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W. D. HAACKE

New Herpetological Records from South West Africa.

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NEW HERPETOLOGICAL RECORDS FROM SOUTH WEST AFRICA

BY W. D. HAACKE

Transvaal Museum, Pretoria

INTRODUCTION

In 1955 Professor Robert Mertens published his important work on the herpetology of South West Africa thereby condensing all known information about this area into a single volume which greatly facilitated further investigation. With the aid of this publication and other monographs, such as FitzSimons' "The Snakes of Southern Africa" (1962) and Poynton's "The Amphibia of Southern Africa: a faunal study" (1964), it has been possible to add a number of new records to the existing check list, thereby proving that the vast expanses of South West Africa, with its variety of biotopes, are still not completely explored from the biological point of view. This paper adds another eleven species and forms, previously only known from neighbouring territories, to the already impressive list of species and subspecies. A number of these forms were obtained in the border areas which had hitherto been rather poorly collected.

These finds, in some instances, provide further proof that the perennial border rivers, the Orange, Kunene and Okavango, are not important as zoogeographic barriers. In the case of Amphibia, they are actually distribution routes for species relying on permanent water.

LIST OF NEW RECORDS

Family: RANIDAE

Subfamily: RANINAE

1. *Pyxicephalus tuberculosus* (Boulenger)

Pyxicephalus rugosus Günther, 1864. *Proc. zool. Soc. Lond.* 1864:479, pl. 33, fig. 1.

Type locality: Pungo Andongo, Angola.

Rana tuberculosa Boulenger, 1882. *Cat. Batr. Sal. Brit. Mus.*: 30.

Pyxicephalus tuberculosus, Poynton, 1964. *Ann. Natal Mus.* 17:100, fig. 51, map 28.

MATERIAL: One specimen, T.M. 38846, Otjijangasemo, Kaokoveld, 27.IV.1970, G. Pretorius.

This is a juvenile specimen with a snout/vent length of 22 mm which was collected at night in the vicinity of a hot spring. It is distinguishable by more contrasty markings, less developed webbing between the toes and relatively longer hindlegs from *P. delalandi cryptotis* (Boulenger) specimens of similar size which had been collected at the same locality.

RANGE: Apparently confined to upland savannah of Angola, Katanga, Zambia, Tanzania, Rhodesia and north-western South West Africa.

2. *Ptychadena subpunctata* (Bocage)

Rana subpunctata Bocage, 1866. *J. Acad. Sci. Lisboa* 1:73.

Type locality: Duque de Bragança, Angola.

Ptychadena subpunctata, Poynton, 1964. *Ann. Natal Mus.* 17:127, fig. 66, map 40.

MATERIAL: Two specimens, T.M. 38423 and 38425, Popa Rapids, Okavango River, 13.IV.1970, W. D. Haacke.

These specimens were collected during the day while they were sitting in flooded grass at the edge of the river. There are no obvious differences between these specimens and others from further downstream in the Okavango system.

RANGE: Previously recorded from northern Botswana, Caprivi area, Zambia, Katanga, Angola.

Subfamily: PHRYNOBATRACHINAE

3. *Cacosternum namaquense* Werner

Cacosternum namaquense Werner, 1910. *Denkschr. med. naturwiss. Ges. Jena* 16:294, figs. 1, 2.

Type locality: Kamaggas and Gemsbok nr. Steinkopf, Namaqualand Dist., Cape Province.

Poynton, 1964. *Ann. Natal Mus.* 17:150, fig. 82, map 52.

MATERIAL: Ten specimens, T.M. 35352 - 35361, Farm Namuskluft, No. 88 Lüderitz District, 20.IX.1968, W. D. Haacke.

This series of adult and subadult frogs was collected during the day in a reservoir and drinking trough about 10 km NE of the Rosh Pinah Mine. It appeared that they were unable to leave these structures because of the low water level in them. Individuals in this population appear to be of greater average size than those in southern populations, as the maximum recorded snout/vent length for the species, 23.5 mm (Poynton, 1964:151), is surpassed by eight of the ten. The largest specimen, T.M. 35360, has a snout/vent length of 30.5 mm. The dorsal colour of the preserved specimens is a faintly mottled dark brown. Isolated irregular white specks occur on a few specimens while the ashy-white triangle on the forehead, as mentioned by Poynton (op. cit.), is discernible in only three of the specimens. The belly is marked with large, irregular spots. Although the throat is usually marked with small spots they are confluent in a few specimens, giving the throat a uniformly dark colour.

C. namaquense differs from *C. boettgeri* (Boulenger), the common species occurring in South West Africa, by its metatarsal tubercle being shorter than the first phalanx of the inner toe, slightly larger size and larger spots on the belly.

