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Excavations conducted during the 2009-2014 seasons at the burial site of Sedeinga, Nubia, produced 3,400 beads and pendants of various materials which date to the Late Napatan and Meroitic periods, ca. 400 B.C.-A.D. 300. The chronological, geographical, and political situation of the site made the bead assemblage exceptionally rich in organic and inorganic materials as well as the technologies used to make the objects. During a period dominated by faience and glass in bead production, the use of organics and stones indicates strong links with the neighboring Nubian deserts, an overland connection with the Red Sea coast, and, surprisingly, an interest in the resources of the Nile River. A preliminary assessment of the beads provides more specific evidence to help date some of the Sedeinga tombs. Furthermore, due to known parallels, a few Sedeinga bead types can be associated with specific age groups.

INTRODUCTION

Sedeinga is located on the west bank of the Nile in Sudanese Nubia, between the Dal and Third cataracts (Figure 1). The site is marked by the ruins of an Egyptian temple dedicated to Queen Tiyi, Great Royal Wife of Amenhotep III, and a huge Napatan-Meroitic cemetery extending to the west of the temple. The necropolis is divided into three sectors (I, II, III), separated by two wadis (Rilly and Francigny 2013).

Excavations in Sector II of the cemetery between 2009 and 2014 uncovered 3,400 beads and pendants (Rilly and Francigny 2010, 2011, 2012, 2013). These were found in 31 tombs with multiple burials and in 13 surface collections. The tombs have been ascribed to the Late Napatan and Meroitic periods, ca. 400 B.C.-A.D. 300 (Rilly and Francigny 2013). Many beads were found in disturbed contexts in looted tombs, though some beads were still preserved in their original positions. These comprised necklaces (Figures 2; T192; 3; T262; 4; T293 c2) and a wristlet (Figure 4, T293 c1). Some of the finds have already been illustrated in excavation reports (Rilly and Francigny 2011: Plates 2-3, 2012: Plate 3, 2013: Plates 4-5).

While it is too early to provide a quantitative analysis of the Sedeinga material, a broader and more general perspective on Nubian beads has been presented elsewhere (Then-Obłuska 2014: Plate 3). Faience beads dominate bead assemblages in Napatan Nubia and constitute the second largest share just after glass during the Meroitic Period. Faience did not disappear from grave assemblages after this period and, unlike contemporary Egypt, it dominated post-Meroitic bead assemblages during the 4th-6th centuries A.D. Nevertheless, beads and pendant amulets would never again be found in as great a variety as during the Napatan and Meroitic periods. During the latter period (as can be observed to the north and south of the Fourth Cataract region) organic materials, including mollusk shells and ostrich eggshell, almost disappear from bead repertoires while there is an increased presence of stone objects.

In contrast to contemporary Roman Egypt, Nubian bead adornments were buried with children, males, and females alike. Furthermore, some beadwork and bead types can be associated with a specific age group (Then-Obłuska 2014). Although bead adornments were found in the disturbed context of multiple burials at Sedeinga, thanks to known parallels, some bead types can be associated with child burials. In the case of surface finds and tombs with no pottery, the bead finds allow more specific dating of the grave assemblages. In turn, the varied bead repertoire from Sedeinga allows us to introduce new types into the Meroitic bead typology.

THE SEDEINGA ORNAMENTS

The ornaments from Sedeinga are made from a variety of organic and inorganic materials. The former include mollusk shells from marine and freshwater environments, and ostrich eggshell. The inorganic category includes stone, kaolin, faience, glass, and metal.

Mollusk Shells

The mollusk shells used to produce ornaments encountered at Sedeinga came from the Nile River as well as the Red Sea. More than 2,200 **Nile mollusk shells**, in

