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



ABSTRACT BOOK

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(EDITORS)

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Edited by

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Front: Laminated gypsum cropping out in the Pollenzo section, Piedmont, NW Italy (*Photo M. Natalicchio*).

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THE MESSINIAN – ZANCLEAN TRANSITION OF THE IONIAN SEA FISH ASSEMBLAGES

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The study of the Agia Triada section in southwestern Peloponnese reveals a rich teleost fish assemblage. Myctophidae and Clupeidae comprise the pelagic fauna, namely *Notoscopelus* sp., *Ceratoscopelus maderensis*, and *Sardina pilchardus*. The benthic and benthopelagic fish include mostly Sparidae and Gobiidae, while Albulidae, Soleidae, Bothidae, Congridae, Moridae, Gadidae, and Moronidae participate as well. Characteristic extant species include: *Dentex* aff. *macrophthalmus*, *Solea* aff. *solea*, *Paraconger notialis*, *Arnoglossus rueppellii*, *Aphia minuta*, *Dentex* aff. *maroccanus*, *Pagellus* aff. *erythrinus*, *Physiculus* sp., *Micromesistius poutassou*, *Morone* cf. *cornuta*, *Oblada melanura*, *Lesueurigobius sanzi*. *Pterothrissus compactus*, *Arnoglossus kokeni*, are extinct species present in the Agia Triada sediments. Schneider et al. (2005) has previously studied the area's deposits, while Frydas (1990) placed the area sediments within the nannoplankton biozone NN14 of Martini (1971) of the Zanclean stage. By integrating the Messinian fish otolith fauna of Kalamaki section (Zakynthos Island; Agiadi et al. 2014) with the Zanclean fauna of Agia Triada section (western Peloponnese), we provide an initial reconstruction of the transitional fauna in the Ionian Sea. Furthermore, we compare these assemblages with the findings from other Messinian and Zanclean-aged sedimentary sequences across the Mediterranean realm. The early Pliocene Ionian fish fauna is much richer than that of the late Messinian especially concerning the benthic and benthopelagic component. Indeed, perciforms are significantly more abundant in the Zanclean of Agia Triada, and gobiids are well diversified. On the contrary, the Messinian Kalamaki assemblages exhibit great variety of mesopelagic myctophid fish, but a rather poor bottom dwelling component.

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References

- Agiadi, K., Karakitsios, V., Antonarakou, A., Kontakiotis, G., Kafousia, N., 2014. Fish otoliths from the Messinian of Zakynthos Island (Ionian Sea, eastern Mediterranean). *Giornate di Paleontologia XIV edizione*, Bari, 11-13/6/2014.
- Frydas, D., 1990. Plankton-Stratigraphie des Pliozäens und unteren Pleistozäens der SW-Peloponnes, Griechenland. *Newsletter in Stratigraphy*, 23(2), 91-108.
- Schneider, S., Hochleitner, R., Kriwet, J., Kussius, K., Schmid, D.U., 2005. Integrated paleoecological approach of the Pliocene at Harokopio and Glykovrysi, S Peloponnese, Greece – implications on the depositional environment based on foraminifers, molluscs, ostracodes, and fish assemblages. 75 *Jahrestagung der Paläontologischen Gesellschaft*, 27 August – 2 September 2005.