RANGE: Previously known from Little Namaqualand, as far south as Calvinia, Cape Province.

Subfamily: HYPEROLINAE

4. *Hyperolius nasutus* Günther

Hyperolius nasutus Günther, 1864. *Proc. zool. Soc. Lond.* 1864:482, pl. 33, fig. 3.

Type locality: Duque de Bragança, Angola.

Poynton, 1964. *Ann. Natal Mus.* 17:192, fig. 113, map 72.

MATERIAL: One specimen, T.M. 38519, Katwitwi on Okavango River, 17.IV.1970, G. Pretorius.

This juvenile specimen, with a snout/vent length of 14 mm, was found during the day amongst reeds on the bank of the river. The basic colour was pale green with a pair of silvery-white dorsolateral stripes.

RANGE: Natal lowlands, Mozambique, Rhodesia, through northern Botswana and South West Africa to Angola and the northern savannah regions.

Family: GECKONIDAE

5. *Phyllodactylus lineatus rupicolus* FitzSimons

Phyllodactylus lineatus rupicolus FitzSimons, 1938. *Ann. Transv. Mus.* 19:162.

Type locality: Between Springbok and O'okiep, Namaqualand Dist., Cape Province.

MATERIAL: Three specimens, T.M. 35398 - 35400, McMillan's Pass, about 16 km NE of Rosh Pinah Mine, Lüderitz District, 21.IX.1968, W. D. Haacke.

These specimens were collected in cracks of boulders which were also occupied by the diurnal gecko *Narudasia festiva* Methuen & Hewitt which is of similar size. They differ from the two *P. l. lineatus* (Gray) (T.M. 27717, 27718) from 20 km E of Oranjemund (Haacke, 1965:10) by the more flattened head and body, the small supra-nasals, which are widely separated by two or three granules (instead of one or two) and a mental which is as broad as long instead of being broader than long.

RANGE: Western Cape Province from the Wittebergen through Little Namaqualand across the Orange River into southern South West Africa.

6. *Lygodactylus chobiensis* FitzSimons

Lygodactylus picturatus chobiensis FitzSimons, 1932. *Ann. Transv. Mus.* 15:35.

Type locality: Kabulabula on Chobe River, N. Botswana.

Lygodactylus chobiensis, Pasteur, 1964. *Trav. Inst. scient. chérif., sér. Zool.* 29:79.

MATERIAL: Three male specimens, T.M. 38427-9, Andara on Okavango River, 13.IV.1970, W. D. Haacke and H. D. Brown.

These specimens were collected at midday while they were foraging on the trunk of a Boabab tree, which was also occupied by *L. c. capensis* (Smith). They were compared with the type and no noteworthy differences were observed. T.M. 38427 is 82.9 (39.5 + 43.4) mm long.

RANGE: Extending along the Zambesi Valley and its tributaries from Mozambique through Rhodesia and Zambia into northern Botswana and South West Africa, eastern Angola and parts of the Congo.

7. *Pachydactylus caraculicus* FitzSimons

Pachydactylus caraculicus FitzSimons, 1959. *Ann. Transv. Mus.* 23:407.

Type locality: Caracul, S.W. Angola.

MATERIAL: Twelve specimens, T.M. 22585-6, Swartboois Drift on Kunene River, Kaokoveld, July 1951, C. Koch; T.M. 32848, 32863, Onjamu Mts., Kaokoveld, 12.XI.1963, B. van Zyl; T.M. 34646, Enyandi on Kunene River, Kaokoveld, 17.IV.1966, W. G. H. Coaton; T.M. 38682-7, Swartboois Drift on Kunene River, Kaokoveld, 23 and 24.IV.1970, W. D. Haacke; T.M. 38971, Sanitatas, Kaokoveld, 30.IV.1970, W. D. Haacke.

Five of the specimens are juveniles which were collected between April and June. Of these T.M. 22585 and 22586 are in a very poor state of preservation, without tails, but their colour pattern is still discernible. T.M. 38685 and 38686 originate from the same batch of eggs. The former was removed fully developed from a broken egg and measures 30 (15.0 + 15.0) mm in length, while the latter, which hatched a few weeks later during the middle of May, measures 28.3 (15.5 + 12.8) mm. The specimen from Enyandi is also very young and is 34.5 (16.5 + 18.0) mm long. Adult females collected at Swartboois Drift on 23.IV.1970 were gravid. The markings of the juveniles consist of five ivory-white, dark edged, transverse bars and a reddish-brown background. The tail is pale yellow with narrow, brown cross-bars which are less than half the width of the light interspaces. The ventrum of body and tail is unmarked white. In adults the transverse white bands are less well defined and may become dusted with fine dark specks. The markings on the tail change with maturity and adults have white transverse bars which are less than half the width of the brown cross-bars. The underside of the tail also becomes dark with age.