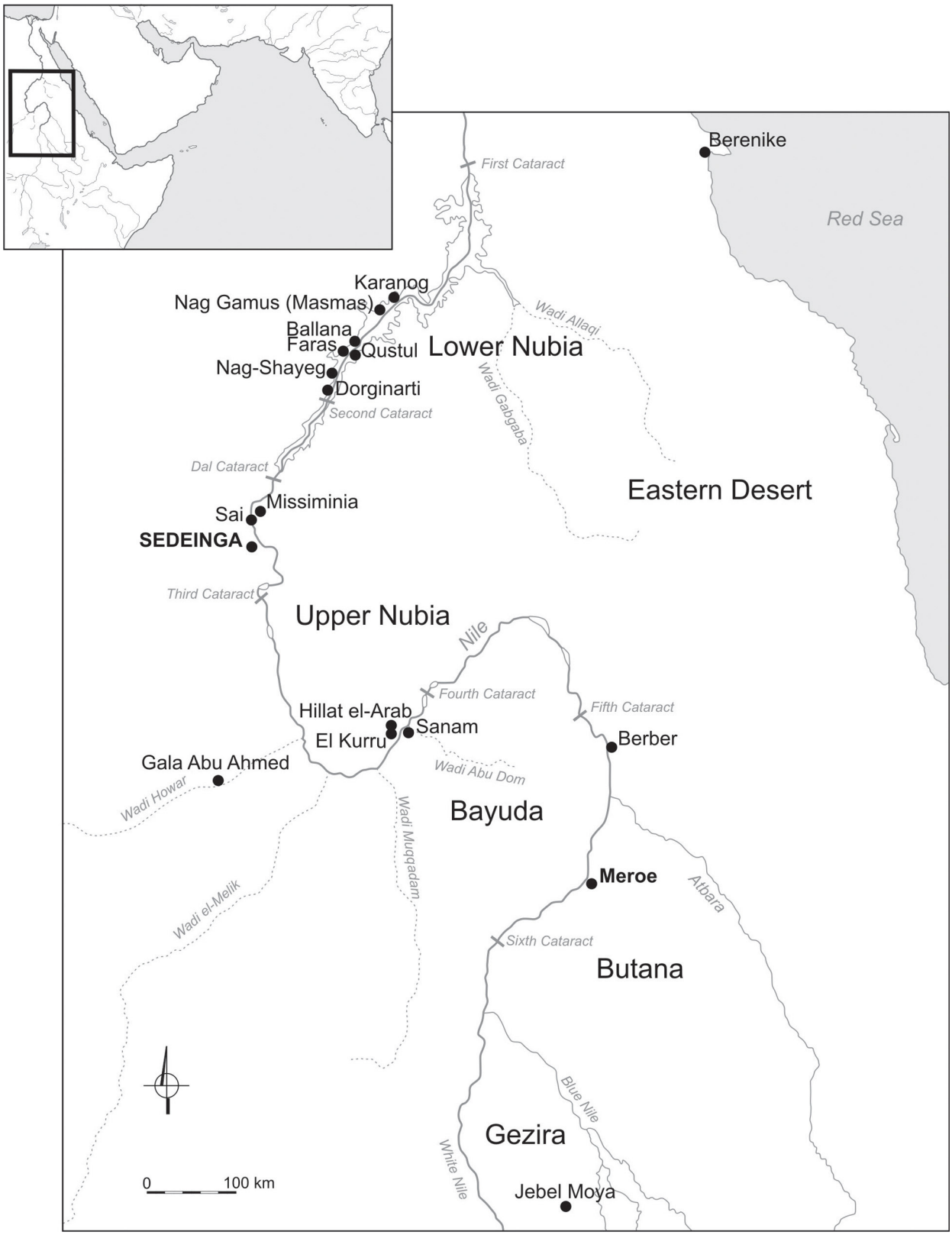

Figure 1. Map of Nubia showing the locations of the sites mentioned in the text (drawing: Szymon Maślak).

Figure 2. Beads and pendants from Tomb 192 (modern stringing) (all photos by author).

Figure 3. Beads and pendants from Tomb 262 (modern stringing).

addition to clay ones, comprise an extraordinary group in Tomb 191. It includes 2,177 shells of *Bellamya* sp. (Van Damme 1984: Figure 5) (Figure 5: T191 d1, d1/f, d1/i), 27 shells of *Melanoides tuberculata* (Van Damme 1984: Figure 24a, 25) (Figure 5: T191 d1, d1/h), and 13 shells of *Natica* sp. (Figure 5: T191 d1/g). While Red Sea shells are known from Napatan and Meroitic bead repertoires in the Nile Valley, the use of perforated Nile shells in Roman-dated beadwork is seldom mentioned in the literature. Two beads made of faience and drawn glass, respectively, from Tomb 191 date the context to the Meroitic Period.

While finds of perforated **Red Sea shells** at Roman ports on the Red Sea are not surprising, their presence in the Nile Valley indicates strong links with the coast. Five small shells of *Marginella* sp. have had their backs removed (Figure 2: T192 c4/b). *Marginella* sp. are present in broad beaded collars at Meroë, Nubia (Schäfer 1910:22, Abb. 142, Taf. 33, 34; Wildung 1996:324-325, nos. 365, 366). One of them was found in the Tomb of Queen Amanishakheto (Wildung 1996:325, no. 366) and belongs among the most splendid examples of the use of *Marginella* shells in Meroitic beadwork.

Oliva sp. with the apex removed (Figure 6: T238 c15) and *Cyprea annulus* with the back removed (Figure 7: T273 c1) are also found in Meroitic contexts at Qustul (Oriental Institute Museum, University of Chicago [OIC], E21513, E21752), Missiminia (Vila 1982:65-66, Figure 57), and Meroë (Dunham 1963:108, Figure 81, g; Museum of Fine Arts Boston [MFA] 23-1-52). Interestingly, *Cyprea* sp. is very common at coastal site Ed-Dur in Oman, with the main occupation during the 1st century A.D. (Haerinck 2001).

Oliva and *Cyprea* are also among the Red Sea shells found in Napatan tombs (Griffith 1923: Plate XXXVII; Vercoutter 1975: Figures 4, 8, 23; Vincentelli 2006: Plate IV, 4).

Ostrich Eggshell

Ostrich eggshell is an easily recognized bead material due to the pitted exterior surface and a thickness that does not exceed 2.3 mm (Figures 6: T238 d1/c; 8: T184 d1/a; 9: T186 c1/c; 10: T195/a). Although it is considered the most characteristic feature of ancient Nubian material culture since the Neolithic period (e.g., Then-Obłuska 2014), it is rarely found in the Lower Nubian region during the period under discussion. Still, ostrich-eggshell beads with a large diameter and a large perforation are known from Napatan assemblages (e.g., Dunham 1963: Beg. West 503, 23-M-710, and Beg. West 774, 23-3-568; Griffith 1923: Plate XXVIII, 74; Lahitte 2013: Abb. 12, Type 1; Lohwasser 2008: Abb. 47, ÄMP 2912; Then-Obłuska 2014: no. 127; Vila 1980: Figure 190, 66-70). In contrast, they are very rare in Meroitic Lower Nubia where they tend to be short cylinders (Then-Obłuska 2015a). Beside these two general types, many diverse forms appear in both periods and it is too early to determine the chronology of the few Sedeinga beads.

Stone

Deserts and river gravels were an excellent source of the stone used to manufacture beads in Egypt and Sudan (e.g., Aston, Harrell, and Shaw 2000:27; Harrell 2010:72-73; Whiteman 1971:258).

The perforations of **standard barrel/globular** beads composed of carnelian and agate are drilled from one end, resulting in a truncated conical shape. While one end of the hole is rounded, the other is truncated and slightly depressed, most probably to facilitate the drilling process. Both ends and sides are polished. The beads (Figure 3: T262 c4/a), ca. 9 mm in diameter, were found with serrated-lentoid faience examples dating to the Late Napatan Period.

