

Shrimp Seed Resources Of Ennore Estuary

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An experimental drag net made of velon screen, five metres long, was operated in the Ennore estuary from three fixed Stations (shown in the sketch) to a distance of 20 metres every week for two years during 1983-84. Maximum number of juveniles were collected from Station III which was farthest from the bar mouth and minimum number from Station I which was nearest to the bar mouth. Also the size range of the juveniles collected from Station III was found to be more. Juveniles of *M.dobsoni* were maximum followed by the juveniles of *M.monoceros* and *P.indicus*. Juveniles of *P.semisulcatus* and *P.monodon* occurred in good numbers when algal bed was formed. Juveniles of *P.indicus* were noted in large numbers in shady areas and at the sides of moored boats. The results of these operations are presented in the paper.

A knowledge of the shrimp seed resources is of prime importance since many of the shrimp farms still depend on the collection of seed from the wild to stock their farms. Therefore, information on the abundance of seed in different months and their size range is very useful for the shrimp farmers. Ennore estuary is about 20 km north of Madras and is in Kortaliar river mouth, which is a seasonal river.

There are no published data on the shrimp seed resources of Ennore estuary. Regunathan and Srinivasan (1978) studied the seasonal abundance of zooplankton and stated that the decapod larvae were maximum during the month of August. Vasudevan and Subramanian (1984) produced a note on the penaeid shrimp larvae of Ennore estuary. James and Thirumilu (1985 a, 1985 b (abst)) reported on the recruitment of penaeid shrimp post larvae and penaeid shrimp post larval abundance in relation to lunar periodicity in Ennore estuary. James (1987) studied the diurnal variations of the penaeid shrimp post larvae in Ennore estuary.

Sampling System:

An experimental drag net (P1.1) made of velon screen was used to collect juveniles for this study. The length of the net was five metres and its mouth was opened by 8 spreader sticks each of which was 50 cm in length. The net mouth was stitched on either side like a bag to prevent the juveniles from escaping. Weekly collections were made from three fixed Stations (Fig.1). Station I is near the bar mouth and has sandy bottom; Station II is one km away from Station I with sandy and muddy bottom and Station III is one km away from Station II with muddy bottom. The net was dragged for 20 m keeping the lower end of the sticks scraping the bottom. Each haul roughly covered an area of 100 sq.m. The bar mouth is

more or less kept open throughout the year to draw coolant water for the thermal plant artificially. Total length of the juveniles was taken from the tip of rostrum to tip of telson.

Observations:

The number and total length range of juveniles collected by the experimental drag net at three Stations are given in parenthesis in Tables I to III

At Station I during 1982-83 (Table I) juveniles of *M.dobsoni*, *M.monoceros* and *P.indicus* were collected. The juveniles of *M.dobsoni* were found maximum, followed by *P.indicus* and *M.Monoceros*. In *M.dobsoni* peak availability were in April-May and October during 1982 and during February, May and June in 1983. In *P.indicus* peaks were observed in April, 1982 and February, 1983. No distinct pattern was observed in case of *M.monoceros* during 1982 but in 1983 during June a peak was noted.

At Station II during 1982 only juveniles of *M.dobsoni*, *M.monoceros* and *P.indicus* were collected where as during 1983 juveniles of *P.semisulcatus* and *P.monodon* were also collected. The occurrence of juveniles of *P.monodon* and *P.semisulcatus* is due to the formation of an algal bed in 1983 (James and Thirumilu, 1982). In *M.dobsoni* during 1982 two peaks were noted one in May and the other in October. In *P.indicus* during 1982 peaks were seen during October and November and in 1983 during March. In *M.monoceros* peak was noted in November 1983. *P.semisulcatus* occurred during May and from July to December 1983 and two peaks were seen during September and December. *P.monodon* occurred only during August - September 1983 and November - December 1983. Peak was noted during November. ☺

At Station III during 1982 only juveniles of *M.dobsoni*, *M.monoceros*, and *P.indicus* were collected but in 1983 juveniles of *M.dobsoni*, *M.monoceros*, *P.indicus*, *P.semisulcatus* and *P.monodon* were also collected. The last two species mentioned were encountered after the formation of algal bed in May which lasted till December, 1983. In *M.dobsoni* during 1982 peak was observed from September to December. In *M.monoceros* peak was observed in August 1982 and October 1983. In *P.semisulcatus* peak was noted in August 1983. In *P.monodon* peak was observed in August 1983. Size range of juveniles for three stations are given in Table IV.

