

SUDAN & NUBIA

The Sudan Archaeological Research Society



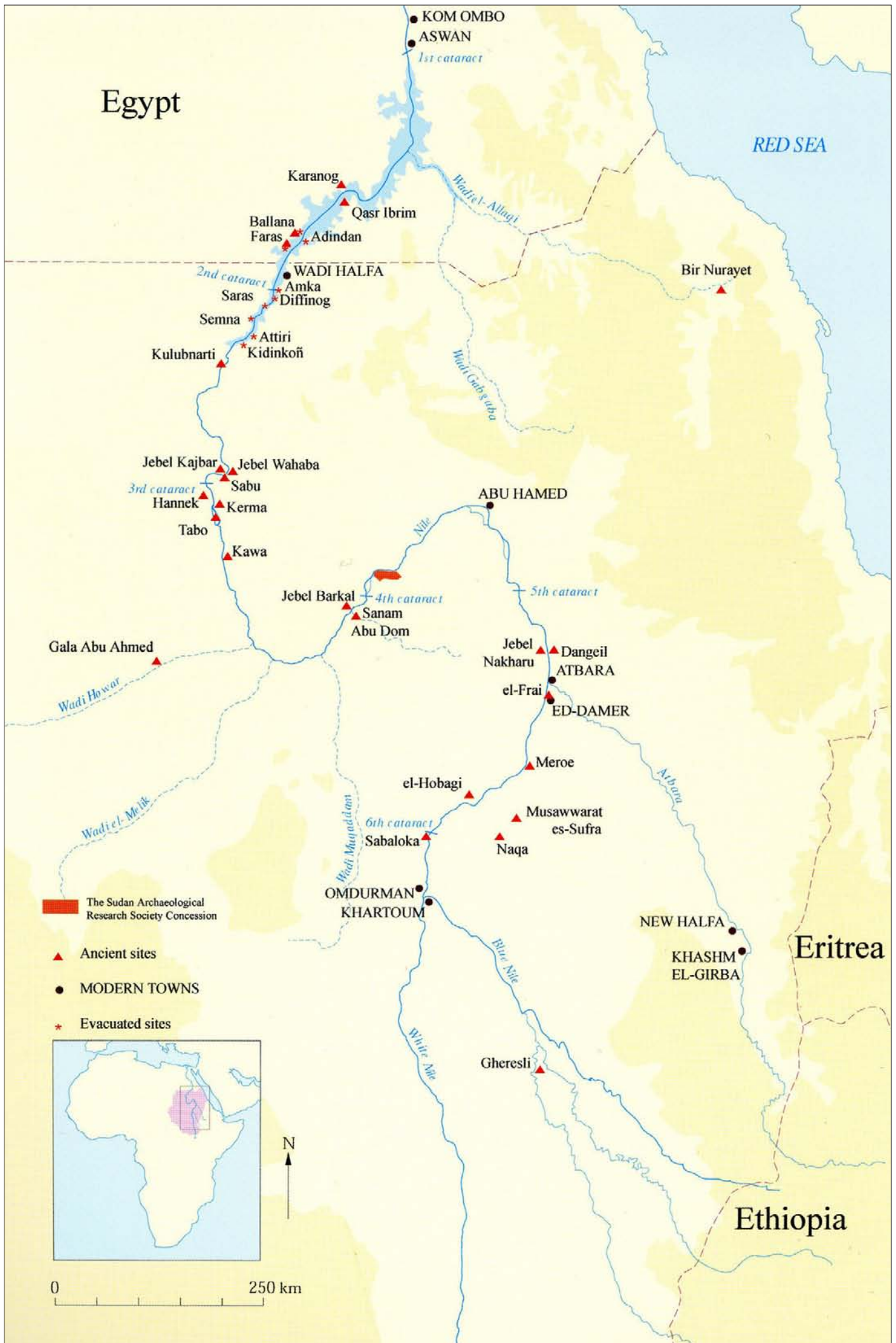
Bulletin No. 10

2006



Egypt

RED SEA



SUDAN & NUBIA

The Sudan Archaeological Research Society



Bulletin No. 10 2006

Contents

Kirwan Memorial Lecture

- Bir Nurayet – the Rock Art Gallery of the Red Sea Hills 2
Krzysztof Pluskota
-

The Merowe Dam Archaeological Salvage Project

- Excavations in the vicinity of ed-Doma (AKSE), 2005-2006 8
Derek A. Welsby
- Preliminary report on the excavations conducted on Mis Island (AKSC), 2005-2006 13
Andrew Ginns
- The Third Season of the SARS Anglo-German Expedition to the Fourth Cataract of the Nile 20
Pavel Wolf and Ulrike Nowotnick
- Comments on the two Egyptian jars found at Tomb no. 1 of site 3-Q-94 32
Robert Schiestl
- Fourth Nile Cataract petroglyphs in context: the ed-Doma and Dirbi rock-art survey 34
Cornelia Kleinitz and Roswitha Koenitz
-

Reports

- Cattle, sherds and mighty walls – the Wadi Howar from Neolithic to Kushite times 43
Friederike Jesse
- Drawings on rocks: the most enduring monuments of Middle Nubia 55
David N. Edwards
- Roman Artillery Balls from Qasr Ibrim, Egypt 64
Alan Wilkins, Hans Barnard and Pamela J. Rose

- Antaios the Giant and Antaios the God, or how could the Greeks have got it so wrong? A statuette in the Nubian Museum: a case of understated syncretism 79
Donald M. Bailey

- Apedemak and Dionysos. Further remarks on the “cult of the grape” in Kush 82
Andrea Manzo

- Bread Moulds and ‘Throne Halls’: Recent Discoveries in the Amun Temple Precinct at Dangeil 95
Julie Anderson and Salah Mohamed Ahmed

- El-Frai: a new Meroitic habitation site in ed-Damer 102
Mohamed Faroug Abd el-Rahman

- Gheresli: a post-Meroitic activity centre in the Blue Nile region 104
Mohamed Faroug Abd el-Rahman

- Paradise Lost: Nubia before the 1964 Exodus 110
Herman Bell
-

- Miscellaneous 117

- Front cover: Beja man by the well at Bir Vario, Eastern Desert (photo K. Pluskota).

Reports

Cattle, sherds and mighty walls – the Wadi Howar from Neolithic to Kushite times

Friederike Jesse

Introduction

Seeing the actual landscape it is hard to imagine that the southern Libyan Desert has not always been just emptiness and waste land, but that once there lived human groups here herding cattle, making pottery vessels, different kinds of tools and enjoying a rich social life. The enormous amount of archaeological material in the Wadi Howar, however, is proof of that. At most Holocene sites bones are rather well preserved and lithics and pottery abundant. At Neolithic sites bones of cattle are particularly numerous. Cattle played an important role in North African prehistory. From the start, the local food-producing economies were based on sheep, goat and, most importantly, cattle rearing (cf. Marshall and Hildebrand 2002). Bearing this in mind, it is hardly surprising that, from the 6th millennium BC onwards, cattle also featured prominently in the social and ritual life of the inhabitants of the Sahara and the Nile Valley (cf. Applegate

et al. 2001; Keding 1997, 224-228, 233-235; Smith 2005).

Besides the bones, pottery sherds are the most informative in the Wadi Howar concerning cultural and chronological development. The following outlines of the prehistory of the Wadi Howar from Neolithic to Kushite times are thus largely based on the analysis of these two archaeological sources: sherds and bones.

