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Front cover. Stone slab A3 used as a paving slab in Temple 4, Qasr Ibrim, showing Taharqa and Amun (photograph courtesy of F. Aldsworth).

Above. Frontal scan of lion head, Naga (Kroeper and Perzlmeier 2022, fig. 21, © Naga Project, 3-D scans by TrigonArt BauerPraus GbR).

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Personal adornment in the Blue Nile region, Sudan

Fawzi Hassan Bakhiet Khalid

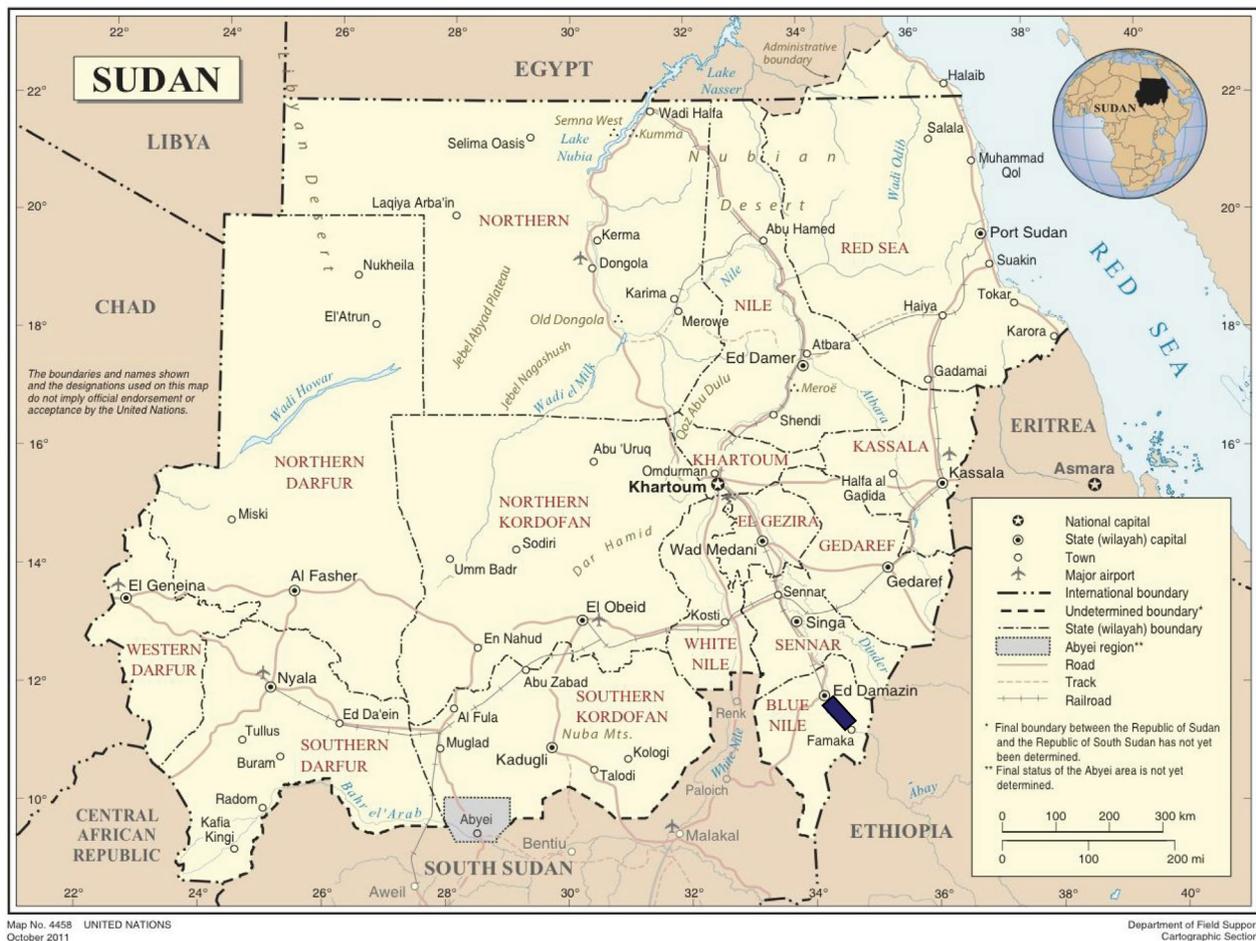


Figure 1. Area threatened by the raising of the Roseires Dam marked in black (modified from UN 2011).

