

119

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Size Composition of the catches of the Pink Shrimp  
Peneaus duorarum notialis in the Shrimp fishery of  
Sierra Leone

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The aim of this study was to determine the Size Composition of Pink Shrimp (P. duorarum notialis) by Sampling catches of the Commercial Shrimp fisheries of Sierra Leone, over a period of six months, from October 1977 to March 1978.

Juvenile Pink Shrimps are associated with decaying Mangrove vegetation in Sierra Leone. The adults are found mainly where the substratum is muddy as observed from samples, taken from the Commercial catches, which had mud deposits underneath their carapace and at the junctions between body segments.

Pink Shrimps caught from the Banana Islands Shrimp Grounds are regularly landed at the Sierra Fishing Co. Shrimp Processing Plant. During processing, the "heads" (cephalothorax) are removed from the "tail" (abdomen). Measurements on whole shrimps were first obtained for 1000 specimens and used to derive a relationship between carapace length and total length for both male and female shrimps. The remainder of the sampling measurements were then carried out on the heads only; of which a total of 8,500 were sampled and the corresponding total lengths calculated using the derived relationships. These were then used to plot weekly frequency distribution curves for both male and female shrimps.

From the frequency distribution curves it was observed that the curves for male shrimps show only one or two major modes, which show prominence between 12.5 and 14.1cm of total length. Females mostly

exhibited size groups with three or four different length ranges and occasional occurrence of one to five modes. These size groups were observed to show continuous changes. No one group could be said to be permanent. The point of entry into the fishery of male shrimps was found to be at an average total length of 10.5cm, while females did so at 11.0cm. Thus males enter the fishery at a smaller length than the females. This recruitment was observed to take place periodically and in small numbers.

The sex ratios in the different samples were usually 1:1 but in one case the males were more numerous by 2:1 and in 4 other samples females were significantly preponderant. These departures from the 1:1 ratio may have been artificially created by sorting of the catches on board the ships.

This study has provided the first data base for the local shrimp fishery. It needs to be supplemented, verified and built up more substantially in order to serve management purposes. Later studies could deal in more detail with the migrations of the juveniles from the nursery grounds to the Banana Islands grounds and subsequently of the different sexes to deeper waters.

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