

**M.S.71. NOBLE, A.—Some insights into the resource of the Indian Mackerel *Rastrelliger Kanagurta* (CUVIER)—1987—
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Description of *Rastrelliger kanagurta* with keys to the identification of genus and species are given at the outset. An analysis of the production in India, and the maritime states are given amply illustrated and the status of mackerel in the marine fish catches touched upon. Seasonal distribution of mackerel along Indian coasts is studied and presented. Maximum catches in east coast occur in March in its north and April in south. On west coast, around southern most part it peaks in April-May. The fishery and biology of mackerel landed by *Thangu vala* at Cochin during 15 seasons falling between July 1965 and June 1980 were studied.

From monthly size distribution of mackerel in the commercial catches at Cochin the growth was found to be 15.07 mm per month in 1st year and 5.26 mm per month in the 2nd year. The length of fish at different age found out in the study are <159 mm 0-year, 160-229 mm 1-year, 230-269 mm 2-year, and >270 mm 3-year old. This age-length structure was fitted into a curve with von Bertalanffy's Growth Function. The commercial catches by *Thangu vala* accordingly comprised of 1-year old fish 72.5%, 0-year old 24.2%, and 2-year old 3.3% in the pooled value for the 15 seasons. The 3-year old occurred only in one season, that too in negligible numbers. From age composition, the total instantaneous mortality (Z) was calculated to be 3.2522. It was further apportioned to instantaneous fishing (F) and natural mortality (M) as 2.0814 and 1.1708 respectively. The rate of exploitation accordingly is 0.6152.

Between effort of *Thangu vala* and its cpue of mackerel, the regression relation gives a negative 'a' and a positive 'b' value indicating the fishing by this unit not to affect the stock. This relation hence cannot be used for yield studies. The growth parameters like L_{∞} , K, and t_0 were therefore computed and found to be 315 mm, 0.6 and -0.141 respectively. The average yield in India, during 1969-'80 representing a unit time in 10-year cycle in the long-term fluctuation of the fishery, is 87,257 tonnes; and the standing stock (Y/F) and annual stock (Y/U) are calculated to be 41,922 and 141,835 tonnes respectively. The potential yield at $F_{Max} 5$ is 209,820 tonnes and the maximum recorded all-India catch of 204,575 tonnes is within its limit.