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## **First Insights into the Prehistory of Selima Oasis, Northern Sudan – Excavations at Site SOP 1024**

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### **Introduction**

Compared to the Egyptian oases, the oases of northern Sudan, among them Selima and Laqiya, attracted much less archaeologists. Probably because they have not been permanently occupied and are more difficult to reach. However, being located on the Darb el Arba'in, a main ancient traffic route linking the middle Nile Valley with the Darfur region (Riemer and Förster 2013: 52-53), they have been important places within the trans-Saharan network.

Selima Oasis (Fig. 1) was known early on, descriptions of ancient travellers go back to the 17<sup>th</sup> century. Especially the ancient building present there attracted the attention and led to speculation about its function with propositions ranging from a church to a fort to a tavern (Leach 1926: 43-44; see Hinkel 1979 as well as Pichler and Negro 2005 for overviews of the visits to Selima). From an archaeological point of view, the oasis and the whole region remained, however, relatively unknown. In 1926, Thomas Leach, then Governor of Halfa, published a detailed description of Selima oasis and a relatively precise ground plan of the ancient building (Leach 1926). In the 1920s and 1930s different expeditions led among others by Donald Newbold and William B. Kennedy Shaw travelled in the southern Libyan Desert (see e.g. Newbold 1928; Newbold and Shaw 1928; Shaw 1936a) and reported archaeological finds, for example in Grassy Valley (Shaw 1936b),

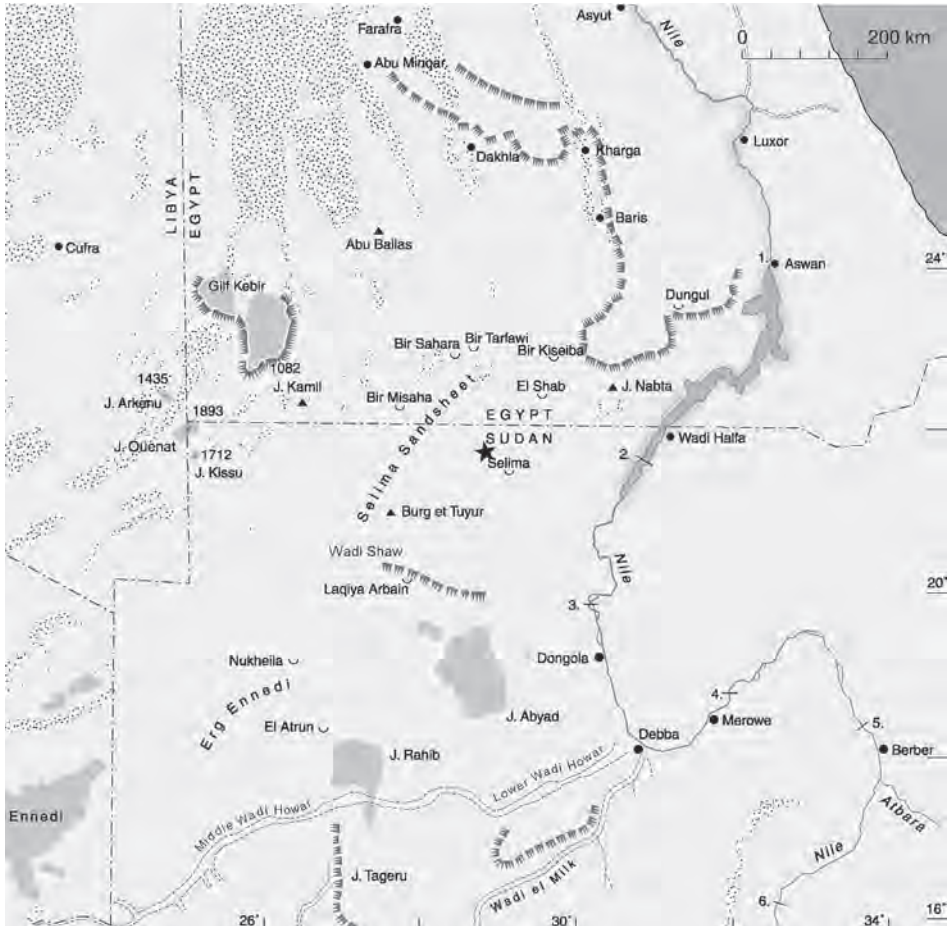


Fig. 1. The location of site SOP 1024 (black star) close to Selima oasis and other archaeological sites and regions mentioned in the text (base map: Heinrich-Barth-Institut)

Burg et Tuyur (Newbold 1928: 282) and the Laqiya region (around Camp 49; Shaw 1936a: 206). Research was intensified in the 1970s and 1980s: Palaeolithic and Neolithic sites were discovered by American team led by C. Vance Haynes e.g. in Selima and the Laqiya region (see Haynes 1985: 271). Many more sites were then recorded – especially in the Laqiya region – by the University of Cologne’s B.O.S. project directed by Rudolph Kuper during the field seasons between 1980 and 1985 (for an overview see Kuper 1995). At Selima Oasis, however, only a few

sherds were collected on the site 80/90 during a short stay in 1980<sup>1</sup>. Even taking into account all this work, archaeological research in this part of the South Libyan Desert is still punctual and scarce, despite the great importance of this region for contacts between the Nile Valley and the areas to the west, south and north. To fill this gap, the Selima Oasis Project (SOP) was initiated by the French archaeologist Coralie Gradel in 2011. The aim of the project is to study the development of the oases at Selima and Laqiya and their surroundings since prehistoric times but also their role as trade stations on the Darb el Arba'in. Since the beginning the Selima Oasis Project works as a German-French Cooperation and in strong collaboration with the Sudanese counterpart, the National Corporation for Antiquities and Museums (NCAM). Three short field seasons took place so far, in 2011, 2013 and 2014 (Jesse *et al.* 2015). During the survey altogether more than 150 sites were recorded, covering all periods from the Palaeolithic to modern times. In 2011, a study of the vegetation and water resources was conducted in Selima Oasis and the ancient building and especially the petroglyphs there were documented. During the second field season in November 2013 excavations took place in the oasis, in and around the ancient building ("Beit es-Selima", SOP 2001), at the nearby site SOP 57, and at a prehistoric site (SOP 1024) situated about 6 km northwest of the oasis. The latter will be described in more detail in this paper. In 2014 the French part of SOP continued excavations at Beit es Selima (SOP 2001).

