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Archaeological investigations of the Sabaloka East Project seasons 2017 – 2018, Sudan

INTRODUCTION

Archaeological research in Khartoum province, the Shendi reach and the Butana established the general profile of central Sudanese archaeology, especially with regard to the Late Prehistoric and Meroitic periods (Salvatori 2012; Usai 2016; Ahmed 1984; Edwards 1998). Some questions, such as about terminology and regional diversities, still remain and drive the ongoing research in the area forward based on working hypotheses. Within this framework of questions and aims, Al-Neelain University established an archaeological field school in Sabaloka East in 2011. The main goal of the project is to find out the relationship between the archaeological cultures in the Khartoum province and the Shendi area and to understand the dialogue between the Nile and Butana (Nassr 2016a).

Sabaloka is an area located north of Khartoum in the region of the 6th Cataract, best known for the rhyolite inlier and the surrounding ring complex of porphyritic microgranite rocks that intruded into the gneissic Basement Complex, through which the Nile cuts its narrow bed (Whiteman 1971). Today, the area is characterized by deep seasonal water channels and flat plains inside the northern ring dykes. The project area lies on the eastern bank of the Nile, starting from the 6th Cataract and extending north to the Hajar Al-Asal villages. As such, it is about 60 km in length with an extent of 10 km on the right bank of the Nile up to the railway connecting Khartoum and Atbara.

The primary issue of the project is the investigation of Late Stone Age archaeology, based on site setting and quality and quantity of artifacts, in this corridor between the central Sudan and the Butana region. Its linking character is evidenced from the long history of archaeological research in central Sudan which revealed many Stone Age cultures in a wide chronological range and with particular typological features (Otto 1963; Marks & Mohammed-Ali 1991; Reinhold 2008; Sadig 2012; Salvatore 2012, Suková & Varadzin 2012, Nassr 2015). On the other hand, the archaeological activities around Shendi, Atbara and in the Butana have revealed important evidence of the late Kushite civilization (Hintze 1951; Geus 1984, Nassr 2016a). The Sabaloka East Project works on their extension to the south.

The geographical, chronological and environmental context of Late Stone Age origins and transitions is one of the central research topics of the Sabaloka East Project. Many researchers set out the development and diffusion of the Neolithic along the Nile and in adjacent areas (Arkell 1953; Krzyżaniak 1992; Usai 2016). However, the Late Paleolithic evidence seems to be lacking in central Sudan (Marks et al. 1987; Usai 2016,). Current paleo-anthropological and paleo-environmental research increasingly shows complex regional traditions of lithics in eastern Sudan (Beyin et al. 2017; Masojć et al. 2019). On the other hand, many Late Meroitic, Post-Meroitic and Christian archaeological sites have been recorded close to the Sabaloka gorge and its bend between the Khartoum to Atbara highway (Hintze 1959; Geus 1984; Edwards 1998). Most of these are tumuli that were only rarely excavated. Our second project plan was thus to draw a topographical map including these later sites using GIS and undertaking excavations to understand the chronology of the tumuli and the development of burial traditions in the region. The outcomes of the 2013–2016 seasons shed more light of the local topography, history and archaeological site distribution (Nassr 2016a). The last two seasons in 2017 and 2018 add new promising sites to the archaeological gazetteer of Sabaloka.

Overview of the previous seasons at Sabaloka East 2013–2016

The Sabaloka East Project was established at the University of Al-Neelain both as field school for student training and as research project to answer some remaining questions regarding the archaeology

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in central Sudan, such as about cultural transitions and regional diversities (see Nassr 2016a; 2016b).

One aim of the project is to follow up on previous research activities in the area of Sabaloka and its surroundings in understanding the landscape and its ancient remains (see Whiteman 1971; Almond & Ahmed 1993; Suková and Varadzin 2012; Nassr 2016a). The area was described by early travelers as both the heartland of the Abdallab kingdom and Funj sultanate (Crawford 1951, 20). They also wrote about the people, villages and the topography of the area. But the main records about archaeological remains in the area derive from field work in central Sudan by Anthony J. Arkell (1953). In addition, many archaeological projects working mainly in the surrounding parts recorded archaeological sites in the eastern part of the area (cf. Hintze 1959; Geus 1984; Ahmed 1984; Babikir 1984; Edwards 1998). Finally, also quick surveys conducted adjacent to Sabaloka resulted in more data about the chronological variability and spatial extension of archaeological sites (El-Sanjak 1978; Amgad Khalid 2013; Jadain 2018). An NCAM rescue campaign undertaken in 2012 south of Sabaloka as well as the expedition under the auspices of the Academy of Sciences of the Czech Republic on the western bank of the Nile recorded important archaeological sites (Suková & Varadzin 2012, Saková et al. 2018). The data that the projects mentioned above provided were the reasons to undertake more archaeological field work at Sabaloka East.

