



**On a Smooth Hammerhead Shark, *Sphyrna zygaena*
(Linnaeus, 1758) New to Indian Waters**

A mature female smooth hammerhead shark, *Sphyrna zygaena* (Linnaeus), 214 cm TL (Table I) was collected on 6-10-1975 from the hook and line fishing operated from the mechanised vessels off Porto Novo at a depth of 80-90 meters. Since hammerheads are identified from the shape of head and teeth structures only, the head has been preserved in the museum of the Marine Research Laboratory of Annamalai University, Porto Novo. No previous record of this species in Indian waters is available and so the present observation is of interest.

Range.—*S. zygaena* has been observed only in cooler waters of northern and southern Hemispheres (Gilbert¹, Map 2) being reported to occur in the U.S., Europe, Japan and Red Sea in the northern hemisphere and South America, South Africa, Australia and New Zealand in the southern Hemisphere. The present observation extends its distributional record to Indian waters.

Remarks: No previous record of *Sphyrna zygaena* has been made in Indian waters so far. Day² described *Cestracion zygaena* from the Malabar coast which he³ later named as a junior synonym of *Zygaena malleus*. Fowler⁴ and Misra⁵ synonymised *Z. malleus* under

TABLE I

Morphometric characters of a female Sphyrna zygaena expressed as per cent of TL

Head width	26.3
Snout to 1st gill slit	16.8
pectoral	19.9
pelvic	46.5
Eye diameter	1.5
Between dorsal bases	28.3
nares	20.9
Mouth width	7.4
1st dorsal base	9.2
height	12.9
2nd dorsal base	3.1
height	1.9
Anal base	4.5
height	2.2
Pectoral base	6.2
length	16.8
Caudal upper lobe	26.8
lower lobe	14.2

S. zygaena but Day's *Z. malleus* clearly shows the median indentation on the anterior margin of head which is characteristically absent in *S. zygaena*.

The distribution of this species was reported to be continuous during pleistocene glacial periods when equatorial waters were cooler than at present but when the glaciers withdrew and the tropical seas became warmer, this species was supposed to be confined to the cooler waters (*vide* Gilbert¹). It is interesting that this species was landed in October during the north-east monsoon time when the sea water is generally cooler.

We thank Dr. A. J. Bass of National Museum, Wellington, New Zealand, and Dr. P. K. Talwar of the Zoological Survey of India, Calcutta, for their help and the University Grants Commission for financial support.

Centre of Advanced Study
 in Marine Biology,
 Annamalai University,
 Parangipettai 608 502,
 November 11, 1976.

P. DEVADOSS.
 R. NATARAJAN.

-
1. Gilbert, C. R., "A revision of the hammerhead sharks (Family: Sphyrnidae)," *Proc. U.S. natn. Mus.*, 1967, **119** (3539), 31.
 2. Day, F., *The Fishes of Malabar*, London, 1865, p. 270.
 3. —, *The Fishes of India*, 1 and 2. William Dawsons and Ltd., 1878, p. 719, pl. 186, figure 4.
 4. Fowler, H. W., "Contributions to the biology of the Philippine archipelago and adjacent region," *Bull. U.S. natn. Mus.*, 1941, **13** (100), 217.
 5. Misra, K. S., "An aid to the identification of the common commercial fishes of India and Pakistan," *Rec. Indian Mus.*, 1959, **57**, 96.
-