
A COLLECTION OF SEA SNAKES FROM
PORT SWETTENHAM, SELANGOR AND TUMPAT,
KELANTAN¹

by

LIM BOO LIAT² AND E. BALASINGAM³

MUSEUMS DEPARTMENT, STATES OF MALAYA
KUALA LUMPUR

A COLLECTION OF SEA SNAKES FROM PORT SWETTENHAM, SELANGOR AND TUMPAT, KELANTAN¹

by

LIM BOO LIAT² AND E. BALASINGAM³

The sea snakes (Hydrophiidae) have a number of distinctive morphological features which include the reduction or complete degeneration of the ventral shields and a laterally flattened tail like the blade of an oar. All of them are venomous, having poison fangs situated anteriorly in the upper jaw.

The sea snakes known to inhabit Malaysian waters consist of more than 20 species belonging to 12 genera. Tweedie (1957) grouped these in two subfamilies, the Laticaudinae, with *Laticauda colubrina* and *Aepyurus eydouxii*, and the Hydrophiinae, comprising all other species. With the exception of *Hydrophis*, all genera of sea snakes in local waters are represented each by a single species.

In Malaysia, sea snakes are an occasional hazard to fishermen and bathers. A number of fatal cases of sea snake bite have been reported in the past from Penang and other coastal towns (Reid, 1963). Antivenine is available for the treatment of these bites, and the chances of recovery (if treated in time) are good (Reid, 1963).

The present paper is primarily concerned with morphological, taxonomic and distributional studies of the snakes collected. Data on parasitic infestation will be discussed in a separate paper (in preparation).

MATERIALS

A total of 127 sea snakes were collected in the sea off Tumpat, Kelantan, and Port Swettenham, Selangor. They were obtained from fishermen who catch them in their nets along with the fish. The snakes were in the first instance transferred to sea water in suitable containers, and later maintained in the laboratory in earthenware jars containing 2 percent saline. Each snake was killed with chloroform, weighed and measured. Careful count was made of the scalation

¹ This work was supported in part by the SEAMEC training and developing grants with research grant M-02 from the Central Co-ordinating Board, Tropical Medicine of SEAMEC.

² Division of Vertebrate Zoology and Bio-medical Museum, Institute for Medical Research, Kuala Lumpur, Malaysia.

³ School of Biological Sciences, University of Malaya, Kuala Lumpur, Malaysia.

of each specimen, and a thorough search conducted for all ectoparasites and helminth internal parasites, as well as blood parasites. Other observations including sex and stomach contents were also made. The order of names in the text follows Tweedie (1957).

RESULTS

In all, five species of sea snakes belonging to three genera (*Hydrophis*, *Lapemis* and *Enhydrina*) were obtained from the two areas.

Hydrophis cyanocinctus Daudin: 6 ♂♂ and 12 ♀♀ from Tumpat, Kelantan, were examined. They ranged from 145–203 cm in length.

Ventrals 298–395. Scales in 27–35 rows on the neck and 36–48 on the body. 7 upper labials, 3rd and 4th touching the eye. One preocular and one postocular, and two anterior temporals. Loreal absent.

The coloration of these specimens agrees with that of Tweedie (1957, p. 110). Slight differences were, however, observed in the number of ventrals, neck and body scales.

Four stomachs contained fish and one contained 3 shrimps. The rest were empty.

Hydrophis torquatus aagardi Smith: 18 ♂♂ and 16 ♀♀ were collected near Tumpat, Kelantan. The snakes measured from 74–130 cm long.

Ventrals 285–348. Scales in 31–38 rows in the neck and 41–47 on the body. Dorsal scales keeled, ventrals smooth. 7 upper labials, 6th and 7th reduced and 3rd and 4th touching the eye. One preocular and one postocular. Anterior temporals large. Loreal absent.

Except for minor morphological differences, the specimens agree with material studied by Tweedie (1957, p. 113). He described 55–68 dark bands in his specimens whereas the present collection indicates that the range could be greater, 48–76 bands. Similar numerical differences have also been observed in ventrals, neck and body scales. However, it must be noted that all the specimens examined by Tweedie were from the coast of Patani while the material examined in the present study came from Tumpat, Kelantan.

The stomachs of 3 specimens contained fish. Four other stomachs contained yellowish green materials, presumably sea-weed. One contained 6 shrimps, and the remaining stomachs were empty.

Hydrophis fasciatus fasciatus (Schneider): A single specimen was collected in Port Swettenham waters, Selangor. It measured 81 cm long.