Al-Neelain University started the Sabaloka East Project in 2011 with a reconnaissance survey in the area. The southern part of the concession area was explored during the first two years by Khidir Ahmed and Abdelgadir Elkhazeen, during which some sites have been visited and the concession map of the project has been laid out starting at the 6th Cataract and running to Al-Basabeir village, bordering the Wad Banga area. Archaeological survey and excavation of selected sites were started in 2013 by Ahmed Nassr (2016a). The general methodology of the project carried out to explore the area from south to north included systematic survey, GIS mapping, oral history recording and excavations. The area was surveyed starting from the Sabaloka inlier at the 6th Cataract area to the Hajar Al-Asal plain in the north and from the Nile to the highway connecting Khartoum and Atbara in the east (Nassr 2016a). The first seasons 2013 and 2014 focused on the southern part by quick surveys, the exploration of the local topograph, geology and some test excavations at site SP07. In seasons 2015 and 2016, the Sabaloka gorge and Abu Jadad depression have been fully surveyed and a high number of tumulus cemetery sites, Neolithic occupation sites, Islamic tombs and Christian fortifications could be documented. Additional excavation at site SP07 revealed a large Late Stone Age settlement with lithic workshop debris as well as grave goods. The 2017 and 2018 survey seasons covered the area to Hajar Al-Asal village, where numerous tumuli and Stone Age sites could be recorded. Some of them were tested by excavations that revealed their Stone Age and Late Meroitic dating.

59 archaeological sites were discovered and sampled during all the 2013–2018 seasons. They provide different datings from the Late Stone Age, the Meroitic and Medieval periods (Nassr 2016b). The sites tested by excavation are sites SP07, SP53 and SP63. They show stratified Late Stone Age settlement layers and grave goods of hunter-gatherer and pastoral groups who occupied the area from the Early to the Late Holocene (Nassr 2016b). The artifacts belong to the Early Khartoum, Shaheinab and Late Neolithic cultures. The sites SP04 and SP29 are large tumuli cemeteries, whose date was revealed by excavations to be Late Meroitic and Post-Meroitic (Nassr 2017).

Archaeological survey 2017 – 2018

The archaeological survey carried out in 2017 and 2018 in the eastern part of the Hajar Al-Asal area followed the investigations of previous fieldwork in the area (Nassr 2016a). The area consists from several mountains extending from Sabaloka gorge to the north. The topography of the area here comprises flat plains, rocky outcrops, single mountains and large gravelly depressions draining from the east towards the Nile. Many archaeological features were recorded. Scattered lithic artifacts and pottery sherds were the main types observed, a few of them found in concentrations. Late Stone Age occupations are represented by concentrations of microlithic quartz debitage. The lithic artifacts cover the top of small mounds on the banks of the depressions and are scattered along the outcrops. The layout of the sites and the characteristic artifacts indicate small camps of Late Prehistoric hunters and gatherers. Microliths and pottery typical for Early Khartoum and Shaheinab are the dominant elements of the assemblages. Also tumuli either single ones or in groups, were documented (Fig. 1). The tumuli identified mainly are Meroitic and Post Meroitic sit on the top of the rocky areas. Their form can be distinguished in oval and conical shape. The sites discovered belong to different periods ranging from Late Stone Age to Meroitic and Medieval times and a few scattered artifacts belong to MSA. (Nassr 2016b).



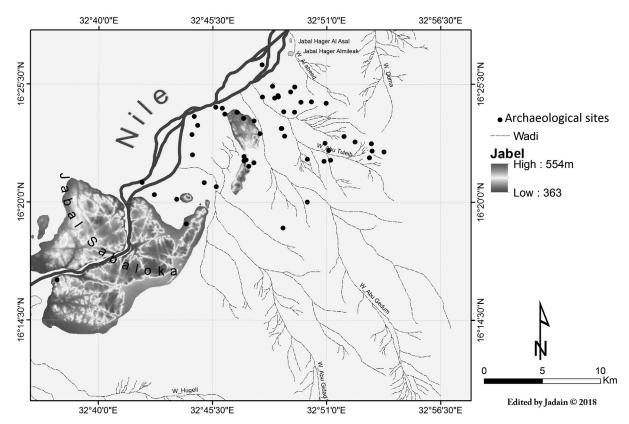


Fig. 1: Map of archaeological sites discovered in the Sabaloka East area (Mapping Jadain 2018).

Area	Location	Sites	Site Function	Date	Diagnostic features
		ID		(Proposed)	
6th	El-Misaiktab	SP54	Occupation	MSA	Levallois cores and
Cataract					flakes
Hajar Al- Asal	Qalaat Homiad	SP33	Cemeteries	Late Meroitic	33 tumuli in shape of mound
		34	Workshop	MSA	Levallois cores, bifacial points and large flakes.
		35,	Cemeteries	Late Meroitic	17 tumuli in shape of mound
		SP36	Settlement	Meroitic	Traces of settlement from building remains and fragments of pottery
		SP41	Workshop	ESA	Handaxes and large cutting flakes
Hajar Al- Asal	Jebel El- Bankari	SP37	Settlement	LSA	Pottery sherd type Shaheinab, Microliths and rocky grinder stone
		SP42	Workshop	ESA	Handaxes cores and large cutting flakes assemblage
		SP 43	Occupation	LSA	Microliths and Shaheinab pottery sherds
		SP 44	Occupation	LSA	Microliths and rocky grinder stone



