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RESEARCH REPORT: THE MIDDLE STONE AGE OF THE BLUE NILE GORGE, ETHIOPIA

ABSTRACT: A promising way to address the patterns of Early Modern Human settlement strategies in Africa and Europe is comparing the spatial distributions and densities of lithic artefact scatters in perspective areas. Here we present new evidence on spatial distribution and techno/typology of the Middle Stone Age (MSA) occupation in the Blue Nile Gorge, Oromia, Ethiopia.

KEY WORDS: Settlement archaeology – Middle Stone Age – Blue Nile – Oromia – Ethiopia

AIM OF THE SURVEY

A promising way to address the patterns of Early Modern Human settlement strategies in Africa and Europe is comparing the spatial distribution, density, and size of lithic artefact scatters (or "playing with maps and dots") in selected areas of the two continents. Given its geographic location and palaeoanthropological potential, Ethiopia is one of the highly perspective regions in Late Acheulian/Middle Stone Age research (e.g., Wendorf, Schild 1974, Clark *et al.* 2003). Here we present selected results of the 2013 surface survey realised in several Regional National States of Ethiopia (Sabore in Afar, Jama river in Oromia), with emphasis on the Blue Nile Gorge, in Oromia.

The Blue Nile River and its tributaries create an extensive riverine network within the Ethiopian

Highlands. Our fieldwork focused on area around the Blue Nile Bridge at N 10° 04' 30.3" and E 38° 11' 25.1" (*Figure 1*). Here, the eroded river bed reaches elevation around 1000 m a.s.l. while the surrounding upper escarpments rise to 2450 m a.s.l. This magnificent geological section is formed by a structured sequence of terraces formed by sandstones, silts, conglomerates, and volcanites and dating from Jurassic to Quaternary periods (*Figure 2*).

METHODOLOGY

We surveyed areas accessible from the road during two-day surveys, conducted from 18th–20th January, 2013. We focused on the lower sandstone and volcanic plateaus in elevations of 1285–1315 m a.s.l. (on the left bank) and 1220–1250 m a.s.l. (on the right bank). The

