Threatened species of the Northern Territory

Acacia equisetifolia

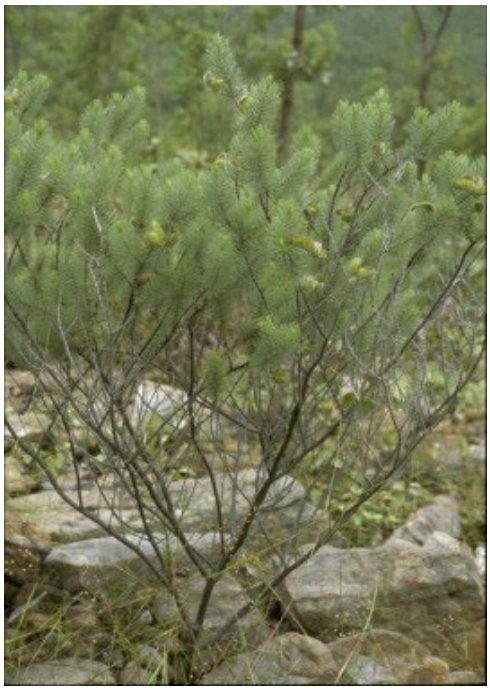
Conservation status

Australia: Critically Endangered
Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Critically Endangered
Territory Parks and Wildlife Conservation Act 1976

Description

Acacia equisetifolia is a very distinctive, grey-green shrub immediately obvious in the field although vegetatively similar to *Drummondita borealis*. Leaves are narrow and needle like, 10-15 mm long, hairy and arranged in whorls around the stem. The inflorescence is globular and the pods are short. It is closely related to *A. hippuroides*, a Kimberley (Western Australia) species.



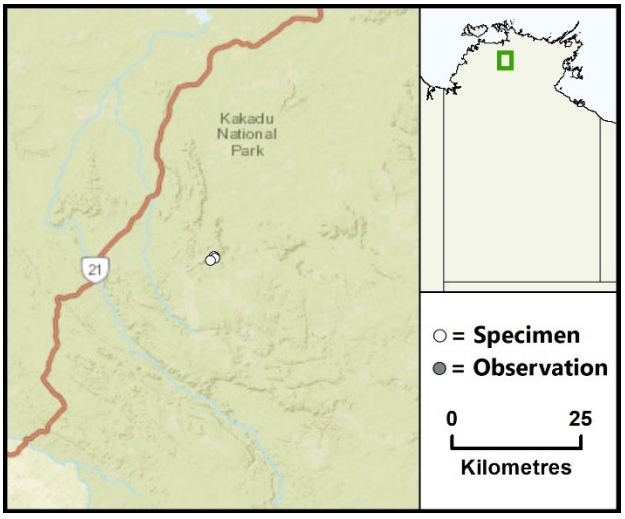
Credit: K.G.Brennan

Credit: K.G.Brennan

Distribution

Known as endemic to the Northern Territory (NT), it is known from recent (post 2004) collections from Graveside Gorge, Kakadu NP[1]. An additional collection from Kakadu National Park dating from 1981 lacks a georeference.

NT conservation reserves where reported: Kakadu National Park.



Caption: Known locations of Acacia equisetifolia in the NT (nrmaps.nt.gov.au)

Ecology

Very little is known about the ecology of this species, although evidence suggests it is an obligate seeder. Collection notes record it growing on west to south-west facing rocky sandstone slopes and ledges at the tops of sheer cliff lines.

Threatening processes

Acacia equisetifolia appears to be an obligate seeder currently exposed to unfavourable fire regimes. Current fire regimes may detrimentally affecting obligate seeders in sandstone heath communities and inappropriate fire regimes are a potential threat to this species[2,3].

The likelihood that frequent fire events kill individuals before reproductive maturity is unknown. Similarly, seed bank stores, seed longevity and germination and establishment requirements are unknown, although low germination rates are suspected. With such small, restricted populations the species is vulnerable to stochastic events and inappropriate fire regimes.

A fire in one year may reduce the threat of another fire at a site for one or more years afterwards. Any series of fires that repeatedly destroyed successive generations of seedlings before they matured and set seed, however, would pose a serious threat, especially if the species does not have a resilient or persistent seed bank.

Conservation objectives and management

Further survey in the Graveside Gorge area is required to locate extra populations. Regular monitoring in the short term to establish the persistence of seedlings and time taken to reproductive maturity is recommended. Research into the role of fire and other ecological processes in the distribution and abundance of the species is required. Collection of propagation material and translocation to botanic gardens may safeguard the species from stochastic events.

References

[1] Kerrigan, R. 2004. *Kakadu Threatened Flora Report. Volume 2. Results of a threatened flora survey 2004*. (NT Department of Infrastructure Planning and Environment, Darwin.)

[2] Russell-Smith, J., Ryan, P.G., Klessa, D., Waight, G., and Harwood, R.K. 1998. Fire regimes, fire-sensitive vegetation and fire management of the sandstone Arnhem Plateau, monsoonal northern Australia. *Journal of Applied Ecology* 35, 829-846.

[3] Russell-Smith, J., Ryan, P.G., and Cheal, D.C. 2002. Fire regimes and the conservation of sandstone heath in monsoonal northern Australia: frequency, interval, patchiness. *Biological Conservation* 104, 91-107.