

NEW REPTILE RECORDS FROM THE KRUGER NATIONAL PARK

N. H. G. JACOBSEN

Division of Nature Conservation

Private Bag X209

Pretoria

0001

U. DE V. PIENAAR

Kruger National Park

Private Bag X402

Skukuza

1350

Abstract — During a survey from 9-16 April 1982, of the southern Kruger National Park, six new distribution records (five lizards and a snake) were determined namely *Afroedura pondolia* subsp. nov. 1, *Afroedura pondolia* subsp. nov. 2, *Cordylus warreni warreni*, *C. w. barbertonensis*, *C. vittifer* and *Lamprophis guttatus*. These are briefly discussed according to habitat and habits.

Introduction

In order to clarify some peculiar anomalies in the distribution patterns of reptiles and amphibians in the Transvaal, certain areas of the Kruger National Park in the Republic of South Africa were visited in order to ascertain the presence or absence of these species. The areas visited included part of the Lebombo range along the park's eastern boundary as well as the Khandizwe hills to the north of Malelane. Both areas were visited between 9-16 April 1982 (Fig. 1).

Results and Discussion

Although only a day and a half were spent in the company of ranger Johan Steyn, two black rangers and two black assistants who accompanied the senior author from Pretoria, it was possible to record 33 species of reptiles and amphibians in the Lebombo Mountains in the area known as Halfkroonspruitmond and Beacon A. As expected the Crocodile River does not form a barrier to reptiles and most of the species found had previously been recorded from the south of the Kruger National Park boundary. The following taxa are recorded for the first time from within the park.

Southern Lebombo Mountains

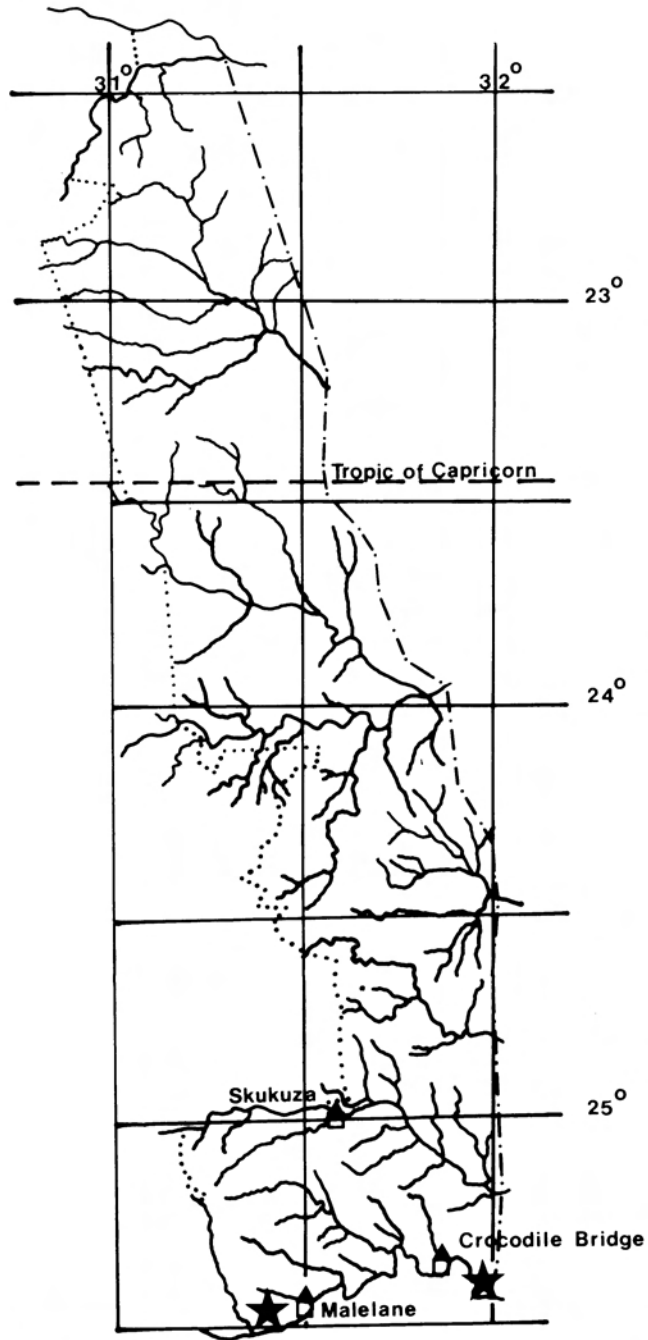


Fig. 1. The Kruger National Park showing collection sites. (★)

Order Squamata
Suborder Sauria
Family Gekkonidae
Afroedura pondolia subsp. nov.

