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Direttore Bruno Genito

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E' con grande soddisfazione che si mette on line il n. 6 della Newsletter di Archeologia del CISA del 2015, che, come è noto, ha cambiato faccia editoriale e impostazione scientifica. Non scendo nel dettaglio dei numerosi e significativi cambiamenti, già in altra sede ampiamente pubblicizzati, ma sottolineo solo l'importanza del fatto che da questo numero in poi gli articoli che saranno presentati alla nostra redazione saranno recensiti da un nucleo di reviewers esterni e vagliati da un comitato scientífico anch'esso esterno e non più solo dal comitato editoriale. Quest'anno per diverse ragioni quest'ultimo ha deciso di pubblicare come numero monografico gli Atti del Convegno tenuto il 30 e il 31 Maggio 2014 presso la Scuola di Procida per l'alta formazione Ex-Conservatorio delle Orfane - Terra Murata - Procida, dal titolo Paesaggi Sommersi Ambiente, Storia, Archeologia, Governance, a cura di Fabrizio Pesando ed Andrea Manzo, che nella loro prefazione chiariranno il senso e lo spirito del Convegno stesso. Alla fine degli Atti c'è il Notiziario delle attività archeologiche dell'UNO nel 2014. Siamo sicuri che le scelte fatte troveranno il giusto apprezzamento tra i lettori ed il pubblico che avrà la pazienza di leggerci. Un'ultima precisazione, gli autori, come sempre accadrà, anche in futuro, si assumono la responsabilità delle affermazioni presenti nei loro testi, spiegando, quando è il caso, le specifiche motivazioni, anche quando esse non fossero condivisibili. Il comitato scientifico ed editoriale rispetta le libertà di ciascun autore, nello spirito della più ampia libertà di pensiero. Nel ringraziare tutti coloro che hanno contribuito direttamente e indirettamente al successo dell'iniziativa ed in particolare Rosario Valentini instancabile e preziosissimo capo redattore, i colleghi della redazione Marco Giglio e Giulio Maresca, i colleghi del comitato editoriale e di quello scientifico, i colleghi del CDTS (Comitato Direttivo e Tecnico-Scientifico), il Presidente Fabrizio Pesando, Andrea D'Andrea e lo staff tutto del CISA, invio un caloroso saluto ai nostri lettori ed un arrivederci al prossimo numero 7 del 2016. Grazie

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Bruno Genito

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ITALIAN ARCHAEOLOGICAL EXPEDITION TO THE EASTERN SUDAN OF THE UNIVERSITÀ DEGLI STUDI DI NAPOLI "L'ORIENTALE". Preliminary Report of the 2014 Field Season

Andrea Manzo (Università degli Studi di Napoli "L'Orientale")

Introduction

The goal of the 2014 field season of the Italian Archaeological Expedition to the Eastern Sudan of the Università degli Studi di Napoli "L'Orientale"¹ was the continuation of the investigations at site UA 53, the beginning of investigations at sites UA 129 and UA 143 and the conduction of a closer investigation of the western sector of site K 1 (Mahal Teglinos), one of the major archaeological sites of Eastern Sudan already investigated by the archaeological expedition led by Rodolfo Fattovich from 1980 to 1995 (Fig. 1).

All these tasks were regarded as urgent because UA 53 and UA 129 will be affected by the ongoing building of the new dams on the Atbara and Setit rivers and bv the implementation of an agricultural scheme in the region between the Gash and the Atbara (Upper Atbara Agricultural Irrigated Scheme). Site UA 143 is endangered by the agricultural exploitation, while the western sector of K 1 (Mahal Teglinos) has been affected by intense erosion due to the heavy rains of recent years.

