TWO CHEILOSTOME BRYOZOA FROM LOWER MIOCENE BEDS OF KUTCH

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ABSTRACT.—Two new species of Cheilostome Bryozoa *Discoporella misrai* sp. nov. and *Anoteropora rajnathi* sp. nov. from the Lower Miocene (Gaj) beds of Vinjhan, Kutch, have been illustrated and described. The genus *Anoteropora* is being recorded for the first time from the Lower Miocene.

INTRODUCTION

THE highly fossiliferous Tertiary beds of Kutch out crop in the form of continuous bands all along the sea coast of the region. These are now also drawing the attention of the Petroleum Geologists. These were first studied and mapped in detail by Wynne (1872) followed by a geological map of Waghopadar and Cheropadi by Tewari (1957). The fossil Molluscs of the area have been studied by Vredenburg (1925-28), Echinoids by Duncan and Sladen (1883) and Foraminifera by Sowerby (Carter, 1837), Vredenburg (1906-08), Nuttall (1925-26) and Tewari (1952).

The Cheilostome Bryozoa which form the subject matter of this paper come from the yellow and brown marls, outcropping about two furlongs north-east of the village Vinjhan (23° 6′ : 69° 4′), Kutch. The rock is made up of loose foraminiferal marl interbedded with yellow and green shales of the Gaj stage of Kutch. The material was collected in the year 1952 by the senior author. The beds have been assigned to the Burdigalian age on the basis of occurrence of *Taberina malabarica*, *Austrotrillina howchini*, *Miogypsina irregularis*, *Corbula tunicosulcata*, *Ostrea latimarginata* and *Turritella* (*Torculoidella*) *angulata*.

Bryozoa from the Lower Miocene beds of India have not been described in detail so far. Jacob and Sastri (1952) sketched and reported two species of Bryozoa under the name of *Cupularia* sp. 1 and *Cupularia* sp. 2, unrecognized generic name of Bryozoa, from the Lower Miocene beds of Quilon (8° 58′ : 76° 32′), Travancore. The forms reported from Travancore closely resemble *Discoporella misrai* sp. nov. described in this paper. It appears that the apparent dissimilarities in *Cupularia* sp. 1 and *Cupularia* sp. 2 illustrated by Jacob and Sastri are probably due to their varying state of preservation. The genotype of *Discoporella* d'Orbigny—*Lunulites umbellata* was described by Defrance in 1823 from the Miocene of France. It was also described by d'Orbigny as *Discoflustrella* in 1853. According to Shimer and Shrock (1944) and Moore (1953) *Discoporella* ranges from Miocene to Recent. The genus *Anoteropora* Canu and Bassler, also present in our material, has been known to range from Pliocene to Recent.

EXPLANATION OF PLATE 46

Camera Lucida Drawings, except fig. 1.

FIGS. 1-4—*Discoporella misrai* sp. nov.
1—Outer view of the zoarium ×4.5 (Photograph).
2—Magnified view of pores ×25
3—Lateral view of zoarium ×6
4—Inner view of zoarium ×6
5-6—*Anoteropora rajnathi* sp. nov.
5—Magnified view of openings ×25
6—Lateral view of zoarium ×11

SYSTEMATIC DESCRIPTION

Order CHEILOSTOMATA
Suborder ANASCA
Family CALPENSIIDAE Canu and Bassler
Genus DISCOPORELLA d'Orbigny, 1823
DISCOPORELIA MISRAI sp. nov.
Pl. 46, figs. 1-4; Pl. 47, fig. 2

Zoarium calcareous, large, low-conical. Openings arranged in engine turning pattern, shape of the zooecial openings rhomboid. Avicularia mostly present, circular in shape. Inner margin of the zoarium crenulated, porous, small tubercles are arranged in biserial rows on the distal part of the inner side.

REMARKS

Three specimens were found. Our specimens closely resemble *D. umbellata* in the arrangement of pores and avicularia but differ in the size of pores. The species has been named in the honour of Prof. R.C. Misra. L.U. 100—Holotype. L.U. 101-102 Paratypes.

MEASUREMENTS (in mm.)

