International Commission
of the Later Prehistory of Northeastern Africa

International Symposium

From foragers to farmers in Northeastern Africa

(Poznań, 03-06 July, 2023)

Organizing Committee

Jacek KABACIŃSKI
Małgorzata WINIARSKA-KABACIŃSKA
Marek CHŁODNICKI
Michał KOBUSIEWICZ
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Program

Monday, July 3rd

9:00-10:00	**Registration**

10:00-10:20	**Opening of the Symposium**	
	Opening lectures	
10:20-10:40	Romuald Schild	by Michał Kobusiewicz
10:40-11:00	Working with Lech Krzyżaniak and the Polish group in Sudan in the 1970ies – from Dymaczewo to Poznań. A personal account	by Randi Haaland
11:00-11:30	**Coffee break**	
Chairwomen: Randi Haaland		
11:30-11:50	Raw material exploitation in the Early and Middle Stone Age of the Egyptian Eastern Desert: new data from Wadi Abu Subeira, Aswan region	by Alice Leplongeon
11:50-12:10	The recent discoveries of the Pleistocene human activities remains from the Bayuda Desert, Sudan	by Mirosław Masojć, G. Michalec, H. Paner, P. Muntowski
12:10-12:30	Early Holocene hunter-gatherer land-use in the Eastern Sahara – Insights into a colonisation process	by Jan Kuper
12:30-12:50	Satellite remote sensing detection of Early Mid Holocene slab structure sites of forager-herder groups in the Egyptian Western Desert	by Alessia Brucato, Dafne Dell'Aquila, Nicola Masini, Giuseppe Scardozzi, Giulio Lucarini
12:50-13:10	Discussion	
13:10-15:00	**Lunch break**	
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15:20-15:40	Early Holocene El Ghorab settlement in Gebel Ramlah, Western Desert of Egypt	by J. Mugaj, J. Kabaciński, M. Winiarska-Kabacińska, H. Ibrahim
15:40-16:00	Bilateral CNR-PAN project	by Gulio Lucarini, Jacek Kabaciński
16:00-16:20	BORDERSCAPE: the First Nile Cataract region between the fifth and the fourth millennia BCE	by Maria Carmela Gatto
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18:00	**Opening party**	
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9:30-9:50	Colourant pigments in Northeastern Africa in the Neolithic period	by Sakura Sanada
9:50-10:10	Discussion	
10:10-10:20	*Poster* : Early to mid-Holocene funerary practices from central Sudan	by Isabelle Crevecoeur, Nicola Martin, Stanley H. Ambrose, Ladislav Varadzin, Lenka Varadzinová
10:20-10:30	*Poster* : Evidence of shell processing from Neolithic deposit at al-Khiday-1 (16-D-5), White Nile, Central Sudan	by Donatella Usai, Mongeda K. Magzoub, Barbara Jambin
10:30-10:40	*Poster:* Bargat El-Shab (Western Desert of Egypt). Last discoveries	by Przemysław Bobrowski, Maciej Jórdeczka
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12:15-13:45	**Lunch break**	
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HASSAN ALKHIDIR

A new insight into the late prehistoric lifestyle and land use in the 5th Cataract area, Sudan

This paper aims to explore the area of the Fifth Cataract in Sudan, an area rich in archaeological and ethnological potential but so far little studied. The general objectives are (i) to understand population dynamics over time; (ii) to reconstruct past land use; and (iii) to understand human adaptation to climate and environmental change. To achieve these objectives, we applied a combination of: remote sensing of historical-archaeological evidence through satellite imagery and collection of sites coordinates from previous projects in the area; fieldwork, survey and excavation; systematic recovery of bioarchaeological remains together with archaeological artefacts and their post-excavation analysis; and the incorporation of traditional ecological knowledge recorded and collected through ethnographic interviews with local people to understand adaptation to scarce natural resources in a desert environment. As a result, we created an archaeological survey map of 497 sites dated to different periods, and with examining sites distribution, studying archaeological artefacts and their post-excavation analysis, we were able to shed some light on understanding lifestyle and land use during the late prehistoric period in the 5th Cataract area.

Przemysław BOBROWSKI, Maciej JÓRDECZKA, Paweł WIKTOROWICZ, Urszula IWASZCZUK, Maria LITYŃSKA–ZAJĄC, Mirosław MASOJĆ, Agnieszka MĄCZYŃSKA, Grzegorz SKRZYŃSKI, Magdalena SRIENC, Fabian WELC, Michał KOBUSIEWICZ, HEBAT ALLAH IBRAHIM

Bargat El-Shab (Western Desert of Egypt). Last discoveries

The poster presented at the conference comprises a summary of research work carried out to date in the Bargat El-Shab region. The authors present the results of the research project led by the Institute of Archaeology and Ethnology Polish Academy of Sciences from 2016 to 2020, financed by the National Science Centre, Poland (grant no. 2015/17/B/ HS3/01315), entitled *Awaiting the rain. Economy, Culture Beliefs Pastorials of Today's Western Desert of Egypt*. The publication also falls back on the results of earlier studies conducted between 2005 and 2012 within the scope of the Combined Prehistoric Expedition.

The oldest trace of human settlement found in the Bargat El-Shab area is a hand axe (biface) made by a Homo erectus and probably associated with the Middle Pleistocene stage of the Acheulean complex. Surface surveys revealed also over a dozen Middle Paleolithic (MSA) Levallois collections. Research to date has uncovered, above all, extensive remains of Early Holocene settlement on the eastern shore of the paleolake (playa). Thousands of stone artefacts (tools made from a variety of raw materials, including querns or pestles), animal bones, ostrich egg shells, vessel ceramics, as well as various stone structures were registered on the sandy surface of an erosional monadnock, which is made of Nubian sandstone and tertiary limestone covered with a layer of Pleistocene sands and winnowed Holocene aeolian sediments. Fragments of an Early Holocene settlement with numerous utility pits featuring a characteristic bell-shaped cross-section, hearths, small pot holes, wells and human burials were recorded in the investigated trenches located at the site. The situation is much different on the opposite (western) part of the paleolake basin, where an unusual concentration of Middle Holocene megalithic features located on a small elevated monadnock was found. Within the site, we registered a few tumuli, stone chests and smaller stone structures, as well as the remains of numerous hearths. Similar concentrations with numerous megalithic features, stone structures, hearth complexes or collections of stone steles with anthropomorphic shapes were also noted at several other sites located to the north and south-east of the lake basin (sites E-18-02B, E-19-01B, E-17-10, E-17-11, E-18-04B).

Jade BAJEOT, Maria Carmela GATTO

Preliminary results of the technological analysis of Predynastic ceramic assemblages from Aswan region (First Nile Cataract)

This paper aims at presenting the preliminary results of the technological study carried out on the pottery of several Predynastic sites investigated in the Aswan region by the Aswan-Kom Ombo Archaeological Project. The region of the First Cataract was since prehistoric times an important crossroad of the Greater Nile Valley, and with the end of the state formation period in Egyptian, it became the natural and political border between ancient Egypt and Nubia. This analysis constitutes the first step of the implementation of the project TECHNOPREGYPT, funded by the National Science Centre of Poland (POLONEZ BIS reg. No. 2021/43/P/HS3/03262), whose purpose is to investigate the modes of pottery production in Predynastic Egypt (4th millennium BCE) to understand how technological choices were

affected by the state formation process and, in doing so, move forward current scholarship on the process itself.

The chosen approach is the technological analysis that allows to obtain an anthropological reading of the material culture. In fact, research has shown the strong correlation between technological behaviours and social groups (for an overview: Livingstone-Smith 2007; Roux 2019). The adoption of a specific *chaîne opératoire* and its transmission through the generations is strictly linked to the cultural identity of a group and makes its cultural boundaries visible. The strength of this approach lays precisely in the possibility of highlighting the potters and their organisation and from this to study the society and see how are inherited and rooted manufacturing modes affected when the socio-political structure gets more centralised.

The analysed material comes from two domestic sites (WK15 and WT27/WT6) and two funerary sites (WK14 and NH16), all located on the west bank of the Nile, north of Aswan. Chronologically it ranges from Naqada IC to Naqada IIIB (c. 3700-3100 BCE). The sites are evidence of small-scale communities with a mixed material culture displaying traits of the 'Egyptian' Naqada and 'Nubian' A-Group traditions. It has been possible to characterise the *chaînes opératoires* of the so-called Nubian wares, in particular of Black-Mouth vessels, and of the Naqada productions, which differ from each other. The Naqada productions proved to be made according to the same technological tradition recognised in the Delta and named NAQ (Bajeot and Roux 2019; Bajeot and Buchez 2021). Finally, we deepened our understanding of the Shale wares, highlighting their possible connection with the NAQ tradition.

To conclude, the analysis of a small number of sherds dating to the 5th millennium BCE (from funerary sites SN1 and WAL10 found in the desert south-east of the Kom Ombo plain) allowed to recognise the same manufacturing modes adopted to make the Nubian Black-Mouth vessels of the 4th mill., allowing us to follow this ceramic tradition for over a millennium.

Bajeot J., Roux V. (2019). The Lower Egyptian Culture: new perspectives through the lens of ceramic technology. *Archéo-Nil 29*, 157-178.

Bajeot J., Buchez N., (2021). The Evolution of Lower Egyptian Culture During the Formative Stages of the Egyptian State at Tell el-Iswid: The Contribution of Ceramic Technology. *African Archaeological Review*. doi.org/10.1007/s10437-020-09421-7.

Livingstone-Smith A., (2007). *Chaîne opératoire de la poterie. Références ethnographiques, analyses et reconstitution*. Tervuren: Musée royal de l'Afrique centrale.

Roux V., (2019). *Ceramics and society. A technological approach to archaeological assemblages*. Cham: Springer.

Alessia BRUCATO, Dafne DELL'AQUILA, Nicola MASINI, Giuseppe SCARDOZZI, Giulio LUCARINI

Satellite remote sensing detection of Early Mid Holocene slab structure sites of forager-herder groupsin the Egyptian Western Desert

In this study, we present an automated approach to satellite multi-temporal and multisensory imagery for detecting Early and Mid Holocene proto-villages related to the hunting-gathering and later foraging-herding groups inhabiting the Egyptian Western Desert (hereafter EWD). This paper investigates the extent of these groups' mobility and settlement distribution, especially concerning the contacts between the Eastern Sahara and the Nile Valley.