The area of research

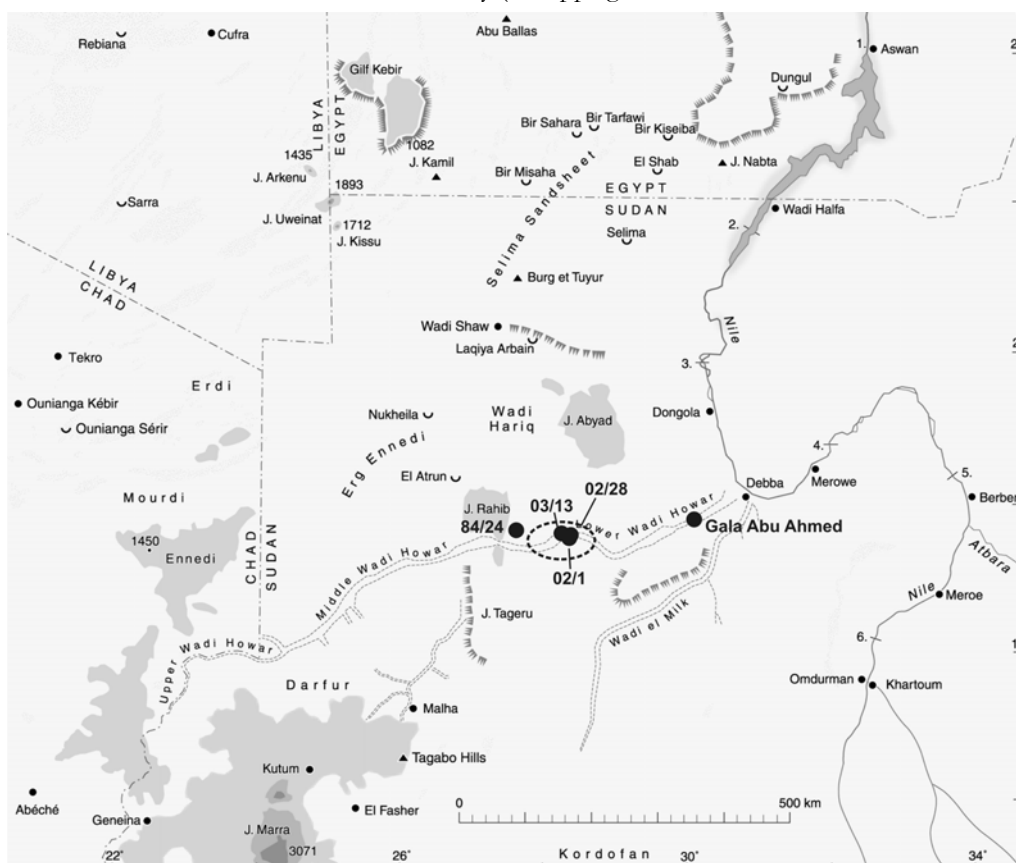
The Wadi Howar, once the most important tributary from the Sahara to the Nile, traverses the southern margins of the Sahara (Pachur and Kröpelin 1987; Kröpelin 1993) (Figure 1). The altogether 1050km long course of the wadi can be separated into three major parts: Upper, Middle and Lower Wadi Howar (Kröpelin 1993, 20). The Upper Wadi Howar comprises the first 240km, traversing the border areas between Chad and Sudan. Here lush vegetation is present, even a real forest consisting mostly of *Acacia nilotica* (Kröpelin *et al.* 2000). The Middle Wadi Howar, stretching over 400km between the Erg of Tageru in the south and the Erg of Ennedi in the north, is easily recognizable in the landscape due to a strip of vegetation up to 5km wide, and is especially marked by shau-bushes (*Salvadora persica*). This part of the wadi ends in the large inner delta at Jebel Rahib. Here several wells and acacias are present (Neumann 1989, 34-35). The lower section of the Wadi Howar (between Jebel Rahib in the west and the Nile Valley in the east) is also about 400km long. It is a featureless, 5 to 15km wide valley with no pronounced embankments (Keding 2000, 90).

Plains of rolling sand and serir, some fields of barchan dunes and a multitude of limnic, semilacustrine and fluvial sediments can be found in the wadi, while, in its middle part, channels are a typical feature (Keding 2004, 96; Kröpelin 1993, 22).

A short history of research

With regard to archaeology, this area has long been “terra incognita” (Hinkel 1979, 11-21). Intense research did not start before the 1920s. The

Figure 1. The location of the Wadi Howar and the sites referred to in the text. The dotted circle indicates the region of Abu Tabari and Conical Hill, the area of recent research of the ACACIA project in the Lower Wadi Howar.





first person to describe finds of pottery there was the English Major Hubert Conway Maydon, who went to the Wadi Howar on hunting trips (Maydon 1923, 40). More clearly devoted to research were the English expeditions of Donald Newbold, William Boyd Kennedy Shaw and Ralph Bagnold or the 11. *Deutsch-Innerafrikanische Forschungs-Expedition* (DIAFE XI) headed by Leo Frobenius and Hans Rhotert (Hinkel 1979, 18-21). With the onset of World War II, research in the southern Libyan Desert ceased for a while. It was only continued in the mid-1970s when the Sudanese archaeologist Abbas Mohammed-Ali started survey and excavation in an area of about 5000km² near the Chad – Sudan border (Mohammed-Ali 1982). Intensive investigation then began with the Cologne Research Project B.O.S. (“*Besiedlungsgeschichte der Ostsahara*”) in 1980 (e.g. Kuper 1981; 1988; 1995; Richter 1989). Research continues since 1995 within the collaborative research centre ACACIA (“Arid Climate Adaptation and Cultural Innovation in Africa”) of the University of Cologne, which provides a detailed picture of the story of prehistoric occupation in the southern Libyan Desert (e.g. Keding 1998; 2000; 2004; Keding and Vogelsang 2001; Hoelzmann *et al.* 2001; Jesse *et al.* 2004).

Ecology

Palaeoenvironmental and geomorphological studies indicate favourable climatic conditions starting at about 9300 bp (*c.* 8300 BC) and persisting until 3000 bp (Kröpelin 1993, 215-216). For the first wet phase of the Holocene a shift of the vegetation zones of about 500km to the north is proposed; at around 5800 BC a deciduous savannah existed in the Wadi Howar. After a short dry period at around 4900 BC a second wet phase started around the middle of the 5th millennium BC. The vegetation zones now only shifted about 300-400km to the north making the Wadi Howar a part of an acacia-dominated thorn savannah. Increasing aridity marked the Eastern Sahara from about 4300 BC onwards. The Wadi Howar was still part of the thorn savannah, later of the semi desert and finally desert (Neumann 1989) (Figure 2). The favourable climatic conditions of the Early and Middle Holocene attracted large mammals, such as hippopotamus, giraffe, antelope and elephant, but also allowed the spread of fish and molluscs (Peters and Pöllath 2004, fig. 2) and human settlement. During the Early and Middle Holocene, one has to imagine the Wadi Howar as a chain of lakes and temporary water pools; a continuous flow of water from the source to the Nile cannot be postulated (Kröpelin 1993, 234-235).

The Lower Wadi Howar – the area of recent research

Recent research of the ACACIA project has focused on the Lower Wadi Howar, the 400km between the Nile Valley in the east and Jebel Rahib in the west (Keding 2000; Jesse 2003; Lange 2005) (Figure 1). Most remarkable among the

nearly 440 sites known is a type of settlement found in quite a restricted area stretching from about 150km west of the Nile up to Jebel Rahib: dunes of parabolic shape completely covered by archaeological material, the so-called dune habitats or artefact-stabilized dunes (Gabriel *et al.* 1985; Kröpelin 1993, 85-92; Keding 2000, 91-96). Dune habitats have diameters of several hundred meters and can be up to 15m high (Kröpelin 1993, 86). Characteristic is a thick coverage of artefacts comprising pottery, lithics, bones and grinding tools, which has stabilised and preserved the shape of the old dunes, forming the core of these sites. Stone settings and graves are visible (Keding 2000, 91). Excavations revealed archaeological sediments of about 1m in thickness. By analysing the pottery design-styles a chronological sequence could be established at Conical Hill 84/24, the first dune habitat excavated: Dotted Wavy Line pottery is followed by Laqiya-type pottery and then by Leiterband pottery and undecorated pottery (Gabriel *et al.* 1985, 110, fig. 5). Compared to the archaeological richness of these dune habitats, the sites in the plain seemed to be of less interest. Often they are only recognizable as large scatters of artefacts with small amounts of pottery (Keding 2000, 91). Since 2002, several large sites in the plains have, however, been discovered near Abu Tabari and Conical Hill which have completely changed this picture (Jesse 2003; Lange 2005) (Figure 1).

A history of occupation – the beginning

The archaeological sequence established at Conical Hill 84/24 was confirmed by further excavations over the last several years (cf. Keding 2000, 91-96). Three main cultural horizons, which cover the period from the 6th to 1st millennia BC, can now be distinguished, each characterized by a different pottery design-style, different tools and a specific way of life (cf. Keding 1998; Keding and Vogelsang 2001) (Figure 2). Surprisingly, in view of the Holocene climatic evidence, human occupation started rather late. Only at the end of the 6th millennium BC are the first settlers attested, homogeneously spread throughout the wadi. Dune habitats were the preferred places for settlement, but sites in the plain also have been used (cf. Lange 2005, 17). Dotted Wavy Line and Laqiya are the most prominent decorative patterns on the pottery. Vegetation is of savannah type, large mammals are present, and hunting, fishing and gathering were practised.

