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New records of two rare snakes from northern Namibia, with comments on the trans-Kunene distribution of mopaneveld squamates

(Squamata: Serpentes: Colubridae)

Neue Nachweise von zwei seltenen Schlangen aus Nordnamibia, mit Bemerkungen zur Trans-Kunene-Verbreitung von Mopaneveld-Squamaten

(Squamata: Serpentes: Colubridae)

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KURZFASSUNG

Wir berichten über die Entdeckung des dritten bekannt gewordenen Exemplares von *Coluber zebrinus* BROADLEY & SCHÄTTI, 2000 und des fünften von *Prosymna visseri* FITZSIMONS, 1959 im Nordwesten Namibias. Eine Beschreibung des neuen Materials wird gegeben. Die Verbreitung dieser beiden seltenen Colubriden scheint räumlich mit einem bisher noch nicht als solches beschriebenen endemismenreichen Mopane-Savannengebiet übereinzustimmen. Dieses Gebiet erstreckt sich von Kamanjab in Namibia bis in das südliche Angola. Zahlreiche andere Reptilien sind in diesem Gebiet endemisch.

ABSTRACT

We report the discovery of the third known specimen of *Coluber zebrinus* BROADLEY & SCHÄTTI, 2000 and fifth known specimen of *Prosymna visseri* FITZSIMONS, 1959 from north-western Namibia. The new material is described. The distributions of both of these rare colubrids appear to be reflective of a previously undocumented mopane savanna area of endemism stretching from the Kamanjab region of Namibia to south central Angola and beyond. A similar distribution is shared by numerous other reptiles.

KEY WORDS

Reptilia: Squamata: Serpentes: Colubridae: *Prosymna visseri*, *Coluber zebrinus*, Kunene River, Mopaneveld, biogeography, Namibia

INTRODUCTION

The inland herpetofauna of northwestern Namibia remains poorly known, despite a long history of collecting in the area (e.g., HEWITT 1926; MERTENS 1955; HAACKE 1965, 1972; STEYN & MITCHELL 1965, 1967; MCLACHLAN & SPENCE 1967; HOFFMANN 1989; BAUER et al. 1993). Among the more significant recent additions to the region's herpetofauna have been two rarely encountered colubrid snakes. MCLACHLAN (1987) signalled the first Namibian record of *Prosymna visseri* FITZSIMONS, 1959 from the vicinity of Kamanjab. BROADLEY & SCHÄTTI (2000) described a new species of the broadly distributed colubrid genus *Coluber*, *C. zebrinus*, from northern Namibia. *Coluber zebrinus* represents only the second species in the genus known from the southern hemisphere, with its geographically nearest congener, *C. smithi* (BOULENGER, 1896), occurring in Kenya and possibly northern Tanzania.

During recent field work in northern Namibia, we collected single specimens of *P. visseri* and *C. zebrinus*. We here present data relative to these specimens and comment briefly on the distribution patterns of these and other squamates inhabiting the mopaneveld (xeric savanna or scrub woodland dominated by mopane trees, *Colophospermum mopane*) of northern Namibia and southern Angola.

Collection acronyms used: CAS - California Academy of Sciences, San Francisco, USA; SAM - South African Museum, Cape Town, RSA; SMW - National

Museum of Namibia, Windhoek, Namibia; TM – Flagship Institution of the North (formerly Transvaal Museum), Pretoria, RSA.

RESULTS AND DISCUSSION

Prosymna visseri was hitherto known from three specimens from southern Angola, including the type (TM 24531) from near Caracul (= Caraculo, 14°59'S, 12°40' E), and a single Namibian specimen (SAM 46951) collected at Farm Tevrede (19°25' S, 14°29'E), north-west of Kamanjab (McLACHLAN 1987; BAUER et al. 1993). The new Namibian specimen (CAS 2147536) was collected at night on 3 June 2000 on a granite outcrop in the vicinity of Para Camp, approximately 2 km north of Sesfontein, Opuwo District, Kunene Region (19°07'28"S, 13°35'29"E). This locality is 95 airline km WNW of the previous Namibian record and 375 km south of the nearest Angolan locality.

