

ABSTRACT

A study was made of the general biology of the Croaker, *Micropogon furnieri* in Trinidad during the period September, 1977 to October, 1978. A total of 1,538 specimens were collected by trawling in the Gulf of Paria and the waters off the north coast.

Physical parameters (temperature, salinity and light penetration) of the environment were monitored during this period. Results corresponded closely with those obtained by previous workers.

Macroscopic examination of the gonads revealed that the Croaker is a partial spawner which spawned throughout the year but more intensely so from March/April to August. Spawning was found to be influenced by high water temperatures and long day-lengths. Gonad indices and condition factors are also discussed in relation to spawning behaviour. Males and females were caught in approximately equal numbers. Size and age at sexual maturity are presented for males and females. Fecundity was found to be high and positively correlated with total body length, body weight and ovary weight.

Feeding habits are described. The Croaker was found to be a benthic feeder, mainly on small crabs and shrimps.

Aging of the Croaker using the sagitta was successful. This method was validated using cumulative percentage length frequencies plotted on probability paper. Seven year-classes were found.

Von Bertalanffy's growth parameters are given. Length/weight relationship was found to approach the cubic relationship. Mortality rates and age at recruitment to the trawl fishery are presented. The Croaker was found to be fully recruited to the exploitable stock at three years of age.

Finally, recommendations for regulation of the fishery are given. It is suggested that small mesh sizes (less than 8.75 cm) be banned from being used on the fishing grounds as these exploit immature and unmarketable fish of economic importance.

Finally, I wish to thank Mr. Anthony Gonzalez of the Institute of Marine Affairs for the final preparation of the figures and Mr. Gabriella Gomez, Ms. Angela Kuehn and Mr. Ralston for their help in preparing the manuscript.