
Zooarchaeological and ZooMS insights into peopling dynamics at Riparo Bombrini

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Abstract

Human adaptation to climatic variations is being discussed at different scales and from diverse perspectives and specializations in archaeology. We suggest examining modern human mobility on a local scale by comparing faunal assemblages from distinct stratigraphic layers in a single site. Located in the renowned Balzi Rossi complex in Northwest Italy, the collapsed rockshelter of Riparo Bombrini is a key site to understand the colonization dynamics and human-environmental interactions along the Mediterranean coast as it yields well-documented and well-dated Early Upper Palaeolithic deposits. Previous studies of spatial, lithic, and raw material data revealed distinct mobility signatures from the site's two Protoaurignacian levels, A1 being warmer and associated with residential mobility while the older level A2, directly preceding Heinrich Event 4, is colder and associated with logistical mobility showed by a more expedient approach to lithic technology. In this study, we propose to include faunal data to this picture, and we suggest that those signatures should be reflecting distinct subsistence, animal acquisition, and carcass processing strategies from the site's Protoaurignacian layers. To assess this hypothesis, we present results from taphonomic and zooarchaeological analyses of faunal assemblages from level A1 and A2 excavated at Riparo Bombrini between 2015 and 2017. The skeletal preservation being very poor, we also integrate systematic ZooMS (Zooarchaeology by Mass Spectrometry) sampling to those analyses, a new method using diagnostic peptides of the dominant collagen protein in bones as a fingerprint of animal (including hominin) species. This complementary tool allows us to considerably improve the statistical significance of the Number of Identified Species on both spatial and stratigraphic scales in spite of the otherwise high level of bone fragmentation.

Keywords: Early Upper Palaeolithic, Protoaurignacian, Subsistence, Zooarchaeology, Taphonomy, Proteomics, ZooMS

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