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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.* 7: 1979

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Cover photo: Polluted Chaliyar River (Calicut) showing discoloured (black) water

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

Data on marine prawn fishery for the first two quarters of 1978 were given in earlier issues of the Marine Fisheries Information Service, Technical and Extension Series. In continuation, the data for the third quarter of 1978 is presented below.

Total Catch

The statewise and monthwise details of catch during the months of the quarter and the total catch of prawns** for the quarter are shown in figures 1 and 2 and tables 1 and 2. The total catch of prawns was 53,853 tonnes, of which the major portion of 51,146 tonnes (94.9%) was contributed by penaeid prawns and only 2,707 tonnes (5.1%) by non-penaeid prawns. Compared to the previous quarter the total catch in this quarter was 13,309 t. more, mostly brought about by the penaeid prawn landings from Kerala (table 1). In comparison to the catch of the same quarter of last year the catch in this quarter was higher by 12,701 t. (table 3). This is the cumulative effect of increased catch in penaeid prawns in Kerala, Tamil Nadu, Andhra Pradesh and Maharashtra (table 4).

Unlike in first and second quarter of this year, but similar to the third quarter of last year, Kerala State contributed 51.0% of the total catch of the quarter, with a production of 27,489 t., of which only 186 t. belonged to non-penaeid prawns. Although the fishing activities remained low in most of the centres due to the monsoon, the trawl fishery was very active at Neendakara. This has resulted in more than two fold increase in production in the State. The contribution of Maharashtra State to the total catch of the quarter was only 20.5%, mostly contributed by penaeid prawns, as against the larger quantities of non-penaeid prawns landed in this State during the two previous quarters. Tamil Nadu and Andhra Pradesh contributing 10.4% and 10.2% to the total catch respectively, showed conspicuously higher catch in comparison to the previous quarter. Especially in Andhra Pradesh the catch has picked up considerably during the quarter. Karnataka State showed better catch when compared to the same quarter of previous year, but only slight improvement from the catch of second quarter. This is mostly due to heavy catch of prawns of species *Metapenaeus dobsoni* in August landed by shore seines (Kairampani) at Hejmadi and Padubidri centres.

Analysis of the data for the quarter on a monthly basis show that 42.1% of the catch was during July, nearly three fourth of which being from Kerala. In August and September the percentage of the catch was 27.7 and 30.2 respectively. In Kerala, out of a total of 27,489 t., July showed the maximum of 17,213 t. with regular decrease to 7,146 t. in August and 3,130 t. in September. In Maharashtra, on the other hand, the catch, remaining almost stationary in July and August, almost doubled in September, reaching 5,404 t. and brought about by increased catch of penaeid prawns. Both Andhra Pradesh and Tamil Nadu register regular increase in the catch from July onwards, showing the maximum of 2,984 t. and 2,653 t. respectively in September. August shows the maximum catch in Karnataka.

Gearwise analysis of the catch, show that the prawn catch by shrimp trawlers increased from that of the previous quarter. Out of a total catch of 53,853 t. of the quarter, 36,368 t (67.5%) were caught in trawl nets

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* Prepared by the members of Crustacean Fishery Resources team.

** The catch figures are provisional.

Table 1. *Prawn landings in different maritime states from July to September* 1978

Maritime States	Prawn catch in tonnes				
	July	August	Sept-ember	Total for III Qr.	Total for II Qr.
Gujarat	40	56	1,712	1,808	1,039
Maharashtra	2,866	2,726	5,404	10,996	21,642
Goa	2	11	8	21	316
Karnataka	42	1,884	254	2,180	2,146
Kerala	17,213	7,146	3,130	27,489	11,745
Tamil Nadu	1,410	1,562	2,653	5,625	2,543
Pondicherry	8	10	4	22	145
Andhra Pradesh	1,014	1,473	2,984	5,471	817
Orissa	91	51	81	223	75
West Bengal	—	—	18	18	76
ALL INDIA TOTAL	22,686	14,919	16,248	53,853	40,544
Monthwise percentage	42.1	27.7	30.2		

Table 3. *Statewise prawn landings and percentage for the third quarter of* 1977 *and* 1978

Maritime States	Prawn landings in tonnes		Precentage	
	1977	1978	1977	1978
Gujarat	2,456	1,808	6.0	3.4
Maharashtra	7,554	10,996	18.4	20.5
Goa	276	21	0.7	—
Karnataka	570	2,180	1.4	4.0
Kerala	25,533	27,489	62.0	51.0
Tamil Nadu	1,314	5,625	3.2	10.4
Pondicherry	45	22	0.1	—
Andhra Pradesh	3,181	5,471	7.7	10.2
Orissa	89	223	0.2	0.4
West Bengal	134	18	0.3	—
ALL INDIA TOTAL	41,152	53,853	100.0	99.9

Table 2. *Statewise penaeid and non-penaeid prawn catch from July to September* 1978

Maritime States	Landings in tonnes							
	July		August		September		Total for III Qr.	
	Penaeid	Non-penaeid	Penaeid	Non-penaeid	Penaeid	Non-penaeid	Penaeid	Non-penaeid
Gujarat	19	21	27	29	1,624	88	1,670	138
Maharashtra	2,240	626	2,277	449	4,958	446	9,475	1,521
Goa	2	—	11	—	8	—	21	—
Karnataka	42	—	1,872	12	254	—	2,168	12
Kerala	17,079	134	7,094	52	3,130	—	27,303	186
Tamilnadu	1,041	369	1,518	44	2,619	34	5,178	447
Pondicherry	8	—	10	—	4	—	22	—
Andhra Pradesh	782	232	1,417	56	2,881	103	5,080	391
Orissa	85	6	51	—	75	6	211	12
West Bengal	—	—	—	—	18	—	18	—
ALL INDIA TOTAL	21,298	1,388	14,277	642	15,571	677	51,146	2,707
Monthwise percentage	41.6	51.3	27.9	23.7	30.5	25.0	100.0	100.0

operated by trawlers of length upto 13m. The percentage contributions of trawl net catch was 83.1, 73.2 and 40.5 in July, August and September respectively (Table 5), showing a regular decrease from July onwards. In Kerala when the catch was at the maximum in July, out of 17,213 t., trawl nets landed 16,119 t., mostly at Neendakara centre. Tamil Nadu and Maharashtra showed regular increase from July onwards in the percentage of catch by trawlers. In Andhra Pradesh a slight decrease in the trawl catch is seen from August to September. In Karnataka while there is no catch by trawlers in both July and August, almost the entire catch in September is from trawl nets.

