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Volume dedicated to Prof. Michał Kobusiewicz
on his 80th birthday

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Editorial

The current, 58th volume of *Archaeologia Polona* with the special theme – *The Prehistory of North-East Africa* is devoted to Professor Michał Kobusiewicz on the occasion of the 80th anniversary of his birth. Being aware of Michał's many significant research achievements, we would like through this collection of contributions to especially honour the African chapter of his scientific life. Although he has been engaged in activities in several African countries, over most of this period, his main areas of research were Egypt and Sudan. The Polish contribution to research on the prehistory of NE Africa has a long tradition. This goes back at least to the launch and initial projects of the Combined Prehistoric Expedition (CPE) in Egyptian and Sudanese Nubia in the early 1960s (Wendorf 1965). Michał Kobusiewicz was part of the first wave of Polish prehistorians contributing to the work of the CPE, joining the expedition in 1967. Since then, he has taken part in several dozen African missions resulting in abundant publications greatly increasing knowledge about the past of NE Africa. We may for example mention the articles in *Science* (Wendorf *et al.*, 1976; 1984) or the monograph *The Production, Use and Importance of Flint Tools in the Archaic Period and the Old Kingdom of Egypt* (Kobusiewicz 2015). A detailed account of the African activities and publications of Michał Kobusiewicz are given in the initial chapters of this volume, the first by Romuald Schild – *The African Chapter in the Scientific Life of Professor Michał Kobusiewicz* and the second, compiled by Przemysław Bobrowski – *African Research of Michał Kobusiewicz: Calendar and Bibliography*. Judging by this presentation of the geographical and chronological scope of interests and scientific results, it would perhaps not be an exaggeration to suggest that Michał Kobusiewicz, may justifiably be considered as one of the few individuals that could be considered as a colossus of African archaeology. Fred Wendorf, in his *Desert Days*, describing a field school for Egyptian inspectors writes that Michał was: "regarded as a great teacher and knew more about lithic typology than anyone in the camp, except possibly Schild" (Wendorf 2008: 272).

The papers in this volume honouring Michał Kobusiewicz have been written by his friends, colleagues, acquaintances and also by former students and present collaborators. All consider the archaeology of NE Africa with the same broad chronological and thematic scope as the interests of Professor Kobusiewicz.

The first four papers consider the oldest episodes of hominin presence in NE Africa. Mirosław Masojć and colleagues in their paper *Acheulean Bifaces from Khor Shambat, Omdurman (Sudan), Comparative Studies in the Nubian Context* discuss a recently discovered Palaeolithic assemblage from Omdurman and its statistical comparison with

several other Acheulean sites. The second paper, *The Middle Palaeolithic Assemblage with Bahari Technique from Site 21b in Deir el-Bahari (Western Thebes), Upper Egypt* by Barbara Drobniewicz and Bolesław Ginter presents interesting knapping technique observed in the Egyptian Palaeolithic assemblage from Deir el-Bahari. Marta Osypińska and colleagues focus on the *The PalaeoAffad Project and the Prehistory of the Middle Nile*. The last article in this group, by Donatella Usai, *The Qadan, the Jebel Sahaba Cemetery and the Lithic Collection*, reassesses the chronology and affiliation of the world-famous Sudanese cemetery with the oldest evidence of warfare.

The second group of contributions consider Mesolithic and Neolithic societies both from Egypt and Sudan in the form of a site reports, geophysical surveys and a synthetic papers. Lenka Varadzinová and Ladislav Varadzin report on *The First Notes on the Second Khartoum Mesolithic Cemetery at Jebel Sabaloka (Sudan)*. Another Mesolithic and Neolithic cemetery from Omdurman, Sudan is presented by Maciej Jórdeczka and colleagues in the next paper, *Neolithic Inhabitants of Khor Shambat 1, Sudan*. The third paper in this group, *Comparison of Different Gouge Collections from Central Sudan* by Katarína Kapustka and Małgorzata Winiarska-Kabacińska, involves technological and functional analysis of Neolithic gouges from Sudanese collections. An important Neolithic sites in the Egyptian Desert is discussed by Jacek Kabaciński and a group of co-authors and by Przemysław Bobrowski and colleagues in the next two papers, *Towards Understanding the Late Neolithic of the Egyptian Western Desert: Gebel Ramlah, Site E-16-02* and *The Early Holocene Archaeological Evidence (Site E-05-1) in Bargat El-Shab (Western Desert Egypt)*. It must be said that geophysical surveys have been very rarely undertaken on prehistoric NE African sites, but one is reported by Fabian Welc and Przemysław Bobrowski from the area of Bargat El-Shab in the paper titled: *Results of Geophysical Survey in Bargat El-Shab in Southern Egypt. Insight into the Early Holocene Settlement Pattern of the El Nabta / Al Jerar Interphase*. The last paper in this group, *Recent Research on Neolithic and Predynastic Development in the Egyptian Nile Valley* by Agnieszka Mączyńska, is an important review of the recent results of studies concerning the origins of the Neolithic in Northeastern Africa.

The next group, of two papers, considers the later prehistory of the area. The first of them, *A few Remarks about Cosmetic Palettes from Tell el-Farkha* by Krzysztof Ciałowicz discusses an aspect of this important site in the Nile delta. The second paper, *Flints from the Road: on the Significance of two Enigmatic Stone Tools Found along the Darb el-Tawil* written by Heiko Riemer and Karin Kindermann, discusses the phenomenon of the interpretation of surface lithic finds and the issue of knapped stone artefacts being produced and used in the period after the Stone Age in Africa.