Introduction

This paper is an introduction to artefacts of personal adornment found in the area threatened by the raising of the Roseires Dam on the Blue Nile during the Roseires Dam Archaeological Salvage Project (RADASP) (Figures 1 and 2). There have been limited comparative ethnographic or archaeological studies in this region. Personal ornaments discovered at the RADASP sites were diverse and include lip-studs, nose-studs, beads, pelvic girdles (*rahat?*), necklaces, and bracelets. They were made from a variety of materials, both organic and inorganic, including different types of stone, ostrich eggshell, shells and mica. As such, this is an important contribution to the study of the region. Fieldwork was conducted in this area in 2012 during the project (Mahmoud 2012). Excavations were undertaken by a team from the National Corporation for Antiquities and Museums (NCAM) with colleagues from the Blue Nile and Sennar States.¹ The survey covered 55km and 69 archaeological sites were documented between Azaza in the north to Um Darffa in the south: 55 sites were documented on the eastern Nile bank and 14 on the western bank. The dam area is situated to the south of the city of Ad-Damazin, in the eastern savannah belt, an area

¹ The team comprised Abdelhai Abdelsawi, Fawzi Hassan, Habab Idris, Amal Awad, Yasin Mohammed, Niema Sabil, Mohamed Tom, Ahmed Alsokari and Magdi Awad (NCAM), Mohammed from the Blue Nile State and Thigha Hassan from Sennar State.

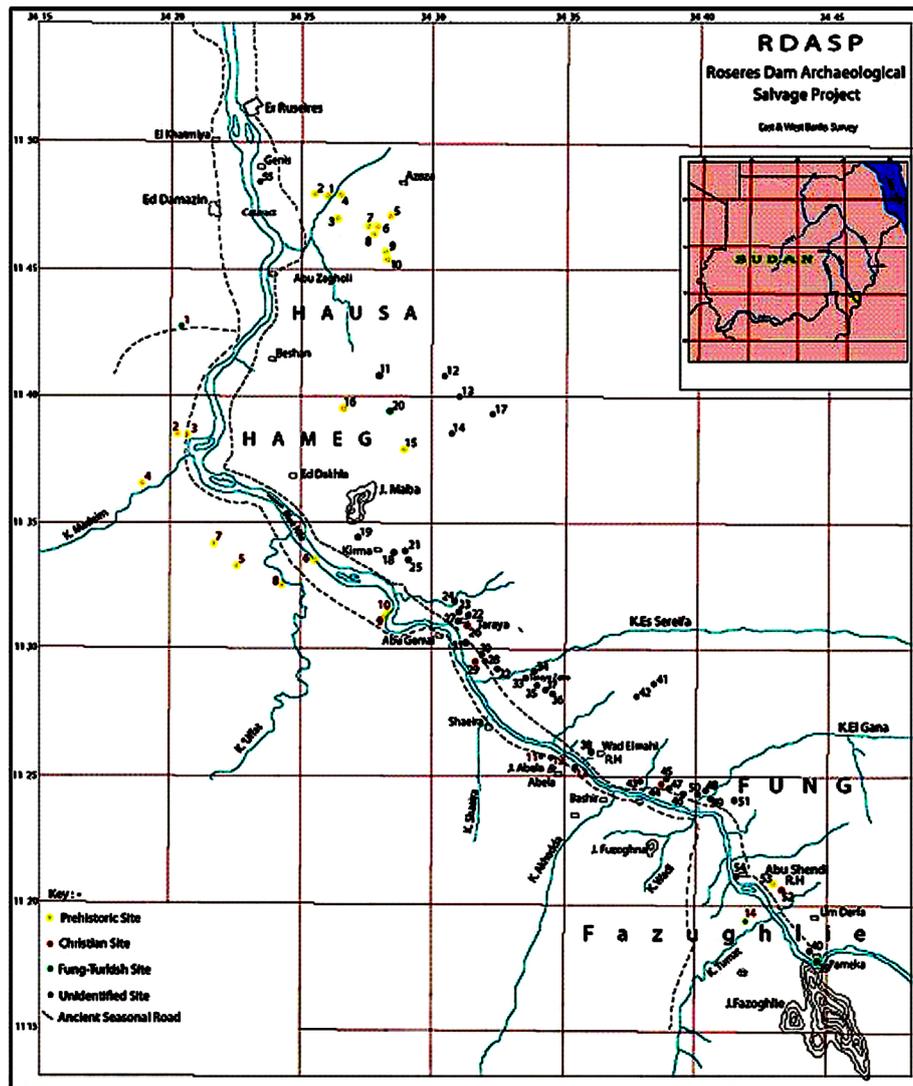


Figure 2. Distribution of sites ROS, Roseires Dam Archaeological Salvage Project (©Yasin Mohammed).

