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THE MARINE FISHERIES INFORMATION SERVICE: Technical and Extension Series envisages the rapid dissemination of information on marine and brackish water fishery resources and allied data available with the Fishery Data Centre and the Research Divisions of the Institute, results of proven researches for transfer of technology to the fish farmers and industry and of other relevant information needed for Research and Development efforts in the marine fisheries sector.

Abbreviation - *Mar. Fish. Infor. Serv. T & E Ser., No.* 4: 1978

CONTENTS

Cover photo: A bumper catch of prawns

SYNOPSIS OF MARINE PRAWN FISHERY OF INDIA FOR THE SECOND QUARTER OF 1978*

In continuation of the data on marine prawn fishery for the first quarter of 1978 presented in the September issue of the Marine Fisheries Information Service, Technical and Extension Series, the data for the second quarter of 1978 has been analysed. The results obtained for the second quarter are presented below.

Total catch

The total catch of prawns+ for the quarter and statewise and monthwise details of catch are shown in figures 1 and 2 and tables 1 and 2. The total catch of prawns amounting to 40,544 tonnes, is 7,336 tonnes more than the landings of the first quarter and 5,738 tonnes less than that of the same quarter of previous year. The increase from the previous quarter is mostly brought about by the increased landings from Maharashtra and Kerala states (Table 1). The decrease in the prawn landings from the same quarter of last year is contributed mainly by the drastic reduction in the landings from Maharashtra (Table 3), especially the landings of non-penaeid prawns of this state which shows a reduction of nearly 12,600 t. in these prawns in this quarter (Table 4). Out of the total 40,544 t. prawn catch of the quarter, 25,261 t. (62.3%) are contributed by penaeid prawns and the rest 15,283 t. (37.7%) by non-penaeid prawns.

Table 1. *Prawn landings in different maritime states from April to June* 1978

Maritime States	Prawn catch in tonnes				
	April	May	June	Total for II Qr.	Total for I Qr.
Gujarat	510	492	37	1039	2033
Maharashtra	6626	14,380	636	21,642	15,678
Goa	225	88	3	316	613
Karnataka	1812	235	99	2146	3518
Kerala	1624	4468	5653	11,745	5193
Tamil Nadu	897	499	1147	2543	4392
Pondicherry	46	36	63	145	73
Andhra Pradesh	216	219	382	817	1474
Orissa	41	7	27	75	5
W. Bengal	8	24	44	76	229
ALL INDIA TOTAL	12,005	20,448	8,091	40,544	33,208
Month-wise percentage	29.6	50.4	20.0		

Table 2. *State-wise penaeid and non-penaeid prawn catch from April to June* 1978

Maritime States	Landing in tonnes							
	April		May		June		Total for II Qr.	
	Penaeid	Non-penaeid	Penaeid	Non-penaeid	Penaeid	Non-penaeid	Penaeid	Non-penaeid
Gujarat	275	235	398	94	8	29	681	358
Maharashtra	2965	3661	3860	10,520	278	358	7103	14,539
Goa	225	—	88	—	3	—	316	—
Karnataka	1812	—	235	—	99	—	2146	—
Kerala	1575	49	4449	19	5636	17	11,660	85
Tamil Nadu	892	5	464	35	1077	70	2433	110
Pondicherry	41	5	36	—	30	33	107	38
Andhra Pradesh	166	50	217	2	287	95	670	147
Orissa	41	—	7	—	27	—	75	—
W. Bengal	8	—	22	2	40	4	70	6
ALL INDIA TOTAL	8000	4405	9776	10,672	7485	606	25,261	15,283
Month-wise Percentage	31.7	26.2	38.7	69.8	29.6	4.0		

*Prepared by the members of Crustacean Fishery Resources team.

+ The catch figures are provisional.

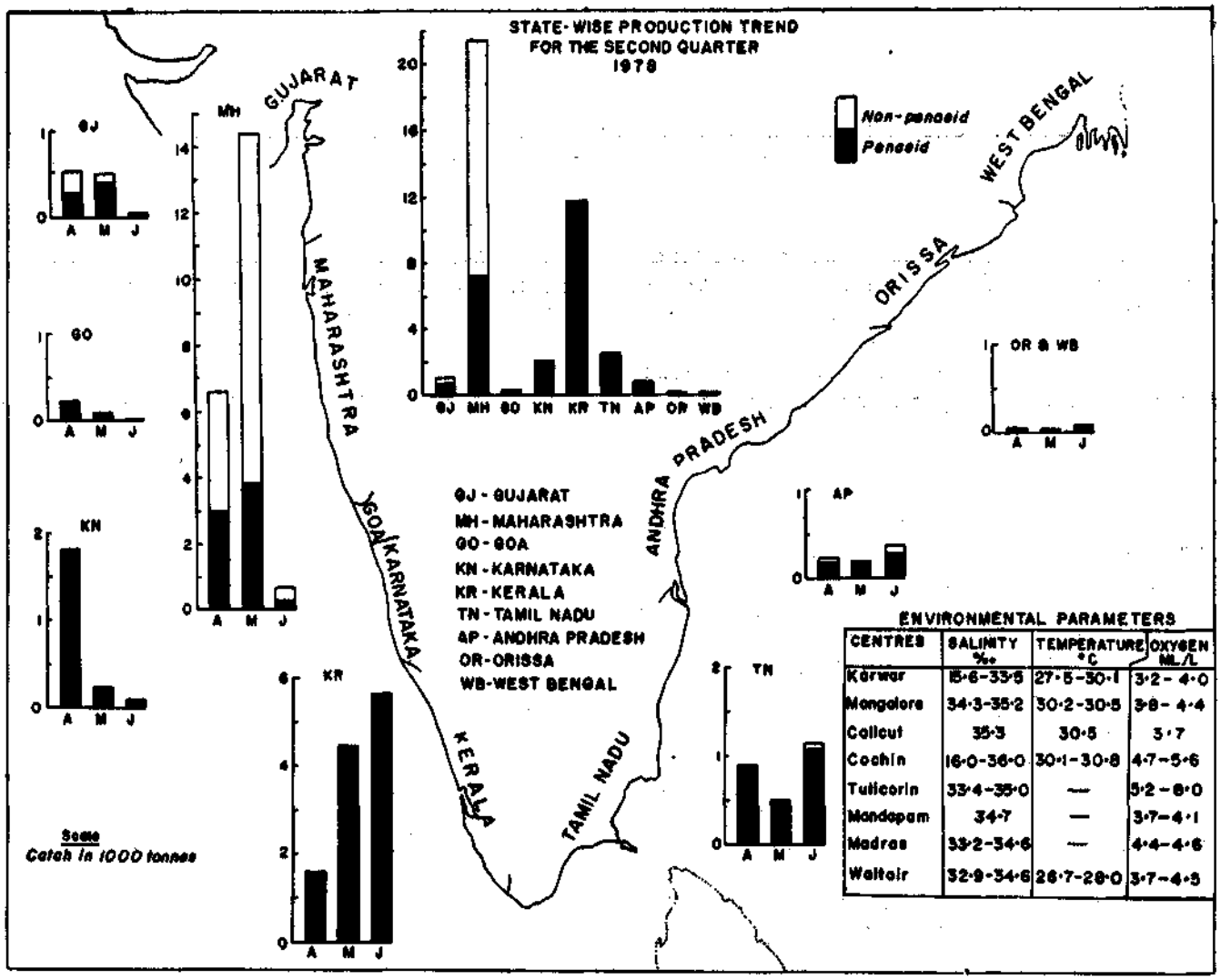


Fig. 1. Penaeid and non-penaeid prawn landings and environmental parameters of the sea in different maritime states during April-June 1978