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Overview of archaeological sites discovered during the survey 2017 - 2018

There is no Early Stone Age site in the area, only single artifacts are documented, some of which were collected from the flanks of the Sabaloka gorge close to paleo-depressions and at the foot of hills in the eastern part of the concession area. There are no concentrations of stone tools which consist of primary core handaxes, bifacial points, Levallois cores, Levallois points and classical Levallois scrapers (Fig. 2). Most of the artifacts were lying scattered on the weathered surface, only a few of them were discovered in the profile of eroded Pleistocene deposits at wadi Ab Gaidom and wadi Ab Jadad. The dominant technology of stone tool production was the Levallois strategy, seen in projectile's shape, Levallois flakes and retouched cores, which indicate that MSA groups occupied Sabaloka east along the water channels. Such lithic artifacts are typical for MSA stone assemblages known from e.g. from the Atbara area and the Bayuda desert (Chmielewski 1987; Nassr 2018; Masojć 2018; Masojć et al. 2019).

Microlithic sites were identified based on small occupation clusters on the top of mountains close to the Nile and in the eastern part of the area. The sites are distinguished by dense agglomerations of quartz debitage, covering the top surface of the mountains. Most of the sites contain pottery sherds together with the lithics and there are only a few sites that only show concentrations of debitage, cores and sharp

microlithic tools. Three types of Late Stone Age sites were identified during the survey:

a) Late Stone Age settlements: they were found on Holocene sediment mounds along the banks of water depressions and were characterized by accumulations of pottery sherds of the Early Khartoum and Shaheinab type as well as lithic artifacts, among them gouges, denticulates, microliths and grinding stones. Test excavations revealed stratified settlement remains, graves and a high density of artifacts and organic material (fish bones, animal bones and human bones).

b) Late Stone Age occupations: this site type was recognized based on the existence of hard stone grinding implements

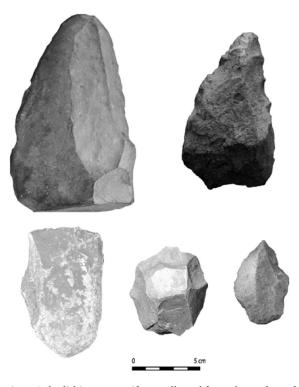


Fig. 2: Paleolithic stone artifacts collected from the surface of site SP42: Hand axe, bifacial point, cleaver and Levallois point (Photo Nassr 2018).

together with scattered Neolithic pottery sherds and single stone tools, such as gouges, crescents, scrapers and small denticulates (Fig. 3). Some of these sites were found on small flat plateaus on the top of mountains, others in open areas close to the rocky areas.



Fig. 3: Microlithic stone artifacts from the surface of site SP53 (Photo Nassr 2018).



c) Microlithic workshops: this type of LSA sites showed concentrations of debitage, cores and microliths, no pottery was observed. Lithic artifacts comprise small blades, microliths, arrow heads and some blade cores. These sites' locations, size and artifact characteristics can be compared with typical Terminal Pleistocene sites that have been found in the Eastern Butana, such as sites KG68 at Khashm el-Girba (Marks et al. 1987).

There are no Kushite settlements recorded in the area, a few traces of Meroitic and Christian occupations were, however, identified based on single pottery fragments, building traces and grinding stones. Most of these remains were found within modern habitation zones in Sabaloka east. The main types of evidence are the tumuli, which are spread at the foot of mountains. Some of the tumuli were found in larger groups, others were solitary and particularly recorded on the top of mountains. Some of the tumuli were tested by excavation and yielded Late Meroitic funerary goods. The systematic survey of sites SP29 and SP41 revealed three types of tumuli superstructures: a) oval shape with cluster of stone, b) big mound from cluster of stone in shape of cairn, and c) subcircular small mound from stone, grave and sand. All of these tumulus superstructure types are known from Late Meroitic and Post Meroitic sites in central Sudan, for example at Bauda and Gabati (Babiker 1984; Edwards 1998). There are a few tombs with conical and box-like superstructures, which indicate a later occupation in the area, maybe related to the Christian period.

Test Excavation of site SP63

Site SP63 was recorded in early 2017 by Modather Jadain during his archaeological survey in the northern part of the Sabaloka area (Jadain 2018). The site is located about 4 km east of the Nile in the western part of the Hajer Al-Asal area. The site is situated on the foot of a rocky hill close to the flat plain once flooded by the Nile. A field walking survey of the area showed that the top and foot of the mountain are almost completely covered with Neolithic artifacts. Microlithic quartz debitage, small flakes and gouges as well as pottery of the Shaheinab type are common. A test excavation carried out in the center of the site revealed stratified Neolithic artifacts (lithics, pottery sherds, shells and a large amount of animal bones) in habitation layers up to a depth of 30cm below the surface. The test trench showed that the site represents a small Neolithic occupation zone and many of the artifacts were eroded from the top of the mountain (Fig 4). Remains of daily life such as fire places, stone knapping areas and post-holes



Fig. 4: General view of site SP63 and the test excavation (Photo Jadain 2018).



indicating huts are well recognizable from the excavation. Comparable sites can be found in the area north of Khartoum, e.g. sites Kadero, Jebel Sabaloka West and SP07 (Krzyżaniak 1992, Suková et al. 2015, Nassr 2016b).

