



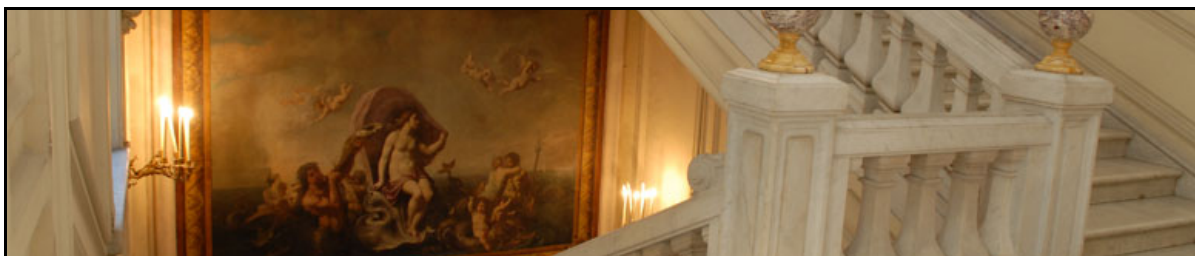
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Sei in: [L'Orientale](#) » [Centri di Servizio](#) » [C.I.S.A. - Centro Interdipartimentale di Servizi di Archeologia](#) » [Newsletter Archeologia CISA](#) » [Volumi 2009-2014](#) » **Volume 5, anno 2014**

## Volume 5, anno 2014

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### Indice

Enzo Cocca, *Kojtepa 2013: The Use of 3D for the Drawings of Excavation: A Methodological Approach*, pp.1-20



Matteo D'Acunto et alii, *Gli scavi dell'Università degli Studi di Napoli "L'Orientale" nell'abitato Greco-Romano di Cuma (2007-2013)*, pp. 21-38



Simona Dalsoglio, *The Relative Sequence of the Earlier Kerameikos Burials (1100-900 BC): A Methodological Approach*, pp. 39-57



Andrea D'Andrea, Rosanna Pirelli et alii, *The Italian Archaeological Mission in the Sun Temple of Niusera at Abu Ghurab, Egypt. The Use of Combined Technologies and the New Perspectives of Study on the Monument: The First Two Campaigns*, pp. 58-98



Anna Maria D'Onofrio, *The Weapon Burial Ritual in the Early Iron Age Kerameikos Cemetery: A Research Project*, pp. 99-122



Bruno Genito et alii, *Bīšāpūr and Its Territory (Fārs, Iran). Second Interim Report (November 2013)*, pp. 123-196



Bruno Genito et alii, *Trial-Trenches at Kojtepa, Samarkand Area (Sogdiana). Fifth Interim Report*, pp. 197-317



Bruno Genito, Vincenzo Morra et alii, *The Unglazed Ceramics Productions from the Masjed-i-Jum'a of Isfahan: a First Archaeological and Archaeometric Approach*, pp. 318-354



Romolo Loreto, *A Preliminary Survey at Seeb the Medieval Town and Harbour of the ancient Dimma (Sultanate of Oman)*, pp. 355-374



Andrea Manzo, *Preliminary Report of the 2013 Field Season of the Italian*



*Archaeological Expedition to the Eastern Sudan of the Università degli Studi di Napoli "L'Orientale", pp. 375-412*

Fabrizio Pesando e Marco Giglio, *Aveia (Fossa, Aq). I Dati della Ricognizione del 2013, fra insediamenti d'altura e centri fortificati*, pp. 413-440

Rosanna Pirelli, *The Italian-Egyptian Project of Study and Conservation of the Monastery of Abba Nefer, Manqabad (Asyut): First and Second Campaign*, pp. 441-454

Fabiana Raiano, *Hellenistic and post-Hellenistic Pottery from Kojtepa*, pp. 455-477

Luisa Sernicola, *Archaeological Expedition at Aksum (Ethiopia) of the Università degli Studi di Napoli "L'Orientale"; 2012 Field Season: Seglamen*, pp. 479-506

Chiara Zazzaro et alii, *The contribution of the Università degli Studi di Napoli "L'Orientale" to the 2013-2014 Eritrean-Italian Archaeological Field Seasons at Adulis (Eritrea)*, pp. 507-590

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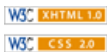
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## PRELIMINARY REPORT OF THE 2013 FIELD SEASON OF THE ITALIAN ARCHAEOLOGICAL EXPEDITION TO THE EASTERN SUDAN OF THE UNIVERSITÀ DEGLI STUDI DI NAPOLI “L’ORIENTALE”

Andrea Manzo (Università degli Studi di Napoli “L’Orientale”)

### *Introduction*

According to the application submitted to the National Corporation for Antiquities and Museums, the goal of the 2013 field season of the Italian Archaeological Expedition to the Eastern Sudan of Università degli Studi di Napoli “L’Orientale” (hereafter UNO)<sup>1</sup> was to continue investigations at site UA53 and make a closer investigation of the western sector of site K1 (Mahal Teglinos), one of the major archaeological sites of Eastern Sudan<sup>2</sup> (Figs. 1, 2). Both these tasks were regarded as urgent because UA53 will be affected by the ongoing building of the new dams on the Atbara and Setit rivers and by the implementation of an agricultural scheme in the region between the Gash and the Atbara (*Upper Atbara Agricultural Irrigation Scheme*), while the Western sector of K1 (Mahal Teglinos) was affected by intense erosion due to the heavy rains of the last years. As the Expedition considered it a priority to contribute to the cultural heritage management of

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<sup>1</sup> The field work took place from November 9<sup>th</sup> to December 9<sup>th</sup>. The team in the field consisted of Andrea Manzo, archaeologist, director of the project and ceramic analyst (UNO), Alemseged Beldados Aleho, archaeobotanist (Addis Abab University), Giorgio Banti, linguist (UNO), Marco Barbarino, surface surveyor (UNO), Alessia Cesaro, assistant archaeologist (UNO), Gilda Ferrandino, archaeologist (UNO), Valentina Perna, ceramic analyst (UNO), and Vincenzo Zoppi, archaeologist, also in charge of the survey and GIS analyst (UNO). The colleague representing NCAM was Habab Idriss Ahmed. The fieldwork took place with the financial support of UNO (departmental research grant 2013, grant for the research activities in Asia and Africa, and grant of CISA) and of the Italian Ministry of Foreign Affairs (grant 2013). The research activities of the expedition are also contributing to the Futuro in Ricerca 2012 project code RBFR12N6WD, *Aree di transizione linguistica e culturale in Africa (Areas of linguistic and cultural transition in Africa)*.