In this period, the Sahara witnessed significant climatic, hydrographic, and biosphere changes, which triggered cultural and economic transformations in the local communities. In the EWD, these transformations greatly impacted the life of the hunters-gatherers inhabiting the region of the modern oases (Farafra, Dakhleh, and Kharga), causing the insurgence of more sedentary behavior and the introduction of herding. Between the 7th and 6th millennia cal. BC in the Farafra Oasis (Wadi el Obeiyid), groups characterized by a mixed economy based on hunting activities, wild plant gathering, ostrich exploitation, and caprine herding, built semi-sedentary settlements, characterized by the presence of stone slab structures. Similar kinds of evidence are present in other areas of the EWD, like Dakhla, Kharga, Great Sand Sea, Gilf Kebir, Karkur Talh, and Jebel Uweinat. Following the evolution of the environment towards a more arid habitat, these groups slowly shifted their occupation towards the Nile Valley, probably contributing to the cultural cradle at the heart of the later Egyptiancivilization.

This study focuses on a specific Early and Mid Holocene hut foundation (slab structures) that seem to be related to changes in the mobility of these communities. These structures are made of stone slabs vertically stuck in the silt layers and arranged in circular or oval shapes,

probably supporting “roofs” of perishable materials. They are usually found on high plateau surfaces or intermediate terraces, directly facing the edges of steep slopes degrading towards the wadis (once lakes). They can be isolated or grouped, forming clusters identified as proto-villages by field surveys.

The satellite dataset used in this research was derived from numerous sources (Hexagon KH-9, Corona KH- 4B, Bing Satellite, Google Satellite, and ESA Copernicus Sentinel). It was assembled and processed through various local and cloud computing platforms (USGS, Google Earth Engine, ESA SNAP, QGIS) for site detection and further geospatial analyses. The methodological approach developed for this project includes applying filters and combination algorithms (Graphical filters, Spectral Indices, PCA, Mean) to enhance archaeological proxy indicators of site presence. Then a sequence of machine learning algorithms (Unsupervised and Supervised Classifications) is trained on multiple spectral bands and derived images for automated detection.

The resulting classification of a sample area near the Farafra Oasis has shown that the combination of image enhancement and automated feature detection can highlight the presence of slab structures in previously unsurveyed areas.

This study will offer a practical approach to overcoming many difficulties of ground-based surveys, especially in Egypt where, after 2015, access to the EWD was reduced by the Egyptian Authorities due to security and safety concerns. Consequently, in recent years, the identification and assessment of the distribution of these features and sites have been challenging via traditional ground-based surveys. Applying a remote, automated, precise, and cost-effective methodology for feature detection and analysis will help us reduce the impact of these obstacles and open new lines of investigation.

Isabelle CREVECOEUR, Nicolas MARTIN, Stanley H. AMBROSE, Ladislav VARADZIN, Lenka VARADZINOVÁ

Early to mid-Holocene funerary practices from central Sudan

Excavated since 2011 by the Charles University Sabaloka Expedition, the site of Fox Hill at the Sixth Nile Cataract in the Sabaloka Mountains yielded an exceptional funerary assemblage documenting Khartoum Mesolithic and Early Neolithic burial practices in central Sudan.

Since 2018, archaeo-anthropologists have participated in the recording of the human remains applying archaeothanatological approach to the analysis of the burial contexts. This method allows to discuss the context of deposition of the deceased, the taphonomical processes affecting the human remains since their deposition, and leads to a reconstruction of the past funerary practices. At Fox Hill, the archaeothanatological investigations highlighted the complexity of the Khartoum Mesolithic and Early Neolithic burial grounds and enable discussing changes of practices through time.

The Mesolithic individuals were buried in well-defined pits dug into the bedrock. In several cases, stone stacking was documented on top of the deposits. The position and post-depositional breakage of the human remains indicate delayed infilling of sediment in the grave and possible natural mummification processes. These observations are consistent with the deposition of a body in a perishable container or under a perishable cover. Long term burying is attested by the cutting and/or reopening of some burials.

Although the identification of pit structures is less clear during the Early Neolithic, similar practices of body covering with delayed infilling are documented. In addition, reduction and preservation of incomplete individuals suggest secondary depositions and complex burial ground management, supporting again the hypothesis of the reopening of the graves and long term utilization of the cemetery.

With its timespan of more than two millennia (~8.6–6.3 ka), and its density of human graves (>1 per sqm), Fox Hill burial ground offers unique insights into the variations of funerary practices and cultural (dis-)continuity at the transition between the Mesolithic and Neolithic epochs in central Sudan.

Joanna DĘBOWSKA–LUDWIN, Grzegorz BĄK–PRYC

From shepherds to builders of churches and railroads. Archaeological research in the Akasha area (2nd cataract) in Sudan. The first season of the Akasha and Ambigol Survey Project

In 2022, a field query was conducted between Akasha and Ambigol located in the area of the Second Cataract (about 140 km south of Wadi Halfa). The goal of the first season was to conduct field query and identify some future research opportunities in the area. The last archaeological activities in the area were carried out in the 1960s and 1970s and were related to the great engineering project of building the Aswan Dam and damming up the Nile water at

the site. Some of these sites are now underwater or in an area that is very wet and difficult to access. An additional dangerous factor is the phenomenon of large-scale gold exploration and mining. In this area, mining activities have been operating since ancient times. However, today's technology, infrastructure and demand, seriously threaten the archaeological sites located at the area. In the course of our research, dozens of archaeological sites of different chronological provenance were verified. The next stage will be surface surveys in the most threatened areas and, at the same time, probing surveys at selected sites.

Grazia A. DI PIETRO, Renée F. FRIEDMAN

Ongoing research on Egyptian Predynastic ceramics: enquiring into origins and connections of 'roulette decorated' pottery

The aim of the proposed paper is to provide a review of the current state of knowledge regarding the origins of a variety of ceramics with impressed and/or incised designs excavated in prehistoric sites of the Upper Egyptian Nile Valley. Various types of this relatively rare but widespread decorated pottery in Predynastic Egypt have often been considered as indication of interregional contacts and influences. They have equally raised many questions about their relationship with earlier traditions of impressed pottery in neighbouring regions, some of which still remain unanswered. Therefore, this paper also aims at sparking discussion on possible future research directions to address them.

Maria Carmela GATTO

BORDERSCAPE: the First Nile Cataract region between the fifth and the fourth millennia BCE

The process of state formation in Egypt entailed social and territorial changes, more so in its soon-to-be boundary regions. The BORDERSCAPE Project, funded by the National Research Centre of Poland and the Norway Grants, investigates the timing and nature of those changes in the Nile First Cataract region, the southern border between ancient Egypt and Nubia. It draws mainly from the fieldwork of the Aswan-Kom Ombo Archaeological Project, which has investigated, both along the Nile and in the desert hinterland, several domestic, funerary and artistic/ceremonial sites dating to the fifth and fourth millennia BCE. The presentation

will summarize the archaeological evidence and its interpretation within the framework of the state formation process. It argues for successive moments of discontinuity in the settlement pattern, land use, and social scenery, connected with the growing need by the elite to mark the landscape and include the local communities in this early form of territorial polity.

Gwenola GRAFF

Predynastic rock art of the wadi Abu Subeira (Egypt, Aswan, Eastern desert) : iconography in the margins of a territory

The period of Naqada in Egypt was endowed with a very rich iconography, on various media, deployed through a large number of techniques. The images were found in all the contexts in which this culture was illustrated (funerary, domesctic, religious, landscape).
Since 2013, a Franco-Egyptian team led by G. Graff has explored a 32 km2 concession in the upstream part of the Wadi Abu Subeira, without contact with the valley. The results show the importance of engravings attributable to the Predynastic period. More than 600 panels were discovered. Thanks to an exhaustive and extensive study, this new and unpublished corpus considerably enriches the image of the rock art of the 1st cataract and allows new interpretations of these images left on the margins of the Predynastic territory and strongly correlated to the necessities that brought the populations of the valley to frequent this place.

Wojciech EJSMOND, Alicja JURGIELEWICZ–KOWALSKA

Gebelein linen – a new reconstruction

Interpretations of the scenes shown on the Gebelein linen were proposed by several specialists, however, its meaning is still unclear, largely due to the poor state of its preservation and hypothetical arrangement of the preserved fragments. The textile was found in pieces in a tomb at the Northern Necropolis of Gebelein by Giulio Farina in 1930, folded next to a deceased individual, and now is exhibited at Museo Egizio (Turin Sup. 17138). Its fragments were restored by Erminia Caudana and are exhibited in an order proposed by Giuseppe Galassi and Ernesto Scamuzzi. Galassi and Scamuzzi also authored the first publications of the linen (1955 and 1964 respectively). The hypothetical reconstruction of the artefact and its facsimile made by Bruce Williams and Thomas J. Logan (1987) is commonly

reproduced. It is based on the closest known analogy for the linen, the wall painting from Tomb 100 from Hierakonpolis.

However, since the aforementioned publications, the knowledge about the Predynastic Period iconography has developed. New publications, especially considering boat depictions, their construction, sailing, and the symbolic meaning of boat processions provided a new light on this topic. In addition, some new artefacts with boat representations have been discovered since that time. The current studies on interpretations of predynastic boats allow us to revise the old reconstruction, provide a new interpretation of individual items depicted on the linen, propose a fresh hypothetical reconstruction, and finally elaborate on its meaning.

An examination of the construction of the boats depicted on the Gebelein linen and the comparative analysis with other contemporary artefacts makes it clear that the fragments of the textile should be presented in a new order, which will be discussed during the talk. For example, the dancing women may be divided into two registers and their dimensions indicate a sort of perspective view. Also, a new interpretation of some of the depictions can be proposed, which aim the understanding of the whole textile. The trapezoid black object with zigzag lines below can be interpreted as the clap net used for capturing birds. Another hunting item is a bottle shaped type of fish trap. Both the latter subjects have analogies in marsh scenes known from Old Kingdom tomb scenes, and are evoking establishment of the cosmic order. This agrees well with the meaning of the hippo hunt depicted on another fragment of the textile. This type of representation expressed the victory over chaos and the ability to maintain the world order, which was the main task of the ruler. If the ruler is depicted on the biggest boat, this would fit to the meaning of the scene. Identification of the depicted animals and their context indicates that the event is taking place during the inundation season. The beginning of this season was also the inauguration of the Egyptian New Year and in the following periods celebrations were related to the re-establishment of the kingship and of the *maat*.

