

INTEGRATING GEOINFORMATICS AND
ANTHROPOLOGICAL TECHNIQUES FOR THE RESOLUTION
OF COMPLEX COMMINGLED SKELETAL ASSEMBLAGES.
THE MASS GRAVE 3 AT THE MOHACS NATIONAL
MEMORIAL SITE

Marcos De Andres Montero^{1,2}, Oszkar Schutz³, Luca Kis¹, Olga Spekker¹, Viktor Vig¹,
Reka Kocsmar¹, Zsófia Simon⁴, Bela Simon⁵, Reka Nemenyi⁵, Gabor Bertok⁵,
Balazs Tihanyi^{1,5} and Palfi Gyorgy¹

¹Department of Biological Anthropology, University of Szeged, Szeged, Hungary; ²Department of Archaeology, Janus Pannonius Museum, Pecs, Hungary; ³Department of Genetics, University of Szeged, Szeged, Hungary; ⁴Koszeg City Museum and Library, Koszeg, Hungary; ⁵Department of Archaeology, University of Szeged, Szeged, Hungary

Background: This study outlines a methodology for the excavation and anthropological examination of partially commingled human remains from Mass grave 3 (MG3), associated with the 1526 Battle of Mohacs.

Objective: The identity and circumstances of the demise of the individuals found in MG3 are the 2 main scientific questions. These can be answered after rearranging the disarticulated remains.

Materials and methods: The presented methodology aims to facilitate the documentation, classification, sorting and rearrangements of partially commingled remains so that the number of individualized skeletons in the assemblage – where only one-third of the material was originally recovered as relatively complete skeletons – can be increased.

Results: The geoinformatics software QGIS 3.20.2, was used to record the position of the different skeletal elements within the grave. Moreover, a new anatomical coding system proved effective in differentiating skeletons based on their level of completeness. Additionally, a set of osteometric formulae proposed by Anastopoulou and colleagues, and Byrd and collaborators were tested and modified before using them to narrow down the number of potential matches for each element. Lastly, an organized system that integrates the already mentioned tools and others like visual pair-matching or articulation is proposed.

Conclusion: Results after applying this new methodology show that the original number of relatively complete skeletons could be increased by 50% after applying this new methodology, suggesting that the presented method can be utilized in any other plural burial.

Keywords: Mohacs battle; Osteometric sorting; Commingled skeletal remains; GIS; Biological anthropology.

Acknowledgement / Funding Source: This study was carried out within the framework of the Mohacs 500 project, with the support of the Ministry of Agriculture and the Hungarian Government (government decree nos. 1159/2023., IV. 27. and 1288/2024., IX. 19.).