

## ***Gerarda prevostiana* (Eydoux and Gervais, 1837) (Squamata: Serpentes: Homalopsidae), a New Snake for Borneo**

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**Abstract** A new record of the homalopsid snake, *Gerarda prevostiana* is presented from a mangrove-dominated patch in the vicinity of Kampung Bako, Sarawak, East Malaysia, and this comprises the first published record from the Sundaic Island of Borneo. A possible second locality for the species is a ca. 6.68 km site to its northeast, Kampung Buntal, based on an unlocated museum specimen. The species is widespread in mainland Southeast Asia, with additional records to the west (the Indian Subcontinent) and east (the Philippines Archipelago), but was previously unrecorded from the islands of the Sundas. The secretive habits of the species, including the occupancy of mud lobster (*Thalassinia* spp.) mounds in mostly inaccessible, swampy habitats may be a reason for its perceived rarity and few published records.

**Keywords** *Gerarda prevostiana*, serpentes, Squamata, Homalopsidae, Borneo, new record

*Gerarda prevostiana* was described as *Coluber (Homalopsis) prevostianus* Eydoux & Gervais (1837), based on a specimen (currently untraced) from “Manille” (= Manila, 14°37' N, 120°58' E, Luzon, Philippines). Its dietary habits, unique amongst snakes, include tearing out bite-sized pieces of recently molted crabs (Murphy, 2007). The species has been described as secretive, and is known from isolated localities following the coastline in the Indian Subcontinent, as far west as Gujarat, extending east through coastal Sri Lanka, Myanmar, Thailand, the Malay Peninsula and Sumatra, and also the Philippines (Tweedie, 1983; Murphy, 2007). It has not been reported in the literature from Borneo (Das, 2012).

On 16 October 2012, at 22:10 h, an adult *G. prevostiana* (snout-vent length 335 mm, tail length 48.5 mm; UNIMAS 9396; Figures 1–3) was collected from an asphalt road through a patch of mangroves dominated by the Nipa palm, *Nypa fruticans*, in the vicinity of Kampung Bako (01°40'22" N, 110°26'33.5" E; datum

WGS 84; Figure 4), Kuching Division, Sarawak, East Malaysia. It was photographed in life, euthanised, and fixed in formalin after removal of a tissue sample for future molecular work, which was preserved in 70% ethanol, and accessioned with the collection of UNIMAS, Kota Samarahan.

Abbreviations and conventions include: BW (body width, width at middle of body), DSR (dorsal scale rows, from head to vent), HL (head length, distance between snout tip and angle of jaws), HW (head width, across gape), SVL (snout-vent length), TL (tail length), and UNIMAS (Universiti Malaysia Sarawak), museum of the Institute of Biodiversity and Environmental Conservation, Kota Samarahan, Sarawak, Malaysia. Additionally, ‘/’ separates a scale count on the left and right sides of the body.

The morphology agrees well with the descriptions of *G. prevostiana* given by Gyi (1970) and Murphy (2007): body moderately elongate, cylindrical; scales smooth; parietals well developed; anterior genials larger than posterior ones; midbody scale rows 17; ventrals broad, lacking keels; tail short, terminating in a sharp tip; subcaudals divided; anal divided; maxillary teeth followed by two enlarged, recurved teeth posteriorly, mandibular

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**Figure 1** Dorsolateral view of body of *Gerarda prevostiana* (Eydoux & Gervais, 1837) (UNIMAS 9396).



**Figure 2** Ventrolateral view of body of *Gerarda prevostiana* (UNIMAS 9396).

teeth subequal; eyes small, situated dorsally, with vertical pupil; head slightly distinct from neck; forehead scales large; nasals separated by an internasal; nostril located in nasal; dorsum unpatterned grey, with a yellowish-cream stripe from the labials to tail tip; supralabials and infralabials edged with grey; rostrum dark grey; venter of body, including ventrals and the lowest three rows of dorsals that are yellowish-cream, each scale with a brownish-grey midventral stripe, each ventral scale edged with dark grey; and subcaudals dark grey.

