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 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.
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 foraminiferan 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 | Saccammina | Saccammina | Textularia | Elphidium | Elphidium | Saccammina |
| 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 reference chart and analysis 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 coastal 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