HAMAD MOHAMED HAMDEEN, AL BAGIR BADWI, SIDDIG MAHADI, MANAHIL MOHAMMED FARAH, RAGHAD KHALED ALI

Between the farms landscape: Exploration of Early and Middle Holocene sites around Ad-Douiem in the White Nile State (Sudan)

Since the archaeological work of Clark (1973; 1989), Adamson et al. (1974), and other studies in the White Nile State, insufficient attention has been given to the study of early and middle Holocene cultures in this region. This paper presents the results of the archaeological survey and excavation of the Early and Middle Holocene sites in White Nile State, south of Khartoum. During the first season, which took place in December 2022, nine sites were discovered among the farms landscape dating to the Early and Middle Holocene. The two test pits excavated at Alminadreeb (WNP-D-22-1) also yielded a deep cultural stratigraphy (190 cm) for an Early and Middle Holocene settlement. Archaeological materials include pottery with decorations in the form of wavy lines, dots, incisions... etc. 20 fragments of bone harpoons were collected from the surface of the sites, showing different types and shapes. Lithic tools, grinding stones, ring stones, graves, beads from ostrich eggs, animal remains (elephant, rhinoceros, hippopotamus, crocodile, fish (*Lates, Synodontis, Clarias* sp.), mollusks such as *Pila wernei, Pila ovata, Limicolaria cailliaudi, ethreai Eliptica* and plant remains (*Ziziphus spina-christi*) were found at this site. These materials show us new evidence of a cultural relationship between these sites and the site of Tagra, Guli, and Shabona in White Nile State and other sites in central and northern Sudan in terms of paleoenvironmental conditions, subsistence, and settlement patterns in the early and middle Holocene.

Friederike JESSE

Darfur type axes – contextualisation of a special form

Darfur type axes are remarkable within the large group of prehistoric stone axes known from Northeastern Africa. They are characterised by a marked groove and a knob or mushroom shaped neck. They were first described by Douglas Newbold after his travels to the southern Libyan desert in the 1920s. The name Darfur type axes was coined during the archaeological research work done by Cologne University's B.O.S. project in the Wadi Howar and Laqiya

region in the 1980s. Darfur type axes were often found there on sites dating to the 4th and 3rd millennium BCE. The fact that similar axes have been found also on sites in other parts of the Sahara and western Africa, there called necked axes or haches à gorge, makes them challenging objects.

Over the last years, a research project focused on the study of this special type of ground stone axe. A catalogue of finds was compiled and a database established for the recording of the necked axes. On this basis, a classification of different types was possible and different questions were addressed, such as the cultural affiliations and the possible role of these axes as indicators of contact and exchange.

This paper summarises the current state of research concerning the necked axes / Darfur type axes as it stands at the end of the project with a special focus on the evidence from Northeastern Africa.

Jacek KABACIŃSKI

Gebel Ramlah: hunter-gatherer and pastoral societies of the Egyptian Western Desert

Gebel Ramlah is one of several regions of the southern part of the Egyptian Western Desert intensively settled by different societies during the Holocene. From paleo-environmental point of view the region is characterized by a presence of numerous periodical lakes (playas) fed every year by the rainfalls during rainy seasons what made this area especially attractive for prehistoric groups.

Two such paleo-lakes existed in Gebel Ramlah area: the first lake extended along the southern slopes of the Gebel; the second on the summit of the Gebel within the large limestone plateau. Both lakes were active during the Last Interglacial and in the early and middle Holocene.

Shores of the Last Interglacial lake (MIS 5e) were settled by populations that produced Lavallois assemblages and are related to at lest Middle Stone Age of Northeastern Africa.

In the Early Holocene, during the 8th millennium BC, it witnessed an occupation of hunter-gatherers groups belonging to El Ghorab unit. Only at the down of 7th millennium BC the first pastoral groups of Al Jarar unit settled this area followed be the so called Middle, Late and Final Neolithic groups. They continuously settling Gebel Ramlah area till the very end of 5th millennium BC.

The latest part of pastoral occupation is characterized by a developed ceremonial behavior that along with progressing desertification could led to a catastrophic ecological crisis forcing them to final withdraw from the Western Desert.
The paper aims at overview of recent results of research on the Last Interglacial, and Early and Middle Holocene occupation in the Gebel Ramlah area within a broad paleo-environmental evidence.

Karin KINDERMANN

Early farmers in the Nile Delta – lithic evidence from the earliest occupation layers at Tell el Fara'in/Buto

The archaeological excavations, carried out in recent years by the German Archaeological Institute in Cairo, at Tell el Fara'in/Buto concentrated primarily on the late Predynastic settlement remains. In the meantime, this has yielded in an uninterrupted stratigraphic sequence from the earliest Predynastic settlement, from the first half of the 4th millennium BC to the Old Kingdom (around 2200 BC). The results obtained complement those of the excavations in the 1980s and 1990s.
In particular, the subsequent study of the pottery (by R. Hartmann) as well as the structural remains (by U. Hartung), led to a re-evaluation of this stratigraphical sequence. The results of the stone artefacts analysis also underline these outcomes and reveal interesting subsistence and the socio-economic aspects of the Predynastic and Early Dynastic periods in the Delta. The lithics from Buto indicate in their chronological order a predominantly individualized farming in the early settlement phases to a more standardized and presumably well-organized agricultural production. Likewise, the relationship between local Neolithic and South Levantine Chalcolithic traditions is of particular interest in the lithic analysis.

Robert KUHN, Barbara TEßMANN, A. PALADIN, N. SALEM, L. SUTHERLAND, A. ZINK, C. WURST, W. ROSENDHAL, S. ZESCH

The Reinhardt Mummies from Gebelein at the Staatliche Museen Preußischer Kulturbesitz Berlin. A review of the human remains and archaeological objects

In 1899, the Egyptian collection in Berlin purchased six mummies from the Dragoman C. A. Reinhardt at the German embassy in Cairo. The human remains, some are still wrapped in animal fur and leather clothing, were accompanied by further archaeological materials which allowed to date these mummies to the Naqada II-period. However, A. Scharff, from the Berlin Museum, was dubious about the authenticity of some of the finds because of the combination. Indeed, even though the exact findspot of the purchased items is unknown, similar mummies appeared on the Luxor art market in the late 1890s that today are housed in different Museums like the British Museum and the Pennsylvania Museum. Moreover, A. Scharff noted that also the Berlin convolute should derive from Er-Rizeiqat, near Gebelein, due to its similarities with the mummies found during the Italian excavations in Gebelein. Fortunately, the Berlin mummies have never been unwrapped or were studied in detail. A luck still today, as the mummies are still preserved in fairly good conditions as they arrived in Berlin. This will allow us to perform an interdisciplinary project (e.g., anthropology, genetics, geochemistry) involving different scientific partners.
A second convolute could be detected in the anthropological collection of the Berlin Museum of Prehistory that houses a mummy in crouched position enveloped in fur as well as skulls and postcranial skeletal remains. This convolute seems to have been purchased from C. A. Reinhardt, too, and thus we hypothesise that it could be part of the Egyptian collection.
Since 2015, the human remains have been studied through different scientific approaches which will help to extend our understanding of this category of objects.

Jan KUPER

Early Holocene hunter-gatherer land-use in the Eastern Sahara – Insights into a colonisation process

After the end of the Pleistocene, increased precipitation over North Africa transformed the Eastern Sahara into a savanna landscape, prompting population movements into the “empty”

former desert. While the timing of this colonisation is roughly established, the mechanisms of colonising the unfamiliar landscapes are poorly understood. In order to address this topic, a sample of Early Holocene/Epipalaeolithic sites from five different research areas in the Egyptian and Libyan parts of the Eastern Sahara was selected for comparative analysis. Radiocarbon dates as well as typological analyses allow assigning these sites – excavated by the University of Cologne and largely unpublished – to two different chronological clusters (Stage A: 10,700–9,600 calBP and Stage B: 9,600–8,600 calBP). Based on the reconstruction of land use patterns, it was possible to create a model for the Early Holocene colonisation of the Eastern Sahara, which characterises the re-population as a slow, multi-stage process, spanning some 2000 years. In this presentation, some of the sites studied will be presented by way of example, the colonisation model will be detailed, and finally, an outlook on future research on the Early Holocene occupation of the Eastern Sahara will be provided.

Taichi KURONUMA

Regional diversity of funerary landscape transformation in the initial stage of the state formation. Comparative study of the late prehistoric Upper Egyptian centres

The emergence of the segregated cemetery by social classes is the characteristic funerary landscape that was realised through the social transformation towards the Egyptian early state at the end of the Fourth Millennium BCE. Previous studies indicate that the earliest emergence of segregated elite cemeteries is dated to Naqada IC (ca. 3600 BCE) in Hierakonpolis, Upper Egypt. However, this evidence is exceptional without contemporary parallels. The problem is how the funerary landscape was transformed in Upper Egypt to those of the earliest state. To solve these points, I examine and compare the development of the funerary landscape in the Upper Egyptian regional centres of Abydos, Naqada, and Hierakonpolis by applying the recently developed relative chronology, and present the revised process of funerary landscape transformation in late prehistoric Upper Egyptian regional centres. The result indicates that the funerary landscape transformation process towards the socially defined segregated disposal areas is not unilineal, especially at its initial stage. In Naqada I-IIA, all sites showed a different situation. Contrary to the demarcated cemetery HK6 in Hierakonpolis, there was no segregation in Naqada and Abydos to a similar degree. In Abydos, no clear segregation has emerged yet. However, the situation changed in Naqada IIB. In Hierakonpolis, HK6 was abandoned and a new elite cemetery (HK33) was established. In

Naqada, a segregated cemetery (Cemetery T) for higher classes was founded. In Abydos, activity was lowered in a previous large cemetery (Cemetery U). In Naqada IIC, a clear segregation was realised in Abydos Cemetery U and the segregation was continued in Hierakonpolis and Naqada. The clear segregation was continued in Abydos and the use of HK6 was resumed in Naqada IID, though the burial activity gradually ceased in Naqada. In Naqada IIIA-B, Abydos Cemetery U and Hierakonpolis HK6 were continued as segregated cemeteries, while there were no clear segregations in Naqada anymore. Abydos Cemetery U was an incipient royal cemetery at this stage. This process indicates that the later funerary landscape was directly succeeded by the Abydos case. In other words, the funerary landscape transformation process was especially diversified at the initial stage. This implies that regional centres in Upper Egypt had their creation of funerary landscapes in Naqada I-IIB, while clear segregation was accelerated after Naqada IIC.

