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Imported ornaments of a Late Antiquity community in Christian Ethiopia

Joanna Then-Obłuska ^a, Jacke Phillips^b and Katie Tucker ^{b,c}

^aAntiquity of Southeastern Europe Research Centre, University of Warsaw, 00-927 Warsaw, Krakowskie Przedmieście 32 Street, Poland; ^bCentre of African Studies, SOAS, University of London, and McDonald Institute for Archaeological Research, University of Cambridge, Downing Street, Cambridge, CB2 3ER, United Kingdom; ^cConsultant osteoarchaeologist Berlin, Germany

ABSTRACT

Several thousand glass beads excavated in the Maryam Anza (Tigray, Ethiopia) cemetery over three seasons between 2014 and 2016 tell the story of the direct or indirect long-distance contacts of the people buried there. By combining typological and quantitative studies of drawn glass beads, this paper provides new bead evidence on the subject of the Red Sea and Indian Ocean trade in Late Antiquity. The assemblage is dominated by tiny monochrome glass beads of mid-fourth/fifth-century AD date that were brought as ships' cargo from South Asia through Arabian ports, reaching Northeast Africa at a time of intensive Indian Ocean trade. Close proximity to the Red Sea port at Adulis (in modern Eritrea) also allowed the transport of other overseas bead imports produced in Egypt or the East Mediterranean region. Comparative percentage analysis makes Aksum and the Maryam Anza community one of the major accumulators of India/Sri Lankan beads in Northeast Africa.

RÉSUMÉ


Plusieurs milliers de perles de verre issues de fouilles dans le cimetière de Maryam Anza (Tigré, Éthiopie) pendant trois saisons entre 2014 et 2016 racontent l'histoire des contacts à distance directs ou indirects des personnes qui y sont enterrées. En combinant des études typologiques et quantitatives des perles de verre fabriquées par étirement, cet article apporte de nouvelles données sur la question du commerce de la mer Rouge et de l'océan Indien dans l'Antiquité tardive. L'assemblage est dominé par de petites perles de verre monochromes datant du milieu du quatrième/cinquième siècles après J.-C., apportées comme cargaisons par des navires d'Asie du Sud via les ports d'Arabie, atteignant l'Afrique du Nord-Est à une époque de commerce intensif dans l'océan Indien. La proximité du port de la mer Rouge à Adulis (en Érythrée actuelle) a également permis le transport d'autres perles importées, produites en Égypte ou dans la région de la Méditerranée orientale. L'analyse comparative des pourcentages identifie Aksum et la communauté à Maryam Anza comme des amasseurs importants de perles d'origine indienne et sri lankaise en Afrique du Nord-Est.

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CONTACT Joanna Then-Obłuska  j.then-obluska@uw.edu.pl, Katie Tucker  ketucker5@gmail.com

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Introduction

The kingdom of Aksum, in modern Ethiopia and Eritrea, was a trading nation and naval power in the first millennium AD (Fattovich 2019). According to the mid-first century merchant's handbook, the *Periplus Maris Erythraei* (§6) and the *Christian Topography* of Cosmas Indicopleustes (§2.49) of c. AD 540/550 (Casson 1989; Wolska-Conus 1968), it exported ivory, rhinoceros horn, hippopotamus hides, turtle shell, monkeys and slaves to the Roman Empire and India in the first to seventh centuries. Examples of one of the major commodities imported from these regions to Aksum, i.e. glass beads, were recently excavated at Maryam Anza (Figure 1).

Maryam Anza lies in the northern highlands of Ethiopia, in eastern Tigray province, some 130 km east of the ancient capital at Aksum and some 250 km southwest of the ancient Red Sea port at Adulis. The church of Maryam Anza is some 5 km northwest of the modern town of Hawzien in the village of Maikado. The wider surrounding countryside has long been known as a major archaeological site, its importance underlined by the inscribed stela downhill of the church erected by a pagan king of Agabo sometime in the third century that bears the earliest numeric text in Ge'ez, the indigenous script of the region (Phillipson 2012: 65; Kropp 2016).

Three seasons of survey and excavation were conducted by the Maryam Anza Project in 2014 to 2016, consisting of a British team working alongside Ethiopian representatives of the Authority for Research and Conservation of Cultural Heritage (ARCCH) and the Tigray Culture and Tourism Agency (TCTA). Among other activities, the team excavated 20 graves at two cemetery sites identified during survey, 17 in the Maryam Anza Cemetery and three at nearby Tsigerida, one of which was an incompletely excavated shaft tomb. Many of the graves were disturbed and some of them were severely damaged, but others were found intact with the associated grave goods recovered *in situ*. Recovered finds date both cemeteries to within the mid-fourth to fifth centuries AD.

