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COMMENTS ON SOME AFRICAN TAXA OF LEPTOTYPHLOPID SNAKES

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ABSTRACT

Abstract – Miscellaneous material of African Leptotyphlopidae are discussed: An overlooked senior synonym of *Namibiana latifrons*, mental scale characteristics in *Tricheilostoma greenwelli*, an insular record of *Leptotyphlops pembae*, a range expansion of *Myriopholis adleri* (new to the country of Ghana), and cephalic scale terminology of *Rhinoleptus koniagui*.

INTRODUCTION

The family Leptotyphlopidae currently contains 12 genera and 122 species; of these, six genera and 60 species occur in Africa (Wallach et al., 2014). All of the African taxa are endemic except eight species of *Myriopholis* that occur in southwestern Asia. Recent morphology-based revisions of African leptotyphlopids (*e.g*., Broadley and Broadley 1999, Broadley and Wallach 2007) have more than doubled the number of recognized African species during the past twenty years. In addition the discovery of new species and the resurrection of synonyms forecasts an increase in the species richness of these tiny snakes. A number of species are known from one to several specimens, and some of those only from scattered, distant localities. To further clarify aspects of the diversity and distribution of African leptotyphlopids, this paper addresses a nomenclatural issue (*Namibiana latifrons*), corrects a published figure (*Tricheilostoma greenwelli*), reports a new insular record (*Leptotyphlops pembae*), a new country record (*Myriopholis adleri*), and discusses cephalic scale nomenclature (*Rhinoleptus*).

Namibiana latifrons

Boulenger (1893) described two leptotyphlopid specimens in the British Museum, from Benguella, Angola, and referred them to *Glauconia* (now *Leptotyphlops*) *scutifrons* (Peters 1854). Sternfeld (1908) noted that the specimens described by Boulenger were not *G. scutifrons* as defined by Peters in 1854, but represented a new species, which Sternfeld named *Glauconia latifrons*. Sternfeld, and subsequent authors, overlooked an earlier discussion of these specimens in a second paper by Peters (1865). Under *Stenostoma scutifrons*, Peters provided a morphological description of the specimens, then wrote (my translation) "Differs from *St. scutifrons* from Mossambique only by the conjoining of the supraocular with the nasofrontal [actually the rostral and frontal] into one shield. But since my only specimen of *St. scutifrons* is much smaller, it seems likely that the adult, by this conjoining, is different from the young. Thus, it should not be a special form (*St. scutatum*), as I thought it first to be considered." Despite the second thoughts expressed by Peters, the name *S. scutatum* in association with the diagnosis is sufficient to satisfy occupation under Article 11 of the International Code of Zoological Nomenclature. Thus, the species *G. latifrons* had previously been described, based on the same types, as *Stenostoma scutatum*, making *G. latifrons* a junior subjective synonym of the latter. However, because *G. latifrons* has been continually recognized for a little over one hundred years, and the name *S. scutatum* seems never to have been mentioned since 1865, I recommend retaining the name *G. latifrons* for the species currently called *Namibiana latifrons* (Sternfeld).

Tricheilostoma greenwelli

Wallach and Boundy (2005) illustrated the head scalation of the holotype of *T. greenwelli*. Prior to publication of that manuscript, the characters of the scales in the mental region were found to be inaccurately portrayed, but a corrected figure could not be produced in time for publication. The published figure shows a single mental shield at the apex of the lower jaw. The mental is, in reality, reduced in size, and displaced posteriorly by paired pseudomentals. I conducted a preliminary survey of the variability in size and shape of pseudomentals, and found them present in all 56 species of leptotyphlopids that I examined, or that I have seen illustrated for this character (unpublished). The corrected illustration is presented here (Fig. 1).