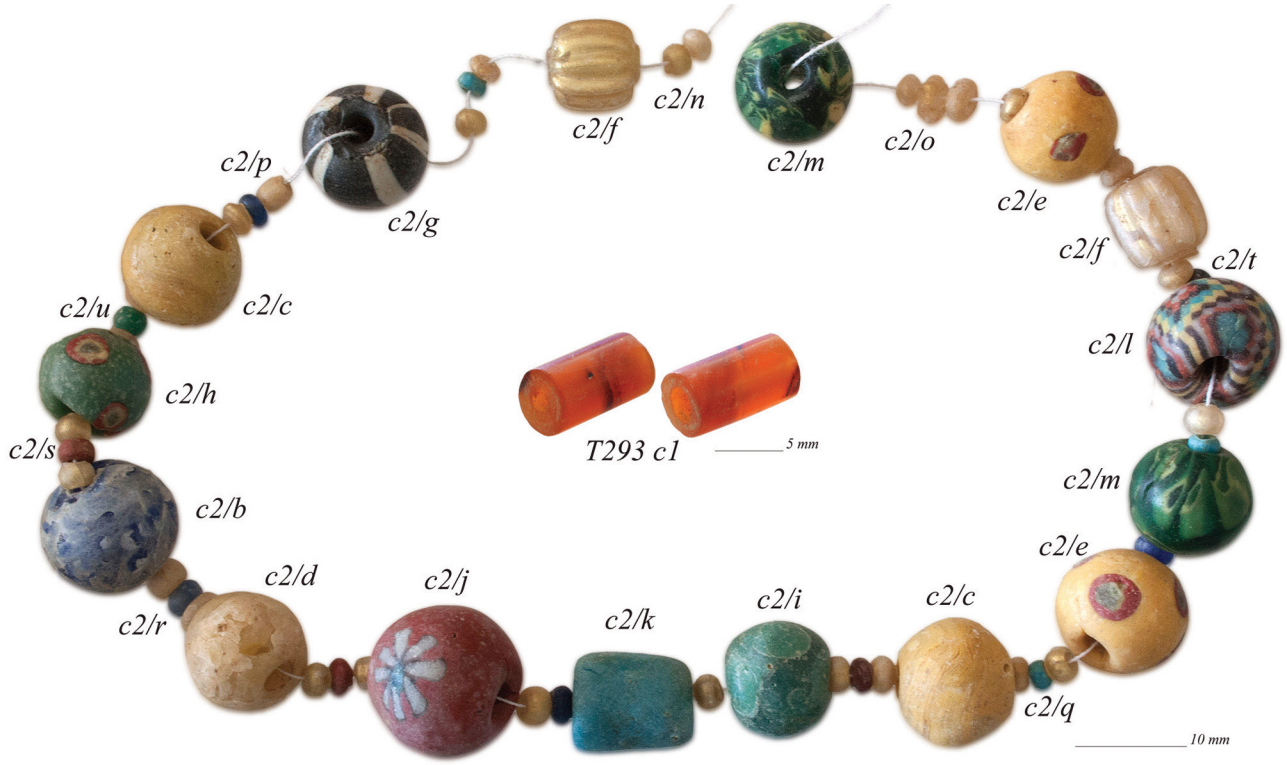

Figure 4. Beads from Tomb 293 (modern stringing).

A small carnelian **barrel bead** ca. 5 mm in diameter is one of the most common types in the Meroitic bead repertoire (Figure 10: T211 d3/b). It is roughly shaped with a highly polished surface. A saw mark that facilitated setting the drill in place is discernable adjacent to the larger end of the truncated-conical perforation.

The ends of a **long cylinder** fashioned from carnelian were simply cut off and left unpolished (Figure 4: T293 c1). Drilled from one end, the perforation has a truncated-conical shape. It was the only bead that formed the wristlet of a child burial in Tomb 293. Long cylinders have been found with other Meroitic child burials at Nubian sites at Dorginarti (OIM E24324) and Nag Gamus (Museo Arqueológico Nacional, Madrid 1980.98.59), as well as in one grave at Berber (T33/256; pers. obs.). They were also recorded at the Berenike port site on the Red Sea (BE00/33/019#21; pers. obs.).

Teardrop pendants are another characteristic feature of Meroitic assemblages, recognizable in necklaces that decorate some Nubian pottery (Then-Obłuska 2015a). Like other stone ornaments of that time, they exhibit traces of saw marks next to the larger end of the perforation. Two main pendant types are present at Sedeinga: globular and lenticular.

The pendants with **globular** bases (Figure 10: T196 d1) have been found at other Meroitic sites and constitute a crucial element of Meroitic necklaces. They are strung alternating with a few small carnelian, glass, gold-in-glass, and faience beads as preserved on strand fragments recovered at Sai (Then-Obłuska 2015a). Longer, flattened teardrop pendants have rounded and slightly **lenticular** bases. They are made of carnelian, black steatite, and white quartz (Figures 2: T192 c6/a-c; 10: T211 d3/a).

Ear studs or earplugs, small objects made from a variety of materials, have a narrow shaft connecting two heads, one smaller than the other. They were probably inserted in a hole in the earlobe or nose. Three kinds have been distinguished in the region based on the shape of the larger head (Williams 1991a:110-111, Table 23). At Sedeinga, the material of the two recovered studs is white stone. The larger circular head is carved to form an eight-petal rosette (Figures 9: T186 c2; 11: T187 d1). Each petal has a hole drilled through it near the tip. Alternating black and purple stone dowels are set into the holes and a black disc is set into the rosette's center. There are remnants of a black adhesive. A similar seven-petal ear stud was found at the neck of the individual in grave 956 at Faras (Griffith 1924: Plate LIX, 8, 1925:114). The Sedeinga examples are similar to a six-petal specimen found in Ballana tomb B 174-3 with infant II and

Figure 5. Beads and pendants from Tomb 191 (modern stringing).

Figure 6. Beads from Tombs 225, 229, 238, 239, 242, 248, 253, and 255.

adult female burials. It is ascribed to the IIIB type group (Williams 1991b: Plate 76c, OIC E22559) which dates to around the second half of the 2nd century A.D. (Williams 1991a:18-19).

Kaolin

Sun-dried kaolin beads and pendants were found together with Nile mollusk shells (Figure 5: T191). There are **teardrop pendants** with globular bases in three sizes (Figure 5: T191 d1/b-d). While the largest are elongated and finished with some burnishing tool, the others are not. Some pendants are coated with a red pigment (Figure 5: T191 d1/a).

Kaolin **beads** have long-bicone and irregular-globular shapes (Figure 5: T191 d2/a-b). Some may have been placed in hot ashes for a short time, resulting in a brown to grey color (Figure 5: T191 d1/e). While kaolin specimens have not yet been confirmed at Meroitic sites, hand-made beads of pink clay were found at the Meroitic Sai cemetery (Then-Obłuska 2015a), the Early Roman Elephantine (Rodziewicz 2005:35), and at Berenike (Then-Obłuska 2015b: Figure 3,12).