Hydrology of Estuary and Other Observations:

The hydrological conditions of the estuary during 1982 and 1983 indicated that in 1983 the temperature went up to 37.2^o C in May, 1983 whereas it was only 33.1^o C in May, 1982. The four degree higher temperature may be the cause for the germination of the spores of algae. The salinity was also found to be more in 1983 from May onwards. When twigs were encountered in the drag net more number of juveniles of *P.monodon* were encountered. It is interesting to note that the occurrence of some of the juveniles especially *P.semisulcatus* show a relationship with the formation of algal bed. In 1983 with the formation of algal bed comprising *Hypnea spp*, *Pedina spp* and *Chaetomorpha spp* there was a spurt of *P.semisulcatus* juveniles in the month of May, 1983. Again due to heavy rain in August, 1983 most of the algae were found to be dead. This immediately resulted in poor collection of juveniles particularly *P.semisulcatus* which lives in association with algae and seagrass.

Conclusions:

From the above observations it is clear that Station III which is farthest from the bar mouth is the best for seed collection. Although juveniles are found round the year due to continuous breeding two peaks are discernable, the first one during February - May and the second one during September - December. The minimum size is generally seen during October - December indicating peak breeding season. Juveniles of large size were generally seen during the months of April and May when they enter the sea for further growth and breeding.

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Workshop on Fish Quality Control

The Central Institute of Fisheries Technology, Cochin conducted a 5-day workshop at Cochin on Fish quality control from 13th December, 1993. This was inaugurated by Mr. K. Balakrishna Pillai, Chairman, MPEDA. In his inaugural address he said that the future of the seafood industry of India would depend on its ability to meet the stringent quality standards prescribed by the major importing countries such as Japan and USA. He also mentioned that adequate infrastructure would have to be created for ensuring manufacture of quality products. He also emphasised on proper handling, quick preservation, transport, processing, storage and distribution systems. He said that such basic infrastructure was still lagging behind in several parts of the country and this was a very serious problem. He was confident that the workshop would look into various aspects of the problems and make suitable recommendations.

Table I

Average number of juvenile prawns per month collected by experimental drag net at station I (Size range in parenthesis)

Month	M.dobsoni	M. monoceros	P.indicus	P.semisulcatus	P.monodon	Total
April, 1982	9(11-42 mm)	2(18-31 mm)	13 (30-74mm)	-	-	24
May	9(9-25 mm)	3(9-48 mm)	2(16-18 mm)	-	-	14
June	6(9-24 mm)	1(19 mm)	-	-	-	7
July	2(9-15 mm)	1(19 mm)	-	-	-	3
August	-	1(19 mm)	-	-	-	1
September	1(19 mm)	-	-	-	-	1
October	9(7-19 mm)	1(32 mm)	2(16-21 mm)	-	-	12
November	2(11-20 mm)	2(55-72 mm)	2(20-37 mm)	-	-	6
December	2(9-15 mm)	2(8-10 mm)	-	-	-	4
total	40(7-42 mm)	13(8-72 mm)	19(16-74 mm)	-	-	72
January, 1983	1(22 mm)	2(8-23 mm)	-	-	-	3
February	20(18-28 mm)	2(19-21 mm)	48(15-35 mm)	-	-	70
March	_____	_____	_____	no collection	_____	_____
April	2(9-15 mm)	-	3(15-20 mm)	-	-	5
May	29(7-24 mm)	3(13-28 mm)	1(20 mm)	-	-	33
June	31(6-20 mm)	7(11-23 mm)	-	-	-	38
July	5(9-18 mm)	-	-	-	-	5
August	3(12-20 mm)	-	-	-	-	3
September	5(11-35 mm)	-	-	-	-	6
October	_____	_____	_____	no collection	_____	_____
Total	96(7-35 mm)	14(8-28 mm)	53(15-35 mm)	-	-	163

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INFO FISH-AQUATECH 1994 INTERNATIONAL CONFERENCE

29-31 August 1994, Colombo, Sri Lanka

INFOFISH is organising another international conference on aquaculture, AQUATECH 1994 from 29-31 August 1994 in Colombo in collaboration with the Sri Lanka Export Development Board. For further details INFOFISH may be contacted at the following address:-

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FFDA, KAMRUP TO DEVELOP 196 ha

Chinese hatchery to be set up

The meeting of the Managing Committee of the Fish Farmers Dev. Agency of Kamrup (Assam) was held on the 10 Feb. 1994, presided over by Mr. L. Rynjah, I.A.S., Commissioner for Fisheries, Assam. For the first time in the history of the Agency, a total of 196 ha of water area was approved for development by 441 beneficiaries under non-institutional finance. A Chinese eco-hatchery in the private sector, the first in the District, was also proposed to be sponsored by the Agency.