Excavation of SP07

SP07 site was discovered in early 2013 during an archaeological survey conducted by Ahmed Nassr and Amgad Khalid (Amgad Khalid 2013). First systematic surveys and initial test excavations were conducted by Nassr in late 2013, 2014 and 2015 (Nassr 2016a, 2016b).

The site is located on a high stony mound covered by Holocene sediments at the margin of a paleodepression about 3km east of the Nile. The excavations showed that the site contains Early Khartoum and Shaheinab type artifacts. Settlement remains and grave goods were documented at the site as well (Nassr 2016a). The site was affected by erosion and the upper layers were removed from their original top location to the lower parts.

In 2018, a further systematic survey and exploration was carried out here and in the adjacent areas. The site extends for more than 300x250 m. The site's topography and artifact scatters have been recorded

during the archaeological survey. High concentrations of debitage, lithic tools and pottery sherds indicate that SP07 is one of the largest Late Stone Age habitation sites in central Sudan. Numerous artifacts and lots of settlement debris have been observed on the surface. Bigger fragments of cores, flakes, fine chipped and retouched microliths and several animal and fish bones as well as ceramic sherds were documented at the site. Microlithic quartz artifacts are one of the main elements on the site's surface. 37 hard stone grinding implements were also found lying on the top of the site. Wavy line, dotted wavy line and fine ware ceramics were also documented in high concentrations. Diagnostic artifacts observed in the survey were microliths, gouges, lip plugs, fish bones and Early Khartoum and Shaheinab type pottery.

Small retouched crescents with worked backs and a sharp edge dominate the stone artifact record. In addition, more than 20 complete gouges in different size as well as many gouge flakes and cores were collected (Fig. 5). Different types and shapes of grinding stones, long and sharp blades as well as end scrapers were also common finds at the surface. There are also some lithics with late MSA features, such as large cores of blades, sharp blades, small Levallois points and Levallois flakes, but they are quite rare and were only collected from the surface.



Fig. 5: Gouges from the surface of site SP07 (Photo Nassr 2018).





Fig. 6: Ceramics of Early Khartoum type from excavation of site SP07 (Photo Nassr 2018).

In order to obtain more details about SP07's stratigraphy, contexts and artifact repertoire, three trenches were laid out in 2018: Trench 1 ($3 \times 2 m$) in the northern part of the site where high concentrations of surface remains are presented, Trench 2 (1.5 x 1.5 m) in the southern part of the site in the area sloping down towards the depression, and Trench 3 (1.5 x 1.5 m) in the center of the site, where low area and the highest density of artifacts. The three trenches show stratified LSA materials from lithics, ceramics, human and animal bones. Trenches 1 and 2 provided materials up to a depth of 35 cm, however trench 3 shows a long stratigraphy up to 40cm depth. This indicates that the site was eroded from the top.

Excavation in general revealed large amounts of finds from lithics, ceramics and bones of wild and domesticated animals as well as fish bones in the context of the habitation layers that extended from the surface up to a depth of maximum 40 cm. The uppermost stratigraphic context shows the youngest occupation phase of the site, in which SP07 was occupied by large groups of people during the Shaheinab and Late Neolithic periods. Traces of their dwellings are the remains of hearths in the form of soft clay mixed with fine pottery sherds, grinding stones and small pieces of bones and shells. Many such fireplaces with lots of lithic and ceramic fragments have been found in this level that is primary living debris. Some polished axes, gouges and many lip plugs were found there, too.

Below the upper level, there is a rather thin stratigraphic interval of soft clay about 5-7 cm. Defined by a clear separating line, the lower context which contains the oldest occupation evidence of this site appears. Several Late Stone Age groups must have dwelt here long enough to form a 20–40 cm thick archaeological horizon. Concentrations of wavy line pottery and microlithic cores, debitage and tools were identified with ashes and living debris. The archaeological material of the lower layer attests the Early Khartoum culture as early phase of the occupation of the site. Both levels indicate that the site was occupied for long period during the Early Khartoum, Shaheinab and Late Neolithic periods.

The ceramics found in the lower level comprise fragments of wavy line pottery and coarse ware of





Fig. 7: Ceramics of Shaheinab type from excavation of site SP07 (Photo Nassr 2018).

the Early Khartoum type (Fig. 6). Ceramic material of the Shaheinab type and late Neolithic pottery production such as fine ware and red black-topped ware was found in the upper level of excavation (Fig. 7). The archaeological finds in general are similar to the material from other well-known sites in Khartoum province (cf. Arkell 1949; Krzyżaniak 1992; Suková & Varadzin 2012; Salvatori 2012; Nassr 2016a; Suková et al. 2018).

