

On the occurrence of fish remains from the Quilon beds of Kerala Coast

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Introduction

The paper records the occurrence of *Sphyrna diplana* (cartilaginous fish) and *Cybium* sp. (bony fish) from the Quilon Beds (Miocene) exposed near Edvai along the Kerala Coast. The record is based on the reported occurrence of fossil sharks by Jain and Kar (1979). After publication of the above report the type specimens were examined by the present author for assigning their systematic position. The type specimens could only be examined by the courtesy of Director, Birbal Sahni Institute of Palaeobotany, Lucknow. They are presently housed in the repository of the Institute.

Systematic Palaeontology

Class : CHONDRICHTHYES
Subclass : ELASMOBRANCHII
Order : SELACHI
Suborder : GALEOIDEA
Family : SPHYRNIDAE
Genus : *Sphyrna* Rajinesque, 1810
Sphyrna diplana Springer, 1941
Fig. 1 (a) and (b)

The tooth is of medium size and triangular in shape. The crown is slightly oblique towards its anterior margin. The height of the crown is nearly equal to the width of the root. Both the margins of crown are sharp and smooth but the anterior margin of the crown is slightly wavy towards its base (Fig. 1a). The internal surface of the crown is strongly convex while the external surface is moderately convex. The root is low and wide and strongly convex on its internal surface but flat on its external surface (Fig. 1b). It is bifurcated by a deep median furrow. The elongated lateral branches of the root are with slightly convex basal margins.

Remarks : First authentic report of *Sphyrna* from the Indian subcontinent was made by Mehrotra *et al.* (1973). They described *Sphyrna diplana* and *Sphyrna zygaena* from the Miocene sediments of Baripada on the east coast and Kutch on the west coast. This report of *Sphyrna diplana* from the Quilon Beds (Miocene) of the west coast suggests that the shark flourished well in the Arabian Sea all along the west coast of the Indian subcontinent during the Miocene period.

Class : OSTEICHTHYES
Subclass : ACTINOPTERYGII
Superorder : TELEOSTI
Order : OSTARIOPHYSI
Suborder : SCOMBROIDEI
Family : SCOMBRIDAE
Genus : *Cybium* Cuvier, 1829

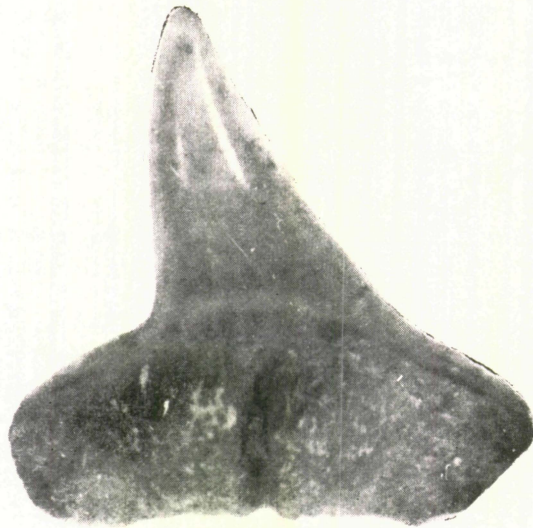


Figure 1a. *Sphyrna diplana* Springer, Internal surface $\times 8$.

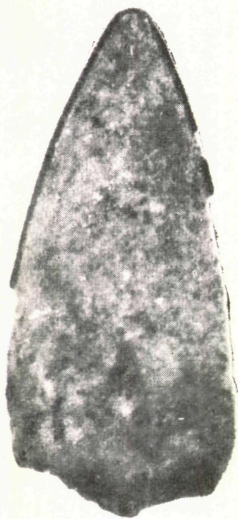


Figure 2. *Cybium* sp.
Internal surface $\times 6.5$.

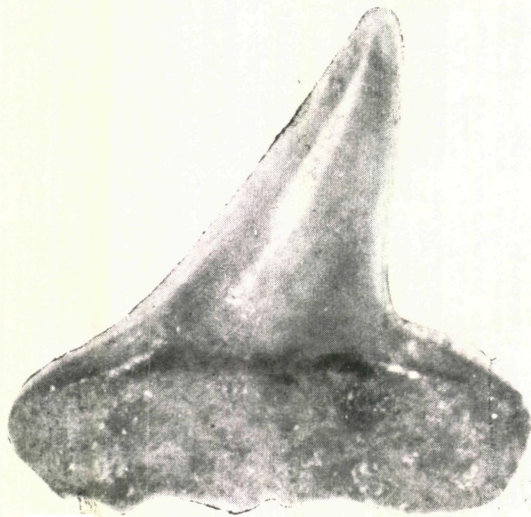


Figure 1b. External surface $\times 8$.

Cybiium sp.

(Fig. 2)

The tooth is of medium size, symmetrically conical and laterally compressed. The lateral margins of the crown are sharp bearing very fine serrations. The height/width ratio of the tooth is nearly three. The surface of the crown is rough and bears fine longitudinal serrations. The pulp cavity is absent. Basal section of the crown is incompletely preserved which on its reconstruction suggests it to be of hexagonal shape bearing affinity with *C. serraheiroi* described from the Miocene of Portugal.

Remarks. It is interesting to note that prior to this report only two reports of fossil *Cybiium* sp. (Sahni and Misra, 1975) and *Cybiium biconvexa* (Mehrotra, 1981) are available from the Indian subcontinent and significantly including the present one, all the reports are from the west coast. There is no report of fossil *Cybiium* yet known from the east coast, although four species of *Cybiium* flourish presently in the Bay of Bengal and Arabian Sea.

Besides, fossil reports of *Cybiium* are available only from the Miocene Beds of Portugal and Italy (Jones, 1967) and Eocene of Nigeria (White, 1926) and there are no records available from New Zealand and Australia. Detailed studies have to be carried out to decipher the migratory route of *Cybiium* during the Tertiary.

	Height of Tooth	Width of Tooth	Height of Crown	Width of Crown
<i>Sphyrna diplana</i>	8	8	6	3
<i>Cybiium</i> sp.	—	—	10	5

Measurements in Millimetres.

Age. On the basis of these two isolated fish teeth the specific age of the Quilon Beds (Plastic Clay bed) is difficult to assign. However, the presence of *Cybiium* along with typical *Sphyrna diplana* suggests a Lower Miocene age.

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