THE CONTRIBUTION OF DINOCYSTS AND OTHER NON-POLLEN PALYNOMORPHS IN PALAEOENVIRONMENTAL STUDIES AT MAR PICCOLO (SOUTHERN ITALY; LATEST QUATERNARY)

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Abstract

Dinoflagellate cysts and other Non-Pollen Palynomorphs (NPPs) assemblages from the S05B core documented the paleoenvironmental changes in the Mar Piccolo basin (MP, southern Italy) during the Late Pleistocene and Lower Holocene. During the Younger Dryas (latest Pleistocene) the NPPs contributed to detect, in prevalent lagoon settings, a high accumulation of organic matter (e.g., high presence of fungi) and nutrients (e.g., *Trachelomonas*-type). The absence of dinocysts suggests that at this time the connections with the Gulf of Taranto were not yet established. At the beginning of the Holocene, the high presence of algae such as Zygnemataceae documents freshwater inputs in the lagoon; the latter was always characterized by a high accumulation of vegetal organic matter (high concentration of carbonicolous/lignicolous). In addition, the presence of foraminiferal organic linings suggests an oxygenated bottom in a brackish water environment. The first appearance of dinocysts (e.g., *Operculodinium centrocarpum, Spiniferites belerius*) highlights the first connection between MP and the Gulf of Taranto. However, the non-continuous record of dinocysts pointed out quite rather unstable connections. Around the 8.2 ka BP event, the most significant environmental/climate change is attested by the disappearance of dinocysts. This work aims also to demonstrate that high palynological resolution of dinocysts and other NPPs can be used for a detailed analysis of aquatic paleoenvironmental changes (e.g., oscillations of the water column) in lithologically monotonous successions.

Keywords: dinocyst, Non, Pollens Palynomorphs, NPPS, Palaeoenvironmental changes

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