## 1. The area of interest

The British desert explorer William Boyd Kennedy Shaw called Selima "...the loveliest of all the Libyan oases..." (Shaw 1935). Selima is located at the base of an escarpment formed by Jurassic to middle Cretaceous rocks. Geoscientific research – done by an American team directed by Vance Haynes, and the Berlin Collaborative Research Centre 69 – documented old lake sediments (Haynes *et al.* 1989; Pachur and Altmann 2006): shore terraces of different age are marked by calcified rhizomes. Palaeolithic artefacts have been found. The Holocene lake development started at around 9200 bp (8300 BC) and may be explained with increased local rainfall. At that time savannah-type vegetation can be supposed. The main extension of the lake occurred at around 8000 bp (6900 BC). The molluscs found point to a water depth of more than 3 m over large areas of the lake and in some places

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<sup>1</sup> See the African Archaeology Archive Cologne (AAArC): [arachne.dainst.org/project/afrarch-cologne](http://arachne.dainst.org/project/afrarch-cologne) For site 80/90: [arachne.uni-koeln.de/item/topographie/8008653](http://arachne.uni-koeln.de/item/topographie/8008653)

even of more than 10 m. Around 5500 bp a transition to a saltwater / sebkha phase is attested at Selima. A radiocarbon date of about 4100 bp (2700 BC) (H-7877-7929) indicates the drying out of the lake (Pachur and Altmann 2006: 363-371).

Today, water of good quality is available at a depth of about 70 to 80 cm. The actual vegetation is not very rich in species. In 2011 and 2013 different kinds of grasses, among them Halfa grass, were mapped, as well as reed (*Phragmites australis*, *Saccharum*), camelthorn (*Alhagi maurorum*) and tamarisk (*Tamarix*). There are date (*Phoenix dactylifera*) and doum palms (*Hyphaene thebaica*) (Jesse *et al.* 2015: 163). Up to recent times, salt was exploited in Selima, mainly by groups coming from the Nile Valley especially for that purpose (see Leach 1926: 42-43; Jesse *et al.* 2015: 163).

## 2. Site SOP 1024

About 6 km northwest of the oasis the prehistoric site SOP 1024 was discovered in 2011. The large surface site is situated in a flat depression which is surrounded by small outcrops (Fig. 2). The archaeological material consists of stone artefacts, a few potsherds of Early Khartoum type as well as some fragments of bone and ostrich eggshell, and spreads over an area of about 1000 x 300 m. Different denser concentrations of artefacts are visible as are numerous small mounds of gravel and / or stone which probably represent tumuli. In 2013, the contours of the site were mapped and some features and artefacts were recorded and partly collected on the surface using GPS. Furthermore, an area with a concentration of lithic artefacts and some bone fragments visible on the surface was chosen for excavation.

The excavation trench SOP 1024-1 covers 7 x 4 m<sup>2</sup>. Underneath the small layer of windblown sand (about 2 to 3 cm) playa sediments of reddish-brown colour became visible (Fig. 2). In some parts of the excavation trench artefacts such as lithics and bones were still visible in the playa sediments (Fig. 3). In these squares two sub-surface strata, each about 5 cm thick, were excavated to recover the archaeological material. In three squares (501/807, 501/808 and partly also 501/809) concentrations of bones and lithic material were present. On top of the second level (sub-surface 1) a small knapping area was documented (squares 501/809c and 501/808a; Fig. 4). One part of the trench (squares 500/806b and 501/806a)

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<sup>2</sup> The trench was excavated by the late Amged Bashir, accompanying inspector of the National Corporation for Antiquities and Museums (NCAM), Jan Kuper and Friederike Jesse (both University of Cologne, Institute for Prehistoric Archaeology, African Archaeology).

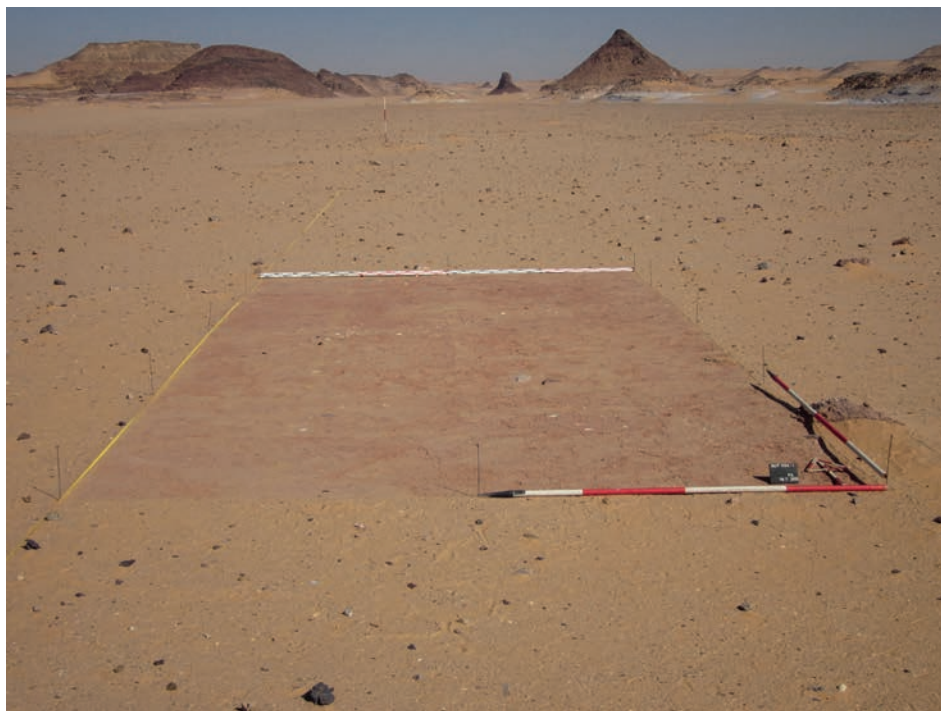


Fig. 2. Overview of site SOP 1024 with the area of excavation (photo: F. Jesse)

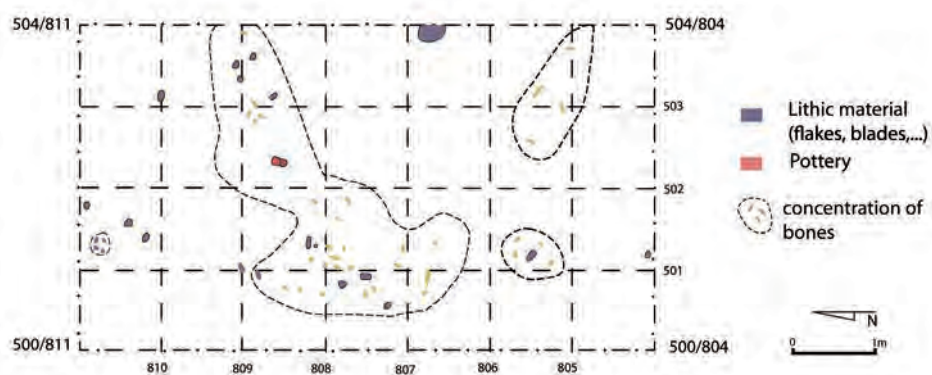


Fig. 3. The excavation area after the removal of the first layer of windblown sand (graphic implementation: Nader El-Hassanin)

