SUDAN & NUBIA

The Sudan Archaeological Research Society

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Egypt
RED SEA
ASWAN
1st cataract
Hisn al-Bab
Afyeh
Wadi el- Allaqi
Gebel Adda
2nd cataract
Wadi Gabgaba
Amara West
Sedeinga
Sai
3rd cataract
Tombos
Sudan
ABU HAMED
Nile
El-Ga'ab
Basin
H29
5th cataract
Abu Sideir
KAREIMA
4th cataract
Napata
Wadi Abu Dom
Dangeil
ED-DEBBA
ATBARA
Wadi Howar
Gala
Abu Ahmed
Meroe
Qalaat Shanan
Atbara
Wadi el- Melik
Wadi Muqaddam
6th
cataract
Jebel Sabaloka
OMDURMAN
KHARTOUM
KASSALA
Eritrea
Blue Nile
MODERN TOWNS
Ancient sites
WAD MEDANI
White Nile
GEDAREF
KOSTI
SENNAR
N
Ethiopia
South
Sudan
Azaza
0
250 km

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Front cover: Excavations in progress in the *Kerma Ancien* cemetery at site H29 in the Northern Dongola Reach (photo D. A. Welsby).

Sudan & Nubia is a peer-reviewed journal

The Archaeological, Ethnographical and Ecological Project of El-Ga'ab Basin in Western Dongola Reach: A Report on the First Season 2009

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Introduction

The archaeological, ethnographical and ecological project of El-Ga' ab Basin in Western Dongola Reach (Northern Sudan) is located in a rectangular area, the coordinates of the four corners being 19° 38' N/30° 18.25' E, 19° 39' N /30° 7.5' E, 18° 33.8' N /29° 59.8' E and 18° 32.25' N /30° 22.8' E. The project was established in 2009 by the Department of Archaeology, University of Khartoum to carry out archaeological survey, excavation, ethnographic and palaeoenvironmental studies in the area.

The El-Ga'ab (meaning 'bowl' in Arabic) Basin is a very important area in many respects: underground water is found at a depth of 1.8-6m, and therefore it should have been able to sustain life in the desert in the past. It lies between the Nile and the desert, mediating between the western Sudan and the Nile. This is true, when the region is considered in a historical context. During the medieval period the Germites of Darfur were living in the oasis to the west of Dongola (Vantini 1987, 48-49). Udal (1998, 30-31) mentioned that the Darfurian tribe, the Zaghawa fought against the Funj and the Mahas in Wadi el-Ga'ab in 1671-2 and he added that Zaghawa were always crossing the desert eastwards to Wadi el-Ga'ab in periodic raids on the Kababish for camels, women and children. The famous Darb el-Arba'een route passes sometimes via the depression; it connects the western Sudan with the Nile as well as Sudan with Egypt.

The area is a source of natural chemicals such as salt and alkali (natroun). Ropes, basketry and matting are manufactured from dom and date palm leaves Archaeologically, the area is very rich in both biological and man-made remains.

The Study Area

The study area is a depression situated south of the Third Cataract of the Nile on the western bank, parallel to the Dongola reach. It extends for 123km north-south (Figure 1). It diverges from the Nile towards the south; the nearest point to the river is about 6km at its northern end and the most distant point is 60km in the south. Its width varies from 2 to 8km. The lowest portion of the Wadi el-Ga'ab (214m above sea level) must be considerably lower than the level of the river during wintertime.

The terrace soil is bounded by the gravel plateau which extends parallel to the Nile and the depression on the east, and sandstone rocky land on the west. Sand dunes have accumulated in many areas.

For convenience, the area of study can be divided into three regions:

Bab el-Ga'ab

A narrow channel, forming a gravel covered gateway in the vicinity of Soroog village runs from the terrace soil westwards to the desert for about 6km. Most parts of this passage are covered with gravel.