**Pholidosis:** Loreal 1; preocular 1; postoculars 2; ventrals 141; subcaudals 32 (paired); DSR 19:17:13; anals 2; supralabials 8/8, supralabial IV suborbital; and infralabials 8/8 (I–IV contact anterior genial).

**Measurements:** SVL 335 mm; TL 48.5 mm; HL 11.4 mm; HW 9.2 mm; and BW 10.6 mm.

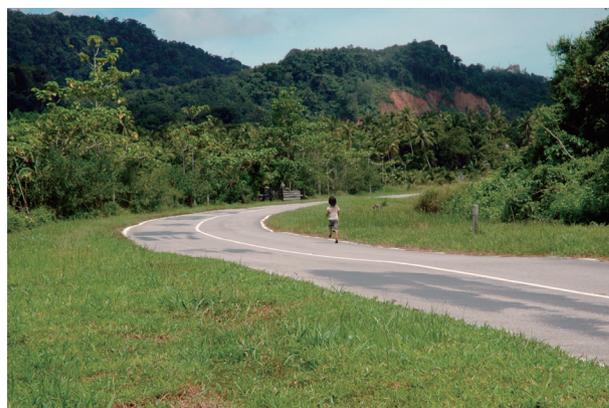
**Habitat:** The snake was found at night, crossing a road adjacent to a patch of mangrove forests dominated by *N. fruticans* in the proximity of Sungei Bako, in the vicinity of Kampung Bako (Figure 4), Kuching Division, western

Sarawak, East Malaysia (northwestern Borneo). The forest floor shows an abundance of mud lobster (*Thalassinia* spp.) mounds. An earlier specimen was accessioned in the Sarawak Museum collection, SM cd.5.31.2.1 by Robert Walter Campbell Shelford (1872–1912), former Curator of the Sarawak Museum. It was collected in April 1903 by J. E. A. Lewis, Pro tem Curator (1888–1902) of the Museum, from “Buntal”, according to the Sarawak Museum herpetological register. This locality corresponds to Kampung Buntal (02°30' N, 112°30' E), also in Kuching Division, and is situated ca. 6.68 km to the northeast of the Bako locality (linear distance between the localities estimated using <http://www.movable-type.co.uk/scripts/latlong.html>). Buntal is currently a Malay fishing village, at the edge of mangrove forest fragments. The Sarawak Museum specimen cannot be located at present. These records, nonetheless, suggest that the species may occur in other suitable habitats along northern Borneo, and possibly elsewhere on the island.

Borneo has a long history of research on snakes,



**Figure 3** Head and neck in lateral view of *Gerarda prevostiana* (UNIMAS 9396).



**Figure 4** Collection locality of *Gerarda prevostiana* near Kampung Bako, Kuching Division, Sarawak, East Malaysia.

starting with the early checklists and including contemporary checklists and field guides (e.g., Das, 2012). However, there are no published records of *G. prevostiana* from the island, nor any other islands of the Greater Sundas (Murphy, 2007). One reason for the absence of records and the apparent rarity of this species within its overall distribution range may be due to its difficult-to-sample mangrove habitats. Here, they appear to co-occupy mounds of mud lobsters, *T. anomala* and *T. gracilis* (Murphy, 2007), that also form part of their diet. Another factor may be the confusion with phenotypically similar homalopsids (including *Fordonia leucobalia*, and perhaps even with *Enhydris*) and the imprecise habitat data in older literature (e.g., "...along sea coasts and in tidal rivers": Tweedie, 1983).

The current discovery of this snake emphasizes the need for collection-based research, so as to expand our knowledge of the biological diversity of Borneo.

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## References

- Das I.** 2012. Naturalists' guide to the snakes of south-east Asia. London: Beaufoy Books, 160 pp
- Gyi K. K.** 1970. A revision of colubrid snakes of the subfamily Homalopsinae. Univ Kansas Publ Mus Nat Hist, 20: 47–223
- Murphy J. C.** 2007. Homalopsid snakes: Evolution in the mud. Malabar, Florida: Krieger Publishing Company, viii + 249 pp
- Tweedie M. W. F.** 1983. The snakes of Malaya. 3<sup>rd</sup> edition. Singapore: Singapore National Printers (Pte) Ltd. (6) + 167 pp