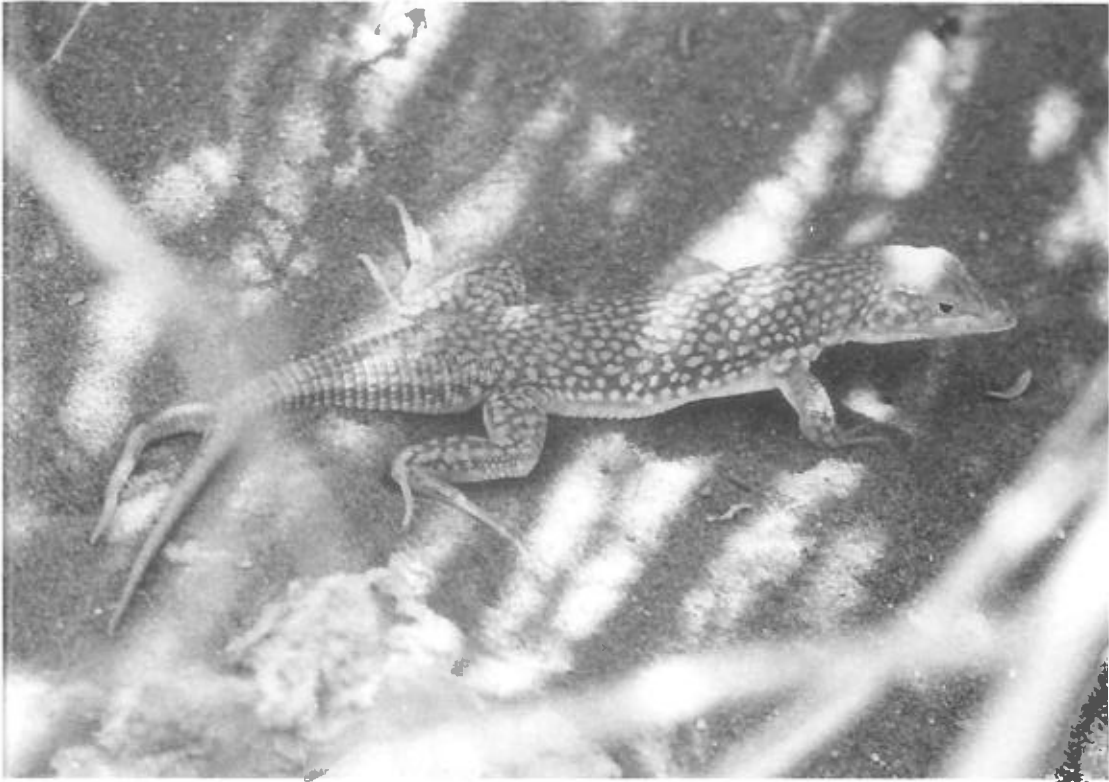


**THE BRITISH
HERPETOLOGICAL SOCIETY
BULLETIN**



**No. 35
Spring 1991**

A NOTE ON THE REPTILES OF THE NAMIB DESERT

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The reptile fauna of Namibia is unusually interesting for two reasons. First, there are numerous endemic species and, secondly, many of these are well adapted to life in arid conditions. The age of the Namib desert is not known for certain: it might be more than 130 million or, possibly, less than 10 million years old. But the climate has probably remained fairly stable over the past 5 million years, so there has been plenty of time for natural selection to exert its influence on the herpetofauna of the region. The weather is mild, compared with that of most other deserts, on account of the upwelling of the cold Benguela Current which flows northwards from the Antarctic along the coast of south-western Africa. The mean annual temperature at Gobabeb (100km S.E. of Walvis Bay) in the central Namib Desert is 21.1°C; the mean annual minimum is 12.8°C; and the mean annual maximum is 29.5°C. The average annual rainfall is less than 28mm.

