

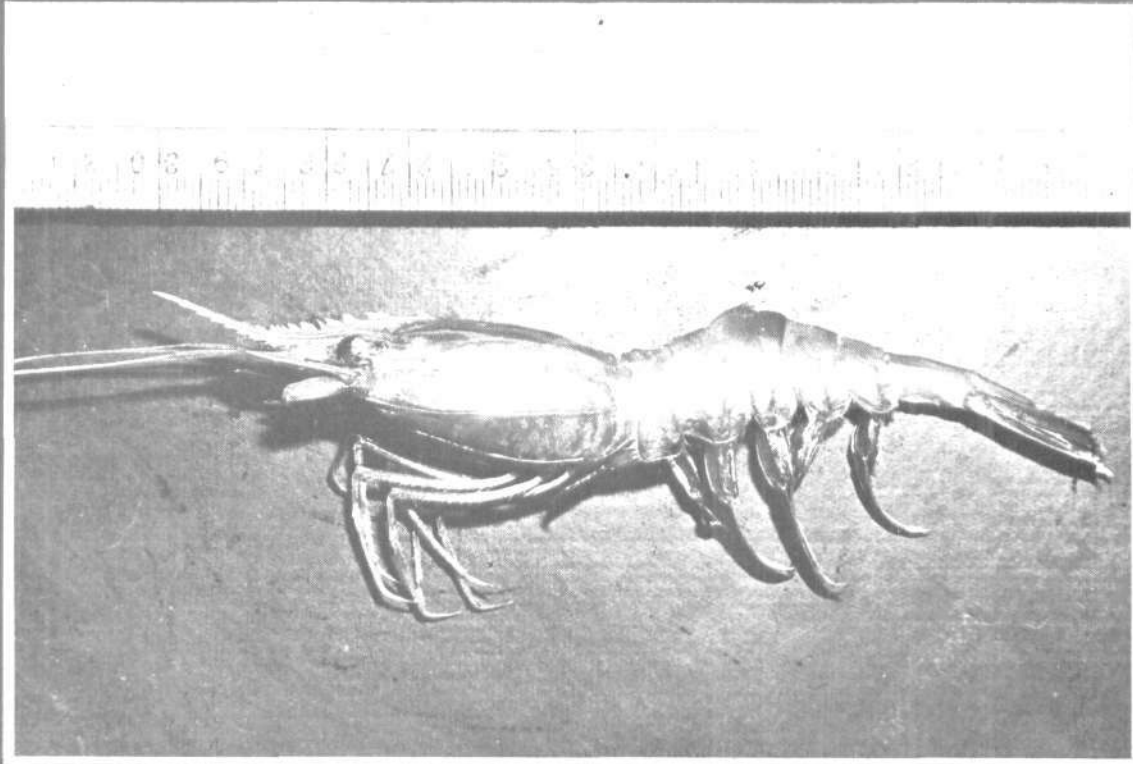


भारत
ICAR

समुद्री मात्स्यकी सूचना सेवा MARINE FISHERIES INFORMATION SERVICE

No. 147

APRIL, MAY 1997



तकनीकी एवं TECHNICAL AND
विस्तार अंकावली EXTENSION SERIES

केन्द्रीय समुद्री मात्स्यकी CENTRAL MARINE FISHERIES
अनुसंधान संस्थान RESEARCH INSTITUTE
कोचिन, भारत COCHIN, INDIA

भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

HEAVY LANDINGS OF WHELKS, *BABYLONIA* SPP. IN TRAWL CATCHES OFF QUILON, SOUTHWEST COAST OF INDIA*

Introduction

A variety of marine molluscs are exploited from Indian coasts for edible, lime shell and ornamental purposes from time immemorial. Whelks are recently being exploited from east and west coasts of India on a commercial basis for meat export trade. *Babylonia spirata* (Fig. 1) and *B. zeylanica* (Fig. 2) are the two species of whelks which form bycatch of shrimp trawlers in Sakthikulangara-Neendakara area along the southwest coast of India and the former species contributes to the fishery along Annappanpettai, near Portonovo along the southeast coast of

India. Since 1993, whelk meat is being exported in good quantities and as the demand increased, fishing pressure also increased in both the areas. During January-May 1996 period, shrimp landings along the west coast were comparatively poor and the boat owners were mainly depending on the bycatch of trawl nets especially whelks for their daily income. In May 1996, they have initiated targeted fishing for whelks off Quilon, by making slight modification in the trawl nets. The landing details of whelks by this targeted fishing and the problems it poses for the future are discussed in the present note.