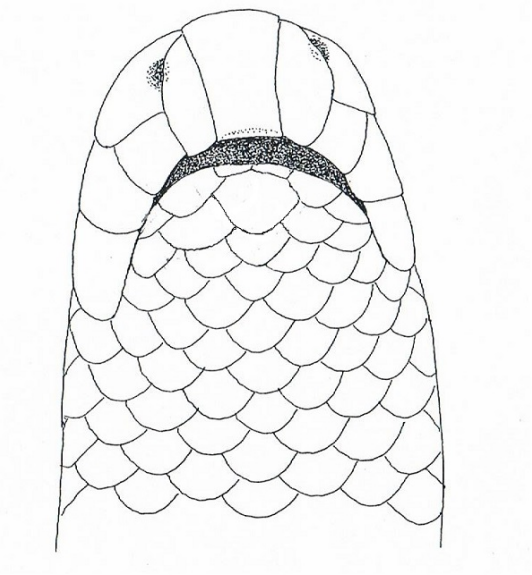


Figure 1: *Tricheilostoma greenwelli*, CM 92651 (paratype): ventral view of head.

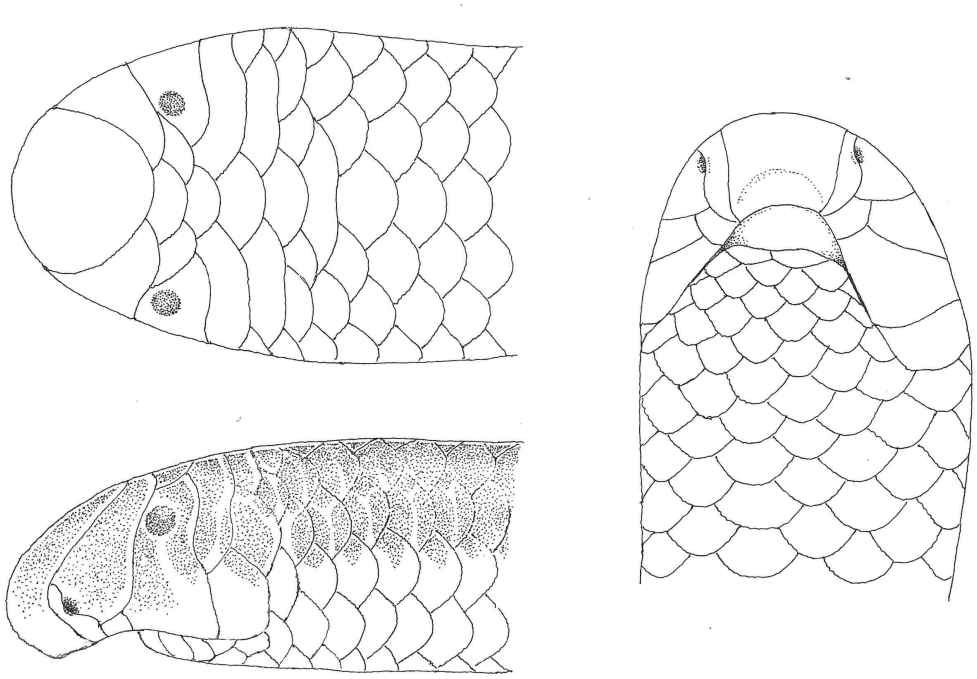
Leptotyphlops pembae

Leptotyphlopids have been reported from the following islands off the Kenya/Tanzania coast: *Epacrophis boulengeri* from Lamu and Manda, and *Leptotyphlops pembae* from Pemba (Spawls et al. 2002, Broadley and Wallach 2007). *Leptotyphlops* may now be added to the fauna of Mafia Island, Tanzania. LSUMZ 55290, "Mafia Island," collected November 1990 by K. M. Howell (field number KMH 7763), is representative of *L. pembae*. The snake is fixed in a highly contorted position, is somewhat desiccated, and appears to be about 80 mm total length. There are 247 transverse scale rows, 30 subcaudals, 14 midbody and 10 midtail scale rows. The cloacal shield is enlarged and subtriangular, the eye is under a slight convexity in the ocular shield, and the head plates are identical to those of *L. pembae* as described and illustrated by Broadley & Wallach (2007). The body coloration is dark brown except for the 3–5 ventralmost scale rows, which are slightly paler.