Carla LANCELOTTI, Guillermo GARCIA–MARÍN, Carolina JIMÉNEZ–ARTEAGA, Monika JOVANOVICH, Xavier Roda GILABERT, Marco MADELLA, Sandro SALVATORI, Donatella USAI

Archaeobotanical analysis from Al Khiday (Central Sudan): new evidence of plant resource exploitation during the Mesolithic

The area surrounding the village of Al-Khiday (south of Omdurman, Sudan) is well known for its rich archaeological evidence. This cluster of sites lies on the west bank of the White Nile on a sandy bar. Evidence so far collected, attest the frequentation of this area from the pre-Mesolithic to the post-Meroitic periods. Analysis on carbon stable isotopes from pre-Mesolithic and Neolithic individuals buried at the site (16-D-4) point to the presence of a mixed diet with consumption of different percentages of C_3 (wheat and barley) and C_4 (millets) plants and this is confirmed also by analysis of organic residues on pottery.
Notwithstanding the extensive program of manual flotation of deposits from many of the features recovered at al-Khiday, charred botanical remains have so far been scarce, possibly due to carbonate pedogenesis. Here, we present the results of archaeobotanical analyses (seeds, phytolith and starch) from sediments and grinding tools recovered from the sites al-Khiday 3 (16-D-3) and al-Khiday 2 (16-D-4) and dated to the Mesolithic period (beginning–mid 7^{th} millennium BCE). Indeed, the material studied is very fragmented and frail making taxonomic identification very difficult. However, preliminary results suggest the presence on

site of wheat/barley and small grasses, including remains of small millets. Phytoliths and starch grains were recovered from seven ground stone tools attesting to their use to process plant material, cereals rather than roots and tubers. Micro-botanical analyses confirm the indications of both macrobotanical remains and stable isotope analysis by showing that both of C3 and C4 grasses were processed with these tools.

Francis David LANKESTER

From foragers to farmers and beyond: developing social complexity in Predynastic Egypt - issues, questions and some potential answers

Egypt as the world's first territorial pristine state commands attention not merely for its primacy but for the speed of the state formation process compared to the Near East (Lankester 2021). To account for this Kemp's (2006) analogy that a 'Monopoly' competition for prestige and power between rival chiefdoms at Hierakonpolis, Naqada, and Abydos in Upper Egypt initiated and drove social evolution continues to be popular (Andelkovic 2004, 2006, 2008; Campagno 2002, 2011). Although Köhler (2010, 2020) has suggested that northern and southern Egypt constituted one culture and grew together to form a state, neo-evolutionary deterministic explanations have dominated. At the same time we must distinguish general material culture from governing political structures.

Stevenson (2016) notes criticism of the standard one-dimensional evolutionary explanation in reference to other societies (Yoffee 2005; Pauketat 2007; Wengrow & Graeber 2015). But as well as tackling the under-theorising of developing Egyptian social complexity we face a lack of evidence and some fundamental questions concerning how hunting and herding societies in the 5th millennium led to the agriculturally-based state.

Evidence for an extended time period for farming communities to become established is lacking, as also for a significant Upper Egyptian population deduced from cemetery evidence (Patch 1991). A mainly non-sedentary 'Primary Pastoral Community' has even been suggested for Egypt and Nubia (Wengrow et al. 2014) into Naqada I. Yet elite emergence can be observed early in Naqada I at Nubt (Stevenson & van Wettering 2020) in a clearly agricultural society. Did this develop directly out of an earlier cultural horizon or was the Badarian-now extended temporally into the 4th millennium (Dee et al. 2013), perhaps the semi-nomadic branch of an agricultural society settled from an early date on or near the floodplain which is not archeologically recoverable? How did 'aggrandizers'

mobilise labour and military resources and what strategies did they employ to separate the ruling from the ruled?

We must account for social complexity's emergence in farming villages and their eventual loss of political independence as this is not an inevitable outcome. Therefore evidence from the Eastern Desert rock-art and exotic resources available locally in Naqada I, and then increasing long-distance trade from Naqada, is examined here. If 'chiefdoms' did emerge, it was not certain that these would lead to the state, or that centres such as Naqada, Hierakonpolis, Gebelein and Abydos were significant polities contemporaneously. Nor can we dismiss the potential contribution of heterarchical strategies or analogues of vertically stratified societies, even if a state with a sole ruler did emerge (Grinin 2003).

It also remains to be explained why it took an alleged Upper Egyptian' Commonwealth' so long to establish political influence over the Delta when access by boat in 2-3 weeks was feasible and was there a 'Naqada Expansion' (Köhler 2022 and replies)? IHP (Inherent Military Probability) may answer this, but questions remain whether Lower Egyptian elites collaborated with what appears to be an Abydos-led 'chiefdom', if peer polity interaction produced regional groupings on the periphery of an Upper Egyptian polity, and how well developed the early state was in relation to the importance of continuing kinship relations. This presentation examines all these questions and attempts to provide some answers and a basis for future debate.

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Alice LEPLONGEON, Maxence BAILLY, Felix HENSELOWSKY, Gwenola GRAFF

Raw material exploitation in the Earlier and Middle Stone Age of the Egyptian Eastern Desert: new data from Wadi Abu Subeira, Aswan, Egypt

North-Eastern Africa is often considered as a key area in questions related to hominin dispersals out of Africa. In particular, favourable environmental conditions during more humid periods (particularly during MIS 5), may have facilitated human movements in the Eastern Desert of Egypt (Henselowsky et al. 2021). However, very few Stone Age archaeological sites are known in this region (Vermeersch 2012). In this presentation, preliminary results of surveys carried out in the Wadi Abu Subeira (Aswan region, Egypt) are reported. Surveys for Stone Age localities took place as part of the 2022 field season of a Franco-Egyptian project directed by Dr Gwenola Graff in a section of the wadi located between 15 and 25 km away from the Nile Valley, in the Eastern Desert of Egypt (Graff et al. 2015). One Middle Stone Age locality had already been reported by Fred Wendorf in the Wadi Abu Subeira (Wendorf 1989) and several Late Palaeolithic rock art stations are known (Graff and Kelany 2013; Kelany 2014; Storemyr et al. 2008), but these are all located at the entrance of the wadi. Here, we report preliminary results on several Earlier and Middle Stone Age occurrences documented during the 2022 survey. Occurrences take the form of isolated artefacts, concentrations of artefacts in secondary contexts and lithic workshops. The latter shows evidence for intensive exploitation of sandstone outcrops. This led to the accumulation of large quantities of material, on the surface, but with their original spatial distribution virtually intact. Preliminary analysis of the artefacts show that diverse qualities of sandstone were exploited in the Earlier and Middle Stone Age. We then discuss the potential significance and contribution of these new finds to a better understanding of the complex links between the Nile Valley and adjacent deserts during the Stone Age.

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Lorena LOMBARDI

Rediscovering forgotten artefacts: the Egyptian lithic collections of the Museum of Civilization of Rome

The Museum of Civilization of Rome holds rich collections of Egyptian artefacts, which were collected between the late 19th and the early 20th centuries. Many of the artifacts come from surface collections carried out along the Nile Valley, at Wadi el-Sheikh, and in the Fayum depression (i.e. Schweinfurth, Seton-Karr, and Hamann collections). Other artefacts, especially ceramics, were excavated by the Egypt Exploration Fund in 1901 and the Italian Archaeological Mission in 1905 at the Predynastic necropolis of el-Amrah and Hammamiya. Finally, a few objects were bought in the antiquarian markets of Qena and Luxor. Overall, the museum holds more than 3.000 artefacts dated between the Palaeolithic and the Old/Middle Kingdom. The majority of artifacts are lithic tools.

This contribution aims to highlight the potential of studying old museum collections. Although much data on the original contexts were lost due to urbanization or because few studies were conducted in some of the areas, by combining a techno-typological analysis of

the lithic artifacts, the study of the available archive documentation, and by comparing the collection with other recently excavated contexts allows us to shed new light on this often-dismissed collections. This contribution will present the preliminary data from the ongoing research on the lithic collections kept at the Museum of Civilization, with particular regard to the lithics of Helwan area, the Predynastic tools from Naqada, Ballas, Abydos and the artefacts from the Wadi elSheikh quarry.

Francesca MANCLOSSI, Adelaide MARSILIO, Mohamed HAMDAN, Federica UGLIANO, Giulio LUCARINI

Predynastic lithic production at Heliopolis, Egypt: New liht on a forgotten museum collection

The presence of a late prehistoric phase of occupation at Heliopolis in the Nile Delta has been known since the beginning of the 1900s thanks to the excavations of the Italian Egyptologist Ernesto Schiaparelli, at that time the Director of the Museo Egizio of Turin, and Head of the M.A.I. (Missione Archeologica Italiana). Although he paid great attention to collection of the whole lithic assemblage – cores and debitage elements included – he never published the data, and once these artefacts were brought to the Museo Egizio (according to the "partage" system which was in place at that time), they were forgotten for more than one century. In the framework of a memorandum of understanding recently signed between the SABAP-TO, the ISPC-CNR, the Museo Egizio and the Museo dell'Opera del Duomo di Bracciano, Rome, the collection has been temporarily transferred to Bracciano where it is currently being studied within the PREMUC – *Prehistoric Egypt in Museum Collections* – project.

The recent "re-discovery" of this rich lithic assemblage offers the opportunity to shed light on a phase of the site that is poorly understood, and it has the potential to contribute to the debate concerning the development of the Predynastic communities that lived in the Delta during the 4th millennium B.C.

In this paper, we present some preliminary results concerning the techno-typological study of the lithic assemblage, which is both quantitatively and qualitatively extraordinary. Not only does it comprise more than 3000 pieces, but it contains retouched tools, cores and debitage, reflecting all the stages of the chaîne opératoire. Our research includes also archaeometric analysis of the Egyptian flint sources, which are compared to the archaeological artefacts.

This collection shows us the strategies of raw material acquisition, the knapping activities that took place at the site, and how the manufacture of chipped stone-tool was economically integrated within the society.

This study shows the vital importance of this “archive” work, the back-to basics recording of archaeological materials in storage that has been ignored for decades, and which might help enhance and perhaps totally update our knowledge of ancient Egyptian culture and life.