Table 4. *Statewise penaeid and non-penaeid prawn landings and their percentage for the third quarter of* 1977 *and* 1978

Maritime States	Landings in tonnes and percentage							
	1977				1978			
	Penaeid	%	Non-penaeid	%	Penaeid	%	Non-penaeid	%
Gujarat	2,326	6.7	130	2.1	1,670	3.3	138	5.1
Maharashtra	3,576	10.2	3,978	64.3	9,475	18.6	1,521	56.2
Goa	276	0.8	—	—	21	—	—	—
Karnataka	570	1.6	—	—	2,168	4.2	12	0.4
Kerala	25,493	72.9	40	0.7	27,303	53.4	186	6.9
Tamil Nadu	1,293	3.7	21	0.3	5,178	10.1	447	16.5
Pondicherry	45	0.1	—	—	22	—	—	—
Andhra Pradesh	1,179	3.5	2,002	32.3	5,080	9.9	391	14.5
Orissa	87	0.2	2	—	211	0.4	12	0.4
West Bengal	115	0.3	19	0.3	18	—	—	—
ALL INDIA TOTAL	34,960	100.0	6,192	100.0	51,146	99.9	2,707	100.0

Table 5. *Landings by commercial shrimp trawlers in relation to the total prawn catch during July–September,* 1978.

Maritime States	Landings in tonnes								
	July		August		September		Total for III Qr.		
	Total prawn catch	Prawn catch by trawlers	Total prawn catch	Prawn catch by trawlers	Total prawn catch	Prawn catch by trawlers	Total prawn catch	Prawn catch by trawlers	State-wise %
Gujarat	40	—	56	—	1,712	333	1,808	333	0.9
Maharashtra	2,866	1,915	2,726	2,149	5,404	2,892	10,996	6,956	19.1
Goa	2	1	11	5	8	7	21	13	—
Karnataka	42	—	1,884	—	254	248	2,180	248	0.7
Kerala	17,213	16,119	7,146	6,856	3,130	254	27,489	23,229	63.9
Tamil Nadu	1,410	656	1,562	1,282	2,653	2,397	5,625	4,335	11.9
Pondicherry	8	7	10	4	4	4	22	15	—
Andhra Pradesh	1,014	163	1,473	624	2,984	452	5,471	1,239	3.4
Orissa	91	—	51	—	81	—	223	—	—
West Bengal	—	—	—	—	18	—	18	—	—
ALL INDIA TOTAL	22,686	18,861	14,919	10,920	16,248	6,587	53,853	36,368	—
Monthly Percentage		83.1		73.2		40.5		67.5	

Species composition and other biological aspects at selected centres

Cochin (Fig. 3)

The total catch figure at Cochin and Neendakara (combined) amounted to 23,169 t. showing a marked improvement over the total landings of previous quarter and the corresponding quarter of the previous year with a peak landing of 16,068 t. during the month of July. However, the landing pertaining to Cochin alone was very poor with a total catch of 50.9 t. of July. The rate of catch per unit of effort decreased from 86.0 kg of July to 3.0 kg in September as against the rates of 8.3 kg of April and 21.2 kg of June of previous quarter and 21.5 kg, 42.3 kg and 45.4 kg of July, August and September respectively of the corresponding quarter of previous year. *Parapenaeopsis stylifera* was the dominating species in the catch with sizes ranging between 65–89 mm in males and 58–97 mm in females. *Metapenaeus dobsoni* and *Penaeus indicus* were next in order of abundance in the catch.

Calicut (Fig. 3)

The trawl fishery had not commenced after the south west monsoon. The indigenous fishery showed an improvement when compared to that of the

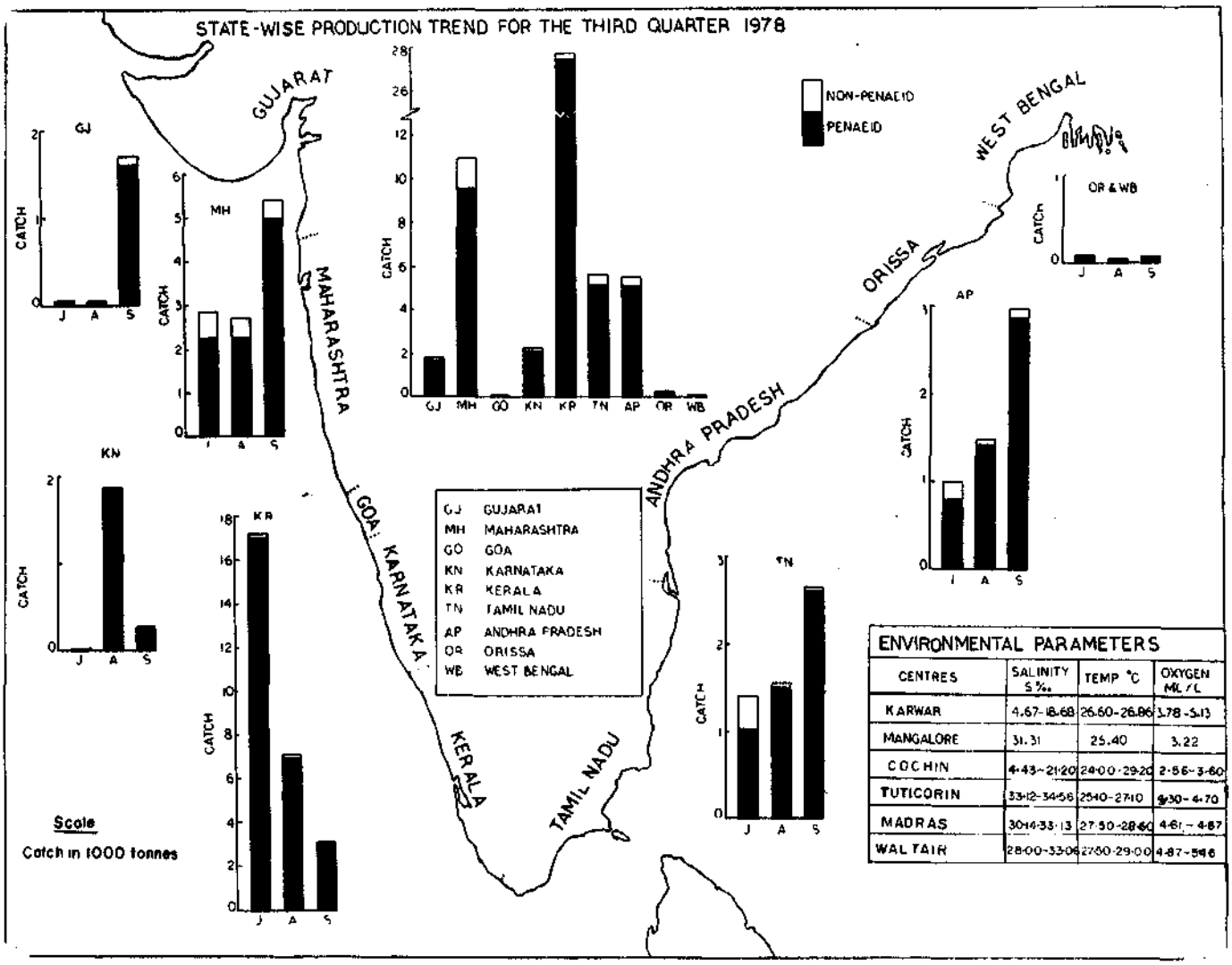

Fig. 1. Penaeid and non-penaeid prawn landings and environmental parameters of the sea in different maritime states during July-September, 1978.