with high rainfall, and primarily consisting of alluvium and black soils. This region is used for agriculture and contains many types of trees including acacia (*talh and hashab* (Arabic)) and baobab (*tabaldi* (Arabic)).

During the 2013 campaign, 15 sites were archaeologically investigated out of the 69 sites previously identified on both Nile banks. The work included complete or test pit excavations, and surface collections.

Work conducted at funerary and settlement sites

Funerary sites

The following is a brief description of the results of the 2013 work at the sites of Kirma, Maganza and Abugemai (see Figure 2).

ROS E 18 B (Kirma village)²

This site is located c. 800m to the southwest of ROS E 18A and was reported by local inhabitants. It was a quarry that had been excavated by the local population for sand. Articulated human bones were seen at a depth of 0.50-0.60m in the profile of the quarry. The area is part of a series of old parallel terraces of the Blue Nile, that were later cut by the valleys which drain into the Nile. There was no sign of superstructures.

² ROS E signifies east bank; ROS W signifies west bank.

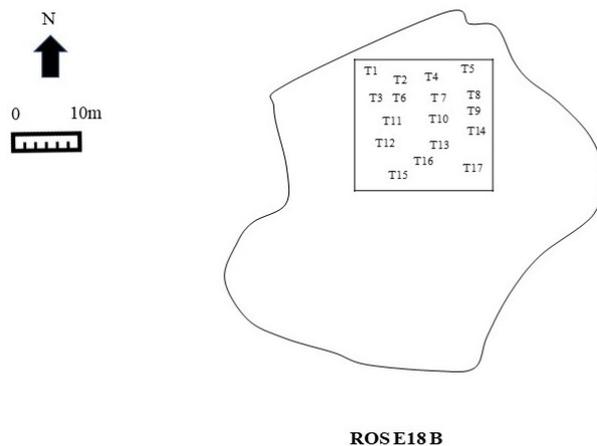


Figure 3. Schematic diagram showing tomb distribution at ROS E18 B.



Figure 4. Skeleton associated with bowls and beads, ROS 18/T1 (© Magdi Awad).

ceramic ornament was found near the arms. It was also mushroom-shaped, decorated and perforated. Below the ceramic vessels, a concentration of red ochre was found. Traces of this were also found near the pelvis.



Figure 5. Fired ceramic pendant shaped like a mushroom (ROS 18/T1).

The excavation of a small area to the east of the quarry revealed a cemetery containing 18 burials, with inhumations at different depths. A grid was set to include the remains of the previously mentioned skeleton. The skeletons were found within one square measuring 20m x 20m (T1-T17) (Figure 3). One incomplete inhumation was also recovered in a trench made by bulldozers, 650m to the south of this cemetery. The following is a brief description of each grave.

Tomb 1

This skeleton was partly removed (the lower part) from the quarry profile. The upper part was laid on a soft layer of sand, at a depth of 450mm below the surface (see Figure 4). It was northwest – southeast in orientation and laid in an extended position, the head to the southeast, facing east, with arms and hands extended below the pelvis. Three ceramic bowls were in an upright position above the skull.

Three personal ornaments accompanied the body. One was a mushroom-shaped pendant made of a decorated incised ceramic. It was found near the skull. Another was a cone-shaped lip-plug with a rounded base and pointed end. It was made of quartz and was found on the chest (Figures 5 and 6). A third



Figure 6. Stone lip-stud with pointed end (ROS 18/T1).

