

Action Statement

Flora and Fauna Guarantee Act 1988

No. 143

Crimson Spider-orchid *Caladenia concolor*

Distribution

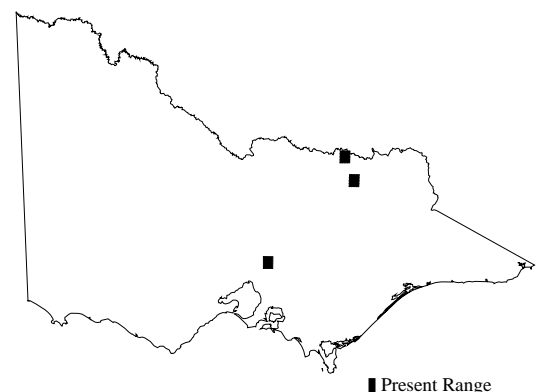
The Crimson Spider-orchid *Caladenia concolor* (Fitzg.) D.L. Jones & M.A. Clem. occurs in Victoria in the Beechworth and Chiltern areas within the Victorian Northern Inland Slopes Bioregion. Additional populations are thought to occur in the Central Victorian Uplands Bioregion in the Broadford/Tyaak area. Records from the Goldfields Region in the Bendigo and Castlemaine areas are doubtful (D. Rouse *pers. comm.*), as are those from the Cootamundra and Tumbarumba areas in NSW (D. Jones *pers. comm.*). In New South Wales, the Crimson Spider-orchid is known from the South Western Slopes Bioregion, in the vicinity of Albury. Fewer than 75 plants in the wild, in fewer than 10 populations. This species has often been confused with other taxa of similar appearance and its former abundance is not known. However, population sizes at extant sites are likely to have been at least double current numbers. The Crimson Spider-orchid is reserved in Victoria at Chiltern - Pilot National Park. This site is managed by Parks Victoria (Central Region).

Habitat

In Victoria, the Crimson Spider-orchid occurs in Box - Ironbark open forests (usually *Eucalyptus goniocalyx*, *Eucalyptus macrorhyncha*, *Eucalyptus polyanthemus*, *Eucalyptus sideroxylon*) on well-drained, gravelly or stony sand and clay loam. The understorey typically consists of scattered heathy shrubs and grasses such as *Brachyloma ciliatum*, *Platylobium formosum*, *Dillwynia phyllicoides*, *Hibbertia riparia*, and *Joycea pallida*.



Crimson Spider-orchid *Caladenia concolor*
(Photo: John Eichler)



Distribution in Victoria (DSE 2004)

Conservation status

National conservation status

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

An assessment under the IUCN Red List criteria (2000) undertaken by Coates *et al.* (2002) determined the Crimson Spider-orchid to be 'Critically Endangered'.

Victorian conservation status

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

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

Decline and Threats

Current threats and eEstimated risk

Weed invasion

Moderate to high - exotic annual grasses a potential threat

Grazing

High- rabbit and kangaroo grazing

Inappropriate fire regimes

Moderate- populations are close to towns and unplanned fires are possible.

Site disturbance

Moderate- close proximity to tracks.

Potential threats and estimated risk

Illegal collection

High - evidence of collection in the past; highly sought after by collectors.

Other disturbance

High - Roadworks and soil dumping potentially occur on at least one steep unstable site close to road edge.

Timber harvesting

High - occurs at one, possibly two sites in State Forest

Other issues

- The Crimson Spider-orchid is highly sought after by collectors, so that site confidentiality is vital. Involvement from non government organisations and individuals will be limited to a small number of individuals with a proven track record in conservation (Friends of Chiltern, Albany Botanic Gardens).

- Taxonomic definition of the taxon is currently unclear with some confusion existing over its current and former distribution and population size. Populations in the Bendigo, Castlemaine, and Broadford areas need determination (referred to below as unconfirmed populations).
- The response the Crimson Spider-orchid to fire is not known, fire management should be undertaken with caution, especially in New South Wales where populations are vulnerable to frequent unplanned fires.

Existing conservation measures

- Annual searches at various sites in Victoria and NSW since 1992.
- Monitoring of 5 populations in north-east Victoria since 1990 and in southern New South Wales since 2000.
- Fencing, weed control and fire management planning in (NSW) and at Chiltern Box-Ironbark National Park (Victoria).
- Hand pollination, seed collection.
- Preliminary fungal isolation and culture.
- All known sites were visited during preparation of the recovery plan.
- A recovery plan for NSW populations of Crimson Spider-orchid has been prepared under NSW TSCA 1995 (NSW NPWS 2001).

Conservation objectives

Long term objective

That the Crimson 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 and potential populations will be surveyed to determine population sizes and habitat requirements and to provide ecological knowledge necessary for management. Broad-scale risk management will include fire planning, protection of populations from grazing and weed invasion, prevention of accidental damage, securing site tenure for conservation, and maintenance of site confidentiality. The population will be managed to promote seedling recruitment, using fine-scale habitat management techniques. Populations will be re-stocked using seed from cultivated plants. Recovery will be jointly managed by DSE and PV.

Involvement from Albury Botanic Gardens and Friends of Chiltern will continue and biological research is strongly encouraged.

Intended management actions

The intended management actions listed below are further elaborated in Actions for Biodiversity Conservation database. 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. Confirm the determination of the Mt Pilot population and other unconfirmed populations.

Responsibility: DSE (Biodiversity & Natural Resources Division), Centre for Plant Biodiversity Research, Canberra

2. Acquire baseline population data at all locations.

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

3. 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), Parks Victoria

4. Determine habitat requirements of key populations. Identify key populations, conduct surveys, identify ecological correlates of populations and prepare habitat descriptions.

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

5. Provide information and advice, including maps, regarding the location and management of Crimson Spider-orchid sites to landholders, land managers and other authorities, especially Catchment Management Authorities and local government authorities.

Responsibility: DSE (Biodiversity & Natural Resources Division, NE Region)

6. Incorporate actions to protect, enhance and restore Crimson Spider-orchid habitat into relevant Regional Catchment Strategies or their 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: Goulburn Broken and North East Catchment Management Authorities

7. Incorporate information regarding the location and management of Crimson Spider-orchid sites into local planning schemes, including environmental significance overlays, and apply the Victorian Planning Provisions so as to protect these sites.

Responsibility: local government authorities

8. 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: DSE (Biodiversity & Natural Resources Division) Parks Victoria

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

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

10. 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)

11. Increase populations ex-situ. Using the Chiltern Box-Ironbark population only, 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

12. 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, NE Region), Parks Victoria

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

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

References

- Coates, F., Jeanes, J. & Pritchard, A. (2002) Recovery Plan for Twenty-five Threatened Orchids of Victoria, South Australia and New South Wales 2003 - 2007. Department of Natural Resources and Environment, Melbourne.
- DSE (2003) Advisory List of Rare or Threatened Plants in Victoria - 2003. Department of Sustainability and Environment: East Melbourne. (available on the DSE web site)
- DSE (2004) Flora Information System (electronic flora database). Department of Sustainability and Environment: Melbourne.

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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 has been prepared under section 19 of the Flora and Fauna Guarantee Act 1988 under delegation from Professor Lyndsay Neilson, Secretary, Department of Sustainability and Environment, September 2003.

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