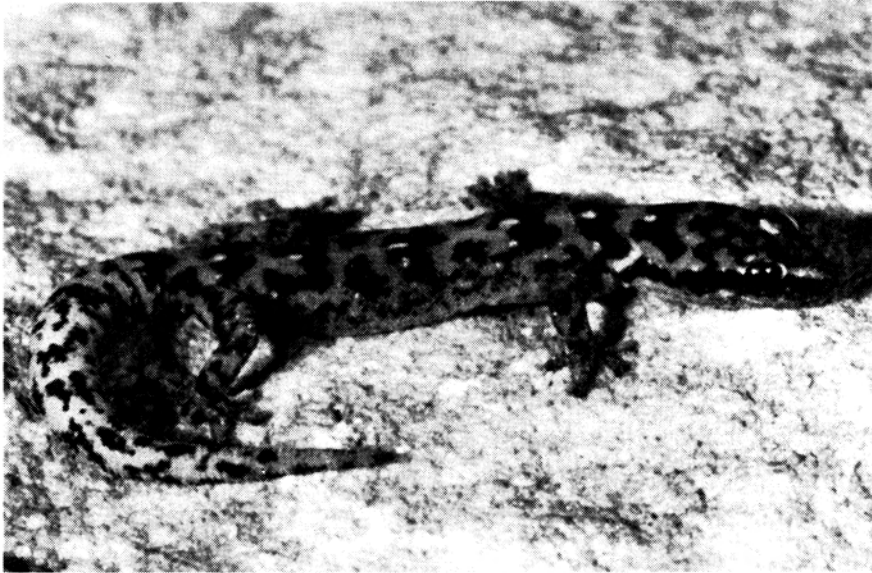


Fig. 2. A Flat Gecko *Afroedura pondolia* subsp. indet. from the southern Lebombo Mountains, Kruger National Park.

Material: Six specimens were collected which are currently housed in the collection of the Division of Nature Conservation in Pretoria. These specimens are to be incorporated in the Transvaal Museum Collection once the material has been sorted. The following collectors numbers are applicable: J6944-5, J6948-8a, J6949-9a.

This dwarf form of flat rockgecko, (Fig. 2) which appears to be related to *A. p. marleyi* is found singly or rarely in pairs in vertical or horizontal crevices between boulders mostly on westward facing slopes but also along the crown of the hills. It is by no means common and individuals appear to be widely spaced. Pending a revision of this genus in the Transvaal these specimens can at present not be correctly identified at the subspecific level.

Family Cordylidae
Cordylus warreni warreni (Boulenger)

Material: Two specimens were collected and are housed as for the preceding species with one exception, which is in the Kruger National Park collection at Skukuza. The following collectors numbers are applicable: J9653, J6955.

This brightly coloured girdled lizard (Fig. 3), originally described from Ubombo in Zululand to the south of Swaziland (FitzSimons 1943) was found to be present along

