ON THE OCCURRENCE OF *SEPIA TRYGONINA* (ROCHEBRUNE) (CEPHALOPODA: SEPIIDAE) IN GULF OF MANNAR

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ABSTRACT

The report confirms the occurrence of the cuttlefish, *Sepia trygonina* (Rochebrune), in Indian waters. A brief description of the species based on specimens of one male and one female collected from Gulf of Mannar off Tuticorin is given.

Sepia trygonina (Rochebrune 1884) has hitherto been known only from Red Sea and Gulf of Aden. Two specimens of this species were obtained on board the fishing vessel M.F.V. Meenabharathi, while trawling off Tuticorin on 18th October, 1968. Originally this species was described by Rochebrune (1884) under the name *Dorotosepion trygoninum* based on a shell from Red Sea, but the type of the species was later found to be lost (Adam and Rees 1966). Adam (1944) has renamed this species as *Sepia trygonina* and proposed the hypothesis that *S. trygonina* might be the female of *S. elongata* because of the similarity of the tentacular clubs. But this view has been invalidated

by Adam and Rees based on one male from Red Sea, three males and five females from gulf of Aden collected during the "John Murray Expedition 1933-34". Thus the animals of this species have hitherto been reported only from the western sector of the Indian Ocean. However, two shells, from Ennur (S. India) identified by Winckworth as *S. kobiensis* Hoyle (= *S. andreanoides* Hoyle) were recognized by Adam and Rees (1966) in the British Museum as belonging to *S. trygonina*. Except for this, there is no definitive record of this species from outside Red Sea and Gulf of Aden, and hence a brief description and measurements of the two specimens from Gulf of Mannar are given here.

Sepia trygonina (Rochebrune 1884)

Dorotosepion trygoninum Rochebrune 1884, *Bull. Soc. philomath.*, Paris, 7 (8): 97; Pl. V, fig. 1.

Sepia trygonina Adam 1944, *Mem. Mus. natn. Hist. nat.*, Paris, 18 (6): 228; Adam and Rees, 1966. *John Murray Exped. Sci. Rep.*, 11 (1): 84-86, Pl. 20, fig. 129-131; Pl. 37, fig. 220-221; Pl. 46, fig. 277.

Material: 1 male, 38 mm and 1 female, 48 mm (dorsal mantle length), from off Tuticorin, Lat. 8°45' N and Long. 78°20' E, 15-20 m depth.

Description: The mantle is elongate and roughly elliptical in outline and widest at the mantle opening. The body of the mantle is slightly compressed dorso-ventrally. The middorsal projection of the mantle reaches the point between the eyes and forms 7.9 and 8.3% of dorsal-mantle length in the male and female respectively. On the ventral side, the anterior margin of mantle is slightly emarginate in the middle. The fins originate 2.5 mm behind the anterior margin of mantle and are posteriorly separated at the end of the body.

The head is slightly wider than long, and narrower than the mantle opening. The buccal lappets are devoid of suckers. The funnel is short and does not reach the interbrachial space between the ventral arms.

The arms are subequal in length and in the order 1.2=3.4 in the female and 1.4=3.2 in the male. The arms are thick and stout at the base, tapering to slender tips. The dorsal and the dorsolateral arms are rounded at their base and slightly keeled. The ventrolateral and the ventral are laterally compressed and keeled for the entire length both in male and female. The web between the arms is rather shallow and absent between the ventral arms.

In the male, on all the arms except the dorsal ones, suckers are arranged quadriserially. The dorsal arms possess quadriserial suckers for the proximal two thirds and for the rest widely spaced biserial suckers. In the female, all

the arms have quadriserial suckers for the proximal two thirds and biserial suckers for the rest. The biserial suckers are minute in size and more or less widely spaced.

