A single-event Middle Stone Age occupation site in the lowlands of northwestern Ethiopia

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ABSTRACT

Investigations of late MSA sites in the Horn of Africa can offer important insights into the behaviors of modern humans around the time when our species left the continent to populate the rest of the world. The majority of both cave and open air sites consist of stratified sediments that, depending upon post-depositional processes, are often time-averaged, thus potentially obscuring evidence of discrete activities. We here describe SM66, an MSA site that appears to represent a single-event open air occupation surface. Limited testing in 2015 was followed in 2016 by an 10-m² controlled excavation. SM66 occurs on the upper surface of an overbank flood deposit, and all mapped items were found encased within the uppermost 1-2 cm of this finely-beded siltstone unit. Although the bone was highly deteriorated, most fragments appear to be from large mammals only, a finding in contrast to the much higher faunal diversity seen at other nearby MSA sites. Of note are three discrete, perhaps near-synchronous activity loci concentrated around probable anvil stones, each with very different associated debris. Materials adjacent to the first anvil are predominately cryptocrystalline quartz, most of which seems to have originated from a single nodule or identical source. Chipped stone also predominates near the second anvil but is primarily basalt. The third anvil has far less chipped stone and instead is surrounded by the highest density of bone. We suggest that three or more task-focused activity types are represented. Three basalt blocks were transported nearly 2 km to the site for use as anvils; two discrete knapping episodes occurred, each using different raw materials; and faunal remains were processed. SM66 appears to preserve evidence for coordinated behavior in the MSA. The occupation surface continues into overlying terrace deposits and will be the focus of future excavations.

SM66 consists of 4 large basalt blocks, all probably anvil-stones, each with a distinct activity and debris concentration around them. Anvil one was predominately surrounded by flakes of cryptocrystalline quartz, all likely coming from a single source. Similar to the first anvil, anvil three (labeled rock 5) was surrounded by a reduction of basalt flakes. In terms of raw materials, it is worth noting that the closest basalt locality is about 2 km from SM66. Anvil two differs from the others by being surrounded by heavily weathered and processed mammal bones. Although the weathering of this bone makes identification challenging, the bone fragments appear to be from large mammals only, and several are likely from limb bones. SM66 lacks the faunal diversity found at many nearby sites, like SM1. Although most of the faunal remains appear to be clustered near the second anvil, another smaller cluster of bones is located slightly south of both anvil one and three. Postings activities relating to a forth anvil, excavated in 2018, are less straightforward. Being only partially excavated, a very limited area in proximity to the potential focal point is visible and we do not have a complete picture of associated materials.

From this site, the occurrence of three distinct activities can be interpreted. The first activity that can be seen is the movement of the three large basaltts over 2 km for use at SM66 as anvils. The second activity is represented by two distinct knapping events of chert and basalt. As seen above, chipped stone from this site is concentrated around anvils one and three, with each anvil marking a distinct concentration of differing raw materials. Similarly, the concentration of faunal remains around the second anvil suggests that it was specifically used in processing bone, and therefore a distinct third activity. The activities that occurred at the site are evidence for coordination in the MSA. The three anvils represent two important, yet separate activities. If the site was used for the butchering of large mammals, these separations of activities suggest a division of labor and a shared responsibility during the processing of the mammal remains.

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