

**A NEW RECORD OF LEONARD'S PIPE SNAKE,
ANOMOCHILUS LEONARDI SMITH (SERPENTES:
UROPELTIDAE: CYLINDROPHINAE) FROM
SABAH, NORTHWESTERN BORNEO**

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ABSTRACT. - The first known Bornean specimen of Leonard's Pipe Snake, *Anomochilus leonardi* Smith, has been found in the collections of the Sabah Museum. It is also the first cylindrophine reported from Sabah. Scale counts most resemble the type specimen of *A. leonardi* from Peninsular Malaysia, although the number of midbody scales in the Sabah museum specimen is similar to *Anomochilus weberi* Lidth from Sumatra.

INTRODUCTION

Pipe snakes (Uropeltidae, Cylindrophinae) are a little known group of fossorial snakes widespread in Southeast Asia, but nowhere common. Two cylindrophines (*Cylindrophis lineatus* and *C. rufus*) are known only from Sarawak, western Borneo (Stuebing, 1991). This secretive group remains poorly represented in collections, and details of their distribution not well documented.

The discovery of a specimen of *Anomochilus* in the Sabah Museum collection furnishes significant new information on this group. No cylindrophines have been previously reported from Sabah, and this specimen is also the first record for the genus *Anomochilus* from Borneo. A description is given below.

TAXONOMY

Material.- 1 adult female (?), (SSM 2473), under grassy herbaceous layer, edge of forest, 20 m altitude, Sepilok Forest Reserve, Sandakan District, Sabah, Borneo, coll. Raymond Goh, ii.1981.

Description. - Head not distinct from neck, small, a bit smaller than end of tail. Snout blunt, slightly depressed dorsoventrally. Eye minute, lateral, approximately 4x its diameter distant from the nostril, 3x its diameter from the mouth, partially covered by preocular scale. Four supralabials, first smallest, third tallest and forming the ventral border of the orbit, fourth the longest and low. Rostral long, more than twice as long as broad, extending onto upper surface

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of snout. A single small prefrontal, rear border round. Frontal large, rear border semicircular. Nasal scale large, reaching dorsal surface of head and touching prefrontal. No separate loreal. A large preocular scale directly behind nasal, in broad contact dorsally with prefrontal and frontal. A large supraocular, two-thirds size of frontal. One postocular, larger than eye, much smaller than supraocular. A large temporal scale forming entire dorsal border of fourth supralabial, directly behind and larger than postocular. A second large temporal scale, above and behind first one, directly posterior to supraocular. A pair of slightly larger parietals behind frontal, each parietal smaller than supraocular. Five infralabials. Mental half size of first infralabial, one pair of chin shields larger than infralabials.

Dorsal scales smooth and extremely glossy, producing diffraction colors, weakly imbricate posteriorly. Ventrals not distinguishable from lateral scales; midventrals 252 to vent. Anal divided. Subcaudals 7. Scale rows (excluding the midventral row) 17-19-17. The last six vertebral scales enlarged. Total length 390 mm, tail 10 mm.

Colour in alcohol, purplish brown with conspicuous circular or oval light spots, with 14 lateral pairs (each spot covering three scales) and approx. 35 abdominal pairs (each spot covering four scales), the latter alternating in L-R positions along the body axis. Snout: dorsal side with V-shaped transverse cream-colored band immediately posterior to rostral scale. Tail with dark tip, which is <10% of tail area, the rest encircled by broad light-colored band.

DISCUSSION

The type specimen *Anomochilus leonardi* (a female; British Museum No. 1940.4.20.1) was collected in April 1940 at Sungai Ngeram, near Merapoh, Pahang at about 250 m. above sea level by G.R. Leonard (Smith, 1940). A paratype was obtained near Kuala Tahan, Pahang near the present site of the National Park Headquarters at an altitude of about 230 m a.s.l., and reported by Smith to be deposited in the Raffles Museum (present Zoological Reference Collection, Department of Zoology, National University of Singapore). Scale rows are 17:17:17, with 222 ventrals and 7 subcaudals. The type differs from the Sabah specimen only in the number of mid-body scale rows, and number of ventrals. In the Sabah specimen, head scalation is similar to the type of *A. leonardi* (although the 4th supralabial is longer in the Sabah specimen). The number of subcaudals is the same in both specimens.

The type of *Anomochilus weberi* v. Lidth de Jeude, 1891, a related species, is from "Kaju tanam", Sumatra (see De Rooij, 1917) and deposited in the Leiden Museum. Scale counts for this species are recorded as 21, with 8 subcaudals. Smith (1940), however, denoting a personal communication from L.D. Brongersma, states that the correct number of scale rows for *A. weberi* based on a re-examination of the type (by Brongersma), is 17:19:19. Smith also refers to the existence of a paratype of *A. weberi* with an identical number of scale rows, obtained at Tanangtala, Ophir District, Padang Highlands, also in Sumatra. In this paratype, the 3rd and 4th supralabials are both approximately the same height.