The shift to a food-producing way of life at the end of the 5th millennium BC (Figure 2) may not have been such a dramatic event, as it can be supposed that the first settlers of the Wadi Howar were hunter-gatherers of the delayed return type, where longer periods of sedentism, techniques of storage and more complex social organization with concepts of ownership were already part of the way of life (cf. Keding and Vogelsang 2001, 276-277). This facilitated the adoption of domesticates (cf. Marshall and Hildebrand

Lower Wadi Howar

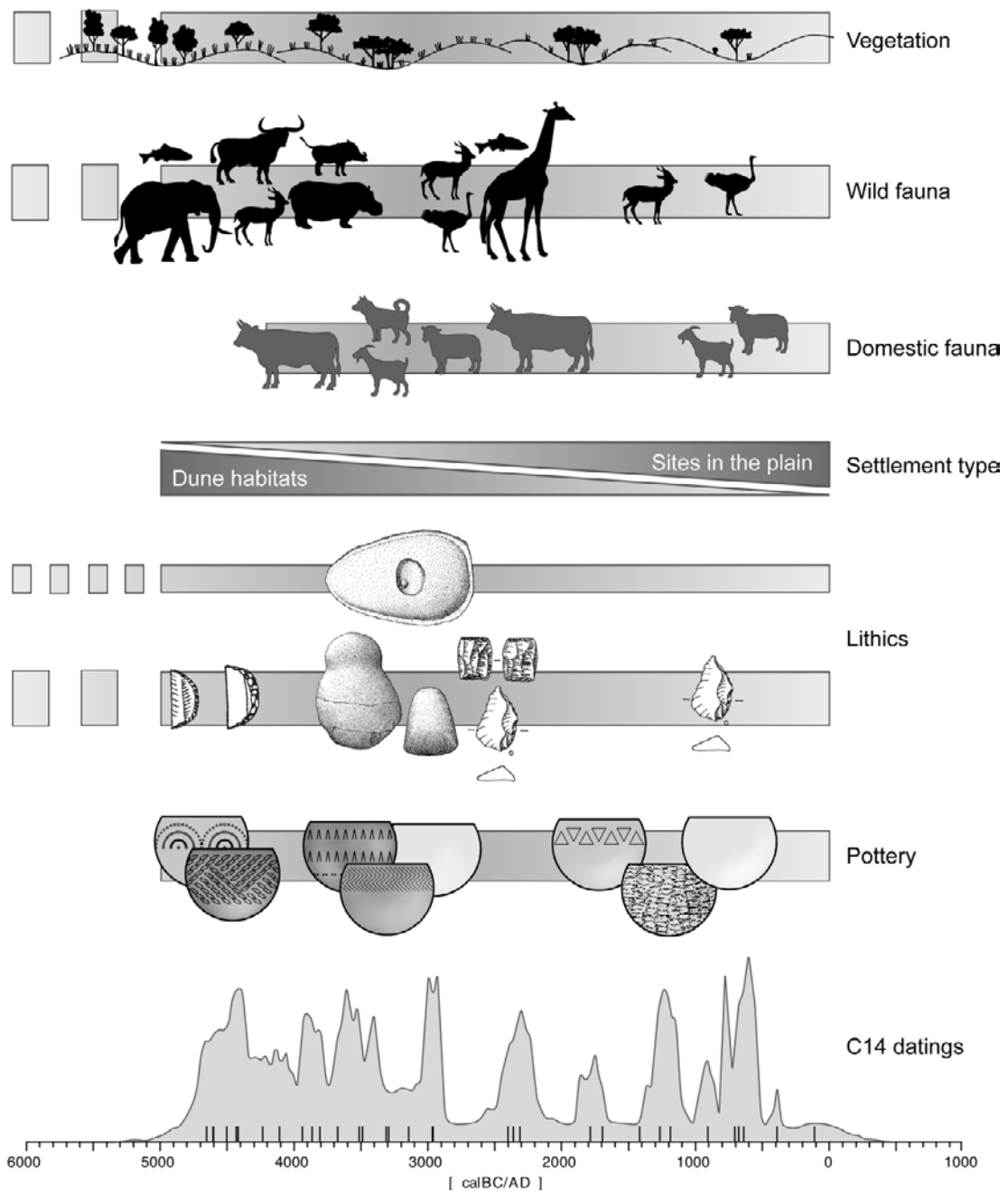


Figure 2. The cultural sequence in the Lower Wadi Howar.

2002). However, the new subsistence pattern and the presence of domestic livestock, especially cattle, deeply influenced the prehistoric groups. This is shown by changes in the settlement layout, the pottery design-styles and the network of contacts. The Lower Wadi Howar has for long been considered as a less important area for livestock keeping groups, but the recent work in the area of Abu Tabari and Conical Hill indicates its importance for occupation and gives intriguing new insights into the Neolithic period. Two examples are presented here in more detail.

The Neolithic

The large settlement site Abu Tabari 02/1 is situated about 260km west of the Nile Valley (Figure 1 and Colour plate XXV). It stretches over 800m in an ENE-WSW direction and is between 60 and 130m wide. Using a total station, single finds (pottery, lithics and bones) and features such as small stone settings or knapping areas were recorded on the surface. Eight trenches of different sizes have been excavated; six of them yielded one burial each. Two radiocar-



bon dates processed on ostrich eggshell date the site to the beginning of the 4th millennium BC.¹

A rich faunal assemblage was found in the excavations:² domestic animals (cattle, dog and a few sheep and goats) as well as wild game (e.g. gazelle, hare, aardvark, fox and different kinds of rodents), reptiles (e.g. crocodiles and turtles) and a large number of fish bones. More than 20 different species of fish could be identified including not only those such as catfish (Clariidae, Tilapiini, Synodontis), which can cope with a lack of oxygen, higher water temperatures and higher salinity, but also Nile perch (*Lates niloticus*), which needs oxygen-rich and permanent water. According to the species composition, the site was surrounded by a mosaic of habitats with permanent and seasonal bodies of water, open dry grassland, lightly wooded dry savannah, but also with some very arid areas (Nadja Pöllath, pers. comm.). Besides the utilisation of aquatic resources, and especially fishing, cattle was the most important source of food. Hunting played a minor role for subsistence. The importance of cattle is probably also reflected in a small piece of art found during the excavation, the first such piece known in the Wadi Howar (Plate 1).



Plate 1. The clay figurine excavated at site Abu Tabari 02/1, probably a representation of a cow.

The dead were simply buried within the settlement area. The flexed position of the deceased was still clearly visible in two cases (Abu Tabari 02/1-2 and Abu Tabari 02/1-3) (Plate 2). The two women of approximately 40 years of

age were lying on their right side, with the head to the south. Grave pits were not recognizable; the rare grave goods consisted mostly of personal adornments like beads of ostrich eggshell or a stone pendant. In one burial (Abu Tabari 02/1-2) two wing bones of a spur-winged goose (*Plectropterus gambensis*) (Plate 2) were found lying on the pelvis of the body (Jesse 2003, 45). Remarkable are the wear patterns on the teeth indicating that these were used as tools. Similar modifications are reported in connection with fibre processing for the production of baskets, ropes or fish nets (Becker 2004).

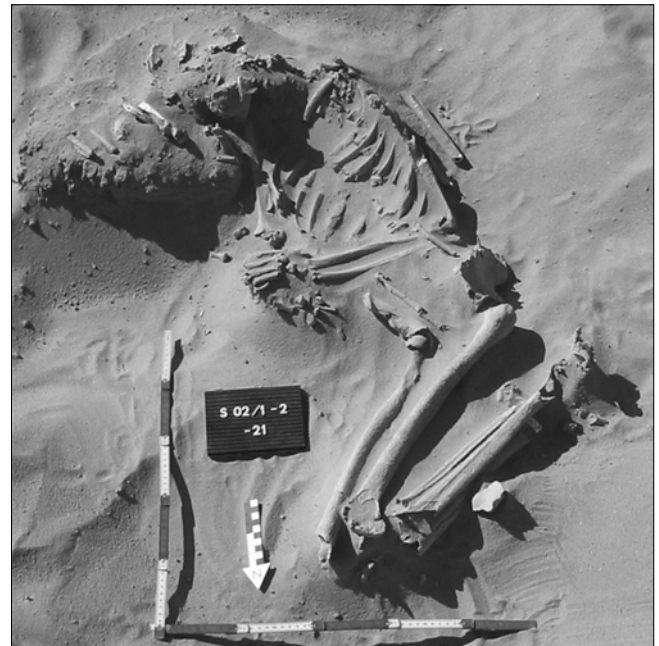
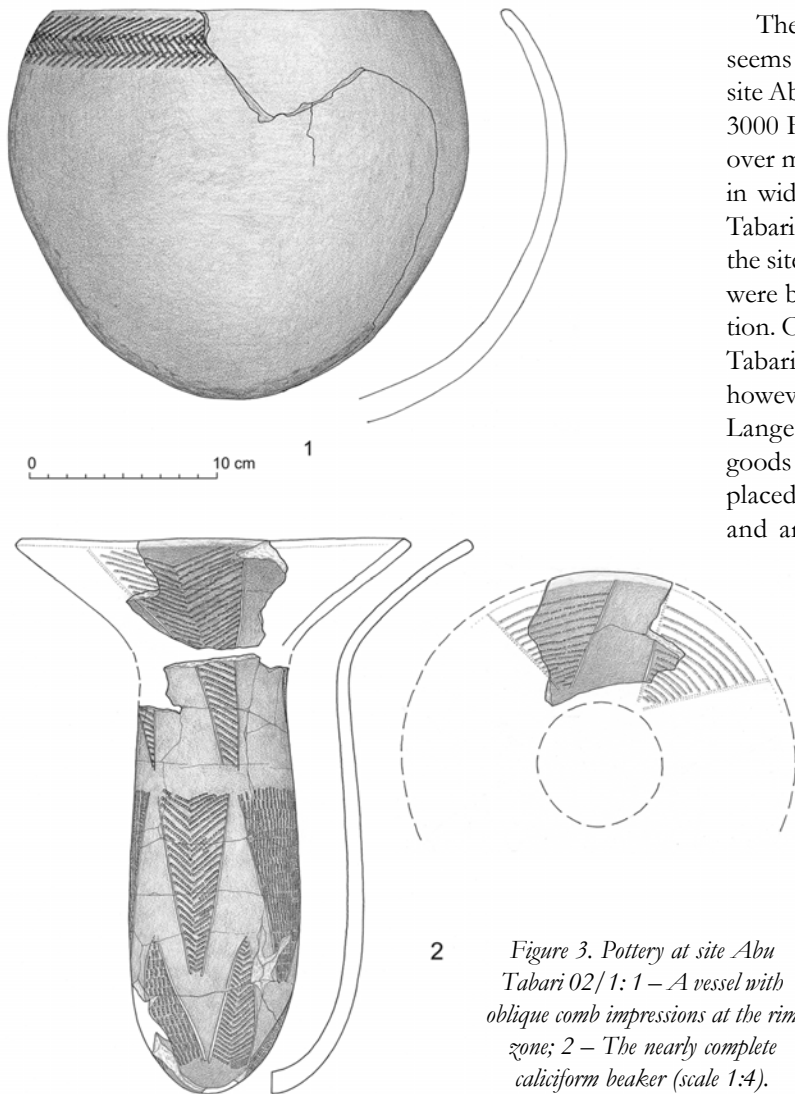


Plate 2. A flexed burial at site Abu Tabari 02/1.