Rock art, one of the beloved subjects of Michał Kobusiewicz's research, is the theme of the fourth and last group of papers in this volume. Friederike Jesse presents her observations from the Sudanese site Zolat el Hammad in the paper titled: *Rock Art and Archaeology – a Short Visit to Zolat el Hammad, Northern Sudan* and Paweł Lech

Polkowski discusses rock art from Egyptian Dakhleh Oasis: *Animal Hill – a Large Prehistoric Rock Art Site CO178 in the Central Dakhleh Oasis, Egypt*.

We believe that the above listed contributions, in many cases based on or discussing the results of Michał Kobusiewicz's research, represent the range of his scientific involvement with Africa, and thus form a tribute to his work. These fifteen papers have been reviewed and improved by a group of international reviewers to whom we owe our gratitude. In alphabetical order the following reviewers were so kind to contribute to improving this volume: Mirosław Furmanek (Wroclaw), Elena Garcea (Cassino), Maria Gatto (Leicester), Bolesław Ginter (Cracow), Tomasz Herbich (Warsaw), Karla Kroeper (Berlin), Alice Leplongeon (Leuven), Maria Kaczmarek (Poznan), Andrea Manzo (Naples), Arkadiusz Marciniak (Poznan), Henryk Paner (Gdansk), Tomasz Płonka (Wroclaw), Włodzimierz Rączkowski (Poznan), Andrzej Rozwadowski (Poznan), Jiří Svoboda (Brno), Philip Van Peer (Leuven), András Zboray (Budapest).

Finally, the editors would like to express our wish that this volume will reach a broad audience. It was a pleasure to edit and work on the volume to honour the Professor whom we not only respect as a scientist but also admire a lot as a person. On behalf of all the contributors to this volume, the authors and the reviewers, we would like to wish Michał many more successes and achievements in his ongoing work in Africa!

Przemysław Bobrowski
Mirosław Masojć

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Photo: M. Jórdeczka

Professor Michał Kobusiewicz at Meroe (Sudan, 2012)

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Towards Understanding the Late Neolithic of the Egyptian Western Desert: Gebel Ramlah, Site E-16-02

Jacek Kabaciński[a], Agnieszka Czekaj-Zastawny[b], Hebatallah A. A. Ibrahim[c] and Jakub Mugaj[d]

The research around the palaeo-lake of Gebel Ramlah has revealed the presence of numerous remains of Late Neolithic occupation. One such site – E-16-02 – was excavated in 2018 and delivered unique evidence pointing to the specific style of life of human groups here in the later Neolithic. In the light of the available evidence, it seems that the occupation was seasonal and the site was visited several times. Its main feature was an oven, carefully designed and regularly cleaned as it served for cooking food during subsequent visits to the place. The remaining features were occasionally constructed during each stay. The distribution of flint artefacts, chaotic, unpatterned, without visible places of flint processing and lacking clear links with features and remains of pottery vessels also indicate multiple visits to the site. This pattern is obviously different to that recognized during the Holocene climatic optimum when the extent of the settlements was substantially larger accompanied by a diversity of features indicating a stable, long-lasting occupation (Al Jerar Unit).

KEY-WORDS: Prehistoric Egypt, Western Desert, Late Neolithic, pottery, flint industry, settlement pattern

INTRODUCTION

The beginning of the Holocene brought to NE Africa, as elsewhere in the Northern Hemisphere (Alley *et al.*, 1993; Lowe *et al.*, 2008), a radical improvement of climatic conditions (Kuper and Kröpelin 2006). From the beginning of the Holocene,

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c. 9550 BC, the area of today's Sahara, being in the Upper Pleistocene a vast deserted territory, witnessed seasonal rains allowing the development of a savanna environment. That obviously attracted different fauna species and, in consequence, also humans.

A typical landscape feature of the Egyptian Southwestern Desert at that time, an area located in the eastern part of the Sahara, was the presence of temporary lakes – *playas* – that were fed by rain waters in a yearly cycle. Around those lakes during the early and middle Holocene numerous human groups settled, leaving differentiated traces of occupation dated from *c.* 9300 (Schild and Wendorf 2013) to the mid third millennium BC at the latest when the Sahara was a severe desert again (Applegate and Zedeño 2001).

Fig. 1. Location of Gebel Ramlah. Computer graphics: I. Jordan.

One such an area is located *c.* 150 km west of the Nile Valley near the pronounced mountain called Gebel Ramlah (Fig. 1). The lonely mountain, with its top elevated at *c.* 250 m a.s.l., rises *c.* 100 m above the surrounding desert. Beneath its southern slopes a lake extended during the large part of the Holocene that, according to results of our current investigations, filled partially the basin that carried waters already in the Middle Pleistocene (Fig. 2).

Research in Gebel Ramlah begun in 2000 when M. Kobusiewicz and K. Banks discovered the first cemeteries there (Kobusiewicz *et al.*, 2004; 2010) and has continued till today within new projects. In the years 2009–2015, the main research effort concentrated on burial practices while since 2016 a dominating goal was the recognition of settlement patterns in the context of numerous occupation traces recorded around the palaeo-lake (Czekaj-Zastawny and Kabaciński 2015; Czekaj-Zastawny *et al.*, 2018a; 2018b; Kabaciński *et al.*, 2018; 2019).

