



Biodiversity of Foraminifera Occurring at Alibag and Nearby Coastal Area

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ABSTRACT

The foraminifera are hole bearers. They are single celled protists with shells. Their many forms are aquatic, primarily marine. They belong to class of amoeboid protists. About 275,000 species are recognized, both living and fossil. They are usually less than 1mm in size, but some are much larger. The largest species may reach up to 20cm. The biodiversity, coloration index and microscopic observational studies on foraminifera gives information regarding biostratigraphy, ocean acidification patterns etc. of the respective coastal region. The foraminifera can also act as pollution indicator. In the present study various sand samples from different coast near alibag area were studied for biodiversity and coloration index analysis. Alibag coastal area shows remarkable diversity of foraminifera including different species like Bathysiphon, Elphidium, Textularia, Saccorhiza, Saccamina, Spiroloculina etc. The coloration index and visual analysis test indicate that most varieties of foraminifera shows average age of 10 years giving light on the sand life pattern of Alibag coastal region.

Keywords: Foraminifera, Alibag, Biodiversity.

I. INTRODUCTION

The foraminifera are hole bearers single celled protists with shells having many aquatic, primarily marine forms. Their shells are called as "test", because in some forms, the protoplasm covers the exterior of the shell. The foraminiferan shells are mainly made up of Calcium Carbonate. Some shells are made up of organic compounds, sand grains and other particles. [1] They belong to phylum or class of amoeboid protists. About 275,000 species are recognized, both living and fossil. They are usually less than 1mm in size, but some are much larger. The largest species reaching up to 20cm. [2]

The foraminifera have typically been included in the phylum Protozoa or Protista but Some taxonomists wrongly classify them in other groups. Foraminifera are closely related to the Cercozoa and Radiolaria, both of which also include amoeboids with complex shells. These three groups make up the Rhizaria. However, the exact relationships of the forms to the other groups and to one another are still not entirely clear. [3]

The foraminiferal colouration index (FCT) is a tool for assessing the thermally induced colour change of organic matter in these buried organisms. This empirical method is based on finding colour variation in the fossil by visual observation and comparison

with available standard chart. [4] Present article reports the pilot research work indicating commonly occurring varieties of foraminifera in and around Alibag and their tentative colouration index values.

II. METHODS AND MATERIAL

15 Sand samples from 07 different beaches of Alibag were collected by random sampling method. Collected samples brought to the laboratory where they were studied by making sand smear on clean glass slide with glycerin. Smears were studied using simple light

microscope. Visual analysis, general identification and comparative coloration index studies were done using standard available resources. [5]

III. RESULTS AND DISCUSSION

The sand smear study of different samples showed certain common type of foraminifera which were recorded as commonly occurring foraminifera at alibag beaches. [Table 1]

Table 1. Commonly occurring foraminifera in alibag region.

Alibag Beach	Revas Beach	Nagaon Beach	Akshi Beach	Kihim Beach	Versoli Beach	Revdanda Beach
Bathysiphon	Elphidium	Bathysiphon	Bathysiphon	Bathysiphon	Textularia	Cyclamina
Cyclamina	Saccamina	Saccamina	Textularia	Elphidium	Elphidium	Saccamina
Textularia	Bathysiphon	Textularia	Saccorhiza	Saccorhiza	Saccorhiza	Textularia
Elphidium	Textularia	Cyclamina	Elphidium	Cyclamina	Bathysiphon	Bathysiphon

For colouration index study, 'FCI of McNeil et al (1996) relative to standard colors of Munsell soil colour chart' is used as refernce chart and anaysis were performed which revealed that the average indicated age of most of the samples is 10 years and more. This information suggests relatively young sand life patterns at Alibag coast.

IV. CONCLUSION

The Alibag costal sand life pattern is of young type and average biodiversity of foraminifera is common at nearby places. As this was the pilot study report, a more detail study of foraminiferan diversity and abundance is required using more sophisticated tools and techniques.

V. REFERENCES

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