<sup>2</sup> For the previous phases of the research activities of the expedition and in general for the cultural sequence of the investigated region see Fattovich 1989; 1990; 1993; Fattovich *et alii* 1994; Manzo 2012; 2013, Manzo *et alii* 2011; 2012.

the Kassala region, these two endangered sites were selected for investigations in 2013.

It should be stressed that these sites could be also regarded as significant for the research project of the Expedition, which is aimed at getting a better knowledge of the relationships between Eastern Sudan and Upper Nubia as well as to investigate the possible relationships between the cultures of Eastern Sudan and the Red Sea coast *via* the Eastern Desert, as both sites have already proved significant for these topics (Manzo 2013, 259; Manzo *et alii* 2011, 5, 27-30; 2012, 11, 13, 55-56, 60-65, 90-91, 93, 95-97).

Moreover, beginning from this year, linguistic investigations were started by Giorgio Banti on the Nara language as part of a larger program focusing on the Northern East-Sudanic branch of the Nilo-Saharan linguistic family. These linguistic studies should be regarded as closely related to the research project of the expedition, as C. Rilly recently suggested that Meroitic, a Northern East-Sudanic language, was already spoken in Upper Nubia in the 2<sup>nd</sup> millennium BC, and that the language closest to the Meroitic is Nara, presently spoken in the Sudanese-Eritrean lowlands (Rilly 2007, 475-478; Carte 3, 2008, 6-10). The existence of linguistic ties between Upper Nubia and Eastern Sudan possibly going back to ancient times can complement the archaeological reconstruction of the relationships between the two regions which is one of the tasks of our research project.

#### *Investigations at Mahal Teglinos (K1)*

K1 (Mahal Teglinos) is a 10 ha site located East of Kassala in a small valley in the northern part of the Jebel Taka complex (Fig. 3). The site was investigated from 1980 to 1995 by the Italian Archaeological Mission to the Sudan (Kassala) (IAMSK) directed by Rodolfo Fattovich of the UNO (at that time Istituto Universitario Orientale) (Fattovich 1989; 1993; Fattovich *et alii* 1994). Previous investigations demonstrated that the site was used at least starting from the 4<sup>th</sup> millennium BC to the 1<sup>st</sup> millennium AD. The main occupation phases of the site date to the mid-3<sup>rd</sup>-2<sup>nd</sup> millennia BC. In Gash Group times (ca. mid-3<sup>rd</sup>-early 2<sup>nd</sup> millennium BC) a large settlement and a cemetery characterized by monolithic *stelae* (Fig. 4), a so far unique funerary monument typical of this site, developed in the central

and Eastern part of the site. In Jebel Mokram Group times (early 2<sup>nd</sup> millennium BC-early 1<sup>st</sup> millennium AD) a smaller village was located in the western sector of the site which was previously occupied by a small pound.

In 2012, during a visit to the site, it was remarked that erosion was bringing to light large sectors of a settlement in the north-western part of the site, not far from where a preliminary rescue excavation was conducted in 2010 (Manzo *et alii* 2011, 27-30). In addition, some graves had been bisected and almost destroyed by streams in the same sector of the site. For this reason, in the 2013 field season it was decided to investigate three excavation units there: K1 VII, VIII and IX (Fig. 5).

K 1 VII is a 10×10m excavation unit in the lower part of a sloping terrace, where some big chunks of burned clay and the possible remains of two human skeletons were visible on the surface. The big chunks of burned clay proved to be part of a fireplace (Fig. 6) related to a living floor of a settlement area which was associated Gash Group archaeological materials dating to the early 2<sup>nd</sup> millennium BC (Fig. 7). The remains of this settlement overlapped a dark gray to black soil very rich in organic remains possibly originating from a pond located in this sector of the site in the earliest times<sup>3</sup> (Fig. 8). One of the possible tombs comprised only a few scattered flakes of bones, possibly animal, while the second one (K1 VII Tomb 1) consisted of a pit cut in the dark gray soil where a body in a contracted position and with head originally oriented to South-East and facing North was placed (Fig. 9). The pit of the tomb, whose upper part was destroyed by erosion, was cut in the lake sediment and in the Gash Group (mid-3<sup>rd</sup>-early 2<sup>nd</sup> millennium BC) layers, meaning that it is later than that. This tomb can be compared with the others representing the last phase of use of the site investigated in the past years at K1 and may date to the 1<sup>st</sup> millennium AD (Fattovich 1993, 235-236). A sample of the bones will be submitted for C14 dating to confirm this hypothesis.

K1 VIII is a 4×4m excavation unit investigated immediately upslope of K1 VII. This excavation unit contained two concentrations of stones, marking possible graves endangered by erosion. On removing the stones just a single pit was visible. The pit was cut through a living floor of a

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<sup>3</sup> This pond was identified by Mauro Cremaschi in 1989. The dark soil was sampled in 2011 and its analysis are in progress.

settlement possibly related to the one investigated in nearby excavation unit K1 VII. Nevertheless some Jebel Mokram Group (early 2<sup>nd</sup> millennium-mid-1<sup>st</sup> millennium BC) materials were collected in the soil filling the pit (Fig. 10). The pit was also filled by several granitic stones under which a couple of oblique granite slabs were found (Fig. 11). Nothing was found underneath except for some flakes of bones and a further stone slab. Therefore, most likely the grave was robbed, as was also remarked for other graves brought to light by erosion in the profile of a stream nearby whose robbing pit is very evident (Fig. 12). Although no dating evidence was collected, these tombs too may go back to the 1<sup>st</sup> millennium AD.