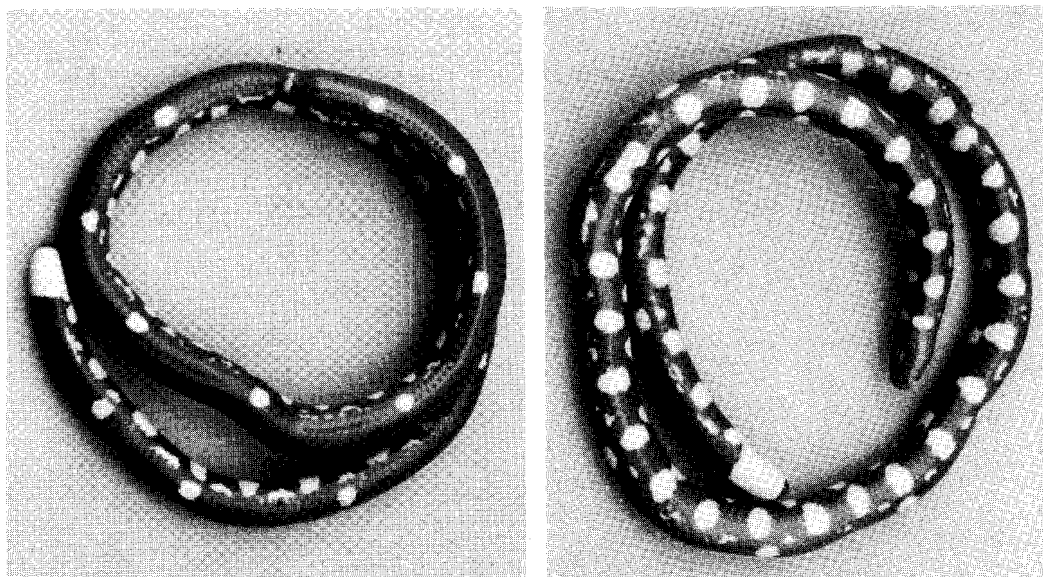
The color pattern of *A. weberi* as illustrated in De Rooij (1917) differs from that of both the type of *A. leonardi*, and that of the Sabah specimen only in having no complete light bands encircling the snout and tail, having fewer and smaller spots, and possessing a faint light line along the flanks.

Table 1. Morphometric characters of *Anomochilus* from Sumatra (*A. weberi* Lidth), Peninsular Malaysia (*A. leonardi* Smith) and Sabah Museum specimen No. NH 2473

Specimen	Scale rows	Ventrals	Character		TL/T (mm)
			Subcaudals	Supra-labials	
Sumatra ^a	21	244	8 (6 undivided)	4	-
Sumatra ^b					
(Type)*	17:19:19	242	6	-	-
(Paratype 1)	17:19:19	248	7	-	-
P. Malaysia ^b					
(Paratype 2)	17:17:17	222	7	4	228/7
(Paratype 3)	17:17:17	223	7	4	227
(Paratype 4) ^c	17	214	6	-	220
(Paratype 5) ^c	17	223	7	-	-
Sabah	17:19:17	252	7 (all undivided)	4	390/10

^a De Rooij (1917)^b Smith (1940)^c Lim and Sharef (1975) in Tweedie (1983)* Smith (1940), in regard to the type and paratype of *A. weberi*, and following communication with L.D. Brongersma of the Leiden Museum, states: "...scale counts of these specimens are as follows, and not as recorded:-".

A comparison of the Sumatran, Peninsular Malaysian and Sabah specimens of *Anomochilus* is given in Table 1. The Sabah specimen differs from the type of *Anomochilus weberi* in the

Fig. 1. *Anomochilus leonardi* (SSM 2473). Left, dorsal view; Right, ventral view.

number of posterior scale rows, midventrals, and subcaudals. Head scalation as described in De Rooij (1917) differs slightly, particularly in the size of the supralabials relative to one another (the 4th supralabial is longer and lower in the P. Malaysian and Sabah specimens). Total length could not be compared since the data was not available for *A. weberi*.

The Sabah specimen differs from the type specimen of *Anomochilus leonardi* in being larger in size, having a greater number of mid-body scale rows and ventrals. The number of subcaudals, and the pattern and number in head scalation as described in Smith (1940) is more similar to *A. weberi*, while based on head scalation, number of subcaudals and colouration, it favors *A. leonardi*. We believe that even though the Sabah specimen in scale row number most resembles *Anomochilus weberi*, less weight should be given to the scale row counts in fossorial snakes. For the present, the Sabah specimen is identified to *Anomochilus leonardi*. No firm conclusions can be drawn as to relationships between the Sumatran, Malayan and Bornean taxa until such time as a reexamination of all the existing material of *Anomochilus* can be made. The possibility remains that all three forms are conspecific.

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