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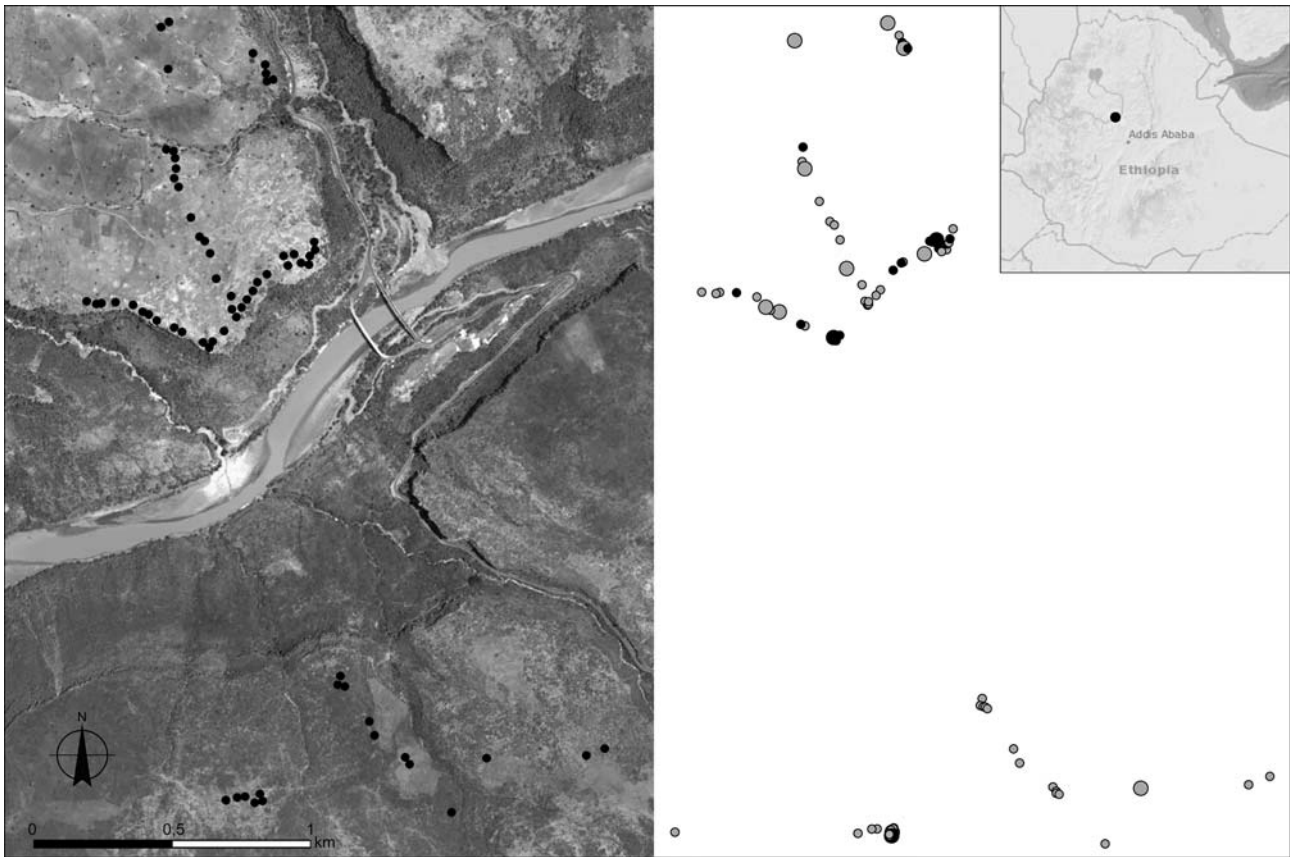


FIGURE 1. Regional map of Ethiopia and of the surveyed area in the Blue Nile Gorge. Left: Dots indicate all artefacts collected (MSA and LSA). Right: Dots indicate MSA artefacts (black) and probably MSA artefacts (grey). Size of the dots indicates individual pieces (small) and scatters (larger). Background: Google Maps.

areas surveyed covered about 1 km² on each bank of the river. Partly, the rock surfaces are overlain by reddish-to-brownish loams. Some surfaces were inaccessible due to vegetation cover formed by grassland, bushes, or cultivated fields, whereas other areas were damaged by exploitation of stone or loam. Location of each lithic artefact was recorded using GPS, the artefacts were determined in terms of raw material, technology and typology, and left at place.

RESULTS OF THE SURVEY

Whereas the occurrence of Late Stone Age (LSA) lithic artefacts and ceramic sherds on the highest plateau of the Blue Nile Gorge has been already recorded prior to our survey (information by H. Said), the discovery of Middle Stone Age (MSA) artefacts on the low terraces is

a new fact. This is due to more limited occurrences of the MSA. Whereas the LSA artefacts are now recorded in almost all altitudes, from the lower terrace to the highest plateau, the MSA artefacts were restricted to the lower terraces and to relative altitudes 120–130 m (*Table 1*).

TABLE 1. Number of documented MSA/LSA artefacts from the surveyed area (left bank and right bank of the Blue Nile).

Bank terrace	MSA	MSA–LSA?	LSA
Left	14	31	4
Right	49	134	69

The observations on settlement geography may be correlated with patterns of lithic raw material usage. Whereas the LSA artefacts were predominantly made of



FIGURE 2. Structured relief of the Blue Nile Gorge, showing the level of lower terraces. Photo by M. Frouz.

a whitish-to-yellowish chert outcropping on the upper escarpment, reddish cherts, and rarely obsidian, the MSA artefacts were almost entirely made of a light chert with whitish patination and few were made of the local basalt. An additional survey along the Jema River, tributary of the Blue Nile, confirmed presence of LSA, but no evidence of MSA.