K 1 IX is a 4×6m excavation unit investigated south of the previous two where erosion brought to light big pieces of a large clay storage container recalling the ethnographic Nubian *gusseba* (Figs. 13, 14). Under a first stratum characterized by some Jebel Mokram Group (early 2<sup>nd</sup> millennium BC-early 1<sup>st</sup> millennium BC) materials, thick strata of burned soil and some stone arrangements were brought to light. They yielded some charred seeds and were related to a living floor which could be ascribed to early 2<sup>nd</sup> millennium BC phases of the Gash Group on the basis of the ceramic finds (Fig. 15). The big storage container was also situated on top of this living floor. The domestic destination of this sector of the site in Gash Group times was further confirmed by the discovery of a plastered rounded fire-pit with some burned stones, perhaps used as baking stones, at the bottom (Fig. 16).

During fieldwork at K 1 Mahal Teglinos in the central part of the site a concentration of Egyptian Pharaonic potsherds dating to Middle Kingdom times (circa 2000-1650 BC) was remarked. According to the variety of their fabric, the potsherds could be ascribed to at least four vessels (one of them a big jar, the others smaller bottles and flasks) (Manzo 2014, 168-173) (Fig. 17). The find spot is located downslope of the area where in 1993 some mud brick structures dating to the 2<sup>nd</sup> millennium BC phases of the Gash Group were investigated (Fattovich *et alii* 1994, 16). In the same area in 1991 the largest collection of Egyptian Pharaonic pottery South of the Fourth Cataract was discovered (Manzo 1993). The discovery of 2013 confirms that this sector of the site may have had a specific function possibly related to the storage of goods exchanged as part of long distance trade in the late phases of the Gash Group (early 2<sup>nd</sup> millennium BC). As erosion is also

endangering this area, further fieldwork may be necessary there in the near future.

Finally, in a stream in the western sector of the site a fragmentary round topped granite slab was collected. The slab was examined with a geologist and it was remarked not only that it was intentionally shaped and that one side of the slab was intentionally flattened, but also that it was characterized by some manmade horizontal lines (Fig. 18). This may suggest that the slab, if not actually inscribed, may have been intentionally prepared for this purpose. The fact that red marks due to the oxidation of the stone only occur on the flattened side of the slab suggests that that side was exposed for a long time. The rough surface of the other side of the slab may suggest that it was not intended to be seen and that the slab may have been placed in a niche.

### *Investigations at UA 53*

UA53 is a site in the south-western sector of the area endangered by the implementation of the Upper Atbara Agricultural Irrigation Scheme. As shown by investigations conducted in 2010 and 2011 (Manzo 2013, 257-259; Manzo *et alii* 2011, 10-12, 2012, 6-22), the site was characterized by the presence of eroded *tumuli* or mounds possibly dating to Jebel Mokram Group times (2<sup>nd</sup>-early 1<sup>st</sup> millennium BC) in its central and northeastern sector, by the occurrence of some remains of a Jebel Mokram Group (2<sup>nd</sup>-early 1<sup>st</sup> millennium BC) settlement with huts in the northern sector of the site, by concentrations of shells originating from Butana Group (4<sup>th</sup>-early 3<sup>rd</sup> millennium BC) assemblages in its southern sector and by remains of a second later Gergaf Group (15<sup>th</sup>-18<sup>th</sup> century AD) settlement in its southern sector. In 2011 a single grave was excavated in the eastern sector of the site which could represent a phase of use of the site intermediate between the Butana Group (4<sup>th</sup> millennium BC) and the Jebel Mokram Group (early 2<sup>nd</sup>-mid-1<sup>st</sup> millennium BC) (Manzo *et alii* 2012, 7-9, Fig. 7).

In 2013 it was decided to resume investigations at the site in order to collect more evidence on this still little known phase of use of the site and for this reason more graves in the central and southern sector of the site were excavated. Moreover, we wanted to collect more data on the Butana Group (4<sup>th</sup> millennium BC) shell middens in order to conduct a study on the



material culture associated with this specialized activity. Finally, further data on the latest occupation phases of the site were highly desirable. For these reasons seven excavation units were investigated: UA53 XI, XII, XIII, XIV, XV, XVI and XVII (Fig. 19).

UA53 XI is a 10×10m excavation unit which was excavated in the southeastern part of the site where some remains associated with late (1<sup>st</sup>-2<sup>nd</sup> millennia AD) ceramics were visible as well as some remains of earlier shell middens brought to light by erosion. The occurrence of a Gergaf Group (early to mid-2<sup>nd</sup> millennium AD) occupation of the spot was confirmed and it was evident that it immediately overlapped the earlier Butana Group (4<sup>th</sup> millennium BC) living floors characterized by a concentration of shells ascribable to fresh water mollusks and land snails. Three concentrations of shells of two different phases were investigated in this excavation unit. The latest concentration consisted of a shallow pit filled with shells (Fig. 20), pottery and lithics; the earliest middens were on an underlying living floor also ascribable to Butana Group times (Fig. 21). The identification of the snails and fresh water mollusks whose shells were collected in the pit and in the middens is in progress, but it can be already anticipated that they include *Achatina fulica* and *Pila ovata*, two species which were recorded in the Butana Group shell middens investigated in 2011 and 2013 (Manzo *et alii* 2012, 94-95).

UA53 XII, a 10×8m excavation unit in the southern sector of the site, contained some remains associated with Gergaf Group (early to mid-2<sup>nd</sup> millennium AD) materials. The occurrence of a late occupation of the spot and of remains of associated light structures was confirmed. Moreover, a tomb was discovered in the eastern part of the excavation unit. The tomb was earlier than the Gergaf Group and consisted of a pit, whose upper part was completely destroyed by erosion. The tomb contained a tightly contracted body with head originally laid to the East and facing North, whose skeleton was very badly damaged by erosion (Fig. 22). Several green stone beads of the same type collected in the sector of the excavation unit where the tomb was located may have been originally associated with it. The lower part of the pit of the tomb was partially sunk into a living floor associated with Butana Group (4<sup>th</sup> millennium BC) lithic and ceramic materials.