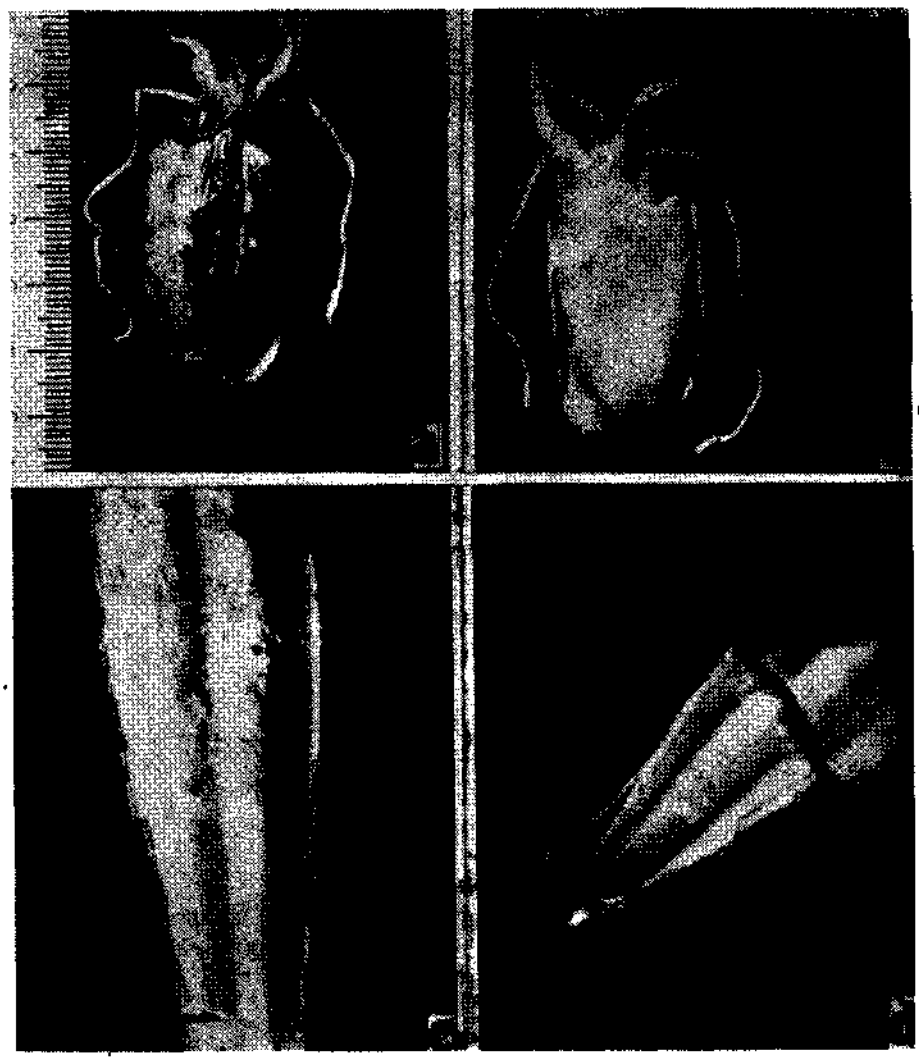

FIG. 1. *Sepia trygonina* (Rochebrune). (a) Male, dorsal view; (b) male, ventral view; (c) ventral view of the shell; (d) posterior region of the shell.

The left ventral arm of the male is hectocotylized. It has a single row of two suckers at the base followed distally by a single row of four suckers and another row of three normal suckers. The hectocotylus situated at the middle third of the arm is well expanded proximally. The dorsal margin in this region

is thin and possesses four rows of widely spaced biserial suckers. Because the suckers are situated widely apart, the median portion in this region is devoid of suckers. The corresponding portion of the ventral margin is comparatively thicker and bears two rows of biserial suckers. Of the suckers described above the marginal ones are larger than the inner ones. The rest of the portion of the arm becomes narrow and possesses minute suckers with quadriserial arrangement.

The tentacles are very large and slender, about one and half times the dorsal mantle length. The male has comparatively slender tentacles. The tentacular clubs are very small and provided with a well-developed swimming membrane extending from proximal region to the tip of the club. The suckers of the clubs appear to be arranged longitudinally in five or six oblique rows; of which five suckers of the third row are greatly enlarged.

The specimens preserved in formalin are reddish brown in colour. On the dorsal surface of the mantle, in the male, along the base of the fins on either side, is a series of 15 small circular dark brown blotches.

The shell is slender and lanceolate in shape. The posterior end is more acuminate than the anterior end and is broadest at the anterior third. The dorsal surface is finely granular and possesses a median ridge. On the ventral side of the shell a distinct groove is present along the entire length. The groove becomes shallow as it proceeds anteriad and is shallowest in the last loculus. The groove bearing median portion (Fig. 1, c) is separated and elevated from the marginal zone on either side by two slender ribs. There is a small spine at the posterior extremity. Th dorsal surface of the shell is reddish in colour.

Measurements: The following are the measurements and indices (expressed as % of dorsal mantle length) of the two specimens collected from Gulf of Mannar).

	Male	Female
Dorsal mantle length (in mm)	38.0	48.0
Ventral mantle length	89.5	87.5
Mantle width	52.6	39.6
Head length	21.1	18.8
Head width	39.5	33.3
Fin width	13.2	6.3
Fin length	92.1	89.6
Arm I	52.6	52.1
Arm II	39.5	45.8
Arm III	42.1	45.8
Arm IV	47.4	41.7
Tentacle (Total length)	176.3	141.7
Tentacular club length	13.2	12.5

SHELL

	Male	Female
Length (in mm)	—	48.0
Width	—	22.9
Striated zone	—	67.7
Last loculus	—	26.0
Spine	—	6.3

Remarks: The present material is assigned to *Sepia trygonina* based on the close similarity of the shell and the tentacular clubs to that described by Adam and Rees (1966). However, some minor diffrences noticed regarding the number and arrangement of suckers of the hectocotylized arm may be mentioned here. The hectocotylized arm of the present male possesses suckers in the proximal portion of the transformed region unlike any other male specimens of this species previously described. The present female possesses biserial suckers on all the arms at their distal third, whereas Adam and Rees (1966) observed such arrangement only in the lateral arms of the females. However, Adam has written in a personal communication (1970) that since his revision (Adam and Rees 1966) he had occasion to see two more specimens of *S. trygonina* from Red Sea and stated that, "in the female all the arms have their distal third with more or less widely spaced biserial suckers, and not only the lateral arms as we reported in 1966 (p.85). This character is most pronounced in the lateral arms".

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