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Table II

Average number of juvenile prawns per month collected by experimental drag net at

Station II (size range in parenthesis)

Month	M.dobsoni	M.monoceros	P.indicus	P.Semisulcatus	P.monodon	Total
April, 1982	1(11 mm)	3(14-24 mm)	3(15-59 mm)	-	-	7
May	14(11-21 mm)	3(13-25 mm)	2(11-17 mm)	-	-	19
June	5(9-24 mm)	2(18-32 mm)	-	-	-	7
July	1(14 mm)	1(12 mm)	-	-	-	2
August	1(4 mm)	1(19 mm)	1(22 mm)	-	-	3
September	6(7-15 mm)	4(15-25 mm)	-	-	-	10
October	21(8-21 mm)	4(10-18 mm)	9(15-35 mm)	-	-	34
November	8(7-12 mm)	2(11-16 mm)	9(8-14 mm)	-	-	19
December	3(7-12 mm)	5(8-12 mm)	-	-	-	8
Total	60(7-24 mm)	25(8-32 mm)	24(8-14 mm)	-	-	109
January, '83	3(7-12 mm)	1(17 mm)	-	-	-	4
February	-	5(11-16 mm)	-	-	-	5
March	7(7-16 mm)	2(10-36 mm)	21(11-36 mm)	-	-	30
April	1(10 mm)	-	14(13-61 mm)	-	-	15
May	10(7-14 mm)	4(13-21 mm)	3(14-36 mm)	1(14 mm)	-	19
June	2(13-18 mm)	-	-	-	-	2
July	20(8-15 mm)	1(12 mm)	15(14-24 mm)	2(14-17 mm)	-	38
August	18(9-29 mm)	3(17-38 mm)	-	7(15-41 mm)	2(17-20 mm)	30
September	31(7-35 mm)	2(16-34 mm)	26(15-37 mm)	21(15-52 mm)	3(22-47 mm)	83
October	94(8-32 mm)	8(22-36 mm)	10(15-34 mm)	1(20 mm)	-	113
November	15(12-26 mm)	10(11-47 mm)	4(17-84 mm)	5(15-55 mm)	21(15-71 mm)	55
December	5(10-27 mm)	4(10-60 mm)	-	13(15-41 mm)	5(15-35 mm)	27
Total	206(7-35 mm)	206(7-35 mm)	93(8-84 mm)	50(14-55 mm)	31(15-35 mm)	421

Table III

Average number of juvenile prawns per month collected by experimental drag net at Station III
(size range in parenthesis)

Month	M.dobsoni	M.monoceros	P.indicus	P. semisulcatus	P.monodon	Total
April '82	1(22 mm)	5(13-22 mm)	1(24 mm)	-	-	7
May	8(9-21mm)	5(11-84 mm)	1(15 mm)	-	-	14
June	9(6-16mm)	1(14 mm)	1(13 mm)	-	-	11
July	6(7-17mm)	18(7-20 mm)	-	-	-	24
August	5(9-13mm)	42 (7-35 mm)	1(21 mm)	-	-	48
Sept	64(7-21mm)	11(7-28 mm)	-	-	-	75
Oct	25(7-16mm)	9(7-15 mm)	1(25 mm)	-	-	35
Nov	47(8-22mm)	1(11 mm)	-	-	-	48
Dec	90(7-18mm)	12(7-19 mm)	-	-	-	102
Total	255(6-22mm)	104(7-35 mm)	5(13-25 mm)	-	-	364
January '83	62(8-16mm)	1(12 mm)	-	-	-	63
February	28(8-25mm)	10(11-36 mm)	-	-	-	38
March	26(8-18mm)	7(8-46 mm)	-	-	-	33
April	—————	—————	no collection	—————		
May	23(7-34mm)	7(7-28 mm)	-	19(19-62 mm)	-	49
June	8(8-20mm)	7(13-39 mm)	-	3(11-44 mm)	-	20
July	274(8-20mm)	7(11-24 mm)	27(13-26 mm)	12(13-62 mm)	-	320
Aug	119(9-30mm)	15(16-54 mm)	90(14-52 mm)	97(16-56 mm)	21(14-64 mm)	342
Sept	54(7-34mm)	12(9-52 mm)	10(15-22 mm)	5(11-52 mm)	1(39 mm)	182
Oct	75(8-18mm)	28(17-52 mm)	6(27-52 mm)	-	-	109
Nov	33(12-74mm)	15(12-79 mm)	27(11-78 mm)	1(46 mm)	4(15-64 mm)	80
Dec	6(10-42mm)	3(9-32 mm)	6(20-70 mm)	-	4(15-64 mm)	19
Total	808(8-42mm)	112(7-79 mm)	166(11-78 mm)	137(11-62 mm)	30(14-64 mm)	1255

FISHING CHIMES

Table IV

Size range in mm of juvenile prawns collected at Ennore estuary from three Stations

Station No.	M.dobsoni	M.monoceros	P.indicus	P.semisulcatus	P.monodon
Station I	7-42	8-72	15-74	-	-
Station II	7-27	8-60	8-84	14-55	15-71
Station III	6-42	7-79	11-78	11-62	14-64