UA53 XIII, a 4×4m excavation unit located in the area between the previous two trenches, was dug to investigate a tomb whose remains were

brought to light by erosion. The tomb consisted of a pit whose upper part was completely destroyed by erosion, containing a body in a tightly contracted position with head originally laid to the South and facing East (Fig. 23). Two stone lip plugs were found associated with the body in the lower part of the pit. The pit was partially sunk into a living floor on top of which a concentration of Butana Group (4<sup>th</sup> millennium BC) materials were laying.

UA53 XIV, a 6×6m excavation unit in the southern sector of the site, was dug to collect more data on the latest phases of occupation of the site, since a concentration of late ceramics ascribable to the Hagiz (mid-1<sup>st</sup> millennium BC-1<sup>st</sup> millennium AD) and Gergaf Group (early to mid-2<sup>nd</sup> millennium AD) had been remarked on the spot. This concentration of materials is characterized by the presence of several fitting and mending potsherds with ancient fractures, and this suggests that they are almost in situ and they may have marked an activity area (Fig. 24). In this spot the occurrence of Hagiz Group materials was noticed for the first time at UA53. Underneath, in the southern part of the excavation unit, a tomb, with the upper part of the pit completely eroded, was remarked. Also in this case, the skeleton was damaged by erosion, nevertheless it was possible to understand that the body was lying in a tightly contracted position with the head originally laid to the East and facing North (Fig. 25). A green stone bead was discovered in association with this tomb.

UA53 XV is a 6×6m excavation unit in the central part of the site and was dug to investigate two tombs brought to light by erosion. The easternmost one, Tomb 1, was characterized by a body in a tightly contracted position, with the head to the West and facing North (Fig. 26). The westernmost one, Tomb 2, consisted of a body in a contracted position with head to the South and facing East (Fig. 27). Some ostrich eggshell beads and a bag shaped red stone (carnelian?) amulet were found associated with Tomb 2.

UA53 XVI is a 4×6m excavation unit East of UA53 XV also characterized by a tomb with the body in a contracted position (Fig. 28). The head was oriented to the North facing West and the contracted legs were placed almost vertical. A spear-shaped lip plug was associated with this tomb.

UA53 XVII is a 4×4m excavation unit in the central sector of the site. Before the excavation, a shell midden and remains of a tomb were

already visible on the surface. Thus it was decided to excavate at this spot in order to have a further confirmation of the stratigraphic relationship between the graves and the shell middens (Fig. 29).

The first tomb, Tomb 1, discovered in the Eastern part of the excavation unit, was characterized by a body in a contracted position, with head originally laid to North-East and facing East (Fig. 29). A disk shaped ostrich eggshell bead was found in association with Tomb 1. A second tomb, Tomb 2, was discovered across the Western limit of the excavation unit. It was characterized by a body in a tightly contracted position, with head to the North-West and facing East (Fig. 30). Nine lip plugs were found in association with this tomb, some of them still in situ, close to the mouth (Fig. 31).

In both tombs, the upper part of the pit was completely destroyed by erosion. The preserved part of the pit was cut into a stratum which covered the shell midden visible also before excavating, in the eastern sector of the excavation unit, as well as a further shell midden revealed by the excavation in the south-western part of the trench. Only the first shell midden was investigated and was found to lie on top of a living floor. Both the living floor and the shell midden itself yielded materials of the Butana Group (4<sup>th</sup> millennium BC).

While investigating site UA53 some objects were collected on the surface of the site. Two stone cylinders similar to the ones collected in 2011 and 2012 and interpreted as possible weights (Manzo *et alii* 2012, 89-91) were collected. In the northern sector of the site, in the area of the Jebel Mokram Group settlement (early 2<sup>nd</sup>-early 1<sup>st</sup> millennium BC) a clay animal figurine possibly representing a cow was collected (Fig. 32) .

### *Survey*

A visit to the site JAG1 (Jebel Abu Gamal 1) was conducted to assess the state of preservation of the site, covering ca. 10 ha. JAG1, a multiphase site with Gash Group (mid-3<sup>rd</sup>-early 2<sup>nd</sup> millennium BC), Jebel Mokram Group (early 2<sup>nd</sup>-early 1<sup>st</sup> millennium BC) and later occupation phases, proved to be quite undisturbed with the tumuli which were recorded in the 80s on its surface still visible (Fig. 33). The site will deserve future

investigation. During our visit a fragmentary clay female figurine was collected in the central part the site.

Also site UA 14, the largest Butana Group (4<sup>th</sup> millennium BC) site in the region was revisited in order to explore the possibility of conducting some excavations there in the next field season. The state of preservation of UA14 did not change since our last visit (Manzo *et alii* 2011, 6-7; 2012, 4-6) and after assessment of the tracks leading to the site, its exploration seems possible.

Site UA129, near the Kassala-Port Sudan paved road, a few kilometers North of Kassala, was re-visited as well (Manzo *et alii* 2011, 13-15). This Hagiz Group (mid-1<sup>st</sup> millennium BC-1<sup>st</sup> millennium AD) site is characterized both by a settlement area with remains of red bricks and a concentration of burned and ashy material, and perhaps also by a contemporary cemetery in its northern sector. Despite the site being located in a cultivated area, the settlement area proved to be suitable for future investigation, which should be considered as a priority, as the site is endangered by the agricultural exploitation of the area. On the contrary, the cemetery may have been already destroyed, as most of the bones lay scattered in thin pieces on the surface.

On the last day of the field season the site of K5, near the Kahtmyia mosque, East of Kassala was visited. Unfortunately, the site, dated to the mid-1<sup>st</sup> millennium BC on the basis of the material collected on its surface in the 80s and of the materials yielded by the excavations conducted there in 1993 (Manzo 2004, 75, 77-80), proved to be completely destroyed by the modern Islamic cemetery. On the contrary, a site further South at the foot of the Jebel Taka also characterized by 1<sup>st</sup> millennium AD materials and perhaps to be identified with one of the sites surveyed in the Eighties, was found to be still preserved but with a shallow stratification.

