the native grass *Leersia hexandra*, the only open water present is beneath a small stand of *Barringtonia acutangula* and the majority of the population is now growing interspersed with *Leersia* (Kerrigan 2003). There is some concern that this population of *Monochoria hastata* may be outcompeted by *Leersia* although quite large stands persist and the species seems able to grow on dense clumps of vegetation formed by the grass. Cowie *et al.* (2000) reported that this species is recorded overseas as being fed to cattle and used as a vegetable. As such, it may be grazed by feral animals in the area although no evidence of this was observed during recent survey.

Conservation objectives and management

Floodplain habitats are a dynamic environment, often subject to natural fluctuations in abundance of individual species. Research into the status, population dynamics and extent of distribution of this species is required. A monitoring program has been established for the population within Kakadu National Park (Kerrigan 2003).

Complied by

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[April 2006]

References

- Cowie, I.D., Short, P.S., and Osterkamp Madsen, M. (2000) *Floodplain Flora*. Flora of Australia Supplementary Series No. 10. (ABRS, Canberra/PWCNT, Darwin.)
- Kerrigan, R. (2003). *Kakadu Threatened Flora Report. Results of a threatened flora survey 2003*. (NT Department of Infrastructure Planning and Environment, Darwin.)

Wilson, B.A., Brocklehurst, P.S., and Whitehead, P.J. (1991). *Classification, distribution and environmental relationships of coastal floodplain vegetation, Northern Territory, Australia, March-May 1990*. Technical Report 91/2. (Conservation Commission of the Northern Territory, Darwin.)