

# Threatened species of the Northern Territory

## *Monochoria hastata*

### Conservation status

#### Australia: Not Listed

Environment Protection and Biodiversity Conservation Act 1999

#### Northern Territory: Vulnerable

Territory Parks and Wildlife Conservation Act 1976



Credit: I.D. 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<sup>1</sup>.

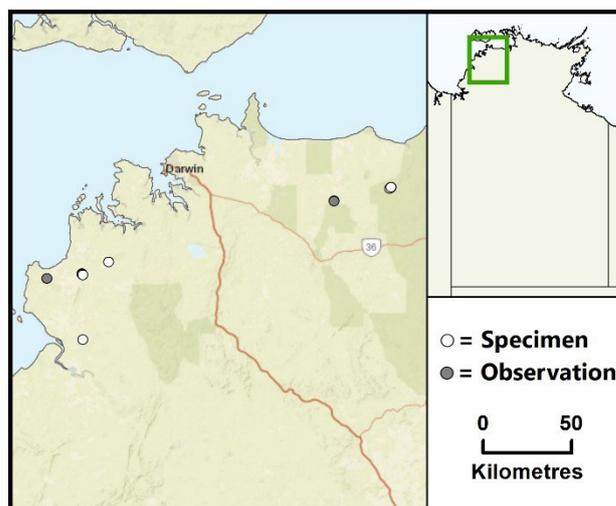
Flowering: March - June.

Fruiting: April - June.

### Distribution

This species occurs in India, Sri Lanka and SE Asia, extending to New Guinea and Australia. In Australia, the only confirmed records are from the Northern Territory (NT), on floodplains of the Finnis-Little Finnis, Reynolds and Wildman Rivers. There is one observational record from the Mary River floodplain.

NT conservation reserves where reported:  
Kakadu National Park.



Caption: Known locations of *Monochoria hastata* in the NT ([nrmmaps.nt.gov.au](http://nrmmaps.nt.gov.au))

### Ecology

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



Caption: Leaf of *Monochoria hastata* (Credit: I.D. Cowie)

## Threatening processes

Invasion by introduced plant species such as para grass (*Urochloa mutica*), *Hymenachne amplexicaulis* and *Mimosa pigra* appears to be the most immediate threat to this species. The Finnis, Reynolds and Mary river floodplains have all been heavily infested by *Mimosa pigra* including most localities supporting *M. hastata*. Intensive aerial and ground control of *Mimosa* is required on these floodplains to prevent their conversion to *Mimosa* dominated shrublands. Herbicides used to control *Mimosa* may also kill non-target species such as *Monochoria hastata*.

Saltwater intrusion of wetlands resulting from rising sea levels triggered by global warming or other factors is projected to result in a decline in the quality and extent of habitat. The Intergovernmental Panel on Climate Change predicted a 0.70 m rise in sea level by 2070 and this is expected to inundate 42 percent of Kakadu's freshwater wetlands with seawater. Over the past 20 years sea levels in northern Australia have been rising by around 10 mm per year and this has resulted in the incursion of salt water to what were previously freshwater

swetlands. As a floodplain species, changes to local hydrology due to erosion and sedimentation may also affect populations, although such changes are unpredictable.

The Wildman River site, 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 (J. Maddison *pers. comm.*). The same site was in 2003 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*<sup>2</sup>. This species is recorded overseas as being fed to cattle and used as a vegetable<sup>1</sup>. 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

Within Australia, this species has been recorded from only three floodplain localities. Floodplain habitats are a dynamic environment, often subject to natural fluctuations in abundance of individual species<sup>3</sup>. Research into the status, population dynamics and extent of distribution of this species is required. A monitoring program was previously established for the site within Kakadu National Park<sup>2</sup>. Other sites have not been monitored or assessed for many years; survey is required to clarify whether they are still extant and the impacts of threats.

## References

- <sup>1</sup> Cowie, I.D., Short, P.S., and Osterkamp Madsen, M. 2000. *Floodplain Flora*. Flora of Australia Supplementary Series No. 10. (ABRS, Canberra/PWCNT, Darwin.)
- <sup>2</sup> Kerrigan, R. 2003. *Kakadu Threatened Flora Report. Results of a threatened flora survey 2003*. (NT Department of Infrastructure Planning and Environment, Darwin.)
- <sup>3</sup> 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.)