

The occurrence of *Bolivinoides decoratus* (Jones) from the Ariyalur stage of the Trichinopoly Cretaceous, Tamil Nadu

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Abstract

A study of the samples from Chokkanadhapuram (79°7'41" : 11°16'2") has revealed the occurrence of the species *Bolivinoides decoratus* (Jones) for the first time. The *Bolivinoides* species found in the area is described and its bio-stratigraphic importance is discussed.

Introduction

The importance of the genus *Bolivinoides* as a tool for bio-stratigraphic zonation and world-wide correlation of Santonian to Maestrichtian strata has been widely recognised in many parts of the world, such as, in NW Australia (Edgell, 1954), NW Europe (Hiltermann and Koch, 1950), Libya (Barr, 1966, 1970), France (Van Hinte, 1967) and in New Jersey (Petters, 1977). In India the genus *Bolivinoides* has been reported from the Cauvery Basin by Govindan (1977). The note records the occurrence of this genus from Gryphea bed of the Ariyalur stage of the Trichinopoly Cretaceous from a well cutting near Chokkanadhapuram (79°7'41" : 11°16'2").

SYSTEMATIC PALAEOONTOLOGY

Order: FORAMINIFERIDA

Suborder: ROTALIINA

Superfamily: BULIMINACEA Jones, 1875

Family: BOLIVINITIDAE Cushman, 1927

Genus: *Bolivinoides* Cushman, 1927

Type species: *Bolivinoides draco* (Marsson)

Bolivinoides decoratus (Jones)

Pl. I, Figs. 1 to 4

Bolivina decorata Jones: (in Wright 1875), p. 87, 96, 97 (list only); Wright 1886, p. 330, pl. 27, figs. 7, 8.

Bolivinoides decorata (Jones): Barr, 1966, p. 231-234, pl. 34, figs. 2-6, 12; pl. 35, figs. 6-9; pl. 36, figs. 1-5.

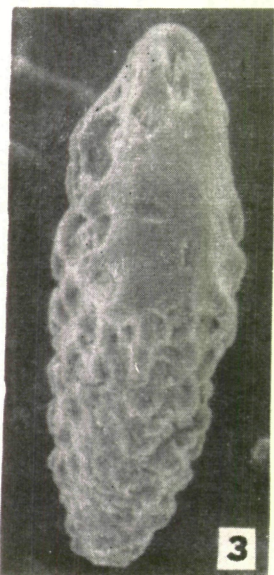
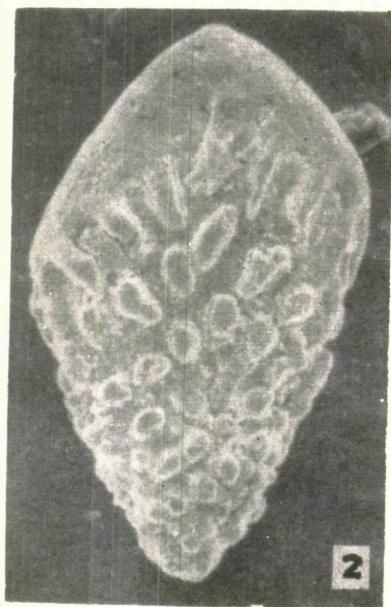
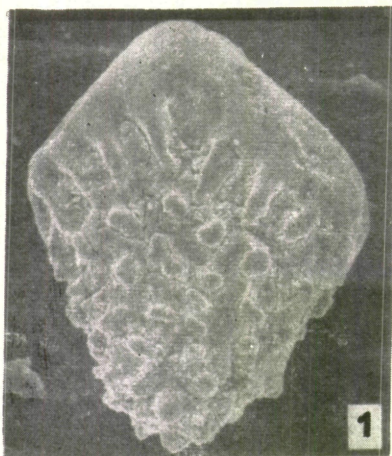
Bolivinoides cf. *B. decoratus* (Jones): Barr, 1970, p. 647, pl. 100, figs. 1-3.

Bolivinoides decoratus (Jones): Van Hinte, 1967, p. 257, pl. 1, figs. 2-3.

Bolivinoides decoratus (Jones): Petters, 1977, p. 1032, pl. 1, figs. 2.

Description

The small flaring rhomboidal test is about $1\frac{1}{2}$ times as long as broad, broadest near the apertural portion, bluntly tapering towards both the ends and sub-elliptical to oval in cross section. Its initial end is acutely rounded while its apertural end is chevron-shaped. The chambers are indistinct but distinct when wet. The biserially arranged chambers are 10-12 in number, subrectangular, gradually increasing in height but rapidly increasing in breadth. The oblique structures are indistinct obscured by the ornament. The test is highly ornamented with nodes and tubercles tending to coalesce into short ribs or lobes especially towards the apertural end. The last chamber consists of 3-4 lobes. The acutely rounded lobulate periphery is also ornamented with nodes. The calcareous wall is finely perforate. The small



All figures are Scanning Electron Micrographs
Figures 1-4. *Bolivinoides decoratus* (Jones)

- 1. Side view of smaller specimen $\times 500$
- 2. Side view of bigger specimen $\times 400$

- 3. Peripheral view $\times 400$
- 4. Enlarged apertural view $\times 2000$

oval to loop shaped aperture occurs in the middle of the apertural face of the last formed chamber.

Dimension

| | | |
|---|--------------|--------------|
| Length | max. 0.28 mm | min. 0.20 mm |
| Breadth | max. 0.20 mm | min. 0.15 mm |
| Thickness | max. 0.13 mm | min. 0.10 mm |
| Length/Breadth Ratio Index : 1.3 to 1.4 | | |

Remarks

The species here described resembles the one figured by F. T. Barr and others. Our specimens of *Bolivinooides decoratus* (Jones) from the *Gryphea* bed formation in Chokkanadhapuram area, have a smaller Length/Breadth ratio mostly 1.3 to 1.4 than those from British Isles (Barr, 1966) which range from 1.5 to 1.8. This excellent index fossil which is reported from the Upper Campanian of British Isles, the type Campanian in France, Europe, Australia and New Jersey is known to have an Upper Campanian range in age. The occurrence of *Bolivinooides decoratus* (Jones) in the *Gryphea* bed near Chokkanadhapuram is indicative of Upper Campanian age. The age limit of the *Gryphea* bed will be dealt separately with the help of other associated planktonic foraminifera.

Recently Govindan (1977) attempted the *Bolivinooides* zonation in the Cauvery basin from the subsurface samples of Kilkulattur, Karaikal, Madanam, Kattumannarkoil and Mayavaram wells recording the occurrences of *B. Strigillatus*, *B. miliaris*, *B. draco* and reporting the missing of *B. decoratus* (Jones). Now the occurrence of *B. decoratus* (Jones) in the Ariyalur stage of Trichinopoly Cretaceous fills the missing link in the *Bolivinooides* lineage and their zonation respectively.

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