The pottery of that site was surprising, as the decorative patterns found have not yet been recorded elsewhere in the Wadi Howar region. The pottery is a mineral-tempered ware of brown to reddish-brown colour. The vessels are carefully smoothed on both surfaces and mostly undecorated except for the rim zone. Short incised oblique lines or oblique comb impressions clearly dominate the range of the decorative patterns (Figure 3.1). Remarkable are the seven caliciform beakers found at the site. One is nearly complete (Figure 3.2); the others are only represented by some rim or body sherds. The discovery of this rather special type of vessel so far from the Sudanese Nile Valley enlarges the area of their distribution enormously. Hitherto, caliciform beakers were only known in the Egyptian and Sudanese Nile Valley and the desert areas of Egypt. They appear at the beginning of the 5th millennium BC and are present up to the Late Neolithic in the Sudan during the 4th millennium BC (Gatto 2006, 106). Caliciform beakers show a large variety of decoration; individualistic style seemed to be the aim of the producers. In view of their frequent presence in cemeteries, especially in Sudan, they are considered to be

¹ The radiocarbon dates are as follows: 5055 ± 35 bp, 3870 ± 60 cal BC (Poz-11208) and 4880 ± 40 bp, 3670 ± 30 cal BC (Poz-11206). These and all the following radiocarbon dates were calibrated using CalPal (Version June 2004) developed by B. Weninger, O. Jöris and U. Danzeglocke, Radiocarbon Laboratory, University of Cologne.

² The archaeozoological determination and interpretation of all the faunal material found in the Lower Wadi Howar were made by Nadja Pöllath, *Institut für Paläoanatomie und Geschichte der Tiermedizin*, Munich, to whom I am deeply indebted for sharing information with me.



2 *Figure 3. Pottery at site Abu Tabari 02/1: 1 – A vessel with oblique comb impressions at the rim zone; 2 – The nearly complete caliciform beaker (scale 1:4).*

related to funerary rituals, most probably libation (Jesse in press).

Lithic artefacts are abundant. Quartz and, to a lesser extent, quartzite and chalcedony were used for the production of flakes which rarely show any kind of retouch. The lithic production was simply aimed at producing cutting edges. Nearly 100 lower grinding stones spread over the whole site indicate settlement activities (Figure 4). Most of them are made of granite and can be of up to 800mm length. Grinding stones can be used for a range of purposes such as processing of plants, grinding colour pigments (e.g. ochre) or meat preparation (cf. Smith 2005, 42). With regard to domestic activities, the 123 stone balls (“bolas”) recorded on the site are of interest (Figure 4). Most of these balls, with a diameter between 47 and 94mm, are made of chalcedony or granite. They may have been part of hunting weapons, bolas (cf. Lhote 1952, 4-5). Gauchos in South America, however, still use bolas to capture cattle. Considering the little evidence for hunting in the faunal record, the bolas on site Abu Tabari 02/1 were probably also used for the management of herds.

The importance of cattle for subsistence and social life seems to increase during Neolithic times as can be seen at site Abu Tabari 02/28 (Figure 1). This site is dated to around 3000 BC³ and also consists of an artefact scatter stretching over more than 100m in length and several hundred metres in width on a slightly elevated sandbank. As on site Abu Tabari 02/1, settlement and burial activities took place on the site. Thirteen burials have been excavated. The deceased were buried in a mostly north-south orientated flexed position. One female skeleton was found lying on her back (Abu Tabari 02/28-5; Plate 3), this rather unusual situation is, however, due to post-depositional movements (Becker 2004; Lange 2005, 17). In contrast to Abu Tabari 02/1 grave goods are more common: up to three pottery vessels, often placed over the buried person, beads of ostrich eggshell and animal bones, as well as lithic artefacts have been recorded. Wear patterns of the teeth suggest a use of the teeth as tools; in two cases there might be evidence for teeth avulsion (Abu Tabari 02/28-7 and Abu Tabari 02/28-8). One woman (Abu Tabari 02/28-5) might have regularly carried heavy loads on her head and could have been involved in grinding processes (Becker 2004; pers. comm.).

Concentrations of bone and pottery, the remains of former pits, and large pottery sherds deposited in the sediment have been observed at the site (Lange 2005, 17-18). Some of these structures seem to be rather complex, such as the pit Abu Tabari 02/28-20, where pottery sherds, numerous ostrich eggshell beads and animal bones but also human bones were found mixed together.

Among the faunal remains cattle are dominant – around 95 % of the identified bones are cattle bones – but some bones of small livestock, mostly goats, were also present. Very few bones of fish (*Tilapia*, *Clariidae*, *Synodontis* sp.), some bones of desert monitor and of an



Plate 3. The burial of a woman at Abu Tabari 02/28.

³Two radiocarbon dates, both processed on ostrich eggshell, are available: 4345 ± 35 bp, 2960 ± 50 cal BC (Poz-11202) and 4350 ± 35 bp, 2970 ± 50 cal BC (Poz-11201).

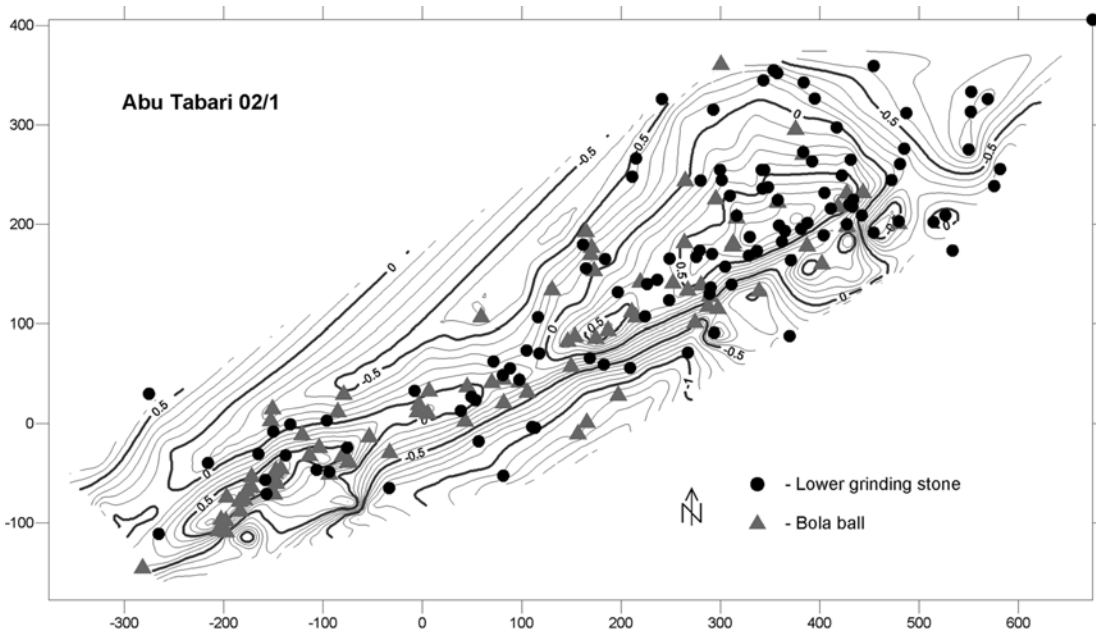


Figure 4. The distribution of lower grinding stones and bola balls at site Abu Tabari 02/1.

unidentified snake species, an almost complete carapace of a tortoise (*Centrochelys (Geochelone) sulcata*) and some unidentifiable fragments of mollusc shells (Bivalvia and Gastropoda) complete the range of faunal remains. The taxa indicate a relatively dry environment. Concerning the bones, the site shows some interesting features: The frequent occurrence of pits filled with animal bones, sometimes articulated (e.g. Abu Tabari 02/28-17), is to be explained as a result of the disposal of the bones after butchering and consumption but in some cases also with ritual practices. In a pit where the remains of at least five cattle were found, many bones were heavily burnt and calcinated, with the degree and intensity of burning declining toward the lower level of the pit. Measurements on the bones revealed cattle sizes comparable to those in the central Nile Valley around Khartoum, which is surprising as usually cattle in the Wadi Howar were smaller than in the Nile Valley (Nadja Pöllath, pers. comm.). Cattle were so important that they had even been buried as is indicated by the complete skeleton of a sub-adult cow excavated at the site (Abu Tabari 02/28-24).

