

ON THE OCCURRENCE OF THE NARROWHEADED SEVENGILL SHARK,  
*HEPTRANCHIAS PERLO* (BONNATERRE, 1788) (CHONDRICHTHYES :  
HEXANCHIDAE) IN INDIAN WATERS

L. J. V. COMPAGNO,  
*Tiburón Centre for Environmental Studies,*  
*San Francisco State University,*  
*Tiburon, California 94924*

AND

P. K. TALWAR,  
*Zoological Survey of India,*  
*Calcutta-700 016*

ABSTRACT

The narrowheaded sevengill shark, *Heptranchias perlo* (Bonnaterre, 1788) is recorded for the first time from Indian waters, based on eight specimens collected by the junior author off the south-west coast of India. Diagnostic characters of the specimens and an illustration of an Indian specimen, are given.

INTRODUCTION

On March 3-4, 1971 the junior author collected eight specimens of a hexanchid shark off Quilon in Kerala, India. This species was found to be very common on rocky bottom in water 300 m. deep, and, following Misra (1969), was identified as *Heptranchias indicus* (Agassiz). The eight specimens were catalogued as ZSI F6554/2 in the Fish Collection of the Zoological Survey of India.

Agassiz (1835) described *Notidanus indicus* from jaws and teeth, with the indefinite type locality "Indes Orientales". Day (1878, as *Notidanus indicus*) mentioned a record of this shark from off Madras, based on a stuffed specimen deposited in the British Museum (Natural History). Agassiz's and Day's specimens, and the species *N. indicus*, are quite evidently referable to the genus of

broadnosed sevengill sharks, *Notorynchus* Ayres, 1855. Bass, D' Aubrey and Kistnasamy (1975) synonymised *Notidanus indicus* with the wide-ranging *Notorynchus cepedianus* (Peron, 1809). We know of no recent records of broadnosed sevengill sharks (*Notorynchus*) from Indian waters and no material of these sharks are available in the collections. Misra (1969) in the *Fauna of India* apparently followed Day's account in giving a description of *Heptranchias indicus*.

Reexamination of the specimens catalogued as ZSI F6554/2 revealed that they represent the first Indian records of the narrowheaded sevengill shark, *Heptranchias perlo* (Bonnaterre, 1788). The specimens include 6 males, 275-293 mm in total length, and 2 females, 304-330 mm in total length; all are freelifving, immature specimens, close to the size at birth of the species (about 260 mm, according to Bass *et al.*, 1975).

Detailed accounts of *Heptranchias perlo* are available in Bigelow & Schroeder (1948), Garrick & Paul (1971) and Bass *et al* (1975), so that we do not include a detailed description here. We do, however, provide an illustration of an Indian specimen, a female 330 mm (Fig. 1) and list the diagnostic characters of the specimens for field identification.

***Heptranchias perlo* (Bonnaterre)**  
(Fig. 1)

*Squalus perlo* Bonnaterre, 1788, *Tableau Encyclop. Ichth.* : 10 (type-locality : Mediterranean).

*Heptranchias indicus* (*nec* Agassiz) Talwar, 1974, *J. mar. biol. Ass. India*, 14 (2) : 779 (name only).

**Diagnostic Characters :**

- (1) Seven pairs of lateral gill openings
- (2) a single, small, narrow-based spineless

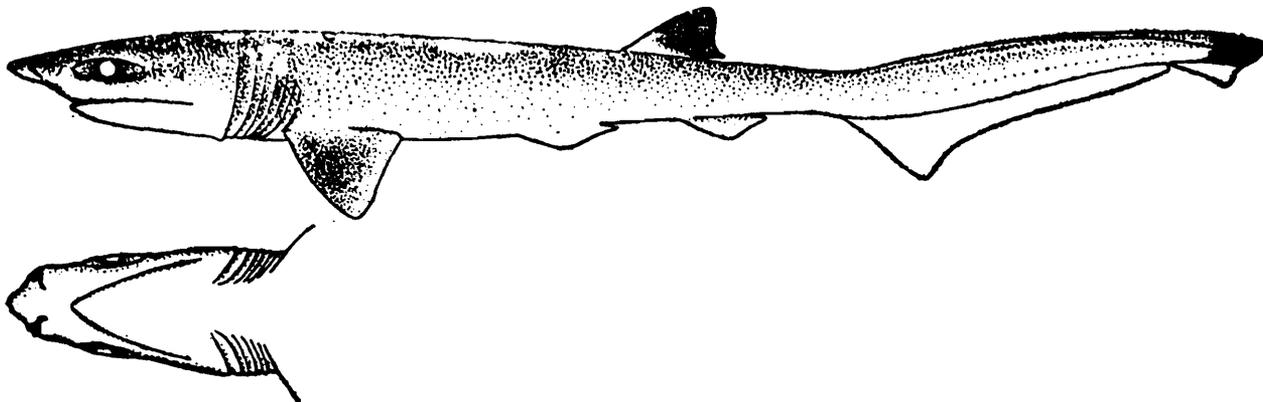


Fig. 1. *Heptranchias perlo* (Bonnaterre), a 330 mm mature male from off the south-west coast of India.

