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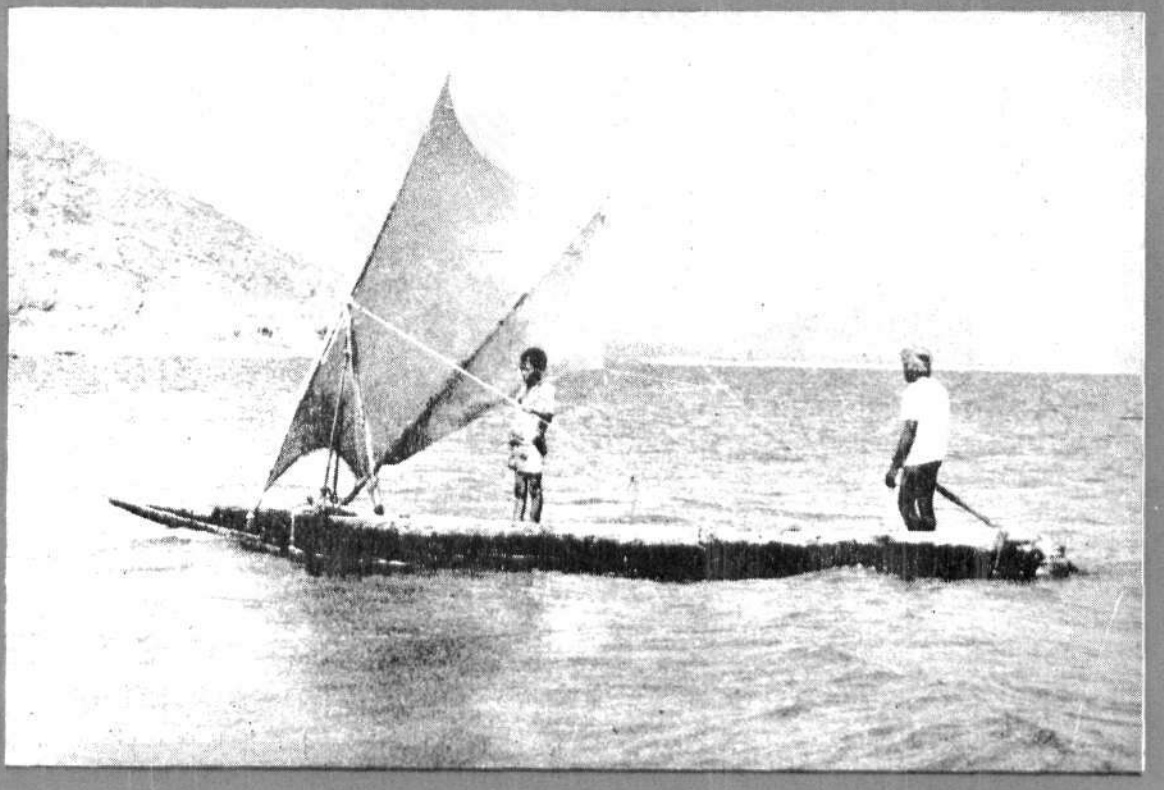

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ACETES SHRIMP FISHERY OF BOMBAY COAST*

Introduction

Acetes indicus a sergestid shrimp is estimated to contribute about 20% of the marine prawn landing along the Maharashtra coast and constitutes seasonal fishery. A closer examination of these organisms have shown that three other species namely, *A. johni*, *A. sibogae* and *A. japonicus* are involved in the fishery. *A. sibogae* was observed to form a fishery only in estuaries.

During 1985 and 1986, weekly visits were made to three fish landing centres namely Versova, Sassoon Dock and Trombay for collection of catch data and samples for biological studies. The number of specimens examined for stomach contents were 1,215 for *A. indicus*, 1,115 for *A. johni*, 1,125 for *A. sibogae* and 212 for *A. japonicus*.

Fig. 1. 'Machardani' a gear used at Thane creek for catching *Acetes*.

