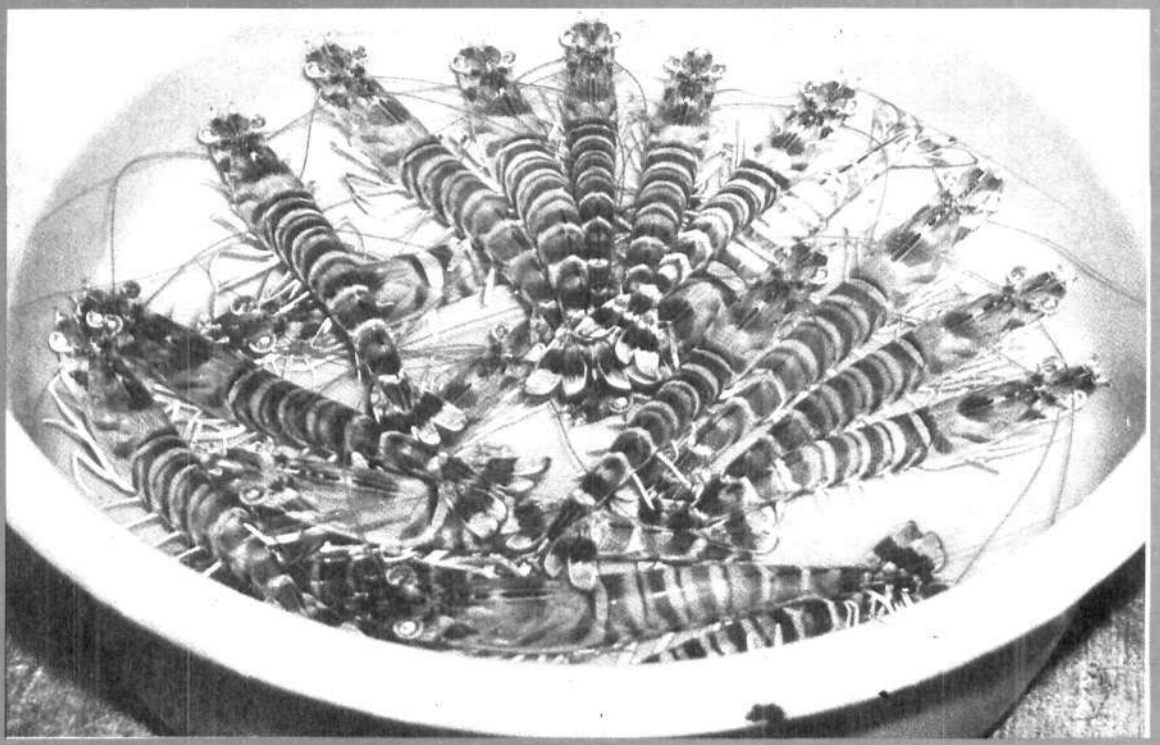
ISSN 0254-380 X

समुद्री मात्स्यिकी सूचना सेवा
MARINE FISHERIES INFORMATION SERVICE

No. 152

JANUARY 1998



तकनीकी एवं विस्तार अंकावली
TECHNICAL AND EXTENSION SERIES

केन्द्रीय समुद्री मात्स्यिकी अनुसंधान संस्थान, कोचिन, भारत
CENTRAL MARINE FISHERIES RESEARCH INSTITUTE COCHIN, INDIA

भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

820 POTENTIAL NEW RESOURCES OF PENAEID PRAWNS OF THE MANGALORE COAST

K.K. Sukumaran,B. Sreedhara and Y. Muniyappa

Mangalore Research Centre, of CMFRI, Mangalore – 575 001, India

Introduction

Penaeid prawns belonging to the genera *Parapenaeopsis, Penaeus* and *Metapenaeus* of the family Penaeidae exploited by mechanised trawlers support a fishery of considerable magnitude along the Mangalore coast. Among the penaeid prawns exploited *Metapenaeus dobsoni, M. Monoceros, M. affinis, Parapenaeopsis stylifera, Penaeus indicus* and *P. monodon* are important and contribute upto 90-99 % of the prawn catch along this coast. Others like, *Solenocera crassicorniss Trachypenaeus curvirostris, Parapenaeus longipes, Penaeus semisulcatus* and *P. canaliculatus*, occurred in stray numbers in the trawl catches until recently, but none of them landed in appreciable quantities so as to support a fishery of any consequence except perhaps *Parapenaeus longipes* which sustained a fishery of some importance particularly during April-May along the Mangalore coast (Sukumaran, K.K. 1995. *Indian J. Fish.*, **32**(2) : 194-197). Recent years have witnessed the emergence of some of these unconventional species of prawns as resources of considerable fishery significance. The fishery of some of these prawns is reported for the first time along the southwest coast of India.

