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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 National Marine Living Resources Data Centre (NMLRDC) 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.

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OCCURRENCE OF MATURING FEMALES OF KURUMA PRAWN, *PENAEUS JAPONICUS* IN THE MARICULTURE FARM AT MUTTUKADU*

In December, 1983 about 2,000 numbers of seed of *Penaeus japonicus* (average size: 42.2 mm) collected from wild were stocked in a 0.4 ha pond (No. A-4) at the Mariculture Farm, Muttukadu, Madras. Though supplementary feed was provided, the growth of stocked prawns was not appreciable and in a period of six months the prawns attained an average size of 109.7 mm only. Even after repeated drag netting during the night hours, complete stock could not be harvested, as the species was known for its burrowing habit. In the following months, few individuals were seen moving along the inner edge of the pond A-4, during the night hours.

On 10-11-1984, six hauls by drag net were made in Pond A-4 between 21.30 and 22.30 hrs which yielded 23 larger specimens. Among the netted prawns, 11 were males and the rest 12 were females. The size range for males and females was 140 to 158 mm (20 to 31 g in weight) and 156 to 174 mm (32 to 48 g in weight) respectively. The average size for males was 152.0 mm and that of females 159.2 mm. All the males were mature, as the white mass was seen at the base of fifth walking legs. In the case of females, all the specimens were found to have developing ovaries, when they were seen against the light. By judging from the width of the ovary seen, most of the prawns could be placed in stage I and II of ovarian development. A specimen measuring 163 mm in total length was dissected out to examine the status of ovary. The anterior and middle portions of the ovary were cut and preserved in Bouin's fluid and buffered formalin for histological studies.

Plankton hauls were made inside the pond A-4 in the early hours on 11-11-1984 to look for prawn larvae. The analysis of plankton indicated only the presence of mysids (dominant item), small medusae, copepods and copepodites and larvae and adults of the fish, *Allanetta forskali*.

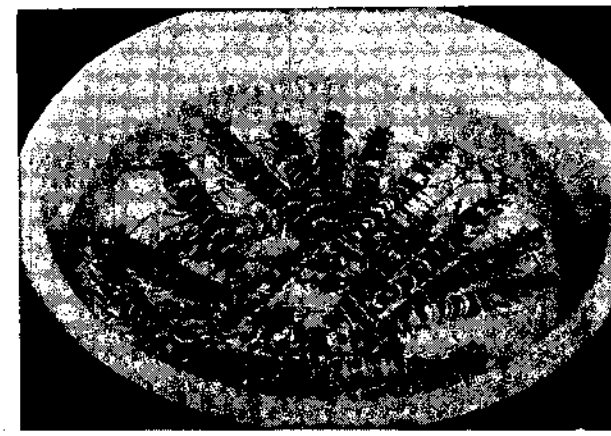

Fig. 1. Female kuruma prawns matured in Muttukad Fish Farm, Madras.

*Prepared by M. Kathirvel, Madras Research Centre of CMFRI Madras.

All the specimens were transported alive by bicycle to Kovalam Field Laboratory on the night of 10th November itself and placed in two half-tonne pools having sandy bottom. The salinity of the water used was 26.0‰. Figs. 1, 2 and 3 show the photographs of the larger specimens of *P. japonicus*, the dissected out specimen and the prawns with various developmental stages of ovary.

Later a total of 10 prawns (7 females and 3 males) were housed in a one-tonne fibre glass tank having a sandy bottom and sea water of 30‰ over which illumination by a pair of tube light was provided as a means to induce further ovarian development. The capture and subsequent transfer to the laboratory tanks resulted in the absorption of ovary in some of the specimens. Artificial illumination for a period of 14 hr/day was given to induce the growth of the ovary.

In the night of 17-11-1984 another attempt was made to obtain more specimens of kuruma prawn by drag netting and this resulted in the collection of three females; one with developing ovary (TL 180 mm; CL 49 mm) and the other two with impregnation. They were put along with those stocked earlier in the pools for carrying out unilateral eye stalk ablation.