THE MIDDLE STONE AGE ARTEFACTS

Left bank terrace: We documented a retouched point with thinned base (*Figure 3:5*), several typical Levallois flakes and blades (*Figure 3:1–4*). Majority of the flakes and blades display faceted platforms and some were partly retouched. A rare occurrence of LSA artefacts was recorded as well.

Right bank terrace: We documented a typical Levallois core (*Figure 4:4*), several Levallois flakes and blades (*Figure 4:1–2, 6*), a scraper (*Figure 4:3*),

points/flakes with flat ventral retouching (*Figure 4:7–8*), and a fragment of backed point (*Figure 4:5*). LSA artefacts recorded along the right bank formed a scatter (probably a settlement) located between two eroded beds; individual LSA artefacts were also dispersed over the plateau. The backed point may either belongs to the MSA complex (as suggested by its location within a MSA scatter and patination) or to the LSA complex (where this technological approach becomes more common).

CONCLUSION

According to palaeogenetic estimates as well as "hard" anthropological evidence, Ethiopia makes part of the cradle of anatomically modern humans (*Homo sapiens*) between 188–134 kya (Fu *et al.* 2013). This certainly does not mean that the new human form would have been the only population of this continent after this date.

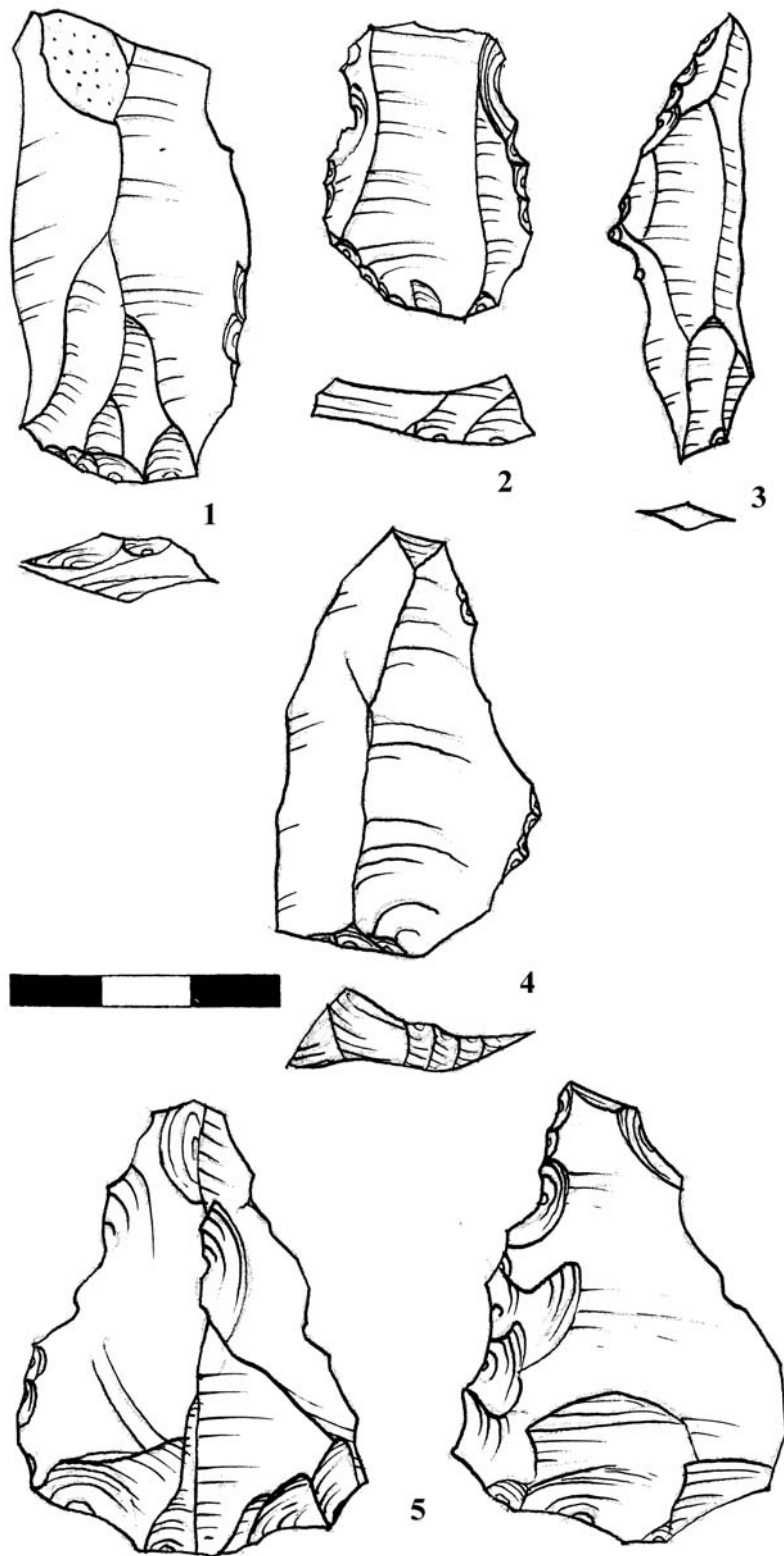


FIGURE 3. Blue Nile, Oromia, left bank survey. Selected artefacts. Scale = 3 cm.