Wadi el-Hashsha

The area is covered with terrace and alluvial soils (lacustrine silt). It extends 3km across to the foot of the gravel plateau on the east and the sandstone plateau to the west. In the south it extends 8km east-west. About 65 more *mutras* (*mutra:* a well for irrigation far from Nile) were seen in these agricultural lands.

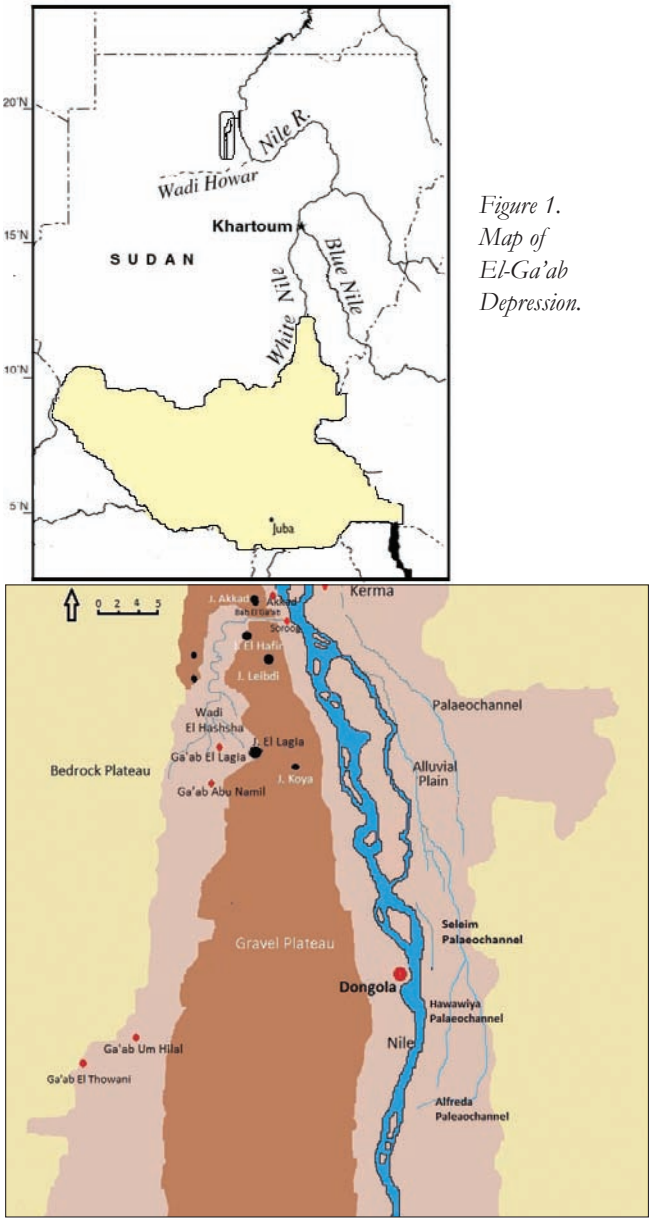

Figure 1. Map of El-Ga'ab Depression.

Ga'abs (oasis)

To the south of the above *wadi* a series of Ga'abs, villages and hamlets for human settlement, occur. The area is occupied by the Kababish tribe rather than Nubians. The Kababish until recently was a nomadic tribe, mostly camel herders. The largest village in the area is Ga'ab el-Lagia, 18km from the Nile, with about 200 houses, one school and a health centre. Commonly, villages lie in areas where underground water is available at a reasonable depth (1.8-3m) and cultivatable and grazing lands are present. Ordinarily, houses are built of mud *(jalous)*. In the vicinity of houses, usually fenced enclosures are employed to keep animals. Domestic breeding includes camels, sheep, goats, donkeys, dogs and chickens. Date palm, dom palm and acacia trees form the main vegetation in these villages.

About 8km south of Ga'ab el-Lagia is Ga'ab Abu Namil. Other inhibited Ga'abs in the south are Ga'ab Um Hilal, el-Thowani, Bauda and Biayuda.