The pottery is a well-smoothed ware of reddish to brown colour. The vessels of globular shape and of different sizes are heavily tempered with rounded and/or angular grains of quartz. Among the pottery are some vessels with spouts, a rare feature in the Wadi Howar. The range of decorative patterns is limited to incised decorations such as herringbone patterns (Colour plate XXVI) and impressed decorations such as dotted zigzags and horizontal rows of dots (Colour plate XXVII). A few sherds show Leiterband patterns (Colour plate XXVIII). Undecorated pottery is very common. The decoration covers the vessel completely or just partly; in the latter case the decorative patterns are restricted to the upper part of the vessels.

The lithic industry is moderate. The production of cutting edges was obviously the main purpose; quartz consti-

tutes the dominant raw material, followed by different varieties of quartzite and chalcedony. Modified pieces, mostly made of chalcedony, are rare and simply retouched pieces are the most common tool. Grinding material was recorded but not in quantities comparable to site Abu Tabari 02/1.

Comparing both sites, similarities such as the use of these sites as places for settlement and burial, but also differences such as different pottery design styles can be observed. Site Abu Tabari 02/1 allows some insight in the beginning of Neolithic occupation in the Lower Wadi Howar. Around 4000 BC people lived in large settlements at least seasonally, herding cattle and to a lesser extent small livestock, such as sheep and goat. Fishing, very probably with nets, played an important role and the gathering of plants, indicated by the large amount of grinding material, completed the range of foodstuffs utilised. Pottery vessels were used for cooking and storage, but also for ritual purposes. Bolas might have been used for the management of the herds. The dead were buried within the settlement areas. There are hints of differentiation, but no indications of the strong social hierarchy that appears on Neolithic sites in the Nile Valley (e.g. Kadruka or Kadero, cf. Jesse 2004, 40). The source for the introduction of the producing way of life to the Wadi Howar is still open for debate, even if, of course, the Nile Valley comes immediately to mind. Here cattle keeping is attested from the beginning of the 5th millennium BC (e.g. Kadero, esh-Shaheinab). However, as cattle are known from several sites in the Sahara (e.g. Adrar Bous, Acacus) dated earlier than the evidence in the Wadi Howar, an introduction from the west also seems possible (cf. Marshall and Hildebrand 2002, 110, fig. 2).

The sites in the Lower Wadi Howar dated to the 3rd millennium BC (e.g. Abu Tabari 02/28) not only show the enormous importance of cattle for subsistence and social life, but also different features with the presence of pits. The

sites were used for settlement and burial. Pottery was used for domestic activities but also in the ritual sphere (e.g. as grave goods). Cattle played an important role in the food supply. Milk and blood were consumed. Slaughtering and, therefore, meat consumption are indicated by the cattle bones found in the pits, but this may be linked to feasts and rituals. The number of grinding tools is low compared to the abundant evidence on site Abu Tabari 02/1 and bolas are extremely rare.

Settlement took place on sites in the plain, but pottery finds on the dune habitats indicate that these also were still frequented during the 4th and 3rd millennia BC (Keding 2000) (Figure 2); however, probably only for special purposes such as burials.

The pottery of site Abu Tabari 02/1 finds parallels in the Nubian Neolithic (e.g. the Abkan) (Maria Gatto, pers. comm.). The pottery design-styles recorded on the 3rd millennium BC sites in the Lower Wadi Howar indicate interesting supra-regional contacts as different spheres of influence are visible. Leiterband patterns point to the west, to regions such as the Middle Wadi Howar, the Ennedi and even Northern Mali (cf. Keding 1997; 1998, 8-9), while herringbone patterns point to the north, especially the Nubian Nile Valley (Keding 2000, 92). The Lower Wadi Howar seems to be a cultural crossroads where both styles meet. The pits observed on the sites of this period (e.g. at Abu Tabari 02/28), still visible as concentrations of pottery and/or bones on the surface, also point to the west, to the Middle Wadi Howar and the Ennedi Erg. Pastoralists of the Leiterband horizon occupied these territories during the 4th and 3rd millennia BC. Typical for the sites are concentrations of bones and/or pottery sherds, which are all that remain of former pits. These belong to the profane (areas of disposal) but also the ritual sphere (Keding 1997; Berke 2001, 243-245). The pastoralists of the Leiterband horizon relied heavily on cattle: cattle bones make up 90 to 99% of the faunal remains (Jesse 2004, 39). Indications for the ritual importance of cattle, especially in the funerary sphere, are numerous and can be found not only in the Wadi Howar but also in the cultures of the Nile Valley, such as the A-Group or Kerma Culture and in areas of the central Sahara (cf. Keding 1997, 224-228; Applegate *et al.* 2001, 486). Cattle cults are a rather old phenomenon as is indicated by cattle burials in the area of Nabta Playa and in the central Sahara (e.g. Adrar Bous) dating to the 6th millennium BC (Applegate *et al.* 2001; Smith 2005, 100-103).

Cattle integrates the Neolithic sites of the Lower Wadi Howar into the large pastoral sphere of Northern Africa. Regionalisation seems to be the general trend of the Neolithic period, especially when taking a look at the pottery-design styles. On the other hand, large supra-regional phenomena such as the distribution of certain decorative patterns or types of lithic artefacts exist. Pastoralism as the dominant form of subsistence could be the uniting but also the dividing reason for this. Even if the faunal composition of sites

in the Lower Wadi Howar dating to the 3rd millennium BC indicates a harsher environment as in the assemblage of site Abu Tabari 02/1, ecological conditions still allowed for the keeping of cattle with obviously rather small transhumance cycles. Social events and meetings between the different pastoral groups, on the other hand, could explain the far-flung spread of certain traits.

The Kushite period

Increasing deterioration led to a different use of the Lower Wadi Howar from the 2nd millennium BC onwards, at least as reflected in the archaeological record. The area obviously became more and more an area of passage. Stone settings of circular and rectangular shape, discovered at several places, could be identified as watering troughs around wells and indicate that new forms of water management had become necessary. At site Abu Tabari 03/13 more than 25 watering troughs made of flat, oblong slabs of granite, were noted (Figure 1, Plate 4). Charcoal found at a depth of about 1.6m in a former well among the stone settings gave a radiocarbon age of 2770 ± 35 bp, 920 ± 50 cal BC (KN-5652) (Lange 2005, 15, 17).⁴

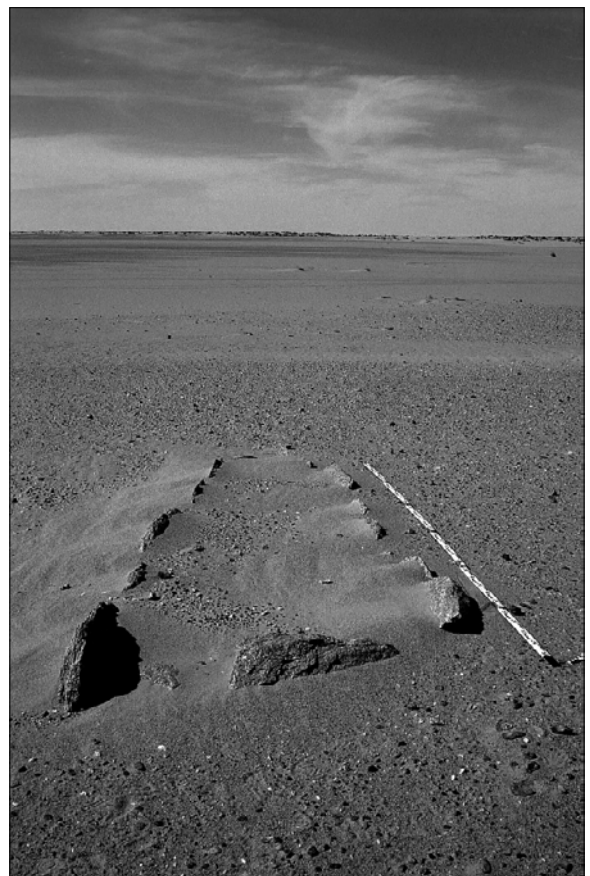


Plate 4. A watering trough made of granite slabs at Abu Tabari 03/13.

⁴ Here, however, only the preliminary date of 2636 ± 54 bp is given.



The fortress Gala Abu Ahmed

Certainly linked with the new role of the wadi as a thoroughfare are the mighty walls represented by a fortress first detected in 1984 by a B.O.S. expedition team from the University of Cologne (Figure 1, Colour plates XXIX and XXX). The large massive stone-walled enclosure found a little more than a hundred kilometres to the west of the river, on the southern bank of the wadi channel, has been named “Gala Abu Ahmed” (Jesse and Kuper 2004; in press).

