

CRAB RESOURCES AND PROSPECTS FOR CRAB CULTURE

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INTRODUCTION

The average annual crab landings during 1975-1981 from the Indian coast are 21,310 tonnes, forming 10.4% of the total crustacean landings. Rao *et al.* (1973) have estimated the total crab resources of the Indian seas at 43,000 tonnes, and nearly half of the estimated resources are at present being exploited. Out of 8 species of edible crabs listed by Rao *et al.* (1973), *Scylla serrata* (Forsskal), *Portunus pelagicus* (Linnaeus) and *P. sanguinolentus* (Herbst) have been the principal species in the exploited fishery along the coasts of the country. Except for the faunistic records of these edible crabs from Andaman and Nicobar Islands by Alcock (1899), Chopra (1935), Sankarankutty (1961) and Premkumar

and Daniel (1971), no information is available on the abundance and exploitation of commercially important species from these Islands.

OBSERVATIONS

Data on the type of gear employed, species of crabs exploited, estimated catch on the day of observation and catch trend in earlier period were collected during the present survey carried out in January-April 1978. Fig. 1 gives the characters for identification of the local species of crabs. A key for field identification of the species is given in the Appendix.

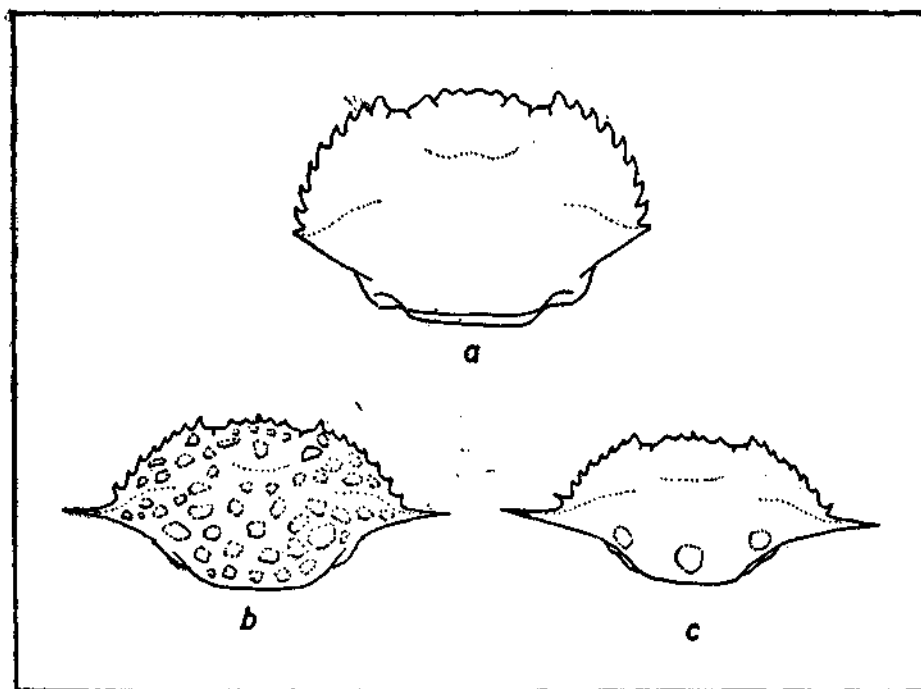


Fig. 1. The shape of anterolateral teeth of carapace and colour pattern of (a) *S. serrata*, (b) *P. pelagicus* and (c) *P. sanguinolentus*.

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PRESENT STATUS OF EXPLOITATION

Diglipur : On the eastern side of Diglipur, trawling was conducted by the mechanised boat at a depth range of 40-45 m on sandy bottom. A single specimen of the sand crab, *Portunus pelagicus* measuring 128 mm in carapace width (CW) (130 grams in weight) was obtained.

Havelock Island : On the western side of the island, crabs were obtained by hand-picking from the rocky area in the intertidal region. Two males of *Scylla serrata* measuring 114 mm and 126 mm CW and 230 grams and 295 grams in weight were collected. It was learnt on enquiry that this species was usually caught during post-monsoon months.