Tomb 2

Situated c. 1.5m to the southeast of T1, the skeleton was at a depth of 0.50-0.60m below the surface. The individual was orientated northeast – southwest and laid on the back in an extended position (1.42m long), with the head facing west. The feet were placed over each other, the arms extended with the hands on the pelvis (Figure 7). A round stone object, possibly a lip or ear stud, 30mm in diameter and 17mm in width was found near the ear (Figures 7 and 8). Large numbers of glass, stone and ostrich eggshell beads were found around the hands (Figure 9). The individual was female, approximately 10-12 years old.

Tomb 7

Found at a depth of 0.95m below the surface, the individual was laid in a southeast-northwest orientation (1.58m long), with the head to the southeast. The hands were placed on the pelvis. 444 stone beads with an average diameter of 45-50mm were found clustered around the neck (Figure 10).

Tomb 11

At a depth of 0.50m below the surface, part of a skeleton, comprising articulated arms and part of a femur and pelvis were found extended in an eastwest-southeast orientation (c. 1.09m -1.15m in length). The individual was female, over 15 years in age and associated with a pointed lip-plug of quartz (Figure 11).

Tomb 12

At a depth of 0.62m below surface, the remains of an individual were identified. Human bones included part of the chest, and skull. One ceramic bowl was situated 50mm from the skull and red ochre was found near the bones (see Figure 12). A stone lip-stud was found near the skull.

Tomb 14

The individual was uncovered at a depth of 0.51m, a level above that found in Tombs 12 and 13. The skeleton was orientated northwest-southeast with the head to the southeast side. The individual lay on their back in an extended position, with a slight bend of the head and chest, their left hand laid on the shoulder. The right hand was missing. One cylindrical stone lip-plug was found and there were traces of red ochre in the grave (Figure 13).

Tomb 17

The individual lay on its left side in a southwest-northeast orientation, at a depth of 0.72m with the head to the northeast facing south. A stone(?) lip-plug was associated with the grave (Figure 14) The deceased was accompanied by an animal sacrifice (T16). The animal skeleton, possibly a goat or gazelle, was disturbed with the head missing.

Site ROS W 15 (Maganza village)

The site is located in Maganza village, on the west bank of the Blue Nile, about 16.5km from the township of the Roseires Dam Raising project, and about 3.48km from ROS W4. The local people informed the archaeological team that skeletons and pottery vessels had been observed during the seasonal flood of the Nile, when waves eroded the edge of the riverbank, uncovering many skeletons. The area was divided into grid squares designated A and B (Figure 15).

Square A

This square measured 10m x 10m and was oriented northwest-northeast. The area consisted of clayey soil with some grasses and archaeological materials were found on the surface (potsherds and beads). The square was excavated to a depth of 350mm and finds included undecorated potsherds, a stone



Figure 7. ROS 18/T2, Extended skeleton, *in situ*.



Figure 8. Rounded stone artefact, probably a lip or ear stud, from ROS 18/T2.



Figure 9. Stone beads from ROS 18/T2.



Figure 10. Stone beads (ROS 18/T7).



Figure 11. Lip-plug/stud, ROS 18/T11.



Figure 12. Skeleton in contracted position with stone lip-stud (ROS 18/T12).



Figure 13. Lip-plug and skull of the individual associated with the lip-plug (ROS 18/T14).



Figure 14. Stone lip-plug, ROS 18/T17.



Figure 16. Stone pendant (Square A).