Agnieszka MĄCZYŃSKA

On the dynamics of the Lower Egyptian pottery tradition in the 5th and 4th millennia BC. Some new reflections

The earliest Lower Egyptian pottery, recorded at sites on the northern shore of Lake Qarun, dates back to the mid-6th millennium BC. During the 5th and 4th millennia BC, clay vessels became common utensils. They have been found in large quantities at all known Neolithic and Chalcolithic sites in Lower and Upper Egypt (Mączyńska 2018). Initially, utensils were produced in a domestic context for the needs of the makers. The mode of production was characterised by simple technologies, techniques, and firing conditions, as well as a small scale and intensity. However, the development of pottery manufacturing was influenced by many factors. Changes in food technology and social structures, intensification of trade/exchange and contacts between Upper and Lower Egypt and the southern Levant resulted in modifications to pottery production. In the middle of the 4th millennium BC, household manufacturing evolved into the domestic industry in the case of some vessel forms (e.g. early beer containers, small jars for liquids/snacks) (Mączyńska 2021, in press). In the second half of the 4th millennium BC, specialised production included a significant part of ceramic vessels (e.g. early beer containers, wine jars, cylindrical jars). This paper will present a new development sequence of the Lower Egyptian pottery tradition from its emergence in the Neolithic to the Protodynastic period (Naqada IIIB). The author will refer to the factors affecting pottery production (e.g. social organisation, structure, economy, resources, ecology, demand). The dynamics of pottery tradition will be analysed based on assemblages from Lower Egyptian sites studied by the author (e.g. E29H2 (Kom W) and Tell el-Farkha) and the published pottery material (from the sites at Maadi, Buto, Tell el-Iswid, Tell el-Samara).

MOHAMED A. HAMDAN, Joanne ROWLAND

Geoarchaeological and geological evolution of the Merimde Beni Salama archaeological site

The study of past landscapes in the vicinity of archaeological sites can provide valuable information about prevailing environmental conditions relevant to the activities of former inhabitants. Sediment cores can provide such information, as collected during a pilot investigation of sediment core stratigraphies in the region of the archaeological site of Merimde Beni Salama. Geomorphologically, the studied area is subdivided into three distinct geomorphic units: (1) Early Pleistocene terraces which attain about 60m asl and occupied the westernmost part of the study area. The basal sediments are sandy gravels of Lower Pleistocene (pre-Paleolithic?) age rising as low bluffs some 50 m asl. Banked against these are Middle Paleolithic silts, at least 3m above the alluvium, dating from the late Pleistocene. (2) Low desert terraces with an elevation from 25-15m asl and mainly covered with wind-blown sand and desert lag gravel and (3) Holocene Nile Alluvium at an elevation of up to 12 m asl and mainly covered by cultivated fields and water canals and channels.

Geological investigations and drill core samples were taken in the area of the Merimde Beni Salama site, including the terraces of the Wadi el-Gamal rising to the west of the site commonly associated with the main Neolithic settlement. The samples collected were subjected to detailed grain size, heavy mineral, and geochemical analyses. The recovered sediments are subdivided into six lithostratigraphic units. A geological model is constructed based on data recovered from two shallow drilling core types; a) up to 7m deep at Merimda Beni Salama archaeological site (cores MBS1-MBS6) and two relatively deep (up to 22 m) at Kom Al Ahmar and Abou Awally to the west of the town of Ashmoun.

During the Neolithic, Merimde Beni Salama was on part of the shore of a lake. Mud deposits suggest it was relatively extensive with a 4 km^2 body of water, 4 m deep, well-suited to species such as the hippopotamus. The settlement seems to be located around the fan and flanking terrace sediments from the mouth of the Wadi Gamal. With time, the freshwater would have dried up as the distributary system of the Delta became more strongly channelized and the climate drier. However the next main event there is evidence for is an influx of sand, bleached of its desert pellicle, possibly indicating that it was deposited into the water. Following this, the action moved away from Merimde as we see it now. Earlier Pleistocene finds are probably part of earlier cycles of this type of which there were at least six during the Pleistocene.

This paper will present the analyses contextualised within the recent archaeological fieldwork relating to the Neolithic finds associated with the settlement and hinterland, and also reference to the Palaeolithic finds in the hinterland.

Jakub MUGAJ, Jacek KABACIŃSKI, Małgorzata WINIARSKA–KABACIŃSKA, HEBAT ALLAH IBRAHIM

Early Holocene El Ghorab settlement in Gebel Ramlah, Western Desert of Egypt

Over 20 years of archaeological research in the Gebel Ramlah area revealed the presence of intensive human settlement dated to the Neolithic period. The most intensive occupation falls on the period of Holocene climatic optimum correlated with Al Jerar cultural unit, Late and Final Neolithic period. Information on the earlier Holocene settlement is scarce.
The paper presents the evidence of the oldest Holocene settlement phase recorded in the Gebel Ramlah area related to the so-called El Ghorab cultural unit that chronologically preceding Al Jerar occupation. The site 16-03 is located on the very edge of the paleolake at the southern foots of Gebel Ramlah. It consists of three lithic concentrations and settlement features dispersed around fireplaces. The techno-typological aspect of lithic inventory and settlement chronology is discussed, as well as comparison to already known El Ghorab sites from the Western Desert.

Piotr OSYPIŃSKI, Marta OSYPIŃSKA, Marek CHŁODNICKI

Early Holocene Tergis Group – Old ideas and new finds in Letti

The concept of the Tergis Group was introduced by CPE researchers more than half a century ago, responding to the need to organize the chronology of late prehistory in the Middle Nile region. Over next decades, pottery corresponding to the CPE finds were found at many multiphase Early Holocene sites, but their researchers did not focus on how to separate the phases and analyze their specific components. Only the discovery of the homogeneous site at Letti (LTD2) in 2022, where 88% of the pottery corresponds to the production of the Tergis Group, opens the door to a new look at the periodization of the Neolithic in this important region and the potential directions of communities origins in the Early Holocene. Well-preserved bone remains of wild animals and domesticated cattle were also discovered at the

LTD2 site, adding to the data on the local domestication of African aurochs and proto-pastoralism in Africa. Radiocarbon dating links the settlement of Tergis to the 8th millennium BC, which is older than the period of Karmakol pottery (corresponding to the Khartoum Mesolithic). Our data, additionally supported by isotope analyses, significantly change the periodization of the beginnings of cattle-keeping on the Nile.

Paweł L. POLKOWSKI, D. ZIELIŃSKA, M. DRZEWIECKI, J. CIESIELSKA, K. ROSA, K. INNEMÉE, P. OSYPIŃSKI

Report on the first season of survey in Miseeda, Third Cataract of the Nile, Sudan: Some preliminary observations

In late 2022 and early 2023, the mission of the University of Warsaw to Miseeda commenced a survey around a 10th-century church, which constitutes a *raison d'être* for the project. Of 4 km^2 of the concession area ca. 25% has been so far prospected. The surroundings of the church proved to be extremely rich in archaeological remains, spanning the Early Stone Age through Islamic and colonial periods. Within the surveyed area, 13 previously known archaeological sites were verified and 281 new sites were found. Apart from Christian-period materials, so far the most abundantly represented in the record, a large share of sites and artefacts can be dated to prehistory, both Pleistocene and Holocene. In this brief communication we wish therefore to present some of the results of the first survey season and provide an overview of archaeological features identified in the course of it.

Sakura SANADA

Colourant pigments in Northeastern Africa in the Neolithic period

Colourant pigment have been observed at Neolithic sites in Egypt, Nubia, and Sudan: Badarian sites (red/ Brunton and Caton-Thompson 1928), the Fayum Neolithic sites (yellow and red/ Caton-Thompson and Gardner 1934: 34, 84), Sais (yellow and red/ Tassie 2014), Gebel Ramlah (yellow and red/ Wendorf and Schild 1980), the Khartoum Variant sites (red/ Shiner 1968: 772), the Abkan sites (c.5000-4000BC)(red/ Nordström 1972: 59), R12 (yellow and red/ Salvatori and Usai 2002), Kerma (Honegger 2003), and Al Khiday (yellow, red and others/Salovatori 2012).

They are thought to have been used for cosmetic purpose (i.e., body painting, face painting) as well as dying of fabrics or other objects (Mączyńska 2013: 176). In addition, it is known that yellow and red ochre was used by potters to make slip or vessel paints in Sudan, Nubia, and Egypt in the prehistoric period (Rizkana and Seeher 1989: 18-19; Salvatori 2012). In Nubian A-group graves, red ochre is observed as a common constituent in connection with the burials - sometimes this pigment appears to have been sprinkled over the deceased. In Central Sudan, on the other hand, yellow and read ochre is identified to have been used not only as a coat of pottery surface but as a tempering material for pottery production (Salvatori 2012). Even with an anthropological point of view, it is reconsidered what using colourant pigment meant for the Neolithic people in Northeastern Africa.

Jan ŚMIEŁOWSKI, Małgorzata RUSZKIEWICZ–MICHALSKA, Ikram MADAMI AHMED, Yahia TAHIR, Radomir JASKUŁA

Tarbools associated with ancient settlements – extending the archaeological project with biodiversity survey

The area of El-Ga'ab Depression (Western Dongola reach, Sudan) hosts groups of ancient tarbools – small hills naturally formed around alive shrubs of Athel tamarisk (*Tamarix aphylla*) (Arabic: Tarfa). The majority of the archaeological sites associated with tarbools are Christian, Islamic and prehistoric. This is supported by the pottery sherds, lithic tools, archaeological materials and biofacts that indicate the presence of the former settlements. The most recent inhabitants, still occupying this area, are people of the native tribe El-Kababeesh. Tarbools are situated in depressed lands, which were former paleolakes during early and mid-Holocene. Currently, some tarbools are degrading due to the death of the central shrub (or the main stem) that is usually followed by the erosion, or, very rarely, by the replacement of *Tamarix* with other shrub species, e.g. *Acacia*. From the ecological point of view, tarbools constitute an old, persistent and very unique type of microhabitat (for many organisms being a perfect place to develop, rest or/and hunt) surrounded by desert and thus can be referred to as an environmental island. Unfortunately, fauna and funga of the tarbools have never been studied. This was the reason for the biological survey undertaken in January/February 2023 using the Rapid Biodiversity Assessment protocol allowing to estimate species richness in a short time. Biodiversity sampling included soil-, plant- and arthropod-associated fungi, insects, arachnids, lizards, and small mammals collected in two localities: Um-Hilal and El

Lagia (16 alive and 16 eroded tarbools in total). The following analyses are expected to provide very interesting data, including the description of the species new for science, and to serve as a foundation for further Polish-Sudanese scientific cooperation.

