

THE PENAEID SHRIMP SEED RESOURCES FROM SOME CREEKS OF SOUTH KONKAN REGION

ABSTRACT

A survey of juvenile penaeid prawn resources of eight creeks from South Konkan was undertaken during 1988-1991. The species-wise composition and seasons of availability are dealt with in this account. It was observed that *Penaeus merguensis* was the dominant juvenile prawn in the surveyed creeks. Juveniles of *Metapenaeus affinis* were also noted in sizeable quantity. The penaeid shrimp seeds were noted to be most abundant during the months of May and June. The Khar land bund construction in some of the creeks was noted to have adverse effect on shrimp juvenile availability.

Introduction

UNCERTAINTY in the availability of natural seed prawns is one of the major constraints in the present day shrimp cultivation programme. It is therefore, necessary to identify the specific pockets in the creeks where shrimp seeds of commercially important species are available in sufficient quantity. Therefore, this communication deals with the investigations carried out on the seed resources of penaeid prawns from eight creeks of South Konkan region.

Materials and methods

The South Konkan region is comprised of two maritime districts of Maharashtra namely Ratnagiri and Sindhudurg. Five creeks from Ratnagiri District and three creeks from Sindhudurg District were surveyed for resources study (Fig. 1). All collections were made at low tide using drag net of size 50 × 30 cm with a nylon mesh of size 64 cm². Collections were made from May 1988 to April 1991. The shrimp seed availability per man hour was calculated. After collections the seeds were segregated specieswise. The species identification was based on the key of Rao (1969) and Rajyalakshmi (1980). The details regarding the month of seed availability and the seed availability per man hour have been given in Table 1.

Results

Shrimp seeds of five species namely *Penaeus merguensis*, *P. monodon*, *Metapenaeus affinis*, *M. monoceros* and *M. dobsonii* were

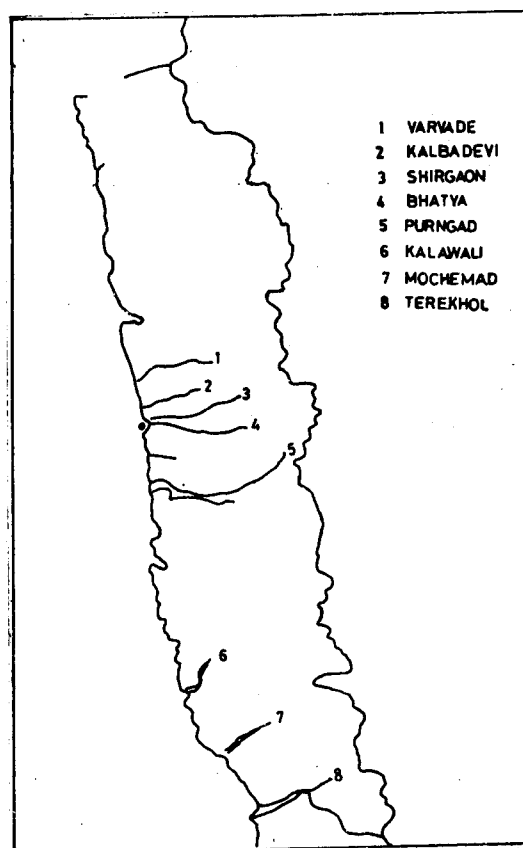


FIG. 1. Surveyed creeks of South Konkan region.

encountered during the collections. Qualitative abundance of penaeid shrimps appeared to be similar in the creeks of Ratnagiri and Sindhudurg District. In most of these creeks, the seed composition was dominated by banana prawn *P. merguensis*, however *M. monoceros* seed was found to be dominant at Kandalgaon and that of *M. dobsonii* at Chandervadi. In

(1086 seeds/man hour). The *M. monoceros* seed was abundant in December at Kandalgaon (Kalavali Creek) being 476 seeds/man hour. During all the collections it was observed that prawn seed catch was better in the evenings, than in the mornings while collections during afternoon time were poor. The shrimp seed availability was observed to be adversely

TABLE 1. *Penaeid shrimp seed availability in some creeks of South Konkan region*