The salinity (‰) of surface water recorded in pond A-4 where the field culture of *P. japonicus* took

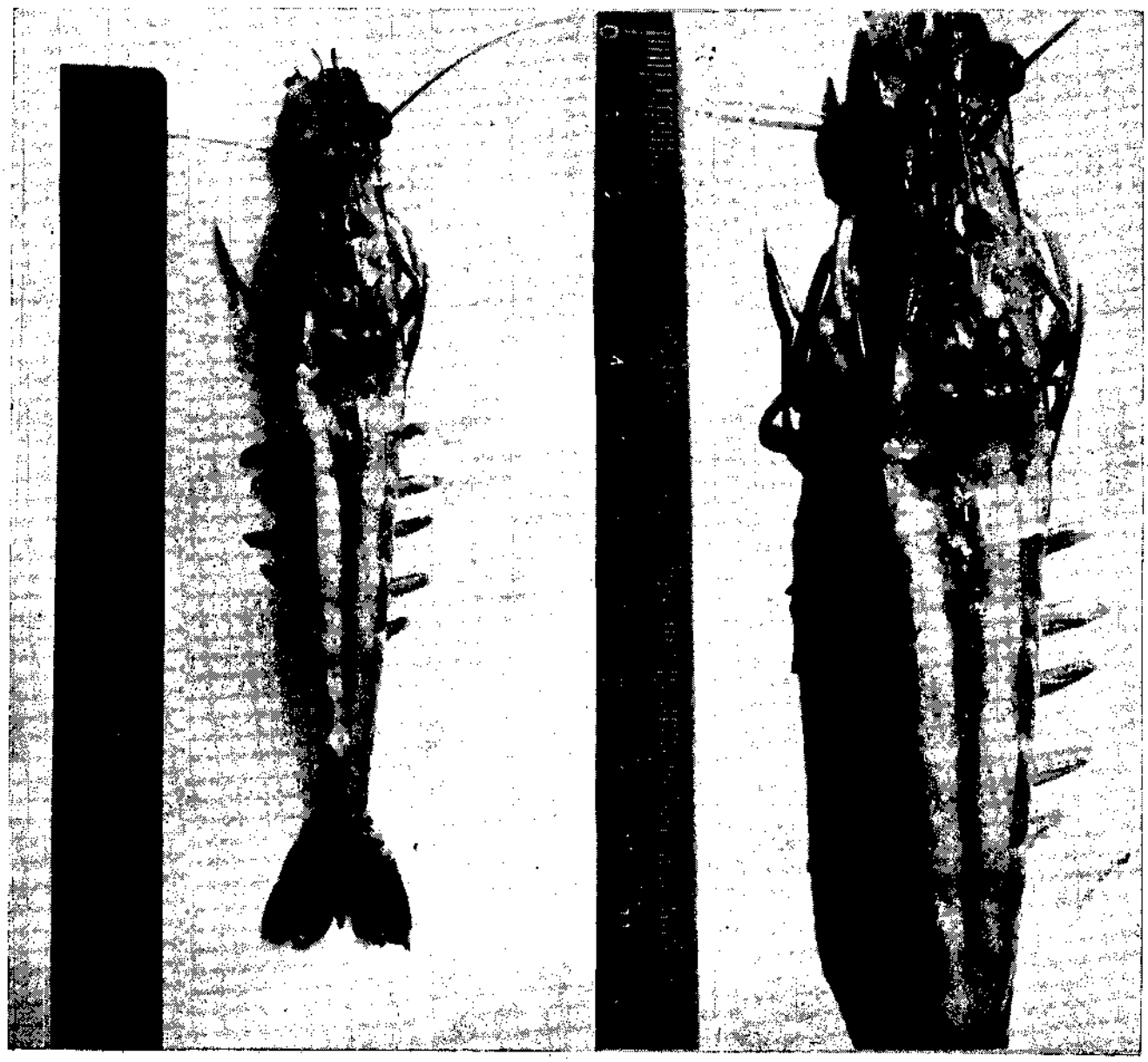

Fig. 2. Dorsal view of ovary from a sacrifised specimen and close-up view of ovary.