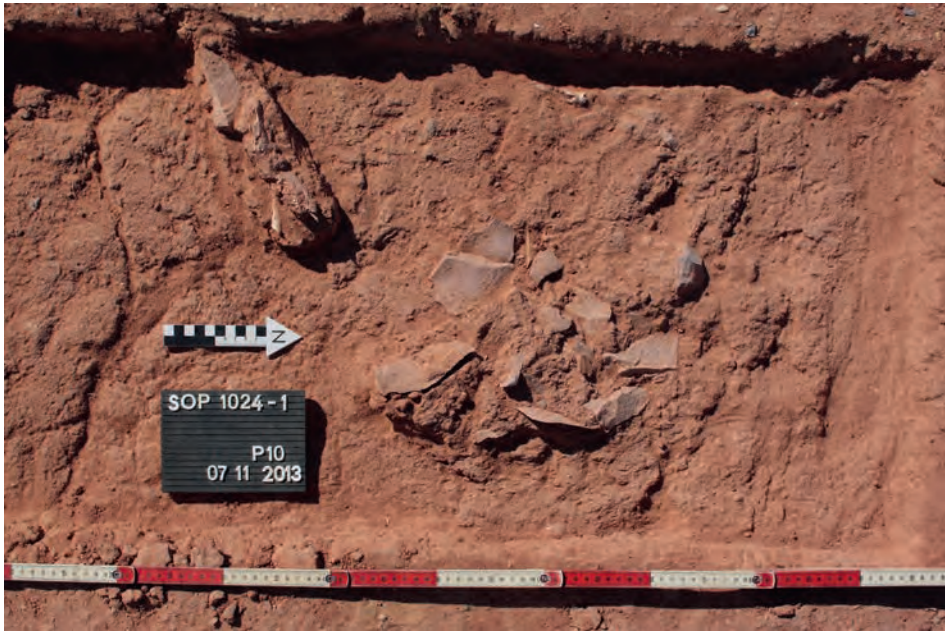


Fig. 4. The concentration of stone artefacts - the knapping area – in squares 501/809c and 510/808a (photo: J. Kuper)

was finally dug to a depth of about 50 cm to record the geological profile. Only playa sediments of slightly different colours are present. Four different layers could be documented; sediment samples taken indicate an expanse of water in ancient times. The trench was finally refilled with the excavated sediment.

### **2.1. Archaeological material**

The archaeological material of SOP 1024 consists of stone artefacts, some pottery sherds and faunal remains. In its following description special emphasis is given to the lithic artefacts as they represent the largest category of finds on the site.

More than 5000 bone fragments with a total weight of about 2 kg were found during excavation. Only wild animals are present, especially gazelles and antelopes (*Gazella dorcas*, *Nanger dama*, *Addax nasomaculatus*, *Alecelaphus buse-laphus*, *Oryx dammah* could be identified), seldom hare (*Lepus capensis*), few eggshell fragments (ostrich and other birds), the mandible of an unidentified hedgehog and the land snail *Zootecus insularis*. Gazelles and antelopes certainly

have been hunted. Some of the bones show traces of burning. With the exception of the hartebeest, *Alcelaphus buselaphus*, which was probably vagrant from the Nile valley in years with very good rainfalls, the faunal remains indicate a (semi-) arid landscape that means contracted desert vegetation or semi-desert.

Pottery is scarce on the site. In 2011, the presence of some sherds was recorded on the surface. In 2013, 6 wall sherds were collected on the surface and two rim sherds were found in the excavation (Table 1). The pottery is handmade and heavily tempered with mineral material, mostly quartz and mica. The colour of the surface is brown to reddish-brown. Decoration is made by impression using the rocker technique. The decorative motifs are either horizontal rows of impressed dots or closely serrated dotted zigzags (Fig. 5). Among the sherds observed during the survey in 2011 were also some with a dotted wavy line pattern (Fig. 5B).

### ***Lithic artefacts***<sup>3</sup>

The lithic artefacts represent the most frequent artefact class on the site: altogether 2776 pieces of stone artefacts with a total weight of about 15 kg have been collected. Most of them were found in the excavation trench SOP 1024-1 (2752 pieces with a total weight of 14.5 kg), 24 stone artefacts were collected on the surface, 15 without any precise location and 9 pieces in places where GPS coordinates were taken. Grinding tools are present: 22 pieces made mostly of sandstone (seldom quartzite) were found in the excavation, among them one complete lower grinder. Concentrations of stone artefacts have been observed during excavation (see Fig. 3).

The flaked lithic material of site SOP 1024 (n = 2754) was sorted by the major artefact groups that constitute a site's lithic assemblage: debitage, debris, cores and tools.

For more than two thirds (about 68 %) of the stone artefacts quartzite with its different varieties (0201 – 0204) was used as raw material (Fig. 6). Most numerous is the light variety (0201: white to yellow quartzite), followed by the dark variety (0202: dark grey to black quartzite). Quartz (04) and chalcedony (07) are second and third respectively in the percentage composition, which clearly shows that all these raw materials (quartzite, quartz and chalcedony) can be regarded as local or sub-local in origin. All other raw materials are marginal in numbers; they comprise fossil wood, clay shale and sandstone which likely originate in the

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<sup>3</sup> This paragraph is based on the Master thesis „SOP 1024 Site in Selima Oasis. Techno-Typological Study of Lithic Materials” presented by Nader El-Hassanin at Cairo University in 2016.

Table 1. The pottery of site SOP 1024

VU	location	RS	WS	outer surface	inner surface	wall thickness	weight	tempering agents	decoration	form
1	Surface collection (F21)	-	1	well smoothed; reddish-brown	not preserved	> 8mm	5.1 g	quartz, mica; ferruginous material grain size: < 0.5 to > 2 mm	-	-
2	Surface collection (F17)	-	2	smoothed; brown (to greyish-brown)	smoothed; brown	(6-)7 mm	9.3 g	quartz, mica grain size: ≤ 0.5 mm	impression, probably rocker technique; horizontal rows of dots	-
3	Surface collection (499,6/821,6)	-	3	smoothed; reddish-brown	well smoothed; reddish-brown	6 mm	26.9 g	quartz, mica grain size: < 0.5 to 1 mm	impression, rocker technique, comb; closely serrated dotted zigzag	-
4	Excavation (Square 502/808c-7)	2	-	well smoothed; reddish-brown, partly grey	well smoothed; reddish-brown	8 mm (7-9 mm)	116.9 g	quartz, mica grain size: < 0.5 to 1 mm	Rim lip: undecorated Rim and wall zone: impression, rocker technique, comb with at least 7 teeth; closely serrated dotted zigzag	Closed vessel; rim diameter: 32 cm; rounded rim lip