Faience

In contrast to glass, faience (glazed composition) objects were shaped in a cold state before being fired (Spaer 2001:308). Whereas disc and cylinder beads of varying lengths were formed from tube segments, some pottery and stone molds found at Meroë suggest they were probably used in the production of faience beads and amulets (Näser 2004: objects 245-246; Shinnie and Bradley 1980: Figure 80).

Disc and **short cylinder** beads in blue, white, yellow, and red are the most common types among faience beads at Sedeinga. While **rings** with a large perforation (Figure 3: T262 c2/b) are found with Napatan serrated beads, **short cylinders** match Early Roman/Meroitic bead types. They are blue, white, red, and black in color (e.g., Figures 2: T192 c5/a-d; 9: T186 c1/a-b; 11: T187 d2/a-b; 12: T188 c1/a-c; 13: S041/c-i). Some of the Meroitic short cylinders are characterized by a very thick glaze layer and a very fine core (Figure 7: T268 c1/a). They are also present at other Meroitic Lower Nubian and Early Roman Egyptian sites (Then-Obłuska 2015b). **Long cylinders** are found with beads dating to the Meroitic period (Figures 2: T192 c3/a; 6: T238 c17, T255 d1; 8: T184 d1/b; 10: T211 d1/a).

Figure 7. Faience and cowrie-shell beads from Tombs 268 and 273 (modern stringing).

Figure 8. Beads from Tombs 169, 176, 180, 183, and 184.

Among larger beads, the blue **globular** (Figure 13: S019/a, S041/b) and white **barrel** examples (Figure 13: S059) are surface finds, as is a blue long cylinder (Figure 13: S041/a). The latter is also present in a Meroitic necklace in Tomb 293 (Figure 4: c2/k).

The **fluted conical disc** (Figure 6: T239 d2) type is said to be from the 23rd Dynasty (Beck 1928: Figure 21, A.2.e). Indeed, fluted cone and bicone beads are known from Napatan contexts (e.g., Then-Obłuska 2014: Figure 1, nos. 95, 97). They are also found at Meroë and called rosette beads (Shinnie and Bradley 1980: Figure 66, Item 2138).

The **lotus** or **jasmine flower-bud** bead (Beck 1928: Figure 24, A.1.e) is a long truncated cone with one decorated end (Figure 11: T187 d4). Similarly shaped beads were used for horse (Dunham 1950:110; Reisner 1919:252; MFA 21.10569a, 21.10560, 21.10567) and child adornments during the Napatan Period (Vercoutter 1975: Figure 5.1). A flower bud with a base divided into quadrants is also present in the Meroitic bead repertoire; e.g., at Meroë (Dunham 1963: Plate S, XIIIc) and with a child burial at Missiminia (Vila 1982:77-78, Figure 73.3b).

Three **serrated-lentoid** beads are said to derive from the Eye of Horus (Figure 3: T262 c4/b-d). They have blue-glazed exteriors and whitish cores. These beads are known from burial and settlement sites in Nubia (Gerharz 1994:150-155; Lohwasser 2004: Taf. 1B, no. 14), and are usually associated with child burials dated to the Late Period in Egypt or the Napatan Period in Nubia (e.g., Brunton 1930, III: Plate XLIII, 2; Dunham 1963: Figure S, Types Xa, Xb, and Xc(?); Griffith 1923: Tombs 783, 1058, 1213, Plate LX, 11; Vercoutter 1975: Tombs 6, 8, 13, 17, 20, 22; Vila 1980: Tomb 416/2, Figures 39:5, 189:32). At Jebel Moya in the Southern Gezira Plain, where serrated beads have been considered to be imports (Addison 1949:110-115, Plates XXXIX: C, XLV; Gehartz 1994:148), they are found with adults.

A **square-plaque** bead exhibits decorative elements on both sides (Figure 2: T192 c4/c). A similar pattern, but only on one side, is present on objects from the Napatan cemetery at Sanam (Griffith 1923: Plate LIV, 3-4). Square faience beads, however, are also found at Meroitic sites (Edwards 1998:63, Figure 3.1, object 3903).

Small **teardrop pendants** with a rounded base and flattened on one side were found in a tomb ascribed to the Late Napatan Period (Figure 3: T262 c2/a).

Figure 9. Beads and stone ear stud from Tomb 186.

An **ankh-above-crescent pendant** is present in the Sedeinga adornment assemblage (Rilly and Francigny 2005: Plate XXIV) (Figure 13: S001). Such a pendant was also found at Sai (Then-Obłuska 2015a) and at Nag Shayeg (Pellicer Catalan 1963:96, Figure 23, Type 58). Similar pendants made of silver were found in the robbers' passage at Noubadian Ballana (Emery and Kirwan 1938, I:83, 216, 1938, II: Plate 48 D, B-4-27). The same motif was used on Meroitic pottery and the ankh-above-crescent was also noted as a stamped impression on clay seals on amphorae from Noubadian Qustul (Emery and Kirwan 1938, II: Plate 115-28).

An exceptionally large **Bes amulet** pendant is more than 4 cm high (Figure 14: T178 d1). It has a blue glazed body and applied green decoration. Although slightly different in style, the same technique is recorded for Bes from Quseir, 1st-3rd centuries A.D. (Meyer 1992: Plate 14, no. 366; Whitcomb and Johnson 1982: Plate 59g; OIM E45910). A similar decorative technique was used on an ear stud from Sedeinga (Figure 13: SO25).

A fragment of a faience amulet represents the Egyptian god of air, **Shu** (Figure 3: T262 c3). He is shown kneeling, with his arms raised to support the heavens and the solar disc above his head. During the Late Period, these amulets were often placed in the mummy wrappings on the torso of the deceased.

Another fragmentary amulet is in the form of **two men's heads back to back** (Figure 15: T216 c1). An amulet of two men squatting back to back, made of glazed steatite and 12 mm in height, is known from Meroë Tomb W 27 (Dunham 1963:106, 22-2-460j, Figure 79h). The faces and upraised hairstyle of the Sedeinga specimen may be found in images of Eastern Desert captive enemies usually presented in a squatting position in Nubian, including Meroitic, art (Baud 2014:777, Figure 8; Wildung 1996: nos. 274-275). A similar head, identified as that of a woman, is observable in the stamped impression on a pottery fragment from Meroë (Näser 2004:245, item 6182, Figure 111).

