

# Is *Psammophis sibilans occidentalis* WERNER, 1919 a junior synonym of *P. phillipsi* (HALLOWELL, 1844)?

(Squamata: Serpentes: Colubridae)

Ist *Psammophis sibilans occidentalis* WERNER, 1919  
ein Juniorsynonym von *P. phillipsi* (HALLOWELL, 1844)?  
(Squamata: Serpentes: Colubridae)

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## ABSTRACT

WERNER (1919) described a "var." of *Psammophis sibilans* which subsequent authors have ignored or synonymised with *P. phillipsi*. It is here resurrected as a valid subspecies, *P. p. occidentalis*, part of the *P. phillipsi* species complex. The syntypes are to be found in the Naturhistorisches Museum, Wien but only one is accepted as distinct from *P. phillipsi* to which the other belongs. *Psammophis p. occidentalis* ranges from Cameroon to Uganda and includes specimens some have identified as "*P. subtaeniatus sudanensis*" and others would include in *P. rukwae*. The position of FISCHER's (1856) *P. irregularis* is assessed.

## KURZFASSUNG

WERNER (1919) beschrieb eine "neue Varietät" von *Psammophis sibilans*, die von späteren Autoren entweder ignoriert oder mit *P. phillipsi* synonymisiert wurde. WERNER's Varietät ersteht in diesem Beitrag als eine valide Unterart, *P. p. occidentalis* innerhalb des *P. phillipsi* Artenkreises wieder auf. Die Syntypen von *P. sibilans* var. *occidentalis*, von denen sich aber nur einer von *P. phillipsi* unterscheidet und als solcher akzeptiert wird, befinden sich im Naturhistorischen Museum in Wien. Die Art *P. occidentalis* kommt von Kamerun bis Uganda vor und umfaßt auch Individuen, die als "*P. subtaeniatus sudanensis*" beschrieben beziehungsweise zu *P. rukwae* gestellt wurden. Die Stellung von *P. irregularis* (FISCHER, 1856) wird beurteilt.

## KEY WORDS

Reptilia, Squamata, Serpentes, Colubridae; *Psammophis*, *Psammophis sibilans occidentalis*, *Psammophis phillipsi*, *Psammophis irregularis*, taxonomy, Central Africa

## INTRODUCTION

The last comprehensive attempt at a revision of the genus *Psammophis* was by BRANDSTÄTTER (1995, 1996) who listed WERNER's (1919) *P. sibilans* var. *occidentalis* in the synonymy of *P. phillipsi* (HALLOWELL, 1844), as did LOVERIDGE (1940) in his earlier revision. LOVERIDGE, however, added the comment that, "some doubt is entertained regarding this disposition of *occidentalis* as no type was designated, the name being proposed for a color form, and the author stating that he considered a single or divided anal of no taxonomic importance in this genus, which remark makes it appear possible that he included some typical *sibilans* (LINNAEUS, 1758) material." During study of the collection in Vienna in February, 2000, one of us

(BH) chanced upon two specimens labelled as *P. sibilans* and *P. sibilans occidentalis* respectively. The writing on the labels is in the hand of EISELT (curator from 1952 until 1977) who may be the person who placed them together in the same bottle. They are not listed as types by TIEDEMANN et al. (1994). A name is needed for the distinctive marked "*P. phillipsi*" of the area from which these specimens come and we have for that reason thought them worthy of illustration and the name of rehabilitation.

BRANDSTÄTTER (op. cit.) was correct to associate these specimens with *P. phillipsi* rather than with *P. sibilans*, but they represent something distinct from the typical form of either of these species.

Museum acronyms: ANSP – Academy of Natural Sciences, Philadelphia; BMNH – Natural History Museum, London; MHNG – Muséum d'Histoire Naturelle, Genève; MNHN – Muséum National d'Histoire Naturelle, Paris; MRAC – Musée Royal de l'Afrique Centrale, Tervuren; NMW – Natur-

historisches Museum, Vienna; NMZB – Natural History Museums of Zimbabwe, Bulawayo; ZMB – Naturhistorisches Forschungsinstitut, Museum für Naturkunde, Zentralinstitut der Humboldt-Universität zu Berlin, Institut für systematische Zoologie, Berlin.