VU – vessel unit

RS – rim sherd

WS – wall sherd





Fig. 5. Examples of pottery found at site SOP 1024: A – The two rim sherds found in the excavation trench SOP 1024-1; B – Pottery sherds observed during the survey in 2011, among them sherds with dotted wavy line pattern (photos: F. Jesse)

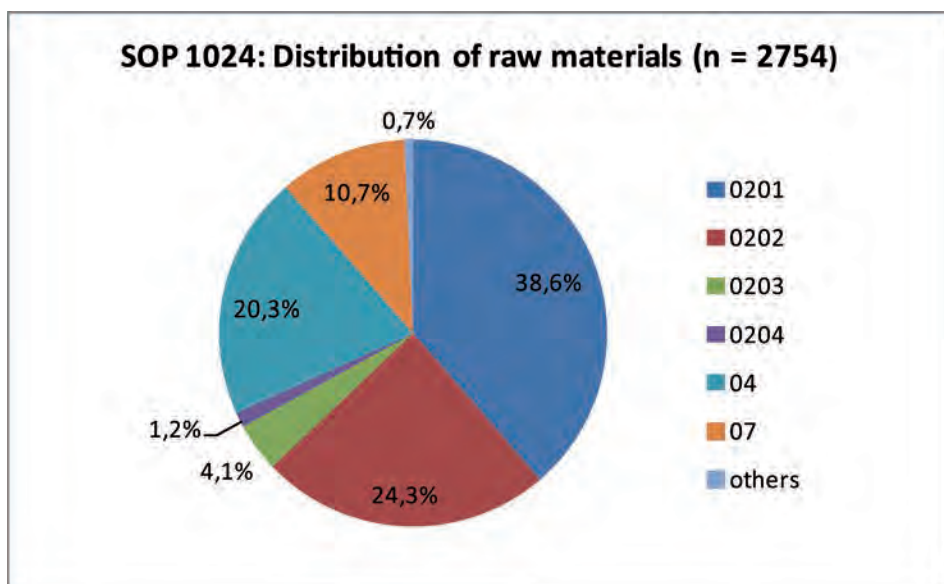


Fig. 6. Chart showing the distribution of the main raw material types in the flaked lithics of site SOP 1024.

Raw material codes: 0201 to 0204 – different varieties of quartzite; 04 – quartz; 07 – chalcedony; others – Egyptian Flint, silicified wood, clay shale and sandstone

local formations, but also Egyptian flint whose nearest sources are about 300 km to north-northeast in the Egyptian limestone plateau (see Kindermann 2010: 20, Fig. 2).

Beside raw material classification the lithic analysis concentrated on the study of debitage (blanks), cores and tools. For the analysis of the debitage only complete blanks larger than 15 mm, made of quartzite (0201 and 0202) and chalcidony (07) – altogether 759 blanks – were taken into consideration. A metrical analysis of the 759 blanks clearly shows, that the blank production on site SOP

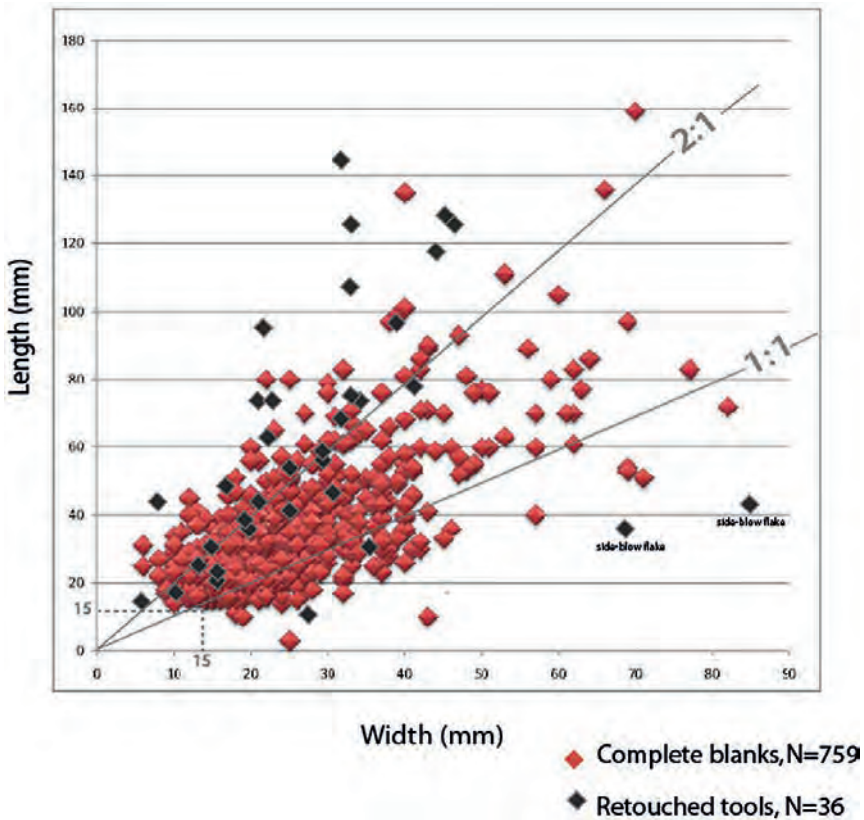


Fig. 7. Scattergram of length/width ration of complete blanks compared to retouched tools

1024 is flake based. Around 85 % of the stone artefacts are flakes, while 15 % are blades (Fig. 7). A qualitative inspection of the blanks' type indicates that they tend to show a rather irregular shape. This mainly represents direct hard-hammer technique which is also supported by a QS-index of 2.5 for the blades and 2.8 for the flakes (for the QS-index see Schön 1996: 64-71).

A total of 18 cores were identified from the different levels of the excavation at the site: 13 cores were collected from the surface of trench SOP 1024-1, while 5 pieces came from the sub-surface levels. Cores were analyzed following the classification of Angela Close (1977). Most of them were made of quartzite ( $n = 10$ ) and chalcedony ( $n = 7$ ). This is fully in line with the dominating raw materials in the blank production, indicating that these materials were flaked on site. Most numerous are single-platform cores ( $n = 7$ ), ninety-degree cores ( $n = 4$ ) and patterned multiple-platform cores ( $n = 3$ ); all other core types (unpatterned multiple platform, opposed platform, bipolar core and discoidal core) were represented only with a single piece for each type (Fig. 8).

Modified pieces are rare on site SOP 1024. A total of 36 retouched tools were excavated (18 pieces) and collected (18 pieces) from areas of the surface scatter SOP 1024 outside of the excavated part. The analysis of tools by raw material shows that the prevailing materials used for blanks and cores – quartzite and chalcedony – were also most frequently used for tools (Table 2). This also indicates that most tools were produced on site and perhaps in the nearer surrounding of the site where quartzite and chalcedony occur. Nevertheless, there are a number of outliers represented by exotic materials that are absent among cores and blanks. This is best represented by four tools made of Egyptian flint, for which no indication is given that they were flaked on site. Considering blank types, tools are preferably made on blades, especially larger tools, while flake tools do not exceed 60 mm in length (see Fig. 7). The exception are two side-blow flakes made of Egyptian flint which are considerably larger.