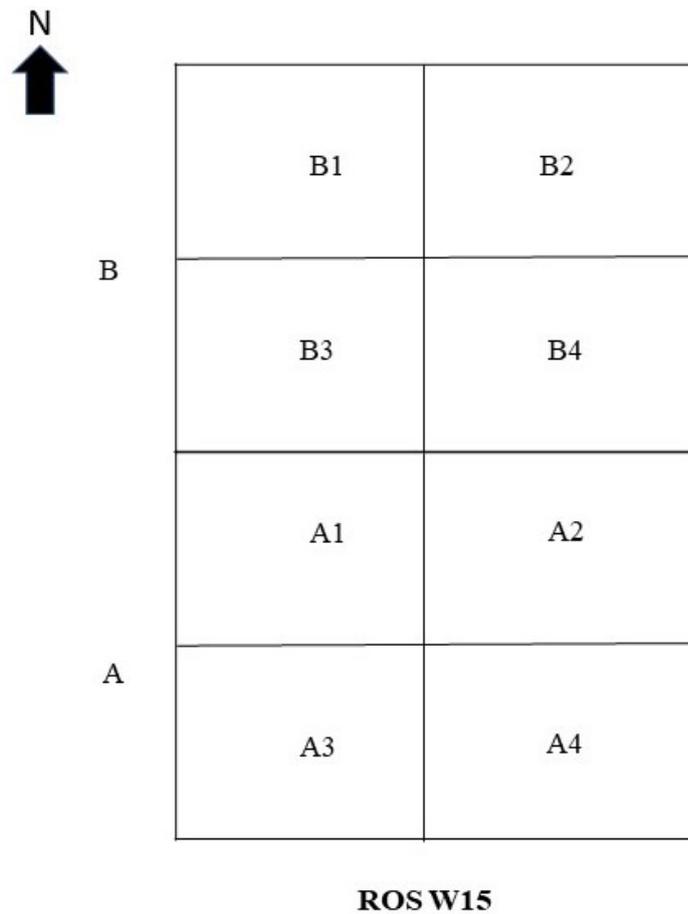


Figure 15. Schematic diagram showing the distribution of squares in ROS W15.

pendant and beads made of ostrich eggshell (Figures 16 and 17).

Square B

Square B was located north of Square A on the edge of a quarry pit, from where local people used to extract sand. On the surface articulated parts of human skeletons appeared (designated T1), mostly in a poor state of preservation.

No burial shafts were found, due to the erosion of the surface by water. The deceased was possibly originally laid in a contracted position, oriented east-west, with the head to the west facing up. The body was accompanied by some personal ornaments including a necklace made of ostrich eggshell beads found

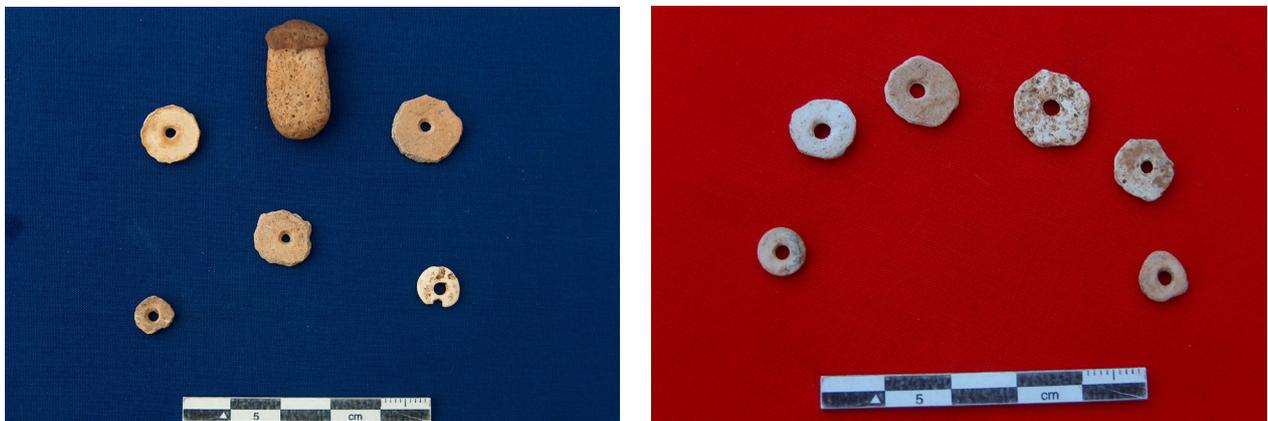


Figure 17. Eggshell beads (Square A).



Figure 18. Part of a skull with lip-studs and beads (Square B, T1).

around the neck and three quartz lip-plugs. A perforated silver-coloured amulet made of a flat sheet of mica was found near the neck of the deceased (see Figures 18-20).

Site ROS W9 (Abu Gomai village)

Site ROS W9 is about 60km from the Roseires Dam Township, on the west bank of the Blue Nile near the Abu Gomai village. The site is elevated and comprises three small mounds (Figure 21). Some archaeological material was sparsely scattered on the surface. It consisted mainly of undecorated sherds, lithics and a few beads. A 10m x 10m square was setup after taking contour measurements, and was then sub-divided into four 5m x 5m units designated A1, A2, A3 and A4 (Figure 22).