Based on current knowledge, the earliest traces of human presence in this region are perhaps related to the so-called El Adam Unit but the first evident occupation is linked with the Early Holocene El Ghorab Unit (Schild and Wendorf 2013). The first unquestionable sedentary populations appeared here during the climatic optimum of the Holocene – the Al Jerar Unit around 6500–6000 BC, followed by the pastoral Middle, Late and Final Neolithic groups. The end of human occupation is placed at

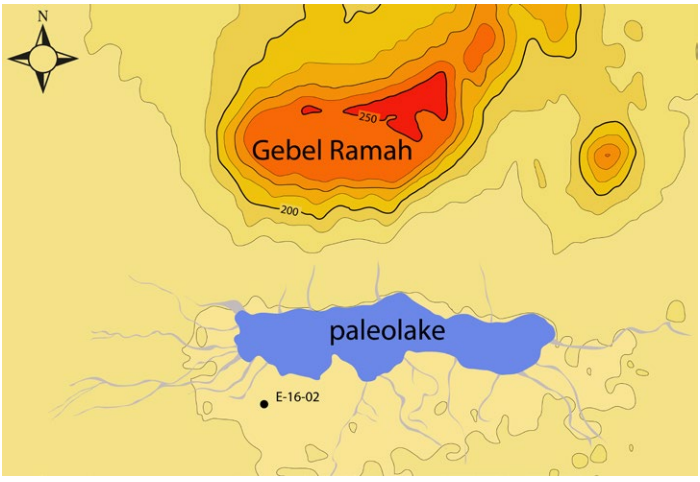

Fig. 2. Gebel Ramlah. Approximate extent of the Holocene lake and site E-16-02. Computer graphics: J. Kabaciński.

c. 4300 BC and is related with the last of the above-mentioned chronostratigraphic units. The diverse traces of hunter-gatherer and pastoral societies preserved along the shores of the palaeo-lake as well as the *wadis* feeding the lake basin with rain waters, including numerous remains of stable and shortly used settlements, traces of short-lived camps and other activities as well as burials. The characteristic feature of the Final Neolithic were the cemeteries dated to 4500–4300 BC (Kobusiewicz *et al.*, 2010; Czekaj-Zastawny *et al.*, 2018a; Kabaciński *et al.*, 2018; 2019).

The present paper discuss the evidence from the later part of the settlement sequence recorded at Gebel Ramlah, namely a small but distinct settlement of the Late Neolithic period. It produced unique evidence pointing to the specific style of life of human groups at that time. The first evidence of the Late Neolithic occupation was indicated by radiocarbon dates made on charcoal from hearths recorded on sites E-01-01 and E-01-02 CAMP (Bobrowski *et al.*, 2006; Schild and Wendorf 2010). This was supported later by several Late Neolithic burials (Kabaciński *et al.*, 2019). The site discussed here is the first extensively excavated settlement of that period.

SITE E-16-02

The site was discovered in 2016 during the field prospection of the southeastern shores of the paleolake. It is located on a small hillock on the western edge of a small wadi running north to the lake (Fig. 2 and 3). The site is approximately 50 m in diameter. On the surface, concentrations of archaeological material were recorded consisting of

Fig. 3. Gebel Ramlah. View of the E-16-02 site from the south. Photo: A. Czekaj-Zastawny.

Fig. 4. Gebel Ramlah, site E-16-02. Concentration of archaeological material on the surface. Photo: A. Czekaj-Zastawny.

traces of stone structures, pottery fragments, animal bones and lithics (Fig. 4). In 2018, a trench of 250 sq. m was excavated producing several features including six pits and a few small fireplaces marked by red-burnt silt. In total, 1373 pottery fragments, 2840 chert artefacts, 3452 animal bone fragments (cattle and sheep/goat), 124 fragments of stone tools (small fragments of hand grinders and grinding stones) and 250 fragments of ostrich egg shells were recorded. Only 158 artefacts were found in the pits. Detailed analysis of the find material was done for all the pits and material from an area of 100 sq. m (sq. no. 5) where the density of artefacts was the highest.

Features

Three types of features were recorded on the site: oven, charring pit and a short-used hearth.

Oven

One feature of this kind was recorded (feature no. 1; Fig. 5). On the surface it was visible as an oval concentration of stones measuring *c.* 90 × 45 cm, including 7 fragments of one grinding stone and 3 handstones (Fig. 6A). In the profile it appeared as a depression paved with flat stones laying close one to another. It looked like a stone open bowl (Fig. 6B). Between and below these stones numerous charcoal fragments were found as well as red-burnt silt. The feature was filled with consolidated sand lacking charcoal and artefacts. The only artefacts were found in the topmost layer on edges of the feature and seem to be post-consumption remains. These are mainly animal bones (*c.* 100 fragments). Therefore it is probable the feature was systematically cleaned out after each use.

Charring pit

Five such features were found, distributed at a distance of several metres around the oven, except on the western side, each measuring *c.* 100 cm along longer axis (Fig. 5). The most characteristic element of this category of feature is the presence of a regular rectangular or oval depression made of red-burned silt. The fills of the majority of these features consisted of consolidated sand with rare pieces of charcoal and single stones (Fig. 7). Most probably these features were used for charring wild plants (seeds?).