Federica UGLIANO, Silvia AMICONE, Jade BAJEOT, Vanessa FORTE, Giulio LUCARINI

"Long live the sherds": pottery production in Predynastic Heliopolis

At the beginning of the 20th century Ernesto Schiaparelli, Director of the Museo Egizio (Turin, Italy) and Head of the M.A.I. (Missione Archeologica Italiana), carried out a number of archaeological excavations throughout Egypt (1903-1920). Among the many sites that he explored, Heliopolis was one of the most significant ones, known to the ancient Egyptians as the place of the creation of the world, and location of many temples and settlement structures, unfortunately now lost to modern development.

Following the agreement of the so-called "partage" system of the time, thousands of artefacts were granted to the Italian excavators and are now kept in the Museo Egizio. Included within the 1500 new entries recorded in the museum collection at the time of the M.A.I.'s work at Heliopolis, there are numerous pottery fragments and lithic artefacts claimed to have been brought to light in an area of the site generically defined as "Prehistoric Village", and dated to the Predynastic Period (4th millennium BC).

Despite his extensive investigations, Schiaparelli never published the results of its excavations, and several boxes of pottery sherds have been lying in the Museo Egizio storerooms for more than 100 years. After having completed a first phase of archaeological re-contextualization following the analysis of unpublished archival documents, the *PREMUC - Prehistoric Egypt in Museum Collections* - project (started in 2021 under the direction of one of the authors, G.L.) is now focused on the study of the ceramic artefacts. A team of multidisciplinary pottery specialists, which involves experts in petrographic, technological and typological analyses, are working on reconstructing all phases of the *chaîne opératoire*, from the raw material procurement strategies, through the manufacture and use of the artefacts, up to their disposal. A focus on the "biography" of the objects will also contribute to developing new multi-directional museum narratives that can be included in future Museo Egizio exhibitions.

The purpose of this paper is therefore to present the preliminary results of this ongoing research, in order not only to shed light on the production of late prehistoric pottery at the site of Heliopolis and to fill a gap in the knowledge of the first life phases of this important site, but also to better allot its distinctive features within a regional and broader horizon.

Donatella USAI, Mongeda K. MAGZOUB, Barbara JAMBIN

Evidence of shell processing from Neolithic deposit at al-Khiday-1 (16-D-5), White Nile, Central Sudan

Al-Khiday-1 (16-D-5), one of the Mesolithic mounds located in the area, was excavated between 2005 and 2007. The site produced the first *in-situ* deposits dating at Late Early and Middle Mesolithic phases and evidence of an occupation dating at the Neolithic, with a cultural material of the Shaheinab phase. This last deposit, unfortunately, appeared highly disturbed making impossible to elaborate more on this occupation phase. During the 2022 field season, work was resumed at al-Khiday-1 and, to our surprise, a Neolithic deposit was found on the sloping western limit of the mound, stratified on the paleo-swamp organic dark layer dating at the Mesolithic. This deposit produced an incredible amount of mostly *Aspatharia* sp. shells, probable "raw material" for the production of shell-tools, like pottery-combs and fishhooks. Evidence for this is witnessed by pre-forms made from these shells, broken-unfinished tools and few complete ones. Some jewels recovered in the Neolithic graves of al-Khiday-2 (16-D-4) cemetery made from these shells were probably resulting from the activities practiced in this spot.

Dorian VANHULLE

Giving voice to the voiceless: a rock art perspective on the intercultural setting of the Lower and Middle Nile Valley (5th and 4th millennium BCE)

Archaeological research over the past 25 years has profoundly transformed our perception of human occupation in the Lower and Middle Nile Valley and their surrounding deserts during the Neolithic, Predynastic and Early Dynastic periods (c. 9000-2600 BCE). One of the most important results is the recognition that the dominant material cultures in these regions, namely the Lower Egyptian complex in the north, the Naqadans in Upper Egypt and the A

Group in Lower Nubia, were only one major aspect of a much more complex socio-ecological landscape. However, it remains difficult to move beyond these simple observations based on the archaeological material currently available. This article aims to highlight how rock art, a long underestimated archaeological source, could help to progress on these issues and develop new research paradigms.

Ladislav VARADZIN, Lenka VARADZINOVÁ, Stanley H. AMBROSE, Hamad Mohamed HAMDEEN, Jan HOŠEK, Jon-Paul McCOOL

Shaqadud Archaeological Project. 2021 and 2023 field seasons

Jebel Shaqadud preserves important archaeological relics that in the territory of today's Sahel best illustrate prehistoric cultural adaptations that did not depend on aquatic food resources. The region is famous for what has been known as the Shaqadud site complex investigated for the last time forty years ago by the Sudanese-American expedition (Anthony Marks, Abbas Muhammed-Ali, and their colleagues). This expedition documented prehistoric stratigraphies up to seven metres thick and dated between ca. 6,200 and 2,000 cal BC. In 2021, an international inter-disciplinary team directed by the first author of this paper resumed archaeological investigation of this area. Here we present the first findings of the 2021, 2022 and 2023 field campaigns and pilot AMS radiocarbon dates that shed new and surprising light onto the occupation of both this area and the eastern Sahelian hinterlands.

Lenka VARADZINOVÁ, Ladislav VARADZIN

Early Holocene environment and human occupation of central Sudan: a review

The Early Khartoum culture (also known as the Khartoum Mesolithic) has long constituted the earliest Holocene archaeological unit in central Sudan. The culture, attested mainly along the Nile and traditionally dated between >9.0 and 7.0 cal bp, is characterized by hunter-gatherer subsistence, increased reliance on aquatic resources, reduced residential mobility, production of specifically decorated pottery, and presence of human burials within settlements. However, two regional projects – one centred on the Nile around Jebel Sabaloka and the other on the savanna in Jebel Shaqadud in north-western Butana – have recently attested to reoccupation of the Nile around the Sixth Nile Cataract by hunter-fisher-gatherers

with pottery decorated with a distinct technology as early as 10.7 ka bp and to even earlier presence in Shaqadud of aceramic hunter-gatherers relying on non-aquatic resources. These new data have urged for a thorough review of the existing chronometric, archaeological, and palaeoenvironmental evidence gathered through hitherto research both along and away from the main rivers of central Sudan. In this paper, we present the review of the regional early Holocene archaeological record and discuss its implications for the narrative of reoccupation, settlement dynamics, and environmental conditions in early Holocene central Sudan.

LIST OF CONTRIBUTORS

Olga ADAMCZYK, Poznań Archaeological Museum, Poznań, Poland

Marsilio ADELAIDE

AL BAGIR BADWI, Sudan

HASSAN ALKHIDIR, Sudan

Stanley H. AMBROSE, Department of Anthropology, University of Illinois at Urbana-Champaign, Illinois, USA

Silvia AMICONE

Leslie AMOYAL

Jade BAJEOT, Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences, Warsaw, Poland; e-mail: jadebajeot@gmail.com

Grzegorz BĄK-PRYC, Department of Egyptian and Near Eastern Archaeology, Institute of Archaeology, Jagiellonian University, Krakow, Poland; e-mail: grzegorz.pryc@uj.edu.pl

Przemysław BOBROWSKI, Institute of Archaeology and Ethnology, Polish Academy of Sciences Poland; e-mail: boberpusz@gazeta.pl

Alessia BRUCATO, Department of Humanistic Research and Innovation, University of Bari Aldo Moro (DIRIUM UNIBA), BA, Italy; Institute of Heritage Science, National Research Council of Italy (ISPC CNR), RM, Italy; e-mail: alessia.brucato@uniba.it

Marek CHŁODNICKI, Poznań Archaeological Museum, Poznań, Poland;
e-mail: mchlod@man.poznan.pl

Joanna CIESIELSKA, Department of Archaeology, Warsaw University, Warsaw, Poland

Isabelle CREVECOEUR, UMR 5199 PACEA, Université de Bordeaux, France; e-mail: isabelle.crevecoeur@u-bordeaux.fr

Dafne DELL'AQUILA, Department of Asia, Africa, Mediterraneo, University of Naples L'Orientale, NA, Italy; e-mail: d.dellaquila@studenti.unior.it

Joanna DĘBOWSKA-LUDWIN, Institute of Archaeology, Jagiellonian University, Kraków, Poland; e-mail: joanna_d@poczta.onet.pl

Grazia A. DI PIETRO, The Hierakonpolis Expedition, Ashmolean Museum, Oxford, UK; e-mail: graziadipietro@yahoo.it

Mariusz DRZEWIECKI, Centre for Mediterranean Archaeology, Warsaw University, Warsaw, Poland

Wojciech EJSMOND, Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences; e-mail: wojtek.ejsmond@wp.pl

Vanessa FORTE

Renée F. FRIEDMAN, The Hierakonpolis Expedition, Ashmolean Museum, Oxford, UK

Maria Carmela GATTO; Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences, Warsaw, Poland; e-mail: mcgatto@iksio.pan.pl

GALIA GAR EL-NABI, Museums National Corporation for Antiquities and Museums Khartoum, Sudan

Guillermo GARCIA-MARÍN, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra

Xavier Roda GILABERT, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra

Gwenola GRAFF, UMR 208 IRD-MNHN "Patrimoines locaux, environnement et globalisation" (PALOC) MNHN, Département HNS 57 rue Cuvier, CP 51, 75231 Paris France; e-mail: gwenola.graff@ird.fr

Randi HAALAND, Department of Archaeology, History, Culture and Religion, University of Bergen, Norway; e-mail: randi.haland@ahkr.uib.no

HAMDAN MOHAMED

HAMAD MOHAMED HAMDEEN, Department of Archaeology, Al Neelain University, Khartoum, Sudan

HEBAT ALLAH A. A. IBRAHIM, Oriental Institute, University of Oxford, UK; e-mail: heba22_eg@yahoo.com

Jan HOŠEK, Czech Geological Survey; Centre for Theoretical Study, Charles University and the Czech Academy of Sciences, Prague, Czech Republic

IKRAM MADANI AHMED, Department of Botany, Faculty of Science, University Khartoum, Al-Gama'a Str., Khartoum, Sudan; e-mail: ikramahmed3@yahoo.com