The tool spectrum recognized at site SOP 1024 is rather limited. Tools were classified according to Jacques Tixier's description of flaked stone tools (Tixier 1963, 1974) (see Table 2). Most numerous are pieces with continuous edge retouch (Fig. 9.1-2) followed by notched pieces (Fig. 9.3), perforators and burins (Fig. 9.4-5). Geometric microliths (Fig. 9.7-8) and truncations are rare. Remarkable are side-blow flakes (Fig. 9.6), a tanged bifacial point and a bifacial foliate (Fig. 10).

With the examination of the flaked lithics and their technical aspects, it was possible to develop a model for the *chaîne opératoire* (production sequence) on the site where two different strategies could be determined (Fig. 11):

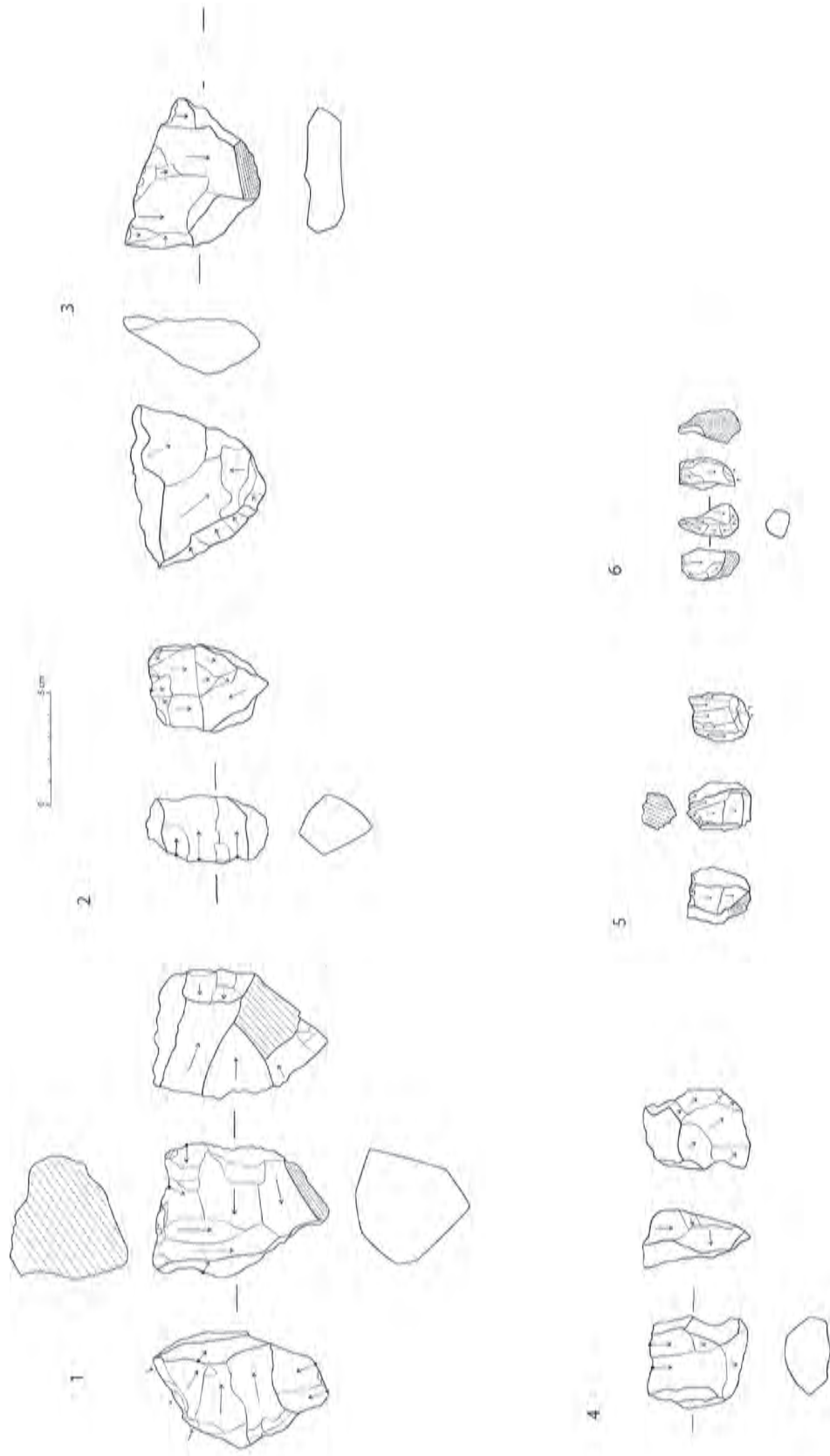


Fig. 8. SOP 1024. Examples of the different core types: 1, 3 – multiple platform core; 2 – ninety degree core; 4-5 – single platform core; 6 – bipolar core. Raw material: 1-4 – quartzite; 5-6 – chalcidony. Scale 2 :3 (drawings: Nader El-Hassanin)

(1) The first strategy is represented by just a few exotic materials (Egyptian flints) on the site which do not originate from the Nubian sandstone formation. The types of flint tools, namely bifacials and side-blow flakes, are likewise an exotic element in the local tool tradition with the absence of flint cores and blanks. This indicates that the tools were produced elsewhere and brought to the site as finished products.

(2) The second strategy is represented by local or sub-local raw materials which are restricted to the Nubian sandstone formation of Selima oasis and its vicinities. It is visible in cores, blanks and tools showing that they have been knapped on the spot. Among these local materials further sub-strategies can be identified. These are connected to individual raw material types (quartzite, chalcedony and quartz; see Fig. 11, Strategies 2A to 2D]. The analysis of tools by raw material shows that the prevailing materials in blanks and cores are also most frequent in tools. Quartzite and chalcedony are therefore most frequent and represented in all flaked classes; most tools were produced on site and perhaps in the nearer surrounding of the site where quartzite and chalcedony occur.

Regarding tool production there are a number of detailed observations to be reported. Firstly, tools are preferably made on blades, except some distinct flake tools, such as the side-blow flakes (see Fig. 7). Secondly, all microlithic tools, like segment and triangles are made of chalcedony; and there is also a preference of chalcedony for notched pieces (see Table 2). Nevertheless, artefacts made of chalcedony do not include any microburin or other waste products of secondary modification. This means, that the microlithic tools, such as the triangle, were produced directly from convenient flakes, chunks, or split elements, instead of blades using the microburin technique. This refers to the fact that chalcedony occurs only in small pebbles or other irregular shapes which apparently do not allow for a regular blade or bladelet production.