The markings of specimens from the Onjamu mountains and Sanitatas, the most southerly records, differ from more northern populations as follows: Only the neckband is distinct while the other transverse bands are broken up into series of white spots which occur in more or less continuous rows or are completely scattered.

RANGE: South-western Angola, extending into the northern Kaokoveld.

8. *Rhoptropella ocellata* (Boulenger)

Rhoptropus ocellatus Boulenger, 1885. *Ann. Mag. Nat. Hist.* (5) 16:474.

Type locality: "Cape Town", incorrect.

Rhoptropella ocellata, Hewitt, 1937. *Ann. Natal Mus.* 8:200, pl. 12, figs. 1 - 7.

MATERIAL: A single specimen, T.M. 35435, Farm Witpütz Süd, No. 31 Lüderitz District, 21.IX.1968, W. D. Haacke.

This subadult male with a snout/vent length of 26.2 mm, a damaged tail, eight upper and seven lower labials on either side, and 30 preanal

pores, agrees with the general description given by FitzSimons (1943). This specimen was collected on the thick stem of a *Cyphostemma* plant growing on the western slope of a rocky mountain.

RANGE: From northern Little Namaqualand through the Richtersveld into the extreme south-western corner of South West Africa.

Family: LACERTIDAE

9. *Ichnotropis grandiceps* Broadley

Ichnotropis grandiceps Broadley, 1967. *Arnoldia* 3(24):1.

Type locality: 40 km W of Mohembo, Botswana.

MATERIAL: Four specimens, T.M. 30822, Ndobe, 15 km N of Aha Mts., Botswana-S.W.A. border, 12.IV.1965; T.M. 38309 and 38310, Farm Deo Volente, No. 1026 Grootfontein District, 7.IV.1970; T.M. 38404, Caprivi Strip-Botswana border, 16 km E of 21° E corner beacon, 11.IV.1970; all specimens collected by the author.

	H/B length	T. length	Upper labials ant. subocc.	Body scales
T.M. 30822	52	99.5	4 + 5	45
T.M. 38309	64.8	—	4 + 5	46
T.M. 38310	59.9	120	5 + 5	44
T.M. 38404	38.2	—	5 + 5	46

The first specimen was collected on hard limy soil in Combretum-Acacia bushveld while the others were collected in open woodland on white sand. At Farm Deo Volente this species occurs sympatrically with *Ichnotropis squamulosa* Peters, *Ichnotropis c. capensis* (Smith), *Eremias lugubris* (Smith) and *Gerrhosaurus n. nigrolineatus* Hallowell. The colouration is similar to Broadley's description but the dorsolateral band is either absent or only faintly noticeable.

RANGE: North-western Ngamiland, Botswana, and north-eastern South West Africa.

Family: COLUBRIDAE

Subfamily: COLUBRINAE

10. *Lycophidion hellmichi* Laurent

Lycophidion hellmichi Laurent, 1964. *Publ. cult. Co. Diam. Angola* 67:95, fig. 29.

Type locality: Kapolopopo, Moçamedes desert, S.W. Angola.

Laurent, 1968. *Bull. Mus. comp. Zool. Harv.* 136:467.

MATERIAL: Three specimens, U.M. 5955, Karibib, don. by W. Rose, 1963; T.M. 32594, Okahandja, coll. by H. Bachran, don. March 1966; T.M. 33819, Uis Tin Mine, Omaruru dist., don. R. B. Copley, December 1967.

When describing this species Laurent mentioned a specimen from Okahandja with 197 ventrals listed by Mertens (1955:92) as possibly belonging to this species. In his re-examination of the genus, Laurent

(1968:467) repeats this assumption which indicates that he still had no confirmed records for this country. Two specimens in the collection of the Transvaal Museum and one in the Umtali Museum, Rhodesia, differ from normal *L. capense* (Smith) and appear to belong to this species. Of these T.M. 32594 was also collected by the same collector at the same locality as Mertens' problematic specimen. This lends confirmation to Laurent's assumption that *bellmichi* does indeed occur there.

U.M. 5955 ♀, 207V, anal entire, 33+32+1 Sc, 17 midbody rows, length 440 (400+40) mm; T.M. 32594 ♂, 196V, anal entire, 40+39+1 Sc, 17 midbody rows, length 325 (284+41) mm; T.M. 33819 ♀, 206V, anal entire, 31+32+1 Sc, 17 midbody rows, length 205 (186+19) mm.

