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Poster

Biostratigraphy and paleoenvironmental evolution of the Upper Miocene sedimentary deposits from the Salé region (Moroccan Atlantic Margin): Insights from palynological investigations

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The palynological study of the Ain Hajjaj section, located on the northern margin of the Gharb Basin and within the South Rifian Corridor (northern Atlantic margin of Morocco), aims to date the marly deposits and reconstruct their paleoenvironmental evolution over time. This region represents a key stratigraphic archive due to the well-preserved sedimentary records, offering valuable insights into the oceanic, climatic, and biological dynamics that shaped the Moroccan Atlantic Basin.

A Late Miocene age, particularly the Tortonian-Messinian transition is assigned to the section of successive appearances and disappearances of key dinocyst species, such as *Operculodinium oriensum*, *Hystrichosphaeropsis somphosa*, and *Selenopemphix armageddonensis*. This transition is also reflected in fluctuations within palynological assemblages, indicating environmental shifts influenced by oceanic water mass dynamics and circulation changes.

Paleoenvironmental interpretations, based on quantitative analyses of palynomorphs and palynofacies, reveal an alternation between inner and outer neritic environments, associated with oxygenation/anoxia fluctuations. Palynological ratios, including W/C (warm-water/cold-water dinocyst ratio), IN/ON (inner-neritic/outer-neritic dinocyst ratio), and S/D (sporomorph/dinocyst ratio), highlight phases of marine transgression, ocean stagnation, and hydrodynamic restriction events. Correlation with calcium carbonate

($CaCO_3$) content further confirms these variations and helps reconstruct depositional conditions. Upwelling events, identified through dinocyst proliferation and increased biological productivity, indicate a significant climatic influence on basin dynamics.