The yellow quartzite (0201) (see Fig. 11, sub-strategy 2A) has almost exclusively been used for blade tools, in particular edge retouched (Tixier type 105), often pointed tools on regular large blades. However, no such core and rather few blades were found in the excavation trench SOP 1024-1 matching the length of these edge-retouched blades. Therefore it can be suggested that they have been produced elsewhere on the site.

Another issue is black quartzite (0202) (Fig. 11, sub-strategy 2B) which shows no preference in tool production. Moreover, there are only two retouched pieces from this material, though there is a clear emphasis on blades in the blank production of this material.

Table 2. SOP 1024. Frequencies of tool types according to Tixier's type list. Blank type and raw materials are indicated: 01 – Egyptian flint; 0201 – light quartzite; 0202 – dark quartzite; 07 – chalcedony; 16 – sandstone

Tixier type		Blank type		Raw material					SUM
		Flake	Blade	01	0201	0202	07	16	
Perforators	12	1		-	-	-	-	1	1
	13	-	1	-	-	-	1	-	1
	16	-	3	-	1	1	1	-	3
Burins	17	2	-	-	1	-	-	1	2
Backed pieces	42	-	1	-	-	-	1	-	1
	64	-	1	-	-	-	1	-	1
Notches	74	1	-	-	-	-	-	1	1
	76	-	2	-	-	-	2	-	2
	77	-	5	-	2	1	2	-	5
Truncations	80	1	-	-	-	-	1	-	1
Geometric Microlithic	82		2	-	-	-	2	-	2
	89	1	-	-	-	-	1	-	1
Continuous edge retouch	105	-	11	-	11	-	-	-	11
	Side-blow flake	2	-	2	-	-	-	-	2
	Tanged bifacial point	-	(1)*	1	-	-	-	-	1
	Bifacial foliate	-	(1)*	1	-	-	-	-	1
		8	28	4	15	2	12	3	36

\* The bifacial pieces may have been made on blade according to their production. However, there is no clear indication of the blank type due to the bifacial modification of the entire surface.

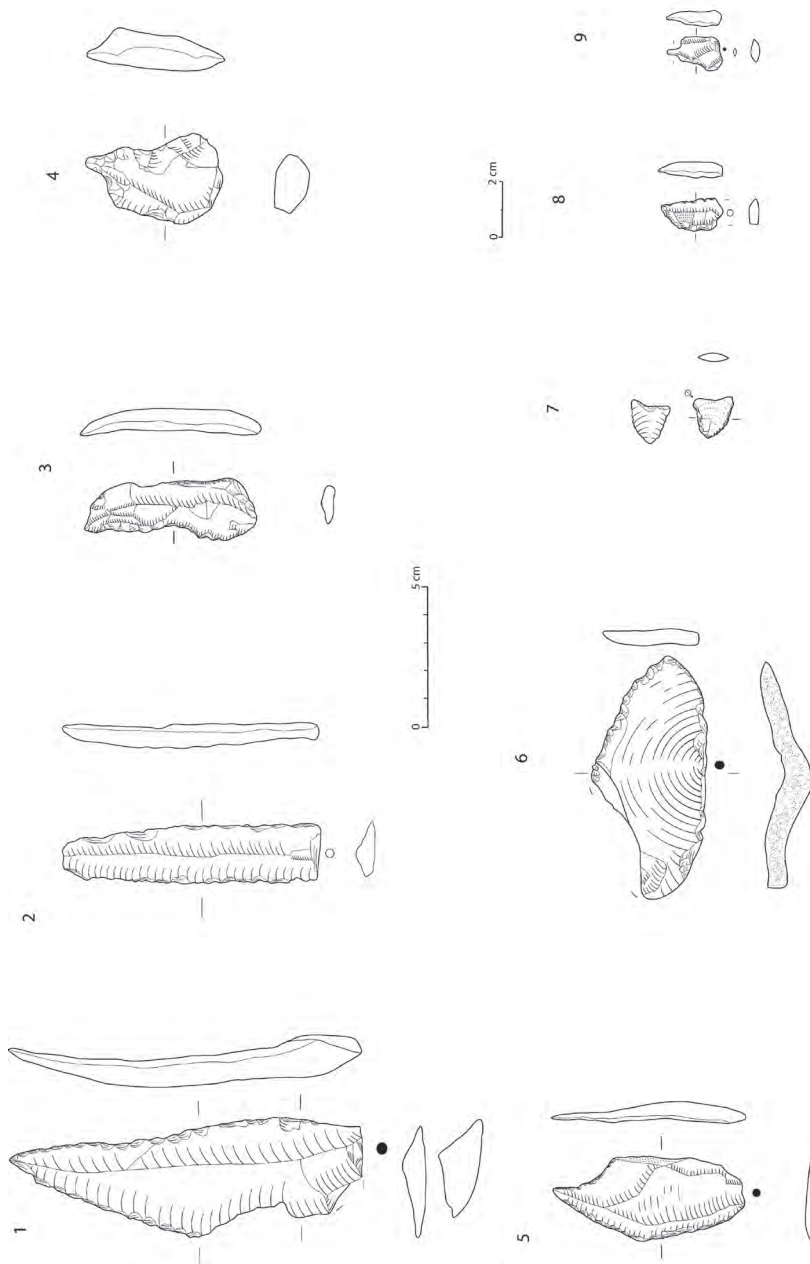


Fig. 9. SOP 1024: Examples of tools: 1-2 – edge retouched blades (Tixier 105); 3 – notched blade (Tixier 76); 4-5 – single piercer (Tixier 12); 6 – side-blow flake; 7 – equilateral triangle (Tixier 89); 8 – semi-circular segment (Tixier 82); 9 – shouldered bladelet (Tixier 64). Raw material: 1-2 – quartzite; 3-5, 7-9 – chalcedony; 6 – Egyptian flint. Scale 2:3 (drawings: Nader El-Hassanin)



Fig. 10. The tanged arrow head (A) and the bifacial foliate (B) found at site SOP 1024 (photos: F. Jesse)

There should be a word left on the quartz flaking (see Fig. 11, sub-strategy 2D), because this is the second largest group in raw material and artefact frequency (see Fig. 6). Yet, there is only one distinct core and no tool made of quartz. Qualitative observations may point to the dominance of small pebbles of quartz. The splitting and knapping of the latter by bipolar technique is indicated, which usually produces large amounts of shatter, but few regular or identifiable flakes. Likewise does the high number of quartz pieces refer to its omnipresence on and around the site.



