

Action Statement

Flora and Fauna Guarantee Act 1988

No. 170

Tawny Spider-orchid *Caladenia fulva*

Distribution

The Tawny Spider-orchid *Caladenia fulva* (G.W. Carr) D.L. Jones & M.A. Clem. is endemic to Victoria, occurring in the Stawell area within the Goldfields Bioregion. No records exist to indicate a formerly more widespread range and likely to be naturally rare narrow endemic. Between 300 and 500 plants are known in the wild, in four populations. The Tawny Spider-orchid is likely to have been more abundant with numbers in the thousands in the Stawell area, prior to landscape scale disturbance from gold exploration and mining. It is reserved within the Deep Lead Nature Conservation Reserve¹, which includes all known populations. The reserve is managed by Parks Victoria (Victoria West Region).



Tawny Spider-orchid *Caladenia fulva* sp.
(Photo: Geoffrey Car)

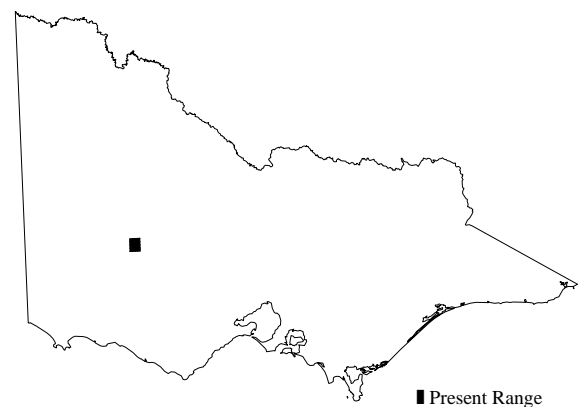
Habitat

The Tawny Spider-orchid grows on generally flat or gently sloping terrain in woodlands and open forest dominated by *Eucalyptus leucoxylon sens. lat.* and occasionally *Eucalyptus tricarpa* with a heathy understorey on well-drained, gravelly clay oams. Critical habitat has not been determined but may require disturbance.

Conservation status

National conservation status

The Tawny Spider-orchid has been listed as endangered under the Commonwealth **Environment Protection and Biodiversity Conservation Act 1999**.



Distribution in Victoria (DSE 2004)

¹ The Deep Lead Nature Conservation Reserve (NCR) is among the recommendations of the Environment Conservation Council for the Box-Ironbark Forests and Woodlands, which have been accepted by the Victorian Government and are currently being implemented. It incorporates the existing Deep Lead Flora and Fauna Reserve, the Ironbarks State forest, the Deep Lead Education Area and the Germania Mine Bushland Reserve.

An assessment using the IUCN Criteria has not been undertaken.

Victorian conservation status

The Tawny Spider-orchid has been listed as threatened under the **Flora and Fauna Guarantee Act 1988**.

The Tawny Spider-orchid is considered endangered in Victoria (DSE 2003).

Decline and threats

Current threats and estimated risk

Weed invasion

Low - weeds are scarce at sites.

Grazing

High - macropods and rabbits are common at all sites.

Inappropriate fire regimes

Unknown - at present - sites are long unburnt and fire risk is low.

Site disturbance

High at Deep Lead- sites are subject to disturbance by illegal gold prospecting and rubbish dumping. Extremely high all sites - trampling by orchid enthusiasts.

Potential threats and estimated risk

Illegal collection

High -Likely to be sought by collectors.

Ecology/biology

High - conditions for seed recruitment and maintenance of pollinator and fungal activity unknown; attempts to germinate seed have been largely unsuccessful.

Other issues

- The site at Deep Lead is well known to local and interstate orchid enthusiasts and is extremely vulnerable to damage from trampling during flowering. Visitor management, such as the installation of walking tracks to restrict walkers and signage will be considered.
- Site confidentiality at other locations is vital. Involvement from non government organisations and individuals will be limited to a small number of individuals with a proven track record in its conservation (Australian Native Orchid Society - ANOS conservation group, Stawell Field Naturalists Club).
- One population at Deep Lead NCR is close to tracks and vulnerable to damage from recreational vehicles.

- Effective management of illegal prospecting for gold at Deep Lead is urgently required.
- Kangaroo numbers at both reserves require assessment particularly in relation to loss of ground flora and soil disturbance. Alternatively, extensive fencing to protect populations will be required.
- Populations are polymorphic with flower characters that combine features of *A. fulva* and *C. reticulata*, both of which occur at Deep Lead (Backhouse and Jeanes 1995; Basist et al. 2001). However, early results from molecular analyses suggest that there are no differences between plants belonging to 5 groups based on petal and labellum coloration and all can be ascribed to *A. fulva* (Basist et al. 2001).