Myriopholis adleri

The genus *Myriopholis* currently contains 23 species in northern Africa and southwestern Asia, ten of which occur west of the Nile basin (Wallach et al., 2014, Broadley et al., in press). A specimen from Ghana appears referable to *M. adleri*, which represents a new species for that country. The specimen, LSUMZ 86889, was collected in Northern Region, 2.5 km SW of Buipe, on 9 March 2003, by Adam and Ann Leaché (field number ADL 580). It is 108.5 mm in total length (tail 15.5 mm), with a midbody diameter of 1.75 mm. There are 300 transverse scale rows and 44 subcaudal rows. The body is encircled by 14 scale rows, which reduce to 10 on the middle of the tail. The snout is highly protruding with a downward lobe, and the rostral width/head width is 0.58 (Fig. 2). The posterior end of the rostral stops at the level of the anterior margin of the eyes. The placement and form of the scales of the head and neck are typical of other West African species of *Myriopholis*, except that the fifth vertebral scale posterior to the rostral is transversely widened. The three dorsalmost scale rows are medium brown, the adjacent scale row is paler, and scales of the third row below the vertebral row are partially to completely marked with brown, or unmarked, producing a jagged line of demarcation from the dull white ventral color. The Ghana specimen differs from other *M. adleri*, as described in the literature, by being less slender (total length/ midbody diameter 62 vs. 77-93), which could be due to it being much smaller than other measured specimens. It also has seven pigmented scale rows, rather than five.

Figure 2: *Myriopholis adleri*, LSUMZ 86889: views of the head and neck.

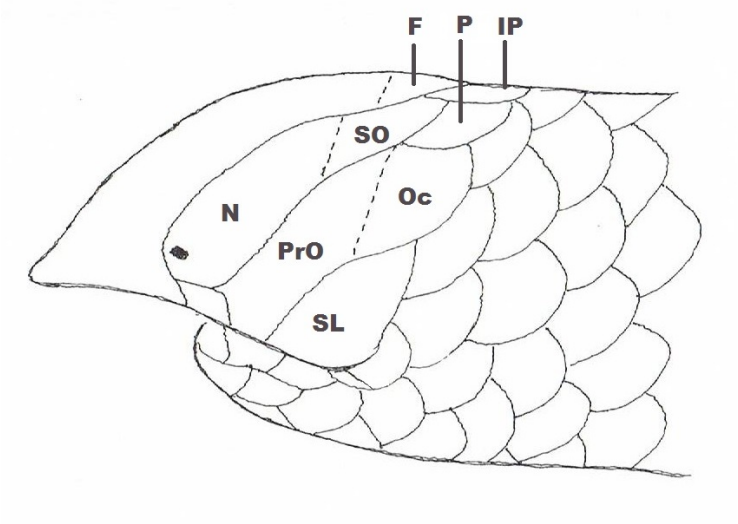


Myriopholis adleri appears to have a Sahelian range from northern Central African Republic to Burkina Faso, including northern parts of Cameroon and Benin (Wallach et al., 2014). Thus, its presence in northern Ghana would be expected.

Rhinoleptus

The cephalic scale terminology in *Rhinoleptus* requires clarification. Unlike other leptotyhlopids, its enlarged lateral head shields are oblique, and, based on the illustration by Villiers (1956), some of the stratum corneum boundaries do not correspond with the basal scale structure. The latter are more transverse than the perceived scale margins, which are directed postero-dorsally from the mouth onto the temporal region. Based on the dissociated margins, and the posterior extent of the scale margins to the rear of the cranium, I posit that the frontal is incorporated into the posterior portion of the rostral, the postero-dorsal portion of the nasal is the conjoined supraocular, and the upper, posterior thrust of the preocular is actually the conjoined ocular (Fig. 3). Villiers referred to what I consider to be the interparietal as the frontal, and stated that the ocular was small, but did not indicate its placement. The scales considered by Adalsteinsson et al. (2009) to be parietals are the occipital, and the parietals occupy the position that would be considered false supraoculars.