Description and archaeological investigations

The fortress has an irregular trapezoidal ground plan measuring about 120 by 180m (Figure 5). Large portions are covered with sand. The walls are built of dry-stone masonry using mainly naturally-shaped regular blocks, with rectangular bastions. At each corner, the bastions are set at right angles to one another. The northern wall facing the

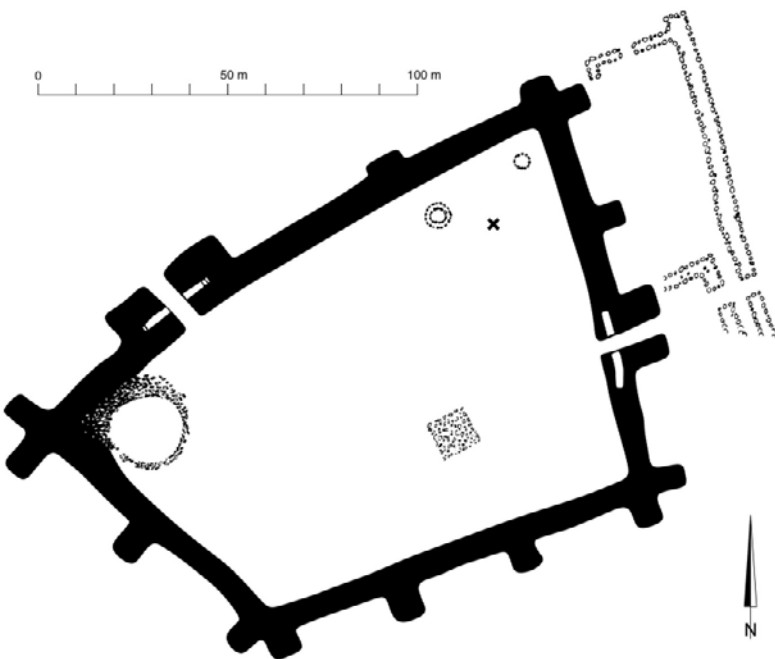


Figure 5. Schematic ground plan of the fortress Gala Abu Ahmed. The cross indicates the location of sondage 84/95-1 (scale 1:2000).

wadi channel is preserved up to a height of about 4m (Plate 5). On the northern and eastern sides, gateways, flanked by towers, allow access into the enclosure. Staircases lead to the top of the walls, which are about 5m thick (Kuper 1988, 136; Kröpelin 1993, 138). The enclosure walls are made of nearly rectangular sandstone blocks usually set vertically but sometimes, e.g. for the construction of the towers and in the northern part of the eastern wall, also horizontally. On the eastern side of the fortress, parallel lines of stone blocks are visible, probably the substructure of some sort of porch (Figure 5, Colour plate XXX). The interior of the enclosure is thickly covered with sand, but some stone structures are still discernible such as stone circles of different sizes or a square stone pavement, probably the foundation of a

rectangular building with an entrance on its western side.

Only small-scale research was possible in Gala Abu Ahmed within the scope of the ACACIA project. In 2002, aerial pictures using a kite were taken (Colour plate XXX) and a small sondage of 2m² (Gala Abu Ahmed 84/95-1; Figure 5) was excavated in the north-east corner and dug to a depth of 350mm beneath the surface before reaching solid sandstone. Numerous ostrich eggshell beads, fragments of pottery, lithic artefacts and several fragments of faience and calcite alabaster were found (Jesse and Kuper 2004; in press; Lohwasser 2004; in press). In 2006, a magnetic prospection was carried out in and around the fortress using a Fluxgate Gradiometer FM 36.⁵ The survey was hampered by the presence of sandstone and its lack of magnetic susceptibility; therefore, no detailed plan of the interior structures appeared. Some anomalies could, however, be registered (Plate 6). Two of these spots were chosen for further testing by small sondages of 2m² each (84/95-2 and 84/95-3). In sondage 84/95-2 a stone setting, certainly of artificial origin, appeared at a depth of about 300mm. Sondage 84/95-3 revealed no structures at all up to the excavated depth of 800mm beneath the surface. In both cases, some fragments of pottery, bones and lithic artefacts were found.

The finds made in the sondages and on the surface gave interesting hints for the dating of the structure. The small finds, especially the faience fragments from sondage 84/95-1, could be attributed to the Napatan period, the 9th – 4th century BC (Lohwasser 2004; in press). Four radiocarbon dates, all ranging between 700 and 400 BC, support this chronological attribution (Berger and Berger 2003; Jesse and Kuper 2004, 140, Tab. 1). For a conclusive statement concerning the age of the fortress, the necessary link with the structure itself is, however, still missing.

The finds

Compared to the small finds, the pottery and the lithic material are not very specific. The pottery is very fragmentary and eroded and most of it was very probably undecorated. Even the few sherds with impressed and/or incised decorative patterns are not very informative concerning chronological or cultural affiliation. Of particular interest are some sherds made of marl clay, as marl clays occur in the Nile Valley between Esna in the south and the Cairo region in the north, as well as in the oases to the west of the Nile (Nordström and Bourriau 1993, 160). The marl clay vessels found at Gala Abu Ahmed indicate contact with Egypt. Among the few faunal remains, sheep and goat but also some bones and teeth of cattle could be identified (Nadja Pöllath, pers. comm.). Not only small livestock but even cattle keeping

⁵The geophysical survey was undertaken by Carsten Mischka, Institute for Prehistoric Archaeology, University of Cologne.

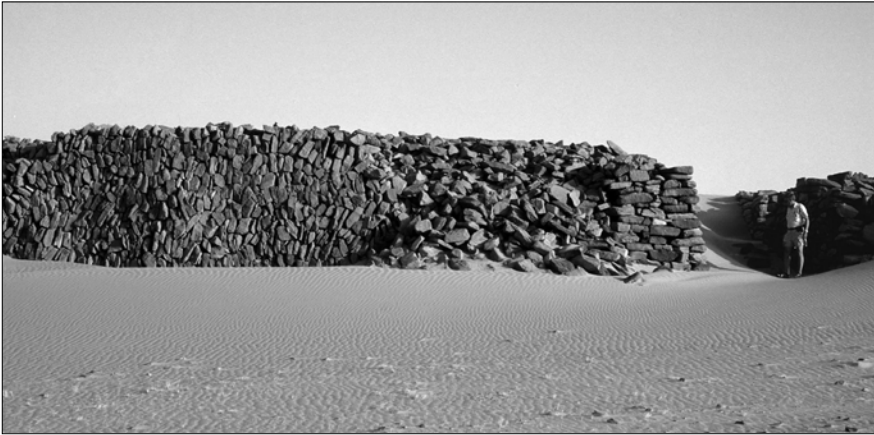


Plate 5. The northern wall of Gala Abu Ahmed.

was obviously still possible in the area during the 1st millennium BC.

Of greater interest are the small finds, especially the faience fragments. Apart from the numerous small ring and disk beads made of faience, more revealing objects have been found, such as the feathered crown of a Bes figure, which can be dated to the 25th – 26th Dynasty (Colour plate XXXI.1), the fragment of a vessel decorated with a lotus flower (Colour plate XXXI.6), a large fly, which was unpierced and, therefore, not used as an amulet (Colour plate XXXI.5), and fragments of at least six *udjat*-eyes (Colour plate XXXI.2-4). *Udjat*-eyes are widespread as they were highly favoured as protective charms. Most remarkable were fragments of at least seven different Egyptian New Year's flasks (Lohwasser 2004, 144-151) (Colour plate XXXI.7-9). The Egyptian New Year's flasks are most commonly attributed to the 26th Dynasty (664-525 BC). They may have contained oil or holy water, substances which were used in rituals for renewal and regeneration or for healing. One fragment of a New Year's flask from Gala Abu Ahmed has decoration on the body of a cow's horn combined with a solar disk (Colour plate XXXI.7), obviously part of a representation of Hathor. The Hathor cow is one of the most common motifs on New Year's flasks and is closely linked with the idea of regeneration (Lohwasser 2004, 151-156).

Some beads of stone, a carnelian *udjat*-eye amulet in perfect condition and fragments of Egyptian alabaster were also found in the fortress. Since alabaster does not occur south of Egypt, at least the material, if not the vessels themselves, must

have been imported from there (Lohwasser 2004, 156-158). Puzzling is the find of an *udjat*-eye of silver with traces of gilding and moulds of inlays (Colour plate XXXII). It has to be considered as a luxury item for the inhabitants of Gala Abu Ahmed. There are only a few *udjat*-eyes of silver that do not belong to royal persons in Egypt, and these are of flat pressed foil and not three-dimensional objects as is the case here (Lohwasser 2004, 159).

Two small sandstone figures measuring 48 and 58mm are probably very schematic representations of crouched baboons (Plate 7). Monkeys and baboons were considered symbols of rebirth. Many

representations of these animals were used as votive offerings, for example to Hathor (Pinch 1993, 284).

