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**THE MESSINIAN SALINITY CRISIS:  
FROM GEOLOGY TO GEOBIOLOGY**



**ABSTRACT BOOK**

F. DELA PIERRE, F. LOZAR & M. NATALICCHIO  
(EDITORS)

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## THE TORTONIAN – MESSINIAN TRANSITION IN AG. IOANNIS SECTION, MESSARA BASIN, CENTRAL CRETE: BIOSTRATIGRAPHICAL AND PALEOENVIRONMENTAL IMPLICATIONS

Drinia H.<sup>\*(1)</sup>, Koskeridou E.<sup>(1)</sup>, Antonarakou A.<sup>(1)</sup>, Moissette P.<sup>(2)</sup>, Cornée J.J.<sup>(2)</sup>, Kontakiotis G.<sup>(1)</sup>, and Karakitsios V.<sup>(1)</sup>

<sup>(1)</sup> National and Kapodistrian University of Athens, Faculty of Geology and Geoenvironment, Department of Historical Geology-Paleontology, Panepistimioupolis, 15784, Athens, Greece

\*cntrinia@geol.uoa.gr

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Integrated biostratigraphic and palaeoenvironmental analyses of foraminiferal and mollusc assemblages are attempted for the late Tortonian to preevaporitic Messinian succession of the Ag. Ioannis (Kapariana) section, Messara Basin, Central Crete.

The Ag. Ioannis section is located on the western part of Messara basin (Heraklion) Crete, 2km north-eastern of Moires. It consists of about 20m silty marls overlain by 30m alternations of laminites and marly and sandy limestones.

The basal part of the succession consists of blue grey silty marls with *Neopycnodonte* bioconstructions and pectinids. The biostratigraphic level of this horizon is defined by the quantitative analysis of the planktonic foraminifera. The microfossil assemblages are characterized by the regular occurrence of *Globorotalia miotumida* group, (FRO 7.24Ma, Lourens et al., 2004), the last occurrence of *G. scitula* sinistral forms (astronomically dated at 7.08Ma by Lourens et al., 2004) and the occurrence of *G. nicolae* (6.83-6.72Ma).

This horizon is well correlated with the *Neopycnodonte* layer recognized at the Tortonian/Messinian transition in the Faneromeni section.

The presence of *Neopycnodonte cochlear* which is forming clumps as a monospecific community indicates a very specific set of environmental conditions such as a unique hydrodynamic environment, in upper slope or outer shelf when increased nutrient supply accumulated. The accompanying fauna of pectinids in the studied section shows a less stressed environment than in Faneromeni. This conclusion is further supported by the relatively higher – diversified benthic foraminifera fauna, merely represented by the coexistence of *Cibicidoides* spp. and *Bolivina* spp. This assemblage is indicative of mesotrophic environment in an outer shelf setting.

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