

ON THE NEWLY HATCHED PHYLLOSOMA OF *SCYLLARUS SORDIDUS* (STIMPSON)*

By R. RAGHU PRASAD AND P. R. S. TAMPI
Central Marine Fisheries Research Station, Mandapam Camp

INTRODUCTION

PALINURID lobsters are easily obtainable along the Indian coast but among the scyllarids only *Thenus orientalis* has so far been found to be common, although besides this about twelve species belonging to *Scyllarus*, *Scyllarides* and *Parribacus* have been recorded from our waters. Nevertheless, the occurrence of different types of scyllarid phyllosomas in the seas surrounding our coast has been observed by the authors (1957 and 1960) and constant efforts are being made to collect the various adult forms and also to ascertain the species to which the different types of larvae belong. Recently the authors were able to obtain in the shore seine catches from the Gulf of Mannar near Mandapam, during the months of January and February, several adults of *Scyllarus sordidus* both males and berried females. De Man (1916) mentions this species as occurring in the Gulf of Mannar and remarks that the adults are usually found in shallow waters inhabiting coral reefs or places where the bottom is composed of sand and shells. This species, however, has not been reported from the Gulf of Mannar since De Man's account.

The berried females were kept in the aquarium and the larvae were successfully hatched out, a description of which forms the subject matter of this paper.

The authors are grateful to Dr. S. Jones for the interest he has shown in this work and to Shri C. Sankarankutty for the help rendered in collecting the material.

DESCRIPTION OF THE LARVA

The eggs hatch directly into the phyllosoma. The fully expanded larvae that begin to swim about measure on an average 1.05 mm. in length. Chromatophores are distributed on the body and appendages as indicated in Fig. 1 A and are orange red in colour. The base of the eyes is not demarcated into a distinct stalk. The first antenna (Fig. 1 B) is longer than the eye, bears three long setae and a short one at the distal end and also another short seta almost at the middle of its length. The second antenna (Fig. 1 C) is relatively short and broad and is only about one-fifth of the first antenna. It bears two prominent setae near the distal end. The second maxilla consists of two segments, the distal one being small and bearing four plumose setae (Fig. 1 D). The first maxillipede is not visible at this stage, whereas the second maxillipede has five segments and is without an exopod. The third maxillipede is uniramous as in the larvae of most scyllarids. There are three pereopods of which the first and the second have well developed exopods with natatory

*Published with the permission of the Chief Research Officer, Central Marine Fisheries Research Station, Mandapam Camp.

setae while the third has only a rudimentary exopod. The dactyls of the third maxillipede and pereopods are short and claw-like, a character considered to be common in many scyllarid phyllosomas. A coxal spine with an accessory seta at its base is present in the third maxillipede and the pereopods. The abdomen is 0.16 mm. in length with almost parallel sides. It is nearly half the length of the hind-body. The details regarding the spines and setae at the end of the abdomen are shown in Fig. 1-E.

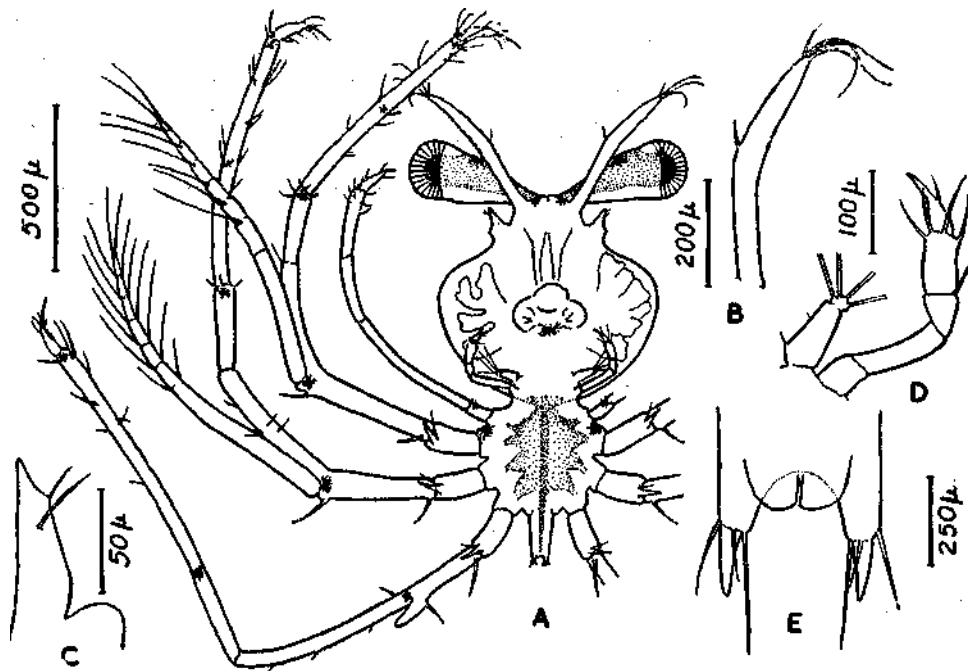


FIG. 1. A. First phyllosoma of *S. sordidus*. The chromatophores are indicated as black stellate markings. B. First antenna. C. Second antenna. D. Second maxilla and second maxillipede. E. Tip of the abdomen.

It may be pointed out here that the first phyllosoma of *S. sordidus* bears some general resemblance, especially the general shape of the larva, the distribution of the chromatophores on the body and the development of the appendages, to the one described by the authors earlier (1957, p. 58, Fig. 6) and considered at that time as probably belonging to *S. orientalis*. However, these two larvae differ in many respects. The first phyllosoma of *S. sordidus* is noticeably smaller in size but the abdomen is relatively long, the one in the earlier larva being less than one-third the hind-body. The structure of the second antenna is strikingly different and minor differences in the number and nature of the spines and setae at the end of the abdomen could also be made out.

Although the adults of *S. sordidus* seem common in the neighbourhood of Mandapam, their larvae are relatively rare in the routine plankton collections made in this area while the other type is more common. In view of the similarities in the two larvae the authors at first thought that the 1.35 mm. larva described in 1957

might actually be the second phyllosoma stage of the same species. But a comparison of the development of the various appendages in these two types shows the greater possibility of both these belonging to the first stage of two different species unless the first larva of *S. sordidus* described here moults in a very short time after hatching, effecting an increase in size without changes in other characters. Attempts are being made to rear these larvae which will help in deciding the issue and until then the authors are inclined to consider the two types as distinct.

REFERENCES

- DE MAN, J. G. 1916. Decapods, Pt. III, *Sci. Rep. Siboga Exped.*, 39 a* : 1-122.
- PRASAD, R. R. AND TAMPI, P. R. S. 1957. On the phyllosoma of Mandapam. *Proc. nat. Inst. Sci. India*, B 23 : 48-67.
-
- 1960. Phyllosomas of scyllarid lobsters from the Arabian Sea. *Jour. Mar. biol. Ass. India*, 2 : 241-49.