

OLIGOCENE *BRAARUDOSPHAERA*-CHALK IN THE SOUTH ATLANTIC AND THE ORIGIN OF A STRATIGRAPHIC MARKER

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The stratigraphic marker known as “Blue Marker” in the Campos Basin (Brazil) or “*Braarudosphaera* -chalk” in the South Atlantic is an acme zone of braarudosphaerids (nannoplankton: Prymnesiophyta, Braarudosphaeraceae) of early Oligocene age. Its coeval occurrence over widespread oceanic areas probably represents the record of a global event.

The paleobiology of braarudosphaerids allow them to be regarded as opportunistic eurytopic organisms blooming in eutrophic environment. It occurs associated to catastrophic events where collapse of the trophic structure results in unbalance between the productivity of autotrophic organisms and heterotrophic consumption, enabling the export of algal organic matter from the photic zone to sediments. This process is assumed as the main generator of stratigraphic markers consisting of phytoplankton acme zones. In sedimentary sequences subject to eustatic fluctuations, the record of bloom events is most frequent in deposits of the transgressive phase.

Along the Brazilian Margin this marker occurs below a pelagic shale layer which is in sharp contact with turbiditic sands. Based on the lithologic and biostratigraphic evidences we suggest that the “Blue Marker” is an acme layer formed during the major transgressive event during the Oligocene caused by melting of Antarctic ice.