Geology

Sir W. Garstin in April 1897 commented on the great depression of Dongola province (Garstin 1905, 206): it has been thought that this depression possibly might be utilized as a storage reservoir or as an area of runoff for surplus water during excessive flood. Barbour (1961, 131) mentioned that the depression is covered by fertile alluvial soil and in the past the depression had been connected with Nile.

Arkell (1949) postulated that earth movements may have dammed the Wadi el-Ga'ab, but in the author's view these gravels and silts may have been deposited by "a Lake Kerma" that developed behind the natural dam in the Jebel Ali Barsi-Arduan area

Whiteman (1971, 128) wrote that northwards from Dongola there is an extensive gravel and silt terrace marked by a line of bluffs. West of this feature the Nubian Formation is covered with a layer of coarse, rounded, predominantly quartz gravel, at least 8km wide, and dissected by a terrace in places 15km from the Nile. The Third Cataract may have acted as a regulator behind which Lake Kerma was dammed and the Pleistocene sand, gravel and silt of the Kerma Basin accumulated. Recent deposits include Nile silts and windblown sand. Away from the river pediments are well developed and these certainly dated back to the Pleistocene (Whiteman 1971, 128).

In addition, several of the larger hills of the sandstone formation deposits are present at the periphery of the *wadi*. They are named locally Jebel Akad (316m asl), Jebel el-Hafir (282m), Jebel el-Hashsha (285m), Jebel el-Lagia (292m) and Jebel Leibdi (256m) (Figure 1).

Williams *et al.* (2010, 1) mentioned that the now arid main Nile valley in northern Sudan was significantly wetter during the early to middle Holocene, with some lakes in area, fed by an overflow channel from the early Holocene Nile between 7550 and 5550 BC. They added that El-Ga'ab depression is covered with lacustrine deposits, and hence was wetter during the early to middle Holocene, with a lake up to 450km^2 in area, fed by silts rich in both diatom frustules and freshwater gastropod shells. The gastropods have provided calibrated radiocarbon ages of 8123 ± 96 BC near the base of the silts and 5912 ± 45 BC to 5481 ± 54 BC near the top (Williams *et al.* 2010, 11129). Williams *et al.* (2010, 1124) found in Jebel Hafir, Bab el-Ga'ab, in the centre of old Nile channel sediments and the lake sediments ages of 6937 ± 98 and 4888 ± 47 BC respectively. In Ga'ab el-Lagia oasis lake the sediments he found ages of 7431 ± 54 (5481 ± 54 BC) and 10073 ± 96 BP (8123 ± 96 BC), as in the lake sediments, in Umm Hillal oasis and west to Umm Hillal ages of 7575 ± 18 (4925 ± 49 BC); and 6430 ± 23 (5539 ± 39 BC) respectively.

Previous Historical and Archaeological Works

Captain H. Hodgson (1905, 201-2) mentioned that in Ga'ab Um Hellal there is a ruined fort, probably 100 years old, with a well in the yard.

Arkell (1949, 37-38) mentioned that small late flakes from cores with faceted platforms are to be found sporadically on the gravel above the modern high river.

North west of Dongola, G. Y. Karkanis picked up a silicrete sandstone Acheulian hand axe from deposits which, according to Arkell (1949, 37-38), form part of a terrace on the right bank of the Wadi el-Ga'ab.

Father Vantini (1987, 48-49) mentioned that in AD 568 a delegation from the tribes of Germites *(Gur'an)* went to the city of Constantinople and asked the Byzantine Emperor to conclude a treaty with them. They also asked to be taught the principles of Christian beliefs as agreed at the Council of Chalcedon. The Emperor approved the request and added that it was well known that the Germite tribes were living in the oasis to the west of Dongola. (Vantini 1987, 48-49).

