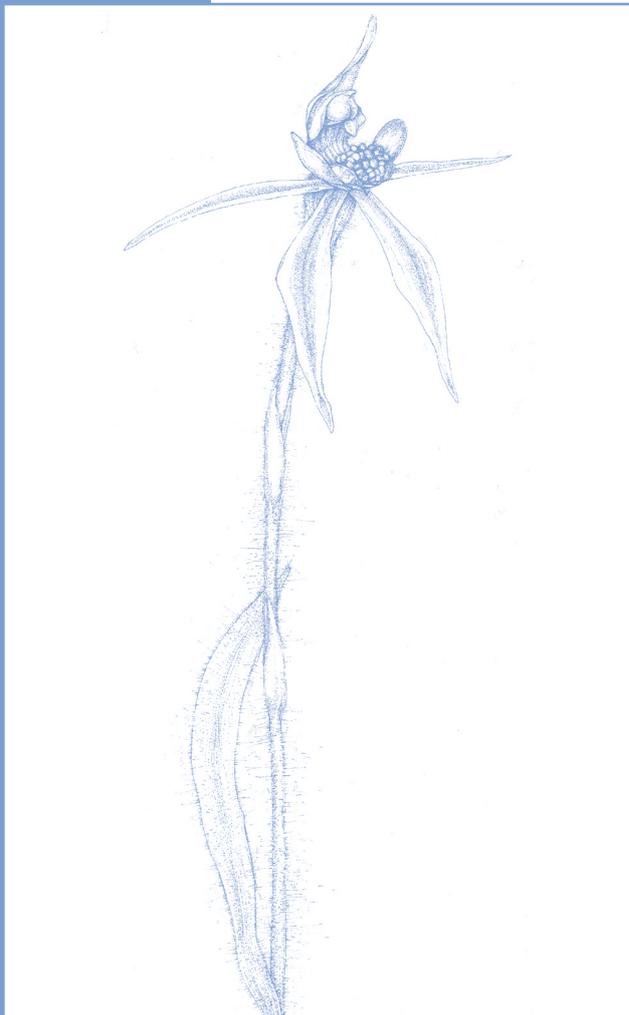


Canberra Spider Orchid
Arachnorchis actensis
An Endangered species



1. Species Information and General Requirements

1.1 Species Name and Description

Arachnorchis actensis (D.L.Jones & M.A.Clem.) (Canberra Spider Orchid) is endemic to the Australian Capital Territory and was originally described as *Caladenia actensis* (Jones and Clements 1999). A revision of the genus *Caladenia* has resulted in the species being renamed as *Arachnorchis actensis* (Jones et al.2001).

Arachnorchis actensis is a terrestrial orchid that grows singly or in small groups to a height of 40 to 90 mm. The flowers are solitary (rarely two) 12–20 mm in diameter and the base colour is greenish, heavily marked with reddish crimson lines and suffusions. For a complete description refer to Jones and Clements (1999).

1.2 Conservation Status

The Canberra Spider Orchid is declared a Critically Endangered species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (6 June 2005). The species is also declared an Endangered species in the Australian Capital Territory under the *Nature Conservation Act 1980* (ACT) (11 April 2005). This recovery plan has been prepared under the provisions of the EPBC Act and Nature Conservation Act.

1.3 International Obligations

There are no international obligations in relation to this species.

1.4 Affected Interests

The known locations of the orchid were confined to the slopes of Mt Ainslie and Mt Majura (managed by the ACT Government). More recently, a population has been located in the Majura Valley (on land managed by the Department of Defence as Majura Field Firing Range). This recovery plan is focussed on the Mt Ainslie and Mt Majura populations; however, it would be relevant to any other populations in the ACT.

- **Mt Ainslie and Mt Majura.** Both these locations are Public Land (Nature Reserve) under the *Planning and Development Act 2007* (ACT). The areas are managed by the ACT Government as part of Canberra Nature Park. Prescribed management objectives for this land under the Act (Schedule 3) are: (a) to conserve the natural environment; and (b) to provide for public use of the area for recreation, education and research.

Implementation of the recovery plan will involve Parks and Conservation Service (Territory and Municipal Services Directorate, ACT Government), but will have minimal impact on public recreational use of Canberra Nature Park.

- **Majura Field Firing Range.** This is National Land located in the Majura Valley and managed by the Department of Defence. National Land is defined in the *Australian Capital Territory (Planning and Land Management) Act 1988* (Cwlth) as land used by or on behalf of the Commonwealth and managed by the Commonwealth. Public access to Majura Field Firing Range is prohibited.

1.5 Role and Interests of Indigenous People

All Aboriginal signatories to the Agreement between the Territory Government and ACT Native Title Claim Groups were contacted and provided with a draft of the recovery plan (April 2007). None of the signatories made comment or expressed concern about the contents of the plan.

1.6 Benefits to Other Species/Ecological Communities

Actions to conserve the species will be undertaken in the context of the ecological community of which it is a part. Broader biodiversity benefits have not been identified at this stage. No adverse effects on other species or the ecological community as a whole are envisaged.

1.7 Social and Economic Impacts

No significant adverse social or economic impacts are envisaged from implementation of the recovery plan. The Mt Ainslie and Mt Majura populations are located in nature reserve areas in which nature conservation is a primary management objective (ACT Parks and Conservation Service 1999).