An **ear stud** in blue faience has a characteristic shape with conical heads (Figure 13: S025). The perimeter of the larger head is decorated with 15 green blobs and one at the apex. Objects of blue faience decorated with yellow or green elements are found among Early Roman ornaments. Similar conical specimens made of stone (Shinnie and Bradley 1980: Figure 85, 295, 1027) and of faience (Shinnie and Bradley 1980: Figure 73: 1840, 2070) were found at Meroë. Conical ear studs continued into the Post-Meroitic Period in Nubia (e.g., Säve-Söderbergh et al. 1981: Plate 103:2).

Glass

The glass beads may be assigned to four groups: drawn segmented, drawn unsegmented, mandrel wound, and mandrel formed.

Drawn Segmented Beads

Drawn glass tubes could be segmented in stone molds such as those found in Early Roman Alexandria (2nd-3rd centuries A.D.) (Kucharczyk 2011:63-64, Figure 8:1). The shape of the molds suggests the production of collared beads, the primary shape of some gold-in-glass beads of that period.

Simple, monochrome single- and multiple-segment beads are commonly found at Meroitic and post-Meroitic Nubian sites. They are translucent dark blue (Figure 10: T201 d1/a), translucent green (Figure 10: T201 d1/b, T211 d1/b), and opaque red (Figure 4: T293 c2/s). The yellow color of one drawn specimen may be due to patination (Figure 2: T192 c5/f). Some drawn beads are pear-shaped (Figure 8: T176 d1) while others are in the form of a square cylinder (Figure 2: T192 c3/b).

Figure 10. Beads and pendants from Tombs 195, 196, 201, 203, 207, 211, and 215.

A large globular black bead, most likely of drawn manufacture, exhibits six longitudinal white **stripes** (Figure 4: T293 c2/g). Although it has rough ends, traces of the segmented portion are preserved there.

Some drawn beads are of **compound** construction, being composed of two glass layers. One broken double-segment bead has a red exterior and a colorless core (Figure 13: S041/l). It is a common type in Meroitic bead assemblages (Then-Obłuska 2015a). Orange-on-red beads are also present (Figures 10: T215 d1/a; 13: S007). While opaque orange beads have been previously found at Sai (Then-Obłuska 2015a), the orange-on-red specimens are new to the Meroitic bead assemblage.

Although some doubts have been expressed (Arveiller-Dulong and Nenna 2011:175, note 28), **metal-in-glass** beads are said to have been produced at the Early Roman Elephantine (Rodziewicz 2005:34-35), as well as at Meroë (Markowitz 2012:198), although no details are offered. Sourcing gold-in-glass beads may be accomplished through chemical compositional analysis as in the case of glass from Bara in Pakistan (2nd century B.C.-2nd century A.D.) (Dussubieux and Gratuze 2003:318-319). Drawn gold-in-glass beads from Lower Nubian Meroitic sites appear to have been made using natron of Egyptian provenance or plant-ash soda glass of Central Asian origin (Then-Obłuska and Wagner 2015).

Gold-in-glass bead forms include large and small melon beads (Figure 4: T293 c2/f and c2/o, respectively), as well as single- and double-segment short to long barrels (Figures 4: T293 c2/n, c2/p; 6: T242 c1/b, T248 c1/a-b). Some specimens retain only the inner glass layer with traces of the metal foil (Figures 6: T192 c3/c; 12: T215 c1/d; 13: S041/k).

Drawn Unsegmented Beads

The beads in this category appear to have been pinched from unsegmented glass tubes. They include **simple** beads made of blue glass in both oblong (Figure 2: T192 c6/d) and globular (Figure 13: S031/a) forms.

Mandrel-Wound Beads

Monochrome beads produced by winding molten glass around a mandrel are scarce. They include an oblate specimen of translucent purple glass (Figure 13: S041/j), two globular of opaque light gold glass (Figure 4: T293 c2/c),

Figure 11. Beads and stone ear stud from Tomb 187.

Figure 12. Faience and metal-in-glass beads from Tomb 188.

and an oblong one of cobalt blue glass (Figure 13: S031/b). The surfaces of some beads are crackled and characterized by different glass hues. They are blue, yellow, and turquoise in color (Figure 4: T293 c2/b, d, i). Five globular beads of mustard-gold-colored glass (Figure 13: S019/d) found on the surface with other Meroitic beads may be of wound construction. A **polychrome** wound bead of opaque blue glass is trail-decorated with a translucent dark blue wavy band around the middle (Figure 8: T176 c2). It measures 9.7 mm in diameter.

While wound glass beads are characteristic of Napatan bead assemblages, they are generally less common in the Early Roman period which is dominated by drawn types.

Mandrel-Formed Beads

A barrel-shaped bead formed by the joining technique is composed of eight cane slices in a rolled-pad pattern of dark purple and yellow with the addition of a central blue band and white ends (Figure 2: T192 c2). Spaer (2001:42) illustrates a bead with multiple seams which she considers "rare." Similar dark purple and yellow cane sections set between white ends have been found in the Northern Black Sea region (Alekseeva 1982: Plate 48, 23).

Beads composed of three rolled-pad pattern mosaic slices were found in a Meroitic tomb at Sai (Then-Obłuska 2015a), and a bead with a similar pattern was found at Gabati, but in a context dated to the 7th century A.D. (Edwards 1998:129, 234, Figure 11, no. 2716). Plaques and beads made using mosaic cane sections with a rolled-pad pattern are considered to be Egyptian products dating from the 1st century B.C. to the 1st century A.D. (Arveiller-Dulong and Nenna 2011:207, no. 284, 378, no. 612, 390, no. 643; Dubin 2009:369, Timeline no. 513; Spaer 2001:123, no. 203; Van Loon 2001:13.9c). The same Hellenistic motif, but in silver, may be observed on the two bronze foreheads of Dionysos found in the Tomb of Prince Araka(n)kharor (Baud 2010:203; MFA 24.957 and Sudan National Museum 1948).