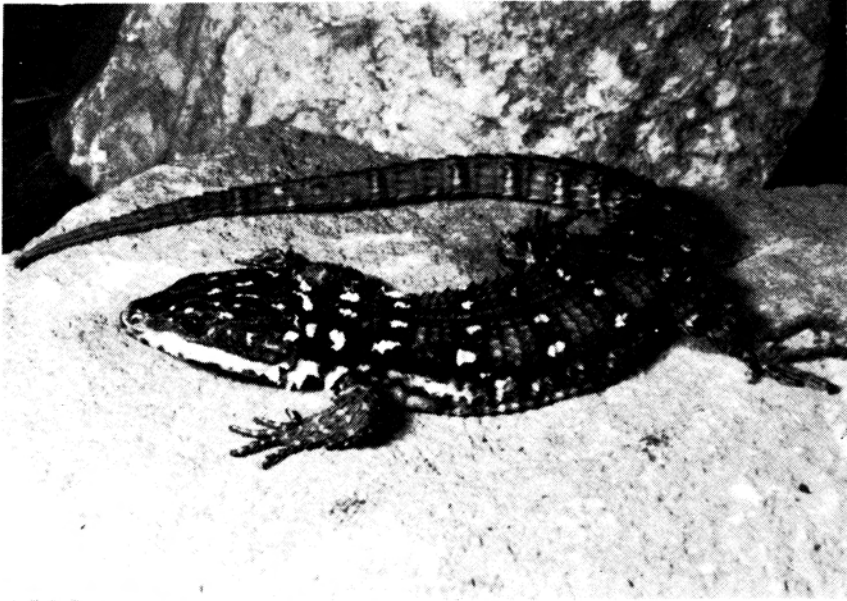


Fig. 3. Warren's Girdled Lizard *Cordylus warreni warreni* from the southern Lebombo Mountains, Kruger National Park.

the Lebombo Mountains to the north of this country during the current survey. Although it is only a short distance across the Crocodile River, to the present site where it is found among large rocks in the shade of trees on westward facing slopes, this is a further range extension. It inhabits vertical, inclining and occasionally horizontal crevices but always rock to rock interfaces. It is a solitary lizard rarely found in pairs and is distributed according to the availability of suitable rocks along the slope.

Cordylus vittifer (Reichenow)

Material: Three specimens were collected and are housed as for the preceding species. The following collectors' numbers are applicable: J6951, J6960a, J6963.

Probably the commonest and most widespread girdled lizard in the rest of the Republic, it was nevertheless a surprise to find this lizard so far east in the Lebombo Mountains (Figs 4a and 4b). This small girdled lizard has a definite preference for vertical crevices between rocks at ground level, although it is found under rocks on rocks and occasionally rocks on soil. In the Lebombo Mountains it occurs along the crowns of the ridges. The colour pattern of this population is similar to that found in the bushveld in the central Transvaal with the dorsum irregularly checkered with brick red and black interspersed with smaller areas of straw coloured scales. However, one noteworthy variation is the bright orange colour of the upper eyelid and supraciliary region which is not present in the bushveld types. It is of interest that those specimens found subsequently on Khandizwe, showed a colour pattern closely resembling that of the Drakensberg escarpment

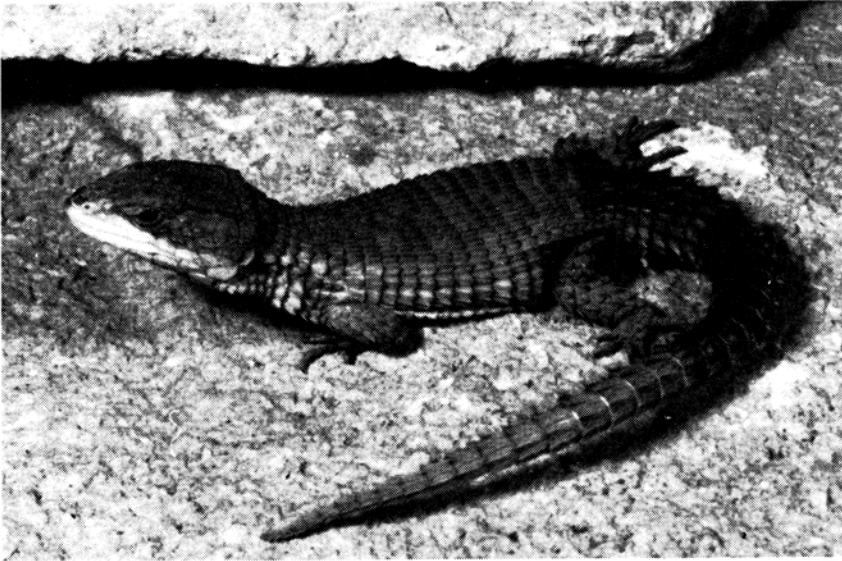


Fig. 4a. Transvaal Girdled Lizard *Cordylus vittifer* from the southern Lebombo Mountains, Kruger National Park.

