

endangered

by Val English



Cape Range remipede community

Some extremely significant groups of miniature animals occur in 'threatened ecological communities' in caves and groundwater on the Cape Range peninsula. Some of these animals are protected as threatened species under State and Commonwealth laws.

The community that occurs in 'Bundera Sinkhole' (a water-filled cave) was originally described by scientists from the WA Museum. They discovered that this sinkhole contains the only known example in the southern hemisphere of an ancient and scientifically interesting community mainly made up of small animals without backbones (invertebrates) that completely rely on the sinkhole habitat for survival. Most of the species that make up this critically endangered community are known from nowhere else in the world.

The community is a unique assemblage of groundwater-dwelling ('stygotitic') animals and

is composed primarily of crustaceans, but also includes blind fish and probably an elusive blind eel. These animals are mainly relicts from the times of the ancient Tethyan Sea, which separated southern continents between 65 and 225 million years ago (the Mesozoic era). The community is known as the 'Cape Range remipede community'. The community name is derived from the fact that the assemblage includes the only representative of the crustacean class 'Remipedia' in the southern hemisphere.

Bundera Sinkhole contains very sharply defined layers of water that differ vastly in oxygen levels, salinity, levels of various nitrogen and sulphur compounds, and temperature. This layering is thought to be vital to the survival of the animals that live in the sinkhole and is the only Australian example of this layering of water in a cave system.

Major threats to the community include dumping of waste, disturbance of the layering of the water (by diving, for

example), introduction of feral fish, nutrient enrichment (from droppings from high numbers of feral goats), and other impacts to the water quality or level.

Actions recommended in the recovery plan for the community include protecting the site from dumping of rubbish and/or the introduction of feral fish, prohibiting unauthorised diving and reducing numbers of feral goats in the area. The North West Cape Karst Management Advisory Committee is overseeing the implementation of the plan. The group includes stakeholders from the WA Museum, Department of Conservation and Land Management, Shire of Exmouth, Department of Environment, Defence Estates Organisation and the WA Speleological Group (Exmouth). The recovery actions are designed to help ensure the survival of this miniature ecosystem for another few million years.

Photos by Peter Kendrick/CALM (main) and by Douglas Elford/WA Museum (inset)

- 50 The Geraldton to Shark Bay sandplain—a strikingly beautiful biodiversity hotspot
Initiatives are underway to restore the Geraldton to Shark Bay sandplain area to its former state and protect it from threats.
- 56 Julimar—turning full circle
After a chequered past, Julimar Conservation Park is once again home to an abundance of animals, including threatened chuditch.

Regulars

- 3 Contributors and Editor's letter
- 9 Bookmarks
An enthusiasm for orchids
The Turquoise Coast
Ernest Hodgkin's Swanland
- 18 Endangered
Cape Range remipede community
- 30 Feature park
Cape Arid National Park
- 62 Urban antics
Moving poles

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