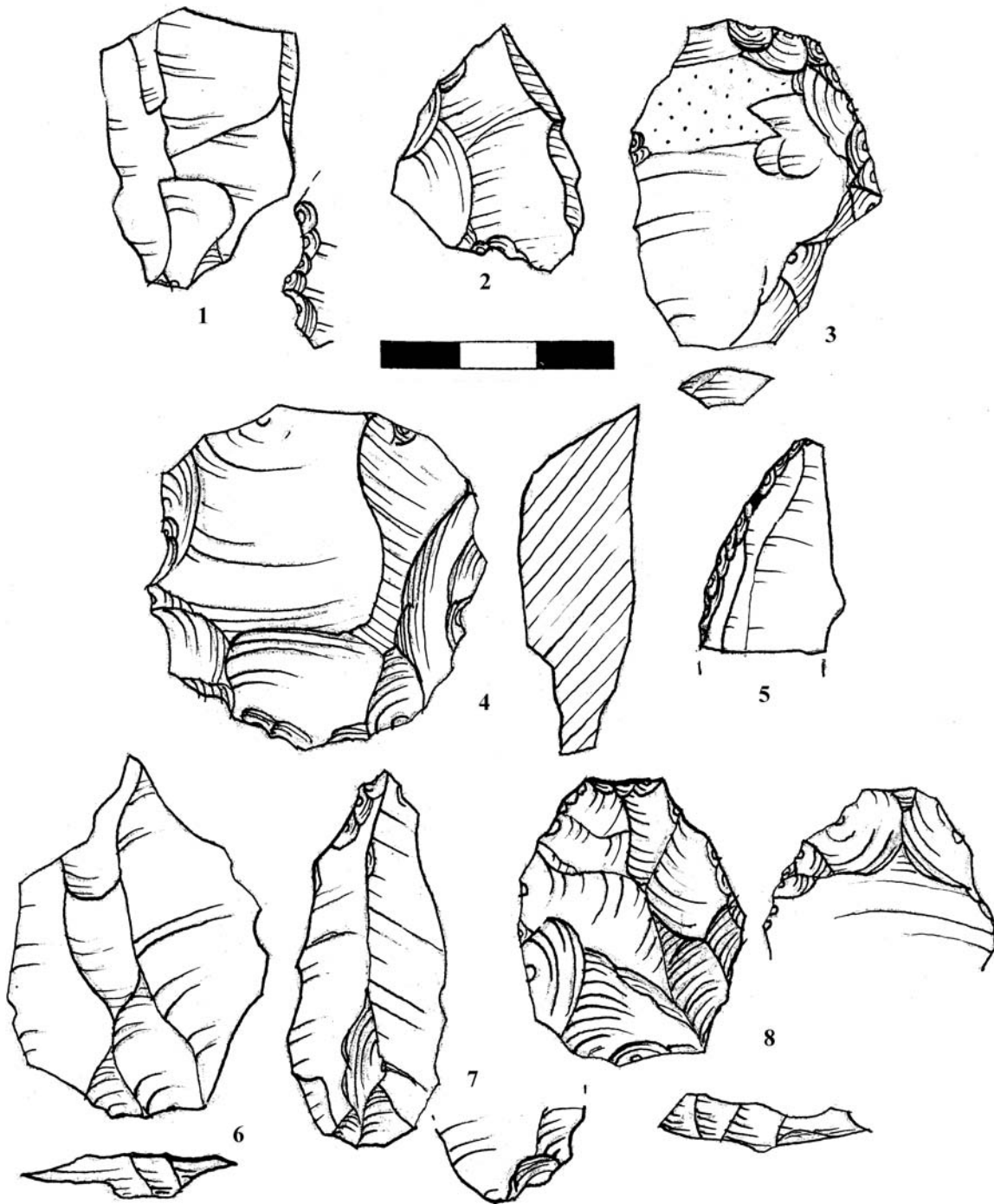


FIGURE 4. Blue Nile, Oromia, right bank survey. Selected artefacts. Scale = 3 cm.

Therefore, the origins of modern behaviour, namely the tendencies to produce long and thin blades, backed and geometric microliths and decorative items, are being sought in the African MSA record (McBrearty, Brooks 2000, Conard 2012). If the backed point fragment (Figure 4:5) was a part of MSA segment (as suggested by its location, raw material, and patination), then the MSA industry of the Blue Nile reflects similar tendencies.

In contrast to certain parts of Sahara (e.g., Svoboda in press) where the spatial extension of human settlement culminated during the Middle Stone Age and became more restricted during the later periods of aridisation, in the Blue Nile region the intensity of occupation increased gradually, from the MSA to the LSA. This difference may reflect variability in climatic development between the two regions.

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REFERENCES

