ABSTRACT BOOK

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Environmental changes and human impact during the Middle to Recent Bronze Age in N Italy (SUCCESSO-TERRA Project)

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This contribution reports on the ongoing interdisciplinary research program SUCCESSO-TERRA (*Human societies, climate-environment changes and resource exploitation/sustainability in the Po Plain in the mid-Holocene: the Terramare culture*; PRIN-20158KBLNB, 2017–2020; https://www.successoterra.net) aiming at reconstructing the landscape and landuse transformations that occurred during the development of the Terramare culture (16^{th}-12^{th} century BC) in the Po Plain of Northern Italy. The project joints experts on Geoarchaeology, Palynology and Archaeobotany to study high-resolution archaeological sediments with an interdisciplinary ecological perspective (Cremaschi et al. 2018). The study of sediments and pollen assemblage from both natural archives and selected Bronze Age sites (Terramara of Santa Rosa di Poviglio and Vasca di Noceto, and occupation layers of S. Michele di Valestra) shine a new light on the mutual interconnection between climate change, landuse, and human resilience.

The palynological research focused on Santa Rosa di Poviglio and allowed details of some of the complex processes in the agricultural economy to be filled in, such as were practiced on the basis of wood management and crop fields (Cremaschi et al. 2016). Pollen diagrams showed oscillations of the curves of deciduous oaks and other woody plants (*Carpinus betulus*, *Corylus*, *Fraxinus* and *Carpinus orientalis*/*Ostrya carpinifolia*). The role of trees and shrubs supplying fruits (*Prunus* and other woody Rosaceae, *Cornus mas*, and especially *Corylus* and *Vitis*) resulted of special interest. The fields included different types of cereals (*Avena/Triticum* and *Hordeum* groups, *Secale cereale* and *Panicum*). Most of the open landscapes around the villages were used for pastures as suggested mainly by Cichorieae and other pasture pollen indicators. The Anthropogenic Pollen Indicators-API group (Mercuri et al. 2013) are significant in the spectra together with other synanthropic plants, and indicate a continuative human pressure in the area.

The last phases of the pollen diagrams show a decrease of woodland together with a reduction in cereal fields suggesting that soil and wood overexploitation might have been among the causes of the Terramare's crisis and their societal collapse (Mercuri et al. 2006; Cremaschi et al. 2016). The interdisciplinary study will disclose the natural (environmental aridification) and anthropic (overexploitation of natural resources) reasons of the collapse of the Terramare culture, by investigating the environmental changes in the region and their relationships with the different land-use adopted by the Terramare people.

References

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Key-words: landuse, climate change, Terramare, mid-Holocene, interdisciplinarity

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