

Technical Bulletin # 16

Field Surveys of the Desert Greenhood (*Pterostylis xerophila*)



Above: Desert Greenhood in flower. Photo: D. Pitts, DSE.

This technical bulletin summarises the findings of field research conducted in October 2011 on the Desert Greenhood (*Pterostylis xerophila*) in Murray Sunset and Wyperfeld National Parks.

Background

The Desert Greenhood is a deciduous, perennial orchid. It emerges each year from an underground tuber and produces a ground-hugging rosette of four to 10 greenish leaves. Leaves are usually withered at flowering time. The plant bears one to eight small (to 20 mm long), light green flowers with darker green or brownish stripes on long, slender flower stems.

Little is known of the biology, ecology, distribution and abundance of Desert Greenhood. It generally occurs in remote locations in semi-desert environments, growing mostly on rocky outcrops under low shrubs. Flowering can be quite sporadic and the environmental factors that allow good flowering and seed set are unknown.

Historical records indicate that only eight populations containing about 150 plants are known in Australia, with less than 30 plants in Victoria. The main threats to the Desert Greenhood are grazing, particularly by goats, weeds and inappropriate burning.



Above: Hand pollination of Desert Greenhood. Photo: D. Pitts, DSE.



At a glance

- The Desert Greenhood is listed as vulnerable under the *Federal Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and as threatened under the Victorian Flora and Fauna Guarantee Act 1988.
- In 2009 less than 30 plants were thought to occur in Victoria all within Murray Sunset and Wyperfeld National Parks.
- Only six Desert Greenhood plants were found during surveys in 2011.
- Seed was collected and the orchid was successfully grown for the first time; plants are being kept for potential reintroduction.



Above: Typical habitat of Desert Greenhood. Photo: D. Pitts, DSE.

This project sought to confirm existing Desert Greenhood populations, locate new populations within Murray Sunset and Wyperfeld National Parks and collect seeds to propagate the species *ex situ*.

Method

Eight sites within Murray Sunset and Wyperfeld National Parks were surveyed for Desert Greenhood in October 2011. Surveys were conducted by walking in parallel lines five to 10 metres apart. Vegetation surveys were conducted in areas with Desert Greenhood present to determine the habitat of the species.

Two of these eight areas were resurveyed more intensively by volunteers from the Australasian Native Orchid Society. Volunteers walked in parallel lines five metres apart. The location of every Desert Greenhood plant found was recorded.

During the study, plants were hand pollinated and seed collected for propagation. The seed collection was conducted under a permit.

Key findings

Only six Desert Greenhoods were found during the study. All six plants were located within previously known locations

in the Murray Sunset National Park. These six plants represented two populations.

It appears that population numbers in Victoria have declined from less than 30 plants in 2009 (Reiter pers. obs 2009) to only six plants in 2011.

Desert Greenhoods were not found in Wyperfeld National Park. The location where the Desert Greenhood was previously recorded in this park was severely damaged by goats. Two Bristle Greenhood (*Pterostylis sp. aff. biseta*) was found at another site within Wyperfeld National Park (Rudds Rocks) where Desert Greenhood was thought to occur, suggesting this population was a misidentification.

This clarification of the taxonomy of the Desert Greenhood means its range in Victoria may be far more restricted than previously thought.

The preferred habitat for Desert Greenhood was determined to be rock outcrops in an ecotone between the Ecological Vegetation Classes Loamy Sands Mallee and Woorinen Sands Mallee.

Seed was successfully collected under a permit and propagated with its mycorrhizal fungi resulting in 30 plants in the Horsham Orchid Propagation Facility. These plants will be held for potential reintroduction.

Recommendations

Recommendations from this project include:

- Undertake works to control goats in the areas of Wyperfeld National Park where the Desert Greenhood was previously recorded.
- Continue weed and goat control within Murray Sunset National Park.
- Review the Desert Greenhood's status under the EPBC Act, and recommend that it be updated to endangered.
- Continue to propagate Desert Greenhood *ex-situ*.
- Conduct further surveys within the Murray Sunset National Park and Wemen Flora and Fauna Reserve to locate suitable translocation sites for Desert Greenhood.
- Prepare and implement a re-introduction plan.
- Treat populations at Rudds Rocks (Wyperfeld National Park) as Two Bristle Greenhood.

Acknowledgements

The Mallee Catchment Management Authority (CMA) engaged the Department of Sustainability and Environment (DSE) to undertake this study, with funding provided by the Victorian Government. The project team thanks the volunteers from the Australasian Native Orchid Society who assisted with the survey.

Further information

The information for this bulletin has been taken from "Surveys of the federally vulnerable Desert Greenhood (*Pterostylis xerophila*)". For more information on Desert Greenhood survey please contact the Mallee CMA on 03 5051 4377.

Project Partners



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