Although virtually rainless, the Namib Desert has a rich fauna that depends for food ultimately upon wind-blown detritus, and obtains moisture from the fogs engendered by the Benguela Current. Precipitating fog occurs at Gobabeb on an average of 40 days per year, and the relative humidity ranges from about 10%, when the dust-laden 'berg' winds blow from the East, to 100% when fog-laden winds blow inland from the coast. The fauna includes about 60 species of lizards, 33 species of snakes, and five tortoises or turtles – there are also 8 species of frogs. This compares with some 80 species of mammals (including gemsbok, springbok, zebra and baboons), 75 species of birds (including ostriches, sandgrouse and larks), over 100 species of beetles, 90 of spiders, 32 of Solifugae, and 21 species of scorpions.

One of the most common lizards of the dunes to the south of Gobabeb is the day-active, sand-diving, *Aporosaura anchietae*. The fork-tailed specimen illustrated (see front cover) was photographed at Sossusvlei in November 1989, among the largest sand dunes in the world – said to reach heights of 300m or more. *A.anchietae* can disappear beneath the surface of the dunes with surprising speed. It is well known for its habit of raising diagonally opposite feet from the hot sand in rapid succession. An omnivore, *A.anchietae* supplements its diet of insects with the seeds of *Trianthema hereroensis*, selected from the wind-blown detritus which accumulates at the base of the dune slip-faces. *T.hereroensis* is a perennial dunes plant, adapted to absorb fog moisture directly through its leaves. *A.anchietae* also makes use of the fog, drinking up to 12% of its body weight from drips condensing on vegetation or on the dune sand. This water is stored in its enlarged bladder.

Not all Namib Desert lizards are opportunistic feeders: *Meroles cuneirostris*, another sand-diving species, is exclusively insectivorous. On the gravel plains to the North of the dry Kuiseb River bed, *Meroles suborbitalis* replaces *M.cuneirostris* and *M.reticulata*, while *Mabuya variegata* and *Chondrodactylus angulifer* are also found. Species restricted to the river bed, which floods only in years when there is heavy rain in the Khomas Hochland inland, include *Zygaspis quadrifons*, *Mabuya capensis* and *M. occidentalis*. The terrestrial chameleon *Chamaeleo namaquensis* (Plate 1) is restricted to the dunes, as is the translucent nocturnal gecko *Palmatogecko rangei*. The latter has webbed feet enabling it to run on, and dig deep burrows into, the compact sand of the dune slopes, where it shelters during the day. The large *Pachydactylus bibroni* (Plate 2) of the river bed is also nocturnal. *P. laevigatus* and *Lygodactylus capensis* occur in the same locality, while three species of rock gecko, *Rhoptropus afer*, *R.barnardi* and *R.bradfieldi* are common on the gravel plain. In the early evening, a chorus of barking geckos can be heard: *Pteropus kochi* is found in the river bed, and is joined by *P. carpi* and *P. garrulus* in the plains to the North.

Snakes, naturally, are much less conspicuous than lizards. Burrowing worm-snakes, *Leptotyphlops occidentalis* and *L. scutiformis*, occur on the gravel plain, where the horned adder *Bitis caudalis* (Plate 3), *Psammophis notostictis* and *Rhamphiophis* (\pm *Dipsina*) *multimaculatus* are also recorded. Characteristic of the dunes are side-winding vipers, *Bitis peringueyi*, and back-fanged whip snakes, *Psammophis leightoni* - looking like shoots among clumps of dune grass. The puff adder *Bitis arietans* and the spitting cobra *Naja nigricollis* are also reported to be encountered occasionally in the Kuiseb River bed.

The Namib Desert is characterized by numerous plant and animals species specially adapted to the harsh and unrelenting environments of sand, rock, or clay. Among vertebrates, certain lizards best illustrate these unique adaptations, by their anatomical modifications for sand swimming which, coupled with small size, enable them to shuttle between sunshine and shelter, and to escape from hungry predators.

Warmest thanks are due to Dr Mary Seely, Director, Desert Ecological Research Unit of Namibia and to the Directorate of Nature Conservation for permission to work in the Namib-Naukluft National Park. The expense of my visit was subsidised by a Leverhulme Emeritus Fellowship for which I am most grateful.



Plate 1 *Chamaeleo namaquensis*



Plate 2 *Pachydactylus bibroni*



Plate 3 *Bitis caudalis*