At the request of the Regional Government, a site near the town of Aroma was visited as well. It was named UA143. UA143 proved to be a multicomponent site, characterized both by domestic areas with concentrations of pottery and red bricks, and by soil mounds marking the presence of tombs (Fig. 34). According to local informants, the tombs are characterized by a vertical pit and side chambers closed by walls of bricks. The pottery collected on the surface of this site can be ascribed both to the Hagiz Group (mid-1<sup>st</sup> millennium BC-1<sup>st</sup> millennium AD) and to the Gergaf Group (early to mid-2<sup>nd</sup> millennium AD). The site is suitable for future

investigation which should be regarded as a priority both because it may enlarge our limited knowledge of the late phases of the peopling of the region and because it is endangered by the agricultural exploitation of the area and by an expanding Islamic cemetery.

In 2013 a third visit to the Jebel Maman early Islamic site was conducted as well (Fig. 35) (Manzo *et alii* 2011, 16-18). The visit was aimed at verifying the perimeter of the site and at starting the study of the distribution of the different types of structures inside the site. It was remarked that in the northern sector of the site no *qubba* structures occur but only circles of stones and badly eroded tumuli. In the same area “U” shaped structures, possibly shelters, were registered as well. In the southern part of the site, it was remarked that the more complex *qubba* structures consisting of two superimposed cubic stone structures mainly occur on the eastern side of the jebel, while the simpler *qubba* structures consisting of a single cubic structure are concentrated on the western side. In the middle the two types are mixed, and in this sector also a cluster of small monolithic stelae occurs. On the eastern side of the jebel some tumuli and small, likely not associated with the tumuli, small monolithic stelae were remarked as well. Moreover, the presence of possible clusters of *qubba* was remarked and this may prove significant for the development of the cemetery. Finally, it was remarked that at the base of a jebel to the East of Jebel Maman other structures, possibly a further cemetery with *qubba*, can be observed from the site. The presence of a second cemetery with Islamic remains in the area will be verified in the near future.

#### *Archaeobotanical studies*

A preliminary archaeobotanical investigation was conducted by Alemseged Beldados Aleho on samples from the 2012 and 2013 field season in the laboratory of the National Museum of Khartoum. The seeds, soil samples and vegetal tempered potsherds were examined at various levels, first using a magnifier Lamp, model no 8066, AC 230V 50 HZ 22 W, bulb type: 22W G10q. For further investigation of the samples, a high power Stereo microscope (input rating: 230V-/50HZ, 35W) was used.

The following preliminary identifications were made:

K1 IX E2 SU2 2013 Top of SU5, samples of walls of storage container: mineralized impressions of *Sorghum* cf. *bicolor*, wild morphotype and carbonized grains, chaffs and spikelets of wild *Sorghum* cf. *bicolor*, and *Hordeum* sp. Cultural affiliation of the context: Gash Group (mid-3<sup>rd</sup>-early 2<sup>nd</sup> millennium BC).

UA53 VII 2012, B2-3, SU-6, sample of baked clay: imprints of domesticated *Sorghum* cf. *bicolor*. Cultural affiliation of the context: Jebel Mokram Group (early 2<sup>nd</sup>-mid-1<sup>st</sup> millennium BC).

UA53 VII 2012, B2-B6 SU6, sample of baked clay: carbonized grains of millet sp., *Lolium* sp. and of *Eleusine* sp. Cultural affiliation of the context: Jebel Mokram Group (early 2<sup>nd</sup>-mid-1<sup>st</sup> millennium BC).

UA53 X 2012, B2 SU4, sample of baked clay: chaffs and spikeletes of *Sorghum* sp. Cultural affiliation of the context: Butana Group (4<sup>th</sup> millennium BC).

UA53 X, 2012 B2, SU12, sample of baked clay: chaffs and spikeletes belonging to the *Graminea* family. Cultural affiliation of the context: Butana Group (4<sup>th</sup> millennium BC).

UA126 N E.U. II (Fire Place), sampled of baked clay: two carbonized grains of *Sorghum* sp. and other two as belonging to millet sp. Cultural affiliation of the context: Hagiz Group (mid-1<sup>st</sup> millennium BC-1<sup>st</sup> millennium AD).

Some selected samples were exported in order to be analyzed in the Laboratory of Archaeobotany of the Department of Archaeology and Heritage Management of the Addis Ababa University. After the completion of these analyses a final report will be published.

### *Final remarks*

Excavations at Mahal Teglinos were very fruitful because, as shown by the results of the archaeobotanical investigations, they considerably enriched our knowledge of the subsistence strategies of the Gash Group (mid-3<sup>rd</sup>-early 2<sup>nd</sup> millennia BC), while the discovery of a new concentration of Egyptian Pharaonic ceramic materials added further elements for a full appreciation of the participation of eastern Sudan in the inter-regional exchange networks in the early 2<sup>nd</sup> millennium BC. Also the discovery of the round topped slab possibly prepared for inscription confirms the

importance of Mahal Teglinos in the 2<sup>nd</sup> mill. BC, as it may represent the southernmost evidence of writing in Africa at such an early period.

Moreover, the fact that a Gash Group settlement dating to the very beginning of the 2<sup>nd</sup> millennium BC directly overlapped the lake sediments characterizing the western sector of the site shows that the pond in that part of the site started drying up earlier than supposed to date. Actually, it was previously thought that the pond had dried up only immediately before or at the very beginning of Jebel Mokram Group times, in the early 2<sup>nd</sup> millennium BC at the earliest, because the earlier occupation overlapping it in the western sector of the site dated to that period. It is now clear that this was only the end of a process that started in Gash Group times, at least around 2000 BC, when the northern part of the pond was already dried up most likely as a local consequence of the more general climate changes towards more arid conditions affecting the whole of northeastern Africa in the second part of the Holocene (Kuper and Kröpelin 2006).