Short-used hearth

Five hearths of this type were present within the excavated area, usually circular, very small, up to 40 cm in diameter and shallow (to 5 cm). No stone construction is connected with them. They were preserved in the field in the form of spots of a red-burnt silt without charcoal and artefacts. All but one were situated on the western side of the oven (Fig. 5).

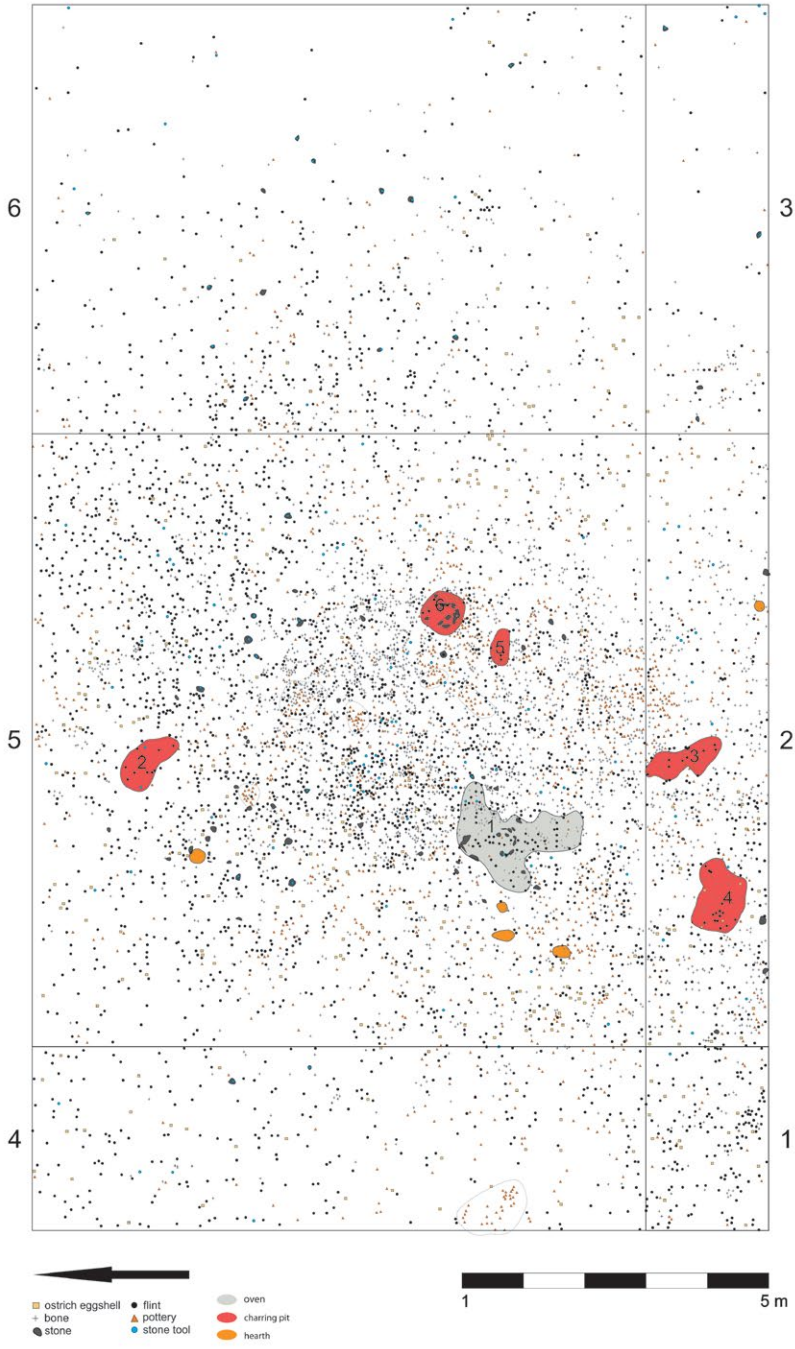

Fig. 5. Gebel Ramlah, site E-16-02. Distribution of features and archaeological artefacts. Drawn: J. Mugaj.

Pottery

Among the 860 pottery sherds analyzed, 13 rims and 847 morphologically non-characteristic fragments were distinguished. Only 23 pieces come from features: 11 fragments from feature no. 1 and 12 fragments from feature no. 2. The remaining sherds come from the area between features. Some fragments are well preserved and they allow a comprehensive description of the analysed assemblage. Several fragments from around the hearths are secondarily burnt.

Among the ceramic assemblage all the fragments were identified as *smoothed red* and *brown wares*, according to the typology of M. Gatto (Gatto 1998; 1999; 2010). This type of pottery is characteristic of the Late Neolithic in the Western Desert.

Only eight vessel shapes could be identified. Most of them (five examples) were spherical bowls (one from feature no. 1), two were small bowls and one sherd appeared to be a fragment of a wide-open bowl (Fig. 8). All the vessels are undecorated, with rounded rims. One of the fragments has a hole (*c.* 4 mm in diameter), made after firing. This probably indicates an attempt to repair the broken vessel.