The new specimen (fig. 1), a female, measures 279.01 mm SVL + 39.33 mm tail length, and has 210 ventrals, 40 subcaudals, and 15 midbody scale rows. Scalation closely matches that described and figured by BROADLEY (1980, 1990) and the specimen is similar in colour pattern to the specimen illustrated by McLACHLAN (1987) and BRANCH (1988, 1998). BROADLEY (1980, 1990) described the habitat of *P. visseri* as "rock outcrops in mopane woodland" and it has been presumed to feed on gecko eggs (BROADLEY 1980; McLACHLAN 1987). Radiographs prepared with a Faxitron® closed cabinet x-ray system (40 sec exposure at 35 kV) revealed the presence of three boli in the posterior intestine. Each bolus measures approximately 8 mm in length and may represent a collapsed eggshell. In the area where the specimen was collected, rupicolous geckos with eggs in this size range include *Pachydactylus scutatus* HEWITT, 1927 and *P. bicolor* FITZSIMONS, 1938, although neither was collected during our investigations.

Coluber zebrinus was described on the basis of the holotype (SMW R8046), collected in mopaneveld near Ruacana (17°24'S, 14°13'E), and a second specimen from near Kamanjab that was photographed, but escaped before it could be preserved (BROADLEY & SCHÄTTI 2000). Our specimen, CAS 214764, was captured on the Opuwo Road, 25 km north of Warmquelle, Opuwo District, Kunene Region (18°55'54"S 13°46'04"E) on 4 June 2000. This locality is 170 km SSW of the type locality and 135 km north-west of Kamanjab. The habitat at the collection site closely resembles that at the type locality – mopaneveld dominated by *Colophospermum* on broken stony ground. The snake was crossing the road in a narrow rocky cutting.

Scalation and colouration of the new specimen (figs. 2, 3) closely matches that of the holotype and the lost Kamanjab specimen (BRANCH 1998; BROADLEY & SCHÄTTI 2000). We counted, however, 23 rather than 21 scale rows around the neck and 19 versus 17 circumferential scale rows anterior to the vent. The specimen measures 243.21 mm SVL + 68.88 mm tail length, being somewhat smaller than the type. It retains a clear umbilical scar at the level of ventrals 191-195. The colour matches that of the holotype very closely except that the snout is more orange than yellow and dark markings are present on the posterior borders of supralabials 2-6, with the darkest appearing on the two posterior-most scales. The much larger (65 cm total length) specimen (now lost) illustrated by BRANCH (1998) and BROADLEY & SCHÄTTI (2000) is substantially lighter in colour, with medium brown rather than black markings, and the tail and posterior-most body are nearly unicolour.

The southernmost localities for both *P. visseri* and *C. zebrinus* are near Kamanjab in the Outjo District. This village is near the southern edge of a broad mopane savanna that extends northwards into Central Africa (WHITE & WERGER 1978). The region also is characterised by numerous prominent granite and basalt outcrops that, likewise, extend northward into Angola. Although the Kamanjab region has been noted for its herpetofaunal richness, due chiefly to its position at the junction of several major habitat types (BAUER et al. 1993), the northern Namibian mopaneveld

Fig. 1: *Prosymna visseri* FITZSIMONS, 1959 (CAS 214753) from near Sesfontein, Namibia illustrating the characteristic colour pattern and relatively large eyes of this species. Photograph by W. R. BRANCH.

Abb. 1: *Prosymna visseri* FITZSIMONS, 1959 (CAS 214753) aus der Umgebung von Sesfontein, Namibia. Man beachte die charakteristische Zeichnung und die verhältnismäßig großen Augen. Photo W. R. BRANCH.

Fig. 2: *Coluber zebrinus* BROADLEY & SCHÄTTI, 2000 (CAS 214764) from 25 km north of Warmquelle, Namibia. Whole body view showing the characteristic barred pattern. Photograph by W. R. BRANCH.

Abb. 2: *Coluber zebrinus* BROADLEY & SCHÄTTI, 2000 (CAS 214764) von 25 km nördlich Warmquelle, Namibia Gesamtansicht mit den charakteristischen Querstreifen. Photo W. R. BRANCH.