These specimens are not as clearly striped as the types. The markings of the male are reddish-brown on an off-white background and are as follows: Head pale brownish, body finely speckled and dusted with brown concentrated along the edges of scales giving a speckled effect. Anterior quarter of body slightly darker than remainder. Vertebral row of scales of posterior two-thirds of body nearly unmarked forming a fine pale median line. A paired row of spots occurs on either side of this line forming short, irregular, poorly-defined transverse bars across the neck. Sides of body pale brown without markings, ventrals dark with pale rear edge and subcaudals uniformly dark.

The markings of the females are quite similar, except that in the Karibib specimen the dorsum of the anterior quarter of the body is more or less uniformly brown. Otherwise the general pattern is as follows: A broad, dusty, brownish band runs from the snout to the tip of the tail; dark brown spots, usually not larger than a single scale, occur along this band and may appear in pairs or form zig-zag patterns or ill-defined transverse bars. The underside of the lower jaw is unmarked while the antero-central part of each ventral scale is purplish-brown with white sides and posterior edge, a pattern which becomes less well-defined on the subcaudals where some scales may even be unmarked.

RANGE: South-western Angola and north-western South West Africa.

Subfamily: BOIGINAE

11. *Calamelaps unicolor miolepis* Günther

Calamelaps miolepis Günther, 1886. *Ann. Mag. nat. Hist.* (6) 1:323.

Type locality: Cape MacLear, Malawi.

Calamelaps unicolor miolepis, de Witte & Laurent, 1947. *Mém. Mus. r. Hist. nat. Belg.* (2) 29:31.

MATERIAL: One specimen, T.M. 36057, Otavi, don. by F. Gaerdes, 27.III.1969.

As Dr D. G. Broadley is revising this genus at present, this specimen is not discussed in detail.

RANGE: From south-western Tanzania southwards to Natal and through northern Botswana into north-eastern South West Africa.

APPENDIX

After the manuscript of this paper had gone to print, another new species record came to light when some legless lizards were donated to the Transvaal Museum.

Family: SCINCIDAE

12. *Typhlosaurus gariiepensis* FitzSimons

Typhlosaurus gariiepensis FitzSimons, 1941. *Ann. Transv. Mus.* 20:276, figs 1-3.
Type locality: Upington, Cape Province.

MATERIAL: One specimen, T.M. 39117, Farm Bluesky (NE of Aroab), No. 247 Keetmanshoop District, 2.IX.1970, collector unknown.

Apart from the absence of the supraciliary scale on both sides the scalation and markings correspond well with the description given by FitzSimons (1943:266). HB length = 111 mm, tail length = 18 mm.

RANGE: Kalahari dunes of the Northern Cape Province and South-eastern South West Africa.

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REFERENCES

- BROADLEY, D. G., 1967. A new Species of *Ichnotropis* (Sauria: Lacertidae) from the Botswana - Caprivi Border. *Arnoldia* 3(24): 1-5, 3 pls.
- , 1968. A Revision of the African Genus *Typhlosaurus* Wiegmann (Sauria: Scincidae). *Ibidem* 3(36): 1-20, 5 figs, 1 map.
- FITZSIMONS, V., 1943. The Lizards of South Africa. *Transv. Mus. Mem.* 1:1-528, 384 figs., 26 pls., 1 map.
- , 1959. Some new Reptiles from Southern Africa and Southern Angola. *Ann. Transv. Mus.* 23:405-9.
- , 1962. The Snakes of Southern Africa., Purnell. Cape Town - Johannesburg 423 pp., figs., pls. and maps.
- LAURENT, R. F., 1964. Reptiles et Amphibiens de l'Angola. *Publ. cult. Co. Diam. Angola* 67:1-165, 40 figs.
- , 1968. A re-examination of the Snake Genus *Lycophidion* Duméril and Bibron. *Bull. Mus. comp. Zool. Harv.* 136:461-82, 12 figs.
- MERTENS, R., 1955. Die Reptilien und Amphibien Südwestafrikas. *Abb. senckenb. naturforsch. Ges.* 490:1-172, 24 pls.
- PASTEUR, G., 1964. Recherches sur l'Evolution des Lygodactyles, Lézards Afro-Malgaches actuels. *Trav. Inst. scient. chérf., ser. Zool.* 29:1-160, 30 figs., 12 pls., 1 map.
- POYNTON, J. C., 1964. The Amphibia of Southern Africa: A faunal study. *Ann. Natal Mus.* 17:1-334, 122 figs., 73 maps.

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