## AN ABERRANT SPIROLOCULINA SP. FROM RECENT SEDIMENTS OFF BOMBAY-DAMAN, WEST COAST OF INDIA

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## ABSTRACT

A case of an abnormal two apertured Spiroloculine sp. was encountered in a sample from 90m depth off Bombay-Daman. This was a case of a regeneration/repair.

Key-words: Spiroloculins, oberrant apecles, west coast.

During a detailed micropaleontological investigation on board RV Geveshani (72nd cruise), grab samples were collected from Bombay-Daman region. West Coast of India. A species of Spiroloculina possessing two apertures was encountered in a sample at 19°50'N and 60°53'E from 90 m depth. At this station sea surface temperature was 29.0°C, salinity 36.29%, and pH 8.2. But the bottom water (at 85 m) temperature was 26.0°C, salinity 35.2%, and pH 8.1.

Aberrant features in foraminiferahave been observed quite frequently earlier but such an abnormal feature in *Spiroloculina* sp. of this region has not been reported so far.

## Brief description of a normal species

Test free, fusiform, chambers flattened, added gradually at 180° in single plane, wall calcareous, porcellaneous, aperture at an open end of final chamber with bifid tooth.

Dimensions (in mm): Length 1.32, width 0.72 and thickness 0.08.

This specimen (Fig. 1) possesses two apertures instead of a usual one in the last chamber. The second aperture had a neck with bifid tooth, joined at an angle of 45° (approx.) to the last chamber, a little below the normal one. However, the first (normal) aperture is situated at the extremity of the last chamber without prominent neck. This specimen was very similar to Spiroloculina depressa d'Orbigny except for the double apertures.

Cases of double apertures in Miliolinella from the recent sediments of New Foundland, Grand Banks (Hooper, 1966); in Ammotium salsum from Muar River estuary, West Malaysia (Dhillon, 1970); in Uvigerina sp. from shelf sediments of Bay of Bengal (Setty and Almeida, 1972); and from Lower Eocene of Belgium (Willems, 1974) have been reported. Several possible

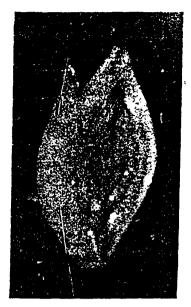


Fig. 1. An aberrant Spiroloculina sp. showing two apertures.

explanations for abnormal double apertures have been offered. They are caused by (i) injury, disease or mutation as reported in the case of abnormal Uvigerine from the Upper Eocene, MissIssippi (Ellison, 1953); (ii) pollution effect as in the case of abnormal Buccella sp. and Ouinqueloculina sp. from Nantucket Bay, Massachusetts (Lidze, 1965); (iii) some ecological factors as in the case of abnormal Astacolus reniformis (d'Orbigny) from the Holocene of Gantheaume Bay. Western Australia (Dhillon, 1969); or (iv) by injury and subsequent regeneration as in the cases of planktonic foraminifera observed in laboratory culture (Be and Spero, 1981). The abnormality observed In Spiroloculina sp. at the present station does not appear to have been caused by pollution or ecological factors because the other associated fauna were found unaffected and normal. The two apertured Spiroloculina sp. might have resulted from regeneration/repair by which the damaged portion of the last chamber required healing (or repair), and in the process, a second aperture was formed with a neck.

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