

MAASTRICHTIAN PALEOCLIMATIC INFERENCES TO THE FROM MAASTRICHTIAN TO PLANKTONIC FORAMINIFERA ASSEMBLAGES: SOUTH ATLANTIC (DSDP SITE 356)

Hoffmann, P.¹; Krahl, G.¹; Fauth, G.¹

¹ITT FOSSIL - Instituto Tecnológico de Micropaleontologia, Universidade do Vale do Rio dos Sinos.

ABSTRACT: The evolution of Cretaceous planktic foraminifers is characterized by pulses of diversification and stasis, interrupted by short events of extinction and faunal turnover. The Maastrichtian, the last Cretaceous age (72.1-66.0 Ma), is marked by a warm and dry climate. Despite the dominant Greenhouse conditions (warm and dry climates) during of the Maastrichtian, some climatic changes were also observed in this interval, based on fossil assemblages, including the planktic foraminifers. Due to its susceptibility to environmental ecological changes and to the temperatures of water, such as the temperature, the quantitative and qualitative analyses quantitative and qualitative of the assemblages, provides a good tool results to infer the paleoclimatic and paleoceanographic conditions characterization. The aim of this work is the assessment of the Maastrichtian climatic changes, based in through the planktonic foraminifer morphogroups diversity, of the Maastrichtian climatic changes. The DSDP Site 356 was analysed in detail in order to register the variations in the planktic foraminifer assemblages at genus level. Six samples were prepared and studied through the usual methodology for the group. One hundred specimens from each fraction >250µm, >150 µm and 38 µm, were picked out, summing up 300 specimens by sample. Small variations in the diversity of morphogroups were observed and checked which were interpreted by both equitability (J) and diversity (H') analyses. Based on them, it was possible to infer a water column stable and under oligotrophic conditions, with a well defined photic zone well defined between the depths of 412.25 m e 420.28 m. However, in the six samples, small variations in the in the taxa abundance are noticed. In the lower portion, between 415.25 m e 420.28 m, there is the lowest abundance of r/K-intermediate + K-specialists species, when compared with to the uppermost part of the studied section, between 412.25 m and 413.74 m. In the upper part of the section there is a progressive increase in r/K-intermediate and K-specialist forms is observed, with a significant decrease in the abundance of r-opportunists ones. The equitability (J) data also present a short increase, when compared to the base of the section (415.25 m-420.28 m), while the diversity remains stable. Those results seems to attest that along all the studied section there is a progressive warming in the water column, mainly close to the K/Pg boundary. It is indicate as demonstrated by the increase in r/K + K forms, reduction in r-opportunists, and a relatively high equitability (J), suggesting which indicate a homogeneous distribution of the taxa in the water column.

Comentado [RE1]: É de amplo conhecimento

Comentado [RE2]: Temperatura não é aparato ecológico, é ambiental.

Comentado [RE3]: Nisto está igual a parte basal da sondagem. A diferença é os r-opportunistas? Verificar.

KEY WORDS: PLANKTIC FORAMINIFERS, PALEOCLIMATE, MAASTRICHTIAN.