- CLARK J., BEYENE Y., WOLDEGABRIEL G., HART W., RENNE P., GILBERT H., DEFLEUR H., SUWA G., KATOH S., LUDWIG K., BOISSERIE J., ASFAW B., WHITE T., 2003: Stratigraphic, chronological and behavioral contexts of Pleistocene *Homo sapiens* from Middle Awash, Ethiopia. *Nature* 423: 747–752.
- CONARD N., 2012: World heritage and the Middle Stone Age: Examples from East Africa and South Africa. *World Heritage Papers* 33: 18–29.
- FU Q., MITTNIK A., JOHNSON P., BOS K., LARI M., BOLLONGINO R., SUN C., GIEMSCH L., SCHMITZ R., BURGER J., RONCHITELLI A. M., MARTINI F., CREMONESI R., SVOBODA J., BAUER P., CARAMELLI D., CASTELLANO S., REICH D., PÄÄBO S., KRAUSE J., 2013: A revised timescale for human evolution based on ancient mitochondrial genomes. *Current Biology* 23: 553–559.
- MCBREARTY S., BROOKS A. S., 2000: The revolution that wasn't: a new interpretation of the origin of modern human behavior. *Journal of Human Evolution* 39: 453–563.
- SVOBODA J., in press: Prehistory of Southern Bahriya: a case study in Northeast African settlement archaeology. In: L. Suková, M. Dospěl (Eds.): *Bahriya*. Univerzita Karlova, Praha.

WENDORF F., SCHILD R., 1974: *A Middle Stone Age sequence from the Central Rift Valley, Ethiopia*. Ossolineum, Wrocław.

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