

## A NOTE ON THE FOULING HYDROIDS FROM THE OFFSHORE WATERS OF BOMBAY

V. P. VENUGOPALAN AND A. B. WAGH.

National Institute of Oceanography, Dona Paula, Goa-403 004.

### ABSTRACT

This short communication brings out the preliminary results of the studies on fouling hydroids from an offshore region of the Arabian sea. A total of ten species falling under four different families have been collected; of these four species viz. *Obelia dichotoma*, *Cuspidella humilis*, *Sertularia inflata* and *Aqlophenia pluma*, are being reported for the first time from Indian waters.

*Key-words:* Hydroids, fouling, Bombay offshore.

Hydroids form one of the major components of the fouling community and yet very little work has been done in India on this group (Mammen, 1963). The present note incorporates observations on the taxonomy of some hydroid species settled on experimental panels immersed in the offshore waters of the Arabian sea. Incidentally, this is the first account of the fouling hydroids in distant and deep waters along the Indian coast. Earlier, Santhakumaran and Pillai (1971) have reported the incidence of hydroids in the coastal waters of Bombay.

The study site was an offshore oil platform located in Bombay High area (about 170 km. off Bombay). The depth of the water column at the study site was about 78 metres. Four depths viz. 2, 22, 42 & 62 m were selected to study the incidence of biofouling by exposing test panels. Panels measuring 15cm x 10cm x 0.35cm and made up of aluminium, mild steel and fibre glass were used for the collection of the organisms. These panels were fixed in two orientations with reference to the sea surface, viz. vertical and angular (45°). Hydroids were commonly present on most of the panels but were more at 2 and 22m depth. During this study, conducted during the period 1984-85, 10 hydroid species belonging to four families were present on the test panels and of these four species were found to be new record from Indian waters. The following account incorporates a brief note on the distribution of these hydroids.

Family: *Companulariidae* Hincks

*Obelia bidentata* Clarke, 1875.

This species was common on many of the panels exposed in the sea and along with some other hydroids was the first to colonize the substratum. This

species has been reported earlier from the south west coast of India (Mammen, 1965).

*Obelia dichotoma* (Linnaeus, 1758).

This is widely distributed in the Atlantic Ocean and the Mediterranean Sea. It has also been reported from Gulf of Aqaba, Red Sea (Schmidt, 1971). However, this is the first record from the Indian waters.

*Clytia gracilis* (Sars, 1850).

This delicate hydroid was encountered on the panels during the most part of year and was present at all the depths. Like *O. bidentata*, it was one of the first to settle on the panels. Its occurrence has been reported earlier from the south west coast of India (Mammen, 1965).

Family: *Campanulinidae* Hincks

*Cuspidella humilis* (Hincks, 1866).

Ritchie (1907) reported this hydroid to be fouling on ship-hulls. In the present study, *C. humilis* was found growing on colonies of *O. bidentata*. This is the first record of the species from Indian waters. A related species, *C. grandis* Hincks has been reported from Gulf of Suez (Billard, 1926).

Family: *Sertulariidae* Hincks

*Sertularia inflata* (Versluys, 1899).

This species was found to occupy major portions of the test panels immersed during September and October, 1983 at the depths of 2 and 22m. This species has not been reported from India earlier.

*Sertularia turbinata* (Lamouroux, 1816).

This was found only during certain periods of the year and was generally restricted to the depths between 2 to 22 metres. It has been recorded from Pamban and Gulf of Mannar (Mammen, 1965) and from Maldive waters (Borradaile, 1905).

*Dynamena crisioides* (Lamouroux, 1824)

This hydroid is widely distributed in the tropical and subtropical waters of Atlantic, Pacific and Indian Oceans. It has been recorded from Gulf of Mannar (Gravelly, 1927) and from the Red Sea (Schmidt, 1971).

*Diphasia digitalis* (Busk, 1852).

This species has been earlier recorded from Trivandrum, south west coast of India (Mammen, 1965), Maldives (Borradaile, 1905) and Pamban (Gravelly, 1927).

Family: *Plumulariidae* L. Agassiz

*Halopteris diaphana* (Heller, 1899).

Unlike members of the other three families mentioned earlier plumularids were observed only occasionally and were very less in number. *Plumularia alternata* Nutting, reported from Pamban by Gravely (1927) is a synonym of *Halopteris diaphana*.

*Aqlophenia pluma* (Linnaeus, 1758)

This hydroid was found mainly at 2m depth. It was reported from the Atlantic and Pacific Oceans (Leloup, 1937). However, from Indian waters this is the first record.

#### ACKNOWLEDGEMENTS

The authors are thankful to Dr. H. N. Siddiquie, Director, NIO, for his encouragement. Thanks are also due to Oil & Natural Gas Commission for funds and facilities. The help rendered by Mr. S. J. Moore, British Museum (Natural History) in the identification of the samples is gratefully acknowledged.

#### REFERENCES

- Billard, A., 1926. Cambridge expedition to the Suez Canal. IV Rapport sur les Hydroides. *Transaction of the Zoological Society, London*, **22**: 85-104.
- Borradaile, L. A., 1905. *Fauna and Geography of the Maldive and Laccadive archipelagoes*, **2**: 836-845.
- Gravely, F. H., 1927. The littoral fauna of Krusadi Islands in the Gulf of Mannar: Hydrozoa. *Bulletin of the Madras Government Museum of Natural History*, **1**: 7-20.
- Leloup, E., 1937. Hydropolypes et Scyphopolypes. *Memoires du Mu' see Royal D'Historie Naturelle de Belgique*, **12**: 51.
- Mammen, T. A., 1963. On a collection of hydroids from South India. I. Suborder Athecata. *Journal of the Marine Biological Association of India*, **5**: 27-61.
- Mammen, T. A., 1965. On a collection of hydroids from South India. II. Suborder Thecata. *Journal of the Marine Biological Association of India*, **7**: 291-324.
- Ritchie, J., 1907. On a collection of Cape Verde marine fauna made by Cyril Crossland: The hydroids. *Proceedings of the Zoological Society, London*, **1**: 488-514.
- Santhakumaran, L. N. and S. R. M. Pillai, 1971. Marine foulers in Bombay waters: Coelenterates. *Souvenir, C.I.F.E. Recreation Club, May 1971*: 24-25.
- Schmidt, H. E., 1971. Some new records of hydroids from Gulf of Aqaba with zoogeographical reports on the Red Sea area. *Journal of the Marine Biological Association of India*, **13**: 27-51.