

Threatened species of the Northern Territory

Olearia macdonnellensis

Conservation status

Australia: Vulnerable

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Endangered

Territory Parks and Wildlife Conservation Act 1976



Description

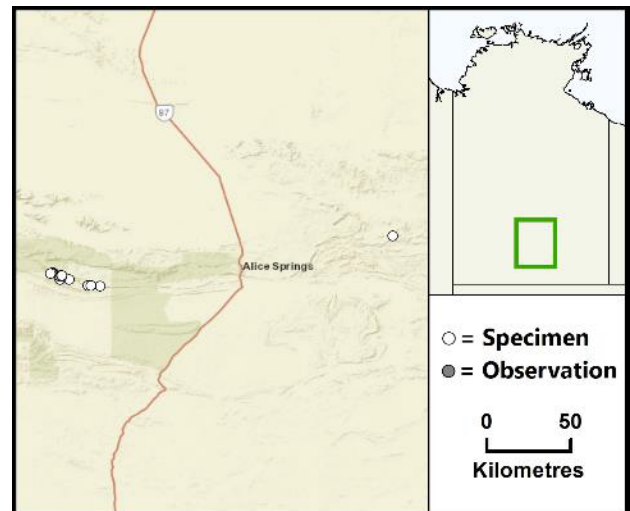
Olearia macdonnellensis is a viscid aromatic shrub to 1.2 m high. The leaves are green and varnished. The ray florets have white ligules, the disc florets yellow¹. The leaves are petiolate, mostly elliptic to obovate, toothed, green, 12-25 mm long and mostly 6-15 mm wide, and with sparse non-glandular and short-stalked gland-tipped hairs on upper and lower surfaces that are sometimes embedded in viscid resin. Flower heads are large (30-35 mm wide including ligules) and have conspicuous white ligules. The involucre is about 4-5 mm wide and the bracts have some non-glandular hairs. The hairy fruits are 3-4 mm long and 0.8-1.2 mm wide, ribbed on the faces, and have a pappus of barbellate bristles¹.

Flowering: February, July–October.

Fruiting: July, August, October.

Distribution

Olearia macdonnellensis is endemic to the arid southern region of the Northern Territory (NT)². This species is confined to the MacDonnell Ranges Bioregion where it is currently known from several isolated subpopulations, mainly in the central-western portion of the MacDonnell Ranges³.



Caption: Known locations of *Olearia macdonnellensis* in the NT (nrmmaps.nt.gov.au)

Most of these are in an area of less than 30 km by 10 km. All subpopulations are small, usually widely spaced and surrounded by apparently suitable habitat³.

There is an additional unverified record of a highly disjunct population in the central East MacDonnell Ranges. Excluding this record, the extent of occurrence of this species is <100 km².

The latitudinal range is 31 km and the longitudinal range is 187 km. The extent of occurrence excluding discontinuities within the

overall distribution of the species (viz. large areas of obviously unsuitable habitat) is <5 000 km².

The largest population in the West MacDonnell Ranges is estimated to comprise more than 1 000 individuals (A. Schubert pers. obs.).

NT conservation reserves where reported: Tjoritja/ West MacDonnell National Park.

Ecology and life-history

This species occurs on a variety of aspects but consistently in areas with some natural protection from wildfires. There is typically an overstorey of trees, notably *Eucalyptus trivalvis*, but also other species including *Acacia aneura*².

The West MacDonnell Ranges occurrences are centred along a single valley on the south side of the Heavitree Range. Landforms include north facing gullies, east facing slopes, southern slopes, north-west facing slopes and drainage lines, but mostly with similar vegetation associations. There is a close association with areas of deeply weathered geological Tertiary deposits, often with areas of eroding 'breakaways' with distinctly pallid or bleached soils².

Threatening processes

Olearia macdonnellensis is threatened by fire³. Many populations have been exposed to wildfire and observation indicates that the species does not resprout and that recruitment is not stimulated by fire.

Olearia macdonnellensis is potentially threatened by Buffel Grass invasion³. Buffel Grass has the ability to directly negatively affect *O. macdonnellensis* through resource competition, especially at early life stages. Buffel grass also greatly increases the fire risk at sites where it has invaded.

Climate change is a threat given its potential to restrict seedling recruitment and decrease adult vigour and survival during extended drought phases³.

Olearia macdonnellensis is potentially threatened by small-population effects such as inbreeding

depression and genetic drift through low gene flow. There is no information on the population genetics of this species, but given its fragmented distribution, it is possible that there is little genetic exchange among stands³.

Conservation objectives and management

The national recovery plan for this species³ has expired and a Conservation Advice Document is in preparation. Priority management actions for this species are survey and mapping; fire management, and weed control where required.

References

- ¹ Cooke, D.A. 1988. Two new species of *Olearia* Moench (Compositae: Astereae) from Central Australia. *Muelleria* 6, 181-184.
- ² White, M., Albrecht, D., Duguid, A., Latz, P., and Hamilton, M. 2000. *Plant species and sites of botanical significance in the southern bioregions of the Northern Territory. Volume 1: significant vascular plants*. A report to the Australian Heritage Commission. (Arid Lands Environment Centre, Alice Springs.)
- ³ Nano, C. and Pavey, C. 2008. National Recovery Plan for *Olearia macdonnellensis*, *Minuria tridens* (Minnie Daisy) and *Actinotus schwarzii* (Desert Flannel Flower). Department of Natural Resources, Environment, the Arts and Sport, Northern Territory.