The graves revealed both individual burials and others that had as many as six successive individual occupants in the same grave. Many of the grave goods are either entirely unique or unique to the site, although further work in this little-investigated region will likely indicate that they are representative of local traditions. Many graves are wealthier than one would expect for such simple pit graves as those found at Maryam Anza. The cemeteries indicate that this was a wealthy community in contact with and trading with both the Mediterranean and Indian Ocean worlds. The majority of grave goods are ceramic vessels and jewellery, with many beads, other adornments (necklaces, bangles, finger-rings and earrings) in silver, copper-alloy and iron, 'kohl kits' consisting of applicators of copper-alloy and iron, copper-alloy mirrors, kohl compound and evidence for their containers (Phillips 2018, *in press*); imported glass lamps and vessels, lumps of resin (probably of incense) and a few other artefacts were also being found. Many grave goods are wholly indigenous in origin, while others are imported. Some indigenous artefacts have considerable evidence for the deliberately selective adaptation of foreign products and imagery. Very few grave goods are associated with non-primary burials and it seems as if earlier bones were pushed aside to accommodate the next occupant. In terms of artefact types, quantities and functions, the grave good assemblages are highly variable between individual graves. Nevertheless, they overlap considerably and the cemetery as a whole is a cohesive unit.

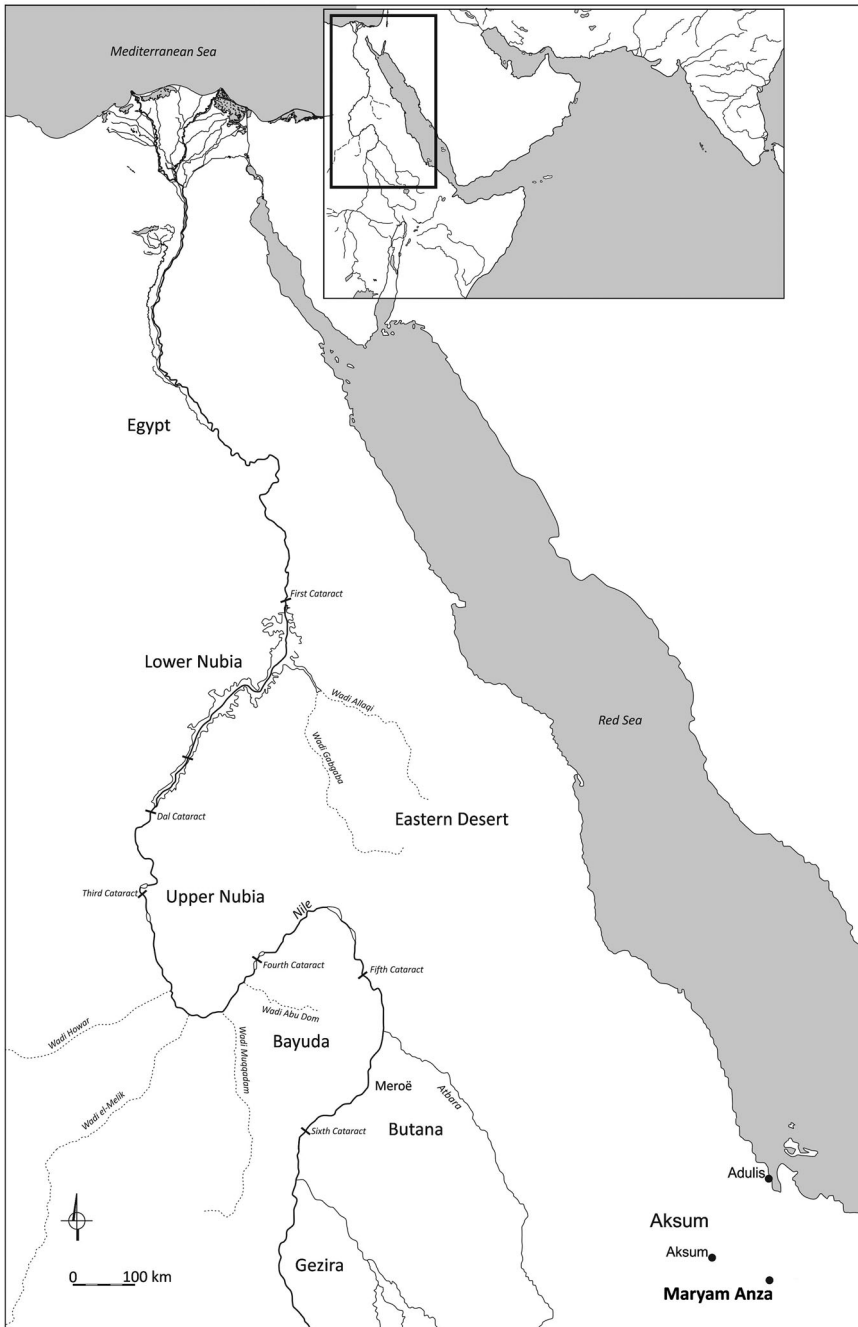


Figure 1. Map showing the location of Maryam Anza (by Sz. Maślak and J. Then-Obłuska).

The cemetery as excavated so far post-dates the Aksumite state’s conversion to Christianity *c.* 350/360, but the burials do not accord with developing Coptic or Byzantine practice. Individuals lay on one side in a flexed position with their hands in front of the face and were interred with much pottery as well as vessels, tools and other

offerings in other materials, some of them clearly Eastern Mediterranean imports. While such traditional burial practices would undoubtedly have lingered on here, no Christian symbolism such as the Cross (which is depicted on all Aksumite coinage from the mid-fourth century onward and on Aksumite ceramics in the fifth century at other sites) was found in the cemetery or in any grave to indicate conversion to the new faith. Two studies of ‘ordinary’ early Christian cemeteries elsewhere are relevant here. Pleša’s (2017) analysis of two Egyptian village cemeteries and Sitz’s (2018/19) brief report of Early Byzantine graves at Labraunda in Turkey both reveal the continuation of traditional practices, but also a trend towards Coptic and Byzantine rites, with the body generally placed in a supine position to a prescribed orientation and grave goods limited to clothing and personal adornments worn