The wall surfaces are usually brown in colour and smoothed, usually matte, sometimes burnished. The thickness varied between 4–9 mm, but mostly 4–6 mm. A few fragments with a thickness of 8–9 mm seem to belong to larger pots.

The fabric of the vessels was very well prepared, e.g., thoroughly mixed, with fine grained admixture. Pottery is mostly tempered with fine sand and sometimes with a very small amount of plant admixture. When it comes to sand, thin-sections of pottery can only explain whether it is a natural inclusion (from the use of sources of clay with natural sand) or an intentional admixture. According to M. Gatto (1998; 1999; 2010), the intentional organic admixture was used only from the Late Neolithic on (in earlier periods vegetable inclusions came from the use of clay from the lake shore with natural plant fractions).

Lithics

A total number of 2840 lithics were analysed. Almost all of them were registered on the surface and do not form any concentrations but were scattered rather evenly not revealing particular spatial structures. Only twelve non-diagnostic lithic artefacts were found within the features.

The raw material used for lithic production was mostly chert that dominates over the less frequent quartz, agate, petrified wood and sandstone.

The lithic technology was a simple unidirectional flaking technology based on the exploitation of single and multi-platform cores. The preparation and rejuvenation of the cores was very limited. Within the group of 20 cores found, the multi-platform type dominated over single and opposed platform ones. Only two cores can be identified as used for blade production. The clear flake character of the technology is also

indicated by the structure of debitage. A total number of 354 flakes were registered (mostly detached from single platform cores) while only 10 specimens are blades.

The assemblage from square 5 produced 184 retouched tools (Fig. 9). Almost half of the tools are retouched flakes. The second most numerous group are denticulate pieces. Two chisel-like bifacial tools and two knife-like blades also occurred. Another category of tools are specimens made mostly on blades such as diverse non-standardized perforators, borers and truncations. The assemblage contains single examples of microliths: two

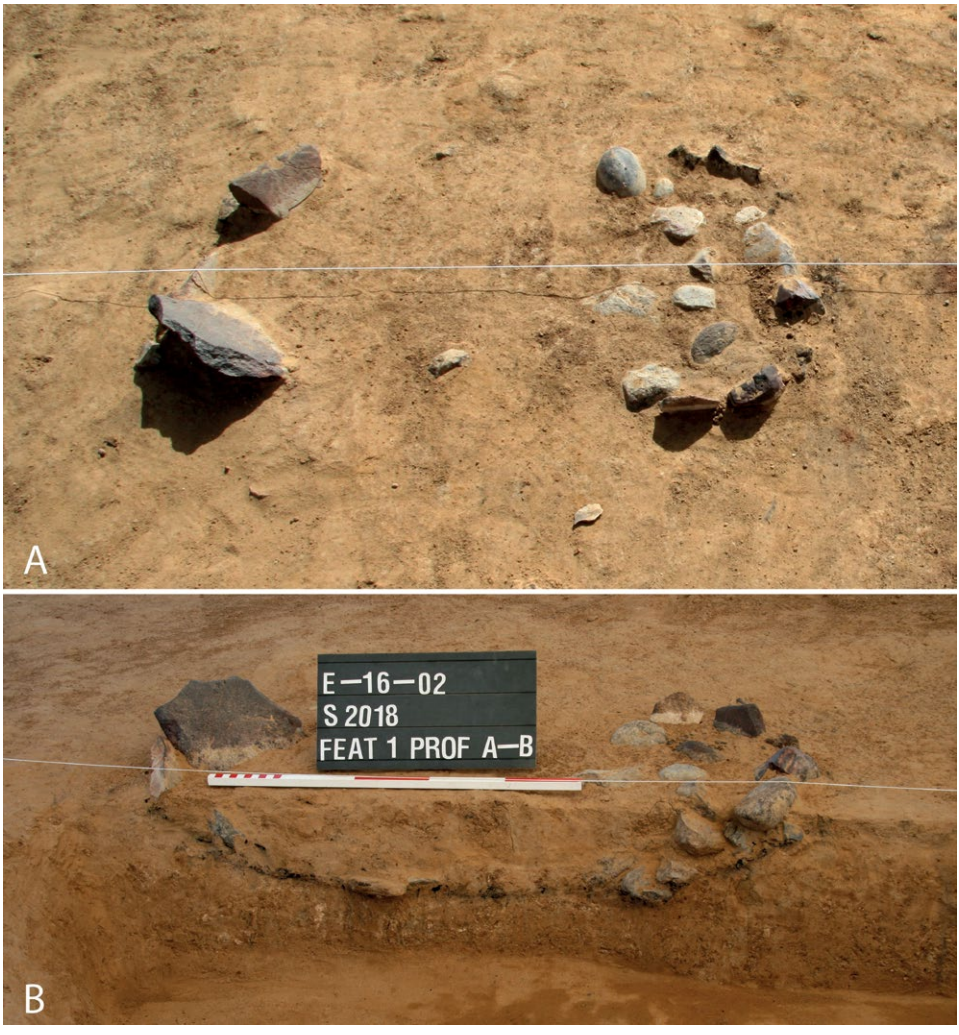

Fig. 6. Gebel Ramlah, site E-16-02. Feature 1. Photo: A. Czekaj-Zastawny.

arched backed pieces, a backed piece, a triangle and two lunates. A single microburin was recorded as well.