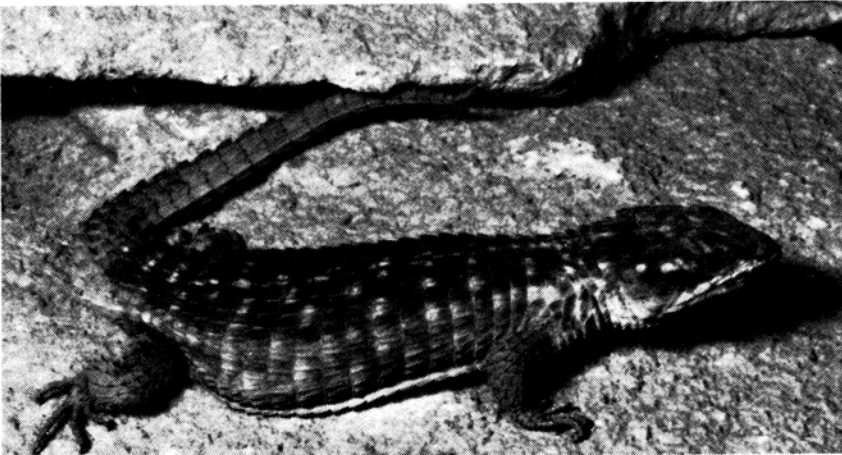


Fig. 4b. Transvaal Girdled Lizard *Cordylus vittifer* from the Khandizwe Mountain region, Kruger National Park.

population in which the back is largely black with irregular straw coloured patches and with an interrupted off-white vertebral stripe. The head shields are also marked with this same colour particularly the interparietal, frontals, prefrontals, temporals and upper labials. The females are less brightly marked than the males. It is therefore evident that this colour form shows an affinity to those of the escarpment although Khandizwe only reaches a maximum height of 900 m above sea level.

Other range extension records from this area include *Homopholis wahlbergii*, *Nucras intertexta*, *Gerrhosaurus v. validus*, *G. m. major* and *Psammodromus s. subtaeniatus*.

The Khandizwe Mountain region

The second area visited was, as mentioned previously, the Khandizwe Mountain region. The highest point rises to 900 m with many subsidiary peaks reaching 700 m or more and interconnected with long spurs and ridges. On account of the altitude and rainfall of this sector the flora resembles that of the escarpment with tall grasses mainly of the genera *Tristachya*, *Themeda* and *Cymbopogon* while the trees are mainly *Sterculia murex*, *Combretum molle*, *Pterocarpus angolensis*, *Faurea saligna* and *F. speciosa*. Shrubs such as *Rhoicissus tridentatus*, *Acacia davyi* and *Rhynchosia mossambicensis* predominate. Herbs typical of the escarpment were *Hemarthria altissima*, *Pentanisia prunelloides*, *Pleiospora* sp. and *Anthericum fasciculatum*. It was thus expected that species with highveld affinities should be present. However, this was not realised with the exception of *Cordylus vittifer* as previously discussed. Species found were actually typical of the surrounding lowveld and mountainous area. Although the weather was relatively unfavourable over the three days spent on the mountain, it was possible to record the presence of 17 reptile and amphibian species. Of these, three proved to be new records for the Kruger National Park. These were as follows:

Order: Squamata

Suborder: Sauria

Family: Gekkonidae

Afroedura pondolia subsp. nov.



Fig. 5. A Flat Gecko *Afroedura pondolia* subsp. indet. from the Khandizwe Mountain region, Kruger National Park.

Material: Five specimens were collected which are housed as for the preceding species. Collectors' numbers are as follows: J6973, J6976, J6978-80.

This gecko is a larger form of the flat rock-gecko than that reported on above. Onderstall (*in prep.*) has recorded this taxon from Nelspruit and described it as a new subspecies. Until the appearance of that publication this material can not be identified yet. Again it is usually a solitary gecko, occasionally in pairs, found on the larger granite boulders where it lives in crevices under exfoliating sheets of rock, particularly on the sides of boulders where the opening of the crevice faces downwards or forwards so that little rain penetrates. Some have been found under large rocks on rocks. In this instance both east and west facing slopes are inhabited where large boulders and bedrock protrude usually in the shade of trees such as *Sterculia murex*. It is therefore found in the company of the next species.

Family: Cordylidae.

