

NOTES ON A COLLECTION OF PHYLLOSOMA LARVAE FROM
THE COASTAL WATERS OF ANDHRA PRADESH

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On a cruise of R. V. Skipjack of the Central Marine Fisheries Research Institute, from 13.7.1983 to 18.7.1983, some pelagic trawl collections that were made off Visakhapatnam, in depths up to 550 m, were found to contain a few specimens of phyllosoma larvae of both palinurid and scyllarid lobsters. The area of collection was between Lat. 20.40'-21.07' N and Long. 87.20'-88.53' E. These larvae being collections from the region as far as known for the first time, an attempt was made at identifying them, making use of the accounts given by Berry (1974) Tampi and George (1975) and Prasad et al (1975). The results are presented in this contribution.

Panulirus homarus (Linnaeus 1758)

Material: 2 phyllosoma larvae obtained from pelagic trawl operated off Visakhapatnam.

Based on the diagnostic key for palinurid phyllosoma given by Tampi and George (1975) these are identified as larvae of *P. homarus* (Fig. 1).

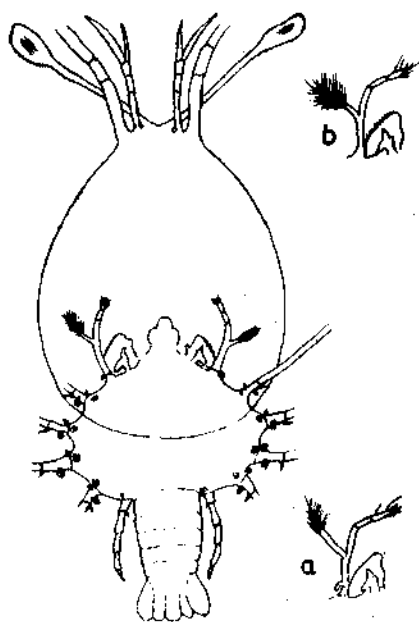


FIG. 1. Phyllosoma of *P. homarus*. a: anterior appendages of Stage 9; b: anterior appendages of Stage 10.

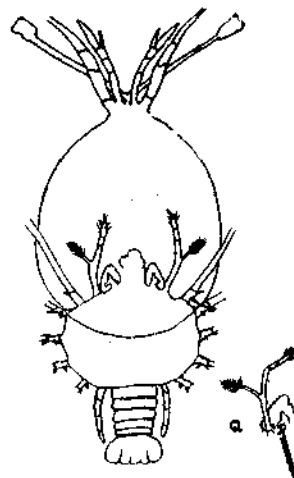


FIG. 2. Phyllosoma of *P. versicolor*. a: anterior appendages.

Stage 9: One of the specimens measures 21 mm in total length and, following Prasad et al (1975), is fixed at stage 9. The diagnostic features of the larvae of the species, namely, the presence of sub-exopodal spines on legs 1-3 and the characteristic shape of the cephalic disc (i.e., the anterior portion slightly pointed and the posterior region almost rounded), make it easy to identify the phyllosoma as belonging to *P. homarus*. The bilobed nature of maxilliped 1 and the presence of sternal spine at the base of the 5-segmented 5th pereopod help to determine the larva to be in stage 9.

Stage 10: Total length 32 mm. Except for the increased size of the specimen, the characters are more or less same as in the stage 9 mentioned above. But a minute projection can be seen in addition to the two lobes of the 1st maxilliped. Lateral spines on the uropod are more prominent than in stage 9. Arthrobranchs, podobranchs and pleuro-branchs are developed.

Although Berry (1974) has included both the above sizes as belonging to the same stage, the changes in character of the two specimens are deemed sufficient to treat them as belonging to the two consecutive stages of the larva, as has been done by Prasad et al (1975).

Panulirus versicolor (Latreille 1804)

Material: 1 specimen, obtained from a pelagic haul made off Visakapatnam.

The features of the larvae are quite in agreement with the description given by Johnson (1971), Murano (1971), Berry (1974) and Prasad et al (1975) for *P. versicolor* and hence there is no difficulty in assigning this larva to this species (Fig. 2).

The anterior region of the cephalic shield, unlike in *P. homarus*, is broader. Subexopodal spines present on legs 1 to 4.

Stage 10: Total length of the specimen is 29 mm and, as it tallies with the description of Prasad et al (1975), it can be assigned to stage 10. Maxilliped 1, bilobed; pereopod 5, 4-segmented.

The larva is recorded for the first time from this area. Recently, however, Shri Satyanarayana is reported to have come across an adult specimen of this species from Andhra coast (personal communication).

Scyllarus martensii (Pfeffer 1881)

Material: 1 larva, obtained in a pelagic trawl operated off Visakhapatnam.

Stage 9: The characteristic trapizoidal shape of the cephalic shield in the later stages and the ending of the tips of the uropods in sharp points leave no doubt in identifying this phyllosoma as that of *S. martensii* (Fig. 3). Total length is 10 mm, and this is probably the 9th stage, which is also a gilled stage. First maxilliped is bilobed and exopod is present as bud both in the second and in the third maxillipeds. The eyes are missing in the specimen.

Scyllarus martensii is a widely distributed species in Indian waters and thus its phyllosoma have been observed by Berry (1974), Tampi and George (1975) and Prasad et al (1975). But, there being no specific record of the species or its larvae from the coastal waters of Andhra Pradesh, this is the first record from this area.

Scyllarus rugosus (H. Milne Edwards 1837)

Material: 7 larvae obtained in pelagic trawls operated in Visakapatnam coastal waters.

Stage 11: Total length of the larvae ranges from 14 to 15 mm. From the descriptions already available, these larvae are assigned to 11th stage (Fig. 4). The characters of all the specimens agree with the earlier description. 2nd antenna shorter than the first, but almost equal in one or two specimens. Telson bears postero-lateral spines.



FIG. 3. Phyllosoma of *S. martensii*. a: anterior appendages.

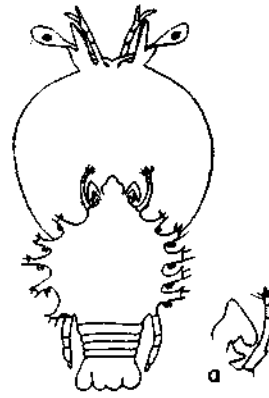


FIG. 4. Phyllosoma of *S. rugosus*. a: anterior appendages.

Prasad and Tampi (1960, Fig. a-D) described similar larvae as *Scyllarus*, and later Prasad et al (1975) identified the larvae as that of *S. rugosus*.

General remarks

In general, the number of phyllosoma larvae appearing in the plankton collections has been very limited. As for example, as was reported by Tampi and George (1975), the number of phyllosoma that were collected in plankton samples during all the cruises of various research vessels took part in the International Indian Ocean Expedition (IIOE) for the entire period of five years (1960-65) have amounted only to 84. Similarly, in most of the plankton collections made in several areas during routine plankton collections in the inshore regions, too, the phyllosoma larvae were meagrely represented. The present collection, however, contained comparatively larger number of larvae, probably because the collections were made with pelagic trawl instead of a plankton net.

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