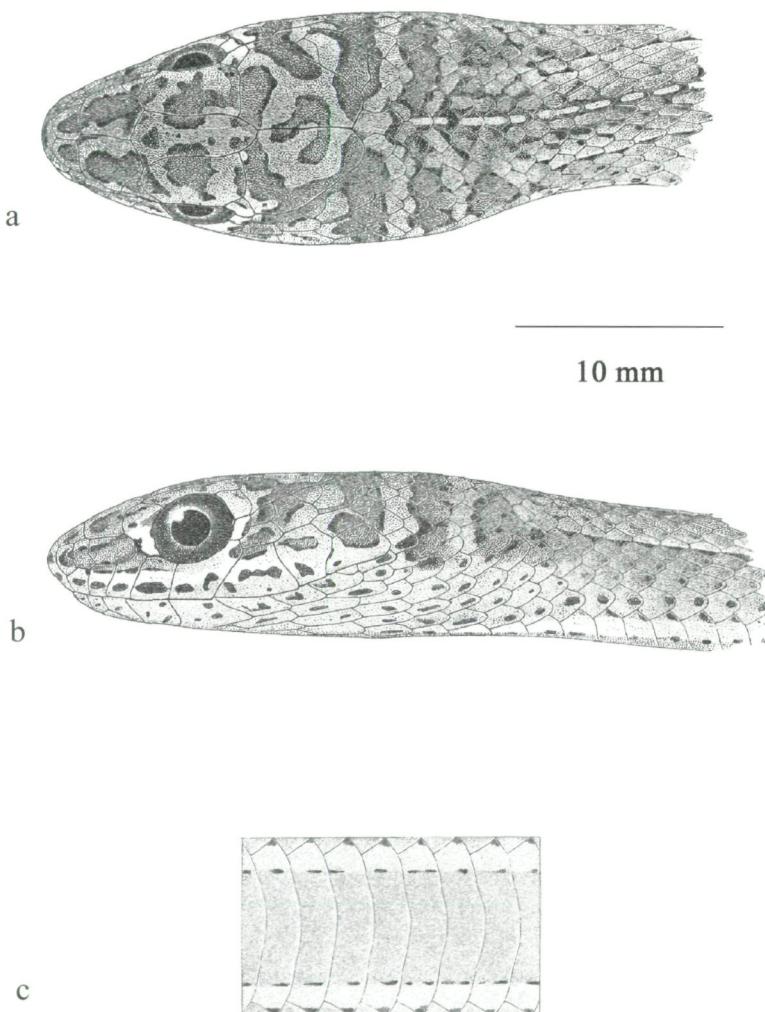


Fig. 1: *Psammophis p. occidentalis* (NMW 19245.2), head seen in a - dorsal and b - lateral views and c - the body as seen from below at the level of ventral scales 71 - 79 (anterior to the left).

Abb. 1: *Psammophis p. occidentalis* (NMW 19245.2), Kopf in a - Dorsal- und b - Lateralansicht sowie c - Ansicht der Bauchseite auf Höhe der Ventralia 71 – 79 (das Vorderende befindet sich links).

## DESCRIPTION (fig. 1)

The two specimens in the Vienna collection (NMW 19245.1-2) comprise the types of *occidentalis*. Both carry labels identifying them as “*Psammophis sibilans*” originating in the Congo, but without collector or date of collection. One (19245.2) carries an additional label identifying it as *P. sibilans* var. *occidentalis* and we hereby designate this as lectotype, the other specimen as paralectotype of *Psammophis sibilans occidentalis*. Both have a double row of black spots ventrally as described by WERNER (1919: 504), the inner row being midway across the ventral scale along the length of the animal, the outer being on the posterior margin where the ventral interdigitates with the first row of body scales. Such double row of ventral spots are known in specimens of *P. phillipsi* from Liberia (ZMB 8277), Côte d'Ivoire (MNHN 1977.496, 1990.4266, 1991.1404), Togo (ZMB 24901, 29085), Benin (MNHN 1980.1288), Nigeria (BMNH 1977.758), Cameroon (MHNG 1521.16) and “Zaire” (ZMB 13295, etc). Both have a vertebral ‘chain’ which peters out posteriorly; in the lectotype beginning behind the neck and made by black edging along the sides of the vertebral scale leaving a light brown stripe down the midlength of the scale; in the paralectotype the stripe begins immediately behind the head and black covers the hindmost part of the scale so that the light brown stripe is broken into a series of dots. Both have black vermiculations over the head and black spotting on upper and lower labials and on the sides of the neck, much as is to be found in typical *P. phillipsi*. Both have the lower labial scale