previous quarter with the total monthly catches of 4.5 t, 0.47 t and 0.6 t in July, August and September respectively. Catch per unit of effort decreased from 5.2 kg of July to 2.3 kg of September. *P. stylifera* was the dominating species in the catch forming nearly 98 and 96% during July and August respectively with sizes ranging between 71 to 120 mm and modal sizes at 88 mm and 108 mm. During September the fishery was constituted only by *P. indicus* with sizes ranging between 116 and 195 mm. The modes were at 153 mm. The C/U, which was at 5.3 kg in July declined to 0.4 kg in August and again showed an increase to 2.4 kg in September.

Mangalore (Fig. 4)

There was no trawl fishery at Mangalore during July and August 1978 as in the previous year. But, in September, the catch was better than that of the same quarter of previous year. The prawn fishery by indigenous crafts and gears was existing during the monsoon period, July and August. The total landings were better during the present year than the previous year. There was no prawn landings by indigenous gear in September of this year although the fishery extended to the third month of the quarter in the previous year. *M. dobsoni* was the dominant species in both the years.

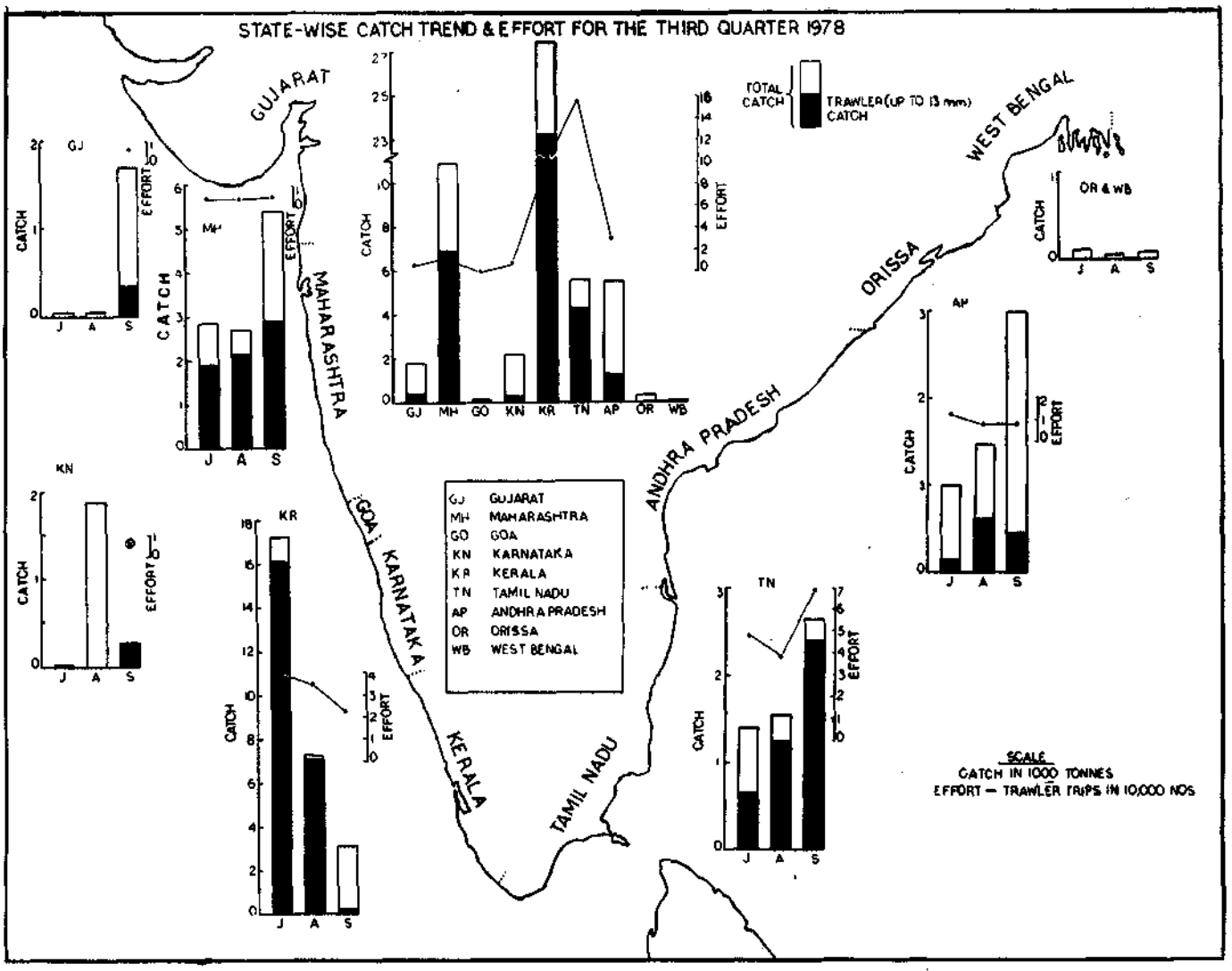

Fig. 2. Prawn landings by commercial shrimp trawlers in relation to the total prawn catch and the fishing effort during July–September, 1978.

The modal size of *M. dobsoni* was 86–121 mm. While the size of *P. indicus* ranged from 121 to 185 mm, the mode was at 121–166 mm. The percentage of mature females of *M. dobsoni* in September was 37.2 while in *P. indicus* the percentages were 41.1 and 21.4 during July and September respectively.

Karwar (Fig. 4)

In September, there was no prawn catch although some shore seines were in operation during this month. The catch was better during this quarter, than that of the corresponding quarter of previous year, only in the month of July. Out of the two species represented in the catches *P. stylifera* was dominating in both July and August. The size ranges in *P. stylifera* and *P. merguiensis* were 56–110 mm and 65–170 mm respectively with modes at 81–100 mm and 91–115 mm.