Square W9/A4

This square measured 5m x 5m and was located south of square A2. Some archaeological materials were found on the surface including pot sherds, lithics, and beads made of pottery and ostrich eggshell. A semi-circular stone feature, measuring 1m x 3m, appeared. A similar feature was noted in square A2. The square was excavated to a depth of 50mm. A small 3m x 3m trench, designated H1, was excavated inside Square A4 to follow and further expose the stone feature (W9/A4/H). Numerous pottery sherds appeared immediately. Some were part of a broken bowl decorated on the rim, and beads, made of pottery and ostrich eggshell were also present. An ash layer appeared at a depth of 150mm.

Square W9/A1/P1 and W9/A1/P2

Square A1 was subdivided and a trench designated P1 excavated. It measured 2.5m x 2.5m. The surface was composed of clay soil, grey in colour, and the square was excavated to a depth of 150mm. Many



Figure 19. Lip-plugs, mica pendant, wood and ostrich eggshells (Square B, T1, © Magdi Awad).



Figure 20. Triangular ostrich eggshell bead (Square B, T1).



Figure 21. Surface of site ROS W9 (© Magdi Awad).

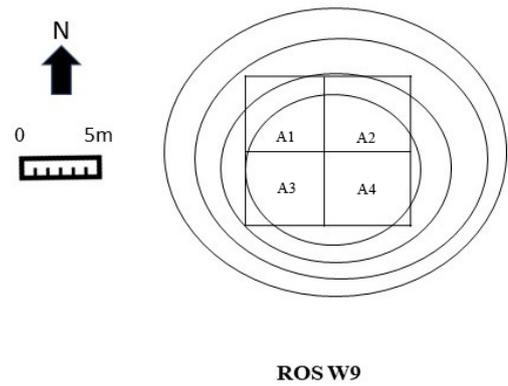


Figure 22. Schematic diagram showing squares in ROS W9.

archaeological materials were found including an upper grinding stone, potsherds, ostrich eggshell beads, a hammer stone, charcoal and lithic material (Figure 23). A burnt layer was found concentrated in the north part of the trench.

A1/P1 was further divided into small trenches measuring 2.5m x 1.40m designated A1/P2. Its purpose was to follow the burnt layer. Finds continued with shells, pottery sherds, large fired pottery beads, and animal bones being discovered (Figure 24). The fired clay beads were similar to those found at Khartoum Hospital (Arkell 1949, 80, pl. 58).

The excavation continued to a depth of 0.90m, where the skeleton of a juvenile appeared, its grave cutting through the burnt layer. The skeleton extended north-south, with the head to the north, facing west (Figure 25). Grave goods included a pot placed above the head and a necklace of stone and ostrich eggshell beads.

Square A3/H2

Within Square A3, a sub-square designated H2 and measuring 3m x 3m was dug and excavated to a depth



Figure 23. Necklace of stone and ostrich eggshells (A1/P1).



Figure 24. Fired clay beads (A1/P2).



Figure 25. Skeleton extended north-south, with the representation of necklace of stone and ostrich eggshell beads (A1/P2).

of 270mm. Three stones from a fireplace appeared along the east-west side, associated with an ash layer. Some archaeological materials were found including potsherds, shells, a shell pendant (Figure 26), a fragment of ivory, some complete black bowls and different types of beads including burnt clay, stones and ostrich eggshells (Figures 27 and 28). A small trench (2m x 1.5m) was made from east to west in order to investigate the ash in the fireplace. It was excavated to 350mm in depth and a few artefacts were found including potsherds from part of a bowl that had been used as a cooking pot and animal bones.

Trench A3/M2

Within Square A3, another trench designated M2, measuring 1.20m x 2.5m, was dug. The surface was composed of soft soil, grey in colour, with a fireplace concentrated on the east side of the square. Beads and upper grinding stones were found. The square was excavated to 550mm in depth. Here the soil became grey in colour with some hearths and ash concentrated on the western side and in the centre of the square. There were many potsherds and a broken clay figurine, which may represent a bovine or ovis/caprid (Figure 29).

ROS E5 Azaza

The site is a high mound, c. 200m in diameter, to the south of Azaza village. Many skeletons were found during the excavation of this area. On one, a young female, a pelvic girdle or belt, was found, made of a



Figure 26. Shell pendant (A1/H2).



Figure 27. Necklace of stone and ostrich eggshells (A1/H2).



Figure 28. Burnt clay beads and ostrich eggshells (A3/H2).



