



Palaeoproteomic analyses of osseous assemblages from Late Pleistocene sites in Istria, Croatia.

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Faunal assemblages from archaeological contexts are often abundant in the form of highly fragmented osseous remains which can be a limiting factor for the purposes of standard archaeozoological analysis. So, efforts to further improve our knowledge on this topic have been intensified in the last decades by the growing field of palaeoproteomics. These studies take advantage of proteins abundance and stability in various materials. Of specific interest are collagen-based studies due to its presence in tissues like bone, dentine, and antler, all of which are common in many archaeological contexts. Techniques like peptide mass fingerprinting (PMF) aim at detecting differences in collagen type 1 sequences and, combined with database matching, are used for taxonomic identification of the sample. Here we present the application of PMFs on three faunal assemblages from Istria (Croatia) and the preliminary results of these analyses that were supported by PREHISTRIA project (IP-2019-04-7821) and iNEAL Cost Action (CA19141). Because of the fact that today's northern Adriatic was a part of a Great Adriatic Plain during the Late Pleistocene, its environmental conditions greatly differed from the Holocene ones. In-depth palaeoproteomic exploration of faunal assemblages from Romualdova pećina (MP), Abri Kontija (EUP) and Ljubićeva pećina (LUP) will allow us to hypothesize about how different agents and taphonomical conditions can affect protein preservation and why. Also, we could gain better insight into environmental and climate conditions in the region as well as detect changes in human subsistence strategies, selectivity, seasonality and site-occupation intensity. Finally, the application of palaeoproteomics could also lead to the discovery of new hominin fossils.

Keywords: palaeoproteomics, ZooMS, Pleistocene, Istria, fauna



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