Bombay (Fig. 5)

With an estimated catch of 953 t. the prawn production at this centre showed a decline to the tune of 20% from the previous quarter's catch on account of lesser fishing input due to monsoon conditions. Penaeid prawns, chiefly constituted by *Metapenaeus affinis* (35%), *Parapenaeopsis stylifera* (30%)and *M. monoceros* (25%) accounted for 68% of the total landings with a steady

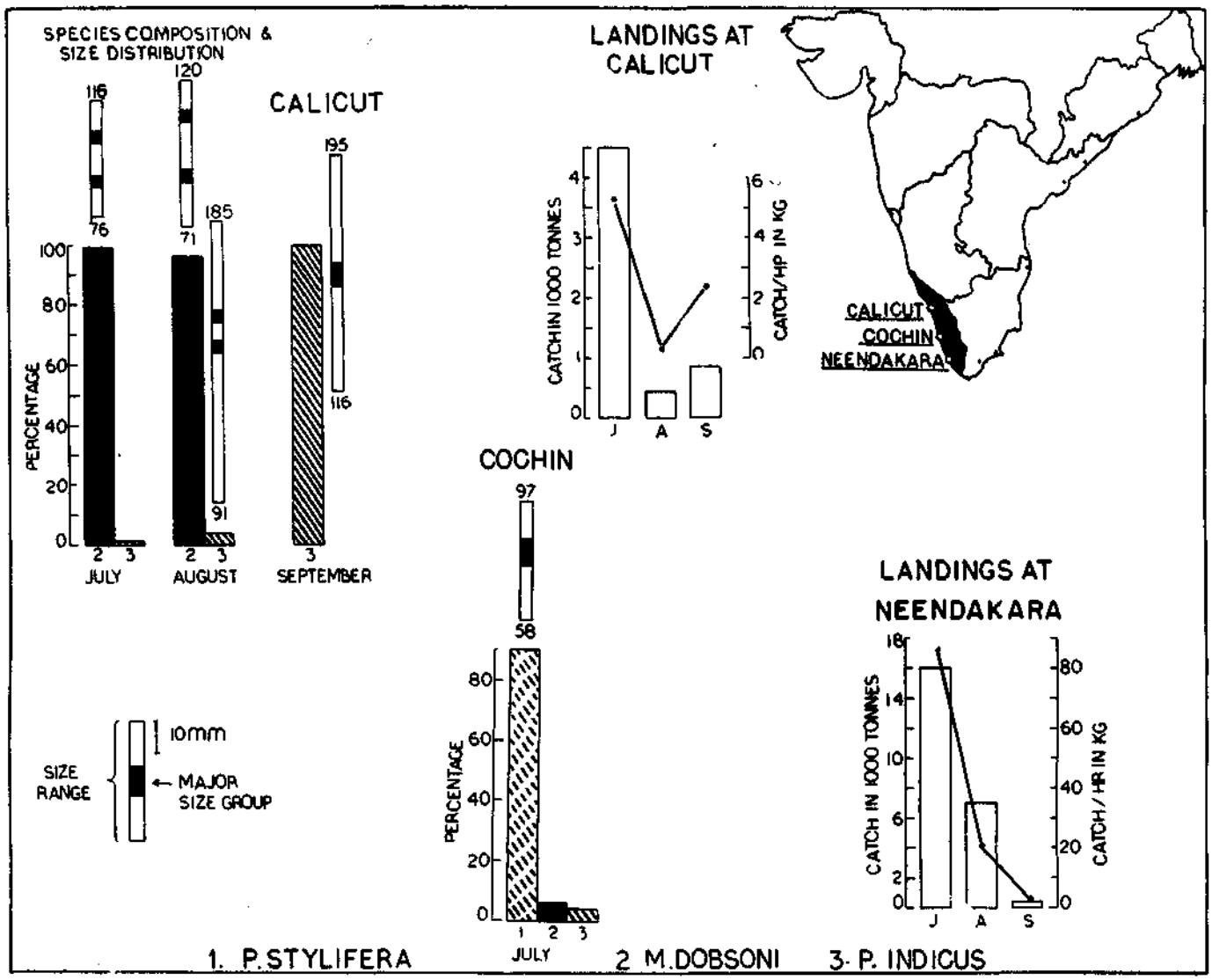

Fig. 3. Catch trend, species composition and biological features of prawns at Cochin, Neendakara and Calicut.

increasing trend over the months. The major size groups exploited were 141–145 mm for *M. affinis* and 66–100 mm for *P. stylifera*. The non-penaeid prawns, which dominated the fishery during the previous quarter, were only secondary (32%), with *Acetes indicus* as the chief constituent in July (70%) and September (62%) and *Palaemon tenuipes* (76%) in August. *Hippolysmata ensirostris* supported a minor fishery throughout this quarter. The catches of these prawns were mostly obtained in dol nets showing a gradual decreasing trend from July.

Veraval

During this quarter there was no prawn fishery at this centre due to monsoon weather.

Tuticorin (Fig. 6)

The total prawn catch and catch per unit effort were better during this quarter than those of the previous quarter and corresponding quarter of previous year. The major species constituting the catch were *P. indicus*