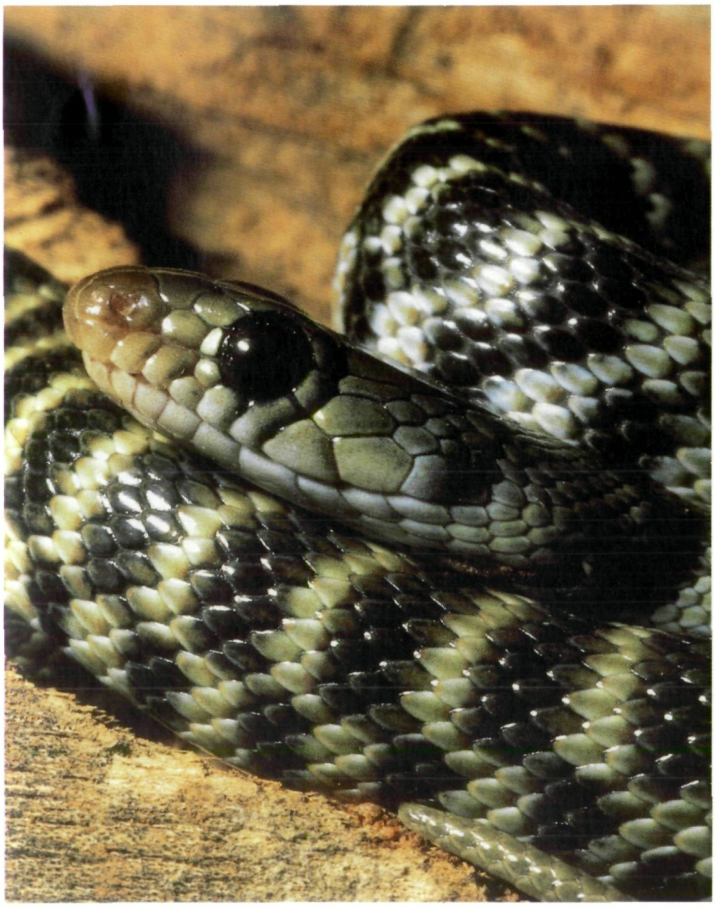

Fig. 3: *Coluber zebrinus* (CAS 214764).Close-up of head illustrating scalation. Photograph by W. R. BRANCH.
Abb. 3: *Coluber zebrinus* (CAS 214764), Portrait zur Darstellung der Beschuppung. Photo W. R. BRANCH.

itself has not been regarded as an area of high endemism. Nonetheless, STEYN & MITCHELL (1965) recognised an area of endemism in north-western Namibia and adjacent south-western Angola defined by the distribution of *Mabuya laevis* BOULENGER, 1907 (as *Oelofsea laevis*). They regarded this species as a Kaokoveld endemic. However, the Kaokoveld extends westward into the Pro-Namib and Namib, encompassing areas of gravel plains, sand seas, and rocky desert. The area identified by STEYN & MITCHELL (1965) is more correctly regarded as the trans-Kunene expanse of mopane savanna.

Present knowledge of squamate distribution patterns in northern Namibia suggests that many species are restricted chiefly to mopaneveld habitats (including koppies) and have trans-Kunene ranges. Among these are *Lycophidion hellmichi* LAURENT, 1964, *Hemirhagerrhis viperina* BOCAGE, 1873, *Pedioplanis benguellensis* (BOCAGE, 1867), *Mabuya chimbana* (BOCAGE, 1872), *Hemidactylus* cf. *longicephalus* BOCAGE, 1873, *Lygodactylus lawrencei* HEWITT, 1926, *Pachydactylus caraculicus* FITZSIMONS, 1959, and *P. fitzsimonsi* LOVERIDGE, 1947 in addition to *Mabuya laevis*. Other vertebrate groups, such as representatives of the group of small-bodied *Bufo* may exhibit similar patterns (POYNTON & HAACKE 1993). Most of these reach their southern limits in the vicinity of

Kamanjab. The northern distributional limits for many of these species remain unknown due to limited collecting in Angola. *Prosymna visseri* clearly shares this trans-Kunene distribution, whereas *C. zebrinus* remains at present a putative Namibian endemic. The latter species' distribution is almost certainly an artifact, however, as the Kunene does not pose a geographic barrier to any other reptile species, except perhaps *Sepsina alberti* HEWITT, 1929. It seems certain that *C. zebrinus* will eventually be added to the herpetofauna of Angola. Likewise, careful night searches on granite koppies to the north of Kamanjab will likely bridge the distributional gaps between Farm Tevrede, Sesfontein, and the Angolan localities of *P. visseri*.

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