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## **Foraminiferal assemblages in subsurface sediments of the upper continental slope, north Bahia, Brazil**

Tânia Maria Fonseca Araújo & Altair de Jesus Machado

*Universidade Federal da Bahia/UFBA, CPGG / IGEO. Rua Caetano Moura 123,  
Federação, 40 210 340, Salvador, Bahia, Brazil  
tfaraujo@ufba.br*

This work presents the analysis of one piston core (1.90 m long) from the upper continental slope at the north coast of the State of Bahia, which was collected at 730 m deep, approximately 9 km from the continent. Ten samples were selected at 20 cm intervals, for defining correlation of the foraminiferal benthonic assemblages with bathymetric, sedimentologic and hydrodynamic parameters. The patterns of distribution and the frequency of the foraminiferal species indicate assemblages mainly characterized by > 1% relative frequency. The sediments are composed of olive gray carbonate mud mainly with foraminiferal tests and mollusk debris from the top to 40 cm depth, and an olive dark (40 – 60 cm) to brownish black (1.20 m) siliciclastic mud, with plant fragments to its bottom. The frequency of the benthonic species increases at 60 cm, 1m and 1.60 m depths in the core.

- At the core top, there is a benthonic assemblage with five foraminiferal species that include in decreasing order of abundance: *Cassidulina crassa*, *Bolivina pseudoplicata*, *Eponides frigidus*, *Bolivina doniezi* and *Bulimina patagonica*.
- Sample 2 (20 cm deep) has a benthonic assemblage with eleven species: *Bolivina subaenariensis*, *Bulimina marginata*, *Cassidulina subglobosa*, *B. patagonica*, *Cibicides pseudoungerianus*, *Planulina faveolata*, *Trifarina bradyi*, *Uvigerina peregrina*, *Bolivina ordinaria*, *Eponides frigidus* and *Laticarinina halopora*.
- Sample 3 (40 cm deep) has ten species: *Bolivina subaenariensis*, *C. pseudoungerianus*, *Sphaeroidina bulloides*, *B. patagonica*, *Cassidulina norcrossi australis*, *E. frigidus*, *B. marginata*, *Cassidulina curvata*, *L. halopora* and *Pullenia bulloides*.
- Sample 4 (60 cm deep) has eighteen species: *B. patagonica*, *B. subaenariensis*, *B. marginata*, *Bulimina affinis*, *Bolivina subreticulata*, *Cassidulina laevigata*, *Bolivina difformis*, *C.*

*subglobosa*, *C. pseudoungerianus*, *Brizalina striatula*, *Bulimina buchiana*, *E. frigidus*, *Angulogerina angulosa angulosa*, *Bulimina aculeata*, *Bulimina costata*, *C. crassa*, *Eponides repandus* and *Melonis affine*.

- Sample 5 (80 cm deep) has just one species: *Sphaeroidina bulloides*.
- Sample 6 (1 m deep) has nine species: *S. bulloides*, *B. affinis*, *B. aculeata*, *C. pseudoungerianus*, *B. marginata*, *B. patagonica*, *B. subreticulata*, *C. curvata*, *U. peregrina*.
- In samples 7 (1.20 m deep) and 8 (1.40 m deep) was found only one planktonic species and no benthonics.
- In sample 9 (1.60m deep) the benthonic assemblage has eight species: *C. pseudoungerianus*, *C. laevigata*, *E. frigidus*, *Sigmavirgulina tortuosa*, *C. subglobosa*, *Ammonia tepida*, *Angulogerina angulosa occidentalis*, *Cibicides lobatulus*.
- And in sample 10 (1.80 m deep) four species were identified: *A. tepida*, *C. subglobosa*, *C. pseudoungerianus*, *Gyroidina umbonata*.

It was observed the predominance of the infaunal genera *Bolivina*, *Uvigerina*, *Bulimina* and *Cassidulina* commonly found in muddy sand substrates, characteristic of cold-temperate or cold-warm waters. The presence of the genera *Bolivina*, *Uvigerina* and *Bulimina* in samples 2 (20 cm) and 6 (1 m) reflect a deep environment, probably with little oxygen and/or a high rate of influx of organic matter. The change from a carbonate mud at the top of the core to a siliciclastic mud at its bottom, and the absence of benthonic and planktonic assemblages in the depositional intervals of 80 cm, 1.20 m and 1.40 m deep, suggests environmental changes probably related to a reduction in the eustatic sea level.