The fishery

The fishery for *Acetes* is almost exclusively by bag nets ('Dol' and 'Bokshi'). 'Dol' operations are upto a depth of 40 m while 'Bokshi' nets are employed in shallower regions, mostly in creeks. A special net called 'Machardani' (Fig. 1) of mosquito net is employed for the capture of *A. sibogae* along the Thane Creek zone at 3–5 m depth. *Acetes* spp. are also caught in small quantities in the trawlers having very small cod-end mesh of about 2 cm. The fishery for *Acetes* is throughout the year at Sassoon Dock. At Versova 'Dol' operations are suspended during monsoon months. At Trombay 'Machardani' nets are not employed during this period. The average monthly landings at different centres are given in Table 1.

Table 1. *Average monthly landings of* Acetes *spp. at Versova, Sassoon Dock and Trombay* 1985–'86

Months	Place & catch (in t.)		
	Versova	S. Dock	Trombay
January	88	8	19
February	62	12	20
March	112	24	12
April	180	20	18
May	220	15	25
June	—	6	—
July	—	10	—
August	—	14	20
September	400	10	20
October	302	20	18
November	205	30	18
December	93	18	22

Table 2. *Percentage composition of* Acetes *spp. at the three centres*

Species	Versova	S. Dock	Trombay
A. indicus	49	55	2
A. johni	49	43	—
A. japonicus	2	2	3
A. sibogae	—	—	95
Total	100	100	100

It can be seen from Table 1 that landings of *Acetes* show an increasing trend just after the monsoon months at all the three centres. Another peak season is observed to be prior to the start of the monsoons. The major species that contributed to the fishery showed considerable variations in percentage. *A. sibogae* was not represented either at Versova or at Sassoon Dock. Similarly *A. johni* was not present in the 'Machardani' landings at Trombay. The predominance of *A. sibogae* at Trombay may be due to the fact that this species prefers an estuarine environment and sheltered area

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of the creek (Omori, *Bull. Tokyo Res. Inst.*, 7: 1-87, 1975). *A. johni* was not noticed in Trombay landings indicating its preference for a marine habitat.

The percentage composition of all the four species is given in Table 2. It can be seen from the Table that *A. indicus* and *A. johni* have similar percentage composition, though the percentage is a little less at Sassoon Dock. At Trombay *A. sibogae* is the dominant species, the contribution of the other species being very small.

Biological studies

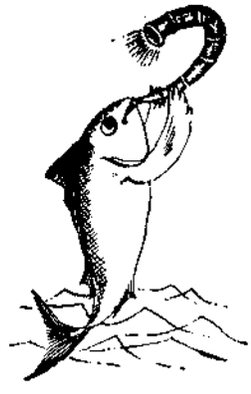
A. indicus measured 13–40 mm, *A. johni* 15–28 mm, *A. japonicus* 12–25 mm and *A. sibogae* 9–33 mm. *A. sibogae* at Trombay was of smaller size, ranging from 9–22 mm mostly, though the species is known to grow upto 35 mm. This may be due to very small size of the mesh used in the fishery.

In all the four species, common items of food comprising copepods and appendages of decapod crustaceans (60%), foraminiferan and molluscan shells and shell fragments (10%), sand grains (10%) and debris (20%) were found.

Maturing females of *A. indicus* were noticed at Versova in January and of *A. johni* in March. Females of *A. sibogae* with maturing ovaries were observed in April–May indicating possible breeding during the monsoon months. In all the three species a minimum size of 13 mm was recorded for females with ripening ovary.

General considerations

According to Omori (1975) (*op. cit.*) the total landings of *Acetes* spp. in the world amounts to 1,30,000 tonnes on an average. This figure is considered to be the minimum by the authors as many countries do not have landing figures for *Acetes*. In India the average catch is estimated at 14,500 tonnes, constituting 11.2% of total world *Acetes* production. Major countries where a fishery for *Acetes* exists are China, India, South Korea and Thailand with China ranking first. The average life span of *Acetes* is less than six months and adult dies soon after spawning. In India only a small portion of the catch is consumed in fresh condition and the rest is mostly sun-dried. There is good demand for fresh *Acetes* in Japan where it can easily fetch a price of 300-800 Yen/kg. Considering the vast resource potential available in India, it is possible to earn considerable foreign exchange through export to countries like Japan in fresh condition.



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