Historically the area witnessed a battle mentioned by Evliya Çelebi (Ottoman Turkish quondam official traveller who visited Sudan in 1671-2). The battle was between the Funj and Mahas on one side lead by Gor Hussein and the Zaghawa on the other side in 1671-2 (Udal 1998, 31). Udal (1998, 30) commented that in Evliya's time, Zaghawa were crossing the desert eastwards to the Wadi el-Ga'ab in periodic raids on the Kababish for camels, women and children. Smith (2002, 160) mentioned that the desert fortress at el-Kab was a caravanserai connected with *Darb El Arbain* a key route during this period funnelling camels with valuable trade goods into Egypt and dated to 17th century according to Turkish pipes found there. Kröpelin (2006, 4) found what he believes to be Demotic writing among engravings which are usually associated with administrative buildings. The Demotic script was used during the period 650-30 BC (Kröpelin 2006, 4).

Fieldwork

The first short season was carried out during January 2009. The northern parts of El-Ga'ab, Wadi el-Husha and El-Ga'ab village were surveyed (Table 1) and (Figure 2).

Table 1. List of Archaeological Sites in El-Ga'ab Basin – First Season 2009.

Date	Type	Position	Site Number
Wadi el-Hashsha			
Neolithic Post-Meroitic?	Habitation Cemetery	19° 37.036' N / 30° 19.310' E- Alt. 236m	HA 1-1
Neolithic? Mesolithic ?	Habitation, Graves	19° 37.109' N / 30° 19.660' E- Alt. 234m	HA1 -2
-	Stone crescent structure- Grave?	19° 37.232' N / 30° 17.263' E- Alt. 234	HA 1-3
Neolithic Mesolithic	Habitation	19° 37.343' N / 30° 17.145' E- Alt. 234m	HA 1-4
Neolithic Mesolithic	Habitation	19° 36.781' N / 30° 16.047' E- Alt. 234m	HA 1-5
Neolithic Mesolithic	Habitation	19° 36.564' N / 30° 15.870' E- Alt. 232m	HA 1-6
Neolithic Mesolithic	Habitation	19° 35.521' N / 30° 15.561' E- Alt. 230m	HA 1-7
Neolithic? Mesolithic	Habitation, Graves	19° 35.251' N / 30° 15.448' E- Alt. 230m	HA 1-8
Neolithic Post-Meroitic ?	Habitation Graves	19° 34.209' N / 30° 14.987' E- Alt. 230m	HA 1-9
?	Graves	19° 34.222' N / 30° 14.952' E- Alt. 230m	HA 1-10
Prehistoric Post-Meroitic ?	Prehistoric Graves	19° 34.139' N / 30° 14.983' E- Alt. 230m	HA 1-11
Neolithic? Post-Meroitic ?	Habitation Graves	19° 36.904' N / 30° 17.242' E- Alt. 232m	HA1 -12
Neolithic, Mesolithic Post-Meroitic?	Habitation Graves	19° 37.004' N / 30° 17.106' E- Alt. 230m	HA 1-13
Post-Meroitic?	Graves	19° 36.440' N / 30° 16.849' E- Alt. 230m	HA1 -14
Hut foundation?	Stone structure	19° 36.512' N / 30° 16.832' E- Alt. 228m	HA1 -15
?	Cemetery	19° 36.384' N / 30° 16.771' E- Alt. 223m	HA 1-16
Neolithic ?	Habitation Cemetery	19° 34.125' N / 30° 15.436' E- Alt. 231m	HA 1-17
Neolithic?	Habitation, Graves?	19° 32.285' N / 30° 15.105' E- Alt. 231m	HA 1-18
Neolithic?	Habitation,	19° 30.545' N / 30° 15.572' E- Alt. 222m	HA 1-19
Neolithic Post-Meroitic Late Christian?	Habitation Graves	19° 29.881' N / 30° 15.402' E- Alt. 221m	HA 1-20
Prehistoric?	Habitation, Graves	19° 30.764' N / 30° 15.868' E- Alt. 226m	HA 1-21
Prehistoric?	Habitation, Graves	19° 29.842' N / 30° 14.891' E- Alt. 232m	HA 1-22
El-Lagia village			
Neolithic Christian?	Habitation Graves	19°28.747' N / 30°16.178' E- Alt. 221m	GL 1-1
Christian	Mud brick building?	19° 28.670' N / 30°16.202' E- Alt. 227m	GL 1-2
Christian	Monastery	19° 28.356' N / 30°16.266' E- Alt. 225m	GL 1-3
Neolithic	Habitation?	19° 28.570' N / 30°15.200' E- Alt. 228m	GL1-4
Kogiel hamlet			
Neolithic?	Habitation Aquatic animal fossils	19° 27.975' N / 30° 12.724' E- Alt. 224m	KO 1-1
?	Fossilized crocodile bones	19° 28.325' N / 30° 12.647' E- Alt. 221m	KO 1-2
Neolithic?	Habitation Graves	19° 27.905' N / 30° 14.284' E- Alt. 218m	KO 1-3