Excavation of tumulus site SP29

About 27 archaeological sites are tumuli cluster. Most of them are situated on high hills of black stone, some of them were found on the margins of wadis and covered by sand. Site SP29 (Al-Kiniasat) was discovered in 2016 during a survey along the Wadi Abu Gedum (Nassr 2016a). It is located east of Hajar Al-Asal on an alluvial mound. The site is composed of a dense cluster of tumuli covered by sand dunes. A channel cut the alluvial deposit in the western part of the site and washed away some tumuli. In 2017, an exploration of the tumuli was conducted and two of them excavated. Both yielded Late Meroitic grave goods (Nassr 2017).

In 2018, a systematic survey was carried out to complete a GIS map of the distribution of the tumuli and to create a complete plan of the site. The survey also showed that the site has been affected by human impact and water erosion. 97 tumuli were documented including oval and circular ones, as well as a number of box graves. The distribution map with indication of the different superstructures reveals a necropolis used during long periods from the Late Meroitic to the Christian period (Fig. 8). The variability of tumulus superstructures is well known in the region from e.g. the Bauda, El-Oshra and Gabati cemeteries (Babiker 1984; Geus 1984; Edwards 1998).

Three tombs were selected for excavation in 2018. Two of them were chosen for field school student training (G68, G26) and the third one was a rescue excavation (G82) because it was affected by water damage and erosion.



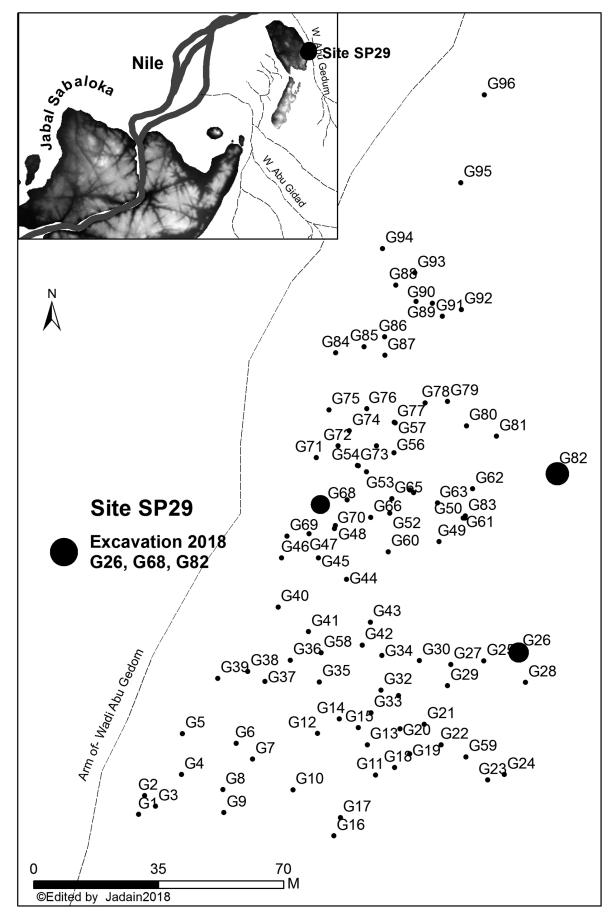


Fig. 8: Distribution map of tumuli on site SP29 (Mapping Jadain 2018).





Fig. 9: Burial chamber of tumulus G68 (Photo Nassr 2018).

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G68 Excavation

Tumulus G68 is located in the western part of the site. The superstructure is oval in shape and built from a ring of black stones with a gravel fill in the center. The tumulus sits on the sandy flat ground and has a size of 6.0 x 4.8 m and a maximum preserved height of 25 cm. At a depth of 60 cm, the general outline of the shaft was observed after removing yellow sand, clay and few stones. At a depth of 70 cm, the complete shaft of the burial appeared with size 235 cm (north and south sides) and a 180 (west side) x 50 cm (east side) wide opening. The shaft was covered by stone in the western side. A burial chamber was found in a depth of 238 cm in the western part of the shaft, measuring 150 x 56 cm, with a niche of 93 cm depth. A skeleton in semi-contracted position was found (Fig. 9). The skeleton was lying on its right side, head to the east and face to the north, equipped with many beads and ornaments. The person is female, 170 cm tall and was around 20-25 years old.¹ Samples for DNA and C14 analysis were collected. The grave structure and the form of shaft and side chamber as well as the skeleton's position conform to Late Meroitic graves in central Sudan, e.g. tombs at sites such as Bauda, Gabati and Akad (Babiker 1984; Edwards 1998: Abdurrahman 2009).

1 Skeleton left femur is 48 cm, right femur 48 cm, Tibia 44 cm, Fibula 42 cm.

Excavation of G26

This tomb is located in the eastern part of the site about 50 m away from the wadi. Its superstructure is oval in shape, 5.80×5.30 m large and has a maximum preserved height of 0.30 m (Fig. 10). The shaft was recognized at a depth of 150 cm. The shaft was very compact from dark clay and covered by rocks. The shaft is 295 (east and west sides) by 92 cm (south and north sides) and slopes gently from east to west. In a depth of 180 cm, the burial niche was found in the western side of the shaft, blocked off by a rock of 63×45 cm.