Karel INNEMÉE, Department of Archaeology, Warsaw University, Warsaw, Poland

Barbara JAMBIN

Radomir JASKUŁA, Department of Invertebrate Zoology and Hydrobiology, Faculty of Biology and Environmental Protection, University of Lodz, 12/16 Banach Str., 90-237 Lodz, Poland; e-mail: radomir.jaskula@biol.uni.lod.pl

Friederike JESSE, University of Cologne, Institute of Prehistoric Archaeology, Forschungsstelle Afrika, Germany; e-mail: friederike.jesse@uni-koeln.de

Carolina JIMÉNEZ-ARTEAGA, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra

Monika JOVANOVICH, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra

Maciej JÓRDECZKA, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poland; e-mail: maciej.jordeczka@iaepan.poznan.pl

Alicja JURGIELEWICZ–KOWALSKA

Zuzanna KAFEL, Department of Archaeology, Adam Mickiewicz University, Poznań, Poland

Jacek KABACIŃSKI, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poland; e-mail: jacek.kabacinski@interia.pl

Karin KINDERMANN, University of Cologne, Institute of Prehistoric Archaeology, Bernhard-Feilchenfeld-Str. 11, 50969 Cologne, Germany; e-mail: k.kindermann@uni-koeln.de

Michał KOBUSIEWICZ, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poland; e-mail: mkobus@man.poznan.pl

Jean Daniel KRZYZOSIAK, e-mail: jkrzyzosiak@wanadoo.fr

Robert KUHN, Ägyptisches Museum und Papyrussammlung, Staatliche Museen zu Berlin, Geschwister-Scholl-Str. 6, 10117 Berlin, Germany;
e-mail: rkuhn18@smb.spk-berlin.de

Jan KUPER, Universität zu Köln, Institut für Ur- und Frühgeschichte, Forschungsstelle Afrika, Jennerstr. 8, 50823 Cologne, Germany; e-mail: jankuper@un-koeln.de

Rudolph KUPER, Heinrich-Barth-Institut, Universität zu Köln, Jennerstr. 8, 50823 Köln, Germany; e-mail: kuper@uni-koeln.de

Taichi KURONUMA, Research Institute for Humanity and Nature, Kyoto, Japan; e-mail: taichi.kuronuma@gmail.com

Carla LANCELOTTI, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra; ICREA

Francis D. LANKESTER, e-mail: frankfrankly101@gmail.com

Alice LEPLONGEON, KU Leuven, Geo-Institute, Celestijnenlaan 200e, 3001 Leuven, BE
Institute of Archaeology, The Hebrew University of Jerusalem, Israel; e-mail: alice.leplongeon@kuleuven.be

Maria LITYŃSKA-ZAJĄC, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Kraków, Poland; e-mail: marialitynska@gazeta.pl

Lorena LOMBARDI, University of Pisa – Dipartimento di Civilta e Forme del Sapere, Pisa, Italy; e-mail: lorane.lombardi@phd.unipi.it

Giulio LUCARINI, Institute of Heritage Science (ISPC); National Research Council of Italy (CNR); Prehistory and Protohistory, Dept. of Asian, African and Mediterranean Studies, University of Naples L'Orientale; Prehistoric Ethnography of Africa and Asia, OR.SA. Post-Graduate School of Archaeology, University of Naples L'Orientale, University of Salerno; e-mail: giuliolucarini@gmail.com

Marco MADELLA, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra; ICREA

Mongeda K. MAGZOUB

MANAHIL MOHAMMED FARAH

Francesca MANCLOSSI, ISPC – CNR – Insitute of Heritage Science, National Research Council of Italy, Rome, Italy; e-mail: Francesca.manclossi@gmail.com

Nicola MARTIN

Paulina MARUSZAK, e-mail: paula.maruszak@gmail.com

Nicola MASINI, Institute of Heritage Science, National Research Council of Italy (ISPC CNR), RM, Italy; e-mail: nicola.masini@cnr.it

Mirosław MASOJĆ, Institute of Archaeology, Wrocław University, Poland;
e-mail: miroslaw.masojc@uwr.edu.pl

Agnieszka MĄCZYŃSKA, Poznań Archaeological Museum, Poland;
e-mail: agnieszka.maczynska@muzarp.poznan.pl

Jon-Paul McCOOL, Department of Geography and Meteorology, Valparaiso University, Valparaiso, Indiana, USA

Grzegorz MICHALEC, Institute of Archaeology, Wrocław University, Poland;
e-mail:

MOHAMED HAMDAN, Geology Dept., Faculty of Science, Cairo University, Cairo, Egypt; e-mail: hamdanmohamed@hotmail.com

Jakub MUGAJ, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poland; e-mail: j_mugaj@o2.pl

Patryk MUNTOWSKI

Marta OSYPIŃSKA, Institute of Archaeology, Wrocław University, Poland;
e-mail: archeozoo@o2.pl

Piotr OSYPIŃSKI, Institute of Archaeology and Ethnology, Polish Academy of Sciences; e-mail: piotr.osypinski@gmail.com

A. PALADIN

Henryk PANER

Paweł POLKOWSKI, Poznań Archaeological Museum, Poland; e-mail: ppolkowski@o2.pl

RAGHAD KHALED ALI

Katarzyna ROSA, Department of Archaeology, Warsaw University, Warsaw, Poland

W. ROSENDHAL

Joanne M. ROWLAND, School of History, Classics and Archaeology, William Robertson Wing, Old Medical School, Teviot Place, Edinburgh EH8 9AH, UK, e-mail: joanne.rowland@ed.ac.uk

Małgorzata RUSZKIEWICZ-MICHALSKA, Department of Algology and Mycology, Faculty of Biology and Environmental Protection, University of Lodz, Lodz, Poland; e-mail: malgorzata.ruszkiewicz@biol.uni.lodz.pl

N. SALEM

Sandro SALVATORI, Centro Studi Sudanesi e Sub-Sahariani, Italy;

Sakura SANADA, Tokyo Metropolitan University Minamiosawa 1 Chome-1, Hachioji, Tokyo, Japan; e-mail: uoltoju@gmail.com

Giuseppe SCARDOZZI, Institute of Heritage Science, National Research Council of Italy (ISPC CNR), RM, Italy; e-mail: giuseppe.scardozzi@cnr.it

SIDDIG MAHADI

Gavin SMITH, e-mail: alexandros_3_99@yahoo.co.uk

L. SUTHERLAND

Jan ŚMIEŁOWSKI, former PAS Institut for Agriculture and Forestry Environment in Poznan; e-mail: jan.smielowski@gmail.com

Barbara TEßMANN, Museum für Vor- zu Frühgeschichte, Staatliche Museen zu Berlin, Geschiwster-Scholl-Str. 6, 10117 Berlin, e-mail: b.tessmann@smb.spk-berlin.de

Federica UGLIANO, Fondazione Museo delle Antichita Egizie di Torino, Torino, Italy; e-mail: federica.ugliano@gmail.com

Donatella USAI, Centro Studi Sudanesi e Sub-Sahariani, Italy;

e-mail: donatellausaisalvatori@gmail.com

Dorian VANHULLE, Université libre de Bruxelles, Bruxelles, Belgium; e-mail: dorian.vanhulle@gmail.com

Ladislav VARADZIN, Institute of Archaeology of the Czech Academy of Sciences, Prague, Letenska 4, 118 00 Prague 1, Czech Republic; e-mail: varadzin@arup.cas.cz

Lenka VARADZINOVÁ, Czech Institute of Egyptology, Faculty of Arts, Charles University, Prague, Czech Republic; e-mail: sukova.lenka@gmail.com

WAFA SHARIF DAWOD HUSSEIN, Laboratoire Langage, Langues et Cultures d'Afrique (LLACAN, UMR 8135) est une unité mixte de recherche du CNRS; e-mail: fofoshr1995@gmail.com

Małgorzata WINIARSKA-KABACIŃSKA, Poznań Archaeological Museum, Poland; e-mail: mwinkab@interia.pl

Maciej WITKOWSKI, Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences, Poland; e-mail: csnec@zkppan.waw.pl

Pawel WOLF, Langnower Str. 13, D-16928 Langnow; e-mail: pawel_wolf@yahoo.de

C. WURST

YAHIA TAHIR, Department of Archaeology, Faculty of Arts, University Khartoum, Al-Gama'a Str., Khartoum, Sudan; e-mail: yahiasd@yahoo.com

S. ZESCH

Dobrochna ZIELIŃSKA, Department of Archaeology, Warsaw University, Warsaw, Poland

A. ZINK

LIST OF CONTRIBUTORS

Olga ADAMCZYK, Poznań Archaeological Museum, Poznań, Poland

Marsilio ADELAIDE

AL BAGIR BADWI, Sudan

HASSAN ALKHIDIR, Sudan

Stanley H. AMBROSE, Department of Anthropology, University of Illinois at Urbana-Champaign, Illinois, USA

Silvia AMICONE

Leslie AMOYAL

Jade BAJEOT, Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences, Warsaw, Poland; e-mail: jadebajeot@gmail.com

Grzegorz BĄK-PRYC, Department of Egyptian and Near Eastern Archaeology, Institute of Archaeology, Jagiellonian University, Krakow, Poland; e-mail: grzegorz.pryc@uj.edu.pl

Przemysław BOBROWSKI, Institute of Archaeology and Ethnology, Polish Academy of Sciences Poland; e-mail: boberpusz@gazeta.pl

Alessia BRUCATO, Department of Humanistic Research and Innovation, University of Bari Aldo Moro (DIRIUM UNIBA), BA, Italy; Institute of Heritage Science, National Research Council of Italy (ISPC CNR), RM, Italy; e-mail: alessia.brucato@uniba.it

Marek CHŁODNICKI, Poznań Archaeological Museum, Poznań, Poland;
e-mail: mchlod@man.poznan.pl

Joanna CIESIELSKA, Department of Archaeology, Warsaw University, Warsaw, Poland

Isabelle CREVECOEUR, UMR 5199 PACEA, Université de Bordeaux, France; e-mail: isabelle.crevecoeur@u-bordeaux.fr

Dafne DELL'AQUILA, Department of Asia, Africa, Mediterraneo, University of Naples L'Orientale, NA, Italy; e-mail: d.dellaquila@studenti.unior.it

Joanna DĘBOWSKA-LUDWIN, Institute of Archaeology, Jagiellonian University, Kraków, Poland; e-mail: joanna_d@poczta.onet.pl

