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

Approved Conservation Advice for *Genoplesium tectum*

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

Genoplesium tectum, Family Orchidaceae, also known as Cardwell Midge Orchid, is a terrestrial orchid. Its leaf is 150–300 mm long with a free part 10–20 mm long, ending well below the flowers. The flower spike is 40–50 mm tall, with 5–30 flowers. Flowers are well-spaced, semi-nodding, 5 mm long and 4 mm wide, light red with a dark reddish-black labellum. The dorsal sepal is 3 mm long and 1.8 mm wide, with dark bands, hairless margins and a sharply pointed apex. Lateral sepals are obliquely erect, widely divergent, about 3.5 mm long and 1.2 mm wide, with the base slightly humped. Petals are 2.5 mm long and 0.8 mm wide, with dark bands and hairless margins and a sharply pointed apex. The labellum is stiffly hinged, elliptical, about 5 mm long and 2.5 mm wide, thick and fleshy, the margins with short coarse hairs and the apex pointed. The callus extends nearly to the labellum apex (Jones, 2006, pp. 181–182, as *Corunastylis tecta*).

This species was described as *Corunostylis tecta* in 2002, but this name is considered a synonym of *G. tectum* in the Australian Plant Census (CHAH, 2005).

Conservation Status

Genoplesium tectum 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). *Genoplesium tectum* is also listed as endangered under the *Nature Conservation Act 1992* (Queensland).

Distribution and Habitat

Genoplesium tectum is known only from a small area south of Cardwell in north-eastern Queensland (Jones, 1991). It is found between Sunday Creek and Five Mile Creek, a distance of approximately 25 km (Queensland Herbarium, 2008). It grows in *Melaleuca viridiflora* wetland with a dense understorey of sedges, on poorly drained coastal sands (Jones, 1991; Queensland Herbarium, 2008). At least one population occurs within Girringun National Park (Queensland Herbarium, 2008). Population numbers and trends, and area of occupancy, are unknown. All populations occur in areas of remnant vegetation (Environmental Protection Agency, 2008) as defined under the *Vegetation Management Act 1999* (Queensland), and are therefore currently protected from broad-scale clearing.

This species occurs within the Wet Tropics (Queensland) Natural Resource Management Region.

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

Threats

The main identified threat to *Genoplesium tectum* is its very limited distribution as it is only known from three collections within a small area (Queensland Herbarium, 2008), and is therefore vulnerable to stochastic events.

The main potential threats to *G. tectum* are those associated with the habitat to which it is naturally restricted, including: altered fire regimes; weed and pest invasion; and modification of water flows by artificial structures. Orchids are generally threatened by illegal collecting.

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.
- 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/occurrences/remnants.
- Identify appropriate intensity and interval of fire to promote flowering, seed germination and/or regeneration from underground parts.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment, including mycorrhizal association trials.
- Investigate the potential and efficacy of DNA-based or other identification approaches of individual plants and/or populations to provide a means for detecting and prosecuting illegal collection from the wild (see for example see Palsboll et al., 2006).

Regional and Local Priority Actions

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of *G. tectum*.

Habitat Loss, Disturbance and Modification

- Monitor known populations to identify key threats.
- Identify populations of high conservation priority.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact *G. tectum*.
- Manage any changes to hydrology that may result in changes to water table levels, and any disruption to water flows.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.
- 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.
- Manage any other known, potential or emerging threats.

Fire

- Develop and implement a suitable fire management strategy for *G. tectum*.
- Provide maps of known occurrences to local and state Rural Fire Services and seek inclusion of mitigative measures in bush fire risk management plan(s), risk register and/or operation maps.

Conservation Information

- Raise awareness of *G. tectum* within the local community.

Invasive Weeds

- Identify and remove weeds in the local area, which could become a threat to *G. tectum*, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to *G. tectum*, using appropriate methods.

Trampling, Browsing or Grazing

- Implement Threat Abatement Plan for the control and eradication of feral pigs in the region (DEH, 2005).

Enable Recovery of Additional Sites and/or Populations

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

This list does not necessarily encompass all actions that may be of benefit to *G. tectum*, 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

- Wet Tropics Conservation Strategy: the conservation, rehabilitation and transmission to future generations of the Wet Tropics World Heritage Area (WTMA, 2004), and
- Threat Abatement Plan for Predation, Habitat Degradation, Competition and Disease Transmission by Feral Pigs (DEH, 2005).

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

Information Sources:

Council of Heads of Australasian Herbaria (CHAH) 2005, Australian Plant Census, viewed 27 August 2008, <http://www.anbg.gov.au/cgi-bin/apni?taxon_id=64502>.

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Environmental Protection Agency 2008, *Copy of the certified regional ecosystem map for the purpose of the* Vegetation Management Act 1999, online RE Maps, Environmental Protection Agency, Brisbane, viewed 25 July 2008, <http://www.epa.qld.gov.au/REMAP>

Jones, DL 1991, 'New Taxa of Australian Orchidaceae', *Australian Orchid Research* vol. 2, pp. 1–208.

Jones, DL 2006, *A complete guide to native orchids of Australia, including the island territories*, New Holland (Australia).

Palsboll, PJ, Berube, M, Skaug, HJ & Raymakers, C 2006, 'DNA registers of legally obtained wildlife and derived products as means to identify illegal takes', *Conservation Biology*, vol. 20, pp. 1284–1293.

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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.

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