Table 1. List of Archaeological Sites in El-Ga'ab Basin – First Season 2009 (cont.).

Date	Type	Position	Site Number
Jebel el-Hattana			
Neolithic?	Quarry Rock Drawings	19° 24.990' N / 30° 16.984' E- Alt. 230m	J H 1-1
Prehistoric, Post-Meroitic?	Graves	19° 26.297' N / 30° 16.364' E- Alt. 230m	J H 1-2

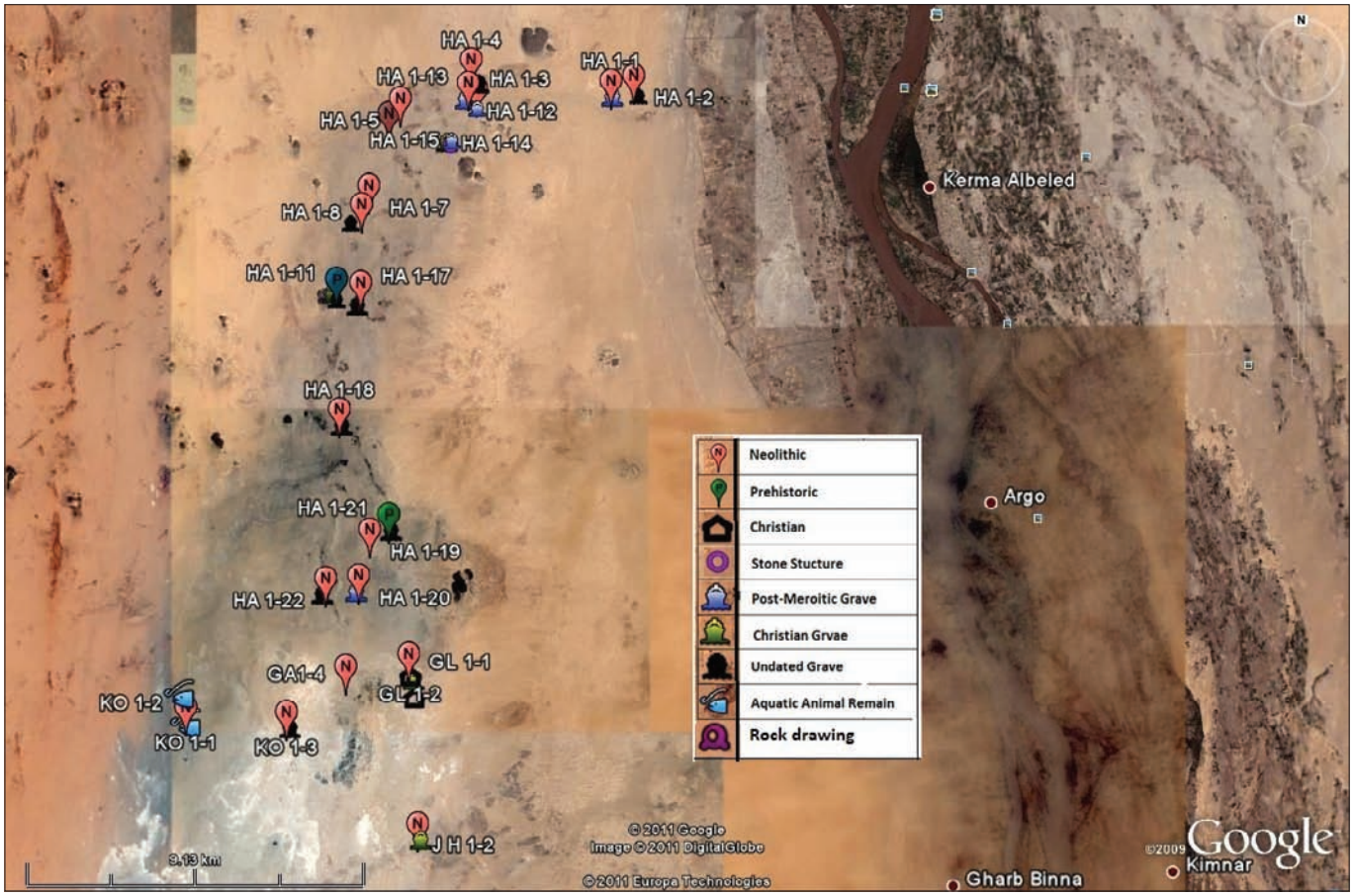

Figure 2. Archaeological Sites in Wadi el-Ga'ab; First Season Survey.

Prehistoric sites

The survey revealed the presence of about seven Mesolithic - Early Neolithic (7000-5000 BC) and 18 Neolithic sites (5000-3000 BC). Most of the sites are associated with scattered Mesolithic and Neolithic tools, pot sherds (Plate 1a-h) and grinding stones. Of the 18 Neolithic sites, 11 are associated with stone structures which are most probably graves. Three other prehistoric sites were registered where lithic tools and grinders were seen in the vicinity but very few or even no pot sherds were recovered.

From the distribution map it can be concluded that extensive Mesolithic and Neolithic settlement occurred on the edge of the narrow palaeochannel (Figure 2) and many fish remains (vertebrae) were collected from most of the sites.