More than 1200 ostrich eggshell beads with diameters varying between 2 and 18mm have been found in the small sondage 84/95-1. This large number is surprising as there is no indication of a burial area. As it is difficult to imagine that all these ostrich eggshell beads must simply be regarded as lost pieces, another explanation should be sought for their presence. Perhaps they were also votive offerings. Numerous beads of different materials (e.g. ostrich eggshell, faience) have been found among the votive offerings in the small shrine erected for Hathor at the fortress of Mirgissa during the New Kingdom period (Karlin 1970, 324-329).

Cowrie shells, represented by 13 fragments, may have also served as amulets, as beads on necklaces or bracelets and as an adornment on clothing. Cowrie shells also appear among the votive offerings to Hathor. Due to their resem-

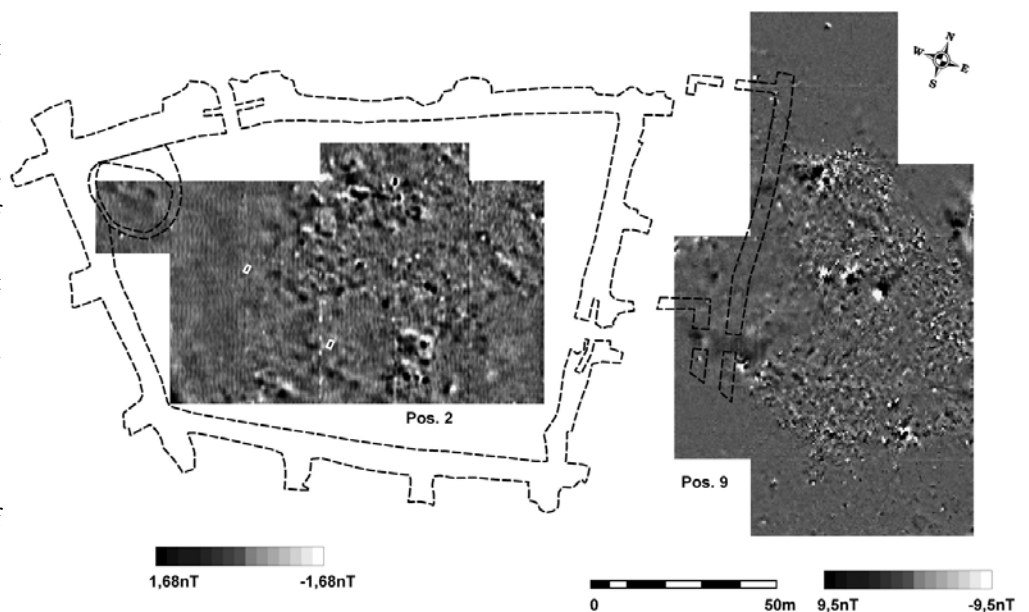


Plate 6. The magnetic map of Gala Abu Ahmed. The white rectangles indicate the location of the two sondages 84/95-2 and 84/95-3.



blance to the vulva, cowrie shells may be linked with Hathor's role in the sphere of fertility, birth and rebirth (Pinch 1993, 284-285).

The number and quality, especially of the small finds are amazing as are the hints for the worship of Hathor. Without going as far as taking the existence of a sanctuary for this goddess for granted, the possibility should be kept in mind.

Comparisons and interpretation

Parallels to the Gala Abu Ahmed fortress are restricted to only a few examples (Jesse and Kuper 2004, 141; in press; Welsby 2005). With one exception, the structure at Fura Wells, a watering place in the Bayuda, all are situated in the region of the Second Nile Cataract, the fortresses of Jebel Sahaba, Dorginarti and Dabnarti. None of the buildings mentioned is exactly comparable to Gala Abu Ahmed; only certain specific features – the crosswise arrangement of the towers at the corners, the staircases and the gateways – find their respective parallels.

At Gala Abu Ahmed, Egyptian methods of construction going back to the Middle Kingdom can be observed, such as the rectangular bastions. Contacts between the Wadi Howar and Egypt are indicated by the pottery and, especially, the small finds (Lohwasser 2004; in press), which raises the question of the role and function of this stronghold. Gala Abu Ahmed is considered a fortress because of the general layout of the building and its massive construction. A purely military function cannot, however, be assumed: the structure is located on the lower terrace and not on the highest point of the landscape, as would be expected if fortification was the main purpose. In addition, “the greatest problem facing the Kushites on their frontiers was not the threat of invasions which (...) were extremely rare occurrences, but that of small-scale incursions” (Welsby 1996, 44). During the Kushite period the existence of some sort of desert police can be presumed: the Nastasen stela mentions that while resting at *jsdrst* (Isderes) on his journey to Napata, King Nastasen met people, who according to Darnell (1997/98) were “police” or “patrolmen”.⁶ Darnell also argues that Isderes would seem to be el-Fura (Fura Wells), where the existence of a fortress makes the presence of patrolmen guarding a desert route very likely.



Plate 7. The sandstone figure of a baboon found at Gala Abu Ahmed (Ht. 48mm)

Patrolmen were also operating to the west of the Nile, as they are known from pharaonic Egypt under the name of “Medjay” or “Nuu” (cf. e.g. Darnell 2003). Thus a role for Gala Abu Ahmed as part of a controlling network securing trade could be imagined. Trade connections with Kordofan and Darfur, or regions even further west, are most probable, although there is still no archaeological proof. The importance of the Wadi Howar as an east-west connection to central Africa is, however, evident. Some new light on ancient travelling in the desert is given by the discovery of a number of road stations in the Egyptian part of the Libyan Desert that clearly mark a route leading south west from Dakhla Oasis towards the interior of the continent (e.g. Kuper 2003).

One crucial point for the builders and inhabitants of Gala Abu Ahmed must have been the presence of a water supply. Even today, the area around the fortress is a favourable one: patches of vegetation consisting of tundra bushes (*Capparis decidua*) to the north east of the structure indicate the presence of groundwater near the surface. Deflated sediments nearby indicate the existence of a well (Kröpelin 1993, 139). One of the interior structures of Gala Abu Ahmed might be a cistern. All this may have been the decisive factor in setting up a fortified caravan station here. Judging from the dimensions of the structure and the quality of the small finds (e.g. the silver *udjat*-eye and the unparalleled quantity of New Year's flasks), the locality obviously had a certain significance in Napatan times, either on strategic grounds or as an important outpost controlling trade. Most likely Gala Abu Ahmed fulfilled different functions at different times; and occasionally several functions at the same time: a strategic role, as a symbol of power, and for the protection and control of the trade route(s). More research in Gala Abu Ahmed would certainly add to the scarce information concerning the extent of the Napatan sphere of influence to the south and, especially, to the west (cf. Edwards 2004, 126-127, 163).

A concluding remark

The mighty walls of Gala Abu Ahmed are certainly the most spectacular monuments in the Lower Wadi Howar. However, also ‘open air sites’ such as the ones in the area of Abu Tabari, where on the first impression nothing seems to be visible, on closer inspection can reveal fascinating evidence. Even simple bones and sherds can tell a lot about prehistoric life.

⁶ This reading of the text is, however, highly speculative, as Darnell notes, and there may equally well be no reference to police or patrolmen here. Also the identification of Isderes with Fura Wells is by no means certain and other locations for the ancient toponym have been suggested (see Zibelius 1972, 92-93).

