

**T H E
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ABSTRACT BOOK



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Planktic foraminiferal test morphological abnormalities from pre-evaporitic Messinian sediments (Chelif Basin, Algeria)

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Remarkable morphological abnormalities have been observed on numerous planktic foraminiferal tests from pre-evaporitic Messinian marly-diatomitic deposits from Ain Merane region (Chelif Basin, Algeria). These abnormalities are quite diversified and have been recognized in several different species. Abnormal tests have long been documented for living and fossil benthic foraminifera and, in less extended, for planktic foraminifera, and can be induced by environmental stress factors (e.g. heavy metal pollution, salinity and/or pH fluctuations, oxygen-depleted conditions, high nutrient injections, rapid and extreme climatic variations). In order to test their potential environmental significance in a context of Messinian pre-salinity crisis, we have quantified their percentages and correlated them with other paleoenvironmental proxies (warm/cold species percentages, oxygen stable isotopes). The rate of morphological abnormalities varies between 0.33 and 10%, with maxima values targeting specific levels characterized by sharp increasing of warm species abundance and decreasing of $\delta^{18}\text{O}$ values. The combining data set suggest several episodes of extreme stressful conditions of seawater column in the Chelif basin, preceding the Messian salinity crisis. These may be linked to severe stratification of seawater column, likely related to transient episodes of reduction of North Atlantic water inflow and/or of increase fresh water input into Chelif basin.

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