

# Some trends observed in the deep-sea lobster catches of the vessel "Blue Fin" during the period January '69 to December '71

V. Narayana Pillai and V. S. Ramachandran  
*Central Institute of Fisheries-Operative: Cochin*

## Introduction

During the past two decades there have been sporadic attempts to explore the lobster resources especially the deep-sea lobster along the Kerala coast. Even as early as 1901 (Alcock, A) the occurrence of deep-sea lobster off the Travancore coast has been recorded. This was later confirmed during the year 1959 (John and Kurian) on the basis of data collected by the Research Vessel "CONCH" of the University of Kerala. Later in 1968 the reports of the INP vessels and the Soviet Research Vessel "ACADEMICIAN KNIPOVICH" (1971) also supported the same view. Certain biological aspects of some of the species were worked out and presented during the Symposium on Crustacea (J. B. Holthuis, 1966) and the symposium on the living resources of the seas around India (P. V. Rao and M. J. George, 1968), Silas (1969 and Joseph (1972) have indicated the probable distribution and

density of the deep-sea lobster *Puerulus sewelli* Ramadan based on the data of the exploratory survey vessels of Indo-Norwegian Project and Deep Sea Fishing Station.

The total value realised from export of frozen lobster tails from India has shown a steady increase from Rs. 2,26,362/- in 1962 to Rs. 1,09,41,746/- in the year 1971. Eventhough the total quantity exported shows a slight fall when compared to that of the previous year, the increase in the value realised clearly indicate the importance of this particular item from the export point of view.

Most of the reports available on the subject are based on limited data pertaining to a particular season and collected by different types of vessels using gear of different specifications. Under these circumstances it would be worthwhile examining certain trends

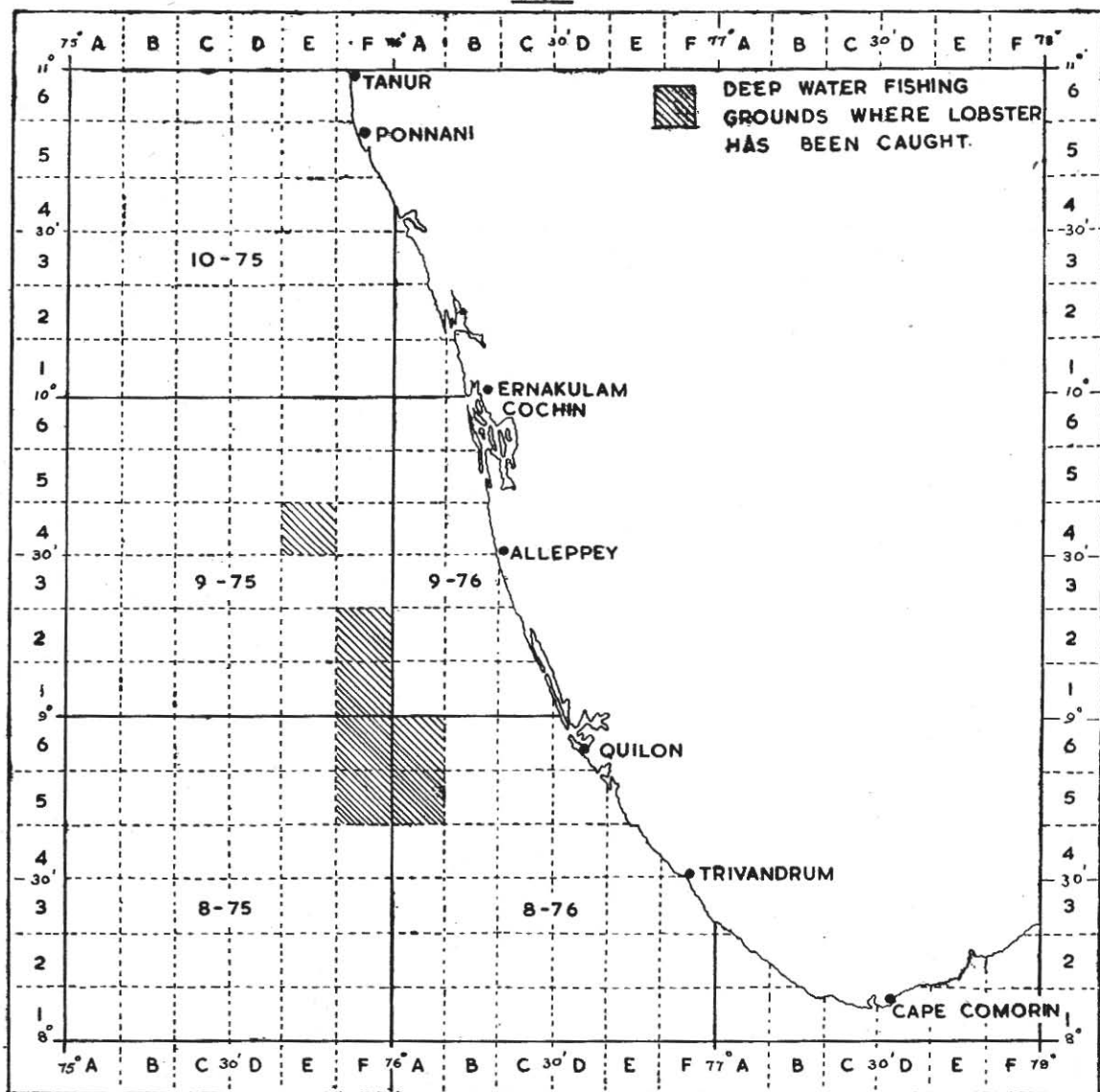
observed in the deep-sea lobster catches of an individual vessel which was engaged in fishing operations during the different seasons at a selected number of fishing grounds using certain standard types of gear and thereby making comparison of catches easier.

