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Formation processes at sites with high-resolution sequences in the Crimean Middle Paleolithic: The Kabazi V rock shelter and the open-air site of Kabazi II compared

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ABSTRACT

Several Paleolithic sites in the Crimea are characterized by long stratigraphic sequences with numerous thin in-situ archaeological horizons. In this case study, we compare two neighboring sites at Kabazi Mountain, parts of whose sequences are contemporaneous, for similarities and differences in their site formation processes during OIS 3. At Kabazi II, 15 m of mainly colluvial sediments accumulated behind a huge limestone block. Differences in the dynamics of the colluvial sedimentation led to archaeological horizons preserved in situ and assemblages moving downslope into the excavation area. Periods of stability due to vegetation cover upslope made soil formation processes possible. Kabazi V is a buried rock shelter with a different sedimentological setting. Here, sediments were built up by the dissolution of soft nummulitic limestone and influenced by running water, and are in part sandwiched between massive rock fall. Despite the differences in site type, the deposits of both sites are characterized by autochthonous ("inside") and allochthonous ("outside") deposits. In both cases, the preservation of deposits is due to their protection by large rock fall. Mean annual sedimentation rates show that the archaeological resolution of the sequences is more a consequence of recurrent human use over long periods than of high absolute sedimentation rates. The average time elapsing in each case between the archaeological layers indicates that the base camp of Kabazi V was more frequently used by Neanderthals than the kill-and butchering site of Kabazi II. This suggests long-term persistence of the site catchment criteria applied at Kabazi Mountain, and an important role for base camps in the Crimean Middle Paleolithic perception of landscape.

1. Introduction

The Crimea is extraordinarily rich in Paleolithic sites, and their scientific investigation has been in progress since the end of the nineteenth century. The high quality of the archaeological data thus attained stems in the first instance from the presence of numerous multi-layered sites preserving sequences of thin archaeological levels. The good preservation of artifacts and faunal remains and the high frequency of archaeological remains of the smallest size category, such as chips and microfauna, point to the perseveration of original surfaces and rapid sedimentation. This, at least, is the case for a number of sites and levels; others, by contrast, experienced lower sedimentation rates, as indicated by thick palimpsests of archaeological materials and/or dynamic depositional and post-depositional processes that impeded in-situ preservation. The introduction of modern excavation methods in the Crimea in recent decades made these observations possible; the meticulous excavation of natural surfaces rather than artificial spits or combined "cultural layers" has for the first time enabled comparative discussion of site formation processes.

In this paper, we focus on site formation processes which resulted in high-resolution archaeological sequences and excellent conditions for preservation despite pronounced differences in site type, such as open-air sites as opposed to rock shelters. For the sake of comparability, the sites analyzed are located in the same topographical setting, and we investigate those parts of the sequences

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that fall into the same time range.

1.1. Archaeological background: Middle Paleolithic sites of the Crimea

Systematic research into the Paleolithic in the Crimea began more than 100 years ago with the discovery of the Middle Paleolithic site of Volchi-Grot by K. Merejkowski in 1879, followed by systematic prospections and excavations by G. A. Bonch-Osmolowksi in the 1920s (for a recent summary see Chabai, 1998a). Intensive fieldwork was resumed after the Second World War by several researchers, including Yu. G. Kolosov, V. N. Gladilin, V. P. Chabai, A. I. Yevtushenko, Yu. Demidenko, V. N. Stepanchuk, A. E. Marks, J. Richter and Th. Uthmeier, who organized multidisciplinary projects. Monographs detailing these activities include Marks and Chabai (1998); Chabai et al. (1999); Chabai (2004a); Chabai et al. (2004a); Uthmeier (2006); Chabai et al. (2005) (2006) (2007) (2008); Demidenko et al. (2012); Yevtushenko and Chabai (2012); and Demidenko and Uthmeier (2013).

Evidence for Paleolithic occupations of the Crimea originates almost exclusively from the internal ridge of the Crimean Mountains (for an overview see Chabai and Uthmeier, 2006). There are 100 known sites within a total area of approximately 420 square kilometers (Fig. 1). Thirty of them are multi-layered stratified sites. Several, such as Kabazi II (76 archaeological levels: Chabai et al., 2005; Chabai et al., 2006) and Kabazi V (36 archaeological levels: Chabai et al., 2007; Chabai et al., 2008) in the Western Crimea and Zaskalnaya V (87 archaeological levels: Chabai and Uthmeier, 2017) in the Eastern Crimea, retain long sedimentological sequences and extraordinarily large numbers of in-situ archaeological levels.

