

DISTRIBUTION OF *ELLOBIOPSIDAE*, PARASITIC PROTOZOA,
IN INDIAN OCEAN.

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ABSTRACT

Distribution of the Ellobiopsidae, in Indian Ocean is studied. The protozoan family *Ellobiopsidae* is represented in the Indian Ocean by two species, *Ellobiopsis chattoni* and *Amallocystis fagei*. They were mainly found from equatorial region to 30° south. In the northern Indian Ocean *E. chattoni* was present only in one station, in the south east coast of Arabia.

Key-words : Ellobiopsidae, Protozoa, *Ellobiopsis chattoni*, *Amallocystis fagei*, Indian Ocean.

INTRODUCTION

The family Ellobiopsidae, parasitic protozoa, is important because members of this family infect the zooplankton chiefly copepods and Euphausiids which form the dominant groups in zooplankton.

Eventhough several authors (Scott, 1897; Caullery, 1910; Apstein, 1911; Chatton, 1920; Hovassa, 1925; 1951; MacDonald, 1927, Steuer, 1928, 1932. Marshall, Nichollson and Orr, 1934; Jepps, 1937; Boschma, 1948. 1949, 1959; Bergan, 1953; and Mauchline, 1966) have studied Ellobiopsidae, very few records exist from Indian waters (Steuer, 1928; Santhakumari & Saraswathy, 1979). The information now obtained shows that they have wider distribution.

The parasite *Ellobiopsis chattoni* is attached by means of a stalk to mouth parts, antennae and rarely on the swimming legs. The stalk helps only in attaching to the host but also absorbs nourishment. *Amallocystis fagei* is found attached on the mid dorsal surface of the carapace in the region of the genital gland of the Euphausiid.

The zooplankton samples collected during the International Indian Ocean Expedition (IIOE) form the basis of the present study. The area covered during the expedition extended from 25°N to 45°S lat. between 20° and 125°E long. Most of the samples were taken vertically with Indian Ocean Standard net having 1 m² mouth opening and 0.33 mesh width and from upper 200 m of water. Different groups of organisms were sorted out and kept separately from the formalin preserved material. The Ellobiopsid infected copepods and Euphausiids were separated and studied.

A total of 206 specimens belonging to the two genera were recorded from 49 of the 1927 samples analysed (Fig. 1).

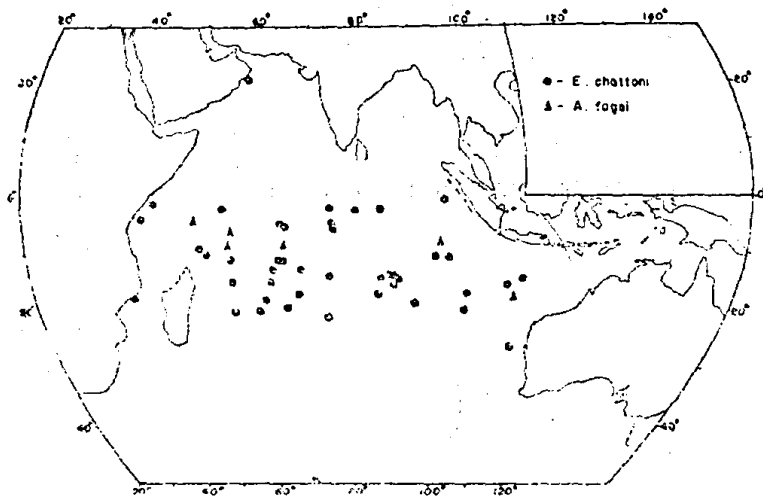


Fig. 1. Map showing the distribution of *Ellobiopsis chattoni*, and *Amallocystis fagzi*, in the Indian Ocean.

E. chattoni which infects copepods, was noticed in 44 samples. Except for one station near Gulf of Oman the family was exclusively found from Equatorial region to 30° South. Moreover they were abundant in oceanic region. The number of specimens in any sample varied from one to fourteen, the maximum number were found in the samples collected from off Madagascar and south west coast of Australia, 15° 02'S and 58° 02'E; 19° 11'N and 92° 14'E respectively. At these two stations the collection depth was 200 m.

E. chattoni Caullery was collected off Banyuls-sur-mer in the Mediterranean and on several occasions in the region of the Firth of Clyde (Caullery, 1910). Boschma (1949) stated that if all the species of the genus *Ellobiopsis* consisting of one trophomere with one gonomere which were described or mentioned by various authors belonging to *E. chattoni*, the species has a more or less world wide distribution.

According to Steuer (1932) *E. chattoni* inhabits 200-400 m depth layer in warmer seas, and the upper strata in colder seas. But Wickstead (1963) found this species in the upper 41 m of Zanzibar Channel. The present record of this species is from the upper strata and in no instance the depth of sampling exceeded 270 m. It is of interest to note that the high values of incidence of this organism are from samples collected from 200 m. Santhakumari and Saraswathy (1979) described this family from the south-east coast of India. But in the present study except for one station, all the specimens were found beyond equatorial region and limited to 30° south. Steuer (1928) reported *E. chattoni* only from one station between south India and Madagascar. Sewell (1951) noticed only some remnants of this species from Arabian Sea. According to Steuer (1932) this species has a world-wide distribution.

A. fagei which infects Euphausiids was observed from 6 stations only. The maximum number was 4, from south-west coast of Madagascar, 09°39'N and 5°757'E.

This species was collected previously from the southern hemisphere and mostly in the Antarctic region. Some of them were from South Atlantic, off South Brazil, off Patagonia Scotia Sea and off South Georgia. Others were from the Pacific: Bellingshanon Sea and about half way between New Zealand and Tierra del Fuego. Yet others were from South Indian Ocean, south of Australia, and south-west of Australia (Boschma, 1949). Einarsson (1945) reported it from the waters around Iceland. This species also has a wide distribution.

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