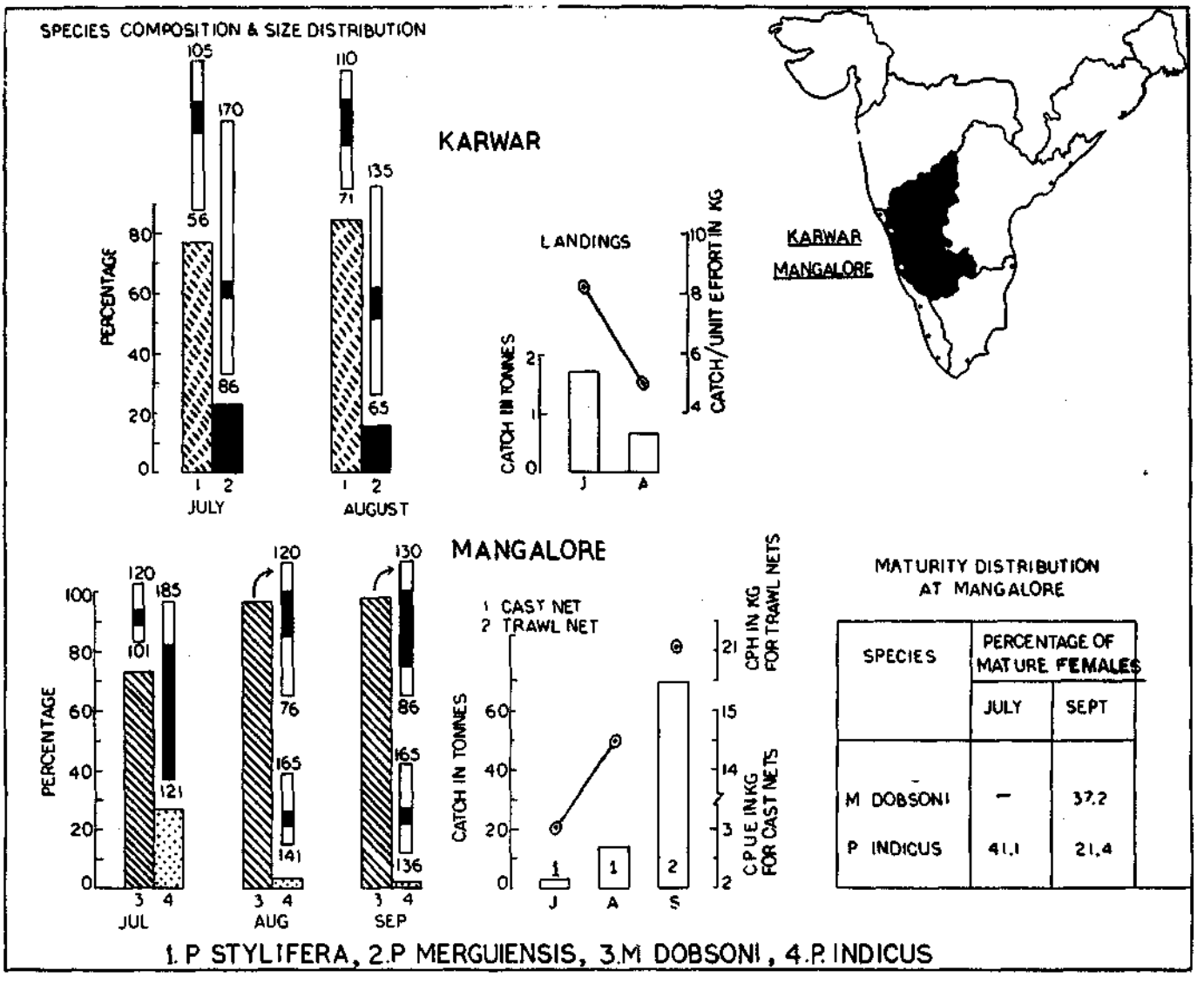

Fig. 4. Catch trend, species composition and biological features of prawns at Mangalore and Karwar.

and *P. semisulcatus* in the order of abundance. The catch declined a little from July to September. The dominant sizes of *P. indicus* increased from 153-158 mm in July to 158–188 mm in September. In *P. semisulcatus* the sizes 138–148, 143–173 and 153–188 mm were dominating in the catches of July, August and September. The percentages of mature females of *P. indicus* ranged from 20.7 in August to 67.3 in September. About 25% of the females of *P. semisulcatus* were mature during this period.

Mandapam (Fig. 6)

During July 1978 the quantity of prawns landed was less than that of the corresponding month of the previous year. In the other months, the catch increased steadily. The catch per unit effort was also less in July and higher in August and September, although the landings of August of previous year was better than that of the same month of this year. The dominant size of *P. semisulcatus* which forms the majority of catch was higher in August (123–173 mm) than in September (103–133 mm). Similarly, percentage of mature females was higher in August (56%) than in September (28.1%).

Madras (Fig. 6)

Prawn landings during the quarter was better than that of previous quarter and corresponding quarter of previous year. The same was the case with the catch

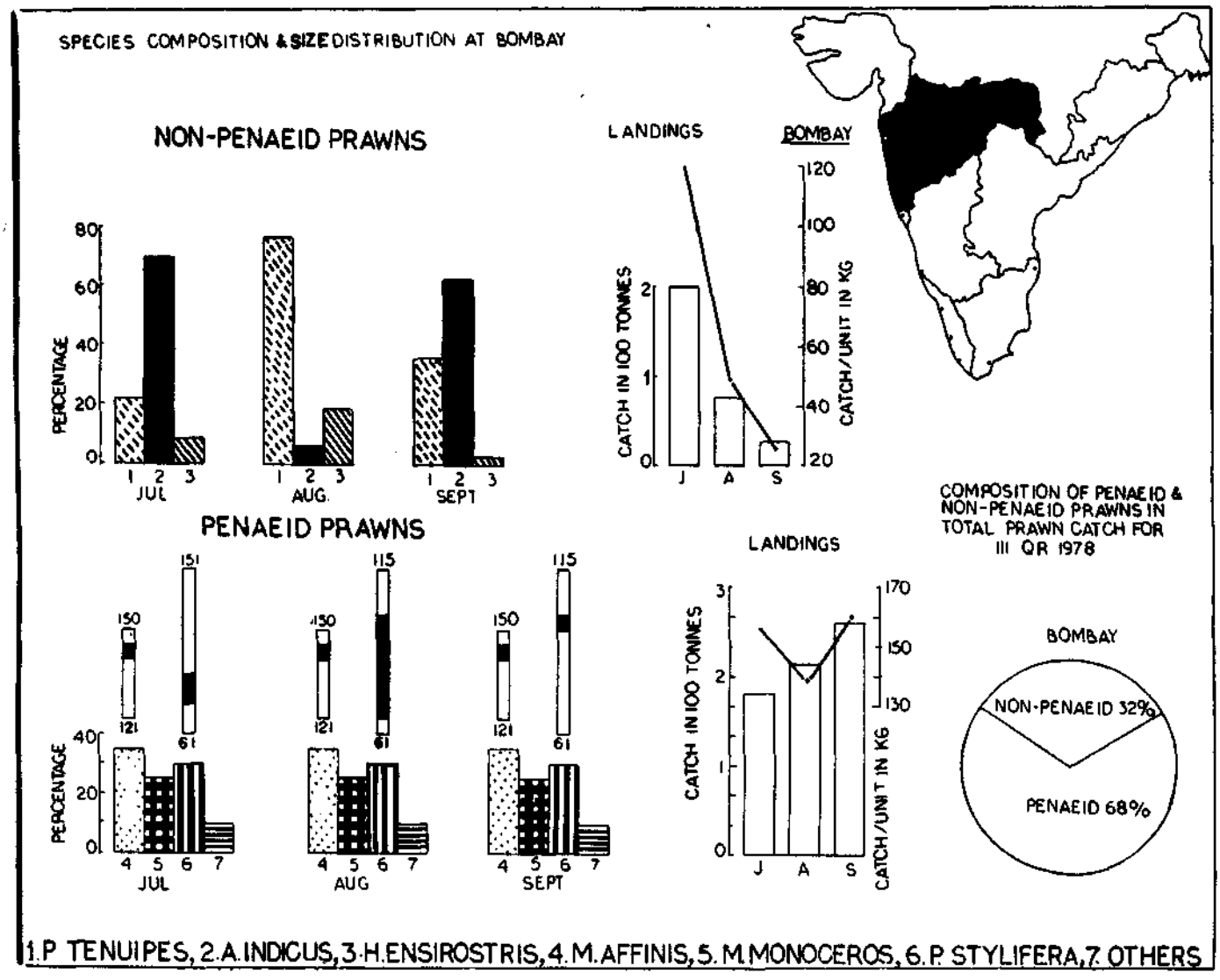

Fig. 5. Catch trend, species composition and biological features of prawns at Bombay.

per unit effort. The major species comprising the catches were *P. indicus, M. dobsoni, P. monodon, P. semisulcatus, M. monoceros* and *M. affinis*, in the order of abundance except in September when *M. dobsoni* was dominating in the catches.

