

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 *Spiroloculina* sp. was encountered in a sample from 90 m depth off Bombay-Daman. This was a case of regeneration/repair.

Key-words : *Spiroloculina*, aberrant species, 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 foraminifera have 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 *Millolinella* from the recent sediments of New Foundland, Grand Banks (Hooper, 1966); in *Ammotium saesum* 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 *Uvigerina* from the Upper Eocene, Mississippi (Ellison, 1953); (ii) pollution effect as in the case of abnormal *Buccella* sp. and *Quinqueloculina* 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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