Monthwise analysis indicate that during the quarter the landings were especially high in May, 50.4% of the catch of the quarter being landed in this month, mostly due to the high landings of Maharashtra. Due to the onset of the monsoon most of the states along the west coast had very low catch in June and that has resulted in the very low total landings in that month. In Maharashtra, out of a total of 21,642 t., May showed the maximum of 14,380 t. and in June it was only 636 t. While Kerala state showed the maximum of 5653 t. in June and the minimum of 1624 t. in April, Karnataka had the maximum of 1812 t. in April and very insignificant catch of 99 t. in June.Tamil Nadu registered the maximum catch of 1147 t. in June. In Andhra Pradesh also the maximum catch is seen in the month of June. Gujarat showed a regular decline from 510 t. in April to 37 t. in June. Both West Bengal and Pondicherry had maximum catch in June. In Goa the catch was almost nil in June, with the maximum of 225 t. in April.

Table 3. *State-wise prawn landings and percentage for the second quarter of* 1977 *and* 1978

Maritime States	Prawn landings in tonnes		Percentage	
	1977	1978	1977	1978
Gujarat	727	1039	1.6	2.6
Maharashtra	34,657	21,642	74.9	53.4
Goa	259	316	0.5	0.8
Karnataka	637	2146	1.4	5.3
Kerala	4229	11,745	9.1	29.0
Tamil Nadu	1910	2543	4.1	6.2
Pondicherry	35	145	0.1	0.3
Andhra Pradesh	3640	817	7.9	2.0
Orissa	109	75	0.2	0.2
W. Bengal	79	76	0.2	0.2
ALL INDIA TOTAL	46,282	40,544	100.0	100.0

Table 4. *State-wise penaeid and non-penaeid prawn landings and their percentage for the second quarter of 1977 and 1978*

Maritime States	Landings in tonnes & Percentage							
	1977				1978			
	Penaeid	%	Non-penaeid	%	Penaeid	%	Non-penaeid	%
Gujarat	503	2.8	224	0.8	681	2.7	358	2.3
Maharashtra	7559	43.8	27,098	93.3	7103	28.1	14,539	95.2
Goa	259	1.5	—	—	316	1.2	—	—
Karnataka	637	4.0	—	—	2146	8.5	—	—
Kerala	4170	24.2	59	0.2	11,660	46.2	85	0.6
Tamil Nadu	1785	10.2	125	0.4	2433	9.6	110	0.7
Pondicherry	34	0.2	1	—	107	0.4	38	0.2
Andhra Pradesh	2143	12.4	1497	5.2	670	2.7	147	1.0
Orissa	104	0.6	5	—	75	0.3	—	—
W. Bengal	48	0.3	31	0.1	70	0.3	6	—
ALL INDIA TOTAL	17,242	100.0	29,040	100.0	25,261	100.0	15,283	100.0

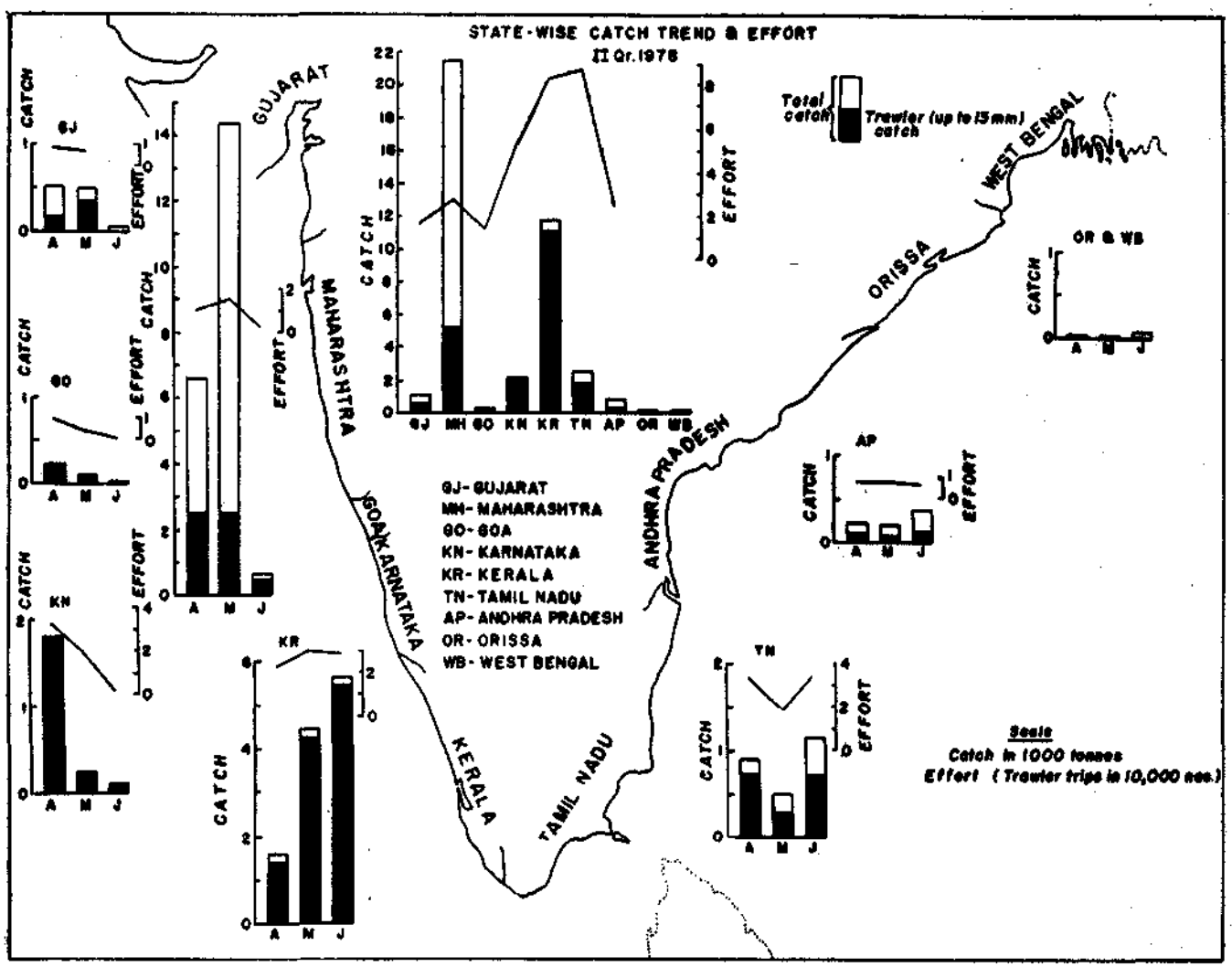


Fig. 2. Prawn landings by commercial shrimp trawlers in relation to the total prawn catch and the fishing effort during April-June 1978.

