Site Report: Muguruk Site, Western Kenya

Sources used:

S. McBrearty 1988 “The Sangoan-Lupemban and Middle Stone Age sequence at the Muguruk site, western Kenya” World Archaeology **19, 388-

S. McBrearty 1991 “Recent research in western Kenya and its implications for the status of the Sangoan industry” from edited volume Cultural Beginnings, pp 159-176

Summary

The Muguruk site is an important site for our understanding of the transition from the Lower Paleolithic Acheulian Industry to the Middle Stone Age (MSA) tool making technology. The Muguruk site also lays in situ so we are able to make an accurate assessment of the behavior of the hominids that occupied this site. Muguruk provides good stratification of the Sangoan-Lupemban industry located under the Pundo Makwar industry, which is classified as a subclass of MSA. This allows us to make accurate comparisons of the two industries at one locality. The stone tools found in both of the complexes shows that the manufacture and method of retouch changed during this period but also that the basic mode of flake production remained the same. What this provides is evidence of the transition between these two complexes, which is characterized by innovation and stability. The changes in tool technology from Acheulian to MSA could be a result of an adaptation to different environments, or the expanded capabilities of anatomical Homo sapiens over that of Homo erectus. The Muguruk site provides valuable insight into how this transition took place.
Excavation

The Archdeacon Walter Edwin Owen first excavated Muguruk in 936. There was no information provided about the excavation techniques of the site. Also, Alex Opira-Odaongo, a University of Nairobi student, excavated a small portion of the site. McBrearty did excavations in 1979 and 1980 at Muguruk. A description of the techniques of excavation, or reference to any special operations at the site is not given. McBrearty does point out that the rapid erosion of the site may complicate evaluation. Much of the damaging effects are caused by weather, deforestation, and contemporary agriculture and mining operations.

Location

The open-air Muguruk site is located in Western Kenya 3 km north the present day shore of the Winam Gulf in Lake Victoria, and 40 m above the lake level. The site itself lies on the left bank of the Muguruk River, which drains from the highlands to the north. The environment at present day is located in high rainfall woodland area of tropical Africa. This setting makes for poor preservation of bone remains.

Dates

The lack of bone or faunal remains, and volcanic deposits makes it difficult to date this site. The site is too old to be dated effectively using radiocarbon dating methods. Based on K-Ar dating this site dates from 38,000-46,000 ya, but this falls at the short end of the scale for reliability of K-Ar techniques. Since the Sangoan industry is classified as being between Acheulian and MSA, then comparison of the end and the start of these complexes, respectively, might be helpful. The terminal Acheulian dates to around 200,000 ya in a number of other sites in Africa, and the MSA have been dated to
as old as 180,000 ya in Gademotta, Ethiopia. This is probably not a good indicator of the age of the Muguruk site since there is much variability in the chronology of tool technologies throughout Africa. This information only reveals that there were chronological overlaps between the Acheulian, Sangoan, and MSA industries. Another Sangoan site located 50km southeast of Muguruk, the Simbi, has associated faunal remains and dates to 40,000-65,000 ya.

**Paleo-Environment**

Reconstruction of the past environment at Muguruk has been problematic. In the past it has been described as a wooded environment. Some arguments have been made, based on paleo-climatic data, that during the Sangoan phase this particular area was much more open and arid than it is today. This data is based on the shifting patterns of the Pleistocene where the tropical rainforests expanded and contracted based on fluctuating glaciation patterns. Thus, this evidence shows, at least, that the Sangoan incidences need not be associated with just the woodland adaptations mention by other scholars. Lake Victoria is a fairly recent addition to the landscape and the distance to the shore at the time of occupation of this site is not known. The poor understanding of the environment at this time is directly attributed to problems in acquiring accurate dates for this period.

**Artifacts**

There are two types of artifact assemblages that are found at this site. The first lies in Member 2, over an area of 20 m and is classified as Sangoan-Lupemban, and characterized as an assemblage containing both heavy-duty artifacts and lanceolate points. The majority of this assemblage occurs within 55 cm of vertical deposits. The
upper concentration of artifacts occurs in 10-15 cm of vertical deposit, and the lower concentration in the lower 45 cm of deposition, and has likely been disturbed. The material in which these artifacts were made is of Ombo phonolite and it makes up about 96.7% of the total raw material at this site. The types of stone artifacts include large amounts of waste and flaked material. Only a small percentage of stone materials are formal tools/cores for making clearly defined formal tools. Of the clearly defined formal tools in this assemblage the percentage of large bifaces and heavy-duty tools is quite high. It has been suggested that the function of these heavy-duty tools was for woodworking, but they could have been used simply for a variety of tasks that require a significant amount of weight/force. Without sufficient micro wear analysis it is difficult to determine the exact function. The lighter duty tools include a significant number of lanceolate points, which require a great deal of skill to make, and were made from cores of predetermined shapes. These tools were likely hafted and used for throwing spears. Of the cores that have been analyzed at this site it is possible to reconstruct that flake production followed a ‘radial pattern.’ The size distribution of the artifacts suggests that this was a place of experimental knapping. This was probably a setting in which stone tools were manufactured, but the lack of any other cultural markers makes it difficult to determine whether or not this was a habitation site.

The second artifact assemblage that is seen at this site is the Pundo Makwar industry, which is a subclass of the MSA. These artifacts occur in Members 4 and 6 of the Muguruk Formation. This assemblage follows the same pattern as the Sangoan-Lupemban assemblage in terms of ratios of stone tools. The raw material is
predominately Ombo phonolite, but there is also a presence of obsidian, which is interesting considering the locality in which it comes from, some 190 km away. There are a few other notable differences in the two artifact assemblages. First, The Pundo Makwar shows an almost complete abandonment of large bifacial tools. Also, the proportion of retouched material is also greater in the Sangoan-Lupemban (71%) as opposed to the Pundo Makwar (41%). Overall the mode of flake production did not change over the occupancy of Muguruk, and the presence of Ombo phonolite made this an attractive place for repeat visits.

**Food Remains**

With Sangoan sites, circumstances of preservation are problematic for these types of remains. Animal bone is seldom preserved in these humid regions of Central Africa. As for the Muduruk site, no adequate plant or animal remains were found to draw conclusions for subsistence. Stone tools help to hint at adaptations to woodland and arid environments, but nothing is convincingly clear. The Simbi site, important in dating estimates, has an abundance of faunal remains associated with Sangoan artifacts. Further work at the Simbi site should yield information on Sangoan hunting, scavenging, and butchery practices.

**Activity Areas**

Again the site exhibits very little strong evidence for distinguishing a specific activity. McBrearty mentions the area was used predominantly for obtaining Ombo phonolite and tool production. The presence of obsidian may suggest other activities at the site, but without animal and plant remains nothing is conclusive.
Spatial Distribution

Because of the lack of faunal remains, no conclusions can be drawn to indicate site use characteristics. The Muguruk site exhibits characteristics of re-use over time. The total thickness of the Muguruk Formation is 12 m. The sediments that make up the formation are divided up into six members and are numbered for reference. The stone tools representing the Sangoan-Lupemban and Pundo Makwar industries show the MSA inhabitants of the Muguruk site abandoned the manufacture of large bifacial tools. Despite this, the method of flake production remains stable and unchanged.