Catch and effort

From 47.4 t during 1992-'93 forming 2.2 % of all prawns, these prawns improved their landings to 261.3 t (9.7 % of all prawn catch) in 1993-'94 and during the following year, it increased to 373.4 t (12.0 % of all prawn catch) (Table 1, 1992-'93 catch not shown). A total of 330.6 t (10.7 % of all prawn catch) was caught during 1995-'96 and 243.1 t in 1996-'97 (11.0 % of all prawns).

The total number of trawl units operated showed an increasing trend over the years with a minimum of 65,195 in 1993-'94 and a maximum of 72,559 in 1995-'96.

The landings of these prawns were mostly during the latter half of the fishing season (from January to May) with the maximum catches in April-May (Table 2). These prawns together contributed upto 31.0 % of the all prawn catch in May. It is also seen that 95-100 % of the catch of these prawns were landed by multi-day trawlers operating at 25-100 m depth.

Important species and their catch details

Solenocera crassicornis was the dominant species. The annual catch ranged from a minimum of 69.4 t in 1993-'94 (forming 26.6 % in the other prawns and 2.6 % of total prawn catch) to a maximum of 185.3 t in 1994-'95 (when it contributed 49.6 % in the other prawns and 5.9 % of total prawn catch). During 1995-'96, 159.6 t of this species was landed forming 48.3 % in the other prawns and 5.2 % of total prawn catch. A maximum of 113.4 t was obtained in May 1996.

Trachypenaeus curvirostris was the second dominant species. The annual catch ranged from 136.2 t (forming 41.2 % in the other prawns and 4.4 % of all prawns) during 1995-'96 to a maximum of 166.5 t in 1993-'94 (63.7 % in the other prawns and 6.2 % of all prawns). The highest catch was recorded in May 1993 (85.5 t).

Penaeus semisulcatus was the third important constituent among the other prawns. The minimum and the maximum annual catches were recorded in 1994-'95 (14.9 t) and 1995-'96 (25.7 t) respectively. Although this species contributed upto 4-8.5 % of the other prawns, it formed less than 1 % in total prawn catch. The highest monthly catch of 13.6 t was realised in March 1994.

Penaeus canaliculatus landings ranged from 3.2 t (1993-'94) to 12.6 t (1994-'95). It formed 1.2 % of the other prawns and less than 1 % of total prawns. A maximum catch of 3.8 t was obtained in January 1996.

Remarks

The present study has indicated the emergence of *Solenocera crassicornis, Trachypenaeus curvirostris, Penaeus semisulcatus* and *P. canalicul-*

TABLE 1. *Annual landings (tonnes) of* T. curvirostris, P. semi sulcatus, P. canaliculatus and S. crassicornis *at Mangalore and Malpe combined during 1993/'94 -1996/'97*

	1993/'94	1994/'95	1995/'96	1996/'97	Average
No. of units	65,185	65,951	72,559	61,298	66,248
Total prawns	2,687.4	3,120.2	3,078.1	2,433.3	2,830.0
T. curvirostris	166.5	160.6	136.2	126.8	147.5
P. semisulcatus	22.5	14.9	25.7	7.6	17.6
P. canaliculatus	3.2	12.6	9.1	40.3	16.3
S. crassicornis	69.4	185.3	159.6	68.4	120.7
Total	261.3	373.4	330.5	243.1	302.1
Catch/unit in kg.	4.0	5.7	4.6	4.0	4.6
% in total prawns	9.7	12.0	10.7	10.0	10.7

atus as potential new penaeid prawn resources which supported fisheries of some magnitude along the Mangalore coast. It is evident that with the vast changes occurring in the marine fisheries sector, the prawn fishery witnessed remarkable changes in its species composition with the addition of a number of species which were, hitherto, not known to support a fishery of any significance along the Mangalore coast.

TABLE 2. *Mean monthly landings (tonnes) of* T. curvirostris, P. semisulcatus, P. canaliculatus *and* S. crassicornis at Managalore and Malpe combined during 1993/'94 - 1996/'97

	Aug.	Sep.	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
No. of units	317	2,469	4,018	7,281	8,713	8,487	8,050	8,479	9,479	8,953	66,248
Total prawns	14.7	60.0	57.8	289.1	393.3	372.0	375.5	400.0	444.6	416.9	2830.0
T. curvirostris	0	0.5	2.5	0	0	6.4	12.2	30.7	36.6	58.7	147.5
P. semisulcatus	0	0	0	0.3	0.5	1.2	4.5	5.1	3.0	3.1	17.6
P. canaliculatus	0	0	0	7.4	0	1.2	1.6	1.1	1.4	3.5	16.3
S. crassicornis	0	1.1	4.6	0.5	0.7	4.0	2.7	10.0	33.2	63.9	120.7
Total	0	1.6	7.1	8.2	1.2	12.8	21.0	46.9	74.2	129.2	302.1
Catch/unit in kg	0	0.6	1.8	1.1	0.1	1.5	2.6	5.5	7.8	14.4	4.6
% in total prawns	0	2.7	12.3	2.8	0.3	3.4	5.6	11.7	16.7	31.0	10.7