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## A new lamellated pen shell *Atrina lamellata* habe, 1961 (Family: Pinnidae) (Barnes, 1987) off Thoothukudi coast of Gulf of Mannar, India (08° 35' 22.5" N 78° 27' 40.9 E) – (310 m)

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### Abstract

New records of Pinnidae off Thoothukudi coast of the Gulf of Mannar, southeast coast of India and reported. *Atrina lamellata* Habe, 1961 is recorded from Thoothukudi coast of Gulf of Mannar, southeast coast of India. The *Atrina lamellata* species were reported in depth of 310 m as an incidental by-catch in the fisheries. They are found in tropical waters from about 08° 35' 22.5" N 78° 27' 40.9 E/310 m/ 34 miles from Thoothukudi fishing harbour, southeast coast of India.

**Keywords:** Pinnidae, *Atrina lamellata*, Thoothukudi coast of Gulf of Mannar- New records- Indian coast

### 1. Introduction

Marine shells of the family Pinnidae is generally large bivalves, triangular in shape, thin, shell tapering to a point and light yellow-brown to dark brown in colour. They live with their pointed end embedded in sediment, the sandy substrate of the sea-grass beds, lagoons and coral rubble areas and attached by abundant fine byssal threads [1, 10, 9, 18, 5, 6]. The Pinnidae are a small family of marine bivalves including many fossil and about fifty recent species which occur throughout the warmer seas of the world [4]. Pinnidae are a popular food source and had high commercial value in a number of Asia-Pacific countries [20]. The meat of fan shells is eaten in Japan, Polynesia and a number of islands in the Indo-Pacific region [17, 15]. At this time, pen shell meat may reach a price as high as 150 Mexican pesos/kg (US 9.40/pound) [11]. Little is known of pen shells population in Thoothukudi waters. At present, there has been no documentation on the biological and fisheries aspects nor the taxonomic status of Indian waters. Hence, a detailed account of the description and identity of the species is given below. Family: Pinnidae Genus: *Atrina* [7] *Atrina lamellata* [8] *Atrina lamellata* [13], pl.77, fig. 1

### 2. Material

One specimen measuring 15.4 cm total length and 25g weight (Fig. 1) collected from the Thoothukudi beach between 08° 35' 22.5" N 78° 27' 40.9 E/310 m/ 34 miles at a depth of 310 m, Thoothukudi district, Tamil Nadu, India. (Fig.1). The reference materials are deposited in the museum collections of the Jamal Mohamed College, Bharathidasan University, Trichy, Tamil Nadu, India.



**Fig 1:** *Atrina lamellata* Habe, 1961 from Thoothukudi coast of Gulf of Mannar

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### 3. Morphological Identification

Specimens were collected from the study areas during night time and brought back to the laboratory for identification, labelled specimens were stored and images were taken and recorded. For the identification of the different morphological structure on the pen shell species, the works of [19, 15, 3, 16, 2, 14] were followed. Morphometric analyses of the pen shell species, the works of Scheltema (1983) were followed.

Measurement was emphasized on the following parameters:-

Morphometric measurements	cm
1. Length of anterior to posterior adductor	9.1
2. Posterior adductor to posterior shell margin	5.0
3. Dorsal posterior margin	4.1
4. Dorsal margin	14.3
5. Width of shell	8.5
6. Total shell length	15.4
7. Width of sulcus	0.8
8. Posterior adductor to posterior nacreous lobe	1.5
9. Dorsal nacreous length	8.1
10. Weight	25.0 gm

### 4. Distribution

The present record from 08° 08' 35" 22.5" N 78° 27' 40.9 E/310 meter/34 miles Thoothukudi coast in Gulf of Mannar extends its distribution to the southeast coast of India. They are widely distributed in the Indo-Pacific from Khanh Hoe, Vietnam by Nguyen Thach (2005), Southern Africa to Melanesia and New Zealand, north to Japan and to New South Wales and New Zealand. Pen shells are also found in Mediterranean and American waters [15, 2, 16, 21, 12].

### 5. Remarks

The description given by [13] agrees with the present specimen. Pinnidae as being slender, fragile and so brittle that for protection they lie buried in mud with the pointed end down. They are anchored by a tuft of fine fibers (byssal threads) which are secreted by glands of the foot [9]. Shell large, translucent and triangular-wedge shaped with truncate posterior margin. Sculpture consists of approximately 14 radial ribs and concentric growth lines. Dorsal margin nearly straight, ventral margin anteriorly concave and posteriorly slightly convex. Colour externally yellow-gray and internally tan. Subsequent observations and enquiries revealed that this specimen sized *Atrina lamellata* are very rare specimen caught an incidental by-catch in the fisheries in Thoothukudi coast of Gulf of Mannar, Southeast coast of India.

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