

Composition of heteropods in the Andaman Sea

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ABSTRACT

Distribution of species of Atlantidae, Carinariidae and Pterotracheidae in the Andaman Nicobar sea is discussed in this paper based on samples of *FORV Sagar Sampada*. *Oxygrus keraudreni* and *Protatlanta souleyeti* are reported for the first time from this area.

INTRODUCTION

Heteropods and pteropods are the two pelagic molluscan groups that are highly adapted for planktonic life. Compared to pteropods, heteropods are very few in regular zooplankton collections. Studies on heteropods of the Indian Ocean are very few. Tesch (1949) gave the geographical range of selected species of these in the world oceans. Frontier (1963, 1968) and Richter (1974) studied the heteropods of the Meteor Expedition. Aravindakshan (1969, 1973, 1977) studied certain groups of heteropods collected during the International Indian Ocean Expedition. The numerical abundance of heteropods in the EEZ of India is given by Mathew *et al.* (1990a). This paper deals with the distribution of heteropods from the Andaman and Nicobar seas.

MATERIALS AND METHODS

Heteropods were obtained from the zooplankton samples collected onboard *FORV Sagar Sampada* from the Andaman and Nicobar area during 1986 to 1990. The details of collection and the procedure adopted are given by Mathew *et al.* (1990b). The data are presented as number of individuals per 1000 m³.

RESULTS AND DISCUSSION

The Heteropoda includes three families, namely Atlantidae, Carinariidae and Pterotracheidae. The genera encountered in the study are given below.

Family Atlantidae: *Oxygyrus*, *Oxygyrus*, *Protatlanta*, *Atlanta*

Family Carinariidae: *Carinaria*, *Pterosoma*, *Cardiapoda*

Family Pterotracheidae: *Pterotrachea*, *Firoloida*

Figure 1 shows the distribution of the heteropod groups identified from the Andaman Sea. In the family Atlantidae *Oxygyrus keraudreni* was observed from 14 stations mostly from oceanic waters and *Protatlanta souleyeti* only from two stations. These two species are recorded for the first time from Andaman Sea. The *Atlanta* was the most abundant genus in the family Atlantidae represented by *A. peroni*, *A. gaudichaudi*, *A. lessueuri* and *A. inclinata*. *A. inflata*, *A. helicinoides*, *A. fusca* and *A. turriculata*. Of this *A. peroni*, *A. fusca* and *A. turriculata* were well represented in these samples. Highest density of 1640 specimens/1000 m³ was recorded at a station located at 10.30°N and 89°57'E.

The family Carinariidae was represented by *Carinaria cithara*, *C. cristata*, *Cardiapoda placenta* and *Pterosoma planum*. *Carinaria cithara* was present in two stations in the northwestern side while *C. cristata* was present only in three stations in the southern region. *Pterosoma planum* was obtained from 5 stations south of 11°00'N. *Cardiapoda placenta* was encountered from as many as 17 stations distributed over the entire Andaman-Nicobar area.

The genus *Pterotrachea* is represented by *P. coronata* at three stations and *P. hippocampus* in a single station, the former was encountered between 10.5°N and 9.5°N and the latter at 7°N - 93°30'E near Nicobar. Under the genus *Firoloida*. *Firoloida desmaresti* is the only species. This is a very common species and is well distributed in the Andaman area. Highest density of 540 specimens/1000 m³ of *Firoloida* was obtained from the same station from which highest density of *Atlanta* specimens were recorded.

Heteropods are widespread among the tropical seas. They are essentially surface dwellers confined to the upper 100 m. *Carinaria* and *Pterotrachea* move about freely after losing proboscis, eyes and visceral nucleus. The material from FORV *Sagar Sampada* offered intact specimens of all families except those of Atlantidae. An overall picture of the distribution of the species of heteropods was given by Tesch (1949) from the material obtained from Carlsberg and Dana Expeditions. His study did not cover the northern part of the Indian Ocean. The analysis of the heteropods collected during IIOE by Aravindakshan (1969, 1973, 1978) cover the northern Indian Ocean and deals mainly with Carinariidae and Pterotracheidae. The present observation helps to provide an idea on the distribution of these species in the waters around Andaman and Nicobar islands.

