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# Small tools, big bones: first results from the Lower Palaeolithic site of Marathousa 1, Megalopolis, Greece

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## Résumé

A number of Eurasian Lower Palaeolithic sites include lithic assemblages characterized by small-sized blanks and retouched tools, usually lacking Acheulean bifacial implements. So far, there are no strong, patterned correlations between those so-called ‘small-tool assemblages’ and specific environmental settings or site-types. Thus, it is difficult to explain apparent typo-technological similarities among the sites, and the technological or functional purposes behind the production of small tools are debated: do they reflect raw material constraints, adaptations to particular ecological niches, functional objectives, or ‘cultural traditions’ at (sub)regional scales? While many small-tool assemblages are associated with remains of proboscideans or other large mammals, some of them either suffer from poor contextual associations between lithics and fauna, or they lack conclusive evidence of anthropogenic bone modifications (e.g., cut-marks). In this paper, we present first results from the ongoing excavation of the open-air Lower Palaeolithic site Marathousa 1 (MAR-1), located in the Megalopolis basin (Greece), where a partial skeleton of the elephant *Palaeoloxodon antiquus* was found in stratigraphic association with artifacts. The MAR-1 lithic assemblage is composed of small-sized flakes and flake fragments, retouched tools, cores that are commonly small and exhausted, as well as a large number of debris and retouch products, such as chips and resharpening flakes. Butchering activities are inferred by the presence of cut-marks and percussion damage on elephant and other mammalian bones, which were studied by three-dimensional virtual reconstructions with the use of a confocal microscope. The stratigraphic integrity of MAR-1 and the site formation processes were the subject of sedimentological, geochemical and micromorphological studies, combined with a comprehensive spatial taphonomic study of artifacts and bones, which implemented point-pattern, fabric and vertical distribution analyses. Magnetostratigraphy, ESR and post-IR IRSL dates, altogether indicate an age between 400 and 500 ka BP. MAR-1 is therefore amongst the oldest elephant butchering sites in Europe and one of the few European sites where ‘small-tools’ are securely associated with mega-faunal exploitation. Based on the ongoing lithic analysis, we discuss aspects of assemblage composition, the role of raw material types, and the main technological

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and typological traits of the industry. Finally, we briefly present bone tools, which indicate that the exploitation of animal carcasses was not restricted only to marrow extraction and bone processing for nutritional needs, but included also the knapping of bones, potentially with the aim of using the knapped products as tools.

**Mots-Clés:** lithic artifacts, Middle Pleistocene, Megalopolis, cut marks, Elephant butchering, Lower Palaeolithic, Greece