

ENDANGERED!

PURDIE'S DONKEY ORCHID

Diuris purdiei

by Stephen van Leeuwen



A. Brown

DONKEY orchids are one of the most readily recognized species of wildflower in Australia. These orchids belong to the genus *Diuris*, meaning 'two-tailed'. Forty-two species of *Diuris* are currently recognized, most of which occur in Australia. In W.A. we have twelve described species, and another ten taxa

awaiting description. Four species are currently declared as rare flora.

Purdie's donkey orchid, *Diuris purdiei*, is one of these declared rare species. It has a distribution of less than 100 km and is only known on the Swan Coastal Plain between Cannington and Pinjarra. All extant populations with the exception of the Pinjarra population, occur in the Canning Vale-Kwinana area. The species is entirely confined to the sandy, peaty soils on the margins of winter wet swamps and depressions. It is usually found growing in association with common paperbark (*Melaleuca preissiana*) and white myrtle (*Hypocalymma angustifolium*).

Diuris purdiei is a very distinctive orchid that is easily identifiable by its partially nodding flowers and very broad labellum. Plants can stand up to 45 cm tall and have five to ten very narrow, spirally twisting leaves. Only one flower spike, which may bear up to ten flowers, is produced per plant. The flowers are characterised by spreading petals, a very short narrow dorsal sepal and the broad labellum which has short toothed lateral lobes. The flowers are primarily pale yellow with magenta streaks and suffusions. Flowering occurs through September to early November peaking in mid-late October.

Flowering in many of our native terrestrial orchid species, including *Diuris purdiei*, is significantly enhanced by the burning of their habitats, particularly by hot summer burns. In fact *Diuris purdiei* will only flower after its habitat has been burnt by such a fire. In years between fires the non-flowering plants consist of a single short narrow leaf. Very little else is known

about the biology of this species apart from some information collected on its pollination biology. Field observation suggests that pollination can be achieved by small generalist beetles and native bees.

Diuris purdiei is currently known only from five populations, none of which occur on conservation reserves. The Pinjarra population is located in an area proposed as a Nature Reserve. The small number of populations known is a reflection of the specific habitat requirements and vulnerability of the species.



S. van Leeuwen

Within the metropolitan area Purdie's Donkey Orchid is under extreme pressure, and is threatened with extinction. These threats have arisen from the increasing need to develop more urban and industrial land close to Perth. Such development involves the clearing, draining and filling of suitable habitats for *Diuris purdiei*. Inappropriate fire regimes and weed invasion also have a deleterious effect on this species.

Purdie's Donkey Orchid is an attractive and unique species that will become extinct in the near future if our demand for land continues to increase and efforts are not made to reserve land where it occurs.

29 DEC 1988

WESTERN AUSTRALIA

LANDSCOPE

EDITORIAL

It is difficult to remember a time when our daily news did not feature some environmental controversy. To people involved in environmental research and management, the popularity of 'the environment' is a mixed blessing.

Greater public consciousness of environmental issues has meant increased funding and, to some extent, greater prestige. But many scientists working on ecosystems are uncomfortable when their work is placed in the political spotlight.

The knowledge that a scientific observation that once would have been tucked away in a scientific journal to be read only by a few colleagues could become the centre-point of a political controversy is daunting.

Retaining objectivity in any research area is difficult. For those engaged in research on the natural environment it is even more difficult. Unlike the physical sciences in the natural sciences the truth is often camouflaged by interactions between factors which vary over time and space. When the results of this type of research are placed in the political arena, the mixture is often volatile and the truth a casualty.

To enable scientists to better seek the truth and communicate it, the scientific community has adopted what has been called "the scientific method". The scientific method is a code of conduct with rigid requirements. An offshoot of that code is a set of rules which scientists must follow, at least in reputable scientific journals, if they are to have their research published. Unfortunately, a byproduct of this is that scientific articles are not the easiest to read and are often plain boring.

Given that the environment has become a major political issue, it is important that those involved in the debate are fully informed. But scientists are faced with a dilemma. They need to popularise their work to reach a wider audience. On the other hand, they cannot afford to lose objectivity.

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NATIVE CREATIONS



Nouvelle jardins, multiculturalism or laissez-faire; which garden fashion will you choose? Turn to page 22.

WILD MARRON



Do our wild marron have a future or will local gourmets keep catching them to the point of extinction? Find out on page 4.

KARRI MAGIC



What is really going on in the karri forest? On page 32 we take a look at the system of conservation reserves that have been established to preserve this awe-inspiring forest.

STRANDED!



Relive the euphoria of the Augusta whale rescue on page 18.

BACK TO BASICS



With today's massive land boom it's hard to imagine that the State once couldn't give land away fast enough. Now the government is buying back our valuable conservation areas. See page 43.

DESERT GEM

The Gibson Desert Nature Reserve covers over 1.8 million hectares. It is a desolate but subtly beautiful landscape. Read about this unique area and the management problems it presents on page 48.



SNAKES & ADDERS



Slim and active snakes have emerged hungry from their winter hibernation. But they're not all venomous. See page 51 for tips on living with snakes.

AFTER THE FOX



Foxes pose a major threat to native mammals and other fauna. Can we outfox them? See page 12.

A SIGHT TO BEHOLD



'Its pouch can hold more than its belly can', goes the popular rhyme. Find out more about this awkward but graceful bird on page 39.

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Cover Photograph

One of our natural wonders - the beaches of Hamelin Pool (Shark Bay) consist of billions of small shells.

Photo by Bill Bachman.



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