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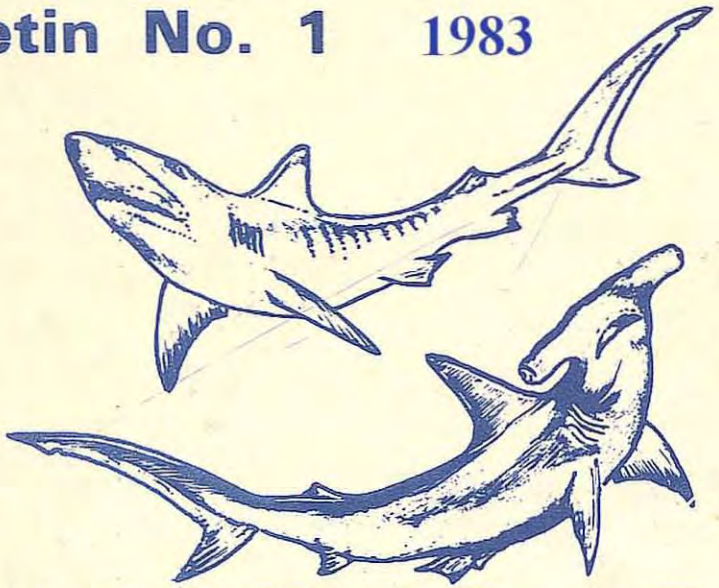

A BULLETIN OF
KENYA MARINE & FISHERIES
RESEARCH INSTITUTE

EDITORIAL NOTE

The need has been felt for a long time for a bulletin covering aquatic resources out-puts of the country quickly and comprehensively. The Board of Management of Kenya Marine and Fisheries Research Institute realised this need and directed the Institute to take immediate action for ensuring that information on aquatic resources is compiled for easy communication to the people.

The editorial group has decided to start reporting activities related to aquatic resources under the title "KENYA AQUATICA". As far as possible efforts will be made to include short scientific communications, critical reviews, seminar proceeding and other ad hoc publications. This comprehensive coverage will be possible only through cooperation of various Institutions, Departments, Societies and individuals who are concerned with aquatic resources.

Kenya Aquatica is a technical and extension series for rapid dissemination of information on aquatic resources and allied information from Research Officers, Fisheries Officers and any individual for transfer of Technology to the fishermen and industry and any other relevant information needed for National Development.

We appeal to all concerned to send us regularly such publications, at the following address:

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M O M B A S A

ASPECTS OF THE BIOLOGY OF THE REEF FISH SCOLOPSIS BIMACULATUS (RUPPELL) IN KENYA.

The demersal fisheries in Kenya are at present concentrated in the shallower region of the continental shelf, the shore and the outer edge of the fringing reef. The coastal zone is heavily exploited by the artisanal fishermen using traps handlines, gillnets and seines. Although the subsistance fishery for the reef fishes in the coastal lagoons is well established there is little information on the biology of the exploited species.

Scolopsis bimaculatus occurs widely in East Africa reef and sheltered lagoons upto a depth of 60 metres: and forms a steady resource for the artisanal fishermen throughout the year. Apart from this rather scattered information, its general biology is virtually unknown. This paper represents results of analysis of data collected on **S. bimaculatus** at Vanga and Shimoni, in an attempt to describe certain aspects of its biology with view of management of the fishery at this area where Shimoni Marine Park acts as a reservoir for the reef unhabiting species.

S. bimaculatus was found to attain sexual maturity after reaching 16.5 cm total length at an age of 15 months and exhibits two peaks of spawning in March to May and September to November. Fecundity estimates were found to range 14,600 to 691,000 with mean fecundity of 35,200. The overall sex ration was found to be 1:1.7 males to females which deviated from 1:1 ratio ($p<0.05$ chi-square test). However, there was predominance of males upto 16.0 cm of females from 16.0 - 23.0 cm, and above 23.0 cm to sex ratio approached 1:1.

This species feed on bottom dwelling organisms mainly penaeid crustaceans forming 34.4%, mollusc, 10.0% echinoderms 7.8% and fishes 5.9%, and a high feeding intensity was observed after spawning. The length weight relationship was

$\text{Log}_{10} W = -1.537 + 2.765 \log_{10} L$ with correlation coefficient $r = 0.986$. Age and growth were estimated by length frequency distribution; and the growth curves fitted to the von Bertalanffy equation gave asymptotic length.

$L_{00} = 39.0$ cm and growth coefficient $K = 0.09$. Coefficient of natural mortality of the population was found to be 0.3 and of fishing mortality 0.2 using traps of 4.3 cm mesh size.

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