Investigations at UA53 enlarged our collection of ceramic and lithic artifacts directly related to the intensive exploitation of fresh water mollusks and land snails, which will enhance our knowledge of this kind of specialized subsistence activity. Of course, this activity was possible in a more humid environmental setting than the present one, when pedogenetic processes were still active. These processes originated a thick soil stratum in which the funerary pits of the tombs investigated in this field season were cut. The subsequent phase of severe wind erosion, likely to be related to drier conditions, is proven by the fact that the both the 4<sup>th</sup> millennium BC shell middens and the later tombs extensively investigated in this field season lay together on the present surface. Thus, at UA53 we may follow at a site level the progressive emergence after the mid-Holocene of the more arid conditions which still continue today in the whole region. Given the potential relevance of the available evidence from UA53, more accurate geoarchaeological investigations of it will take place in the next seasons.

Finally more evidence for the latest phases of use of the site UA53 dating to Gergaf Group (early to mid-2<sup>nd</sup> millennium AD) and, as shown for the first time this year, to Hagiz Group (mid-1<sup>st</sup> millennium BC-1<sup>st</sup> millennium AD) times, was collected.

Moreover, the completion of analysis of samples collected in 2012 at UA53 confirmed the occurrence of domesticated sorghum in Jebel Mokram Group times (early 2<sup>nd</sup>-mid-1<sup>st</sup> millennium BC), which represents the

earliest evidence of domesticated sorghum in the world (Alemseged Beldados Aleho and Costantini 2011; Manzo *et alii* 2012, 100-101). On the contrary, the impressions on clay recovered in 2013 at Mahal Teglinos (K1) showed that apparently in Gash Group times (late 3<sup>rd</sup>-early 2<sup>nd</sup> millennium BC) domestication was not yet morphologically evident.

Finally, the survey pointed to some sites which may be considered for investigation in the next field seasons because of their interest for the topics of the research project.



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# FIGURES

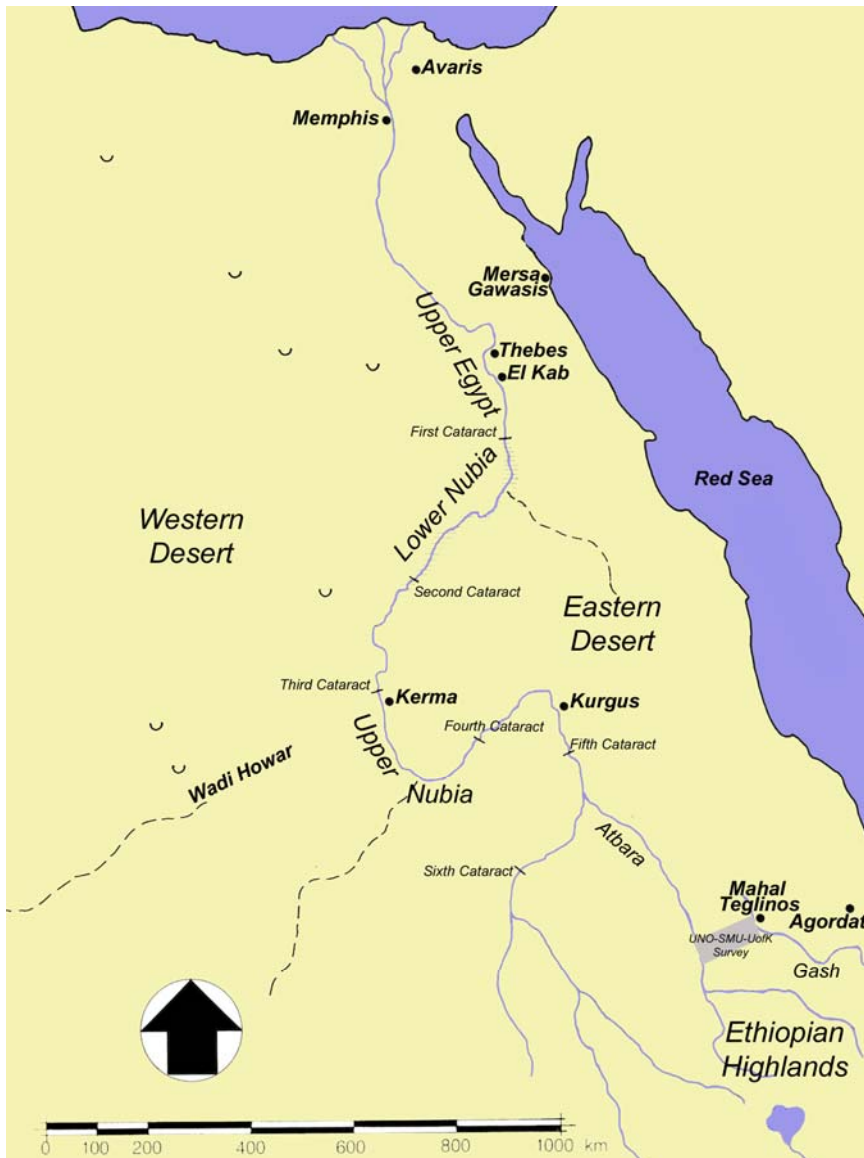


Fig. 1 - Location of the area investigated by the Italian Archaeological Expedition to the eastern Sudan of the Università degli Studi di Napoli “L’Orientale”. The site of Mahal Teglinos and the area investigated from 1980 to 1995 in the framework of a collaboration of the “L’Orientale” (at that time Istituto Universitario Orientale) with the University of Khartoum (Sudan) and Southern Methodist University (Dallas, USA) are shown

