
Applying GIS spatial density analysis to infer human burial practices at the Mesolithic shellmidden of Cabeço da Amoreira (Muge, Portugal)

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Abstract

The Muge shellmiddens have provided, in more than 150 years of research, one of the most numerous and well-preserved collections of Mesolithic human remains in Europe. Unfortunately, despite the high number of burials found during the initial campaigns, very little information is currently available about their provenance and association with archaeological materials. Starting in 2008, a series of new excavation campaigns have been carried out at Cabeço da Amoreira, allowing to recover, so far, a total of five human burials, from different stratigraphic contexts within the mound. This work presents new data regarding the spatio-temporal variability of these burials. The application of modern techniques allowed to recover unprecedented information on each context and to establish a more complete reconstruction of the burial practices at the site. Specifically, our approach combines accurate three-dimensional location of different classes of artifacts recovered from the recent excavation of a human burial at Cabeço da Amoreira shellmound (Muge, Portugal) with two spatial analysis procedures - the Average Nearest Neighbor and the Kernel Density Estimation. The application of these techniques intended to test the presence of anthropogenic actions of matrix and artifact mobilization occurring before and after body deposition, as well as, if possible, to define more clearly the limits of the inhumation context.

Keywords: Mesolithic, Muge, GIS spatial analysis, Human burial

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