Cordylus warreni barbertonensis (Van Dam)

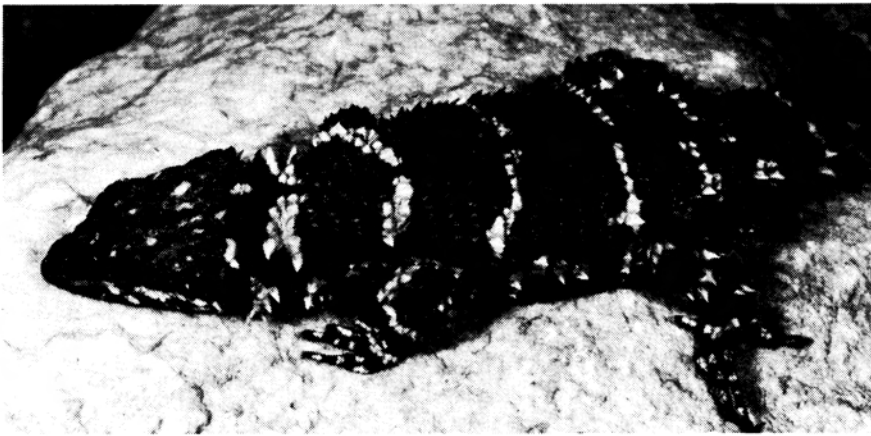


Fig. 6. Barberton Girdled Lizard *Cordylus warreni barbertonensis* from the Khandizwe Mountain region, Kruger National Park.

Material: Four specimens were collected which are housed as for the preceding species. Collectors' numbers are as follows: J6970-2, J6974.

A large dark girdled lizard (Fig. 6) occupying horizontal crevices between boulders on rocky outcrops such as described above. Usually solitary but occasionally found in pairs. As a rule they are found inside the crevices but if encountered in undisturbed situations may be seen perched high on these boulders, but are quick to enter their retreat. As is typical of the girdled lizards in general, they anchor themselves in these crevices by inflating their body and arching the head thereby hooking the occipital spines on irregularities on the rock surface. They are then impossible to remove unless the rocks are prised open. They were found on rocks of suitable size on both east and west facing slopes which were also more densely vegetated particularly with *Rhoicissus tridentatus*. One female appeared to be gravid which supports FitzSimons (1943) suggestion that the young are born towards the end of summer.

Suborder: Serpentes
Family: Colubridae
Lamprophis guttatus (A. Smith)

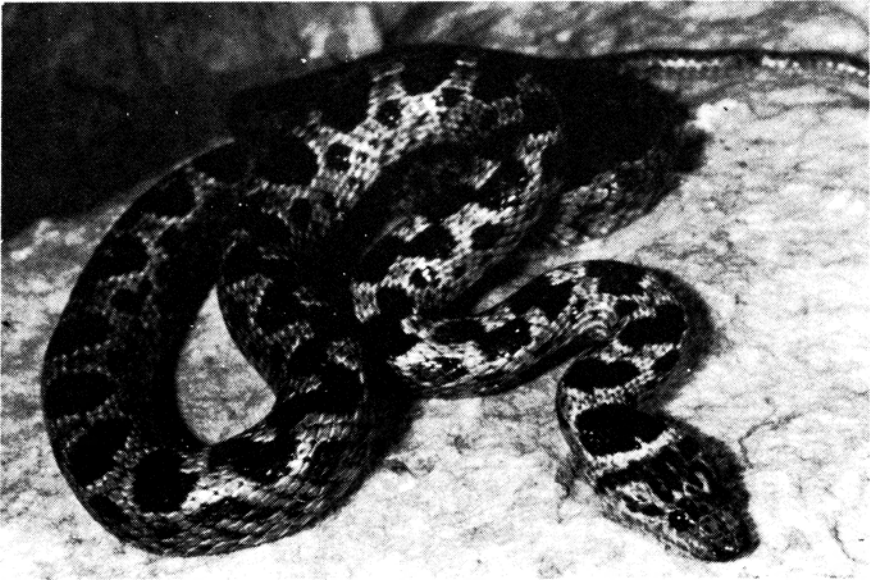


Fig. 7. Spotted House Snake *Lamprophis guttatus* from the Khandizwe Mountain region, Kruger National Park.

