

Dr Desert

Scientists researching the great deserts of the Southern Hemisphere

Scientists are curious people. Many are intrigued by the diversity of plants and animals that have adapted to the hot and dry desert conditions.

Others research ways to assist people to live a sustainable life in the harsh desert environment.

Early scientific expeditions into the Australian outback were viewed with scepticism by the general public.

Many people thought these scientific expeditions were going out in search of gold.

They could not understand that a group of scientific men would go into the desert for any other reason. Today many scientists devote their careers to researching in and about the desert.

Education
at the
NATIONAL
MUSEUM OF
AUSTRALIA
CANBERRA

Living in outback Australia

Deserts in the form of semiarid and arid lands cover over two-thirds of Australia. These vast areas are valued for their unspoiled, remote and unique environments. They are also prized for the products they contain, and the remarkable range of cultures they support.

Scientists from two significant Australian research organisations — CSIRO Centre for Arid Zone Research (CAZR) and the Desert Knowledge Cooperative Research Centre — are researching the management, sustainability and conservation of the arid environment.

In order to contribute to the long-term future of this region, scientists are researching ways to protect the native plants and animals that live in this region while maintaining a sustainable grazing industry, tourism and Aboriginal lands.

Australia needs people living securely in the outback to service major tourism and mining industries and to manage our vast arid areas. Many people want to live in the outback, particularly Australia's Indigenous people. Scientists are researching methods to help them develop sustainable livelihoods.

One such scientist is Margaret Friedel, located in Alice Springs in the Northern Territory. Margaret is researching the management of grazing lands in the arid zone. She is looking at how to involve local communities in land use planning that will obtain a better outcome for everyone. Margaret is also exploring how satellite imagery can contribute to understanding the impact of land use in the Indian Desert.

Shifting sands and shifty lizards of the Kalahari Desert

On rocky outcrops in southern Africa, both within and east and west of the Kalahari Desert, live African flat lizards belonging to the genus *Platysaurus*. There are a number of species of these lizards, all of which are endemic (only found) in southern Africa.



Brightly coloured male flat lizard, Kalahari Desert



DISCOVERY



These lizards are known as flat lizards because they are flattened lizards that retreat to narrow rock crevices. The males are spectacularly coloured and 'show-off' their bright colours to attract the plainly coloured females.

Male lizards are very territorial and display a 'war and peace' style existence. One species lives on the rocky outcrops beside the Orange River, which cuts through the Kalahari Desert. They spend the day on a small patch beside the river feeding on midges, fighting with other males and trying to attract female partners. At sunset both females and 'warring' males retreat to narrow rock crevices to spend a 'peaceful' night together, safe from predators. In the morning they return to their territory beside the river, feeding, fighting and attracting partners.

Canberra scientist Scott Keogh and colleagues in South Africa have been researching these lizards — not because of their strange behaviour but because they may provide a clue to the history and spread of the Kalahari Desert.

The sands of the Kalahari Desert have been moving slowly eastward and southern Africa has a number of major river systems that could act as barriers to animals moving into new parts of the desert.

Scott and colleagues have been studying populations of flat lizards at different sites within and outside the Kalahari Desert. They have been studying the genetic relationship between populations and species. They hope to determine how long ago individual species of flat lizards evolved. They are also examining whether the eastward movement of the Kalahari Desert could have contributed to the isolation of the lizards and new species of flat lizards evolving. An understanding of these questions may give further clues to the age and history of the Kalahari Desert.

Rocky gorges formed by the Orange River, Kalahari Desert — home to the flat lizard



PHOTO: SCOTT KEOGH

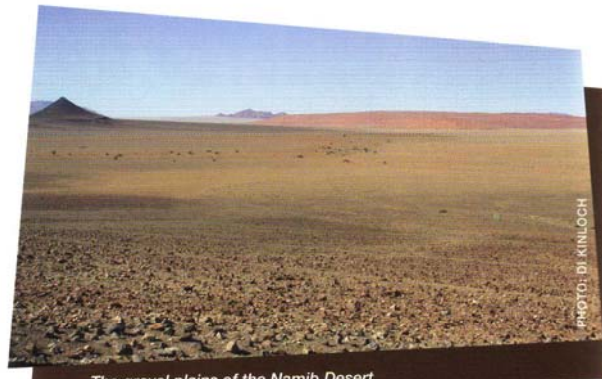


PHOTO: DE KINLOCH

The gravel plains of the Namib Desert

A research station in the middle of nowhere

On the site of a deserted village in the heart of the Namib Desert there is a world-renowned research centre. The Gobabeb Desert Research Station is located on the banks of the rarely-flowing Kuisieb River at Gobabeb — 'the place of the fig tree' in the language of the nomadic Hottentots.

This research station opened in 1963. It was the vision of a German scientist Charles Kosh who, in 1948, joined an expedition to the Namib. He studied the desert beetles in the Namib and found there was a huge gap in scientific literature on the diverse desert flora (plants) and fauna (animals).

After many years of travelling throughout the Namib Desert and intensive research, he confirmed the Namib provides an extraordinary place for life. His research raised considerable interest from other scientists, which led to the establishment of the Gobabeb Desert Research Station.

The area surrounding Gobabeb presents ideal research locations with several ecological systems including sand dunes, gravel plains and river beds both within and outside the fog belt. In this area human disturbance is minimal, enabling unimpeded studies of ecosystem interactions and interrelations to be undertaken.

Today a large part of the research is focused on environmental issues of climate change, desertification and biodiversity.

Spiderman of the Namib Desert

One of the scientists working at the Gobabeb Desert Research Station in the Namib Desert is Joh Henschel. Joh is known as 'spiderman' by his peers and the sand dunes near Gobabeb are his laboratory. Among the sand dunes, Joh is able to find dancing white ladies (spiders not humans), formidable hunters