The pottery recovered (Plate 2a-e) is classified according to its decoration - combed, rocker zigzag curve line, rocker zigzag dotted line and incised line which are typical decoration motifs found on Neolithic sites on the Nile in the Third Cataract region and in the Dongola reach.

Post-Meroitic Sites and Stone Structures

Twelve sites comprising cemeteries or solitary graves were recorded. The majority belonged to the so-called post-Meroitic period (Plates 3-6). Graves with circular stone substructure (Kerma?) (Plate 7), an undated type of grave between rock boulders (Plate 8) and unidentified crescent-shaped stone structures (Plates 9-10) were common features in the area. Other small stone mound structures were always associated with Neolithic sites (Plate 11).

Christian sites

Major A. E. Turner in 1884 (1905, 204-5) described the northern branch of the Wadi el-Ga'ab and mentioned that he found ruins of three old buildings, one on the west, and

a.

b.

c.

d.

f.

e.

g.

h.

Plate 1. a. Lithic tools (HA 1-5); b. Lithic tool (Site HA 1-4); c. Acheulian tool (Site HA 1-3); d. Mesolithic tool (Site HA 1-3)?; e. Mesolithic lithic tool (HA 1-5)?; f. Fragment of a polished axe; g. Mesolithic tool; h. Mesolithic tool (HA 1-13)?.

a.

b.

c.

d.

e.

Plate 2. a. Rocker zigzag curve line (HA 1-15); b. Rocker zigzag dotted line (HA 1-13); c. Combed; d. Rocker zigzag dotted line (KO 1-1); e. Incised lines on base of pot (HA 1-7).