Material: one specimen collected and pending analysis is housed as for the preceding species. Collectors' number is as follows: J6981.

A very interesting find although not entirely unexpected as it is known from the Nelspruit area. It was located in a rock crevice in a kloof on the southern side of Khandizwe. Large bedrock sheets edged by small rocky cliffs which are traversed by crevices occur here. The crevices and rocks were in partial shade of the kloof forest consisting of *Manilkara concolor*, *Commiphora harveyi*, *Sterculia murex*, *Strychnos henningsi* and *Aloe bainesii* as well as *Calodendron capense*. This snake (Fig. 7) normally inhabits crevices but may also be found under rock on rock. Its depressed head is probably an adaptation to life in crevices, where it most likely preys on skinks and geckos.

Apart from these new records several range extensions were also noted including *Homopholis wahlbergii*, *Scelotes brevipis* and *Cordylus vittifer*.

Discussion

The large area of the Kruger National Park which extends over a distance of 380 km from north to south along the eastern border of the Transvaal, provides a range of climatic and edaphic conditions suited to a wide range of reptile species (Pienaar, Haacke & Jacobson 1983). It also forms a meeting point of western, eastern, tropical and temperate species. The emphasis and relationship tends mainly to the eastern and tropical forms. The Lembovo Mountains are a barrier to the inland

migration of certain species allowing access only where rivers pierce the range. These gaps are rocky and may be unsuitable for psammophilous reptiles to penetrate into the interior. Northwards the Lebombo Mountain disappears under the sand to allow the entry of such taxa as *Mabuya homalocephala depressa*, *Nucras caesicaudata*, *Typhlosaurus aurantiacus fitzsimonsi* and *Amblyodipsas microphthalmus* which are essentially Mozambique plain species. Similarly, the aeolian sands of the Kalahari have moved in, along the Limpopo valley in the north, and have allowed *Mabuya homalocephala depressa* to extend westwards to a small area of deep sand some 50 km to the west of the Kruger National Park boundary. The presence of Kalahari sandy substrates in the Limpopo valley have also allowed the movement of the small burrowing skink *Scelotes limpopoensis*, the amphisbaenid *Monopeltis leonhardi* and the horned adder *Bitis caudalis*, into the north-western area of the park. Here too the more tropical arboreal or rupicolous *Lygodactylus stevensoni* enters the park from the north and north-west, while *Pelusios subniger* enters along the north-east. Elsewhere in the west the Drakensberg escarpment forms a barrier to many species. Some have been able to extend their distribution along the rivers such as *Cordylus warreni vandami*, while others such as *Cordylus vittifer* are relicts and restricted to high lying areas in the Kruger National Park. There are several western species including *Eremias l. lineoocellata* and *Mabuya capensis* which have circumvented the barrier in the north, although they have not been found in the Kruger National Park as yet. It is therefore expected that further additions to the reptile fauna are possible in the northern areas of the Kruger National Park while some of the less demanding escarpment species may be found in the transitional areas of the southern Kruger National Park. Along the northern boundary of the park the distance to the sea is considerable (approximately 500 km) so that inland migration of coastal species is unlikely. In the south it would appear that the Lebombo Mountains form a formidable barrier. Therefore it is unlikely that many additional "eastern" species will be found.

Acknowledgements

The authors wish to acknowledge with thanks the assistance provided by ranger J. Sfeyn and son, as well as the Director of the National Parks Board of Trustees, for the opportunity to undertake this survey. The senior author also wishes to thank the Director of Nature Conservation, Transvaal for permission to conduct the survey and to publish this article.

REFERENCES

- FITZSIMONS, V.F.M. 1943. The Lizards of South Africa. *Transvaal Museum Memoir*. 1:528.
- PIENAAR, U. DE V. 1978. *The Reptile Fauna of the Kruger National Park* Pretoria: National Parks Board of Trustees.
- PIENAAR, U. DE. V., W.D. HAACKE and N.H.G. JACOBSEN. 1983. *The reptiles of the Kruger National Park*. Pretoria: National Parks Board of Trustees.
- ONDERSTALL, D. (*in prep.*) Descriptions of two new subspecies of *Afroedura pondolia* (Hewitt), (Reptilia: Gekkonidae) and a discussion of three species complexes within the genus.