Bibliography

- Applegate, A., A. Gautier and S. Duncan 2001. 'The North Tumuli of the Nabta Late Neolithic Ceremonial Complex', in F. Wendorf, R. Schild and Associates, *Holocene Settlement of the Egyptian Sahara. The Archaeology of Nabta Playa*. New York, 468-488.
- Becker, E. 2004. *Human Remains from the Lower Wadi Howar (Sudan)*. Unpublished report.
- Berger, U. and F. Berger 2003. 'Comment on "Gala Abu Ahmed" Fortification (Lower Wadi Howar, Sudan)', *Sahara* 14, 178.
- Berke, H. 2001. 'Gunsträume und Grenzbereiche. Archäozoologische Beobachtungen in der Libyschen Wüste, Sudan und Ägypten', in B. Gehlen, M. Heinen and A. Tillmann (eds), *Zeit-Räume. Gedenkschrift für Wolfgang Taute*. Archäologische Berichte 14. Bonn, 237-256.
- Darnell, J. C. 1997/98. 'Whom did Nestasen overhear at Isderes?', *Enchoria. Zeitschrift für Demotistik und Koptologie* 24, 154-157.
- Darnell, J. C. 2003. 'A Stela of the Reign of Tutankhamun from the Region of Kurkur Oasis', *Studien zur Altägyptischen Kultur* 31, 73-91.
- Edwards, D. N. 2004. *The Nubian Past. An Archaeology of the Sudan*. London.
- Gabriel, B., S. Kröpelin, J. Richter and E. Czesla 1985. 'Parabeldünen am Wadi Howar. Besiedlung und Klima in neolithischer Zeit im Nordsudan', *Geowissenschaften in unserer Zeit* 3, 105-112.
- Gatto, M. C. 2006. 'Prehistoric Nubian ceramic tradition: origin, developments and spreading trajectories', in I. Caneva and A. Roccati (eds), *Acta Nubica. Proceedings of the X International Conference of Nubian Studies, Rome 9-14 September 2002*. Rome, 103-106.
- Hinkel, F. W. 1979. *The archaeological map of the Sudan. The area of the south Libyan Desert*. The archaeological map of the Sudan, II. Berlin.
- Hoelzmann, P., B. Keding, H. Berke, S. Kröpelin and H.-J. Kruse 2001. 'Environmental change and archaeology: lake evolution and human occupation in the Eastern Sahara during the Holocene', *Palaeogeography Palaeoclimatology Palaeoecology* 169, 193-217.
- Jesse, F. 2003. 'New Archaeological Work in The Lower Wadi Howar (Northern Sudan) – A Preliminary Report on the field season 2002', *Nyame Akuma* 60, 43-48.
- Jesse, F. 2004. 'The Neolithic', in D. A. Welsby and J. R. Anderson (eds), *Sudan. Ancient Treasures*. London, 35-41.
- Jesse, F. (in press). 'Un nouvel aspect du Néolithique au Wadi Howar (Nord du Soudan) - des vases caliciformes', in *Mélanges Francis Geus*. Lille.
- Jesse, F. and R. Kuper 2004. 'Gala Abu Ahmed – Eine Festung am Wadi Howar', *Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft* 15, 137-142.
- Jesse, F. and R. Kuper, with a contribution by N. Pöllath (in press). 'Napata in the West? – The Gala Abu Ahmed Fortress in Lower Wadi Howar (NW-Sudan)', *Archéologie du Nil Moyen* 10.
- Jesse, F., S. Kröpelin, M. Lange, N. Pöllath and H. Berke 2004. 'On the periphery of Kerma – The Handessi Horizon in Wadi Hariq, Northwestern Sudan', *Journal of African Archaeology* 2, 123-164.
- Karlin, C. 1970. 'Le sanctuaire d'Hathor', in J. Vercoutter, *Mirgissa I*. Paris, 307-366.
- Keding, B. 1997. *Djabarona 84/13. Untersuchungen zur Besiedlungsgeschichte des Wadi Howar anhand der Keramik des 3. und 2. Jahrtausends v. Chr.* Africa Praehistorica 9. Köln.
- Keding, B. 1998. 'The Yellow Nile: new data on settlement and the environment in the Sudanese Eastern Sahara', *Sudan & Nubia* 2, 2-12.
- Keding, B. 2000. 'New data on the Holocene occupation of the Wadi Howar region (Eastern Sahara/Sudan)', in L. Krzyżaniak, K. Kroeper and M. Kobusiewicz (eds), *Recent Research into the Stone Age of Northeastern Africa*. Poznan, 89-104.
- Keding, B. 2004. 'The Yellow Nile – Settlement Shifts in the Wadi Howar region (Sudanese Eastern Sahara) and adjacent areas from between the sixth to the first millennium BC', in T. Kendall (ed.), *Nubian Studies 1998. Proceedings of the Ninth Conference of the International Society of Nubian Studies*. Boston, 95-108.
- Keding, B. and R. Vogelsang 2001. 'Vom Jäger-Sammler zum Hirten – Wirtschaftswandel im nordöstlichen und südwestlichen Afrika', in B. Gehlen, M. Heinen and A. Tillmann (eds), *Zeit-Räume. Gedenkschrift für Wolfgang Taute*. Archäologische Berichte 14. Bonn, 257-282.
- Kröpelin, S. 1993. *Zur Rekonstruktion der spätquartären Umwelt am Unteren Wadi Howar (Südöstliche Sahara / NW-Sudan)*. Berliner Geographische Abhandlungen 54. Berlin.
- Kröpelin, S., S. Nussbaum and F. Darius 2000. 'The vegetation of Wadi Howar (NW Sudan): Indication of increasing rainfall in the desert?' Poster presented at the International Colloquium "Aktuelle geowissenschaftliche und archäologische Forschungen im Sudan" Gesellschaft für Erdkunde zu Berlin. Berlin, October 2000.
- Kuper, R. 1981. 'Untersuchungen zur Besiedlungsgeschichte der östlichen Sahara. Vorbericht über die Expedition 1980', *Beiträge zur allgemeinen und vergleichenden Archäologie* 3, 215-275.
- Kuper, R. 1988. 'Neuere Forschungen zur Besiedlungsgeschichte der Ost-Sahara', *Archäologisches Korrespondenzblatt* 18, 127-142.
- Kuper, R. 1995. 'Prehistoric research in the Southern Libyan Desert. A brief account and some conclusions of the B.O.S. project', in *Actes de la VIIIe Conférence Internationale d'Etudes Nubiennes Lille 11.-17. septembre 1994. Communications principales*. Cahier de Recherches de l'Institut de Papyrologie et d'Égyptologie de Lille 17/1, 123-140.
- Kuper, R. 2003. 'The Abu Ballas Trail: Pharaonic advances into the Libyan Desert', in Z. Hawass (ed.), *Egyptology at the Dawn of the Twenty-first Century: Proceedings of the Eighth International Congress of Egyptologists Cairo 2000*. Cairo, 372-376.
- Lange, M. 2005. 'More archaeological work in Lower Wadi Howar (Northern Sudan) – a preliminary report on the 2003 field season', *Nyame Akuma* 63, 15-19.
- Lhote, H. 1952. 'Au sujet des boules de pierres néolithiques', *Notes Africaines* 53, 3-5.
- Lohwasser, A. 2004. 'Die Kleinfunde aus Gala Abu Ahmed im unteren Wadi Howar', *Der antike Sudan, Mitteilungen der Sudanarchäologischen Gesellschaft* 15, 143-167.
- Lohwasser, A. (in press). 'Gala Abu Ahmed – The small finds', *Archéologie du Nil Moyen* 10.
- Marshall, F. and E. Hildebrand 2002. 'Cattle Before Crops: The Beginnings of Food Production in Africa', *Journal of World Prehistory* 16, 99-143.
- Maydon, H. C. 1923. 'North Kordofan to South Dongola', *Geographical Journal* 61, 34-41.
- Mohammed-Ali, A. 1982. *The Neolithic Period in the Sudan, c. 6000 - 2500 BC*. BAR International Series 139. Oxford.
- Neumann, K. 1989. 'Zur Vegetationsgeschichte der Ostsahara im Holozän. Holzkohlen aus prähistorischen Fundstellen', in R. Kuper (ed.), *Forschungen zur Umweltgeschichte der Ostsahara*. Africa Praehistorica 2. Köln, 13-181.
- Nordström, H. -Å. and J. Bourriau 1993. 'Ceramic Technology: Clays and Fabrics', in D. Arnold and J. Bourriau (eds), *An Introduction to Ancient Egyptian Pottery*. Mainz, 142-190.
- Pachur, H. -J. and S. Kröpelin 1987. 'Wadi Howar: Paleoclimatic evidence from an extinct river system in the Southeastern Sahara', *Science* 237, 298-300.
- Peters, J. and N. Pöllath 2004. 'Holocene Faunas of the Eastern Sahara: Zoogeographical and Palaeoecological Aspects', in R.C.G.M. Lauwerier and I. Plug (eds), *The Future from the Past. Archaeozoology in wildlife conservation and heritage management*. Oxford, 34-50.
- Pinch, G. 1993. *Votive Offerings to Hathor*. Oxford.



-
- Richter, J. 1989. 'Neolithic sites in the Wadi Howar (Western Sudan)', in L. Krzyżaniak and M. Kobusiewicz (eds), *Late Prehistory of the Nile Basin and the Sahara*. Poznan, 431-442.
- Smith, A.B. 2005. *African Herders. Emergence of Pastoral Traditions*. Walnut Creek.
- Welsby, D. A. 1996. *The Kingdom of Kush. The Napatan and Meroitic Empires*. London.
- Welsby, D. A. 2005. 'The Kingdom of Kush. Urban defences and military installations', in N. Crummy (ed.), *Image, Craft and the Classical World. Essays in honour of Donald Bailey and Catherine Johns*. Monogr. Instrumentum 29. Montagnac, 39-54.
- Zibelius, C. 1972. *Afrikanische Orts- und Völkernamen in hieroglyphischen und hieratischen Texten*. Beihefte zum Tübinger Atlas des Vorderen Orients Reihe B 1. Wiesbaden.



Colour plate XXV. A general view of site Abu Tabari 02/1 in the Lower Wadi Howar.



Colour plate XXVI. The Wadi Howar. Pottery with incised herringbone pattern at Abu Tabari 02/28.



Colour plate XXVII. The Wadi Howar. Pottery with impressed decoration at Abu Tabari 02/28.



Colour plate XXVIII. The Wadi Howar. Pottery with Leiterband pattern at Abu Tabari 02/28.



Colour plate XXIX. The fortress of Gala Abu Ahmed in the Lower Wadi Howar seen from the south-east.



Colour plate XXX. Aerial view of Gala Abu Ahmed. The picture was taken using a kite.



Colour plate XXXI. The Wadi Howar. Faience fragments found at Gala Abu Ahmed: 1, 4-6, 8-9 – sondage 84/95-1; 2 – sondage 84/95-2; 3, 7 – surface finds.

Colour plate XXXII. The Wadi Howar. The silver udjat-eye found in sondage 84/95-1 at Gala Abu Ahmed.