Maharashtra state contributes to 53.4% of the total catch of the quarter, with a production of 21,642 t. of which 14,539 t. belong to non-penaeid prawns. This amounts to more than 95% of the total non-penaeid prawn landings, the major portion of which was landed in May (10,520 t). As usual the catch mostly consists of the palaemonid prawn *Palaemon tenuipes* and the sergestid shrimp *Acetes indicus*. Kerala state contributes to 29.0% of the prawn landings of the quarter, the catch of the state in the same quarter of last year

being only 9.1%. Out of a total of 11,745 t. of landings, which is more than double the landings of the previous quarter, 11,660 t. are penaeid prawns. Tamil Nadu, Karnataka and Gujarat contributing to 6.2%, 5.3%, and 2.6% of the total catch respectively, register higher catch when compared to the same quarter of last year, but lower than the first quarter. In Goa also there is a slight improvement from the same quarter of last year and decrease from previous quarter. In Andhra Pradesh the landings of prawns are very poor when compared to the catch of the same quarter of previous year (Table 3) as well as that of the last quarter.

The prawn catch by shrimp trawlers show an increase from that of the previous quarter. Out of a total catch of 40,544 t. of the quarter, 21,766 t. (53.7%) have been landed by trawlers of length upto 13m. Gearwise analysis of the data shows that the percentage contributions of trawl net catch is 58.7, 38.4 and 84.8% in April, May and June respectively (Table 5). The percentage of trawl net catch is especially high in June (84.8%) when the total catch is comparatively low. This is mostly due to the onset of the monsoon because of which the indigenous nets are very much less in operation during the month of June. In Kerala out of 11,745 t. of total catch during the quarter, 11,148 t. (94.9%) are landed by trawl nets. In Karnataka and Goa also the percentages of trawl net catch are quite high, 99.4% and 98.7% respectively. In Maharashtra, on the other hand, the percentage contribution of trawl nets is at the minimum of 25.7%, out of 21,642 t. only 5599 t. being landed by trawlers. Most of the catch here is contributed by dol nets. Shrimp trawl net landings in Tamil Nadu and Andhra Pradesh are 67.8% and 38.7% respectively. In the overall total catch of shrimp trawl nets of the country during the quarter, Kerala state lands the maximum of 51.2%.

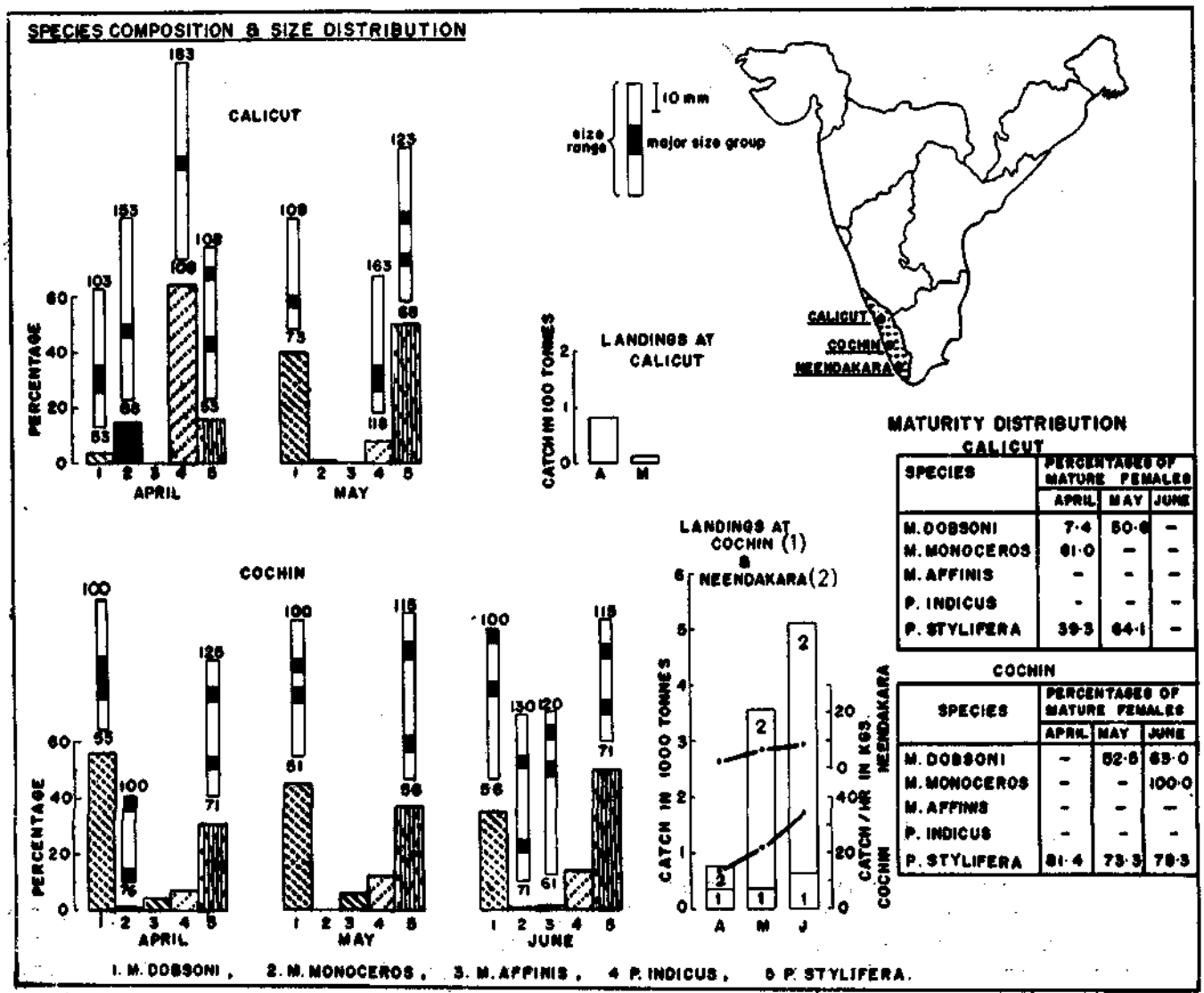


Fig. 3. Catch trend, species composition and biological features of prawns at Cochin, Neendakara and Calicut.

Table 5. *Landings by commercial shrimp trawlers in relation to the total prawn catch during April-June, 1978.*

Maritime States	Landings in tonnes								
	April		May		June		Total for II Qr.		
	Total prawn catch	Prawn catch by shrimp trawlers	Total prawn catch	Prawn catch by shrimp trawlers	Total prawn catch	Prawn catch by shrimp trawlers	Total prawn catch	Prawn catch by shrimp trawlers	State-wise %
Gujarat	510	171	492	363	37	—	1039	534	2.5
Maharashtra	6626	2617	14,380	2541	636	441	21,642	5599	25.7
Goa	225	221	88	88	3	3	316	312	1.4
Karnataka	1812	1812	235	233	99	89	2146	2134	9.8
Kerala	1624	1397	4468	4265	5653	5486	11,745	11148	51.2
Tamil Nadu	897	725	499	281	1147	717	2543	1723	7.9
Pondicherry	46	—	36	—	63	—	145	—	—
Andhra Pradesh	216	105	219	89	382	122	817	316	1.5
Orissa	41	—	7	—	27	—	75	—	—
West Bengal	8	—	24	—	44	—	76	—	—
ALL INDIA TOTAL	12,005	7048	20,448	7860	8091	6858	40,544	21,766	—
Monthly Percentage		58.7		38.4		84.8		53.7	