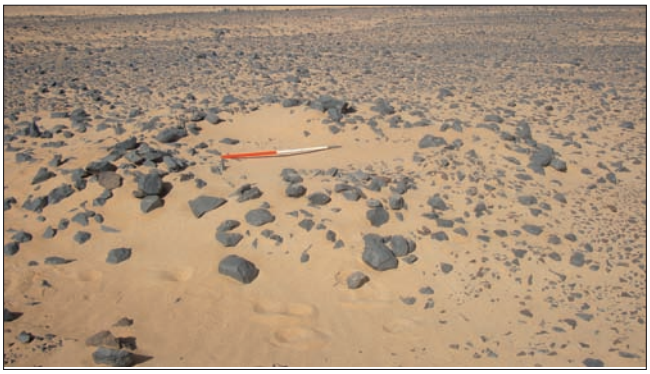

Plate 3. Kerma or Post-Meroitic tumulus?

Plate 4. Tumulus, Post-Meroitic?

Plate 5. Post-Meroitic tumuli? (HA -9)?

Plate 6. Post-Meroitic tumulus (JB-1).

Plate 7. Kerma grave monument?

Plate 8. Burial between rocks.

two on the south side of the road; one of the latter is a ruined convent or monastery and its cells are visible.

In the current survey, only two mud-brick buildings were reported, one of them is a church (Plate 12) and the other

Plate 9. Crescent-shaped stone structure?

Plate 10. Crescent-shaped stone structure?

is not identified because the building is filled in and covered with soil and only the walls appear from the top (Plate 13). The third building mentioned by Turner is invisible now; it may be buried by the sand dune or lies under the el-Lagia village. Dense scatters of Christian pottery sherds (Plates 14-17) and grinding stones were found on the surface in the vicinity. According to Adams' (1977, 479) classification of Christian pottery in Nubia, early, classic and late Christian

Plate 11. Stone structure.

Plate 12. Church (Ga'ab el-Lagia village).

Plate 13. Kom of ruined building (Ga'ab el-Lagia village).

Plate 14. Early Christian pottery sherd.

Plate 15. Classic Christian pottery sherds.

Plate 16. Late Christian pottery sherds.

Plate 17. Late Christian hand-made pottery sherd with swastika on the base.

Plate 18. Christian grave.

pottery sherds were recovered from the complex. A pottery kiln was found south of the buildings where, also many tumuli (Plate 18) were seen.

Rock Drawings

Jebel el-Hattana is a sandstone hill south east of el-Lagia village. The hill is used as a quarry. On the northern face of the *jebel* some rock drawings were seen. Rhinocerus, gazelle or cattle, an elephant (?) and snake were identified among the drawings (Plate 19).

Archaeobiological Sites

In many sites fish and snail remains were collected but in the west of Kogil hamlet there is a drained channel which is very

Plate 19. Rock Drawing (Jebel el-Hattana).

rich in fish bone fragments and even contained the intact skeleton of a fish and crocodile (Plates 20-22).

Conclusions

Survey revealed the presence of:

About 21 prehistoric habitation sites, most of the sites are associated with scattered Mesolithic and Neolithic tools, Neolithic and a few Kerma pot sherds and grinding stones. Out of the total sites, 11 are located near stone structures (graves?) of circular shape and with sandstone covering their tops.

Five sites are cemeteries or graves (Post-Meroitic?) with a

Plate 20. Fish remains in situ.

Plate 21. Snail shells in situ.

Plate 22. Crocodile skeleton in situ.

range of superstructures in addition to crescent or circular stone structures.

Two mud-brick buildings in el-Lagia village; one of them is a ruined monastery, the function of the other was not identified.

One rock drawing site at Jebel el-Hattana.

A large site in a palaeolake associated with snail shells and crocodile skeletons as well as fish bones or intact skeletons.

Acknowledgement

Thanks are due to NCAM for granting a concession for archaeological work in the el-Ga'ab area in 2008. Special thanks to the mission members Dr Intisar Soghayroun el-Zein, Dr Hwida Mohammed Adam and Salah Mohamed Osman (driver). Thanks are also due Mr Khalid Hassen Massi in whose house the group were accommodated in Akkad village.

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