Two globular beads are composed of mosaic cane segments with translucent green centers bordered by opaque yellow set in a green matrix (Figure 4: T293 c2/m). They are said to imitate **serpentine** (Nenna 2002). This glass is found

Figure 13. Surface-collected beads, pendants, and ear stud.

Figure 14. Faience and metal pendants from Tomb 178.

in Roman beads (Arveiller-Dulong and Nenna 2011:205, no. 277:4; Kucharczyk 2010:125), a pastille dated between the 1st and 4th centuries A.D., a plaque fragment of Egyptian or Italian production, fragments of a plate dated to the 4th century A.D. (Arveiller-Dulong and Nenna 2011:341, no. 559, 412, nos. 703-704, 416, Add. 1 and 3), and fragments found near Heïs on the north Somali coast (Stern 1991: Figure 6.1). A pendant of this glass from Coffin B in Tomb LXVI at al-Bagawat, Kharga Oasis, Egypt, is dated to the 4th-7th centuries A.D. (MET 31.8.5).

Possible gaming counters or wall decoration of serpentine mosaic glass were found in a house in Alexandria dated to the 2nd-3rd centuries A.D. (Kucharczyk 2010:67, Figure 7, 2, 2011: Figure 9, 3). Since many canes of serpentine mosaic glass have recently been uncovered in Alexandria (Kucharczyk 2010:125), they were most probably fashioned into final products there.

A globular **checkerboard** mosaic bead is composed of three mosaic cane sections fused together on a mandrel (Figure 4: T293 C2/l). The checkerboard type is dated to the Early Roman period and said to come from Egypt and/or Persia (Spaer 2001: nos. 214-215). They were found in a glass bead workshop at Tibiscum in Romania which was in use during the 2nd to 4th centuries A.D. (Benea 1997: Abb. 12:2-3). Nevertheless, these beads have been encountered at many sites of the ancient world (e.g., Brunton 1930: Plate XLVI, 175; Griffith 1924: Plate LXII, 3; Silvano 2005:121, Color Plate 25; Spaer 2001:125, no. 215; Woolley and Randall-MacIver 1910:75, Plate 40, nos. 7811, 7913). Checkerboard glass, with diverse color patterns, is known from late antiquity (Lankton 2003: Figure 7.0, 596). Globular checkerboard beads have been found in Nubian royal tombs (Emery and Kirwan 1938: Plate 46D, no. 157) and post-Meroitic contexts at Serra (Williams 1993:230; OIM E19841). It is uncertain if these are reused Meroitic items. The production of checkerboard mosaic beads continued into the Medieval period (e.g., Siegmann 1997:138, Taf. 3, 4 – H11/A1).

Similar to the checkerboard bead, three mosaic cane sections were joined around a mandrel to form a globular **flower** bead (Figure 4: T293 c2/j). A string of deep blue spheroids with three "margueritas in white and yellow," a pattern that parallels the Sedeinga decoration, was found in Grave 331 at Karanog. It was worn by a child on the upper left arm (Woolley and Randall-MacIver 1910:75, 174-175, Plate 109, object 40099).

Some mandrel-formed globular beads of monochrome yellow (Figure 4: T293 c2/e) and green (Figure 4: T293 c2/h) glass were inlaid with **eyes** in red, yellow, and translucent green. Identical eye-cane sections were applied to blue glass beads forming the armlet of a child in Meroitic grave B 87 at Ballana (Williams 1991a:134, Figure 47g, 1991b:204; OIM E22731).

The checkerboard, flower, and eye bead types were found in Sedeinga tomb T293. They were also encountered at Ballana in Tomb 161 which contained an adult male(?) and a $6^{1}/_{2}$-year-old child. It is dated by location to Phase IIB-IIIA, ca. 50 B.C. to ca. A.D. 150 (Williams 1991a:137, 1991b:225, Plate 80a; OIM E22679).

Metal

A metal pendant consists of a rectangular plaque with a suspension loop at the top (Figure 14: T178 d2). A similar plaque is known from a Meroitic grave at Ballana (OIM E22526). Petrie (1914:44, Plate XXXVII, 209e) illustrates metal plaque pendants among Egyptian amulets, including one of cast lead that depicts the Hathor cow.

Figure 15. Broken amulet in the form of two men's heads back to back from Tomb 216.

CONCLUSION

The Late Napatan/Meroitic artifact assemblage from Sedeinga contains beads and pendants made using a wide range of materials and techniques. Except for an extraordinary group of Nile mollusk shells, faience and glass beads and pendants dominate the ornament assemblage. The patterns of the mosaic glass beads and the forms of some of the metal-in-glass specimens are sophisticated and rare in their categories. All the adornments were apparently employed in the production of necklaces and wristlets.

While a variety of the Red Sea mollusk shells and ostrich eggshell from the Nubian deserts have a long history in Nubian beadwork, the use of mollusk shells from the Nile has not previously been noted. The Nile shells were found together with beads and pendants made of kaolin, a material that was rarely used to manufacture ornaments during the Late Napatan/Meroitic Period. Some kaolin teardrop pendants appear to be made in imitation of their stone counterparts. Pendants of carnelian, quartz, and steatite, as well as small globular and long cylinder beads of carnelian, are diagnostic types for Meroitic Nubia. The long cylinders are usually found threaded as children's wristlets.

The teardrop pendants, the flower design on the stone ear studs, the ankh-above-crescent motif, and the features of the Eastern Desert enemy are easily recognized elements in Meroitic art. Furthermore, the pattern of larger glass beads or stone pendants alternating on a strand with a few smaller beads is also commonly repeated in necklaces displayed in Nubian art, especially as a painted decoration on pottery vessels.

The Sedeinga ornaments embody a society that followed Late Napatan/Meroitic fashion. While strongly attached to the local environment, it also had broad and far-reaching contacts with the Mediterranean world via the Nile and the Red Sea coast across the Eastern Desert. While links to India are suggested by some elements of Meroitic monumental art (e.g., the lion god Apedemak and elephant imagery; Haaland 2014), chemical compositional analysis of glass samples should help answer the question of overseas bead imports during a time of intensive maritime trade.