Grazia A. DI PIETRO, The Hierakonpolis Expedition, Ashmolean Museum, Oxford, UK; e-mail: graziadipietro@yahoo.it

Mariusz DRZEWIECKI, Centre for Mediterranean Archaeology, Warsaw University, Warsaw, Poland

Wojciech EJSMOND, Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences; e-mail: wojtek.ejsmond@wp.pl

Vanessa FORTE

Renée F. FRIEDMAN, The Hierakonpolis Expedition, Ashmolean Museum, Oxford, UK

Maria Carmela GATTO; Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences, Warsaw, Poland; e-mail: mcgatto@iksio.pan.pl

GALIA GAR EL-NABI, Museums National Corporation for Antiquities and Museums Khartoum, Sudan

Guillermo GARCIA-MARÍN, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra

Xavier Roda GILABERT, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra

Gwenola GRAFF, UMR 208 IRD-MNHN "Patrimoines locaux, environnement et globalisation" (PALOC) MNHN, Département HNS 57 rue Cuvier, CP 51, 75231 Paris France; e-mail: gwenola.graff@ird.fr

Randi HAALAND, Department of Archaeology, History, Culture and Religion, University of Bergen, Norway; e-mail: randi.haland@ahkr.uib.no

HAMDAN MOHAMED

HAMAD MOHAMED HAMDEEN, Department of Archaeology, Al Neelain University, Khartoum, Sudan

HEBAT ALLAH A. A. IBRAHIM, Oriental Institute, University of Oxford, UK; e-mail: heba22_eg@yahoo.com

Jan HOŠEK, Czech Geological Survey; Centre for Theoretical Study, Charles University and the Czech Academy of Sciences, Prague, Czech Republic

IKRAM MADANI AHMED, Department of Botany, Faculty of Science, University Khartoum, Al-Gama'a Str., Khartoum, Sudan; e-mail: ikramahmed3@yahoo.com

Karel INNEMÉE, Department of Archaeology, Warsaw University, Warsaw, Poland

Barbara JAMBIN

Radomir JASKUŁA, Department of Invertebrate Zoology and Hydrobiology, Faculty of Biology and Environmental Protection, University of Lodz, 12/16 Banach Str., 90-237 Lodz, Poland; e-mail: radomir.jaskula@biol.uni.lod.pl

Friederike JESSE, University of Cologne, Institute of Prehistoric Archaeology, Forschungsstelle Afrika, Germany; e-mail: friederike.jesse@uni-koeln.de

Carolina JIMÉNEZ-ARTEAGA, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra

Monika JOVANOVICH, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra

Maciej JÓRDECZKA, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poland; e-mail: maciej.jordeczka@iaepan.poznan.pl

Alicja JURGIELEWICZ–KOWALSKA

Zuzanna KAFEL, Department of Archaeology, Adam Mickiewicz University, Poznań, Poland

Jacek KABACIŃSKI, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poland; e-mail: jacek.kabacinski@interia.pl

Karin KINDERMANN, University of Cologne, Institute of Prehistoric Archaeology, Bernhard-Feilchenfeld-Str. 11, 50969 Cologne, Germany; e-mail: k.kindermann@uni-koeln.de

Michał KOBUSIEWICZ, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poland; e-mail: mkobus@man.poznan.pl

Jean Daniel KRZYZOSIAK, e-mail: jkrzyzosiak@wanadoo.fr

Robert KUHN, Ägyptisches Museum und Papyrussammlung, Staatliche Museen zu Berlin, Geschwister-Scholl-Str. 6, 10117 Berlin, Germany;
e-mail: rkuhn18@smb.spk-berlin.de

Jan KUPER, Universität zu Köln, Institut für Ur- und Frühgeschichte, Forschungsstelle Afrika, Jennerstr. 8, 50823 Cologne, Germany; e-mail: jankuper@un-koeln.de

Rudolph KUPER, Heinrich-Barth-Institut, Universität zu Köln, Jennerstr. 8, 50823 Köln, Germany; e-mail: kuper@uni-koeln.de

Taichi KURONUMA, Research Institute for Humanity and Nature, Kyoto, Japan; e-mail: taichi.kuronuma@gmail.com

Carla LANCELOTTI, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra; ICREA

Francis D. LANKESTER, e-mail: frankfrankly101@gmail.com

Alice LEPLONGEON, KU Leuven, Geo-Institute, Celestijnenlaan 200e, 3001 Leuven, BE
Institute of Archaeology, The Hebrew University of Jerusalem, Israel; e-mail: alice.leplongeon@kuleuven.be

Maria LITYŃSKA-ZAJĄC, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Kraków, Poland; e-mail: marialitynska@gazeta.pl

Lorena LOMBARDI, University of Pisa – Dipartimento di Civilta e Forme del Sapere, Pisa, Italy; e-mail: lorane.lombardi@phd.unipi.it

Giulio LUCARINI, Institute of Heritage Science (ISPC); National Research Council of Italy (CNR); Prehistory and Protohistory, Dept. of Asian, African and Mediterranean Studies, University of Naples L'Orientale; Prehistoric Ethnography of Africa and Asia, OR.SA. Post-Graduate School of Archaeology, University of Naples L'Orientale, University of Salerno; e-mail: giuliolucarini@gmail.com

Marco MADELLA, CaSEs Research Group, Department of Humanities, Universitat Pompeu Fabra; ICREA

Mongeda K. MAGZOUB

MANAHIL MOHAMMED FARAH

Francesca MANCLOSSI, ISPC – CNR – Insitute of Heritage Science, National Research Council of Italy, Rome, Italy; e-mail: Francesca.manclossi@gmail.com

Nicola MARTIN

Paulina MARUSZAK, e-mail: paula.maruszak@gmail.com

Nicola MASINI, Institute of Heritage Science, National Research Council of Italy (ISPC CNR), RM, Italy; e-mail: nicola.masini@cnr.it

Mirosław MASOJĆ, Institute of Archaeology, Wrocław University, Poland;
e-mail: miroslaw.masojc@uwr.edu.pl

Agnieszka MĄCZYŃSKA, Poznań Archaeological Museum, Poland;
e-mail: agnieszka.maczynska@muzarp.poznan.pl

Jon-Paul McCOOL, Department of Geography and Meteorology, Valparaiso University, Valparaiso, Indiana, USA

Grzegorz MICHALEC, Institute of Archaeology, Wrocław University, Poland;
e-mail:

MOHAMED HAMDAN, Geology Dept., Faculty of Science, Cairo University, Cairo, Egypt; e-mail: hamdanmohamed@hotmail.com

Jakub MUGAJ, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Poland; e-mail: j_mugaj@o2.pl

Patryk MUNTOWSKI

Marta OSYPIŃSKA, Institute of Archaeology, Wrocław University, Poland;
e-mail: archeozoo@o2.pl

Piotr OSYPIŃSKI, Institute of Archaeology and Ethnology, Polish Academy of Sciences; e-mail: piotr.osypinski@gmail.com

A. PALADIN

Henryk PANER

Paweł POLKOWSKI, Poznań Archaeological Museum, Poland; e-mail: ppolkowski@o2.pl

RAGHAD KHALED ALI

Katarzyna ROSA, Department of Archaeology, Warsaw University, Warsaw, Poland

W. ROSENDHAL

Joanne M. ROWLAND, School of History, Classics and Archaeology, William Robertson Wing, Old Medical School, Teviot Place, Edinburgh EH8 9AH, UK, e-mail: joanne.rowland@ed.ac.uk

Małgorzata RUSZKIEWICZ-MICHALSKA, Department of Algology and Mycology, Faculty of Biology and Environmental Protection, University of Lodz, Lodz, Poland; e-mail: malgorzata.ruszkiewicz@biol.uni.lodz.pl

N. SALEM

Sandro SALVATORI, Centro Studi Sudanesi e Sub-Sahariani, Italy;

Sakura SANADA, Tokyo Metropolitan University Minamiosawa 1 Chome-1, Hachioji, Tokyo, Japan; e-mail: uoltoju@gmail.com

Giuseppe SCARDOZZI, Institute of Heritage Science, National Research Council of Italy (ISPC CNR), RM, Italy; e-mail: giuseppe.scardozzi@cnr.it

SIDDIG MAHADI

Gavin SMITH, e-mail: alexandros_3_99@yahoo.co.uk

L. SUTHERLAND

Jan ŚMIEŁOWSKI, former PAS Institut for Agriculture and Forestry Environment in Poznan; e-mail: jan.smielowski@gmail.com

Barbara TEßMANN, Museum für Vor- zu Frühgeschichte, Staatliche Museen zu Berlin, Geschiwster-Scholl-Str. 6, 10117 Berlin, e-mail: b.tessmann@smb.spk-berlin.de

Federica UGLIANO, Fondazione Museo delle Antichita Egizie di Torino, Torino, Italy; e-mail: federica.ugliano@gmail.com

Donatella USAI, Centro Studi Sudanesi e Sub-Sahariani, Italy;

e-mail: donatellausaisalvatori@gmail.com

Dorian VANHULLE, Université libre de Bruxelles, Bruxelles, Belgium; e-mail: dorian.vanhulle@gmail.com

Ladislav VARADZIN, Institute of Archaeology of the Czech Academy of Sciences, Prague, Letenska 4, 118 00 Prague 1, Czech Republic; e-mail: varadzin@arup.cas.cz

Lenka VARADZINOVÁ, Czech Institute of Egyptology, Faculty of Arts, Charles University, Prague, Czech Republic; e-mail: sukova.lenka@gmail.com

WAFA SHARIF DAWOD HUSSEIN, Laboratoire Langage, Langues et Cultures d'Afrique (LLACAN, UMR 8135) est une unité mixte de recherche du CNRS; e-mail: fofoshr1995@gmail.com

Małgorzata WINIARSKA-KABACIŃSKA, Poznań Archaeological Museum, Poland; e-mail: mwinkab@interia.pl

Maciej WITKOWSKI, Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences, Poland; e-mail: csnec@zkppan.waw.pl

Pawel WOLF, Langnower Str. 13, D-16928 Langnow; e-mail: pawel_wolf@yahoo.de

C. WURST

YAHIA TAHIR, Department of Archaeology, Faculty of Arts, University Khartoum, Al-Gama'a Str., Khartoum, Sudan; e-mail: yahiasd@yahoo.com

S. ZESCH

Dobrochna ZIELIŃSKA, Department of Archaeology, Warsaw University, Warsaw, Poland

A. ZINK