Creek	Location of collection	Nature of creek bottom	Dominant Species		Month of seed abundance	Seeds/man hr.
			No. 1	No. 2		
Bhatya	Karle	highly muddy	<i>P. merguensis</i>	<i>M. affinis</i>	March	77
Gavkhadi	Purngad	highly sandy	"	"	June	131
Kalbadevi	Basni	muddy + sandy	"	"	July	33
Kalbadevi	Kalbadevi	muddy + sandy	"	"	May	523
Shirgaon	Mirya	Sandy	"	<i>M. monoceros</i>	May	135
	Zadgaon	muddy + sandy	"	<i>M. affinis</i>	June	1086
Varvade	Varvade	Sandy	"	"	June	69
Kalavali	Adari	highly muddy	"	<i>M. dobsoni</i>	May	70
	Chandervadi	sandy	<i>M. dobsoni</i>	<i>M. affinis</i>	May	115
	Hadi	muddy	<i>P. merguensis</i>	<i>M. dobsoni</i>	May	160
	Kandalgaon	muddy + sandy	<i>M. monoceros</i>	"	December	476
Mochemad	Mochemad	muddy + sandy	<i>P. merguensis</i>	<i>M. affinis</i>	May	796
	Ubha-danda	sandy	"	<i>M. dobsonii</i>	May	176
Terekhol	Aronda	highly muddy	"	<i>M. affinis</i>	May	190

general the species second in dominance was *M. affinis* in the creeks of Ratnagiri District and *M. dobsonii* in the creeks of Sindhudurg District. The juveniles of tiger prawn *P. monodon* were recorded to be rare in occurrence in all the creeks.

Peak collection rate of penaeid juveniles was noted in May and June every year and the majority of the seed belonged to *P. merguensis*. The seed was most abundant in the month of May at Mochemad in the Mochemad Creek (796 seeds/man hour), and in June at Zadgaon in the Shirgaon Creek

affected due to construction of Khar land bunds, specially at Karle, Mirya and Aronda. A word of caution seems appropriate in this regard, since the juvenile population of penaeid prawns abounding in the creeks forms the basic stock for replenishing the population in the adjoining inshore waters, bunding of these backwaters may adversely affect the prawn fishery of the area.

A definite relationship was observed between the nature of creek bottom and abundance of shrimp seeds. A bottom comprising of a mixture of sand and mud was

more rich in shrimp seed as compared to a sandy or highly muddy bottom. Compared to the creeks in Ratnagiri District, the creeks in

Sindhudurg District were noted to be less exploited and so more suitable for prawn seed collections.

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STUDIES ON THE DISTRIBUTION OF GASTROPODA (MOLLUSCA) IN A MANGROVE FOREST (PRENTICE ISLAND) OF SUNDARBANS, INDIA

ABSTRACT

Observations were made on the distribution of gastropods in a mangrove forest of Sundarbans, West Bengal, India. The fauna can be categorised into two divisions : (i) those living attached to the stems and leaves of the mangroves and (ii) those distributed on the creek bank subject to daily tidal inundation and exposure. *Littorina* spp. were common on the trees and not on the ground. *Assiminea*, *Cerithidea* and *Telescopium* were generally encountered on the ground. The abundance of gastropods reached maximum at creek bank and declined sharply towards the deep forest. The results obtained during the present study have been discussed and compared with those reported from South India, Malaysia, South Africa and Thailand.

Introduction

THE GASTROPODA, ecologically very intimate group of associate in the mangrove ecosystem, constitutes a considerable part of benthic biomass. The distribution of this epifaunal component in different mangrove forest, have been well documented by many investigators. Reports of Berry (1963; 1972; 1975), Sasekumar (1974) from Malaysian mangroves; Brown (1971) from South African mangrove swamps; Coomans (1969) from West Indies; Dawn *et al.* (1976) from mangroves of Thailand are worthy mentioning.

In India, Roonwal (1954, 1964), Rajagopal (1964) reported some molluscan borers from Sundarbans Mangrove ecosystem; Ganapati and

Rao (1959) studied few marine wood borers from Godavari Estuary. More recently, Subbarao and Mookherjee (1975) from Mahanadi Estuary, Radhakrishna and Janakiram (1975) from Godavari and Krishna Estuaries made some observations on gastropod fauna. Murty and Rao (1977) have added some more information on gastropod fauna from Machilipatanam on the east coast of South India. The purpose of the present investigations from a mangrove forest area of Sundarbans is to accelerate the scope of comparisons with those reported elsewhere.

Physiography of the study area : The Prentice Island, a fractional component of virgin mangrove forest area of Sundarbans, lies between 21°43' and 21°46'N and 88°18' and