Figure 29. Clay figurine, probably a bovine or ovid/caprid from A3/M2.

large quantity of black stone beads.

Common features among many of the burials were personal ornaments such lip-studs and ostrich eggshell beads, necklaces around the neck or armlets (Figure 30). The beads around the central part of the body may have been part of a *rahat* or pelvic belt or girdle traditional in the area. The burial ground appears to cover several different generations, but apparently belongs to the same archaeological period based upon the associated finds. There is a variation in burial depth, which ranged between the subsurface up to 0.93m, suggesting the erosion of the mound over time. There was no fixed orientation of the body, but it was always placed in an extended position. Stone tools consisting of upper and lower grinding stones and hammerstones have been found associated with the settlement layers nearby. Although no available absolute dating is available, the finds have some similarities to Meroitic material, and are comparable to the burials at Jebel Moya, excavated by the Wellcome Expedition (Addison 1949, 15) and more recently by excavations directed by Michael Brass and Ahmed Adam (Brass *et al.* 2018).



Figure 30. Different types of beads: stone, ostrich, and clay (ROS E 5 Azaza).



Figure 31. Pelvic girdle (*rahat?*) of eggshell beads around the central part of the body found at Site ROS E18 E Azaza.

Settlement

ROS E20 Jebel Maba

This area is about 18km to the east of the Roseires Dam Raising Project Residence Township and more than 4km to the north of Jebel Maba. It is part of a valley formed by two branches of the Khor Abu Zuggulli. The water flowing through the khor during the rainy season fertilised the black clay soil originally deposited by the Blue Nile, before draining into the main channel a few kilometres to the east. As the surface area of the site is covered with basement rock slabs, some of which were formed into circular or semi-circular stone structures, the site was classified during the 2009 survey campaign as a Funj burial site. The elevation of the ground in this area is 450m above sea level. During the dry season (March), nomads still use the area as a grazing land for their cattle and sheep, making use of a water pool on the bottom of Khor Abu Zuggulli, which persists after the rainy season.

A grid system of squares was set up on the site. Each was 20m x 20m in area, and these were further divided into smaller units while digging. Excavation work concentrated on the area where there were abundant rock slabs and stone structures. A total of 100m² in surface area was excavated and cleaned with the excavation reaching various different depths.

Preliminary investigation of the materials retrieved from the site surface and from excavation contexts indicates that the site has been inhabited at least since the Neolithic and reused during later periods. Some ceramic decoration, lip-studs and different type of beads (stone, ostrich eggshell and burnt clay) of Meroitic date were found (see Figure 32). Hints of medieval occupation are represented by pottery beads and some ceramics.



Figure 32. Different types of beads from site ROS E20.

Classification and analysis

This study found that a large proportion of beads in the research area were of stone (65.8%), with ostrich eggshell beads being the second most common type (32.5%). The rest comprised of small numbers of burnt clay, glass and shell (1.7%) (see Appendix). These ornaments were made in different ways clearly demonstrating the richness of the local culture. Indeed, some ethnographical studies suggest that there is a clear continuation of body ornamentation customs and traditions in this and in the neighbouring region, particularly in the Blue Nile and Nuba Mountains (see further Suliman unpublished 17), and this may be part of a broader longstanding tradition in the area.

The materials

Stone beads comprised the majority of those found in the Blue Nile region and included carnelian, quartz and diorite (see Appendix). Carnelian is a semi-precious stone that appears in various colours including red, brown, yellow, and white. It occurs in the gravels of the River Atbara, is common in the Khasm el-Girba region (Whiteman 1971, 258), and in the Blue Nile Sennar-Kassala area (Cailliaud 1826-1827; Crawford 1954; Dixon 1963; Harrell 2010, 72-73).

Many lip-plugs in the study area were made of quartz, a particularly abundant material (Anderson and Anderson 2010, 187), and the first lip-plugs known in Africa appeared in quartz in central Sudan at Esh-Shaheinab, 5,300 years ago (Wendorff 1980, 279).