- (a) **Recreational use (trampling and mechanical injury):** Mt Ainslie and Mt Majura units of Canberra Nature Park are popular for recreation including walking, cycling and horse riding. Management provisions related to these activities are set out in the *Canberra Nature Park Management Plan* (ACT Parks and Conservation Service 1999). *Arachnorchis actensis* populations may be susceptible to trampling by recreational users moving off existing tracks or to disturbance related to track maintenance.
- (b) **Infrastructure establishment and maintenance (mechanical injury):** Planning provisions in the ACT allow for the establishment of utilities and infrastructure in the 'Inner Hills' areas. As well as a network of management (vehicle) and walking tracks, the Mt Ainslie and Mt Majura areas contain major powerlines and water reservoirs for urban reticulation. The largest grouping of plants (Mt Majura) is located near a cleared powerline easement. A potential threat to the populations is disturbance associated with the maintenance of infrastructure or the establishment of new facilities.
- (c) **Weed invasion:** Site conditions have probably contributed to a relatively low level of weed invasion of the existing *Arachnorchis actensis* populations. However, weed species are prevalent throughout the area, especially in the groundcover. Weed encroachment is a potential threat to the species and should be monitored and controlled.
- (d) **Shading (tree and shrub cover):** Some shrub cover is present at the sites of the *Arachnorchis actensis* populations. This comprises *Acacia* spp. (Mt Ainslie and the small population at Mt Majura) and *Allocasuarina verticillata* (the large population at Mt Majura). While this shrub cover results in sunny to part-shaded habitats, it is not known if increased shading due to shrub (or tree) growth is a threat to the species.
- (e) **Herbicides:** Herbicides used to treat shrub regrowth or weeds at the *Arachnorchis actensis* sites should not come into contact with the orchid plants.
- (f) **Illegal collection:** Though there is no evidence for this having occurred to date, it is a potential threat given the attractiveness of the plant, its limited numbers and proximity to urban Canberra.
- (g) **Fire:** It is likely that *Arachnorchis actensis* evolved with a late summer to early autumn fire regime

(the naturally fire-prone period in the ACT), which corresponds with its dormant period. Fires from late autumn to early spring may affect its life cycle and reproductive capability. This is a matter warranting further investigation.

- (h) **Herbivore grazing:** High densities of eastern grey kangaroos and rabbits occur in the areas where *Arachnorchis actensis* occurs. Excessive grazing by rabbits, in particular, has been increasingly recognised as a threat to the remaining populations of the orchid. Rabbit proof fencing has been undertaken to protect both populations.
- (i) **Soil pathogens:** Dieback of vegetation has occurred in the area surrounding the Mt Ainslie orchid site, which may be due to the presence of soil pathogens (PJ Milburn, pers. comm.). If present, such pathogens have the potential to impact directly on the orchid population or indirectly, by changing their habitat.

3.3 Areas and Populations under Threat

The potential threats outlined in s. 3.2 apply to all the known occurrences of *Arachnorchis actensis* at Mt Ainslie and Mt Majura.

4. Objectives, Performance Criteria and Actions

4.1 Conservation Objectives

The overall objective of this recovery plan is to preserve in perpetuity, in the wild, the only known populations of *Arachnorchis actensis*.

A supporting objective is that the habitat of *Arachnorchis actensis* is conserved and managed so that natural ecological processes continue to operate.

Conservation of habitat involves, in particular, management actions to deal with or avoid the potential threats outlined above e.g. ensuring that the sites are not deleteriously affected by recreational activity or infrastructure works, weeds and shrub growth are controlled, and the sites are protected from potentially damaging fires.

While these objectives relate to the five year term of this recovery plan, they are longterm and ongoing.

4.2 Performance Criteria

The following Performance Criteria are pertinent to the objectives in s. 4.1:

- (a) Populations of *Arachnorchis actensis* are monitored annually (see below) and are maintained. (Annual/ongoing)
- (b) Habitat conditions are monitored annually and are maintained or improved by management actions and avoidance of potential threats. (Annual/ongoing)

The species is monitored during the flowering season with counts of the numbers of plants occurring in the known population areas. Survey pegs have been placed at the sites for replication of the surveys in subsequent years. At the site of the largest population (Mt Majura), counting is conducted in defined one square metre quadrats.

The primary criterion for the success or failure of this recovery plan is the maintenance *in situ* of the populations of *Arachnorchis actensis* in the ACT.

4.3 Recovery and Threat Abatement Actions (including Management Practices)

Parks and Conservation Service, ACT Territory and Municipal Services Directorate has responsibility on ACT Government managed land for all the actions listed below.

Information: Survey, Monitoring, Research

1. Maintain alertness to the possible presence of the species while conducting woodland surveys in appropriate habitat.
2. Continue to monitor flowering of the orchid to provide information and guidance for management.
3. Encourage and support research into the biology and ecology of the species, its optimum fire regime, the potential for the propagation of *ex situ* populations, and the effects of potential threats e.g. presence of soil pathogens.

Protection and Management

1. Ensure that the orchid populations are protected from the impacts of recreation, infrastructure works and maintenance, and any other potentially damaging activity (e.g. fire fuel hazard reduction).
2. Prepare a management plan for the species based on accurate mapping of the location of the plants.

3. Coordinate management actions undertaken by Parks and Conservation Service.
4. Undertake shrub and weed control in the orchid habitats as required. Provide advice to contractors and park staff on appropriate herbicide use at the sites. Herbicides should not come into contact with the orchid plants.
5. Where herbivore grazing pressure is a threat, fence orchid sites. Otherwise, maintain a 'low profile' for the sites to avoid drawing attention to the orchid populations.
6. Implement an appropriate fire regime for the species and its habitat, once the optimum fire regime has been determined.
7. Based on the results of research, evaluate and, if feasible, undertake the establishment of *ex situ* populations of the species.

5. Duration of the Recovery Plan and Estimated Costs

The recovery plan is for a period of five years.

6. References

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