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A GOOD NURSERY GROUND FOR TIGER PRAWNS LOCATED IN KERALA*

The green tiger prawn *Penaeus semisulcatus* de Haan is one of the large growing species of penaeid prawns occurring in Indian waters. It grows to a maximum size of 250 mm and has been reported from all along the west and east coasts. In Tamil Nadu coast at Mandapam and Tuticorin this species supports a lucrative fishery throughout the year, with peak landings during October-January and April-June by shrimp trawling.

While most of the littoral species of penaeid prawns are known to migrate enormously from the sea at postlarval stages and support good commercial fisheries by their juveniles in the estuaries and backwaters, the occurrence of *P. semisulcatus* in these environments is relatively very poor indicating that its incursion to low saline habitats is of a restricted nature. Recently, while operating a specially designed try-net for catching prawns in the Ashtamudi backwaters of Kerala[1] it was observed that juvenile stages of this species formed one of the major constituents of the rich collections obtained. A series of trial fishing conducted during postmonsoon period revealed that this resource was

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[1] In connection with the tagging programme

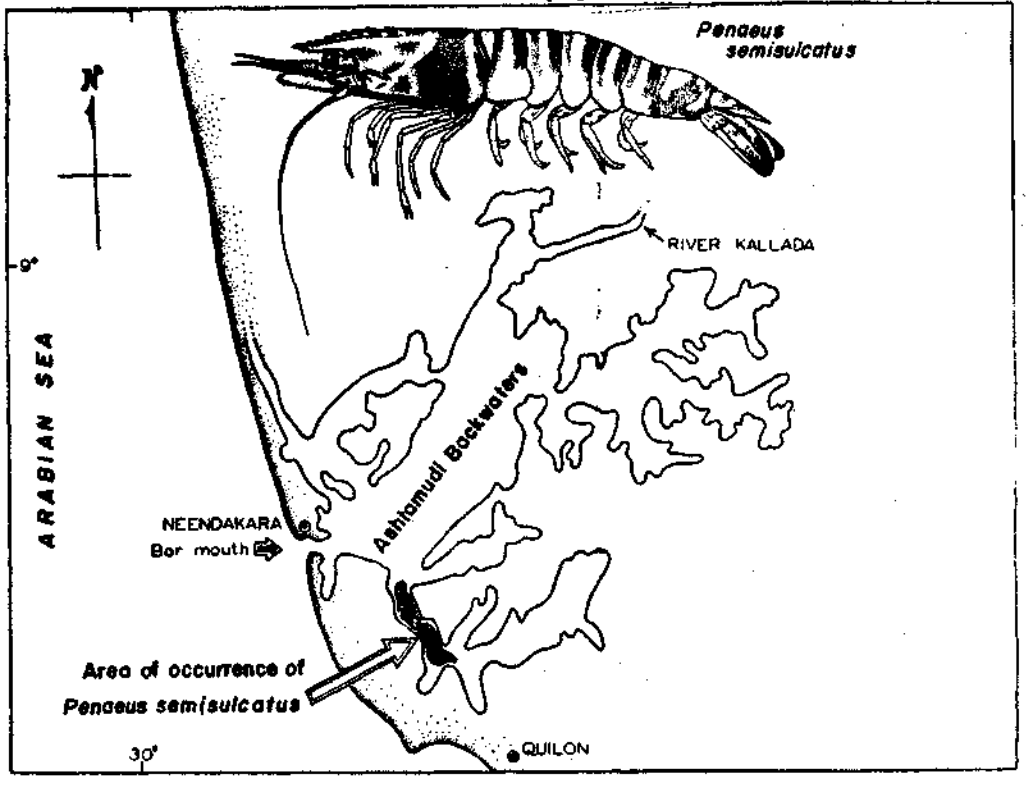

Fig. 1. Topography of Ashtamudi backwaters and the area of occurrence of *Penaeus semisulcatus*.

largely confined to the southern deeper areas (2 – 3m depth) where the bottom was muddy, mixed with plenty of fine black sediments. The topography of the backwaters and the area of occurrence of *P. semisulcatus* are shown in Fig. 1. The production of prawns per hour of trawling by the try-net, which measured 4 metres in overall length (5.4 m head rope and 5.4 m foot rope; with mesh size of 8 mm throughout), ranged from 558 to 3,834 by number and 0.3 Kg to 1.5 Kg by weight, with relatively better catches in the morning hours. Juveniles of *P. semisulcatus* in the size range 16–85 mm were present invariably in all the hauls taken from here and contributed to an average of 44.1% by number and 67.2% by weight in the catch. The other common species obtained in the catches included *Metapenaeus dobsoni, P. indicus, P. latisulcatus* and *M. monoceros* in the order of their abundance. At the time of observation the salinity of the water ranged between 9.42‰ and 14.10‰

P. semisulcatus, although distributed throughout the Indian coasts, does not constitute a major component of the prawn catches from any of the brackish water environments. The occurrence of juveniles in large numbers in Ashtamudi backwaters would suggest that it is an ideal nursery ground for this species. In Cochin backwaters this species occurs during December to May/June when the salinity is high and in recent years there has been a steady increase in its abundance in the experimental as well as commercial catches. The copious existence of juvenile stages in these two major backwater systems indicate the possibility of the availability of a breeding stock of this species in the sea somewhere in the southern part of Kerala coast.

The present finding is also significant in the context of prawn culture in this region. In the try-net catches, nearly 52% of the tiger prawns belonged to the smaller size group of 16-40 mm which is the stocking size for intensive culture. Since these sizes of the species are not commonly encountered in the shallow near-shore areas of the estuarine environments they could be advantageously procured from this part of the backwaters for large scale culture. The authors are thankful to Dr. P. Vijayaraghavan for the help and co-operation rendered in this investigation.