Ventrals 476. Scales in 26 rows on the neck and 40 on the body. Scales hexagonal and slightly keeled. 7 upper labials, 6th and 7th reduced, 3rd and 4th touching the eye. One preocular on either side. One postocular on the left and two on the right. A single large anterior temporal on each side. Loreal absent.

The specimen agrees with Tweedie's description (1957, p. 113), except that the head was dark red in colour. Tweedie also made no mention of the 25 grey cross-bands present on the body of the species. The scale rows on the neck and body of the specimen falls below the range of scale counts in Tweedie's specimens, but is within the range of Boulenger's description (neck 28-31, body 40-48). According to fishermen, *H. f. fasciatus* is not common near Port Swettenham.

The stomach of this snake was empty.

Lapemis hardwicki Gray: 73 specimens of this snake consisting of 17 ♂♂ and 56 ♀♀ from Port Swettenham were examined. They measured from 36-91 cm long.

Ventral 134-304, scales in 25-36 rows on the neck and 29-42 on the body. Dorsal scales small, hexagonal and slightly juxtaposed. Of the 73 specimens examined, 34 have smooth dorsal scales while in others the scales are slightly keeled. Ventral scales slightly larger than dorsal. 7 upper labials, 6th and 7th reduced, 3rd and 4th touching the eye. In two of the 73 specimens studied, a small triangular interstitial scale between 3rd and 4th upper labials was observed. One preocular and one postocular. A single anterior temporal on each side. Loreal absent.

The coloration of the specimens examined agrees with Tweedie (1957, p. 115), excepting minor variations in the number of dorsal darkish bands on the body. This species is very common in the sea around Port Swettenham, Selangor.

It was interesting to observe that barnacles were attached to 7 of these snakes.

The stomachs of 16 were found to contain fish, 12 yellowish green materials, presumably sea-weed, and one the remains of shrimps. The rest were empty.

Enhydrina schistosa (Daudin): A single female 119 cm long, was collected from Port Swettenham, Selangor.

Ventrals 338. Scales in 46 rows on the neck and 60 rows on the body. Scales strongly keeled. 8 upper labials, 5th to 7th reduced, 4th touching the eye. One preocular, one postocular and a single large anterior temporal. Loreal absent.

The most characteristic feature of *E. schistosa* is the anteriorly produced rostral—giving a beak-like appearance to the mouth. There is also a deep groove under the chin. These morphological peculiarities are not found in any other species of Malaysian sea snakes.

According to Tweedie (1957, p. 108) *E. schistosa* is the commonest sea snake in Malaysian waters and is also the usual cause of sea snake bites locally.

The stomach of this snake contained fish.

SUMMARY

A total of 127 specimens of sea snakes representing the genera *Hydrophis*, *Lapemis* and *Enhydrina* were obtained from the vicinity of Tumpat, Kelantan, and Port Swettenham, Selangor. *Hydrophis torquatus aagardi* is common in the sea near Tumpat, as is *Lapemis hardwicki* in Port Swettenham waters. *Enhydrina schistosa* is apparently uncommon at both localities.

Previous descriptions of the external appearance of *H. torquatus aagardi*, *H. f. fasciatus* and *L. hardwicki* are amended by reference to the present collection.

Stomach contents revealed that most of these snakes fed primarily on fish; a few *L. hardwicki* and *H. torquatus aagardi* had also taken shrimps and apparently, unidentified sea-weed.

Acknowledgements

We are grateful to Mr. Yew Kim Swee, Cargo Handling Corporation of Port Swettenham for arrangements to obtain the sea snakes, and to Mr. M. Krishnasamy, staff of the Vertebrate Zoology Division, for help in the laboratory work, and to the Director, Dato (Dr.) Abu Bakar bin Ibrahim, Institute for Medical Research, Kuala Lumpur, for permission to publish this paper.

References

- BOULENGER, G.A., 1912. *A vertebrate fauna of the Malay Peninsula from the Isthmus of Kra to Singapore including the adjacent islands: Reptilia and Batrachia.* i-xii, 294 pp., 79 figs., 1 map. London: Taylor and Francis.
- TWEEDIE, M.W.F., 1957. *The snakes of Malaya.* 2nd edn. 143 pp., 29 figs., 16 pls. frontispiece. Singapore: Government Printing Office.
- REID, H.A., 1963. Snakebite in Malaya. In *Venomous and poisonous animals and noxious plants of the Pacific Region.* A symposium volume from the proceedings of the 10th Pacific Science Congress. Pergamon Press, p. 355-362.