Kakinada (Fig. 7)

At this centre the non-penaeid prawn fishery was a failure during the quarter. The total landings of penaeid prawns showed a decline over the catch figure of previous quarter and of the corresponding quarter of previous year. During July and September *M. monoceros* was dominating in the catch, with sizes ranging between 90–190 mm, with modes at 128 mm, 73 mm and 83 mm for males and 133 mm, 153 mm, and 168 mm for females. In August *M. brevicornis* was the major species in the catch.

Waltair (Fig. 7)

As compared to the corresponding quarter of previous year and previous quarter of the same year considerable increase in catch amounting to 57.4, 101.9 and 132.9 t. during July, August and September respectively has been observed at this centre. The catch per unit of effort increased from 2.7 kg of July to 5.4 kg in September. *P. indicus* was the dominating species in the catch during

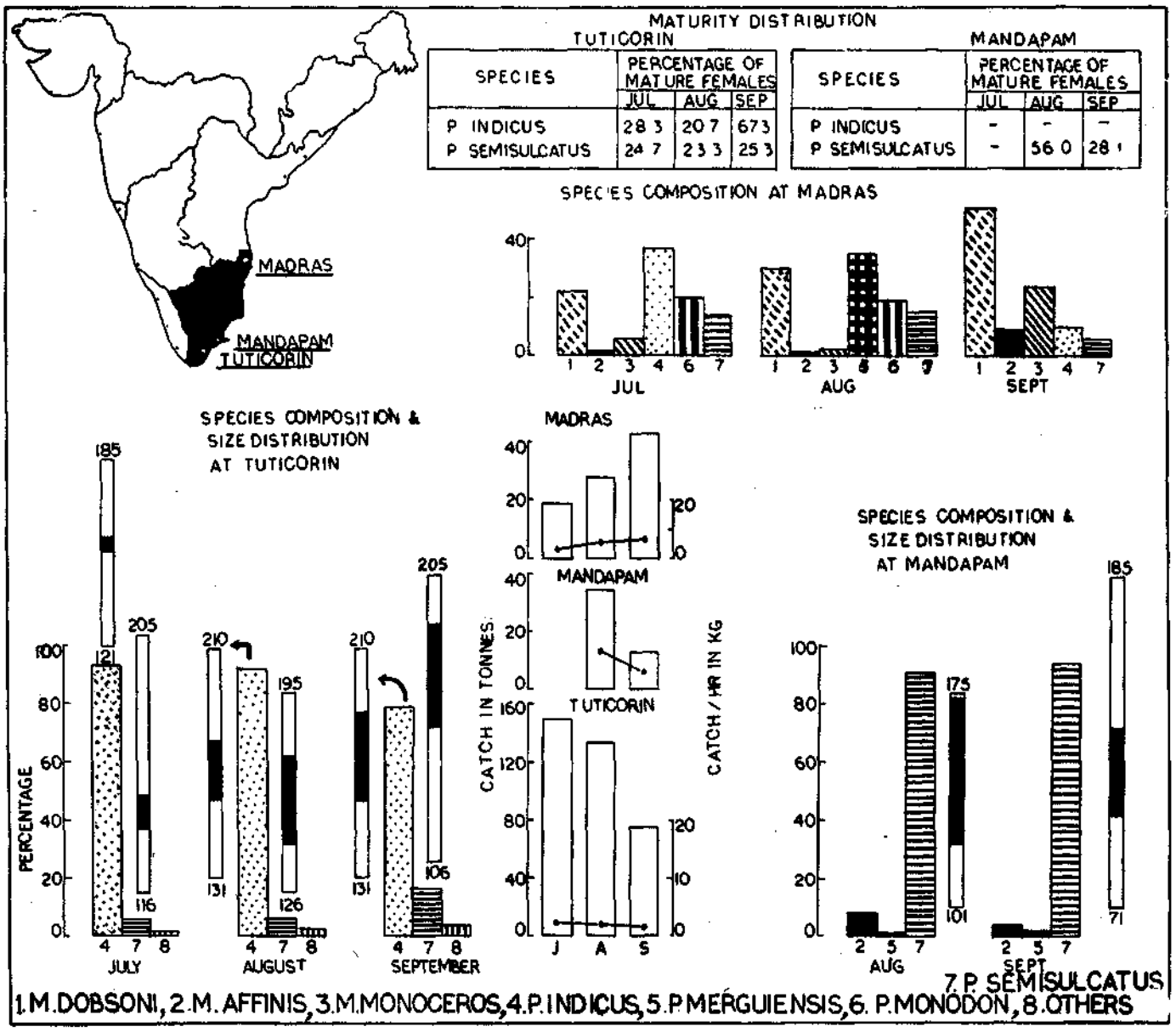

Fig. 6. Catch trend, species composition and biological features of prawns at Tuticorin, Mandapam and Madras.

July and August and *M. monoceros* formed major catch in the month of September.

Puri (Fig. 7)

The landings in July and August were very poor and in September there was a total catch of 10.5 t. A similar trend in fishery has been observed in the previous quarter also. *P. merguiensis* dominated the fishery throughout the quarter.

Environmental parameters (Fig. 1)

Along the west coast, in general the salinity and temperature values were less due to the monsoon conditions during the quarter. But in Tamil Nadu and Andra Pradesh coasts these values did not show great differences from the previous quarters, although slightly less. Dissolved oxygen also show a similar trend in the two coastal zones.

In Kerala the trend of more prawn catch when the environmental features registered decrease in values noticed towards the end of last quarter continued in this quarter. Slight decrease in values of the environmental features coinciding with increase in prawn catch was noticed in Tamil Nadu and Andhra Pradesh also as noticed in last quarter.

