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ABSTRACT BOOK

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The taphonomic study of Charkadio cave, Tilos Island. Evidence from elephant and avian remains

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Several excavation periods at Charkadio cave, until 2012, resulted in the discovery of more than 17.000 *Elephas tiliensis* Theodorou et al., 2007 (*Palaeoloxodon tiliensis* according to other authors), skeletal elements and fragments, representing at least 75 individuals (Fig. 1). During the same time period, 375 avian skeletal elements were unearthed. The taxonomic analysis of the avian material led to the identification of twenty four different taxa. Fifteen of them were identified to species level, four to species confer, three to genus level, two to the family level, whereas some specimens were identified only to class (Michailidis, 2013). Research in Charkadio cave was funded by the Secretariat General of Aegean Sea and Island Policy (70/3/10323), the Special Account for Research Grants of the National and Kapodistrian University of Athens (70/4/3370, 70/4/11078) and by the THALES Research Program (MIS 380135).

The analytical excavation methods applied, led to the discovery of several *E. tiliensis* partial skeletons and avian remains in anatomical association. Charkadio cave is a rare example of a site with insular faunal elements, as it preserves a large number of articulated remains (Fig. 2). The above finds indicate minimal transfer of the material and point to the in situ deposition of part of the material. Additionally, the spatial distribution of the material inside the cave is analyzed according to data from photographs, excavation drawings and notes recorded during the latest excavation periods (1991-2012). The elephantid remains were examined for cut marks that would provide direct evidence of human influence on the assemblage. Quantitative units applicable to taphonomy such as MNI, NISP, MNE and MNU and ratios such as MNE/MNI, NIPS/MNE are used in this study (Bunn et al., 1991; Lyman, 1994). The data, until present, revealed that natural, non-biotic factors were the main cause in the accumulation of the specimens. Possible means of transfer of the material were studied, considering the interpretations expressed by previous researchers (Steinhauser et al., 2008). The taphonomic study of the avian remains focusing on the relative abundance of different skeletal elements, was



Fig. 1. Photograph of the interior of Charkadio cave, south aspect, excavation period 2012. Railings are used to remove sediment for wet sieving.



Fig. 2. Photograph of articulated left ulna, radius and carpal bones of *Elephas tiliensis*. Excavation grid, square P7, excavation period 2000.

based on Mourer-Chauviré's (1983) and Ericson's (1987) methods. The presence or absence of alterations of bone surfaces was also noted. The above analyses also do not support human involvement in the accumulation of the palaeoavifauna. The ultimate aim of the taphonomic study of Charkadio cave is the complete reconstruction of the mechanism of deposition and transfer of the fossil remains.

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