dorsal fin, separated from the upper caudal origin by a space much greater than its base length (3) a pointed, narrow head (4) a narrow angular mouth (5) large eyes (6) long low-rooted lower teeth with a prominent cusp and several abruptly lower cusplets behind it (7) a slim body (8) plain colouration with black spot on dorsal fin and upper caudal lobe (especially prominent in young)

(9) relatively small size, adults generally not exceeding 1.5 m.

**REMARKS**

The only other shark in Indian waters with a single dorsal fin and seven pairs of gill-openings is the broadnosed sevengill shark *Notorynchus cepedianus* (Peron, 1807) (= *Heptranchias indicus*). *N. cepedianus* has a broader-based dorsal fin, separated from the upper caudal origin by a space little greater than its base length, a broadly rounded to broadly pointed head, a broadly arched mouth, short and high rooted lower teeth with cusplets not abruptly smaller than the low cusp, a stout body, no black tips on fins but often scattered small black spots on body and fins, and much larger size, to about 3 m. To our knowledge there have not been additional records of *Notorynchus cepedianus* from India since Day's (1878)

account. In other areas where this species occurs it shows a marked preference for cold to warm temperate waters (as off South Africa and on the west coast of North America). This makes us wonder if, in the absence of additional records of *N. cepedianus* from Indian waters, Day's record was based on a specimen with erroneous locality data, and that the species may not occur off India.

Sixgill sharks, *Hexanchus*, have not been recorded in India to date but are known to occur in the nearby Indian Ocean (see Bass *et al*, 1975); they could be expected to occur in the continental slope waters off India. The two species, *H. griseus* (Bonnaterre) and *H. nakamurai* Teng, 1962 (= *H. vitulus* Springer & Waller, 1969) are wide ranging. *H. griseus* is a heavy bodied shark more resembling *Notorynchus cepedianus* while *Hexanchus nakamurai* is a slim shark more resembling *Heptranchias perlo*, but both *Hexanchus* have only 6 pairs of lateral gill openings.

*Heptranchias perlo* is currently not utilized by the Indian shark fishery but may become important with the expansion of that fishery on the upper continental slope.

#### ACKNOWLEDGEMENTS

The authors are grateful to Dr. B. K. Tikader, Director, Zoological Survey of India, Calcutta, for facilities.

#### REFERENCES

- AGASSIZ, L. 1835. Recherches sur less poissons fossiles. Vol. 3.
- BASS, A. J., D'AUBREY, J. D. AND KISTNASAMY, N. 1975. Sharks of the east coast of southern Africa. V. The families Hexanchidae, Chlamydoselachidae, Heterodontidae, Pristiophoridae and Squatinidae. *Oceanogr. Res. Inst. Durban Invest. Rep.*, (43) : 1-42.
- BIGELOW, H. B. AND SCHROEDER, W. C. 1948. Fishes of the western North Atlantic. Part I. Lancelets, Cyclostomes and Sharks. *Mem. Sears Fdn. mar. Res.* : 1-576.
- DAY, F. 1875-1878. *The Fishes of India* : being a natural history of the fishes known to inhabit the seas and freshwaters of India, Burma and Ceylon. Taylor & Francis, London. 779 pp. (Issued in 4 parts—for dates see Whitehead and Talwar, 1976).
- GARRICK, J. A. F. AND PAUL, L. J. 1971. *Heptranchias dakini* Whitley, 1931, a synonym of *H. perlo* (Bonnaterre, 1788), the sharpsnouted sevengill or perlon shark, with notes on sexual dimorphism in the species. *Zoology Publ., Vict. Univ. Wellington*, (54) : 1-14.
- MISRA, K. S. 1969. *The Fauna of India and the adjacent countries*. Pisces (2nd ed.), Vol. I. Manager of Publications, New Delhi. 300 pp.
- WHITEHEAD, P. J. P. AND TALWAR, P. K. 1976. Francis Day (1829-89) and his collections of Indian fishes. *Bull. Br. Mus. nat. Hist. (Hist. Ser.)*, 5 : 1-189.

