
## Underground orchid

As its name suggests, the remarkable underground orchid *(Rhizanthella gardneri)* spends its entire life under the ground, making it unique among the 400 or so species of Western Australian orchids. This is even more significant when it is realised that of the 30,000 species found throughout the world just one other orchid, the NSW *Rhizanthella slateri*, lives underground.

John Trott discovered the first specimen of the underground orchid near Corrigin on 23 May 1928. It was then found on six more occasions up until 1959, each time by chance during plowing of recently rolled and burnt bushland. There was then a gap of 20 years before it was again seen, this time near the town of Munglinup some 300 kilometres south of previous known locations. Between 1981 and 1989, the WA Native Orchid Study and Conservation Group located further populations near the original sighting at Corrigin. Since then, no other populations have been found.

The plant has a succulent horizontal rhizome 6–12 centimetres below the ground level, from which an annual flowering stem grows toward the soil surface. Flowering begins in late May to early June, when each plant produces up to 100 small, inward facing, reddish coloured flowers, surrounded by 6–12 large, cream or pinkish-cream inward facing bracts that form a small opening at the soil surface. It is known that fungal gnats pollinate flowers of the underground orchid. These are small enough to crawl through the leaf and bark litter into the tiny opening. Once pollinated, each flower produces a berry-like indehiscent fleshy fruit containing 20–50 seeds. This type of fruit is unique among the Western Australian orchids, as all others produce a dehiscing pod (one that bursts open) from which thousands of minute seeds are dispersed by the wind.

Plants occur in thickets of broom honey-myrtle *(Melaleuca uncinata)* among scattered emergent *Eucalyptus* and *Acacia*. Soil is either sandy-clay or sandy-loam. The relationship with broom honey-myrtle is unique in the orchid world, with a symbiotic mycorrhizal fungus forming a link between the orchid and the *Melaleuca*.

The species is currently ranked as Critically Endangered because of its specialised habitat, which, through a combination of drought and the death of aging mature plants, is highly threatened. Little recruitment of broom honey-myrtle is evident and the once large thickets are becoming smaller and more open. This has resulted in vastly increased light levels and a significant drop in the level of leaf litter, causing the soil to become hard baked and dry. Just 23 flowering plants were found during intensive surveys of three populations near Corrigin in May–June 2001.

Natural Heritage Trust funding has been obtained by the Botanic Gardens and Parks Authority, which will be providing the research, seed collection, propagation and translocation component for an Interim Recovery Plan being prepared by the Department of Conservation and Land Management. Recovery actions will include genetically comparing the disjunct northern and southern populations, habitat rehabilitation, rabbit control, pollination studies, seed collection and germination, and possible future translocation of nursery-grown plants back into the wild.

**By Andrew Brown**
**Photo Andrew Brown**

Winner of the Alex Harris Medal for excellence in science and environment reporting.

# LANDSCOPE

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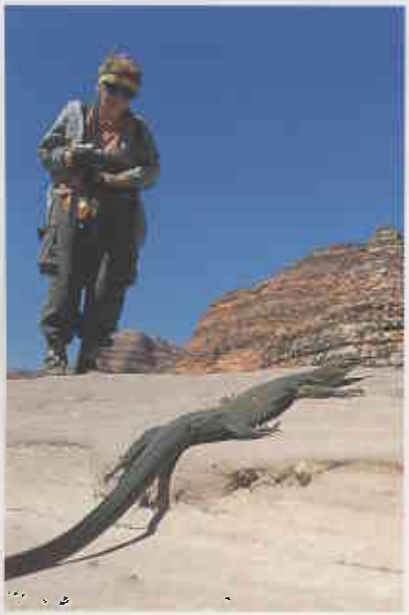
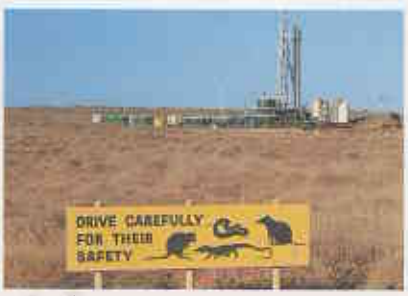
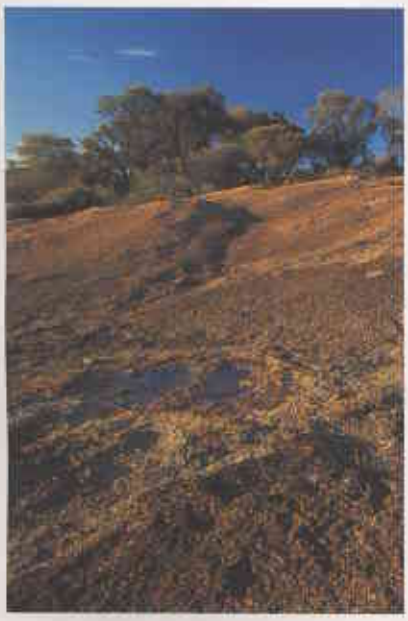


*During the past decade more than 500 people have contributed to science projects in WA by joining a* LANDSCOPE *Expedition (see page 34).*




*Since the 1960s Barrow Island's animals have shared their island paradise with the oil industry. Read how the mammals are being monitored and protected. See page 18.*

*Georgiana Molloy made a major contribution to the early botanical knowledge of the south-west. Read about this remarkable woman on page 43.*



*The Goldfields Woodlands National Park protects the region's best examples of eucalypt woodlands (see page 28).*

*Collecting seeds is one way in which we are helping to conserve biodiversity. Join the 'Hunters and Gatherers for Conservation' on page 49.*

## FEATURES



## REGULARS



## COVER

*There's something going on in our schools. Students are voluntarily taking an active interest in conserving their local environments. They are visiting forests, beaches and wetlands to study native wildlife. And they are having fun! What is happening and why? See 'EcoEducation—winning over school communities' on page 10.*

*Cover illustration by Ellen Hickman*

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