

**Approved Conservation Advice for**  
***Discocharopa vigens* (a land snail)**

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

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**

*Discocharopa vigens*, Family Charopidae, is a tiny, flat land snail. Adult specimens usually have between 3.6 and 3.9 whorls and are 2.5–3.0 mm wide, but some specimens are larger (Bonham, 2004). The species has a very wide umbilicus (the axially aligned hollow cone around which the whorls of the shell are coiled) which is 30–40 per cent of shell width. The spire (the upper convoluted, or whorled, part of the shell) is loosely coiled. The protoconch (the embryonic shell or apex of the shell) is dominated by strong radial riblets. The shell is uniformly pale greyish-white or yellow-grey in colour (Bonham, 2004; TSS, 2007).

**Conservation Status**

*Discocharopa vigens* is listed as **critically endangered**. This species is eligible for listing as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as its geographic distribution is very restricted and precarious for its survival given the nature of ongoing threats (TSSC, 2010).

*Discocharopa vigens* is also listed as endangered under the Tasmanian *Threatened Species Protection Act 1995*.

**Distribution and Habitat**

*Discocharopa vigens* is endemic to Tasmania. The species has been recorded from seven locations in the Hobart metropolitan area: Mount Wellington, Mount Nelson, The Domain, Hillgrove, Grasstree Hill, South Hobart and Austins Ferry (Bonham, 2004; DPIPWE, 2009).

However, the species is likely to be locally extinct at Mount Wellington, Mount Nelson and The Domain, as it has not been recorded at these three sites since 1900 (Bonham, 2004; TSS, 2007). Of the other four populations, the Austins Ferry and Grasstree Hill populations may also be locally extinct (Bonham, pers. comm., 2007), however further surveys are required to confirm this. Two of these four populations occur within reserves. The population at Grasstree Hill is located within the Mount Direction Conservation Area, and the population at Austins Ferry occurs within Poimena Reserve (DPIPWE, 2009).

The species' extent of occurrence is approximately 74 km<sup>2</sup> (DPIPWE, 2009). This estimate is based on the four populations with most recent records. The area of occupancy is difficult to estimate because the species is either known from now presumed extinct populations or from recent collections of mainly dead shells. One population where the species has been most recently recorded occupies less than one hectare (TSS, 2007).

The population size of the species is not known. However, there is an estimate of abundance for the population at South Hobart. This population is estimated to include at most 100 mature individuals (DPIPWE, 2009).

The habitat of the species includes dry and wet eucalypt forests on dolerite in the Hobart lowlands, below 400 m altitude. To date, the species has only been found under dolerite rocks.

Populations appear to live in small loose clusters. Very little else is known about the biology and ecology of the species. The species is reportedly difficult to find and has only ever been recorded in small, isolated populations (TSS, 2007).

The species occurs within the South Natural Resource Management region in Tasmania. This species is not known to overlap with any EPBC Act-listed threatened ecological community.

### **Threats**

The main identified threats to the species include inappropriate fire regimes and habitat loss and fragmentation from urbanisation.

### **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, geographic distribution, ecological requirements, and the relevant impacts of threatening processes.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations.
- Determine the dispersal range of the species.
- Undertake research to understand the role of fire in the ecology of the species' habitat.

### **Priority Actions**

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

#### **Habitat Loss, Disturbance and Modification**

- 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.
- Ensure that urban planning properly addresses the need to retain habitat for this species.
- Ensure there is no disturbance in areas where *D. vigena* occurs, excluding necessary actions to manage the conservation of the species.
- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.
- Manage any other known, potential or emerging threats.

#### **Fire**

- Develop and implement a suitable fire management strategy for the habitat of *D. vigena*.
- Where appropriate provide maps of known occurrences to local and state Rural Fire Services and seek inclusion of mitigation measures in bush fire risk management plan(s), risk register and/or operation maps.

#### **Conservation Information**

- Raise awareness of *D. vigena* within the local community through signage, and posters/information brochures to be distributed to local naturalist groups, relevant authorities and volunteer organisations.
- Engage with private landholders and land managers responsible for the land on which populations occur and encourage these key stakeholders to contribute to the implementation of conservation management actions.

#### **Enable Recovery of Additional Sites and/or Populations**

- As a priority, where the population can sustain a level of removal of individuals, capture snails and start an ex situ captive breeding program.
- Investigate options for linking, enhancing or establishing additional populations consistent with existing population genetics.

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

- Threatened Tasmanian Land Snails Recovery Plan 2007-2011 (TSS, 2007).

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

### **Information Sources:**

Bonham KJ (2004). *Discocharopa vigena* (Legrand, 1871), a threatened Tasmanian charopid land snail. *The Tasmanian Naturalist* 126:20–28.

Bonham K (2007). Personal communications related to the preparation of this document, May 2007. Honorary Research Associate, Department of Geography and Environmental Studies, University of Tasmania.

Department of Primary Industries, Parks, Water and Environment (DPIPWE) (2009). Records held in DPIPWE's threatened fauna files. Department of Primary Industries, Parks, Water and Environment, Hobart.

Threatened Species Scientific Committee (TSSC) (2010). Listing advice for *Discocharopa vigena*.

Threatened Species Section (TSS) (2007). Draft fauna recovery plan: threatened Tasmanian land snails 2007–2011. Department of Primary Industries and Water, Hobart.