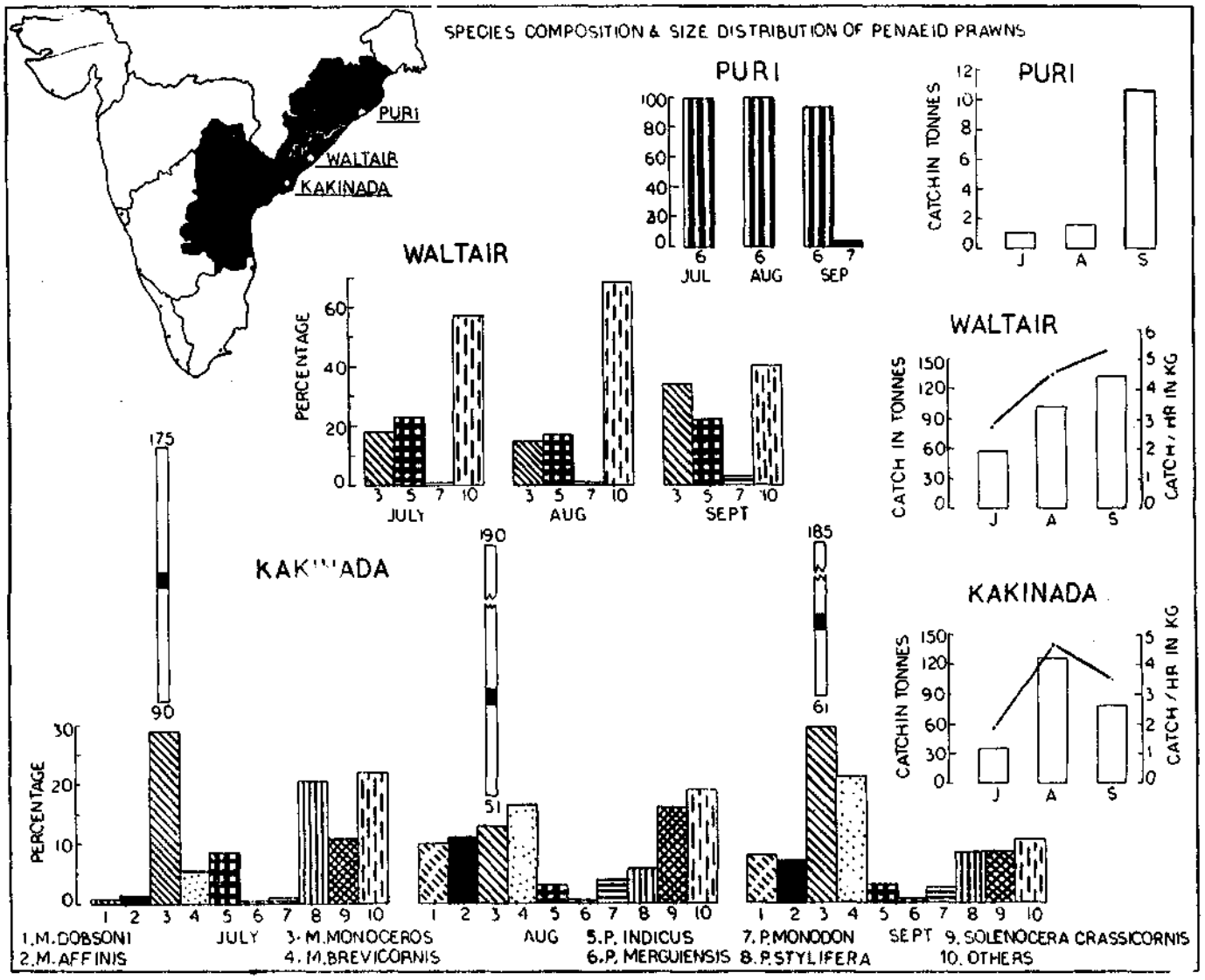

Fig. 7. Catch trend, species composition and biological features of prawns at Kakinada, Waltair and Puri.

POLLUTION AND FISH MORTLAITY IN CHALIYAR RIVER, MAVOOR

Fish mortality on a large scale occurred in the Chaliyar river near Calicut from 7-3-1979 to 16-3-1979, in the region between Elamaram and Pallikkadavu. Information gathered from the inhabitants on the banks of the river revealed that large quantities of wastewater from the Gwalior Rayons Factory located at Mavoor was seen discharged into the river through the emergency outlet at Elamaram, on the evening of 6-3-1979. From newspaper reports it was understood that the factory management has agreed to have discharged large quantities of untreated wastewater into the river through the outlet at Elamaram due to a sudden crack in the effluent flowing channel from the Pulp Division. It was also reported that the discharge contained large quantities of acid and fish kills appeared in the region immediately below the outfall ie. Manthalakadavu. The possibility of occurrence of sulphuric acid in the water can be surmised as the Factory uses large quantities of this acid for cooking the wooden chips in the digesters. In the first stage, the wooden chips are cooked with sulphuric acid and then the chips are washed to remove the acid. The washed water is allowed to flow into the treatment tanks along with the alkalies with which the chips are again cooked. If a sudden crack occurs in the channel carrying this washwater to the treatment tank there is a possibility of sulphuric acid escaping into the water and killing the fish by lowering the pH of the water in the river.

Sulphuric acid, if present in large quantities in the water, will lower the pH of the water to below 4.0 and the fishes will die of acidamia causing bicarbonate loss in the body fluid. On 9-3-1979 and 10-3-1979 a 24 hrs observation was made at Oorkadavu, a point about 2 km below the main outfall through which only treated effluents are supposed to be discharged. At 0300 hrs on 10-3-1979 it was observed that groups of *Mugil* sp. moved downstream in a dazed manner and started dying enmass as they reached the observation point at Oorkadavu. The dissolved oxygen content was nil from 0300 hrs to 0800 hrs and the pH was 4.5. Nitrite was nil and nitrate and phosphate were more than what was normally observed. The Oorkadavu–Chungapally region was considered to be the zone of active decomposition and dissolved oxygen content in this region will be always less than 1 mg/l even when there is no fish mortality. Also it was observed that large number of nereid worms living on the bottom in these areas came to the surface. The worms had moved into the Kanniparamb river, a tributary of Chaliyar joining at Oorkadavu, and died in large numbers upstream. Of the fishes that died in the river, *Mugil* sp. accounted for more than any other variety of fish. Earlier, on 1-3-1979 to 3-3-79 intensive sampling was carried out at Kalpally, a point 0.5 km below the main outfall where a 72 hrs continuous observation was made. Large number of *Barbus* sp, *Etroplus* sp. and *Glassogobius* sp. were caught. It is interesting to note that among the dead fishes, the representation of these was meagre when compared to the numbers caught previously. Apart from the low pH causing the mortality, the disappearance of these fishes from the heavily polluted areas and the dislocation of the nereid worms from their habitat would also reveal the possibility of occurrence of some metallic poison in the water. The factory is understood to be using mercury to prevent growth of slime moulds in the boilers and also lead, chromium and zinc for different purposes.

There is another possibility for the large scale mortality of the fish in the receiving water which is more dangerous for the fish life than the sulphuric acid. The escape of free chlorine in the form of calcium hypochlorite into the water is proved to be fatal to fish life as it kills the fish instantaneously without lowering the pH. The factory is using chlorine for preparing the bleach liquor for bleaching the pulp and reducing the colour. Bleach liquor is prepared by injecting chlorine into a milk of lime. The supernatant is collected as calcium hypochlorite or bleach liquor and the residue which may contain 0.5 to 1% chlorine is let out as waste. This free chlorine if allowed to remain with the highly organic waste with which it is discharged into the treatment lagoons, it will be absorbed by the organic waste. Instead, if it is let out into the river, it will wipe out the fishery resources in the water in no time. Virtually no fish survives in the waters between Elamaram and Kalpally as the Factory very often discharges wastewater into the river at Elamaram. So the possibility of free chlorine in the form of calcium hypochlorite in the wastewater causing the mortality cannot be ruled out.