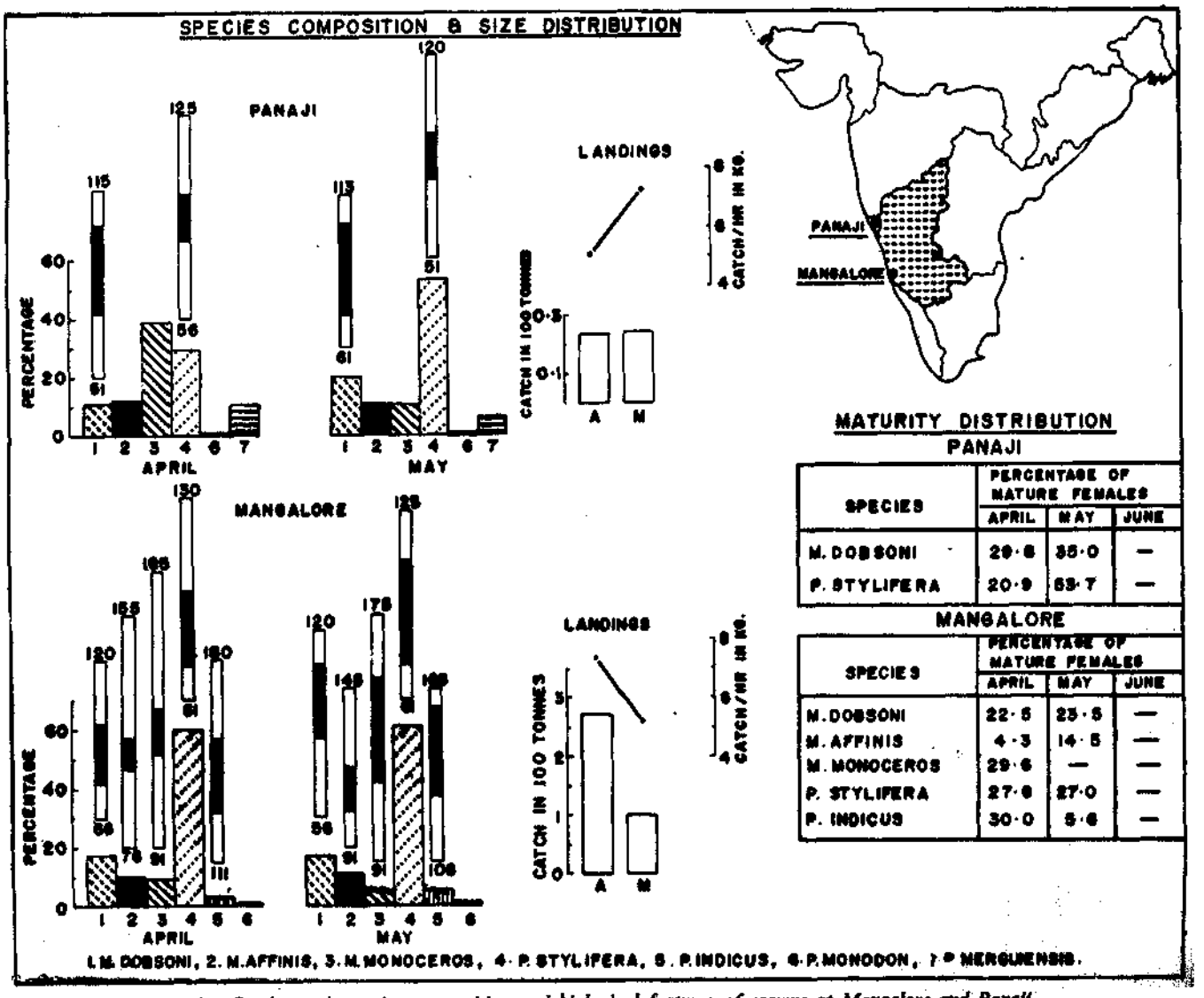


Fig. 4. Catch trend, species composition and biological features of prawns at Mangalore and Panaji.

Species composition and other biological aspects at selected centres

Cochin (Fig. 3)

The prawn landings at Cochin and Neendakara (combined) showed a steady increase during the quarter, increasing from 825 t. in April to 5486 t. in June. The catch per unit effort also showed a steady increase from 8.3 kg in April to 21.2 kg in June. Both total landings as well as catch per unit effort are considerably high when compared to the last quarter. Out of 5 species of prawns represented in the fishery *Metapenaeus dobsoni* (Poovalan) with prominent sizes in males and females ranging from 76 mm to 100 mm was the dominant species in April and May. *Parapenaeopsis stylifera* (Karikkaadi) with prominent sizes ranging from 81 mm to 110 mm was second in abundance in April and May. However, in June this species became dominant. *Penaeus indicus* (Naaran) of larger sizes was the species next in abundance and it maintained a regular increase in the catch from April to June. Among the other two species *Metapenaeus affinis* (Kazhanthan) was more common than *Metapenaeus monoceros* (Choodan), of which the catch was negligible in all the three months. In the case of *P. stylifera* more than 70.0% of the females were mature in all the months.

Calicut (Fig. 3)

The catch decreased considerably in May and in June there was no fishery. In April *P. indicus* with modal lengths of 143 mm and 183 mm in males and females respectively contributed to 64.0% of the catch and *P. stylifera* was next in abundance with 16.4%. In May *P. stylifera* was most abundant with prominent sizes ranging from 73 mm to 98 mm. *M. dobsoni* was second in abundance in that month. All the other species were quite negligible in the catch in May. The predominance of *P. indicus* in April is quite unusual.