Because the Expedition considers it a priority to contribute to the cultural heritage management of the Kassala region, these endangered sites were selected for investigations in 2014. These sites could also be significant for the research project of the Expedition which is aimed at obtaining a better knowledge of the relationships between Eastern Sudan and Upper Nubia as well as at investigating the possible relationships between the cultures of Eastern Sudan and the Red Sea coast via the Eastern Desert in ancient times (Manzo 2012, 314; 2014a, 1149-1152). both K 1 and UA 53 have already contributed to the study of these topics (Manzo 2012, 318-320; 2014c, 378-379; Manzo et alii 2011, 5-6, 28-30; 2012, 52-56, 60-65, 95-96). Moreover, UA 53, UA 129 and UA 143 could provide more data on the last phases of the regional cultural sequence (Manzo 2012, 320; 2014b, 380-384; Manzo et alii 2011, 13-15; 2012, 16-18), whose investigation is also a part of the research project. Finally, starting from this year, geo-archaeological investigations have been conducted in order to get a more detailed paleo-climatic and paleo-environmental reconstruction for Eastern Sudan.

Starting from this field season, in the framework of the collaboration between the Università di Napoli "L'Orientale" and the Regional Government of the Kassala State, a field school in archaeology was started. Four junior staff members of the cultural office of the Regional Government and three Italian MA and PhD students attended it.

Investigations at K 1 (Mahal Teglinos)

K 1 (Mahal Teglinos) is a 10ha. site located East of Kassala in a small valley in the northern part of the Jebel Taka complex. The site was investigated from 1980 to 1995 by the Italian Archaeological Mission to Sudan (Kassala) (IAMSK) directed by Rodolfo Fattovich of the Università di Napoli "L'Orientale" (at that time Istituto Universitario Orientale) (Fattovich 1991; 1993; Fattovich et alii 1994). Previous investigations demonstrated that the site was used at least starting from the 4th millennium BC to the 1st millennium AD. The main occupation phases of the site date to the mid-3rd-2nd millennia BC. In Gash Group times (ca. mid-3rd-early 2nd millennium BC) a large settlement and a cemetery characterized by

¹ The field work took place from November 17 to December 17. The team in the field consisted of Andrea Manzo, archaeologist, director of the project and ceramic analyst (Università degli Studi di Napoli "L'Orientale"), Mauro Cremaschi, geoarchaologist (Università di Milano), Alessia Cesaro, assistant archaeologist (Università degli Studi di Napoli "L'Orientale"), Gilda Ferrandino, archaeologist (Università degli Studi di Napoli "L'Orientale"), Eleonora Minucci, physical anthropologist (Università di Napoli "L'Orientale"), Valentina Perna, ceramic analyst (Università degli Studi di Napoli "L'Orientale"), Francesco Michele Rega, assistant archaeologist (Università di Napoli "L'Orientale"), Ahmed Ibrahim, assistant archaeologist (Regional Government of the Kassala State), Renda Mohammed Ohaj, assistant archaeologist (Regional Government of the Kassala State), Rofiyda El-Gezuli, assistant archaeologist (Regional Government of the Kassala State), Roha Mohammed Ali, assistant archaeologist (Regional Government of the Kassala State), and Vincenzo Zoppi, archaeologist, also in charge of the survey and GIS analyst (Università degli Studi di Napoli "L'Orientale"). The colleague representing NCAM was Habab Idriss Ahmed.

monolithic stelae, 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 2nd millennium BC-early 1st millennium AD) a smaller village was located in the western sector of the site, previously occupied by a small lake.

During a visit to the site in 2010, it was already evidenced that erosion was bringing to light large sectors of a settlement in the northwestern part of the site, and that some graves were cut and almost destroyed by streams in the same sector of the site. For this reason, in 2010 and 2013 four excavation units were investigated there: K 1 VI, VII, VIII and IX (Manzo 2012, 317-318; 2014b, 377-378; Manzo et alii 2011, 27-30). In 2014 investigations continued in K 1 VI and IX and a new excavation unit, K1 X, was opened in the central sector of the site where a concentration of Egyptian Pharaonic potsherds dating to the period of the Middle Kingdom was noted in 2013 (Manzo 2014c) (Fig. 2).