Ostrich eggshell was another key material across the region, and its presence on sites of different periods suggest it may be considered characteristic of the region. It has been found in many ancient Sudanese archaeological sites as early as the Neolithic period (e.g. Esh-Shaheinab and el-Kadada (Arkell 1953, pl. 5; Wendorff and Schild 1980, 278; Reinold 1994, 73). Ostrich eggshell beads are easily recognised due to their pitted exterior surface, colour and having a relatively standard thickness up to 3.5mm. Ostrich eggshell beads with a large diameter and large perforations also are known from Napatan and Meroitic assemblages (Griffith 1923, 74; Dunham 1950; 1963, 23; Lohwasser 2008, 47; Then-Obłuska 2014, 127; Vila 1980, 66-70). During the late and post-Meroitic periods ostrich eggshells continued to be abundant across Sudan (Abdelrahman et al. 2014, 35). Fired clay beads were common at most sites.

Other materials, included diorite, which was not common on the sites, encompassing just a few beads. A lone pendant of mica was found at ROS W 15. This mineral appears to be the result of crystallisation, but is rarely found in regular, well-defined crystals. Most commonly it appears as a thin, flexible, elastic laminate, which exhibits a high polish and strong lustre. Its surface is smooth to touch, and is easily scratched with a knife or even by a fingernail. Geologically, it is common in the cataract regions especially the 5th and 6th cataracts (Whiteman 1971, 25). Glass beads were only found at one site (Kirma).

Conclusions

During this season of RADASP, there was not enough time to excavate all the sites identified in the region, so sites worked on by the team were selectively chosen. On the eastern Nile bank, just 12 sites were partly excavated from the sum total of 55 sites (21.81%), and three sites were chosen from the 14 sites identified on the west Nile bank (21.42%). Despite the low percentage of sites excavated during this campaign, a variation of different grave types was recognised with rich grave goods (pottery, beads, lip-plugs, etc.) . It was also notable that 90% of these graves lacked superstructures.

A total of 2035 complete beads were recorded during the RADASP excavations. The majority are stone (65.8%), with ostrich eggshell beads being the second most common type (32.5%). The rest comprised small numbers of fired clay, glass, and shell beads or pendants (1.7%), and there was one stone artefact made of mica.

It is recommended that further studies be conducted in the area not submerged beneath the reservoir for

Object	ROS E 18	ROS E 5	ROS E 20	ROS W 9	ROS W 15	Total
Ostrich eggshell beads	Yes	Yes	Yes	Yes	Yes	691
Stone beads	Yes (carnelian and quartz)	Yes	Yes	Yes	Yes	1344
Burnt clay beads	Yes	Yes	Yes	Yes	No	14
Glass beads	Yes	No	No	No	No	5
Pendant	Yes (burnt clay)	No	No	Yes (shell)	Yes (stone and mica pendant)	5
Lip-plug/stud	Yes (pointed and cylindrical type) quartz and diorite	No	No	No	Yes (pointed and cylindrical type), quartz	10
Other	No	No	No	Figurine (bovine/ovis/caprid?)	No	1

Figure 33. Object type and material by site.

a better understanding of the human culture of the region.

Acknowledgements

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Appendix. Classification of objects

Object image	Description	Object image	Description
	Carnelian bead, drilled from both ends, long octagonal shape, light orange red. L. 34mm D. 21mm		Stone lip-stud, round shape D. 300mm H. 170mm
	Glass bead, drawn; globular in shape, surface green. L. 58mm D. 40-42mm		Stone beads Number: 444 D. 45-50mm
	Bead made of red stone with white line. L. 22mm D. 38-39mm		Diorite pendant L. 200mm D. 176mm
	Fired clay pendant? L. 420mm D. 387mm		Shell bead L. 500mm W. 460mm
	Quartz lip-plug L. 490mm D. 200m		Burned clay bead D. 194mm H. 98mm
	Lip-stud/plug, stone? L. 120mm D. 120mm		Shell pendant L. 300mm W. 120mm

Appendix. Classification of objects

Object image	Description	Object image	Description
	Fired clay bead D. 200mm H. 190mm		Necklace with mixed beads - ostrich eggshell, stone and faience L. 690mm D. 100mm-140mm
	Stone pendant L. 350mm W. 290mm		Necklace with mixed bead types and three quartz lip-plugs. See mica pendant below. Ostrich eggshell beads D.12mm Stone beads L. 60mm W. 440mm Quartz lip-plugs L. 430mm-520mm D. 100-102 mm
	Ostrich eggshell bead L. 13mm W. 11 mm		Mica pendant L. 400mm W. 390mm