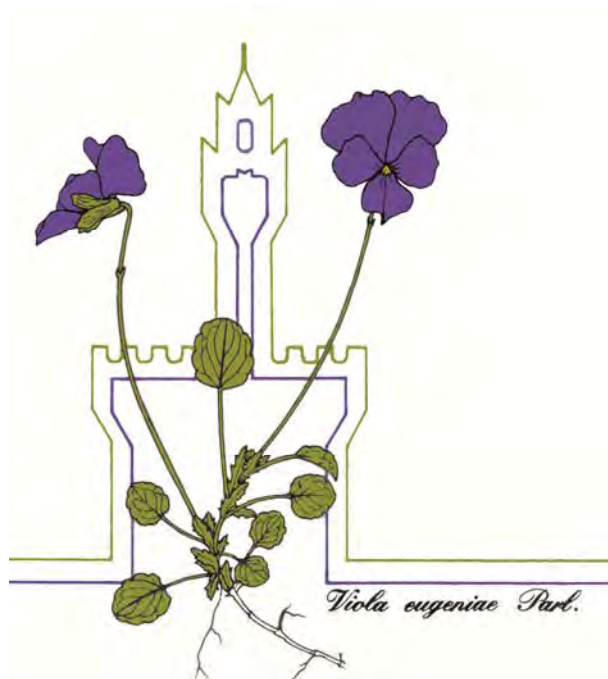


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ABSTRACTS

KEYNOTE LECTURES, COMMUNICATIONS, POSTERS

1.5 = MORPHOLOGY OF *VITIS* POLLEN FROM CULTIVARS AND WILD GRAPEVINE AND THE *VITIS* POLLEN FROM THE TERRAMARA SANTA ROSA DI POVIGLIO (PROJECT SUCCESSO-TERRA)

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Currently, grapevine is one of the most economically important fruit crops in the world. Grapevine has been selected by humans in order to ensure a regular and high fruit production, as well as a high sugar content and fermentation yield (1). It is widely accepted that *Vitis vinifera* L. ssp. *sylvestris* (wild grapevine) is the ancestor of the present cultivars of *Vitis vinifera* L. The purpose of this research is to identify the parameters that may help in discriminating pollen of *Vitis vinifera* subsp. *vinifera* from pollen of wild grapevine. The increase of morphological knowledge about the pollen of *Vitis* may be useful in the archaeobotanical field, allowing to better understand the past use of this plant. This work is part of a wider project that aims to investigate the relationship between climate and society in the Bronze Age during the Terramare's civilization (SUCCESSO-TERRA project, PRIN-20158KBLNB). The morphometrical analysis was carried out on pollen from 3 different accessions of *V. vinifera* subsp. *sylvestris* (2 male and 1 female) from Italy (Viticultural Centre of Riccagioia - Torrazza Coste - PV) and from 3 different cultivars of *V. vinifera* subsp. *vinifera*: Covra (Modena), Grasparossa e Bianca di Poviglio (Reggio Emilia). The pollen was sampled in May, from 2014 to 2016. Pollen grains were subjected to acetolysis, mounted in glycerine jelly and examined by light microscope. The considered parameters are: polar axis (P), equatorial diameter (E), maximum distance between colpi in mesocolpium, polar and equatorial axis of pore, exine thickness (Ex). In 5 samples, the pollen grains of grapevine are, as expected, 3-zonocolporate. However, pollen grains in the functionally female flowers of wild grapevine are inaperturate (acolporate). Among the 31 archaeobotanical samples coming from the Terramara of Santa Rosa of Poviglio (2), the sample with the highest percentage of *Vitis* pollen was examined in order to carry out measurements on the pollen grains of grapevine dated back to the Bronze Age. Another purpose of the archaeobotanical investigation was to check for the presence of acolporate pollen grains, typical of the functionally feminine flowers of wild grapevine. The principal component analysis (PCA) of the morphometric data reveals that pollen grains of wild *Vitis* (3-zonocolporate and with a finely-reticulated exine) have a higher P/E ratio if compared to the domesticated ones. It was also underlined that the cv Bianca di Poviglio have a pollen more similar to the one of *Vitis vinifera* subsp. *sylvestris* than other cultivars.

1) G. Zecca, F. De Mattia, G. Lovicu, M. Labra, F. Sala, F. Grassi (2009) *Plant Biology*, 12 (2010), 5658-562

2) M. Cremaschi, A.M. Mercuri, P. Torri, A. Florenzano, C. Pizzi, M. Marchesini, A. Zerboni (2016) *Quaternary Science Reviews*, 136, 153–172