K1 VI was a 6 \times 6m excavation unit including the old 2x2m area whose topsoil was excavated in 2010 (Manzo 2012, 317-318; Manzo et alii 2011, 27-30)². Four living floors characterized by concentrations of ceramic materials and by pits were brought to light. The upper ones were partially damaged by erosion. Among the noticeable finds, some charred grains and big fragments of large trays, ca. 60cm in diameter, with a ring base whose fabric was characterized by a large amount of vegetal temper should be noted. These trays did not present any trace of burning and of any direct exposition to the fire, therefore, as suggested by their fabric too, they may not have been used for cooking food, but possibly for drying or serving food. All the living floors investigated at K1 VI were ascribed to the Jebel Mokram Group (early 2nd millennium BC-early 1st millennium BC) except for the earlier one, which gave pottery and a seal typical of the Gash Group (late 3rdearly 2nd millennium BC) (Fig. 3).

K1 IX was a $6 \times 8m$ excavation unit in the lower part of a sloping terrace³, where some big

chunks of burned clay from a large clay storage container reminiscent of the ethnographic Nubian gusseba was brought to light by erosion in 2013 (Manzo 2014b, 378). Excavations conducted in 2013 showed that a thick stratum of burned soil and some stone arrangements were present in this area. They gave some charred seeds and were related to a living floor which could be ascribed to the early 2nd millennium BC phases of the Gash Group, and on top of which the big storage container was placed (Manzo 2014b, 378). In this field season a shallow pit, ca. 2m in diameter, associated with this living floor was discovered. It gave several charred grains, bones and potsherds among them some Egyptian Marl A3 wallsherds and also contained some big stones. Immediately to the west of the pit, two obsidian flakes were collected as well.

K1 X was a $8 \times 8m$ excavation unit in the central sector of the site⁴. It is located downslope of the area where in 1993 some mud brick structures dating to the 2nd millennium BC phases of the Gash Group were investigated (Fattovich et alii 1994). In the same area in 1991 the largest collection of Egyptian Pharaonic pottery South of the Fourth Cataract was discovered (Manzo 1993) and a further concentration of Egyptian Marl A3 potsherds was noted in 2013 (Manzo 2014b, 378; 2014c). In the excavation unit K 1 X, six fireplaces associated to the same living floor with classiclate Gash Group materials were brought to light. Their diameter ranged from ca. 1 to about 1.5 m and the depth from 20 to 50 cm. They contained a large amount of potsherds, fragments of big ceramic trays ca. 50 cm in diameter, some bones, charcoal and charred grains. The fact that all these finds were inside the fireplaces, as well as the fact that several potsherds were mending, suggests that most of these materials were intentionally dumped in the fireplaces after use. Noteworthy, the trays from K 1 X are different from the ones collected in excavation unit K 1 VI: they are made by a coiling technique and their fabric is characterized by mineral temper, their internal surface is smoother than the external which is quite rough. Moreover, the trays from K 1 X were exposed to fire and heat and their external surface is blackened: this

² The excavation was conducted by A. Manzo, A. Cesaro, G. Ferrandino, Habab Idriss Ahmed, E. Minucci, F.M. Rega, Renda Mohammed Ohaj, Rofiyda El-Gezuli, and Roha Mohammed Ali.

³ The excavation was conducted by G. Ferrandino, A. Cesaro, Renda Mohammed Ohaj, Rofiyda El-Gezuli, and Roha Mohammed Ali.

⁴ The excavation was conducted A. Manzo, Habab Idriss Ahmed, A. Cesaro, G. Ferrandino, V. Zoppi, Renda Mohammed Ohaj, Rofiyda El-Gezuli, and Roha Mohammed Ali.

suggests that, they may have been used in the cooking process, perhaps in a way similar to the ethnographic dokka to prepare low unleavened bread. Other remarkable finds are represented by large mending fragments of three Egyptian Marl A3 small jars, all found in a fireplace in the northern sector of the excavation unit (Fig. 4, a), a complete sealing found in a fireplace (Fig. 4, b, c) and some other possible fragmentary sealings and ceramic clay balls. Also a fragmentary and a completely miniaturized vessel were found in one of the fireplaces. On the adjacent living floor three pottery disks were found and, in the southern sector of the excavation unit, other Egyptian potsherds and two clay figurines of lions were collected. As erosion is still a threat in this area, further fieldwork may be necessary there in the near future.

