

MICROSPHERULES AND MICRO-TEETH OCCURRENCES IN CRETACEOUS-TERTIARY BOUNDARY SEDIMENTS OF PERNAMBUCO/PARAÍBA BASIN, NE BRAZIL.

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Microspherules and micro-tooth have been found into the sediments of Pernambuco/Paraíba Basin (Brazil). Such sediments are specifically from Gramame and Maria Farinha formations which are represented by transgressive and regressive marine sequences aged from the Maastrichtian to Eo-eocene. The Gramame formation consists of biomicrites-rich calcirudites and calcarenites of upper bathyal environment and is overlaid by the Maria Farinha formation which in turn, is composed of intercalations of biomicrites and biosparites-rich limestones. The microspherules are being studied in the scope of the IGCP 384 Project (Extraterrestrial and Impact Spherules) through scanning electron microscope and microprobe analyses in order to determine their main characteristics. The vast majority of spherules are small, with 80-200 micrometers in diameter. Two main groups of spherules were recognized according to the similarity in texture, shape and color, as follows: (i) spherical or elongated, opaque-brownish to yellowish spherules and sometimes aggregates of vitreous spherules, and (ii) abnormally large (0.6-0.8-mm), white, sugared almond-like spherules. The microteeth found among the sediments are related to the same sedimentary level of the spherules. There are white tooth that are partially fossilized with phosphate mineral as the main component and yellow to black tooth that have a better fossilization. Such tooth vary in size from 1.5-2.0 mm high and 0.4-0.6 mm width. According to their structures they are probably related to small fishes of deep neritic environment.