



PLANT

Caladenia behrii

Pink-lip Spider-orchid

AUS	SA	AMLR	Endemism	Life History
E	E	E	AMLR	Perennial

Family ORCHIDACEAE



Photo: © Joe Quarmby

Conservation Significance

Endemic to the AMLR.³

Description

Spider-orchid with a single hairy leaf up to 10 cm long. During spring, mature plants develop a hairy scape up to 60 cm high, usually with one flower, sometimes with two. Flower has five sepals/petals up to 8 cm long, creamy white with red glandular tips that produce a subtle spicy aroma (Bates and Weber 1990).²

Synonym: *Arachnorchis behrii*.⁴

Distribution and Population

Estimates of population size in 2006 were 2500 to 3500 mature plants within 32 subpopulations.⁶ Extent of occurrence estimated to have decreased from 202 km² to 95 km² over the last 20-30 years.² Check Lofty Block Plan.

Prior to European settlement probably widespread and relatively common throughout the MLR (Bates 1994). At present distribution is limited to two small

disjunct areas at least 25 km apart: approximately 60 km² in the Kersbrook/Williamstown region, and approximately 35 km² in the Belair/Clarendon region. Extent of occurrence in 1968 was estimated at 202 km².²

Lang and Kraehenbuehl (1998) indicate it once occurred in the Northern Lofty Ranges, but has since become extinct.⁷

Pre- and post-1983 AMLR filtered records indicate two general locations, with records clustered in the Barossa Valley region around Mount Crawford Forest and Parra Wirra RP; and in the southern MLR, from Belair NP, Scott Creek CP and Mount Bold area.³

Habitat

Occurs on loamy soils in *Eucalyptus goniocalyx*/*E. obliqua*/*E. fasciculosa* or *E. obliqua*/*E. microcarpa*/*E. fasciculosa* woodland, usually on moderate slopes (Bates 1994). Very sensitive to grazing by native and introduced herbivores, and does not persist in weed infested areas.⁵

Within the AMLR the preferred broad vegetation group is Heathy Woodland.³

Within the AMLR the species' degree of habitat specialisation is classified as 'High'.³

Biology and Ecology

Plants grow in association with mycorrhizal fungi, which have been isolated *in vitro* but are yet to be identified.⁵

Plants may remain juvenile for two to five years, producing only a single leaf each spring. During the dormant season (summer to autumn) nutrient reserves are stored in two small tubers. A mature plant may have reproductive potential for about ten years (Bates and Weber 1990).²

If the flower is pollinated, an oblong fruit (capsule) is formed, which dehisces in late October-November releasing hundreds of minute seeds (Bates and Weber 1990).² One of many *Caladenia* species that are pollinated by male wasps of the Thynninae family. The flower exudes a kairomone (a pheromone simulant) from the tips of the sepals. This kairomone imitates the pheromone produced by a female Thynnid wasp, and may even be specific to one species of wasp. Any male wasps of this species that are foraging nearby will

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fly to the flower and attempt to copulate with the labellum, inadvertently removing pollinia in the process. Thynnid wasps neither search for nor receive food from the orchid, instead they forage from nectar-producing flowers (Armstrong 1979; Stoutamire 1975). As such, the survival of orchid populations relies on healthy remnant vegetation.^{2,5}

Does not require fire to induce flowering and flowering does not increase after fire (R. Bates *pers. comm.* 2006). However, there is anecdotal evidence to suggest it responds to soil disturbance, e.g. found flowering in recently disturbed sites such as along track verges.⁵

Aboriginal Significance

Post-1983 records indicate the majority of the AMLR distribution occurs in northern Peramangk Nation (and to a lesser extent southern Peramangk). Also present in eastern Kaurna Nation.³

Tubers of *Caladenia* spp. are recorded as a traditional Aboriginal food source in the eastern states (Flood 1980).¹

Threats

Major threats include:

- browsing by kangaroos, birds, possums, deer, hares, rabbits and invertebrates^{5,7}
- habitat degradation by weed invasion (Boneseed, Bridal Creeper Pines, and/or Blackberry)
- site-specific impacts such as soil erosion and vandalism caused by mountain bike riding, track and road works, horse-riding, and collectors.²

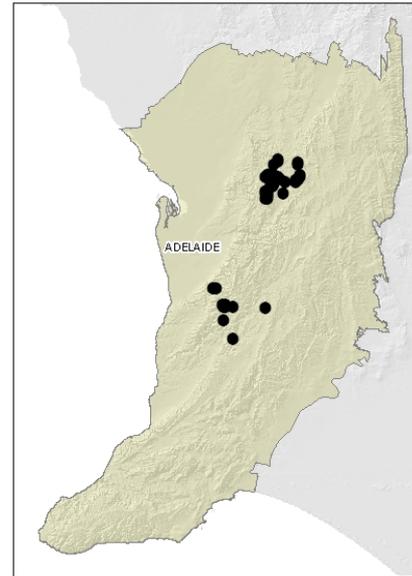
Other threats include lack of pollination and hence recruitment, inbreeding and loss of genetic diversity, and the impact of soil-borne disease on dependant native species.⁵

Frequent prescribed burning or slashing (<5 year intervals), especially during the active growing season (April – October) may adversely affect populations.⁵

Within the AMLR, the majority of its known distribution occurs within 2 km of confirmed or suspected *Phytophthora* infestations.³

Additional current direct threats have been identified and rated for this species. Refer to the main plan accompanying these profiles.

Regional Distribution



Map based on filtered post-1983 records.³ Note, this map does not necessarily represent the actual species' distribution within the AMLR.

References

Note: In some cases original reference sources are not included in this list, however they can be obtained from the reference from which the information has been sourced (the reference cited in superscript).

- 1 Australian National Botanic Gardens (2007). *Aboriginal Plant Use - NSW Southern Tablelands*. Available from <http://www.anbg.gov.au/apu/index.html> (acc. August 2007).
- 2 Bickerton, D. (1999). *Recovery Plan for Pink-lipped Spider Orchid (Caladenia behrii)*. Department for Environment and Heritage, South Australia.
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- 4 Jones, D. L. (2006). *A complete guide to native orchids of Australia including the island territories*. New Holland Publishers, Australia.
- 5 Quarmby, J. P. (2006). *Recovery Plan for Twelve Threatened Orchids in the Lofty Block Region of South Australia 2007 - 2012*. Department for Environment and Heritage, South Australia.
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- 7 Turner, M. S. (2001). *Conserving Adelaide's Biodiversity: Resources*. Urban Forest Biodiversity Program, Adelaide.

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