Investigations at Site UA53

UA53 is a site in the south-western sector of the area endangered by the implementation of Atbara Agricultural Irrigation the Upper Scheme. As shown by investigations conducted in 2010 and 2011, the site is characterized by the presence of eroded tumulus or mounds possibly dating to Jebel Mokram Group times (2nd-.early 1st millennium BC) in its central and northeastern sector, by the occurrence of some remains of a Jebel Mokram Group (2nd-.early 1st millennium BC) settlement with huts in the northern sector of the site, by some Hagiz Group remains (1st millennium BC-1st millennium AD) in its southern part, by concentrations of shells originating from the Butana Group assemblages (4th-early 3rd millennium BC) in its southern sector and by remains of a later (15th-18th Gergaf Group century AD) settlement in its southern sector (Manzo 2012, 318-320; 2014b, 379-382; Manzo et alii 2012, 6-21). In 2011 and 2013 several graves were excavated in the central, eastern and southern sector of the site: they might represent an intermediate phase of use of the site between the Butana Group (4th millennium BC) and the Jebel Mokram Group (early 2nd-mid-1st millennium BC) (Manzo 2014b, 379-382; Manzo et alii 2012, 7-8).

In 2014 it was decided to resume investigations at the site in order to collect more evidence on its little known late phases of use and on the graves occurring in the central and southern sector of the site. In particular, we wanted to collect more data on the Hagiz Group (1st millennium BC-1st millennium AD) and Gergaf Group (15th-18th century AD) remains and possibly some dating elements for the tombs. For these reasons, six excavation units were investigated: UA 53 XVIII, XIX, XX, XXI, XXII, and XXIII.

UA 53 XVIII is a 6x6 m excavation unit⁵ located immediately north of UA 53 VI (Manzo 2012, 320; Manzo et alii 2012, 16-18). Its objective was to investigate a tomb whose remains were brought to light by erosion. Some spots with burned soil were also discovered in these excavation units: they can be ascribed to a late phase, perhaps to the Gergaf Group (15th-18th century AD). The tomb consisted of a pit, whose upper part was completely destroyed by erosion, containing a body in tightly contracted position with head to the south. Some shell beads, an ostrich eggshell bead and a cowry shell intentionally cut in the back were found associated to the skeleton. The funerary pit was partially cutting a living floor on top of which a concentration of Butana Group (4th millennium BC) materials were lying.

UA 53 XIX is in the central sector of the site, not far from UA 53 XV. It was intended to investigate two tombs visible on the surface⁶. The easternmost, tomb 1, is badly damaged and characterized by a body in a tightly contracted position, with the head to the south and possibly facing the east, the westernmost, Tomb 2, consisted of a body in a contracted position with head to the north-east and facing south-east. A third tomb, labeled as Tomb 3, was found not far from Tomb 2, it had a north-south orientation, with head to the north and most likely facing east.

UA 53 XX is a $10 \times 8m$ excavation unit which was excavated in the southern sector of the site where some remains associated to late (1st millennium BC-1st millennium AD and 2nd millennia AD) ceramics were visible⁷. The occurrence of an Hagiz Group and Gergaf Group occupation of the area was confirmed and it was shown that it immediately overlapped a Butana Group (4th millennium BC) living floor

⁵ The excavation conducted by A. Manzo, E. Minucci and F.M. Rega.

⁶ The excavation conducted by A. Cesaro, Habab Idriss Ahmed, E. Minucci, Renda Mohammed Ohaj, Rofiyda El-Gezuli, and Roha Mohammed Ali.

 $^{^{7}}$ The excavation was conducted by G. Ferrandino and V. Perna.

characterized by concentrations of materials. Badly preserved remains of a sepulture were recorded in the southern sector of the excavation unit: they consisted just of a few scattered bones and some teeth, making it impossible to understand the original position and orientation of the skeleton.

UA 53 XXI was a $2 \times 2m$ excavation unit in the southern sector of the site associated with a tomb brought to light by erosion. The skeleton was tightly contracted and put in a vertical position, facing north (Fig. 5)⁸. As the original pit was deeper than in other cases, the bones were better preserved.