pattern most commonly found in species of *Psammophis*, namely nine labials (10 on left of type) with the first four in contact with the anterior chin shield, unlike the common pattern of *sibilans*, 10/11(5), so removing LOVERIDGE’s suspicion that this species might be represented. Both too have a divided cloacal (anal) scale and WERNER, as cited above in LOVERIDGE’s quotation, may have had in mind that typical *P. phillipsi* - which these specimens resemble in lower labial pattern and ventral and labial spotting, - possess an entire cloacal in the type area of Liberia but further east a divided cloacal predominates.

The paralectotype may be referred to *P. phillipsi* but the lectotype differs in having a dorsolateral light coloured stripe on body scales 4/5 and grey obfuscation of the ventral scales in the midline, between the inner row of black spots. Less obvious dorsolateral stripes do occur in *P. phillipsi* in Sierra Leone (BMNH 1912.12.11.1, 1953.1.2.50, 1955.1.4.12, 1979.45), Liberia (ANSP 5112), Togo (ZMB 29085), and Côte d'Ivoire (MRAC 30975); and obfuscation of the venter with grey occurs occasionally in Liberia (MNHN 1986.1807, MRAC 29424), Côte d'Ivoire (MNHN 1993.3497) but commonly and consistently in “*P. phillipsi*” from Cameroon, Central African Republic, Chad and northern Democratic Republic of the Congo (ie. “Zaire” until recently). It is intended, therefore, to use the name *occidentalis* to refer to the latter populations. Further details of the two Vienna specimens are given in table 1.

## DISCUSSION

WERNER (1919:504) writes about the varieties of *P. sibilans* under the heading “*Psammophis subtaeniatus*” although this was preceded by a section dealing with the “erkennbare Reste” of *Psammophis sibilans* from Gebel Debri, Kadugli and Tonga of which there is now no trace unless labels have been lost. But for *Psammophis sibilans*

he recognises as “forma typica” that represented by ANDERSON’s (1898) figure of the specimen from Abbasiyah, Egypt. At the present time there is in the Natural History Museum, London a specimen (BMNH 97.10.28.603) from “Abassiye, near Cairo” (BOULENGER 1896:162) which could be the same specimen that ANDERSON illustrated.

Table 1: Comparative data on the lectotypes of *P. s. occidentalis* WERNER, 1919.Tab. 1: Vergleichende Angaben zu den Lektotypen von *P. s. occidentalis* WERNER, 1919.

	NMW 19242.1	NMW 19242.2
Taxonomic status	paralectotype	lectotype
Taxonomischer Status		
Current status	<i>P. p. phillipsi</i>	<i>P. p. occidentalis</i>
Derzeitiger Status		
Sex	male männlich	female weiblich
Geschlecht		
Snout-vent length (mm)	482	365
Kopf-Rumpflänge (mm)		
Tail length (mm)	203	146+
Schwanzlänge (mm)		
Ventral count	2*+164	2*+164
Anzahl Ventralia		
Subcaudal count	94	86+
Anzahl Subcaudalia		
Body scale rows at ventral 50, 100, 150	17, 15, 13	17, 13, 13
Schuppenlängsreihen bei Ventralse 50, 100, 150		
Cloacal (ie. anal) scale	divided geteilt	divided geteilt
Anale		
Preocular + postocular	1 (notched) + 2 1 (mit Kerbe) + 2	1 (notched R°) + 2 1 (mit Kerbe R°) + 2
Praeoculare + Postocularia		
Temporals	2 + 2 + 2	2 + 1 + 2
Temporalia		
Upper labials (to eye) [largest]	8 (4,5) [6]	8 (4,5) [6]
Supralabialia (ans Auge grenzend) [größtes]		
Lower labials (contacting chin shield)	9 (4)	9 (4)
Supralabialia (Kinnchild berührend)		
contact preocular/frontal	widely separate weit getrennt	widely separate weit getrennt
Kontakt Praeoculare/Frontale		