Existing conservation measures

- Monitoring at two sites by Stawell Field Naturalists and RMIT University (Raleigh in prep.).
- Searches conducted annually by Stawell Field Naturalists.
- Research into polymorphism underway (Basist et al. 2001).
- Preliminary seed viability and germination trials undertaken (Basist et al. 2001; R. Raleigh in prep).
- Fungal isolation and cultivation trials undertaken (Raleigh et al. 2001; Raleigh in prep.).
- All sites were visited during recovery plan preparation.

Conservation objectives

Long term objective

That the Tawny Spider-orchid can survive, flourish and retain its potential for evolutionary development in the wild.

Objectives of this Action Statement

1. Improve knowledge of population sizes, trends and habitat requirements.
2. Protect sites and manage habitat.
3. Maintain and/or increase existing population sizes

Overall approach

Known populations will continue to be monitored. Risk management will include protection of populations from grazing and gold prospecting, and maintenance of site confidentiality. In particular, a strategy to manage high visitor numbers at Deep Lead will be negotiated with Parks Victoria. A wider range of seed will be collected and tested for viability and stored for use

if required. Recovery will be jointly managed by DSE and Parks Victoria. Involvement from ANOS conservation group and Stawell Field Naturalists will continue.

Intended management actions

The intended management actions listed below are further elaborated in NRE's Priority Actions Information System. Detailed information about the actions and locations, including priorities, is held in this system and will be provided annually to land managers and other authorities.

1. Determine current conservation status by acquiring baseline population data.

Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region), Parks Victoria

2. Measure population trends and responses against recovery actions. Conduct annual censusing of populations, collate, analyse and report on census data and re-prioritise and adjust recovery actions and/or threat management

Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region), Parks Victoria

3. Determine habitat requirements of key populations. Conduct surveys, identify ecological correlates of populations and prepare habitat descriptions.

Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region), Parks Victoria

4. Incorporate actions to protect, enhance and restore Tawny Spider-orchid habitat into the Wimmera Regional Catchment Strategy or its subordinate strategies via Biodiversity Action Plans. Implement these actions, according to priority, as resources become available, in conjunction with other agencies, community groups and landholders.

Responsibility: Wimmera Catchment Management Authority

5. Manage risks to populations. Identify and implement strategies to control threats and identify disturbance regimes to promote regeneration and recruitment for key populations and their habitat.

Responsibility: Parks Victoria, DSE (Biodiversity & Natural Resources Division, SW Region)

6. Promote in-situ recruitment by preparing habitat for seedling recruitment and re-stocking populations with seed.

Responsibility: Parks Victoria, DSE (Biodiversity & Natural Resources Division, SW Region)

7. Undertake or encourage and support research, including the following:

- Describe life history
- Evaluate natural pollination levels and causes of pollinator limitation
- Determine the effects of artificial pollination on growth survival and reproduction
- Determine spatial distribution of mycorrhizal fungi
- Determine optimal conditions for growth of mycorrhizal fungi in-situ

Responsibility: DSE (Biodiversity & Natural Resources Division), Parks Victoria

8. Increase populations ex-situ. Hand pollinate plants, collect and store seed and determine seed viability. Collect and store mycorrhizal fungi. Establish and maintain cultivated populations and record such collections in a database of threatened orchid taxa in cultivation.

Responsibility: DSE (Biodiversity & Natural Resources Division), Royal Botanic Gardens

9. Develop and implement materials for land manager, landholder and community information, including technical information on *in-situ* recovery techniques.

Responsibility: DSE (Biodiversity & Natural Resources Division, SW Region), Parks Victoria

10. Involve community groups in recovery actions where appropriate and provide support under the Botanic Guardians scheme.

Responsibility: Parks Victoria, DSE (Biodiversity & Natural Resources Division, SW Region)

References

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Further information can be obtained from Department of Sustainability and Environment Customer Service Centre on 136 186.

Flora and Fauna Guarantee Action Statements are available from the Department of Sustainability and Environment website: <http://www.dse.vic.gov.au>

This Action Statement was prepared under section 19 of the Flora and Fauna Guarantee Act 1988 under delegation from Chloe Munro, Secretary, Department of Natural Resources and Environment, October 2002.

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