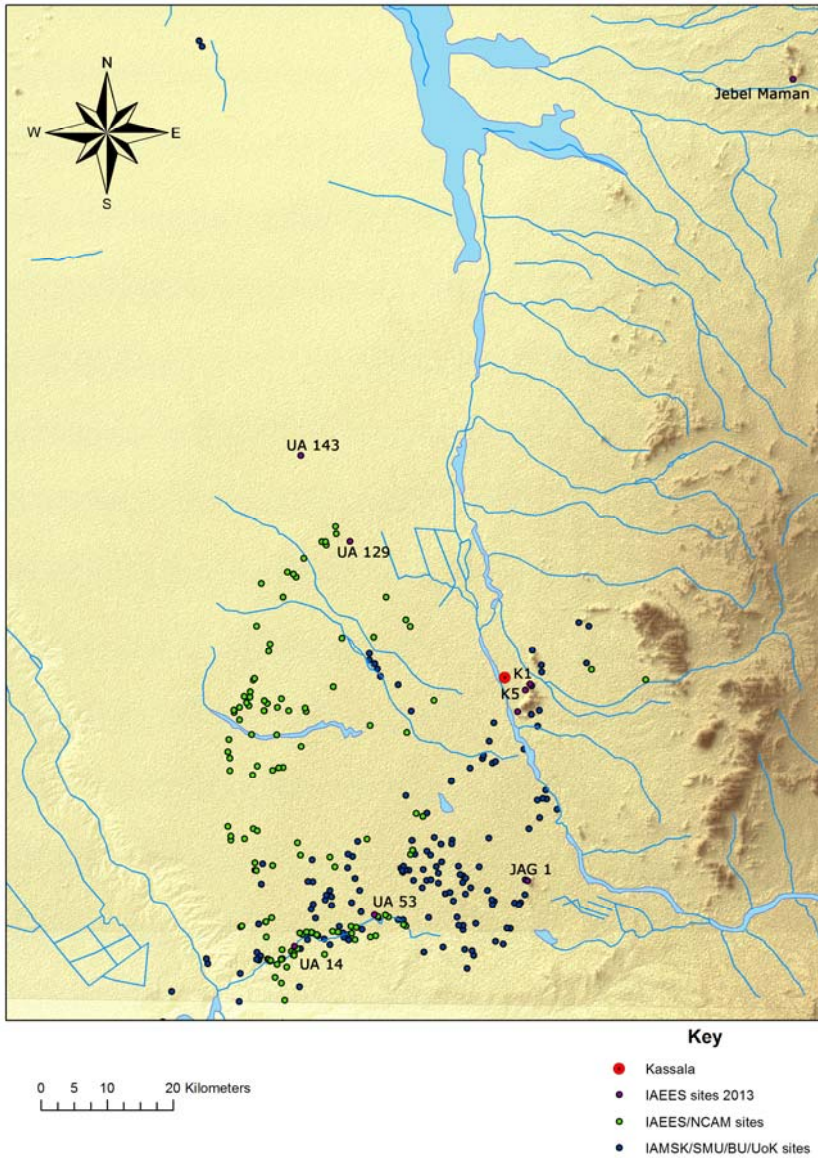


Fig. 2 - Map of the area investigated by the Italian Archaeological Expedition to the eastern Sudan showing the archaeological sites recorded from 1980 to 1995 (blue symbols) and the ones recorded from 2010 to 2013 (green symbols). The names of the sites mentioned in this report are marked as well



Fig. 3 - View of Mahal Teglinos (K1) taken from the western edge of the site



Fig. 4 - View of the main Gash Group cemetery (early 2<sup>nd</sup> millennium BC) investigated in the Eighties and early Nineties at Mahal Teglinos (K1). To be remarked the standing monolithic *stelae* still emerging from the ground



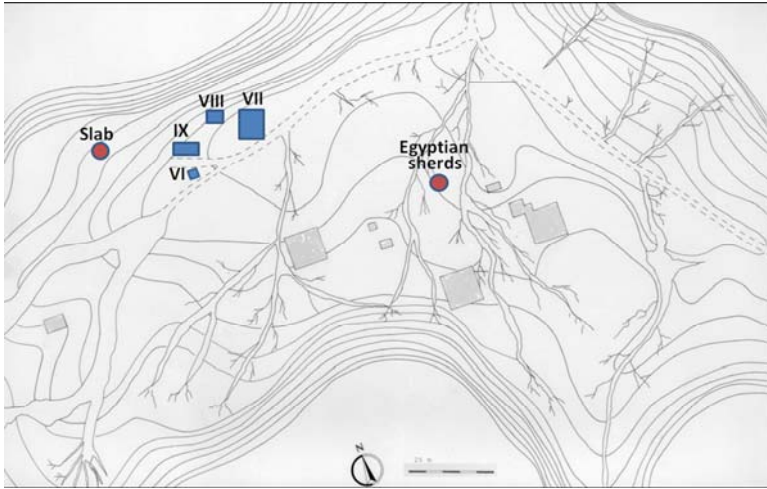


Fig. 5 - Map of Mahal Teglinos (K1) showing the excavation units excavated from 1980 to 1995 (gray areas), the ones investigated in 2010 and 2013 (blue areas), and the spots where surface finds described in the text were collected (red circles)



Fig. 6 - Excavation Unit K1 VII after a first stripping of the surface. To be remarked on the right the oval fireplace related to a living surface dating to Gash Group times (early 2<sup>nd</sup> millennium BC)





Fig. 7 - Excavation Unit K1 VII, B1, SU9, Gash Group rim potsherds (early 2<sup>nd</sup> millennium BC)



Fig. 8 - Detail of the soil stratum on top of which the Gash Group settlement was located overlapping the darker soil likely to have been originated by a pound



Fig. 9 - Excavation Unit K1, Tomb 1



Fig. 10 - Excavation Unit K1 VIII, C2, SU 4, Jebel Mokram Group rim potsherd (early 2<sup>nd</sup> - early 1<sup>st</sup> millennium BC)





Fig. 11 - Excavation unit K1 VIII, stone slabs inside the robbed grave



Fig. 12 - Robbed tomb cut by a stream North of excavation unit K1 VIII



Fig. 13 - Excavation unit K1 IX, the concentration of clay fragments from a storage container before excavation



Fig. 14 - Excavation unit K1 IX, fragment of the rim of a clay storage container, to be remarked the impressions of seeds visible on its surface and the fact that it was made by coiling panels of clay





