Coastline and climatic changes in the Punic period (V-III century B.C.): archaeological and paleobotanical indicators (South Sardinia – West Mediterranean Sea)

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The micro and macro-archaebotanical content of seventeen trading amphoras of Punic manufacture brought to light during underwater exploration in the Santa Gilla Lagoon (southern Sardinia) has been investigated. The interdisciplinary archaeological, botanical and geomorphological approach, allow us to depict the vegetational landscape at the Punic time of south Sardinia through the pollen drained by the two main rivers the Flumini Mannu and Cixerri; to document the use of seeds and fruits in the cooking and diet of Punic tradition and to reconstruct the ancient coastline of the Santa Gilla Lagoon. The carpological remains suggest the occurrence of agro-pastoral practices in the surrounding plains or in the area behind the lagoon system. The presence of *Vitis* and other seeds like *Sorbus*, *Ficus*, *Olea* and *Prunus* in the examined amphorae confirms the farming of these plants in Sardinia during the Punic occupation. The palynological analysis depicts the vegetational aspect of the southern Sardinia during the IV-V century A.C. and documents the presence of holm and cork oaks forests, a widespread Mediterranean "macchia" vegetation with *Juniper* and *Pinus* and developed stagnant coastal systems. The comparison between the dispersion of archaeological materials and the geo-chronological data have allowed identification of two paleo shorelines currently submerged in the inner part of the Santa Gilla lagoon, at - 1,95±10 m (V-IV century B.C.) and 1.70±10 m (4th-3rd century B.C.). This testifies that the rate of sea level rise in the Punic period was about 10 cm/100 yr, three times less of what we record currently.