The Biological Oxygen Demand of the effluent determined on several occasions earlier showed no ill effect to the biological organisms in the water. For example the B. O. D. of the effluent measured on 1–3–79 was about 800 mg/l and no fish mortality was observed downstream. But on 7–3–1979 when large scale fish

mortality was noticed the B. O. D. of the effluent was about 300 mg/l. From this it is evident that higher B. O. D. is not responsible for the sudden fish mortality and there may be some other reason responsible for the fish kills. Sulphuric acid in the water in concentrations more than normal would have caused acidamia in the fishes first and death might have resulted due to respiratory stress as they moved into the oxygen depleted zone due to the synergetic effect of the latter. The fact that no fish mortality occurred between Elamaram and the main outfall at Kalpally after 7–3–79 indicates the possibility of release of calcium hypochlorite into the water at Elamaram on the night of 6–3–79 killing the fishes immediately at Manthalakadavu. The mortality of selected species of fish and nereid worms would lead to the suspicion of presence of metallic poison in the water.

A 24 hrs observation again made at Pallikadavu, a point about 3 km downstream from the main outfall on 17 and 18-3-79 revealed signs of recovery, as good number of fishes of different genera started moving into the waters from down stream. The dissolved oxygen content in the water was also found to have increased and no fish mortality was reported at any reach in the river. Monitoring is being continued.

Government of Kerala has now decided to close down the Pulp and Fibre divisions of the Factory till pollution abatement measures are completed.

The investigations were carried out by Shri P. Karuppasamy of Calicut Research Centre of CMFRI.

NEWS — INDIA AND OVERSEAS

Processing plant with Japanese collaboration

A five-tonne prawn processing plant set up with Japanese collaboration by a Goan firm has been commissioned by Mr. Pratapsingh Rane, Goa's Minister for Fisheries at Orgao—Marcelle about 20 km from Panjim. Mr. Rane, however, appealed to the processors not to lose sight of local needs of the Goans, 98 per cent of whom were fish-eaters, in their zeal to capture foreign markets.

The Goa Government, according to him, was building the necessary infrastructure for systematic exploitation and marketing of marine products including a fishing harbour construction, acquisition of two modern fishing trawlers and conversion of 250 ha of marshy land into estuarine farms for prawns and other fishes.

Grants and loans for mechanised boats

The Government of Gujarat has decided to grant interest-free loans of Rs. 25,000/- repayable over seven years, for every mechanised fishing boat owned by members of the Gujarat Fisheries Central Co-operative Association. The Association will establish a boat risk fund with contributions of Rs. 7,500 per mechanised boat. The Government will contribute Rs.1,500 to the fund for every boat with an outboard motor.

Government interest-free loans of Rs. 5,000 will also be granted for every boat fitted with an outboard motor for the next five years. If the owner of such a boat wishes to buy a mechanised boat with in-board motor the period of loan will be extended to 15 years. The present rate of subsidy for accessories such as nylon monofilament nets and other gear for fishermen using traditional crafts will be continued.

World Fishing Exhibition in 1980

The ninth World Fishing Exhibition is to be held in the Bella Centre, Copenhagen from June 2 to 9, 1980. The exhibition will cover the whole spectrum of the fishing industry—vessels and equipment for propulsion,

navigation, fish finding, catching and processing at sea, as well as every aspect of the land based industry. The Danish Packaging Institute is planning to hold a conference to run concurrently with the 1980 exhibition on the packaging of fish and fish products.

The Exhibition will be sponsored by the Danish Fishery Organisation, the Danish Ocean Fishers Organisation, the Port of Copenhagen Authority, the Danish Ministry of Fisheries, the Danish Association for Processing and Export of Fish Products and World Fishing magazine. Further information can be obtained from: The Sales Director, The World Fishing Exhibition, Industrial and Trade Fairs International Ltd. Radcliffe House, Blenheim Court, Solihull, West Midlands, B91 2BG, England.

Promising krill resources for Australia

According to marine scientists of Australia, krill, the tiny shrimps that occur in vast numbers in the Antarctic waters could become a major resource for Australia in the future. With the adoption of the 200 mile Exclusive Economic Zone by Australia part of the Antarctic waters could be harvested by the country. It would have the second largest fishing grounds in the world.

Because of the low level of nutrients in Australia's offshore waters fish catches were never likely to be significant by world standards. However, the potential for harvesting krill from the antarctic waters south of the country was enormous. In the waters south of the Australian continent it was estimated that there could be 800-5000 tonnes of these tiny crustaceans.

World Fishing 26 (9): September 1977

Instant mercury testing in fishes

Two scientists of the New South Wales State Fisheries in Sydney, Australia have developed a fast technique for measuring mercury contamination of fish. The technique allows tests for highly poisonous mercury to be done in minutes compared to the hour or more taken by older methods.

Fish is generally condemned as unfit for human consumption if it contains more than 0.5 parts per million of organic (methyl) mercury. The testing method developed is a substantial modification of the atomic absorption technique which allows tests for both forms of mercury (organic and inorganic) to be done at the same time and with savings in time, labour and materials.

World Fishing 26 (9): September 1977

Financial assistance for fish culturists

The Government of Kerala has announced financial subsidies for prospective fish culturists in Ernakulam, Alleppey and Kottayam districts. A subsidy on the expenditure incurred for commencing fish culture will be granted on application by any private fish farmer who owns the water area suitable for pisciculture or in the land taken on lease for the same. The subsidy so granted to each applicant shall not be more than 50% of the actual capital expenditure (non-recurring) incurred by him, subject to a maximum of Rs. 8,000/-per hectare. Minimum area required for fish pond for giving assistance is five ares and the maximum area is limited to one hectare in each case. Applications for subsidy may be made to the concerned Assistant Director or Deputy Director of Fisheries on prescribed proforma available in their offices. For further details please contact the concerned Fisheries Department Offices.

BOOKS

Indian Ocean Fisheries, the 200-mile Economic Zone. By Rahmatullah Khan. Ankur Publishing House, New Delhi, pp 264, 1978.

In this book a specialist in international law, Dr. Rahmatullah Khan, is examining the situation faced by the countries bordering the Indian Ocean in the new regime of 200-mile Exclusive Economic Zone. Almost one third of the world population live around the Indian Ocean with a high proportion of them dependent on fisheries. So it is timely that apart from the legal problems the author looks at the problems of exploitation of the resources of the 200 mile zone and pleads for a better administration.

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Published by Dr. M. J. George, Scientist on behalf of the Director, Central Marine Fisheries Research Institute, Cochin-682 018.