

On the second specimen of *Opisthotropis rugosus* (van Lidth de Jeude, 1890) (Colubridae, Natricinae)

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(with two text-figures)

ABSTRACT.- *Opisthotropis rugosus* (van Lidth de Jeude, 1890), hitherto known from the unique holotype, is here reported after over a century, ca. 200 km north-west of the type locality. This specimen is similar to *O. typicus* (Mocquard, 1890) (type locality: Gunung Kinabalu, Sabah, Malaysia). Additional specimens of *O. typicus*, reported for the first time from Kalimantan Tengah (Borneo), south of the equator, is reported here.

Introduction

The genus *Opisthotropis* consist of about 17 species, and has a wide distribution in south-east Asia, with only the type species supposedly from Africa (Orlov et al., 1998). All species are known from only a few specimens, making it one of the least known group of snake in south-east Asia. About seven genera that have been proposed before Smith (1943) are currently in the synonymy of *Opisthotropis* Günther (1872). The Malay Archipelago has two species: *O. rugosus* (van Lidth de Jeude, 1890) from Sumatra Barat, Indonesia and *O. typicus* (Mocquard, 1890) from Sabah, Brunei, Sarawak, and Palawan in the Philippines. The Sumatran species, *O. rugosus* was described 118 years ago, and no new information has been published subsequently. The data presented on these species in David and Vogel (1998) and Iskandar and Colijn (2000) are essentially all that is known.

In September 2006, during an expedition to Batang Toru, Sumatra Utara Province, a second specimen of *O. rugosus* was acquired ca. 200 km north-west of the type locality. It was found freshly dead in the field, preserved in 10% buffered formalin, and later transferred to 70% ethanol. On a separate expedition in May 2008 to Kalimantan Tengah Province, we collected a juvenile *O. typicus*, which was found actively foraging in a slow moving stream at a heavily

disturbed primary rainforest, euthanized with oral application of lidocaine and preserved as in the previous specimen. It represents the first record of the species from the Indonesian part of Borneo. The finding of these new specimens expanded our knowledge of the natural history of two members of the genus.

Comparison has been made to the original description and *O. typicus* from Kalimantan Tengah and another specimen recently acquired from Palawan. The specimens of this study were deposited in the Museum Zoologicum Bogoriense (MZB), Cibinong, LIPI, Bogor, Indonesia (see Appendix I). Measurements were made after preservation to the nearest mm. Data on the type specimen were taken from the original description and from de Rooij (1917).

Observations and discussion

A medium-sized species, with SVL up to 430 mm; TL up to 130 mm or 30–38% of SVL; BSC 17 at midbody; ventrals 170–174; subcaudals 76–84; head not clearly distinct from neck and body; tail moderate; eye small; pupil round; nostril directed dorsally, pierced in the middle of the nasal, nostril partly or entirely divide the nasal scale, two internasals narrowed anteriorly, separated from each other or forming a suture behind rostral; rostral wider than high or as high as wide, slightly visible from above, with a deep

notch below; one pair of prefrontals, slightly broader than long; frontal about as broad as long, equal to its distance from the snout tip, shorter than the length of the suture of the parietals, about half length of parietals; one large and long loreal; a single preocular; one or two postoculars, the upper largest; 12–13 supralabials, 4th to 11th (8–12th in the type) divided at the lower part close to the mouth, 6–7 or 7–8 below the eye, prevented from touching the eye by three suboculars; 1+1 or 1+2 temporals; 10–11 infralabials, first four or five touching first pairs of chin shields, other infralabials are narrower and separated from second pairs of chin shields by one row of elongated scales; second pair of chin shields separated from each other by an elongated scale or a row of small scales; body scales in 19:17:15 rows, body scales strongly keeled and raised centrally, keel forming continuous line from behind head to tail; tail scales strongly keeled, eight longitudinal keel rows at base of tail, reducing to four rows distally; subcaudals paired or partly undivided.

Colour.— In life, eye is black; body above purplish-brown to dirty black, sides brown with no particular markings (Fig. 1). In preservative, purplish-brown fading to dark brown; venter cream, dark speckling on labials especially along the border of scales, outer margin of ventrals dark brown in specimen from Kalimantan, uniform in the specimen from Sumatra.

Ecology.— The specimen was found dead in a slow to moderate flowing stream. The habitat was similar to the ecological condition for *O. typicus* which is typically underwater beneath rocks and in rock crevices (Orlov et al., 1998; Stuart, 2006). This specimen and the holotype were collected at low altitudes. Aek Nangali is ca. 600 m asl, and Kayu Tanam is < 300 m asl. *O. typicus* was reported from lowlands as well in Borneo (Das, 1995; Stuebing and Inger, 1999). The specimen from Kalimantan was collected at ca. 100 m asl, crawling and swimming at the side of a shallow and slow moving stream. Other mainland species have been reported from fast-flowing mountain streams (Orlov et al., 1998; Stuart, 2006).

Distribution.— This species was first found at Kayu Tanam (00°32–33'S, 100°19–20'E, ca. 300 m asl), Province Sumatra Barat, which is ca. 200 km to the north-west where the second

specimen was found. It is the sole specimen known to date before we found the second specimen in North Sumatra, 118 years later.

