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BENTHIC FORAMINIFERA BIOFACIES ANALYSIS OF THE PARAIBA DO SUL DELTAIC COMPLEX, EASTERN BRAZIL

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Abstract

Foraminifera have a wide spatial-temporal distribution, from coastal to deep marine environments, and are good environmental and paleoenvironmental indicators. The determination of assemblages and indicator species has characterized the level of marine and continental influence, as well as enabling events such as marine incursions and sea level rise and decrease during Late Pleistocene – Holocene, to be inferred. This work aims to characterize the biofacies based on benthic foraminifera preserved in sediments of the 2-BG-1-RJ well core drilled in the Rio Paraíba do Sul Deltaic Complex, at the south of the current river mouth, located in the municipality of Campos dos Goytacazes (RJ). The analyzed samples are located at the top of the well core, ranging from 40.50 m to 10.50 m, and were chosen because that core interval was described as a succession of Estuary (PGH') / Marine facies (QP'). Two biofacies were defined, respectively: QP' characterized by shelf miliolids and PGH', characterized by *Pararotalia cananeiaensis*, *Gavelinopsis praegeri*, *Haynesina germanica* and *Hanzawaia nitidula*. Those species suggest estuarine environment with fluvial influence in the base and marine influence from the middle to the top of the core. Correlating the results of the biofacies with the sedimentary facies, two falling and one rising relative sea level are inferred. These results contributed to the understanding of the estuarine complex dynamics, which is influenced both by the oscillation of the sea level and fluvial influence.

Keywords: Benthic Foraminifera, Estuary, Biofacies

1. Introduction

Foraminifera have a wide spatial-temporal distribution, from coastal to deep marine environments and are good environmental indicators (Boltovskoy & Wright, 1976; Scott *et al.*, 2004). Benthic foraminifera respond to the environmental changes and help them to be understood along a stratigraphic succession (Sen Gupta, 2003). They are important because their tests are preserved in the sediment, thereby allowing the record of conditions and events

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