During January to May 1996, shrimp landings were poor and the local fishermen started operating trawl nets mainly for bycatch of gastropod *Babylonia* spp. which had an increasing demand in the meat export trade. The price offered earlier was Rs. 20-30/kg and it increased to Rs. 35-70/kg in May 1996. It was noted that the monthly average catch from January to April was less than 50 t, whereas in May there was heavy landing, since most of the trawlers operated exclusively for *Babylonia* with modified trawlnets. Attracted by the increasing price offered for *Babylonia* coupled with poor shrimp catches, few boat owners made slight alterations in the net. 20-28 kilograms of lead rings were added to each trawlnet and the cod end filament thickness was increased to 1.5 mm. Addition of lead rings helped to keep the net close to the bottom and collect *Babylonia* in good numbers while increased filament thickness of the codend helped to withstand the weight of shells.



Fig. 1. *Babylonia spirata*.

In May 1996 trawlers were operated mainly during night and 5-6 hauls each of half an hour duration were made at a depth of 35 to 60 m, 20 km southwest and 35 km northwest of Sakthikulangara, off Quilon for whelk fishing. Analysis of the catch indicated that shrimp catch was insignificant, fishes 10-20% and trash or bycatch formed 70-80%. Out of the total gastropod bycatch, whelks contributed on an average 40 to 75.8%. *Babylonia spirata* and *Babylonia zeylanica*, formed the whelk catch, the former accounting 60% and the latter 40% (Fig. 1 & 2). *Bursa spinosa* ranked second in abundance among gastropod bycatch. *B. zeylanica* was always found abundant in sandy bottom and *B. spirata* in muddy bottom. The estimated total landings of *Babylonia* spp. for May 1996 was

389.6 t with an average catch per day of 54.3 kg. Some boats got a total catch exceeding one tonne whelk in a day.



Fig. 2. *Babylonia zeylanica*.

The analysis of the samples collected from the catch showed that the total length of *Babylonia zeylanica* ranged from 24-67 mm with dominant size groups between 40 and 43 mm to 60 and 68 mm, having peak mode at 48-51 mm. In *B. spirata*, the total length ranged from 19 to 51 mm, the dominant size groups ranging from 28-31 to 40-43 mm and the peak mode at 28-31 mm. The average shell-on weight (average length 48.1 mm) of *B. zeylanica* was 17.87 g and meat weight 3.94 g. Boiled meat formed 22% of total weight and the average weight of operculum was 0.189 g. *B. spirata* showed an average shell-on weight (average length 33.7 mm) of 12.4 g, meat weight 2.8 g and average weight of operculum 0.114 g. The meat weight percentage was 20 in total weight. Estimates showed that 65-70 numbers of *Babylonia* weigh one kilogram and 330-350 numbers of *Babylonia* yield one kilogram of boiled meat. The price of one kilogram whelk varied from Rs. 35 to 70 in May, 1996 when there was bulk landing. Considering Rs. 45/kg as the average price for shell-on whelks, the total revenue realised for the months is estimated at Rs. 1.75 crores. The average weight of 'fishnail' or operculum was estimated as 0.1515 g/shell and the estimates showed that 390 t of whelks could yield 3,900 kg of operculum worth Rs. 15.5 lakhs at the rate of Rs. 400/kg.

Remarks

Babylonia spp. contributed 55.5% of the total gastropod by-catch in the shrimp trawlers off Quilon in 1993-'94 and the annual total

catch was 188.9 t with a catch per effort of 2.2 kg. Present observation shows that in May, 1996 alone targeted fishing for *Babylonia* spp. yielded 389 t in one month with a catch per effort of 54.3 kg. This clearly indicates the increased fishing pressure on these species in this area. The size range of *B. spirata* in the commercial catches in May 1996 was 19-51 mm, and for *B. zeylanica* 24-67 mm indicating smaller size groups appearing in the catch. The peak modes in the present catch for the former was 28-31 mm and the latter 48-51 mm, whereas in 1993-'94 it was 40-43 mm and 52-55 mm respectively. This also shows that lower size groups are being exploited in good numbers in recent years.

The present observation off Quilon indicates that the catch/effort has increased considerably and this is mainly due to exploitation of smaller size groups. Large-scale removal of egg mass and the fauna from the sea bottom by the modified trawl net is quite evident. Though the whelk resource seems to be potentially rich, the chances of depletion due to intensive fishing and overexploitation is an immediate possibility. Hence it is suggested that conservation measures such as mesh size regulation, prevention of exploitation of undersized whelks and egg masses from natural bed are to be taken to ensure sustained yield of this natural wealth.

* Prepared by : M. Babu Philip and K.K. Appukuttan, Central Marine Fisheries Research Institute, Cochin - 682 014, India