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REFERENCES CITED

Addison, Frank
1949 *The Wellcome Excavations in the Sudan: I, Jebel Moya, 1910-1914*. Oxford University Press, Oxford.

Alekseeva, Ekaterina M.
1982 *Ancient Beads of the Northern Black Sea Littoral*. Vol. 3. Nauka, Moscow.

Arveiller-Dulong, Véronique and Marie-Dominique Nenna
2011 *Les verres antiques du Musée du Louvre III. Parures, instruments et éléments d'incrustation*. Musée du Louvre, Paris.

Aston, Barbara G., James A. Harrell, and Ian Shaw
2000 Stone. In *Ancient Egyptian Materials and Technology*, edited by Paul T. Nicholson and Ian Shaw, pp. 5-77. Cambridge University Press, Cambridge.

Baud, Michel
2010 *Méroé: un empire sur le Nil*. Musée du Louvre, Paris.
2014 Downtown Muweis – A Progress Report (2007-2011). *In* The Fourth Cataract and Beyond, Proceedings of the 12th International Conference for Nubian Studies, edited by J.R. Anderson and D. Welsby, pp. 763-782. *British Museum Publications on Egypt and Sudan* 1.

Benea, Doina
1997 Die Glasperlenwerkstatt von Tibiscum. *In* Perlen: Archaologie, Techniken, Analysen. Akten des Internationalen Perlensymposiums in Mannheim, vom 11. bis 14. November 1994, edited by Uta von Freeden and Alfried Wieczorek, pp. 279-292. *Kolloquien zur Vorund Frühgeschichte* 1.

Brunton, Guy
1930 *Qau and Badari III*. British School of Archaeology in Egypt, London.

Dubin, Lois Sherr
2009 *The History of Beads: From 100,000 B.C. to the Present*. Abrams, New York.

Dunham, Dows
1950 *The Royal Cemeteries of Kush I: El-Kurru*. Cambridge University Press, Cambridge.
1963 *The Royal Cemeteries of Kush V: The West and South Cemeteries at Meroë*. Museum of Fine Arts, Boston.

Dussubieux, Laure and Bernard Gratuze
2003 Nature et origine des objets en verre retrouvés à Begram (Afghanistan) et à Bara (Pakistan). In *De l'Indus a l'Oxus: Archeologie de l'Asie Centrale*, edited by Osmund Boperarachchi, Christian Landes, and Christine Sachs, pp. 315-337. Association IMAGO-Musée de Lattes, Lattes.

Edwards, David N.
1998 Gabati: A Meroitic, Post-Meroitic and Medieval Cemetery in Central Sudan. *Sudan Archaeological Research Society Publication 3. BAR International Series* 740.

Emery, Walter B. and Laurence P. Kirwan
1938 The Royal Tombs of Ballana and Qustul. 2 vols. Government Press, Cairo.

Gerharz, Rudolf
1994 *Jebel Moya*. Akademie-Verlag, Berlin.

Griffith, Francis Ll.
1923 Oxford Excavations in Nubia: The Cemetery of Sanam. *University of Liverpool Annals of Archaeology and Anthropology* 10:73-121.
1924 Oxford Excavations in Nubia: The Meroitic Cemetery at Faras. *University of Liverpool Annals of Archaeology and Anthropology* 11:115-125, 141-180.

Haaland, Randi
2014 The Meroitic Empire: Trade and Cultural Influences in an Indian Ocean Context. *African Archaeological Review* 31:649-673. DOI: 10.1007/s10437-014-9169-0, accessed 3 November 2015.

Haerinck, Ernie
2001 *Excavations at ed-Dur (Umm al-Qaiwain, United Arab Emirates), Vol. II: The Tombs*. Peeters, Leuven.

Harrell, James A.
2010 Archaeological Geology of Hosh-el-Guruf, Fourth Nile Cataract, Sudan. *Gdańsk Archaeological Museum African Reports* 7:71-84.

Kucharczyk, Renata
2010 Glass from Houses 1 and 2 in Marina El-Alamein. *Polish Archaeology in the Mediterranean* 19:114-130.

2011 Glass from Area F on Kom El-Dikka (Alexandria). Excavations 2008. *Polish Archaeology in the Mediterranean* 20:56-67.

Lahitte, Miriam
2013 Gala Abu Ahmed, Perlen und Fragmente aus Straußeneischale. *Der antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V*. 24: 75-103.

Lankton, James W.
2003 *A Bead Timeline, Vol. I: Prehistory to 1200 CE. A Resource for Identification, Classification and Dating*. The Bead Museum, Washington.

Lohwasser, Angelika
2004 Die Kleinfunde aus Gala Abu Ahmed im Unteren Wadi Howar. *Der antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V*. 15: 143-167.
2008 *Fragmente der napatanischen Gesellschaft. Archäologisches Inventar und funeräre Praxis im Friedhof von Sanam – Perspektiven einer kulturhistorischen Interpretation*. Band II. Schriftliche Habilitationsleistung im Fach Ägyptologie, Berlin.

Markowitz, Yvonne J.
2012 Nubian Adornment. In *Ancient Nubia: African Kingdoms on the Nile*, edited by Marjorie M. Fisher, Peter Lacovara, Salima Ikram, and Sue D'Auria, pp. 186-199. American University in Cairo Press, Cairo, New York.

Meyer, Carol
1992 *Glass from Quseir al-Qadim and the Indian Ocean Trade*. Oriental Institute of the University of Chicago, Chicago.

Näser, Claudia
2004 The Small Finds. *In* The Capital of Kush 2. Meroë Excavations 1973-1984, edited by Peter L. Shinnie and Julie Anderson, pp. 215-350. *Meroitica* 20.

Nenna, Marie-Dominique
2002 New Research on Mosaic Glass: Preliminary Results. In *First International Conference Hyalos – Vitrum – Glass: History, Technology and Conservation of Glass and Vitreous Materials in the Hellenistic World*, edited by George Kordas, pp. 153-158. Glasnet, Athens.

Pellicer Catalan, Manuel
1963 La Necrópolis meroitica de Nag-Shayeg, Argin (Sudan). *Memorias de la Misión Arqueológica Española en Nubia*, vol. 2. Comite Español de la UNESCO para Nubia, Madrid.

Petrie, William Matthew Flinders
1914 *Amulets*. University College, London.

