

Approved conservation advice
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

Approved Conservation Advice for
Caladenia atroclavia

This Conservation Advice has been developed based on the best available information at the time this Conservation Advice was approved; this includes existing plans, records or management prescriptions for this species.

Description

Caladenia atroclavia, Family Orchidaceae, also known as Black-clubbed Spider Orchid, is a hirsute terrestrial herb with leaves 8–12 cm long and 5–10 mm wide. Basal leaves are irregularly blotched red-purple and inflorescences grow 25–35 cm tall. Flowers are usually solitary, pale greenish-cream in colour with red suffusions on the petals. Petals have prominently thickened dark black-purple clubs. Flowering occurs in October and the flower's fragrance resembles an overheated electric motor (Jones & Clements, 1988; Jones, 2006).

Although *C. atroclavia* has been called *Arachnorchis atroclavia* (Jones, 2006), the latter species is considered a synonym of the former in the Australian Plant Census (see CPBR, 2008). *C. atroclavia* has been confused with *C. fitzgeraldii* and to a lesser extent *C. reticulata* but is distinguishable by the very prominent, much longer, dark terminal osmopores on the sepals (Jones & Clements, 1988; Jones, 2006).

Conservation Status

Caladenia atroclavia is listed as **endangered**. This species is eligible for listing as endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, prior to the commencement of the EPBC Act, it was listed as endangered under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). It is also listed as endangered under Schedule 2 of the *Nature Conservation Act 1992* (Queensland).

Distribution and Habitat

Caladenia atroclavia is known from four populations, three in Girraween National Park (Queensland Herbarium, 2008) and one in the Wyberba area of the Darling Downs, south-east Queensland, which numbers about 70 individual plants (Clements, 2008, pers. comm.). It grows in shrubby open forests in well-drained grey gravelly loam of granitic origin (Jones, 2006). This species occurs within the Border Rivers and Maranoa-Balonne (Queensland) Natural Resource Management Region.

The distribution of this species is not known to overlap with any EPBC Act-listed threatened ecological communities.

Threats

The main identified threat to *C. atroclavia* is feral pigs (*Sus scrofa*) (ANRA, 2007).

The main potential threats to the species include illegal collection; inappropriate fire regimes; and weed invasion (Clements, 2008, pers. comm.).

Research Priorities

Research priorities that would inform future regional and local priority actions include:

- Design and implement a monitoring program or, if appropriate, support and enhance existing programs.

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- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment, including mycorrhizal association trials.

Regional and Local Priority Actions

The following priority recovery and threat abatement actions can be done to support the recovery of *C. atroclavia*.

Habitat Loss, Disturbance and Modification

- Design and implement a management plan for the prevention of illegal removal of *C. atroclavia*.
- Monitor known populations to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Identify populations of high conservation priority.
- Ensure development activities involving substrate or vegetation disturbance in areas where *C. atroclavia* occurs do not adversely impact on known populations.
- Investigate formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Minimise adverse impacts from land use at known sites.

Invasive Weeds

- Develop and implement a management plan for the control of invasive weeds in the local region.
- Identify and remove weeds in the local area, which could become a threat to *C. atroclavia*, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to *C. atroclavia*, using appropriate methods.

Trampling, Grazing, and Animal Disturbance

- Develop and implement a management plan for the control and eradication of feral pigs in the local region and reserve areas.

Fire

- Develop and implement a suitable fire management strategy for *C. atroclavia*.
- Identify appropriate intensity and interval of fire to promote seed germination and vegetation regeneration
- Provide maps of known occurrences to local and state Rural Fire Services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed collection and storage.
- Investigate options for linking, enhancing or establishing additional populations.
- Implement appropriate national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.

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This list does not necessarily encompass all actions that may be of benefit to *C. atroclavia*, but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

Existing Plans/Management Prescriptions that are Relevant to the Species

- Threat Abatement Plan for Competition and Land Degradation by Feral Pigs (DEH, 2005).

This prescription was current at the time of publishing; please refer to the relevant agency's website for any updated versions.

Information Sources:

Australian Natural Resources Atlas (ANRA) 2007, *Biodiversity Assessment – New England Tableland*, viewed 9 May 2008, <<http://www.anra.gov.au/topics/vegetation/assessment/nsw/ibra-net-species-threats.html>>.

Centre for Plant Biodiversity Research (CPBR) 2008, Australian Plant Name Index, viewed 23 July 2008, <http://www.anbg.gov.au/cgi-bin/apni?taxon_id=36628>.

Clements MA (Centre for Plant Biodiversity Research, Canberra Herbarium), Personal communication, 16 May 2008.

Department of Environment and Heritage (DEH) 2005, *Threat abatement plan for the predation, habitat degradation, competition and disease transmission by feral pigs*, viewed 9 May 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/pig/pubs/feral-pig-tap.pdf>>.

Jones, DL 2006, *A Complete Guide to Native Orchids of Australia*, Reed New Holland, Sydney.

Jones, DL & Clements, MA 1988, 'New Orchid Taxa from south-eastern Queensland', *Austrobaileya*, vol. 2, no. 5, pp. 547–553.

Queensland Herbarium 2008, specimen label information, viewed 21 July 2008.

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia* (2nd ed.), Australian Network for Plant Conservation, Canberra.