UA 53 XXII was a $4 \times 4m$ excavation unit in the south-eastern sector of the site associated with a jaw and some teeth brought to light by erosion⁹. In this case no other parts of the skeleton were found.

UA 53 XXIII was a $4 \times 4m$ excavation unit in the southern sector of the site associated with some clusters of materials visible on the surface and ascribable to the Hagiz Group (1st millennium BC-1st millennium AD)¹⁰. These clusters probably originated from a temporary occupation of the spot in the Hagiz Group times, overlapping a Butana Group living surface (4th millennium BC).

Investigations at Site UA 129

Some excavations were conducted at site UA 129, near the paved road that leads from Kassala to Port Sudan, a few kilometers north of Kassala.¹¹ According to the remarks of the 2013 survey, the site was characterized by remains of red bricks and a concentrations of burned and ashy materials, and a probable cemetery in its northern sector (Manzo 2014b, 383; Manzo et alii 2011, 13-15). In this field season it was clarified that the bone fragments, suggesting the presence of a cemetery, were animal bones. Three excavation units, UA 129 I, $10 \times 10m$, and UA129 II, 6 \times 6m, and UA 129 III, 8 \times 12m, were investigated: the first was opened in correspondence with a concentration of baked clay and of five fireplaces. The second, not far from a pebble mound, was opened in order to

clarify the relationships between the living surfaces related to the fireplaces and the mound, and the third one was on the mound itself. At least two phases of occupation were identified. The latest one is ascribable to the Gergaf Group (15th-18th century AD) and characterized by a small squared structure made of pieces of baked clay and possibly the stone mound, which is not associated to any tomb or underground structure, as in the case of the gravel mound investigated in 2012 at site UA 126 (Manzo 2013, 254-255). An earlier Hagiz Group (mid-1st millennium BC-1st millennium AD) phase is suggested by the occurrence of Hagiz Group ceramic materials, some of which were covered by the mound. Instead, the fireplaces may represent the latest phase of occupation of the area and some of them may be very recent. The bases of three possible huts or light structures associated with mixed materials of the Hagiz Group and of the Gergaf Group were also identified north of the excavation units.

Investigations at Site UA 143

On the request of the Regional Government, UA 143, an endangered site near the town of Aroma was also tested¹². The site seemed to be more damaged than it appeared in the preliminary visit of 2013 (Manzo 2014b, 383-384). Two excavation units were investigated. UA 143 I is a 10x12 m excavation unit including an earth mound. UA 143 II is a 4 \times 4m excavation unit opened to investigate a tomb. The earth mound was selected because of its richness in terms of materials visible on the surface, consisting mainly of baked clay, elongated ceramic plaques, and pottery of the Gergaf Group (15th-18th century AD) (Fig. 6). Although the mound did not cover any tomb or other structures except for two empty pits, the concentration of materials was certainly associated with it. The tomb in UA 143 II contained a skeleton in a semi-contracted position with north/east-south/west orientation, with the head to the south-west and facing north. As regards the vicinity of the mound, several tombs were recorded and there is no clear evidence of a domestic use of the area. On the contrary, the abundant materials collected nearby, and on the mound may be related to funerary use, suggesting the continuation of funerary offerings up to the very late phases.

⁸ The excavation was conducted by Habab Idriss Ahmed, E. Minucci, G. Ferrandino and V. Zoppi.

⁹ The excavation was conducted by E. Minucci,

¹⁰ The excavation was conducted by G. Ferrandino and V. Perna.

¹¹ The excavation was conducted by V. Perna, E. Zoppi and Ahmed Ibrahim.

¹² The excavation was conducted by V. Perna, E. Zoppi and Ahmed Ibrahim.

Among the finds, the discovery of rectangular ceramic plaques with rounded corners, some of which bore Arabic inscriptions, mentioning names. These objects may be related to the tombs and may bear the names of the dead persons.

Geoarchaeology

The geo-archaeological activities had the aim of: 1. fully recording and studying the stratigraphy brought to light by water erosion at Mahal Teglinos, and to collect samples from it in order to implement a more detailed paleoenvironmental reconstruction; 2. contextualizing from a geomorphological point of view the archaeological sites related to possible paleochannels of the Gash, crossing the area between the Atbara and the Gash rivers¹³.