Eventhough *Atlanta* spp are regular components of samples obtained from 100 m to surface, reports from Indian Ocean is limited (Tesch, 1910, 1949). This study indicates that species of *Atlanta* are well distributed in the Bay of Bengal also. *Oxygyrus keraudreni* was found scattered over the Andaman-Nicobar area. Tesch (1949) obtained this species from the Ceylon and Scydhelles. Tesch's account of

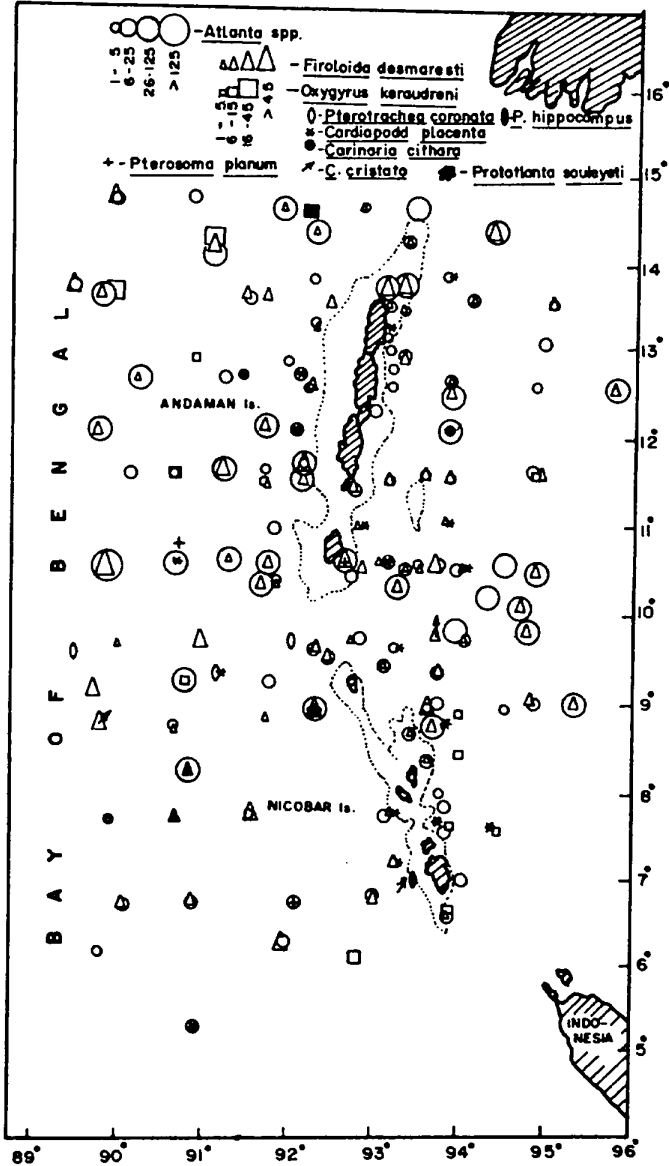


Fig.1 - Distribution of heteropods in the Andaman Sea (no/1000 m³)

Protatlanta souleyeti showed its distribution south of the equator and he specifically mentioned that the species was not obtained from the Indo-Malayan region, hence, this forms the first report of this species from the region. *Carinaria cithara* and *C. cristata* were recorded from the area south of 10°N (Tesch, 1949). But from the IIOE collections, Aravindakshan (1967) did not obtain species of *Carinaria* from the Bay of Bengal. This study shows that both *C. cithara* and *C. cristata* are present in Andaman and Nicobar seas. *Pterosoma planum* and *Cardiapoda placenta* were found to be well distributed in the Bay of Bengal, *Pterotrachea coronata* and *P. hippocampus* were also represented in the Bay of Bengal. *Firoloida desmaresti* was frequent in the collections of Andaman-Nicobar area, sometimes occurred in swarms. In general this study shows that heteropod genera are well distributed in the Andaman and Nicobar area.

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