The burial contained intact grave goods, an almost completely preserved skeleton in semi-contracted position with its head to the east, face to the north laying on his right arm² (Fig 11). Five pottery vessels found in situ include two big red jars, one black jar of medium size, a small black bowl and a black basin (Fig. 12). These pottery vessels are typical representatives of the Late Meroitic ceramic tradition. Similar specimens have for instance been discovered at Bauda in tumuli Bauda-80 and Bauda-109 (Babiker 1984: 29, 72). Other comparable vessels come from other Late Meroitic tumuli in the Shendi reach such as El-Miseiktab, El-Oshra, Shaqalwa and Gabati, particularly tumuli GBT40, GBT41 and GBT42 (Edwards 1998: 24, 105).

² Skeleton right femur is 41 cm and left one is 41 cm, Tibia 38 cm and Fibula 40 cm





Fig. 10: Superstructure of tumulus G26 (Photo Nassr 2018).



Fig. 11: Grave goods of tumulus G26 (Photo Nassr 2018).





Fig. 12: Pottery vessels from tumulus G26 (Photo Nassr 2018).

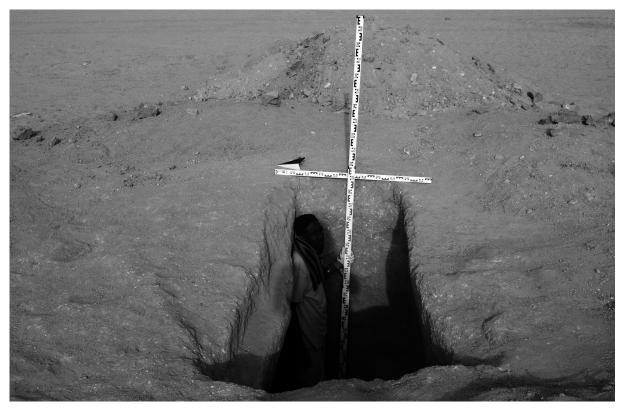


Fig. 13: Tumulus G82: General view of the shaft (Photo Nassr 2018).



Excavation of G82

Tumulus G82 was already damaged due to recent human activities in the eastern part of the site. We tried to fully excavate the endangered tumulus in order to obtain as much information as possible. The superstructure of the tumuli was removed. A few rocks had to be taken out to find the borders of the shaft which were recognized in a depth of 30 cm. The general shape of the shaft was different from the previous ones documented in the site as it was rectangular in shape with a size of 270 x 100 cm. Excavation undertaken in the rectangular shaft revealed its faces cut vertically into the hard clay with the impressions of the digging tools still present. At a depth of 180 cm, the skeleton appeared in the northern side of the burial shaft. The burial niche was cut into the hard clay at about 70 cm below the mouth of the shaft. The niche itself is 235 cm long, 36 cm wide and 70 cm deep. The niche covered by a large beam of acacia and mud clay as mortar (Fig. 13). The skeleton was found in extended position, head to the west, face to the south and lying on his right arm. One fine ware red pottery jar was found close to his skull. The skeleton is 170 cm tall and male.³

The grave structure with a rectangular shaft and side niche is similar to Late Meroitic tombs in central Sudan, but is different from the other tombs excavated at the site (Nassr 2017). The red jar with the fine surface belongs to the Meroitic ceramic industry (Babiker 1984; Edwards 1998).

CONCLUDING REMARKS

The archaeological field school project in Sabaloka East adds a new region to central Sudanese archaeology. The archaeological sites that were investigated during the survey and excavation from 2013 to 2018 show that the area is rich of Late Stone Age sites and Late Meroitic tumuli. The Stone Age sites were found on the banks of paleo-wadis and on rocky outcrops. The prehistoric sites can be differentiated into large settlements, small occupation sites and lithic workshops. Stone Age sites containing materials such as large cores, Levallois points and small hand axes indicative of MSA occupation were few and scattered on the rocky area and along the margin of wadis. Some microlithic workshops are also present, some of them provide a few ceramics of the Early Khartoum type. This indicates that Early

Holocene groups occupied the area in a similar way as they did in the Butana area (Fattovich et al. 1984; Marks et al. 1987; Marks & Mohammed-Ali 1991). Also, a large number of Early Khartoum, Shaheinab and Late Neolithic settlements could be discovered, which were characterized by stratified material typical for Holocene sites in central Sudan (Arkell 1953; Krzyżaniak 1992; Caneva 1988; Nassr 2016b).

The tumuli sites surveyed and excavated provide many different superstructures, localizations and shapes. The tumuli indicate that the area was occupied during the Late Meroitic, Post Meroitic and Christian periods. The overall variability seen with the tumuli is similar to the Bauda and Gabati necropolis (Babiker 1984; Edwards 1998).

The data collected from the survey and the excavations provides significant material for future interdisciplinary research. The Late Stone Age finds from the excavations will be studied and published in the future. About 20 complete pottery vessels and a large amount of ornaments (beads, bracelet and stone archer loose) were collected from the intact tumulus graves. Human bones samples were collected for dating and DNA analysis from sites SP07 and SP29.