At Mahal Teglinos a special emphasis was placed on the organic dark soil brought to light by water erosion in the western part of the site. Two profiles were drawn and samples taken. From the general characteristics of the soil, such as the clay texture, the dark color and the polihedric aggregation, this soil stratum may have originated from a small lake.

As far as the problem of the paleo-channels of the Gash river is concerned, according to the currently accepted model, starting from the early Holocene, the Gash river rotated the axis of its bed from south-west to the present state, towards the North. This theory was tested by a survey of the bed of the Wadi Marmadeb up to the Atbara river, by a study of the area between the paved road Khartoum–Kassala, and by the survey of some wadian in the area between the airport of Kassala and the Atbara, including the Khor Umm Siteba, the area north of it and the flat area between the paved road and the Jebel Abu Gamal.

The laboratory analysis of the samples collected in the 2014 geo-archaeological survey is in progress and investigations are also continuing with the study of satellite imagery.

Final remarks

Excavations at Mahal Teglinos proved to be very fruitful because of the large collections of charred grains and animal bones which will considerably enrich our knowledge of the subsistence strategies of the Gash Group (mid 3rd-early 2nd millennia BC) and Jebel Mokram Group (early 2nd-early 1st millennium BC). The discovery of the concentration of fireplaces and of Egyptian Pharaonic ceramic materials in the central sector of the site added further elements for a full appreciation of the functional differences between the areas of the site. Moreover, these finds have added fresh data on the participation of Eastern Sudan to the interregional networks in the early 2nd millennium BC. Finally, the transition from Gash Group to the Jebel Mokram Group will be clarified and its chronology precisely established by the materials collected in this field season.

Investigations at UA 53 provided more data on the tombs cutting the Butana Group occupation layer (4th millennium BC) and a greater evidence for the later phases of use of the site dating to the Hagiz Group (mid-1st millennium BC-1st millennium AD) and to Gergaf Group (early to mid-2nd millennium AD) times. Different structures, domestic and funerary, going back to the same later phases of the cultural sequence were also investigated at UA 129 and UA 143.

As far as the geo-archaeological studies are concerned, they promise to offer new stimulating data for the paleo-environmental reconstruction of the region.

¹³ M. Cremaschi was in charge of the geo-archaeological activities.

Acknowledgements

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References

Fattovich, R. (1991) Ricerche archeologiche italiane nel delta del Gash (Kassala), 1980-1989: un bilancio preliminare, *Rassegna di Studi Etiopici*, 33, 89-130. Napoli.

Fattovich, R. (1993) Excavations at Mahal Teglinos (Kassala), 1984-1988. A preliminary Report, Kush, 16, 225-287.

Fattovich, R., A. Manzo and D. Usai (1994) Gash Delta Archaeological Project: 1991, 1992-93, 1993-94 field seasons, Nyame Akuma, 42, 14-18. Houston.

Manzo, A. (1993) Note sur quelques tessons égyptiens découverts près de Kassala (Sud-Est du Soudan), Bulletin de Liaison du Groupe International d'Etude de la Céramique Egyptienne, 17, 41-46. Le Caire.

Manzo, A. (2012) The Italian Archaeological Expedition to the Eastern Sudan of the Università degli Studi di Napoli "L'Orientale". An Overview of the 2010 and 2011 Field Seasons, *Newsletter di Archeologia CISA*, 3, 313-335. Napoli. http://www.unior.it/userfiles/workarea_231/file/NewsletterArcheologia%20numero%203/6_Manzo.pdf

Manzo, A. (2013) The Italian Archaeological Expedition to the Eastern Sudan of the Università degli Studi di Napoli "L'Orientale". An Overview of the 2012 field season, *Newsletter di Archeologia CISA*, 4, 253-271. Napoli. http://www.unior.it/userfiles/workarea_231/file/NL4/Articoli/06_Manzo.pdf

Manzo, A. (2014a) Beyond the Fourth Cataract. Perspectives for Research in Eastern Sudan, Anderson, J.R. and D.A. Welsby (eds) *The Fourth Cataract and Beyond. Proceedings of the 12th International Conference for Nubian Studies*, 1149-1157. Leuven-Paris-Walpole.