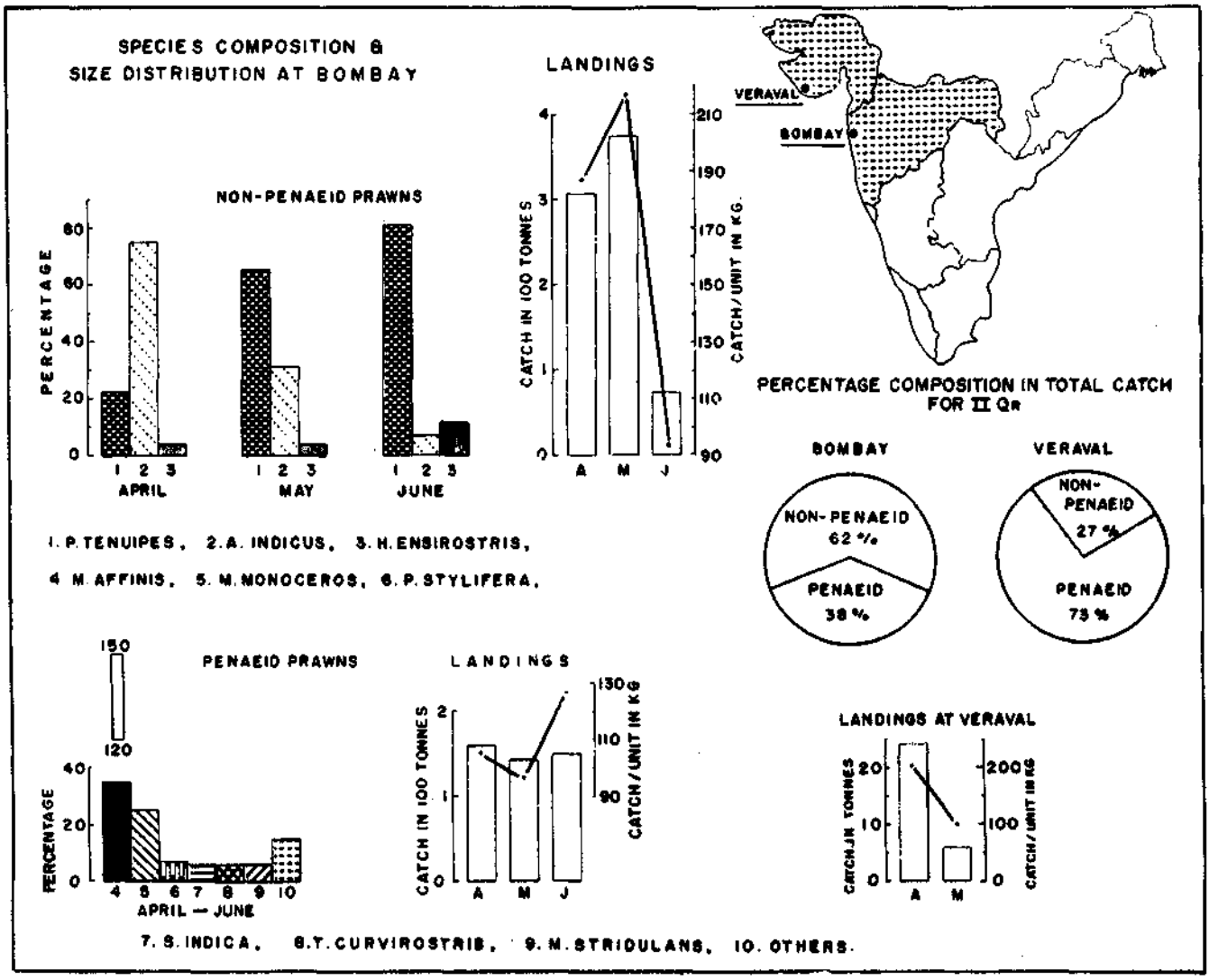


Fig. 5. Catch trend and species composition of prawns at Bombay and Veraval.

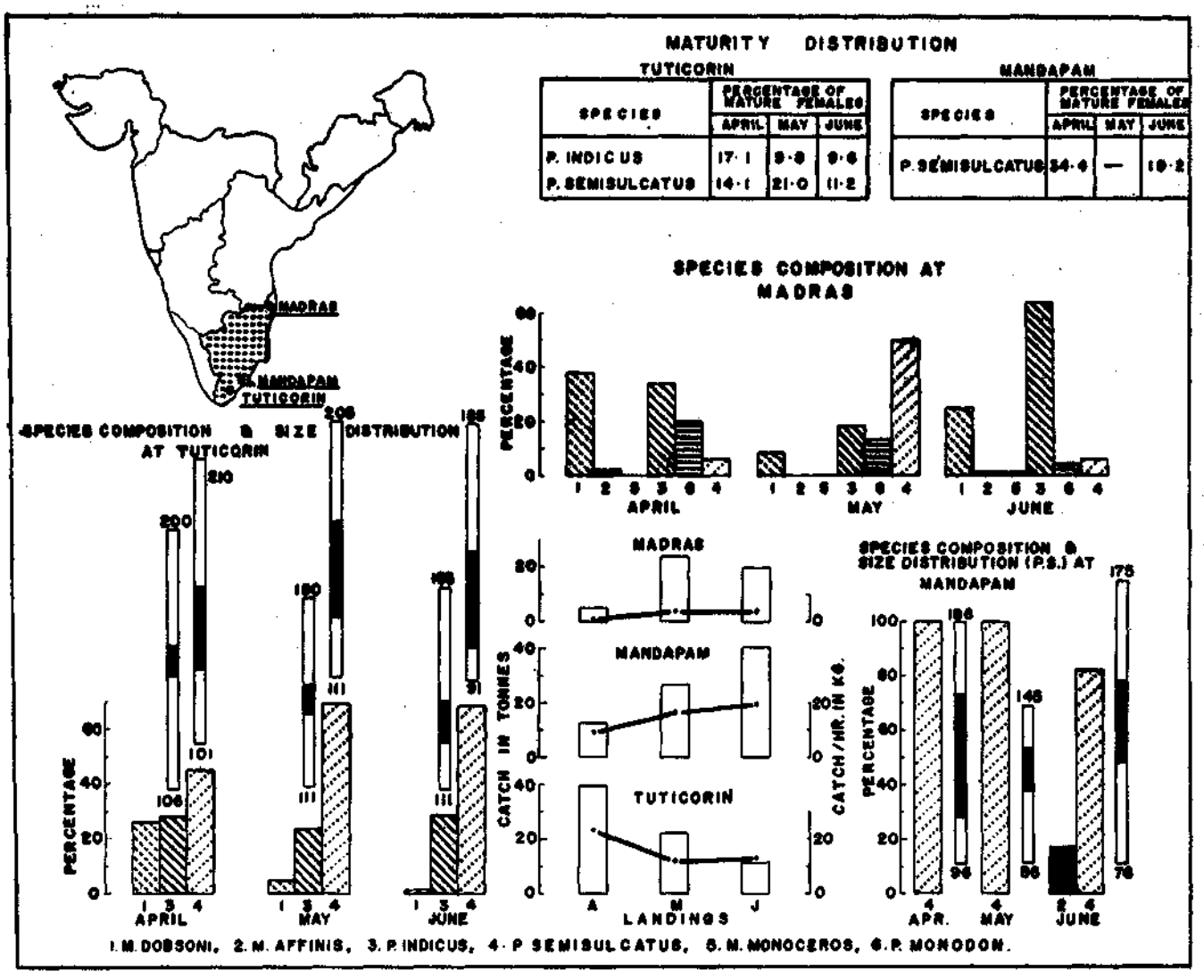


Fig. 6. Catch trend, species composition and biological features of prawns at Tuticorin, Mandapam and Madras.

Mangalore (Fig. 4)

Here also the catch decreased considerably along with catch per unit effort in May and in June there was no fishery. As in previous quarter *P. stylifera* dominated in the catch in this quarter also. The prominent sizes of the species ranged from 73 mm to 108 mm. *M. dobsoni* with modal sizes 78–98 mm ranked second in abundance during both April and May. *M. affinis* with prominent sizes ranging from 103–118 mm was the species next in abundance in both months. Appreciable quantities of *M. monoceros* and *P. indicus* were also caught in both months. The prominent sizes of the former species ranged from 118–153 mm and the latter from 128–158 mm. Small quantities of *P. monodon* were present in both April and May. The percentage of mature females of all the species was comparatively less.

Panaji (Fig. 4)

The catch remained at a level of about 24 tonnes in both April and May, with no fishery in June. The dominance of *M. monoceros* in the catch noticed in February and March of last quarter continued in April also. However, in May *P. stylifera* became dominant, the modal sizes of which ranged from 78–98 mm. The percentage of mature females decreased considerably in April with some improvement in May. The percentage contribution of *M. dobsoni* increased from 10.9% in April to 19.9% in the next month. The modal sizes of this species ranged from 73 mm to 103 mm.