The analyzed lithics are typical of the Late Neolithic. This is indicated by the simplified technology based on unipolar reduction and often change of core orientation in the last stage of processing. The lithic technology was concentrated on the production of short, wide flakes that were processed into non-characteristic denticulate tools or retouched flakes. Single bifacial tools and lunates appear as well.

SITE CHRONOLOGY

The studied pottery assemblage indicates human presence on the site in the late stage of the Neolithic. The "smoothed red" and "brown" ceramic wares, without ornamentation, are characteristic for this period (Gatto 1998; 1999; 2010). That is in accordance with the nature of the lithic assemblage dominated by production of flakes with characteristic denticulated and bifacial tools and segments.

According to the basic chrono-stratigraphic units of the later Neolithic occupation of the Western Desert correlated with climatic fluctuations (Schild and Wendorf 2013), the Late Neolithic Humid Interphase is dated to *c.* 5500–4650 BC (6500–5800 uncalibrated BP), and the Final Neolithic Humid Interphase to *c.* 4600–3600 BC (5750–4800 uncalibrated BP).

The radiocarbon measurement made of cattle bone gave the result 5650±40 bp (POZ-90397) which (after calibration – 4484±43 BC)[1] places the settlement at the beginning of the Final Neolithic. However, as the analysis was made of a carbonate, the date should be considered a minimal one, therefore the settlement was most probably in use at the very end of the Late Neolithic. On the other hand, the latest radiocarbon AMS determinations made on materials from a secure context suggest a human presence within a dry period between the Late and Final Neolithic (Kabaciński *et al.*, 2019), which raises basic questions on the correlations between human settlement and the climatic phases distinguished for the Nabta-Kesiba region (Schild and Wendorf 2013).

DISCUSSION

In the course of the excavations, it appeared that concentrations of finds visible on the surface do not correspond to with distribution pattern recorded below the surface. This is the result of various activities undertaken on the site and directly related to the discovered features. Concentrations of pottery are in most cases numerous fragments

[1] Calibrated with CalPal2007_HULU; http://www.calpal-online.de

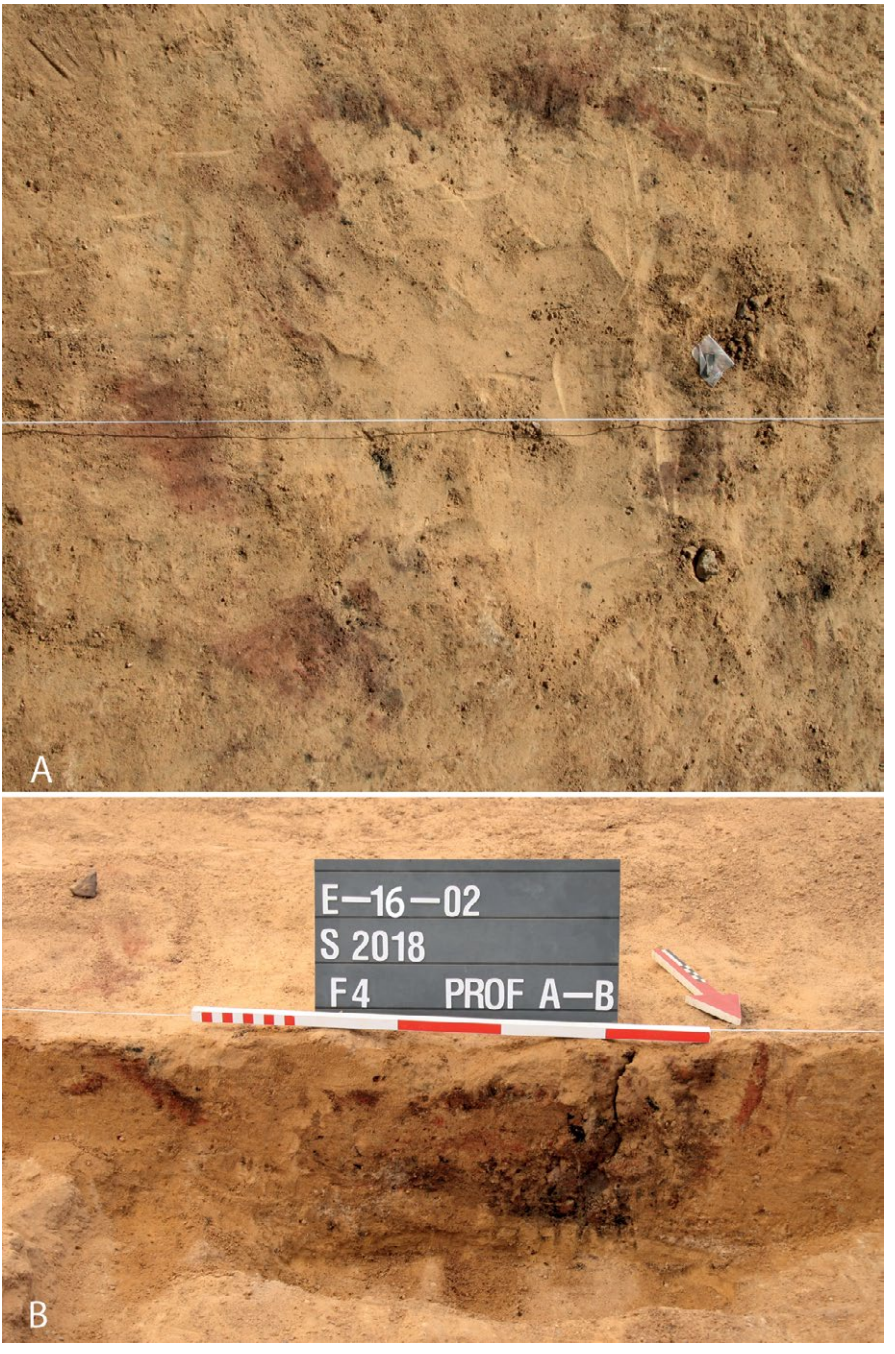

Fig. 7. Gebel Ramlah, site E-16-02. Feature 4. Photo: A. Czekaj-Zastawny.

