

Threatened species of the Northern Territory

Desert flannel flower

Actinotus schwarzii

Conservation status

Australia: Vulnerable

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Vulnerable

Territory Parks and Wildlife Conservation Act 1976



Description

The desert flannel flower is an erect perennial shrub to 60 cm with soft dense tomentum. The leaves are deeply lobed; the flowers are large, showy and daisy like, forming a dense head to 2.5 cm diameter. The fruit are covered with silky hairs to 3 mm long.

Flowering: July, October to January.

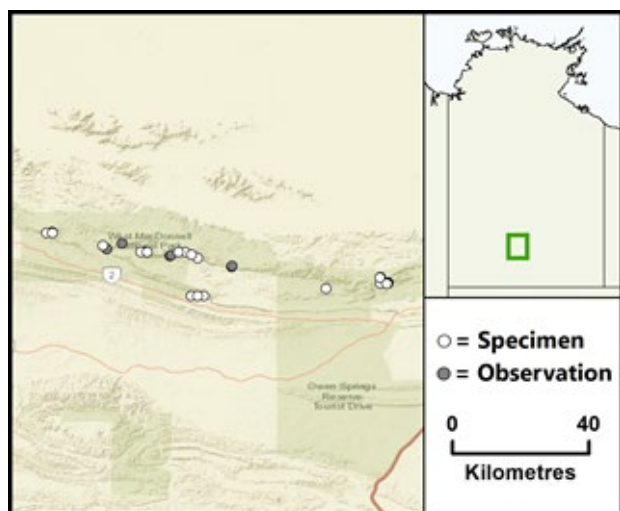
Fruiting: December.



Distribution

This species is endemic to the MacDonnell Ranges Bioregion¹. It naturally rare and is known from seven localities in the Chewings and Heavitree Ranges, west of Alice Springs². The western limit of its distribution is Mt Sonder and the eastern limit is Standley Chasm, representing a latitudinal range of 19 km and longitudinal range of 90 km. The species has a very restricted area of occupancy (<20 km²) and the number of mature individuals is estimated to be less than 1000².

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



Caption: Known occurrences of the Desert Flannel Flower in the NT (nrmaps.nt.gov.au)

Ecology and life-history

The desert flannel flower occurs exclusively in sheltered gorges and on steep south-facing cliffs¹. This microhabitat provides shelter from aridity and fire². The life history and reproductive ecology of Desert Flannel-flower are poorly known. The pollination biology is similarly unknown, but is unlikely to be specialised².

Threatening processes

Desert Flannel-flower is likely threatened by hotter temperatures and changed rainfall associated with climate change³. This species is a narrow-range endemic, likely with limited dispersal potential. As such, it may be unable to adapt to shifting climate conditions, and this may cause it to decline³.

Projected higher temperatures suggest that the intensity and scale of wildfire in the region may increase⁴. Severe summer wildfire may therefore threaten this species in the future.

Buffel Grass (*Cenchrus ciliaris*) is abundant throughout the MacDonnell Ranges. To date, the rocky microhabitat of Desert Flannel-flower has proved resilient to invasion, however, competition and increased fire are potential future threats associated with this invasive grass species².

Given the small number of occurrences and the low number of individuals, the species is potentially threatened by stochastic events such as wildfire and disease. Seed and flower collecting are potential threats at some of the accessible locations.

Conservation objectives and management

There is an unverified occurrence of this species in the Petermann Ranges that should be investigated. A systematic assessment of factors that may threaten the species is needed. Improved knowledge of population size and the reproductive biology of the species is required and selected populations should be monitored.

References

- ¹ 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).*
- ² 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 (NT).
- ³ McDonald, P.J., Jobson, P., Köhler, F., Nano, C.E.M. and Oliver, P. 2021. The living heart: Climate gradients predict desert mountain endemism. *Ecology and Evolution* DOI: 10.1002/ece3.7333.
- ⁴ CSIRO (Commonwealth Scientific and industrial Research Organisation) and Bureau of Meteorology 2015. *Climate change in Australia information for Australia's natural resource management regions: technical report.* CSIRO and Bureau of Meteorology, Australia.