



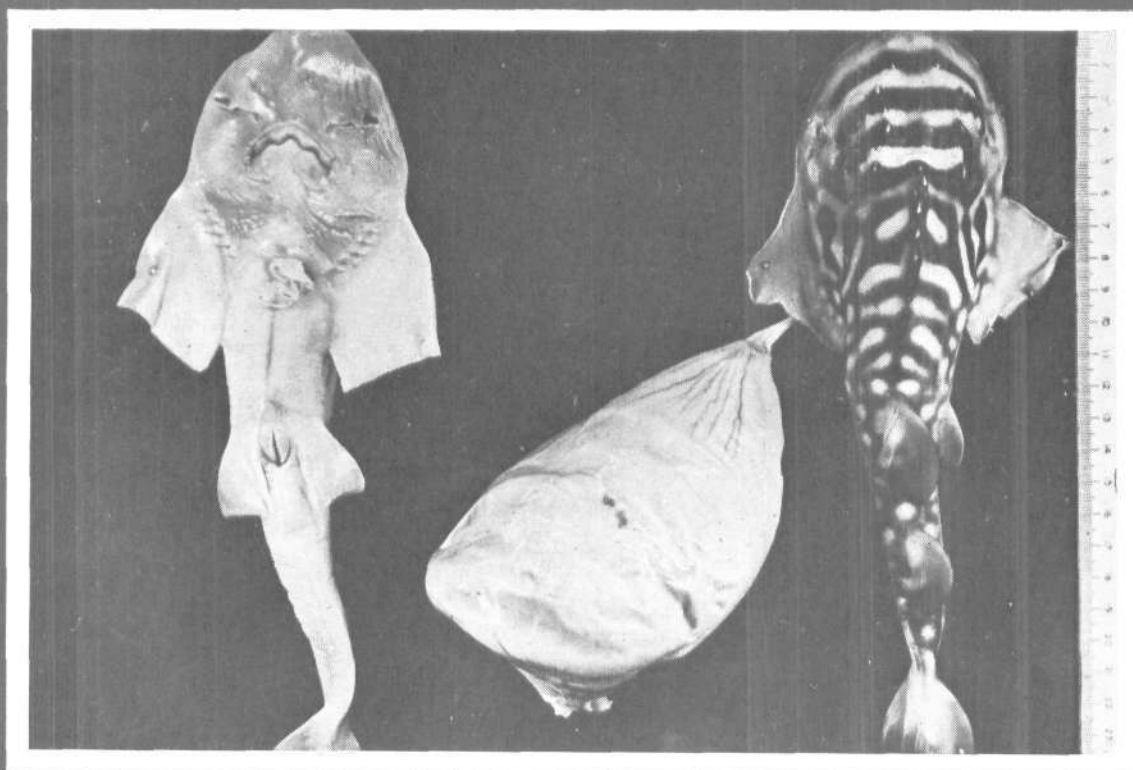
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## On the fishery of the spiny lobster off Tharuvaikulam, Gulf of Mannar\*

Tharuvaikulam is a fishing village near Tuticorin on the southeast coast of Tamil Nadu. Fishing by bottom-set gill nets is carried out off Tharuvaikulam almost round the year. Normally, the swimming crab *Portunus pelagicus* dominates the catches. But at times lobsters are also encountered in the catches in good numbers. Two species of lobsters namely, *Panulirus ornatus* and *P. homarus* constitute the lobster fishery off Tharuvaikulam coast. Information on the spiny lobster resources of the Gulf of Mannar is rather limited. The study on the lobster fishery off Tharuvaikulam is based on the observations made on the lobster catches landed during the period 1990-'92.

