Threatened species of the Northern Territory

Dwarf desert spike-rush

Eleocharis papillosa

Conservation status

Australia: Vulnerable
Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Vulnerable
Territory Parks and Wildlife Conservation Act 1976

Description

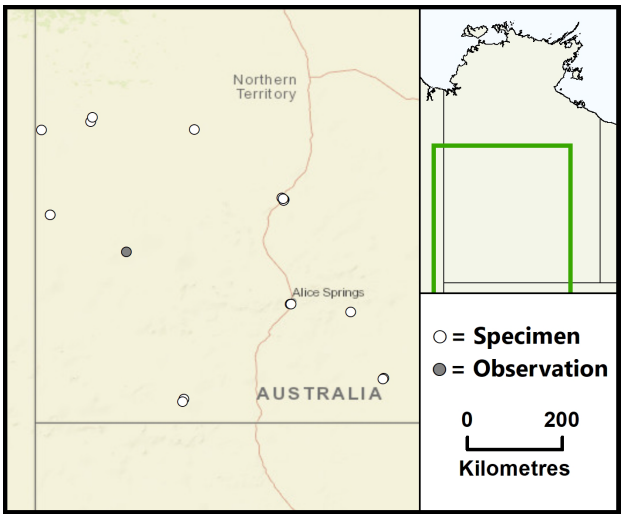
The dwarf desert spike-rush is a small erect perennial sedge, typically less than 10 cm high. The above ground parts grow in response to inundation, subsequently dying back to underground parts which consist of roots, rhizomes and tuberoids. The leaf sheaths are purplish at base.

Flowering and fruiting: recorded throughout the year.

Distribution

The dwarf desert spike-rush is endemic to the NT. It is known from just eight sites, ranging from the northern Tanami Desert to the southern parts of the Finke bioregion and the edge of the Simpson Desert[1]. Most locations are remote, and repeated collections have been made at only few of them. The latitudinal range of the species is 600 km and the longitudinal range is 560 km.

NT conservation reserves where reported: None



Caption: Known locations of the Dwarf Desert Spike-rush in the NT (nrmaps.nt.gov.au)

Ecology and life-history

All records are from temporary wetlands; predominantly freshwater and semi-saline swamps but one record is from the edge of a temporary riverine waterhole.

Growth, seed set and germination likely occur in response to temporary inundation. Seed set has not been observed at Ilparpa Swamp which is the most frequently visited location. Cultivated greenhouse plants from Ilparpa, with constant water conditions, have also failed to set seed.

However, some herbarium specimens from other locations do have seed, indicating that sexual reproduction may occur in some populations. The abundance of above ground shoots may vary between different inundation events. It can be difficult to determine whether a population consists of many individuals or few individuals that are extensively rhizomatous. The species has been locally abundant (estimated at up to approximately 1000 plants) at some times at some sites.

During dry times, populations persist as soil-stored seed or soil-stored root tuberoids and/or rhizomes. Plants with constant water conditions (at the Alice Springs Desert Park Nursery) exhibit an annual die-off of the above ground shoots. It is not known what controls this but age, season and cold are all possible factors. These plants subsequently resprout. Informal trials indicate that resprouting can occur from the tuberoids after they have been stored in dry conditions.

The dominant plants at some sites are *Eucalyptus coolabah* (Coolibah), *Halosarcia* spp. (Samphire), *Chenopodium auricomum* (Northern Bluebush) and *Eragrostis australasica* (Swamp canegrass). This species occurs in the open and under shrubs.

Threatening processes

Invasion by couch grass (*Cynodon dactylon*) is the main threat for at least two of the populations. Changed hydrological conditions may affect some subpopulations[2]. Trampling by stock occurs at some sites, but the long-term impacts of this are unknown.

Conservation objectives and management

Known populations require monitoring as does the spread of couch grass. The feasibility of controlling couch grass in swamp environments needs to be investigated. Cattle impacts should be reduced through fencing as required.

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.* Report to the Australian Heritage Commission. (Arid Lands Environment Centre, Alice Springs.)

[2] Duguid, A., Barnetson, J., Clifford, B., Pavey, C., Albrecht, D., Risler, J., and McNellie, M. 2002. *Wetlands in the arid Northern Territory*. A report to Environment Australia on the inventory and significance of wetlands in the arid NT. (Parks and Wildlife Commission of the Northern Territory, Alice Springs.)