Bombay (Fig. 5)

Out of 1215 t. of prawns estimated to be landed at this centre non-penaeid prawns comprising of *Acetes indicus, Palaemon tenuipes* and *Hippolysmata eastrostris*

formed 62.0% (756 t.) and the rest penaeid prawns. The non-penaeid prawns were caught mostly by dol nets. *A. indicus* dominated in the fishery in April (75.0%) and *P. tenuipes* in May (65.0%) and June (81.0%). The bulk of the penaeid prawn catch was landed by trawlers at Sassoon Dock, the major species being *Metapenaeus affinis* (35.0%), *M. monoceros* (25.0%) and *Parapenaeopsis stylifera* (7.0%). The size range of *M. affinis* was 120–150 mm and about 20.0% of the females were with mature ovaries.

Veraval (Fig. 5)

The prawn catch at Veraval decreased from 24.1 t. in April to 5.7 t. in May, there being no fishery in June. In April 80.0% of the catch (18.9 t.) was contributed by penaeid prawns and in May 50.0%. Most of the penaeid prawn catch was constituted by *P. stylifera* with sizes ranging from 70 mm to 125 mm.

Tuticorin (Fig. 6)

There was a regular decrease in the catch here from 39.3 t. in April to 11.0 t. in June. The dominant species was *P. semisulcatus* with modal sizes of 128–168 mm. *P. indicus* was next in abundance and the prominent sizes of this species ranged from 128 mm to 158 mm. Although in April 10.3 t. of *M. dobsoni* was landed, in the next two months the species was present in very small quantities. The percentage of mature females of all the species was very low.

Mandapam (Fig. 6)

Contrary to the prawn landings at Tuticorin, the landings at this centre showed a regular increase from 12.7 t. in April to 40.5 t. in June with corresponding increase in catch per boat days. While *P. semisulcatus* was the only species contributing to the fishery in April and May, small quantities of *M. affinis* were also landed

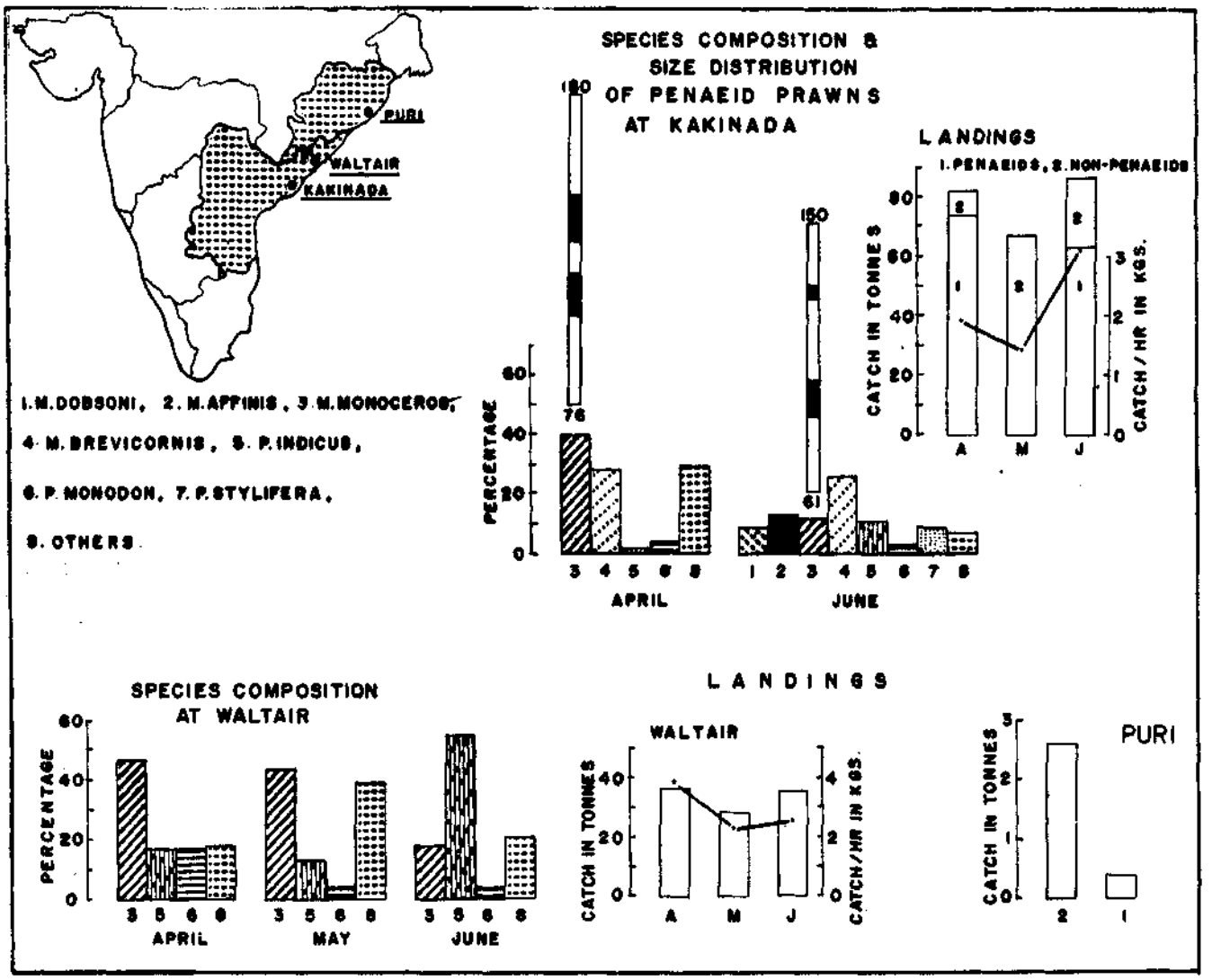


Fig. 7. Catch trend, species composition and biological features of prawns at Kakinada, Waltair and Puri.

in June, forming 17.3% of the catch. The modal sizes of *P. semisulcatus* ranged from 108–158 mm. Mature females were almost nil in the landings.

Madras (Fig. 6)

Compared to the previous quarter the catch of prawns was better during this quarter, the landings showing considerable improvement especially in May. *M. dobsoni* was the dominant species in April when the catch was comparatively poor. In May *P. semisulcatus* became dominant and in June *P. indicus* was predominant, *P. monodon* was present in the catch in appreciable quantities especially in April and May. *M. affinis* and *M. monoceros* were found in the catch in small numbers.

Kakinada (Fig. 7)

The catch at this centre was considerably poor when compared to the previous quarter. While less than one third of the total catch was contributed by non-penaeid prawns in both April and June, the whole quantity landed in May (67.2 t.) was comprised of non-penaeids consisting of mostly *Acetes indicus, Hippolysmata ensirostris* and *Palaemon tenuipes.* Among the penaeid prawns, *M. monoceros* was the dominant species in April. *M. brevicornis*, which was second in abundance in April, became dominant in June. *P. indicus* and *P. monodon* were both present in the landings in appreciable numbers in April and June.