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Bibliography

- Abdurrahman, Mohamed Faroug, 2009. 'Aced Rescue Project Season 2008', Sudan & Nubian 13, 103-106.
- Ahmed, K. A. 1984. Meroitic Settlement in the Central Sudan. An Analysis of Sites in the Valley and the Western Butana. BAR Int. Ser. 197. Oxford.
- Almond, D. and F. Ahmed 1993. Field Guides to the Geology of the Sabaloka Inliers, Central Sudan. Khartoum.
- Arkell, A.J. 1949. Early Khartoum, London, Oxford University Press.
- Arkell, A. J. 1953. Shaheinab. London, Oxford University Press.
- Babiker, F. 1984. Research into Mortuary Practices in Sudanese Prehistory and Early History. Unpublished Ph.D. dissertation, University of Reading.

³ The skeleton radius 33 cm, Ulna 27 cm, Femur 49 cm, Tibia 40 cm.



- Beyin, A., Chauhan, P.R., Nassr, A., 2017. 'New discovery of Acheulean occupation in the Red Sea coastal region of the Sudan.' Evolutionary Anthropology 26, 255-257
- Caneva, I. 1988. El Geili. The History of a Middle Nile Environment 7000BC–AD1500. BAR. Int. Ser. 424. Oxford.
- Chmielewski, W. 1987. 'The Pleistocene and Early Holocene Archaeological Sites on the Atbara and Blue Nile in Eastern Sudan.' Przegląd Archeologiczny 34: 5 – 48.
- Edwards, D. N. 1998. Gabati. A Meroitic, post-Meroitic and Medieval Cemetery in Central Sudan. vol. 1. London, Archaeological Research Society Publication 20, SARS.
- El-Sangak, A. H. 1978. An Archaeological Survey between Raw'an and Jebel Qarri station from the Railway line to the Nile. Unpublished BA thesis, Department of Archaeology, University of Khartoum.
- Fattovich R., Marks A & Mohammed-Ali, A. 1984. 'The Archaeology of the Eastern Sahel, Sudan: Preliminary Results.' The African Archaeological Review, Vol. 2, Pp 173–188.
- Geus, F. 1984. Rescuing Sudan's Ancient Culture. Khartoum.
- Hintze, F. 1959. 'Preliminary report of the Butana expedition', Kush 7, 171-196.
- Jadain, M., 2018. 'An Archaeological Survey North of the 6th Cataract: GIS study of Sabaloka East.' Der Antike Sudan. MittSAG29: 39–59.
- Khalid, B. Amgad. 2013. Settlement Pattern of the area between Hajar Alasal and Geili. Unpublished MA thesis (in Arabic). Shendi University.
- Krzyżaniak, L. 1992. 'The Later Prehistory of the Upper (Main) Nile: Comments on the Current State of the Research.' In: Klees F. and Kuper R. (Eds), New Light on the Northeast African Past, Köln: Heinrich-Barth Institute. 241-248.
- Marks A. E., and Mohammed-Ali. 1991. The late prehistory of the Eastern Sahel. The Mesolithic and Neolithic of Shaqadud, Sudan. Dallas, Southern Methodist University Press.
- Marks, A. E., J. Peter and W. Van Neer. 1987. 'Late Pleistocene and Early Holocene Occupations in the Upper Atbara River Valley, Sudan.' In: Angela, C (ed.) Prehistory of Arid North Africa: Essays in Honor of Fred Wendorf. Dallas, 137-161.
- Masojć, M., 2018. 'Lithic Materials from a Late Nubian Complex Middle Stone Age Site in the Bayuda Desert: Goat Mountain.' In: Lohwasser A., Karberg T., J. Auenmüller (Eds.) Bayuda Studies. Proceedings of the First International Conference on the Archaeology of the Bayuda Desert in Sudan, Harrassowitz Verlag, Wiesbaden, Meroitic 27: 503-536.