of one and the same vessel and, together with the animal bones can be localized and linked with everyday life at the settlement. However, we cannot say the same in respect to the chert artefacts. The horizontal distribution of lithics (Fig. 5) does not show any clear pattern (also in functional sense) and as such reflects deposition and dispersal during multiple visits to the site. This is also confirmed by the presence of several features of the same type used for the same purpose in close proximity to each other.

In the light of above evidence, it seems that the occupation was a seasonal and the present state of the site was a result of it being visited several times. Its main feature was an oven, carefully designed and regularly cleaned as it served for cooking food during subsequent visits to the place. The remaining features were periodically created during each stay. The distribution of the flint artefacts, chaotic, unpatterned, without visible places of flint processing and lacking clear links with features and the remains of the pottery vessels indicates multiple visits to the site.

According to current research, the Late Neolithic settlements were limited in size and located along the *wadis* reaching the lake from the south. That is a different pattern from that known from the climatic optimum of the Holocene. At that time – the Al Jerar Unit – settlements were much larger, with clearly visible and developed system of spatial distribution of various features and constructions. In the Late Neolithic settlements, in turn, the diversity of features is limited to the basic categories necessary to short-time occupation.

CONCLUSIONS

The research at site E-16-02 revealed the presence of short-lived seasonal settlement where the economic activities undertaken were limited in scale. The place was visited several times, during the wet season at the end of the Late Neolithic. It was placed, as were the majority of other such occupation sites, on the banks of a small *wadi*. We still don't know exactly what kind of food was processed in the features that were found. What is confirmed without doubt is the presence of cattle. We may only assume that wild grasses/sorghum might have been heat-treated in the charring pits as in earlier times (Wasylikowa *et al.*, 2001). That will hopefully be clarified in the nearest future.

The seasonality of the settlements is also confirmed by the presence of single burials scattered within the larger area and located at a substantial distance from the settlement zones. It seems this was a specific pattern of all the Late Neolithic settlement of the Gebel Ramah area, based on seasonal, short-lived camps rather than large and stabile occupation sites. This had most probably caused by the progressing desertification of the region due to major climatic changes (Schild and Wendorf 2013).