Comparisons.— Compared to *O. typicus*, we find that colouration and pholidosis details are strikingly similar as practically all characteristics were found to be overlapping (Table 1). The only consistent differences between the Sumatran and Bornean population is the number of scale rows, 17 in Sumatran specimens and 19 in the Bornean and Palawan populations, based on our small sample. The similarities between both forms have been recognized previously (Boulenger, 1891; Mocquard, 1892). Even Mocquard already discussed the priority of *O. typicus* over *O. rugosus*. As both forms are only known at that time from the holotypes, no comments on their systematic status were made. The specimen from Palawan shows a single prefrontal and partly divided subcaudals, this last variation is also recorded in the northern Sumatran specimen of *O. rugosus*. The specimen from Kalimantan Tengah is distinct in having a low number of ventral scales and a relatively long



Figure 1. *Opisthotropis rugosus* from northern Sumatra, the arrow shows bleeding at the tail region.



Figure 2. *Opisthotropis typicus* from central Kalimantan. The arrow shows inflammation from unknown cause as under the skin only amorphous substance was observed.

tail (41% vs. 28–32%) and entire anal (Table 1), also recorded previously. It thus appears to be a matter of choice whether the Kalimantan Tengah specimen represent a distinct species or not. The three characteristics mentioned above place this specimen more distantly to both *O. typicus* and *O. rugosus*. As all these variations were reported previously (Manthey and Grossmann, 1997; Stuebing and Inger, 1999), we prefer to adopt a conservative view that the Kalimantan Tengah specimen belongs to *O. typicus*, even contradicted with our conclusion in retaining the more closely related forms *O. typicus* and *O. rugosus* as distinct. Unfortunately tissue for DNA comparison is at present only available for the Kalimantan Tengah specimen. Number of specimens available does not permit a conclusion regarding their systematic status. With only a single specimen at hand and knowing that its characteristics were mentioned in literature, the

Kalimantan Tengah specimen is at present identified as *O. typicus*.

Acknowledgements

We thank Frank Tillack and Ulrich Kuch (Germany) for providing information on the original publication of Th. W. van Lidth de Jeude and R. Mocquard. Van Wallach (USA) and P. David (Paris) supplied literature and also useful comments on the manuscript. We thank the generosity of A. Diesmos (the Philippines) in sharing data on the Palawan specimen during the visit of the first author to Singapore. This work has been done with the generous support from the Sumatran Orang Utan Foundation to the second author. The work in Central Kalimantan was sponsored by Daemeter Consultant to the first author. We thank our institution for laboratory facilities. First author's visit to Singapore was supported by the Biodiversity Grant from Min-

Table 1. Meristic data of three specimens of *Opisthotropis rugosus* compared with those of *O. typicus* collected from three separate localities.

Locality	<i>O. rugosus</i>			<i>O. typicus</i>	
	North Sumatra MZB 3791 (MK 452a)	West Sumatra (holotype)	Kalimantan Tengah MZB 3792 (KR 397)	Palawan PNM (RMB 3111)	Kinabalu (holotype)
SVL (mm)	433	343	305	475	295
TL (mm)	131	130	125	134	95
Total (mm)	564	473	430	609	390
Nasal	divided	divided	divided	divided	divided in contact
Loreal	1	1	1	1	1
Prefrontal	1/1	1/1	1/1	1 (undivided)	1/1(1)
Preocular	1	1	1	2	2
Postocular	2	1	1	1	2
Temporals	1+	1+2	1+2/1+1	1+2	1+1+2
Subocular	3/3	3/3	4/4	5/5	3/3
supralabials (below eye)	13/13 (6–7/7–8) 4–11 divided at lower part	12/12 (??) 8–12 divided at lower part	12/12 (7–8/8–9) 4–11 divided at lower part	11/11	11/11 (7–8) 3–10 divided
infralabials	11/11	10/10	9/9	8/8	-/-
Anal shield	divided	divided	single	divided	divided
Subcaudals	2/2+3+79/79 = 84/84	76–85?	87/87	5/5+4+6/6+1+2/2+1+63/63 = 82/82	95/95
BSc at midbody	17	17	19	19	19
Ventrals	174 umbilical scar 155–158	170	155 umbilical scar 140–141	181	176–184?

istry of Education, Singapore no #R-154-000-270-11 2.

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APPENDIX I

Opisthotropis rugosus (van Lidth de Jeude, "1891" 1890). MZB.Oph.3791 (field number MK 452a), an adult male, from Aek Nangali (0°37'32"N; 99°26'27"E at 600 m asl), Village Batang Natal, Kecamatan Mandailing Natal, Kabupaten Tapanuli Selatan, Province Sumatra Utara, by M. Kamsi, 15 September 2006.

Opisthotropis typicus (Mocquard, 1890). MZB. Oph.3792 (field number KR 397), a young female from a small tributary of Sungei Beriwit (00°21.569'S; 114°50.981'E at 108 m asl), part of the Sungei Barito Basin, central Kalimantan, by D. T. Iskandar, 20 May 2008. PNM (field number: RMB 3111) from Palawan, the Philippines.

Received: 28 October 2008.

Accepted: 4 January 2008.