Fig. 15 - Excavation Unit K1 IX, E3, SU 2, Gash Group rim potsherds (early 2<sup>nd</sup> millennium BC)



Fig. 16 - Plastered rounded fire-pit with some burned stones at the bottom investigated East of excavation unit K1 IX



Fig. 17 - K1, central sector of the site, surface collection, Egyptian potsherds representing the five types of fabrics



Fig. 18 - K1, western sector, surface collection, fragmentary round topped granite slab

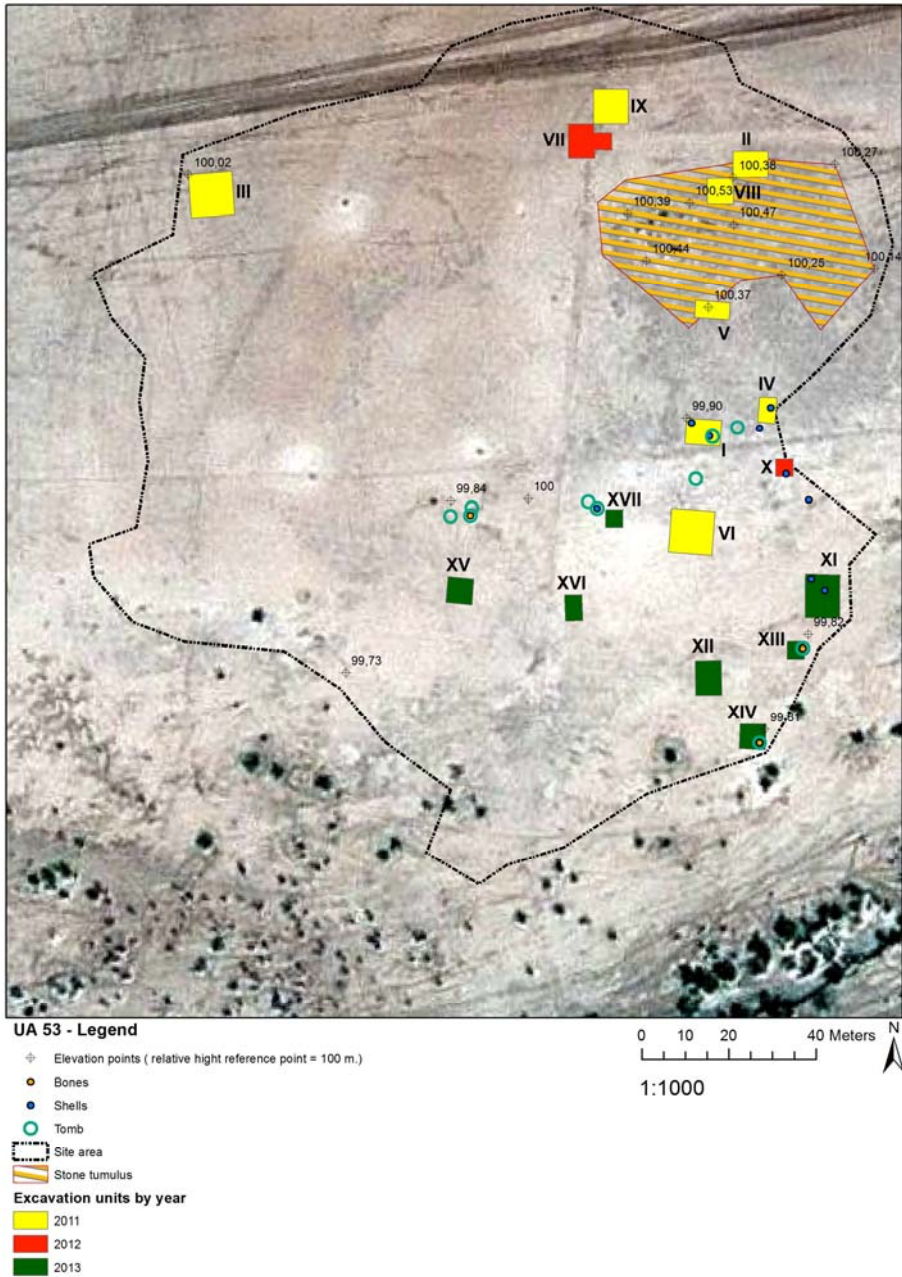


Fig. 19 - Map of UA53 with the excavation units investigated from 2011 to 2013





Fig. 20 - Excavation unit UA53 XI, shallow pit filled with shells representing the later phase of use of the area for the exploitation of snails and fresh water mollusks



Fig. 21 - Excavation unit UA53 XI, shell midden representing the earlier phase of use of the area for the exploitation of snails and fresh water mollusks



Fig. 22 - Excavation unit UA53 XII, badly eroded grave





Fig. 23 - Excavation unit UA53 XIII, badly eroded grave



Fig. 24 - Excavation unit UA53 XIV, concentration of fitting and mending potsherds with ancient fractures, possibly an activity area going back to Hagiz Group times (1<sup>st</sup> millennium BC-1<sup>st</sup> millennium AD)



Fig. 25 - Excavation unit UA53 XIV, badly eroded grave





Fig. 26 - Excavation unit UA53 XV, grave Tomb 1



Fig. 27 - Excavation unit UA53 XV, grave Tomb 2



Fig. 28 - UA53 XVI, badly eroded grave



Fig. 29 - Excavation unit UA53 XVII, grave Tomb 1 and, on the right, the Butana Group (4<sup>th</sup> millennium BC) shell midden





Fig. 30 - Excavation unit UA53 XVII, grave Tomb 2



Fig. 31 - Excavation unit UA53 XVII, nine lip plugs associated with Tomb 2



Fig. 32 - UA53, northern sector of the site, surface collection, animal figurine, perhaps a cow



Fig. 33 - JAG1, surveying the central sector of the site





Fig. 34 - UA143, mound of potsherds and red brick fragments



Fig. 35 - Jebel Maman, a sector of the Islamic cemetery