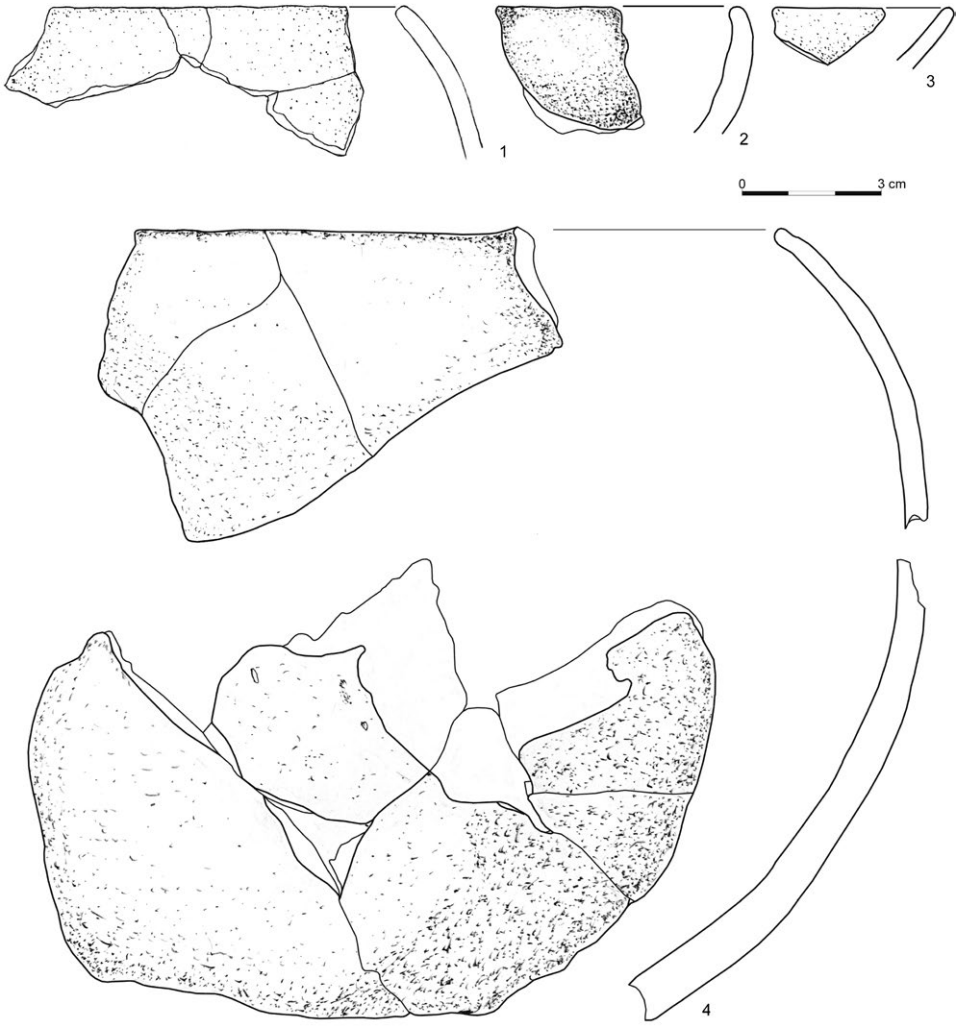

Fig. 8. Gebel Ramlah, site E-16-02. Selection of pottery. 1, 4 – spherical bowls; 2, 3 – open bowls. Drawn: J. Jędrysik.

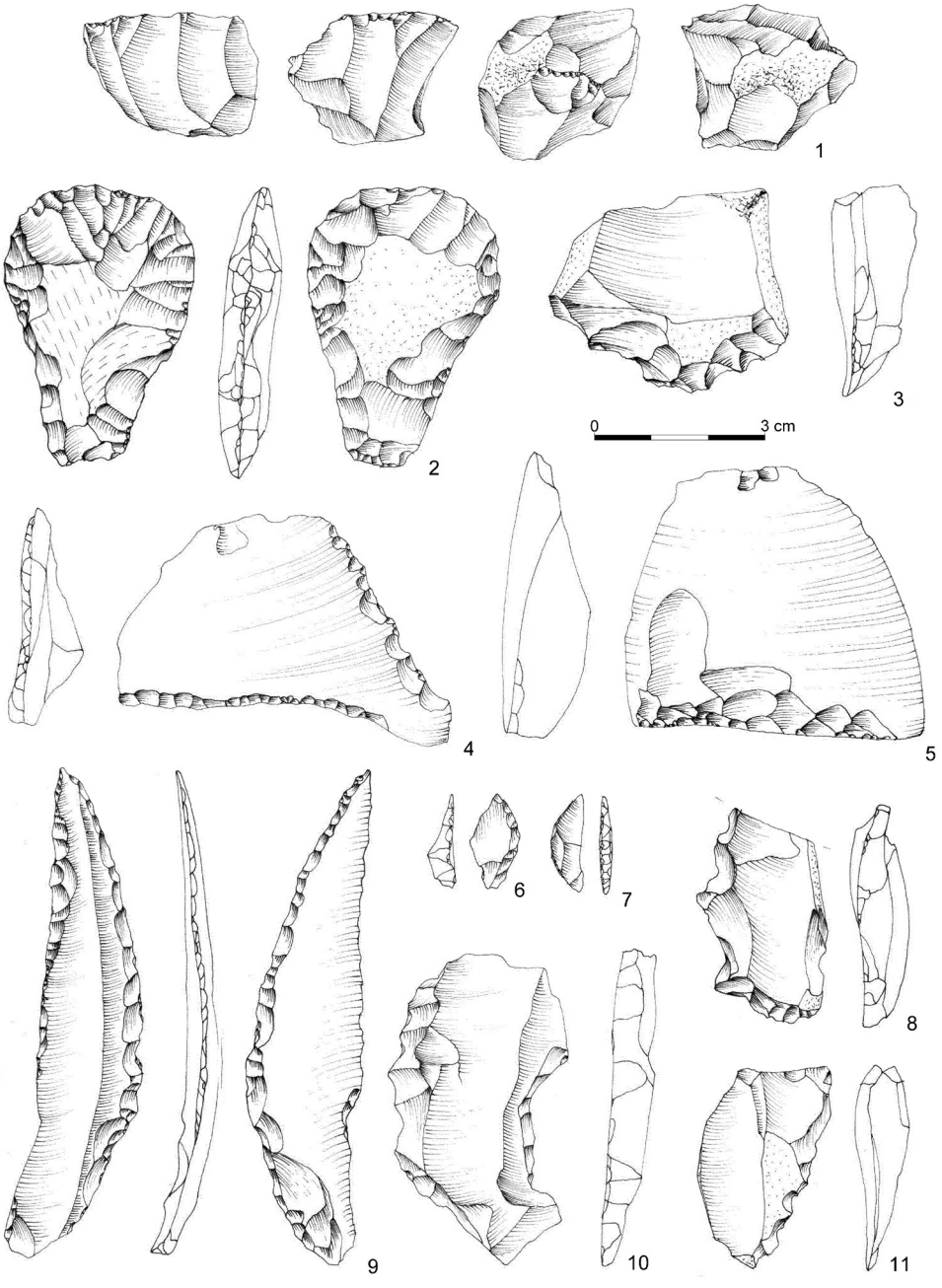

Fig. 9. Gebel Ramlah, site E-16-02. Selection of lithic artefacts. 1 – core with changed orientation; 2 – chisel-like bifacial tool; 3, 8, 10, 11 – denticulated flakes; 4, 5 – retouched flakes; 6, 7 – lunates; 9 – knife-like tool. Drawn: J. Mugaj.

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