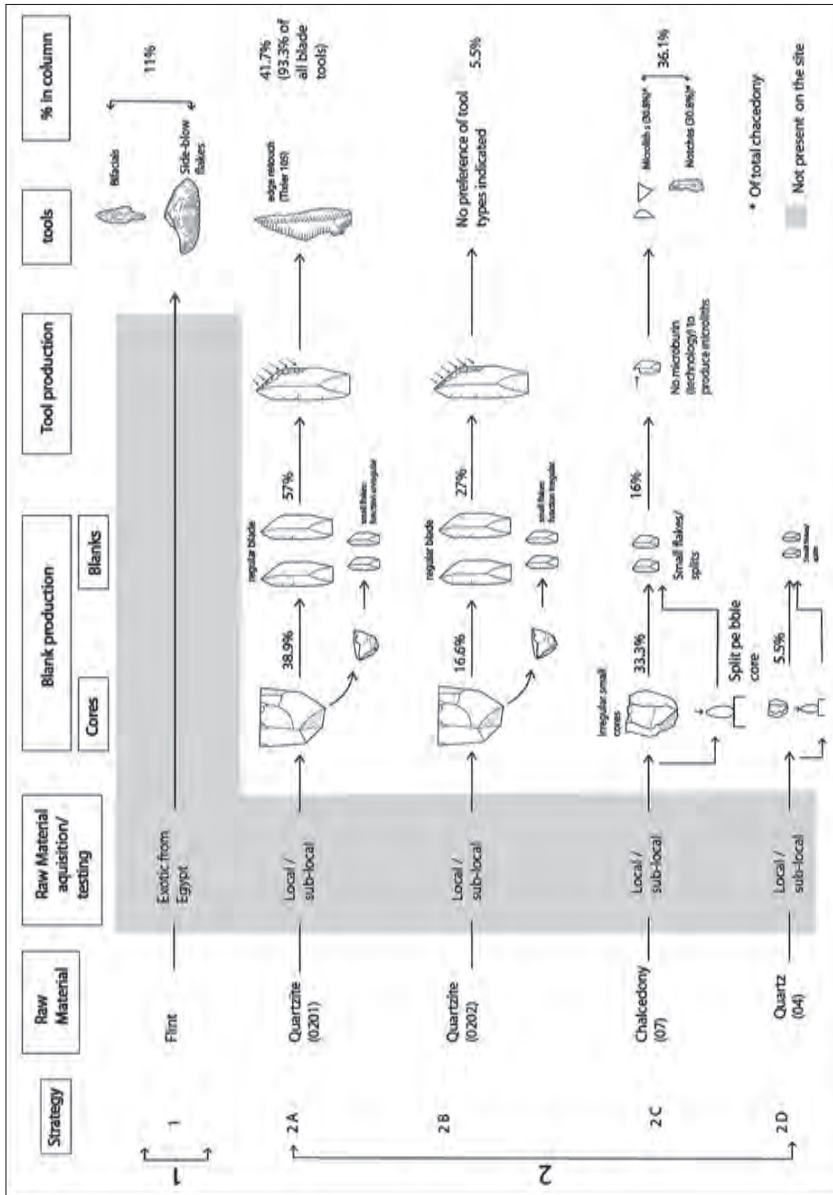


Fig. 11. Model of the “Chaîne opératoire” in the lithic production of site SOP 1024 showing the probable production strategy, with percentages of lithic types resulting from the quantitative analysis of blanks, cores and tools. Uncompleted blanks are not listed. (graphics: Nader El-Hassamin)

## 2.2. Chronology

Two radiocarbon dates were made out of bone samples for site SOP 1024:

Sample 1: Poz-63698:  $7125 \pm 35$  bp ( $6010 \pm 30$  calBC) [6070 – 5950 calBC, 95 %];

Sample 2: Poz-64363:  $7280 \pm 40$  bp ( $6150 \pm 50$  calBC) [6250–6050 calBC, 95 %].<sup>4</sup>

The dates indicate an occupation during the Middle Holocene: ca. 6200 to 6000 cal BC (Jesse *et al.* 2015: 168). This is confirmed by the archaeological material of site SOP 1024 which fits well to the Middle Holocene.

## 3. Comparison and conclusion

When looking for comparisons for the Mid-Holocene site SOP 1024 the archaeological material give good hints. The pottery shows affinities with the broad Early Khartoum Horizon. During the SOP survey in 2011, similar ceramics (sherds with Dotted Wavy Line pattern and closely serrated dotted zigzag patterns) and lithic material were recorded on sites SOP 1009 and SOP 1022, both located close to SOP 1024. Comparable material can also be found in the Middle Holocene material from other regions such as the Abu Ballas Scarp-Land (Gehlen *et al.* 2002) and the Nabta – Kiseiba area (e.g. Wendorf and Schild 2001) in Egypt. In northern Sudan, Burg et Tuyur and Wadi Shaw in the Laqiya region are to name, especially for the pottery (see Schuck 1989, 1993; Kuper 1995).<sup>5</sup> The pottery also finds parallels in the Khartoum Variant of the Nile Valley (e.g. site 1045; see Wendorf 1968: 723).

Especially the lithic industry of the El Jerar phase (ca. 6600 – 6200 BC [7700 – 7200 bp]; Wendorf and Schild 2001: 52–53, Tab. 3.1) shows striking parallels (personal communication Romuald Schild, Poznań 2015). El Jerar is documented at different sites in the region of Nabta – Kiseiba (e.g. E-75-6 and E-91-1; see Wendorf and Schild 2001), at the northern edge of El Gebal El Beid Playa, about 70 km north of Nabta and also “elsewhere in the Southwestern Desert the Jerar variant is perhaps the most common occupation.” (Wendorf and Schild 2001: 658). In the El Jerar lithic industry at site E-91-1, flakes and blades are the dominant

<sup>4</sup> Sample 1: SOP 1024-1, Square 501/808c-7; part of the horn core of *Gazella dorcas*, found in a loose concentration of bones and lithic material in the playa sediment in about 5 cm depth. Sample 2: SOP 1024-1, Square 500/806b-18; burnt bone of a large antelope (size of Oryx or Addax), found in the playa sediments in a depth of about 5 to 10 cm. Both dates were calibrated using CalPal 2007 (Weninger *et al.* 2007).