Port Blair : Four units of bottom set gill-net were operated at 10 m depth off Hado wharf. Bottom below was sandy. A total of 4 kg of *Portunus pelagicus* in the size range of 98 to 146 mm CW were obtained. The modal size was found at 126-130 mm.

Six units of bottom set gill-nets were operated off Janglight at 10 m depth. Along with penaeid prawns and fishes, 3 kg of *S. serrata* and 5 kg of *P. pelagicus* were landed. The overall size range for *S. serrata* and *P. pelagicus* was 98-110 mm and 83-151 mm respectively. On enquiry, it was learnt that the maximum crab landings are during December-April.

Camorta Island : Bottom set gill-nets were operated in the Beresford channel between Camorta and Trinkat Islands on a bottom of live corals. One specimen of *S. serrata* (150 mm CW, 535 g), one *Portunus sanguinolentus* (110 mm CW, 67 g) and 2 males of *P. pelagicus* (151 & 153 mm CW, 400 g total weight) were caught.

Katchall Island : One female specimen of *P. sanguinolentus* (79 mm CW) was collected by hand-picking.

In the Andaman and Nicobar Islands, fishing operations are carried out by gill-nets, boat seines, shore seines and cast nets. Altogether there are about 100 units of the gears of different types operating at present in these islands. If a day's catch from these units is taken at 80-100 kg, at least 2-3 tonnes can be expected to land in a month. No data on crab catch are available at present, as it forms a very minor component in the fishery.

CRAB CULTURE POTENTIAL

Among the edible crabs of the Indo-Pacific region, the portunid crabs *S. serrata* and *P. pelagicus* are considered for cultivation in India (Marichamy *et al.*, 1980), Indonesia (Schuster, 1952), Philippines (Escritor, 1973), Sri Lanka (Raphael, 1973) and Taiwan (Chen, 1976). According to Ling (1973), *S. serrata* is reared in earthen ponds on a small scale in Singapore and Hong Kong and on experimental basis in Thailand. In the case of *P. pelagicus*, the development of culture is in the status of pilot scale operation in Japan. Except in Japan, in all other countries mentioned above, the young *S. serrata* measuring 30 to 70 mm in CW are collected from the natural environments such as backwaters, estuaries and salt water lakes and stocked in earthen ponds either alone or with the milk fish (*Chanos chanos*) at a stocking density varying from 5,000 to 8,000 per 0.5 ha. The duration of culture period is 6 to 10 months by which time the reared crabs attain the marketable size of 120 to 150 mm CW and weigh 400 to 500 g. The survival rate varies from 60 to 80% with a production rate of 500 to 700 kg per ha per year, when it is cultivated alone. Since *S. serrata* is adaptable to a wide range of environmental conditions and fetches a high price for its size and delicacy, preference can be given to its culture in Andaman and Nicobar Islands.

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APPENDIX

A KEY FOR FIELD IDENTIFICATION OF EDIBLE CRABS OF ANDAMAN AND NICOBAR ISLANDS

- Last pair of legs paddle-shaped; surface of carapace ill-defined; hands of cheliped inflated and smooth; teeth on anterolateral border of carapace equal in size (Fig. 1 a) *Scylla serrata*
- Last pair of legs paddle-shaped; surface of carapace well defined; hands of cheliped prismatic and costate; last tooth on anterolateral border of carapace produced into a long spine (Fig. 1 b) *Portunus*
- Carapace covered with mesh work pattern of irregular shaped spots (Fig. 1 b); a spine at the end of posterior border of the arm of cheliped *P. pelagicus*
- Carapace with three dark red spots at the posterior border (Fig. 1 c); no spine at the end of posterior border of the arm of cheliped *P. sanguinolentus*



PLATE I. A—*Crassostrea madrasensis* on the R.C.C. jetty in Mayabunder. B—*Saccostrea cucullata* on the intertidal rocks in Havelock Island,