

## NOTES

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### ON OCCURRENCE OF MACKEREL, *RASTRELLIGER KANAGURTA* (CUVIER) IN DISTANT WATERS OFF BOMBAY

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#### ABSTRACT

Occurrence of the Indian Mackerel *Rastrelliger kanagurta* in distant waters off Bombay is reported.

Although the Indian Mackerel *Rastrelliger kanagurta* forms a major fishery in India, its occurrence north of Ratnagiri is stray and the only published report of its occurrence in trawl catches off Bombay at a distance of 20 nautical miles and depth of 25-37 m is by Kutty (1962). Recently in July 1975, Mackerel was caught from distant waters of about 60-80 nautical miles from the coast in advanced stages of maturity and it is reported in the present note.

The present author, while on board Exploratory Fisheries Project trawlers, M. V. Meena Udyog in October 1972 and M. V. Meena Bharathi in February and July 1975, observed mackerel in their catches off and on; but in July 1975 they were found caught in large numbers from the fishing area 18-72, sub-area 6 B at about 40 nautical miles and from area 19-71, sub-area 1F, 1E, 1D at about 60-80 nautical miles off Bombay. *R. kanagurta* constituted 1,108 kg forming 27.58% of the total catches in that month. In the eleven hauls made, the contribution of mackerel varied from 20 to 250 kg, ranging from 8.5 to 53.17% of the catches in each haul. Other items in the catches were sharks, rays and skates (35.65%), catfish (10.58%) Sciaenids (1.75%) *Stromateus* spp. (0.78%) *Pseudosciaena diacanthus* (0.75%) and Eel (0.50%) and Miscellaneous species (22.41%).

The length-frequency distribution of mackerel caught in July 1975 is given in Table 1. Total length of a sample varied from 230 mm to 272 mm and the dominant mode was constituted by 240-249 mm size group.

TABLE 1. Length groups of mackerel caught off Bombay in July 1975.

|    | group in mm | percentage |
|----|-------------|------------|
| 1  | 230-239     | 19.7%      |
| 2. | 240-249     | 43.4%      |
| 3. | 250-259     | 26.4%      |
| 4. | 260-269     | 9.2%       |
| 5. | 270-279     | 1.3%       |

Stomachs of almost all the specimens examined were empty. Very little quantities of copepods and *Coscinodiscus* alone were found in a few numbers. Male and female specimens observed in the samples were in stage V of maturity.

Mackerel fishery is normally confined to inshore waters in the depth range of 15 to 20 meters (Jones and Rosa 1965), obviously within a few nautical miles from the coast. Spawners in stage IV and eggs and larval stages are not encountered in sufficient numbers in the inshore area which indicates that the location of mackerel spawning grounds may be outside the fishing zone (Noble, 1974). The present occurrence of mackerel in stage V of maturity in distant areas off Bombay beyond inshore waters may be interest, as it supports the earlier views that mackerel migrates from coastal waters to deeper and distant areas for spawning during monsoon season. This also supports the view of Pradhan (1954) and Noble (1974) that July could form part of the spawning season. At Vizhinjam, spawners are reported to be represented by size groups measuring 230 mm and above (George and Banerji 1964) which agrees with the present observation.

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