Manzo, A. (2014b) 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", *Newsletter di Archeologia CISA*, 5, 375-412. Napoli. http://www.unior.it/userfiles/workarea_231/file/NL5/Testi%20PDF/Manzo.pdf

Manzo, A. (2014c) Note su alcuni rinvenimenti ceramici riferibili ai rapporti tra il Sudan orientale e l'Egitto nel II millennio a.C., Fantusati, E. and M. Baldi (eds) *Atti della Quarta Giornata di Studi Nubiani. A tribute to Nubian Civilisation*, 165-184. Roma.

Manzo, A. (2011) with contributions by A. Coppa, Alemseged Beldados Aleho and V. Zoppi *Italian Archaeological Expedition to the Sudan of the University of Naples "L'Orientale". 2010 Field Season*, Napoli.

Manzo, A. (2012) with contributions by Alemseged Beldados Aleho, A. Carannante, D. Usai and V. Zoppi Italian Archaeological Expedition to the Sudan of the University of Naples "L'Orientale". 2011 Field Season, Napoli.



Fig. 1 - Satellite image of the region showing the 60×60 km area under investigation, and the sites investigated in the 2014 field season (Google Earth imagery, oriented to the North)

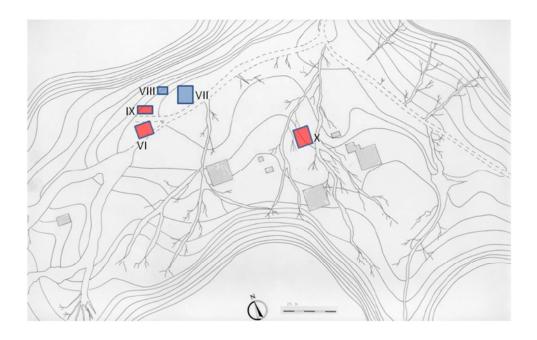


Fig. 2 - Map of the excavation units investigated at Mahal Teglinos in Eighties and Nineties (gray color), 2013 (blue color) and 2014 (red color)

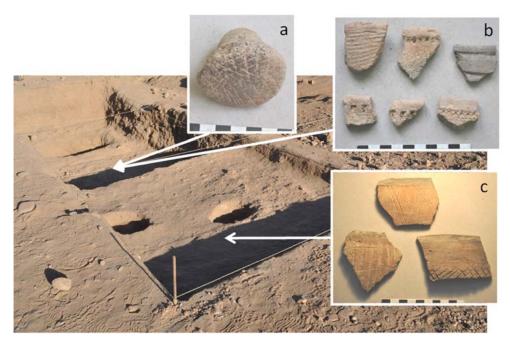


Fig. 3 - Excavation unit K 1 VI at the end of the excavation, with Gash Group seal (a) and ceramic materials (b) associated with the earlier living floor and Jebel Mokram Group ceramic materials (c) associated with one of the later living floors

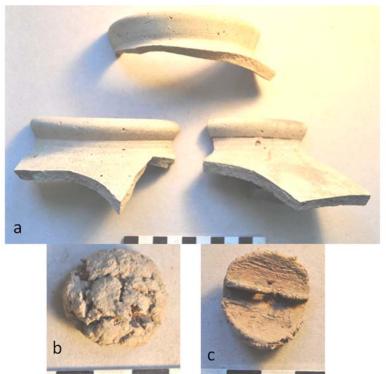


Fig. 4 - Rim and shoulders of Egyptian Marl A3 small jars (a) and a sealing (b, recto; c, verso) from two fireplaces dating to Gash Group times in excavation unit K 1 X



Fig. 5 - Tomb with skeleton in a tightly contracted vertical position, facing north, in excavation unit UA 53 XXI



Fig. 6 - The earth mound characterized by a concentration of baked clay, elongated ceramic plaques, and pottery of the Gergaf Group in excavation unit UA 143 I