#### Craft and Gear

The vessel "BLUE FIN" operated

by the Central Institute of Fisheries Operatives, Cochin was engaged in regular trawling operations during the years 1969, 1970 and 1971 as a part of the training programme. The vessel is fitted up with engines of 600-650 BHP. The trawling winch has a capacity of 1200 metres of 14 mm wire rope. Fitted up with modern electronic navigational

FIG-1



and fish finding devices, the vessel can remain out in the sea continuously for seven days.

The following type of fishing gear was used by the vessel in the fishing grounds under survey:

600 meshes deep-sea trawl net (garfil)  
Rectangular Otter board- $2.23 \times 1.18$ m.  
weight = 410 kg.

### Data and Methods

The data used has been taken from the fishing log of the vessel which gives details regarding the operations and also the catch. The catch/Hr of trawling has been worked out for individual hauls on which is based the monthly and yearly averages.

### Observations

Out of a total of 68 fishing grounds visited by the vessel during the years 1969, 1970 and 1971, seven grounds yielded the deep-sea lobster *Puerulus sewelli* Ramadan in the depth range 183 to 293m. The catch per hour of trawling based on a monthly average for individual grounds show a comparative maximum of 1430 kg/Hr at ground 8-75/6F located off Quilon (depth range 192 to 293m) during the month of February, 1971 and a minimum of 45.4 kg/Hr at ground 9-75/4E located off Alleppey (depth range 247 to 256m.) A comparative study of the catch/Hr of trawling for deep-sea lobster *Puerulus sewelli* Ramadan at the different grounds show a decreasing trend both towards north and south of Quilon in confirmation with the findings of Joseph (1972). This trend in catches is quite evident from the catch/Hr based on monthly averages for a three year period for the grounds 8-75/6F

(635.8 kg/Hr) and 8-76/6A (316 kg/Hr) both located off Quilon. During the three year period the maximum catch/Hr for individual haul (2658.4 kg/Hr) was recorded at ground 8-75/6F during the month of February, 1971.