Specimen No.	Diameter of the zoarium	Height of the zoarium	Diagonals of the pores		Diameter of the avicularia
			Longer	Shorter	
L. U. 100	10	2	0·4—0·42	0·3—0·31	0·1
L. U. 101	16	4	0·4—0·41	0·3—0·31	0·1
L. U. 102	8	15	0·4—0·41	0·3—0·32	0·1

Suborder ASCOPHORA
Family MAMILLOPORIDAE Canu and Bassler
Genus ANOTEROPORA Canu and Bassler,
ANOTEROPORA RAJNATHI sp. nov.
Pl. 46, figs. 5-6; Pl. 47, figs. 1, 3-5

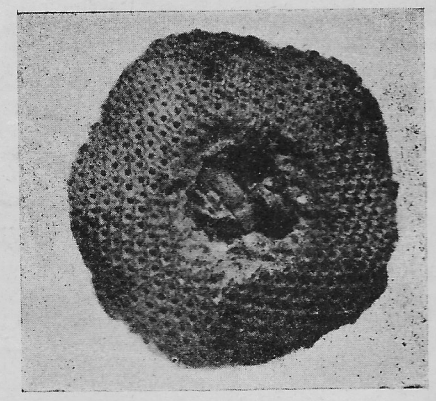
Zoarium cupuliform, calcareous, openings of the zooecia sub-circular, with two sub-median cardelles. Avicularia triangular, inter-zooecial, distal with a prominent pivot. Engine-turning pattern not conspicuous. Peristome tuberocity present. Marginal zooecia continue on the inner margin. Small sub-circular tubercles are present on the inner surface.

EXPLANATION OF PLATE 47

Camera lucida drawings, except fig. 1.

FIG 1, 3-5—*Anoteropora rajnathi* sp. nov.
1—Outer view of zoarium ×6 (Photograph).
3—Enlarged avicularia ×120
4—Inner view of zoarium ×11
5—Lateral view of zooceia ×25
2—Lateral view of zooceia of *Discoporella misrai* sp. nov. ×25

2



1

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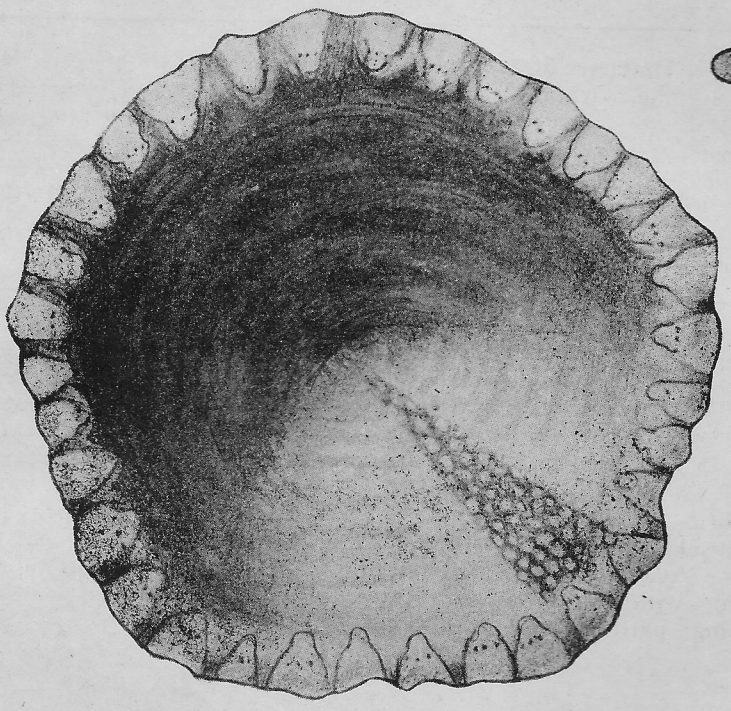

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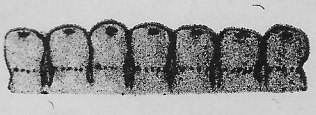

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MEASUREMENTS (in mm.)

Specimen No.	Diameter of the zoarium	Height of the zoarium	Diameter of the openings	Length of the avicularia
L. U. 103	8	2	0·2—0·21	0·17—0·20
L. U. 104	8	2	0·2—0·21	0·18—0·20
L. U. 105	8	2	badly preserved	
L. U. 106	12	3	0·19—0·21	0·18—0·20

REMARKS

Four specimens have been collected most of them are highly weathered to show the structures clearly. The species is quite distinct from *A. magnicapitata* in the details of zooecia. The species has been named in the honour of Prof. Raj Nath. L. U. 103—holotype. L. U. 104-106—Paratypes.

ACKNOWLEDGEMENTS

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REPOSITORY

The specimens are deposited in the museum of Geology of Lucknow University, India.

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