The chronology for the Crimean Middle Paleolithic (for an overview see Chabai et al., 2004b; Chabai and Uthmeier, 2006, Table 18-1; Housley et al., 2007); is based on radiocarbon dates, U-series dates and ESR dates as well as geological and biostratigraphical data (e.g. pedology, pollen fauna, malacofauna, and small mammal fauna) from multi-layered in-situ sequences. Sites including Kabazi II, Siuren I, Kabazi V, and Buran-Kaya III have all produced significant chronological and environmental data. The oldest archaeological levels date back to the Last Interglacial (OIS 5d). Taking into consideration the fact that Interglacial sea levels were 4 m–6 m higher than today, Crimea was an island during much of Oxygen Isotope Stage (OIS) 5. It is therefore highly probable that the human presence evidenced here in excavations is a continuation of an earlier occupation (for a discussion of this issue see Chabai and Uthmeier, 2006; but also Richter, 2005). Most Crimean Middle Paleolithic occupations belong to OIS 3, and the presence of Middle Paleolithic humans ends as late as 34 ka calBP (Uthmeier, 2012: Fig. 1). Such a late existence of Middle Paleolithic assemblages has been challenged after the proposition of novel dates for Buran-Kaya III (Péan et al., 2013), but is still supported by data from other Crimean sites. In addition, a dating program including ultra-filtrated bone samples from Siuren 1 (Demidenko et al., 2012) recently confirmed the late dates for the Middle to Upper Paleolithic transition. Irrespective of the absolute dates, the

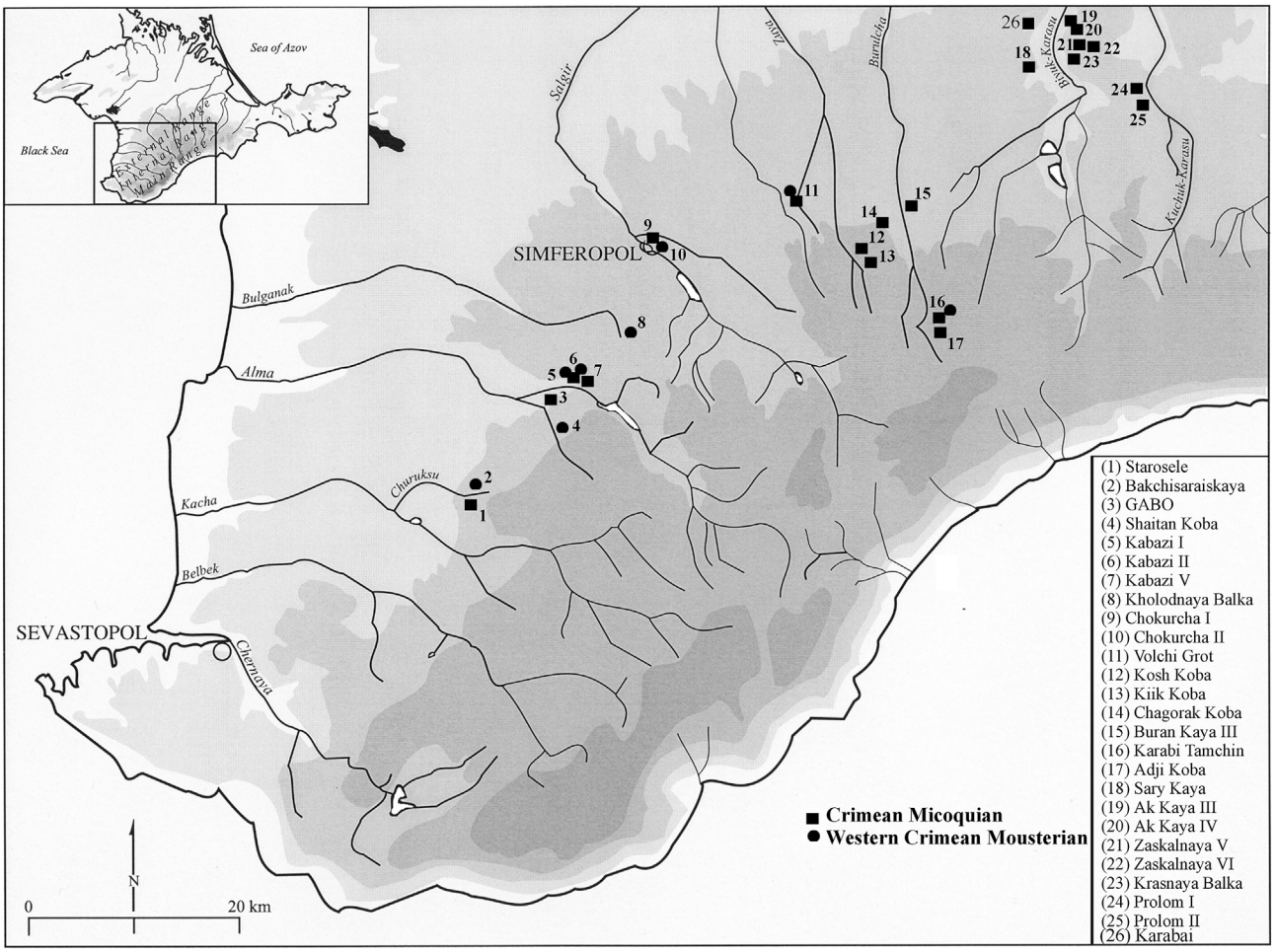

Fig. 1. Map of key sites of the Crimean Middle Paleolithic.

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