Waltair (Fig. 7)

The catch of prawns at this centre showed slight improvement from that of the previous quarter. *M. monoceros* was the dominant species in April and May. But in June *P. indicus* became dominant. *P. monodon* was more common in April, landing about 6.2 t. (17.1%).

Puri (Fig. 7)

There were prawn landings at this centre in April and May only and in these months also the catch was poor. In April the catch was mostly constituted by *M. affinis* with dominant sizes ranging from 118-138mm. In May the catch consisted of only *M. dobsoni* with modal size of 98 mm.

Environmental Parameters (Fig. 1)

In general, the values of environmental parameters were less during the second quarter than those of the first quarter in Karnataka and Kerala. But, in Tamil Nadu and Andhra Pradesh the salinity and temperature values were higher during the present quarter than in the previous quarter and the oxygen values were less than the first quarter.

In Karnataka the temperature, salinity and oxygen values were high in April and May and decreased in June with the onset of the monsoon rains. In direct relationship with this it is noticed in this state that the catch of prawns also decreased in June along with the environmental parameters. In Kerala, however, the prawn catch was more in June when these values registered the least. In Tamil Nadu and Andhra Pradesh also the prawn landings were more in June when the values for salinity, temperature and dissolved oxygen were at the minimum.

EXPERIMENT ON POLYCULTURE IN A BRACKISH WATER FISH FARM IN DAKSHINA KANNADA (KARNATAKA)*

The Karnataka state is having about 5000 ha of brackish water areas suitable for fish culture. In order to study the technical feasibility and economic viability of fish culture in this region a series of experiments are being undertaken by the Research Centre of CMFRI, Mangalore.

Experiments on polyculture of fishes in the brackish water fish farm at Mulky (30 km north of Mangalore) were carried out from November 1976 to September 1977. The experimental pond having an area of 0.5 ha formed a part of the fish farm located near the confluence of the rivers Shambhavi and Pavanji. The pond has a muddy bottom, the depth being 1 to 1.5 m. Free flow of water to and from the field was maintained through a concrete pipe of 30 cm. diameter laid in between the experimental pond and the adjoining field. By repeated dragnet fishing predatory fishes and other undesirable organisms were eradicated from the field in November. A fine meshed velon screen was placed at the two ends of the pipe to prevent the entry of undesirable organisms into the field and the escape of the stocked fishes. Seeds of mullet *(Liza macrolepis)* and prawn *(Penaeus indicus)* were collected

from the adjoining water area and were stocked on 16th November 1976 at a rate of 700 and 1340 respectively. 1800 fingerlings of *Sillago sihama* collected from the Coondapur estuary were transported and stocked in the pond along with mullets and prawns. After 191 days, the stocked fishes and prawns were harvested by drag netting. The percentage recovery of mullet and *P. indicus* was 38 and 33 respectively. In the case of *Sillago sihama* the rate of recovery was only 1.6%. However, a few more specimens were caught after about 5 months. During the period of culture *P. indicus* grew from 37 mm to 105 mm, the mullet from 40 mm to 220 mm and *Sillago sihama* from 62 mm to 105 mm.

After the harvest of prawns and fishes, 500 numbers of milk fish were introduced into the pond on 30th May, '77 and were cultured for 111 days. During this period the fish grew from an initial size of 37 mm to 249 .4mm.

The results of these experiments indicated that fishes like mullets, milk fish and *Sillago sihama* and the prawn, *P. indicus*, could be cultured advantageously in the brackish water fields of the Mulky region. Since the fields are found to be very productive, no artificial or supplementary feeding is required for the culture of these fishes. Further experiments on intensive culture of the fishes and prawns in the brackish waters at different centres in Karnataka is progressing.

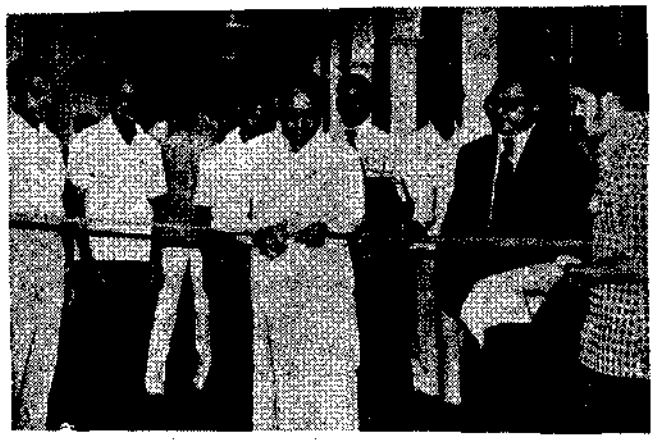
* By S. Ramamurthy, M. H. Dhulked, N. S. Radhakrishnan and K. K. Sukumaran

NEWS — INDIA AND OVERSEAS

Seminar discusses the role of small-scale fisheries and coastal aquaculture in integrated rural development

A seminar on the role of small-scale fisheries and coastal aquaculture in integrated rural development was conducted by the Central Marine Fisheries Research Institute at Madras from 6–9 December, 1978. The seminar was inaugurated by Shri G. R. Edmund, Minister for Food and Fisheries, Government of Tamil Nadu at 11 A. M. on December 6, 1978. In the inaugural address the honourable minister stressed the importance of small-scale fisheries, particularly in Tamil Nadu coast, and the various developmental programmes envisaged by the Government to improve the sector during the Sixth Plan period. Nearly 200 delegates drawn from different institutions connected with various sectors of fisheries participated in the proceedings of the seminar. For the first time, representatives of fishermen and fish farmers, administrators, planners, scientists and representatives of financial institutions met together at a common forum.

Apart from lectures on specified topics by distinguished leaders in different fields of fisheries research, development and management, 26 topical research papers were presented and discussed. The special lectures and the papers were presented under eight technical sessions, namely present status of small-scale fisheries and coastal aquaculture, socio-economic conditions of the coastal rural sector, resource potential for capture and culture fisheries in the coastal region, technological base for integrated rural development, post-harvest technology, manpower requirements and training, financing of integrated projects and public policies and planning of rural fisheries. The lectures and presentation of papers were followed by



Shri G. R. Edmund, Minister for Food and Fisheries, Government of Tamil Nadu opening the exhibition in connection with the Seminar.

lively discussions in which the view points of the different sectors including the fishermen were freely expressed.

In the concluding session chaired by Dr. E. G. Silas, Director, Central Marine Fisheries Research Institute, based on the suggestions of the participants several recommendations were recorded. Concluding this session Dr. M. S. Swaminathan, Director General of Indian Council of Agricultural Research and the President of the seminar exhorted the participants to expedite the implementation of the recommendations of the seminar. He pointed out that the proper development of coastal aquaculture would open new frontiers of production ushering a new economic order in the coastal rural sector. He further stressed that an integrated approach is essential for the productive utilisation of all the ecosystems and the resources.

Dr. M. S. Swaminathan, Director General of ICAR addressing the plenary session of the Seminar, chaired by Dr. E. G. Silas, Director, CMFRI.

A new name in package deals for the world's fisheries

A number of shipyards, factories and research establishments in Polland are planning to provide a combined new service and it is about to enter world fisheries under a new name, namely *Polfish* which is a package deal which can supply either a complete fishing industry or any sector of the industry such as repair and maintenance facilities for fishing units, processing plant, fishing vessels etc.

