A new molluscan assemblage from the pre-evaporitic Messinian of Crete (Greece)

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The Messinian Salinity Crisis (MSC) was an environmental perturbation with dramatic environmental consequences that greatly affected marine organisms. Messinian deposits are found in several locations around the Mediterranean, but few offer marine faunas rich in molluscs. A section near Heraklion, central Crete, has provided new material that contains a well preserved and rich molluscan fauna that includes many micromorphic species. The section is of early Messinian age, belongs to Agios Miron Formation, and bears several layers of fossiliferous marly sands.

Molluscs from a fossiliferous bed of the section are presented here for the first time. Gastropods and bivalves are most common, but scaphopods and chitons are not infrequent. The assemblage seems to be composed of transported elements from nearby environments and the most frequent species are present in comparable abundances for gastropods and bivalves. The gastropod fauna is represented by *Bittium* sp. and *Gibbula* sp., accompanied by *Diodora cf. graeca*, *Turritella* sp., *Jujubinus* sp., species of Pyramidellidae and rarer *Homalopoma* sp. and *Haliotis* sp. The presence of *Bittium* sp. together with *Jujubinus* sp. suggests vegetated environments. Bivalves are represented by species dwelling mostly in sandy environments such as *Glycymeris cf. inflata* (also occurring in larger specimens), *Spisula* sp., *Timoclea* sp. and various cardiids. Exceptionally well-preserved chitons indicate the presence of hard substrates such as rocks, pebbles or roots of seagrass beds. This is confirmed by the presence of the gastropods *Diodora cf. graeca* and *Haliotis* sp.

The assemblage points towards normal salinity shallow marine conditions of sandy bottoms with patches of seagrass-type vegetation before the onset of the MSC.

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