***Bolivina lata* sp. nov., a new foraminiferal species in the family Bolivinitidae from Niger Delta, Nigeria**

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Abstract

A new benthonic foraminifera, *Bolivina lata* sp. nov. is described from the Niger delta basin of Nigeria. This foraminiferal species occurs abundantly in the Oligocene of the basin.

Introduction

The Niger Delta basin is situated in the Gulf of Guinea, into which it progrades and lies between latitude 4° – 6° N and longitude 3° – 9° E (Fig. 1).

Biostratigraphic studies involving the use of *Bolivina* for biostratigraphy have been presented by Petters (1982) and regional phylogenetic analysis of Bolivinitidae of basins within the Gulf of Guinea, including the Niger delta (Brun *et al.*, 1984). Because studies were conducted at regional scale, the documentation of the Bolivinitidae in the basin remains rather unsatisfactory. Not much attention has been paid on the morphology of the bolivinids of the basin.

Fig. 1. Geological map of Nigeria showing sample locations (Modified from Geological Survey of Nigeria 1974)

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The objective of this paper is to describe a new *Bolivina* species, *Bolivina lata* sp. nov. and present the scanning electron micrograph of its form.

Scanning electron microscope study for this paper was carried out at the Institut für Geowissenschaften, Christian– Albrechts – Universität zu Kiel, Germany. Holotype representing the species described was deposited in the same University.

Discussion

The distribution of *Bolivina lata* sp. nov. ranges from intervals 3123 – 3280 m of the studied well (Batan-1). This interval represents a general Oligocene age on the basis of planktonic foraminifera (Petters, 1983). The Oligocene age is corroborated by the last occurrence of *Bolivina ihuoensis* Reyment, in this study, which agrees with Brun *et al.* (1984).

Taxonomic Description

The classification used in this work is that of Loeblich and Tappan (1987). The identification of the *Bolivina* species is based entirely on Cushman (1911) definition of the genus.

Order FORAMINIFERIDA Eichwald, 1830
Superfamily BULMINACEAE Jones, 1895
Family BOLIVINITIDAE Cushman, 1927
Genus *Bolivina* d'Orbigny, 1839

Type species: *Bolivina plicata* d'Orbigny, 1839
Bolivina lata sp. nov.
Fig. 2 (1-3)

Derivatio nominis: The species name is derived from a Latin qualifier “latus” (broad), with reference to the broad last chamber pair.

Holotype: ABUGM 0705; Figs. 2 (1 – 3)
Type Locality: Batan-1 well, Western Niger Delta, Nigeria
Type horizon: Oligocene strata of Batan-1 well, from 3123 – 3280 m
Diagnosis: Broad, greater flare of the last pair of chambers. Distinctive 5 pairs of chambers.

Description: Test small, biserial, stout, somewhat inflated; periphery very rounded, 5 chambers in each row, first 3 chambers low, last 2 high; sutures distinct depressed, limbate, oblique slanting at almost 45°; ornamented with longitudinal costae originating from the proloculus, about 1 or 2 of the costate are anastomosing; costae become obsolescent at the base of the last pair of chambers, with 2 faintly continuing into the last pair; coarsely perforated, pores are sunken and nearly equally spaced; periphery at last pair of chambers surrounded; a keel terminates at the base of the last pair of chambers; aperture longitudinal slit though not clearly visible on apertural face but the relict is slightly visible; the specimens generally are well preserved.

Fig. 2: Scanning electron micrograph of *Bolivina lata* sp. nov. (1) Side view; (2) Peripheral view; (3) enlarged part of 2.1.

Dimension: Holotype

Length 0.25 mm

Width 0.16 mm

Paratype:

SPECIMEN NUMBER	WIDTH (W) mm	LENGTH (L) mm	L/W
A.0744/1	0.16	0.25	1.56
A.0744/2	0.17	0.25	1.47
A.0744/3	0.16	0.23	1.44
A.0744/4	0.19	0.26	1.37
A.0744/5	0.20	0.28	1.40
A.0744/6	0.21	0.31	1.47
A.0744/7	0.23	0.35	1.52
A.0744/8	0.23	0.36	1.56

Remarks: Different from *Bolivina inflata* in that *B. inflata* Heron- Allen and Earland has a greater chamber flare compared to *Bolivina lata* sp. nov. *Bolivina lata* sp. nov. possesses a keel around the periphery but no carinate sutures while *B. inflata* possesses carinate sutures. *Bolivina lata* sp. nov is a phenotypically diverse species, as populations display variations in suture incision/raising, keel development.

Occurrence: Common in Oligocene of the Niger Delta from 3123 – 3280 m.

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