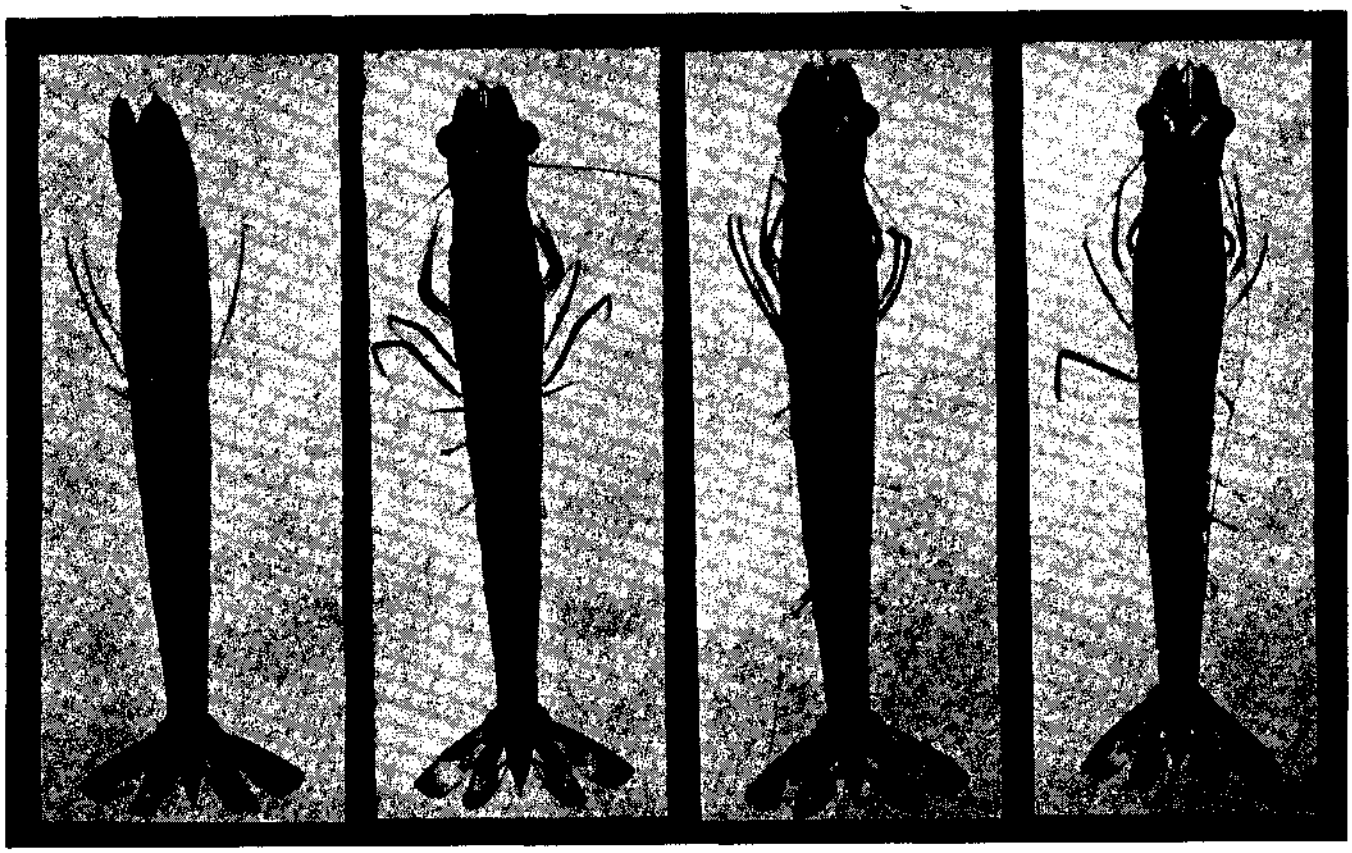

Fig. 3. *Penaeus japonicus* - Females with various stages of ovarian-development.

place during December, 1983 to October, 1984 is given below.

Month	Minimum	Maximum	Average
December '83	16.92	17.86	16.07
January '84	14.58	19.83	16.26
February	13.68	15.19	13.68
March	15.19	18.68	17.49
April	19.17	24.99	24.92
May	25.92	29.23	28.76
June	25.74	28.15	30.79
July	28.64	31.08	28.57
August	29.64	33.39	30.39
September	26.43	31.08	29.46
October	18.76	25.16	21.87
November 10th: 20.12‰			
*November 14th: 14.00‰			

*After heavy rains during 12–13th November.

It has been observed that the salinity in pond A–4 gradually raised from March '84 onwards and reached the peak during June–August and afterwards it lowered. The values of the salinity at the bottom of the pond are likely to be more, perhaps by one or two parts than at the surfaces. Earlier records of maturing/matured penaeid prawns of India in low saline waters include *Metapenaeus dobsoni* from open backwaters of Cochin and perennial culture fields of Vypeen Islands, Kerala and *Metapenaeus moyebi* from Pulicat Lake on the Madras coast. The present observation enlists *Penaeus japonicus* with those prawns attaining maturity in low saline waters, or to say precisely in confined waters.