<sup>5</sup> The archaeological material of the early occupation phase in the Laqiya Region still awaits detailed publication.

types of debitage, “quartz was used for presumed expedient tools, while flint or other fine-grained stones are used for retouched tools” and among the retouched tools in order of numerical importance continuously retouched pieces, perforators, notches, denticulates and backed bladelets are present (Wendorf and Schild 2001: 325-328). Very similar lithic material was found at site Jebel Kamil 80/63, where quartzite was mainly used as raw material. A stone place there (80/63-2) was radiocarbon dated to about 6000 BC (KN-3175: 7140±160 bp).<sup>6</sup>

Of special interest for comparison are the side-blow flakes and bifacially retouched tools found at site SOP 1024. Side-blow flakes are known in Mid-Holocene assemblages of different regions in Egypt and Libya, such as the Nile Valley, the oases but also the coastal Mediterranean region. Parallels can be found for example in Djara B assemblages dating to the 6<sup>th</sup> millennium BC (Kindermann 2010: 75-77), in Eastpans, the Nabta – Kiseiba region or in the Nubian Nile Valley (e.g. at Dibeira West 50; see Wendorf 1968: 754, Fig. 55.4). The bifacially retouched foliate point also finds parallels in Mid-Holocene assemblages such as Djara 90/1 (see Kindermann 2010: 238, Fig. 99). The bifacial complex is present since the late 7<sup>th</sup> millennium BC and then characteristic for the 6<sup>th</sup> and early 5<sup>th</sup> millennium in the northern part of Egypt, in the area of the Abu Muhariq Plateau and the oases (Kindermann 2010: 109-110).

Basing on results of analysis of lithic artefacts, two occupation phases can be identified at site SOP 1024: the first one represented by the material from the excavated area and dated to the end of the 7<sup>th</sup> millennium BC and the second one, represented by single finds found at the surface of the site, such as the side-blow flakes and the bifacial retouched tools, dated at the 6<sup>th</sup> millennium BC. The small knapping area and the bones of wild game excavated in trench SOP 1024-1 might indicate meat processing and preparation.

To conclude: Site SOP 1024 with its archaeological material of the Middle Holocene gives first insights in the hitherto more or less unknown prehistory of the Selima area and indicates wide contacts to other parts of the Libyan Desert which open broad perspectives for further research.

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<sup>6</sup> African Archaeology Archive Cologne (AAArC): [arachne.uni-koeln.de/item/topographie/8008630](http://arachne.uni-koeln.de/item/topographie/8008630)

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## REFERENCES

- CLOSE, A. 1977. *The Identification of Style in Lithic Artefacts from North East Africa*. (= Mémoires de l'Institut d'Égypte 61). Cairo.
- GEHLEN, B., KINDERMANN, K., LINDSTÄDTER, J. and H. RIEMER. 2002. The Holocene Occupation of the Eastern Sahara: Regional Chronologies and Supra-regional Developments in four Areas of the Absolute Desert. In: Jennerstrasse 8 (ed.), *Tides of the Desert – Gezeiten der Wüste. Contributions to the Archaeology and Environmental History of Africa in Honour of Rudolph Kuper* (= Africa Praehistorica 14): 85-116. Köln.
- HAYNES, C. V. 1985. Quaternary Studies, Western Desert, Egypt and Sudan – 1979-1983 Field Seasons. *National Geographic Society Research Reports* 16: 269-341.
- HAYNES, C. V., EYLES, C. H., PAYLISH, L. A., RITCHIE, J. C. and M. RYBAK. 1989. Holocene Palaeoecology of the Eastern Sahara; Selima Oasis. *Quaternary Science Reviews* 8: 109-136.
- HINKEL, F. W. 1979. *Archaeological Map of Sudan II, The Area of the South Libyan desert*. Berlin.
- JESSE, F., GRADEL, C. and F. DERRIEN. 2015. Archaeology at Selima Oasis, Northern Sudan – recent research. *Sudan and Nubia* 19: 161-169.
- KINDERMANN, K. 2010. *Djara. Zur mittelholozänen Besiedlungsgeschichte zwischen Niltal und Oasen (Abu-Muharik-Plateau, Ägypten)* (= Africa Praehistorica 23). Köln.

- KUPER, R. 1995. Prehistoric Research in the Southern Libyan Desert. A brief account and some conclusions of the B.O.S. project. In: Actes de la VIIIe Conférence Internationale des Études Nubiennes (Lille 11.-17.9.1994). *CRIPPEL* 17, Lille 1995: 123-140.
- LEACH, T. A. 1926. Selima Oasis. *Sudan Notes and Records* 9: 37-49.
- NEWBOLD, D. 1928. Rock Pictures and Archaeology in the Libyan Desert. *Antiquity* 2: 261-291.
- NEWBOLD, D. and W. B. K. SHAW. 1928. An Exploration in the South Libyan Desert. *Sudan Notes and Records* 11: 103-194.
- PACHUR, H.-J. and N. ALTMANN. 2006. *Die Ostsahara im Spätquartär. Ökosystemwandel im größten hyperariden Raum der Erde*. Berlin-Heidelberg.
- PICHLER, W. and G. NEGRO. 2005. The Libyco-Berber inscriptions in the Selima Oasis. *Sahara* 16: 173-178.
- RIEMER, H. and F. FÖRSTER. 2013. Ancient desert roads: Towards establishing a new field of archaeological research. In: F. Förster and H. Riemer (eds.), *Desert Road Archaeology in Ancient Egypt and Beyond* (= *Africa Praehistorica* 27): 19-58. Köln.
- SHAW, W. B. K. 1935. Dead Libya. *The Times*, Aug. 07, 1935: 11.
- SHAW, W. B. K. 1936a. An expedition in the Southern Libyan Desert. *The Geographical Journal* 87: 193-221.
- SHAW, W. B. K. 1936b. Two Burials from the South Libyan Desert. *The Journal of Egyptian Archaeology* 22: 47-50.
- SCHÖN, W. 1996. *Ausgrabungen im Wadi el Akhdar, Gifl Kebir* (= *Africa Praehistorica* 8). Köln.
- SCHUCK, W. 1989. From lake to well: 5,000 years of settlement in Wadi Shaw (Northern Sudan). In: L. Krzyżaniak and M. Kobusiewicz (eds.), *Late Prehistory of the Nile Basin and the Sahara* (= *Studies in African Archaeology* 2): 421-429. Poznań.
- SCHUCK, W. 1993. An archaeological survey of the Selima Sandsheet, Sudan. In: L. Krzyżaniak, M. Kobusiewicz and J. Alexander (eds.), *Environmental change and human culture in the Nile Basin and Northern Africa until the Second Millennium B.C.* (= *Studies in African Archaeology* 4): 237-248. Poznań.
- TIXIER, J. 1963. *Typologie de l'Épipaléolithique du Maghreb*. Paris.
- TIXIER, J. 1974. Glossary for the Description of Stone Tools with special reference to the Epipalaeolithic of the Maghreb. *Newsletter of lithic technology*, special publication 1: 1-36.

- WENDORF, F. (ed.). 1968. *The Prehistory of Nubia*. Vol. II. Dallas.
- WENDORF, F. and R. SCHILD (eds.) 2001. *Holocene Settlement of the Egyptian Sahara. Vol. I. The archaeology of Nabta Playa*. New York et al.
- WENINGER, B., JÖRIS, O. and U. DANZEGLOCKE. 2007. *CalPal-2007. Cologne Radiocarbon Calibration & Palaeoclimate Research Package*. <http://www.calpal.de/>