\* - Pre-ventrals ie. "ventrals" BOULENGER (1896) and others would have counted but DOWLING (1951) not.  
Prä-Ventralia, d. h. "Ventralia", die BOULENGER (1896) und andere gezählt hätten, DOWLING (1951) jedoch nicht.

R° - right side only, not on left. Nur auf der rechten Körperseite mit Kerbe, links ohne.

If this is the same specimen, WERNER (1919: 504) is not quite correct when he writes, "Bauch ohne Längslinien oder Punktstreifen." for a hairline is represented in the posterior part of the body by a few brown specks; nor is he correct to imply that the labials of this specimen are unblemished - as they may appear in ANDERSON's figure, for clusters of speckles appear on the first and second lower labials but on the right side only. However, he is essentially correct in recognising the markings peculiar to *P. phillipsi* which would remove these specimens to the latter species rather than *P. sibi-*

*lans* with which he associated them. He did not recognise the significance of the lower labial pattern which distinguishes nominate *P. sibilans* with the first five in contact with the anterior chin shield from his (WERNER 1919:504) "varieties" *sudanensis* and *occidentalis* with four in contact. Whilst *P. occidentalis* is clearly a variant of *P. phillipsi* its preponderance within the Cameroon to Uganda area encourages us to give it formal recognition and so that data appertaining to it will not be attributed to *P. phillipsi*, we would prefer to give it specific status.

#### STATUS OF *PSAMMOPHIS IRREGULARIS* FISCHER, 1856:92

FISCHER (1856:92) based his *Psammophis irregularis* on a specimen from Peki, Ghana, which was in the Hamburg (ZMH) collection but now appears to be lost. It has

been well illustrated by JAN & SORDELLI (1870) and one is immediately struck by the extensive patch of black scales over the upper part of the body that is detailed in

their drawing. Less extensive black patches are commonly found in *P. phillipsi*, occasionally in *P. mossambicus* PETERS, 1882 and BROADLEY (pers. comm.) claims to have seen in the wild an entirely black specimen which avoided capture. Another similarity with *P. mossambicus* but dissimilarity from *P. phillipsi* is the presence of a divided cloacal (anal) scale, entire in *P. phillipsi*. The type of *P. phillipsi* is from Liberia and the occurrence of an entire cloacal scale prevails from there into Ghana but when Nigeria is reached the situation is reversed with the divided condition predominating. A divided cloacal scale is the commonplace of *Psammophis* spp., *P. p. phillipsi* and *P. notostictus* PETERS, 1867 (of South Africa) being exceptional in having entire cloacals. It would seem a simple matter to refer "*P. phillipsi*" with a divided cloacal scale to *P. irregularis* and recognise that instead of WERNER's later *P. occidentalis* as a valid species. But recognition based on a single scale feature is bedevilled by the occurrence of variation to the extent that passing from

west to east the (in %) incidence of a divided cloacal scale is as follows in the countries concerned (sample size in parentheses): Liberia 8.7 (46), Ivory Coast 10.3 (195), Ghana 21.8 (174), Nigeria 81.8 (33), and Cameroon 70.4 (27, with exclusion of specimens I attribute to *P. occidentalis*, with them included the figure is 69.4 (36)). From Ivory Coast (NMZB 5934) and Togo (ZMB 21348) are known single specimens in which the cloacal scale is half divided. Furthermore the more striking feature of *P. occidentalis* is the obfuscation of the venter and the tendency for this to concentrate laterally to form ill-defined lines. Such obfuscation does not occur in FISCHER's type of *P. irregularis* ("Kehle und Bauch gelblich weiss") and although occurring in odd individuals from West Africa it does so irrespective of the condition of the cloacal scale. Hence my preference for WERNER's more distinctive and extant type as representative of the species observed and the utilisation of the name he coined.

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