An overall review of the catches for the different months in a year show that in the grounds 8-76/6A, 8-75/6F, 8-76/5A and 8-75/6F located off Quilon, the maximum catch/Hr for deep-sea lobster was recorded during the months February, March, April, May and October. A survey of the monthly catches for the different grounds during the three year period shows that the catches were comparatively high during the months March, 1969 (26920 kg), April, 1969 (33518 kg), May, 1969 (16237 kg), February, 1970 (14842 kg), March, 1971 (23363 kg.) and April, 1971 (14581 kg). The vessel caught a total of 1,75,994 kg of deep-sea lobster *Puerulus sewelli* Ramadan during the period under review.

The catch composition shows that at grounds 8-75/6F, 8-75/5F, 8-76/5A and 8-76/6A located off Quilon the catch was predominantly constituted of *Puerulus sewelli*. (50% to 97%) Apart from a small percentage of deep water prawns, other varieties of fishes which were found mixed with the deep-sea lobster catches were represented by the following species:

1. Emmelichthys sp.
2. Chlorophthalmus sp.
3. Centripristis sp.
4. Cubiceps sp.
5. Epinulla orientalis.
6. Bemprops caudimacula.

Out of the above the *Emmelichthys* sp. was the most dominating species in the deep water catches. The seabottom at all the above said grounds was predominantly muddy with plenty of shells.

The average catch/Hr of trawling for *Puerulus sewelli* for all the grounds together varies between 103 and 451 kg/Hr. The average catch/Hr for all the grounds together calculated on the basis of monthly and yearly averages comes to about 236 kg/Hr. The catch/Hr recorded by the Soviet Research Vessel "ACADEMICIAN KNIPOVICH" for *Puerulus sewelli* in the southern part of the slope of the west Indian shelf at depths of 200 to 320m was 100 kg/Hr of trawling. It is quite evident from the present study that the catch/Hr of trawling for *Puerulus sewelli* for the vessel "BLUE FIN" was comparatively high at the above said grounds during the period January, 1969 to December, 1971.

#### Acknowledgement

The authors wish to express their sincere thanks to Shri M. C. Perumal, Director, Central Institute of Fisheries Operatives, Cochin for his keen interest

in the present study and also for his helpful suggestions. Thanks are also due to the skipper and crew of the vessel "BLUE FIN" for making proper records of operation and catch from time to time.

#### REFERENCES

- 1 ALCOCK, A. (1901) Descriptive catalogue of the Indian deep-sea Crustacea, Decapoda (*Macrura* and *Anomala*) in the Indian Museum, Calcutta; 1-286.
- 2 JOHN, C. C. and KURIAN, C. V. (1959) Bull. Cent. Inst; 7, 1c, 154-162.
- 3 KURIAN, C. V. (1965) Deep water prawn and lobster off the Kerala coast. Fish. Tech. II (1).
- 4 VEDAVYASA RAO, P. and GEORGE, M. J. (1968) The deep-sea spiny lobster *Puerulus sewelli* Ramadan: its commercial potentialities. Symposium on living resources of the seas around India.
- 5 SILAS, E. G. (1969) Exploratory fishing by R.V. VARUNA. Bull. Cent. Mar. Fish. Res. Inst. No. 12.
6. JOSEPH, K. M. (1972) A profile of the deep-sea fishery resources off the south-west coast of India. Seafood Export Journal, IV (1).
- 7 CHEKUNOVA, V. I. (1971) Distribution of commercial invertebrates on the shelf of Hindustan, in the NE Bay of Bengal and the Andaman sea. Soviet Fisheries Investigations in the Indian Ocean. (second expedition of the Research Vessel "ACADEMICIAN KNIPOVICH") All Union Research Institute of Marine Fisheries and Oceanography (VNIRO) Vol. LXXII : 70-83.