Reisner, George Andrew
1919 Discovery of the Tombs of the Egyptian XXVth Dynasty at El-Kurru in Dongola Province. *Sudan Notes and Records* II(4).

Rilly, Claude and Vincent Francigny
2010 Excavations in Sedeinga: A New Start. *Sudan & Nubia* 14:62-68.
2011 The Late Meroitic Cemetery at Sedeinga: Campaign 2010. *Sudan & Nubia* 15:72-79.
2012 Excavations of the French Archaeological Mission in Sedeinga, 2011 Season. *Sudan & Nubia* 16:60-71.
2013 Sedeinga 2012: A Season of Unexpected Discoveries. *Sudan & Nubia* 17:61-65.

Rodziewicz, Mieczysław
2005 Elephantine XXVII: Early Roman Industries on Elephantine. *Archäologische Veröffentlichungen* 107. Philipp von Zabern, Mainz am Rhein.

Säve-Söderbergh, Torgny, Gertie Englund, and Hans Åke-Nordström
1981 *Late Nubian Cemeteries. The Scandinavian Joint Expedition to Sudanese Nubia, Part 6*. Scandinavian University Books, Copenhagen.

Schäfer, Heinrich
1910 *Ägyptische Goldschmiedearbeiten*. Karl Curtius, Berlin.

Shinnie, Peter L. and Rebecca J. Bradley
1980 The Capital of Kush I. Meroe Excavations 1956-1972. *Meroitica* 4.

Siegmann, Maren
1997 Die Perlen des frühmittelalterlichen Gräberfeldes von Liebenau, Kr. Nienburg/Weser (Niedersachsen). *In* Perlen: Archaologie, Techniken, Analysen. Akten des Internationalen Perlensymposiums in Mannheim, vom 11. bis 14. November 1994, edited by Uta von Freeden and Alfried Wieczorek, pp. 133-142. *Kolloquien zur Vorund Frühgeschichte* 1.

Silvano, Flora
2005 Glass Finds from Medinet Maadi, Egypt. *Annales AIHV* 16:119-121.

Spaer, Maud
2001 *Ancient Glass in the Israel Museum: Beads and Other Small Objects*. The Israel Museum, Jerusalem.

Stern, Marianne E.
1991 Early Roman Export Glass in India. In *Rome and India: The Ancient Sea Trade*, edited by Vimala Begley and Richard Daniel De Puma, pp. 113-124. University of Wisconsin Press, Madison.

Then-Obłuska, Joanna
2014 The Code of the Hidden Beads – From the Kerma to the Islamic Period According to the Fourth Cataract Material from the Gdańsk Archaeological Museum Expedition Excavations. *In* The Fourth Cataract and Beyond: Proceedings of the 12th International Conference for Nubian Studies, edited by Julie R. Anderson and Derek A. Welsby, pp. 1069-1090. *British Museum Publications on Egypt and Sudan* 1.
2015a Bead and Pendant Material from the Meroitic Saï Necropolises. Manuscript in preparation.
2015b Cross-Cultural Bead Encounters at the Red Sea Port Site of Berenike, Egypt, Preliminary Assessment (Seasons 2009-2012). *Polish Archaeology in the Mediterranean* 24, in press.

Then-Obłuska, Joanna and Barbara Wagner
2015 Glass Bead Trade in Northeast Africa in the Roman Period: A View According to The Museum of Archaeology University of Stavanger Assemblage. *Annals AIHV* 20, forthcoming.

Van Damme, Dirk
1984 *The Freshwater Mollusca of Northern Africa: Distribution, Biogeography and Palaeoecology*. Dr. W. Junk, Dordrecht.

Van Loon, Maurits N. (ed.)
2001 *Selenkahiye: Final Report on the University of Chicago and University of Amsterdam Excavations in the Tabqa Reservoir, Northern Syria, 1967-1975*. Nederlands Instituut voor het Nabije Oosten, Leiden.

Vercoutter, Jean
1975 *Mirgissa II, Les Nécropoles*. Centre National de la Recherche Scientifique, Paris.

Vila, André
1980 La nécropole de Missiminia. I: Les sépultures napatéennes. *La prospection archéologique de la Vallée du Nil, au Sud de la cataracte de Dal (Nubie Soudanaise)* XII. Centre national de la recherche scientifique, Paris.
1982 La nécropole de Missiminia. II: Les sepultures méroïtiques. *La prospection archéologique de la Vallél du Nil, au sud de la cataracte de Dal (Nubie Soudanaise)* XIII. Centre national de la recherche scientifique, Paris.

Vincentelli, Irene
2006 Hillat El-Arab. The Joint Sudanese-Italian Expedition in the Napatan Region, Sudan. *Sudan Archaeological Research Society Publication* 15. *BAR International Series* 1570.

Whitcomb, Donald and Janet Johnson
1982 Quseir al-Qadim 1980: Second Preliminary Report. *American Research Center in Egypt Reports* 7. Undena Publications, Malibu.

Whiteman, Arthur J.
1971 *The Geology of the Sudan Republic*. Oxford University Press, Oxford.

Wildung, Dietrich (ed.)
1996 *Sudan. Antike Königreiche am Nil*. Wasmuth, Tübingen.

Williams, Bruce B.
1991a Excavations Between Abu Simbel and the Sudan Frontier. Part 8: Meroitic Remains from Qustul Cemetery Q, Ballana Cemetery B, and a Ballana Settlement. Part I. *The University of Chicago Oriental Institute Nubian Expedition* 8.
1991b Excavations Between Abu Simbel and the Sudan Frontier. Part 8: Meroitic Remains from Qustul Cemetery Q, Ballana Cemetery B, and a Ballana Settlement. Part II. *The University of Chicago Oriental Institute Nubian Expedition* 8.
1993 Excavations at Serra East, Parts 1-5: A-Group, C-Group, Pan Grave, New Kingdom, and X-Group Remains from Cemeteries A-G and Rock Shelters. *The University of Chicago Oriental Institute Nubian Expedition* 10.

Woolley, C. Leonard and David Randall-MacIver
1910 *Karanòg: The Romano-Nubian Cemetery*. Vols. 3-4. The University Museum, Philadelphia.

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