Figure 3: Proposed head shield terminology for *Rhinoleptus koniagui*. Dashed lines indicate conjoined s
frontal, IP = interparietal, N = nasal, Oc = ocular, P = parietal, PrO = preocular, SL = posterior supralabial
supraocular.



Rhinoleptus koniagui probably consists of more than one species. The specimen that I examined possesses a divided nostril, a moderately projecting, somewhat acuminate snout, and the posterior rostral margin is obtuse. The illustration of the holotype by Villiers (1956) lacks a nasal suture, has a strongly projecting, highly acuminate snout, and the posterior rostral margin is broad and transverse. Adalsteinsson et al. also noted that some specimens from Senegal lacked the "horn" on the rostral.

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LITERATURE CITED

ADALSTEINSSON, S.A., BRANCH, W.R., TRAPE, S., VITT, L.J., HEDGES, S.B. 2009. Molecular phylogeny, classification, and biogeography of snakes of the family Leptotyphlopidae (Reptilia, Squamata). Zootaxa 2244: 1–50.

BOULENGER, G.A. 1893. Catalogue of the snakes in the British Museum (Natural History). Volume I., containing the families Typhlopidae, Glauconiidae, Boidae, Ilysiidae, Uropeltidae, Xenopeltidae and Colubridae aglyphae, part. British Museum (Natural History), London.

BROADLEY, D.G., BROADLEY, S. 1999. A review of the African worm snakes from south of latitude 12°S (Serpentes: Leptotyphlopidae). Syntarsus (5): 1–36.

BROADLEY, D.G., WALLACH, V. 2007. A revision of the genus *Leptotyphlops* in northeastern Africa and southwestern Arabia (Serpentes, Leptotyphlopidae). Zootaxa 1408: 1–78.

BROADLEY, D.G., WADE, E.O., WALLACH, V. A new species of *Myriopholis* from Ghat Oasis, south-western Libya (Squamata: Leptotyphlopidae). Arnoldia Zimbabwe (in press).

PETERS, W.C.H. 1854. Diagnosen neuer Batrachier, welche zusammen mit der früher (24. Juli und 17. August) gegebenen Übersicht der Schlangen und

Eidechsen mitgetheilt werden. Monatsberichte der Preussischen Akademie der Wissenschaften zu Berlin 1854: 614–628.

PETERS, W.C.H. 1865. Einen ferneren Nachtrag zu seiner Abhandlung über Typhlopina. Monatsberichte der Preussischen Akademie der Wissenschaften zu Berlin 1865: 259–263.

SPAWLS, S., HOWELL, K.M., DREWES, R.C., ASHE, J. 2002. A field guide to the reptiles of East Africa. Natural World, Academic Press, San Diego.

STERNFELD, R. 1908. Neue und ungenügend bekannte afrikanische Schlangen. Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin 1908: 92–95.

VILLIERS, A. 1956. Le Parc National du Niokolo-Koba. Fascicule I. V. Reptiles. Mémoires de l'Institut Française d'Afrique Noire (48): 143–162.

WALLACH, V., BOUNDY, J. 2005. *Leptotyphlops greenwelli*, a new wormsnake of the *L. bicolor* species group from Nigeria (Serpentes: Leptotyphlopidae). Annals of the Carnegie Museum 74: 39–44.

WALLACH, V., WILLIAMS, K., BOUNDY, J. 2014. *S*nakes of the World – A catalogue of living and extinct species. CRC Press, Boca Raton.