During the two year period of study the average annual landing of lobsters at Tharuvaikulam centre was estimated at 1.6 tonnes (Table 1). The average monthly landing ranged from 36 kg in September to 399 kg in June. *P. ornatus* was the dominant species throughout the period with its monthly landings ranging from 32 kg in August to 390 kg in June constituting on an average 90% of the total lobster catches landed at Tharuvaikulam. The average monthly composition of *P. ornatus* ranged from 68% in October to 97.9% in April. The

composition exceeded 90% in April, June, July, December and January. The *P. homarus* constituted

TABLE 1. Estimated average monthly catch (kg) of *P. ornatus* and *P. homarus* landed by bottom-set gill nets at Tharuvaikulam during the years 1990-'92

Months	Catch of <i>P. ornatus</i>	Catch of <i>P. homarus</i>	Total catch
April	284	6	290
May	69	9	78
June	390	9	399
July	76	7	83
August	32	9	41
September	32	4	36
October	68	32	100
November	90	24	114
December	109	12	121
January	148	7	155
February	82	19	101
March	100	26	126
Total	1,480	164	1,644

only a negligible proportion from April through September and in January. During the rest of the months also the landing was poor ranging from 12 to 32 kg only. The average monthly composition of *P. homarus* ranged from 2.1% in April to 32.0% in October.

TABLE 2. Size range and mean size (in mm) of *P. ornatus* landed at Tharuvaikulam during the years 1990-92

Months	Male			Female		
	Min	Max	Mean	Min	Max	Mean
April	211	247	223.8	209	261	242.3
May	192	283	233.7	192	363	259.5
June	222	342	265.4	212	320	250.8
July	173	284	218.6	119	283	234.6
August	— Data inadequate —					
September	132	182	148.9	135	320	214.6
October	120	285	163.6	117	300	173.4
November	125	227	161.5	129	199	166.8
December	140	252	171.9	140	218	171.8
January	135	233	181.2	130	291	182.9
February	154	291	200.7	161	259	200.8
March	128	310	226.7	167	342	214.7
Annual	120	342	199.6	117	368	210.2

The size of *P. ornatus* during the two year period of observation ranged from 120 to 342 mm in total length in male and from 117 to 363 mm in total length in female. The average mean sizes recorded for male and female were 199.6 and 210.2 mm. Large-sized lobsters measuring more than 300 mm in total length were observed in June and March in the case of male and May, June, September, October and March in the case of female. Small-sized lobsters measuring less than 130 mm in total length were encountered in the catches during October-November and then in March in the case of male and in July, October and November in the case of female (Table 2). The mean size recorded for male ranged from 148.9 mm in September to 265.4 mm in June. In female the mean size ranged from 166.8 mm in November to 259.5 mm in May. In *P. homarus* the size ranged from 100 to 192 mm in male with mean size at 149.4 mm and from 110 to 271 mm in female with mean size at 162 mm.

The sex ratio in *P. ornatus* indicated a predominance of females during most of the months constituting on an average 58.4%. The composition of female exceeded 70% from May to August. However, female constituted less than 40% in February (Table 3). During the two year period of observation ovigerous female of *P. ornatus* was never encountered in the catches. On the other hand, in *P. homarus* only one female measuring a total length

of 253 mm and carapace width of 96 mm and weighing 700 g was observed with berry on 4th April 1992.

The lobsters were auctioned in the landing centre itself. The price of the lobsters varied depending upon their size. During the period of investigation the maximum price was fetched by lobsters weighing between 400 and 600 g. However, during the later part of the investigation due to the export of lobsters in live condition, lobsters weighing more than 500 g fetched the maximum price. During the two year period the maximum price ranged between Rs. 200/ and Rs. 600/ per kg.

The foregoing account clearly shows that the lobster fishery at Tharuvaikulam centre is at low magnitude as compared to the fishery at other important lobster landing centres of India. Nevertheless, it may be mentioned here that the bottom-set gill nets are operated off Tharuvaikulam mainly for exploiting the crab resources and the capture of lobsters from the ground is only incidental. However, the study brings out that *P. ornatus* dominates the inshore lobster resources in the Gulf of Mannar off Tharuvaikulam. Further, the total absence of ovigerous females of *P. ornatus* from the ground suggests that this species spawns relatively in deeper waters.

TABLE 3. Sex ratio of *P. ornatus* landed at Tharuvaikulam during the years 1990-92

Months	No. of lobsters sampled	Male (%)	Female (%)
April	18	44.4	55.6
May	11	27.3	72.7
June	72	25.0	75.0
July	28	28.6	71.4
August	5	20.0	80.0
September	12	58.3	41.7
October	55	52.7	47.3
November	154	53.2	46.8
December	92	47.8	52.2
January	93	40.0	60.0
February	51	65.4	34.6
March	48	36.8	63.2
Annual	639	41.6	58.4

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