- Masojć, M., Nassr, A., Kim, J., Krupa-Kurzynowska, J., Kwan Sohn e, Y., Szmit, M., Kim, J., Kim, J., Choi, H., Wieczorek, M., Timmermann, A. 2019. 'Saharan green corridors and Middle Pleistocene hominine dispersals across the Eastern Desert, Sudan.' Journal of Human Evolution, 130:141-150.
- Nassr, A.H. 2015. 'The late Neolithic at Qalaat Shanan site within Shendi Reach.' In: Kabaciński, J., Chłodnicki, M. and Kobusiewicz., M. (ed.), Hunter-Gathers and Early food production Societies in Northeast Africa, study in African Archaeology 1. Poznań Archaeological Museum: 159-176.
- Nassr, A.H. 2016a. 'Sennar capital of Islamic culture 2017 project. Preliminary results of archaeological survey in Sennar east and Sabaloka east,' Sudan & Nubia, 20, 146–153. London.
- Nassr, A.H. 2016b. 'Late prehistoric sites from the Sabaloka province north of Khartoum on the eastern bank of the Nile, Sudan.' Afrique: Archéologie & Arts, Vol 12: 21–42.
- Nassr, A.H. 2017. Preliminary report of Sabaloka Eastseason 5th-2017. Annual report of field school, University of Al Neelain, Department of Archaeology.
- Nassr, A.H., 2018. 'Regional Diversities of Palaeolithic Stone Tools: Comparative Studies Between the Eastern Desert of Lower Atbara River, the Bayuda Desert and Central Sudan.' In: Lohwasser A., Karberg T., J. Auenmüller (Eds.) Bayuda Studies. Proceedings of the First International Conference on the Archaeology of the Bayuda Desert in Sudan, Harrassowitz Verlag, Wiesbaden, Meroitic 27: 464–490.
- Otto, K. H. 1963. 'Shaqadud: a new Khartoum Neolithic site outside the Nile Valley.' Kush 11:108-15.
- Reinold, J. 2008. La nécropole néolithique d'el-Kadada au Soudan Central. Les cimetières A et B (NE_36-O/3-V-2 et NE-36-O/3-V-3) du kôm principal. Vol. I. Paris, A.D.P.F., Études et Recherche sur les Civilizations.
- Sadig, A.M. 2012. 'Chronology and Cultural development of the Sudanese Neolithic.' In: Beiträge zur Sudanforschung, 11: 137-184.
- Salvatori, S. 2012. 'Disclosing Archaeological Complexity of the Khartoum Mesolithic: New Data at the Site and Regional Level.' African Archaeological Review, 29: 399-472.
- Suková, L. and L. Varadzin 2012. 'Preliminary report on the exploration of Jebel Sabaloka (West Bank), 2009-2012', Sudan & Nubia 16, 118-131.
- Suková, L., Varadzin, L., Bajerc, A., Lisád, L., Pacinae, J., Pokorný, P. 2015. 'Tracing Post-depositional Processes at Mesolithic Occupation Sites in Central Sudan: View from the Site of Sphinx (SBK.W-60) at Jebel Sabaloka.' IANSA 2015, VI/2: 133-150.
- Suková, L., Varadzin, I., Lisád, L. Pacina, J and Pokorný, P. 2018. 'Exploration of the Site of Sphinx (SBK.W-



60), Jebel Sabaloka (West Bank): Findings of the 2014 Campaign.' In: Kabaciński, J., Chłodnicki, M., Kobusiewicz., M and Winiarska-Kabacińska, M. (eds.) Desert and the Nile. Prehistory of the Nile Basin and the Sahara Papers in honour of Fred Wendorf, Study in African Archaeology 15, Poznan Archaeological Museum: 193-205.

- Usai, D, 2016. 'A Picture of Prehistoric Sudan: The Mesolithic and Neolithic Period.' Oxford Handbook Online. DOI: 10.1093/oxford/9780199935413.013.56: 1-34.
- Whiteman, A. J. 1971. The Geology of the Sudan Republic. Oxford.

ZUSAMMENFASSUNG

Das Sabaloka East Project umfasst die archäologische Forschung mit field school in der Region Sabaloka nördlich von Khartum am Ostufer des Nils. Die Hauptziele des Projekts sind die Ausbildung von Studenten der Al-Neelain University im Bereich der Archäologie und die Untersuchung des Gebietes durch interdisziplinäre Forschung. Darüber hinaus zielt das Projekt darauf ab, den Übergang und die Erweiterung der Archäologie der Steinzeit über die Provinz Khartoum hinaus, regionale Unterschiede zwischen Nil und Butana sowie die spätmeroitische Archäologie südlich des meroitischen Kernlandes zu diskutieren. Die Projektaktivitäten begannen 2013 und wurden von der Al-Neelain University finanziert. Die sechs Kampagnen der archäologische Untersuchung führte zur Dokumentation von 59 archäologischen Sites, von denen einige durch Ausgrabungen sondiert wurden. Die häufigsten Befunde sind Plätze der jüngeren Steinzeit (Late Stone Age) und spätmeroitische Grabhügel.

Diese Artikel berichtet über die Ergebnisse und Auswirkungen der letzten beiden Kampagnen in den Jahren 2017 und 2018, in denen der östliche Teil des Gebietes durch archäologische Surveys und Ausgrabungen mehrerer Stätten der jüngeren Steinzeit und spätmeroitischer Grabhügel zu untersucht wurde. Die Methodik umfasste die Erkundung der Landschaft, die geologische und geomorphologische Beschreibung der Lage der Standorte, GIS-Kartierungen und das Sammeln von diagnostischen Oberflächenfunden, die Vermessung der Sites und die Erfassung der oral tradierten Geschichte der lokalen Bevölkerung. Im Rahmen der Umfrage wurden innerhalb der beiden Kampagnen 28 neue Sites entdeckt. Drei von ihnen wurden durch Ausgrabungen sondiert und stellen eine stratifizierte spätsteinzeitliche Siedlung und zwei intakte spätmeroitische Friedhöfe dar. Die bei den archäologischen Surveys und Ausgrabungen gesammelten Daten geben Aufschluss über die Hierarchien und die Chronologie der Stätten.