Polfish is not just another plan for developing the fisheries in the accepted sense like converting country canoes to surf boats. It is primarily designed to aid the maritime states which have recently claimed 200 miles Exclusive Economic Zone, but lack the capacity for exploitation of the additional areas. The Polfish offer would cover all the aspects of developments like introduction of high efficiency vessels with the necessary back-up services, processing units, training of personnel, finances and such other matters involved in improving the efficiency for fishery exploitation.

World Fishing 27 (4) : April 1978

Sonar aids for fishing

In spite of the depressed state of some fisheries, the overall world wide situation is encouraging and new fish finding gears are being developed for the aid of the fishermen. The latest activity comes in the development of steadier tube pictures using memory circuits, and sounding information presented before the skipper in full colour with the facility for recording on tape. Sonar information can be displayed either on recording paper or on a cathode-ray-tube with a radar form of presentation which is easier to interpret.

The conventional vertical transmission echo-sounder in general can be divided into three major categories, mechanical scanning, electronic scanning and cathode-ray-tube presentation. Although mechanical scan on dry paper produces a slightly better permanent record, the electronic scan on moist chemically treated paper has several important advantages, the most significant of which is the ability to display various forms of information such as range expansion and bottom lock expansion in varying expanded scales simultaneously with the conventional display on one record. It also permits the selection of a number of depth scales by selecting appropriate scanning speeds.

From the manufacturers Koden in Japan a unique type of dispaly unit, the Chromoscope Type CVS-883 series incorporates a cathode-ray-tube on which the received echo signals are displayed in colour in the familiar pattern of conventional records on paper. A record can be retained by taping the information on a standard cassette to be played back when required. The strongest signals such as the sea bed, are shown in red, the sea in blue and signals of intermediate amplitudes such as various species of fish, plankton etc. in colour which vary from white through shades of yellow to red depending on the amplitude of the signals.

The net monitor is a device attached to the headline of the net to indicate the conditions in that vicinity. Two systems are in operation, by a transducer attached to the headline of the net and connected to the transmitter/recorder on board the vessel by cable paid out with the warp line or by remote monitoring unit attached to the headline of the net.

World Fishing 27 (5): May 1978

Selective shrimp trawl designed

When there is an overlap between fishing grounds of demersal finfish and shrimp fisheries there is a significant discard problem detrimental to both industries. National Marine Fisheries Service (NMFS) of USA have been studying the problem with particular emphasis on the South Eastern US penaeid shrimp fisheries. Utilising the observations of scientist divers on water flow pattern and finfish/shrimp behaviour in swimming against the water flow a panel was designed to separate the shrimp from the fish. Using this a selective trawl has been developed.

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World's largest trawler

Poland's Northern Shipyard will shortly complete the first of a series of five of the largest factory trawlers in the world. The super stern trawlers were ordered by the Soviet Union and are designed to handle both bottom and pelagic trawls and process their catch. The principal particulars are as follows.

Length Oa	–	119.50 m
Length bp	–	107.45 m
Breadth	–	17.40 m
Depth	–	11.0 m and draught-6.50m

Twin diesel engines developing 3,600 bhp each at 500 rpm.

The maximum service speed at a draught of 6.50m is 16.2 Knots with a cruising range of between 23,000 and 28,000 nautical miles.

The processing plant is equipped to process the catch into 50 tons per 24 hours of frozen products,

50	,,	24	,, fish meal and industrial fish oil
5	,,	24	,, medicinal fish oil and
2	,,	24	,, fish preserves.

3 refrigerated fish holds with a capacity of 3780 m^3 can be held at a maximum of–28°C, while a fish meal hold with a capacity of 700m^3 can be cooled to a maximum of +15°C. There is also a fish preserves hold and 4 fish oil tanks.

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Dissolved Oxygen measurement system

The Orbisphere Laboratories has announced their new model 2712 dissolved oxygen measurement system for saline waters with salinities up to 50‰. The instrument is quite useful for marine fish farmers for measuring oxygen in sea or estuarine waters with changing concentration of salt. The orbisphere claims that the meter takes proper account of salinity effects upon the solubility. Four 0_2 measurement ranges are provided 0-1, 0-3, 0-10 and 0-30 ppm with a precision of ± 1 percent of full scale indication on each of these ranges when the measurement and calibration temperature differ by less than 5°C. Water depths down to 200 m do not influence the accuracy of measurement.

The instrument is sealed against foul weather and accidental immersion in water. Simultaneous recorder outputs are provided of oxygen and temperature signals. Available from Orbisphere Laboratories. 5 rue Gustave Moynier, CH–1202, Geneva, Switzerland.

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BOOKS

Comparative Pathobiology. Vol. I. Biology of the Microsporidia, pp 371. Vol II. Systematics of the Microsporidia, pp 510. Edited by Lee A. Bulla, Jr. and Thomas C. Cheng. Plenum Press, New York and London 1977.

Vol I. presents a summary of present knowledge on the microsporidia, a large group of pathogenic protozoa which stresses structure, development and host parasite relationship at the cellular and the organismal levels. Vol. II deals with the comprehensive review of the current state of knowledge of microsporidian species currently available. This volume outlines microsporidian classification and phylogeny, and provides a zoological distribution for each species. These volumes contain the glossary of technical terms.

Pond littoral Ecosystems. Edited by D. Dykyjova nad J. Kvet. Springer-Verlag Berlin, Herdelberg, New York. pp 464, 1978.

This is the 28th volume of Ecological studies. The present volume gives the methods and results of quantitative ecosystem research undertaken by International Biological Programme in Czechoslovakia on wetland project.

Marine Natural Products. Edited by Paul J. Schever, Academic Press, New York, San Francisco, London, pp 308, 1978.

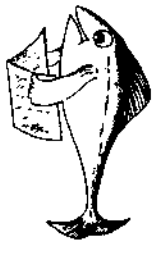
This is the first volume of a new, open-ended treatise that will provide critical timely reviews of the latest research in the area covering such marine natural products as isoprenoids, carotenoids, steroids, benzenoids etc. Present volume treats five research areas in which notable advances have recently been made. This ongoing multivolume treatise will be another essential reference book for researchers and students interested in marine natural products.

Waves in the ocean. P.H. Le Blond and L.A. Mysak. Elsevier Oceanography Series Vol. 20, pp 602, 1978.

It contains a comprehensive review of the dynamics of ocean waves, covering all types, ranging from capillary to planetary waves. While the completeness of coverage of all aspects with the use of elementary mathematics and the provision of numerous problems and exercises makes the book indispensible for the graduate student, the inclusion of recent research results dispersed among hundreds of articles renders it a valuable reference work. The book contains number of Russian literature.

Hydrodynamics of estuaries and fjords. Edited by J. C. J. Nihoml. Elsevier oceanography Series, Vol. 23, pp. 546, 1978.

The book contains the proceedings of the 9th international colloquim on ocean hydrodynamics held at Hiege in 1977, participated by experimentalists and modellers, hydrodynamicists, chemists and biologists. The papers presented and discussed include specially commissioned articles and well documented case studies concerning main impact on the environment, river engineering and modelling of estuaries and coastal seas in different parts of the world. It provides a survey of major new discoveries and valuable suggestions for future research in estuarine hydrodynamics.



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