on the body, with few or no items provided for use in the after-life. While the supine position in both regions continues earlier traditional practice, Christian belief and symbolism became increasingly apparent. Christianisation likewise appears to have been a gradual process in the Aksumite world and a total lack of Christian expression strongly suggests that the Maryam Anza community did not proclaim a new faith when interring their dead. The balance of probability is that they were therefore still following their traditional beliefs, although in contrast to this an individual buried in a supine position without grave goods at the site of Wakarida may have been Christian (Benoist *et al.* 2016: 7).

More than 4600 beads (centrally perforated objects), bead fragments and pendants (off-centre perforated objects) were recovered in nine of the Maryam Anza graves and a tenth at Tsigerida. Three further beads are surface finds at Tsigerida. All of the beads are stored and partially exhibited in the Wuqro Archaeological Museum, Tigray, where they were studied. Materials used for their manufacture include both stone (steatite, carnelian, agate) and man-made materials (copper-alloy, faience and glass). [Table 1](#) lists the quantities of beads, bead fragments and pendants for each material. We focus here on the drawn glass beads buried in these graves, which contribute to the story of Aksumite overseas trade contacts at this time.

Materials and methods

While some four hundred glass beads were made of wound, folded and rod-pierced glass (Then-Obłuska 2018a), the overwhelming majority were made of drawn glass. The manufacture technique used in the production of drawn beads is indicative in tracing their origin in the period under discussion (e.g. Then-Obłuska and Wagner 2016).

Small drawn glass tubes were heated and then segmented by rolling on open moulds with grooved or crenelated surfaces. Segmented tubes were then cut or snapped at intervals to produce single- or multiple-segment beads. Their ends were either left sharp or heat-finished. As a result of segmenting on moulds, the perforation is more or less oblate in shape and the bead openings contracted. Alternatively, some heated tubes seem to have been segmented by pinching the tube at regular intervals to form a bead. The drawn glass is monochrome or striped. Beads of drawn and segmented glass belong to the Egyptian bead-making tradition. Moulds that segment drawn glass tubes have been recovered in Early Roman and Late Roman/Early Byzantine Alexandria, Egypt (Kucharczyk 2011: 63–64, Figure 8:1, second–third centuries AD; Rodziewicz 1984: 146–159, 241–242, Figures 265–266, Plate 72, Nos 359–366, end fifth–sixth

Table 1. Maryam Anza and Tsegerida: quantitative overview of beads, pendants and their fragments by grave according to material. Note that fragment quantities are additional and given in parentheses. Grave 12 yielded approximately 2600 further orange beads (*) and many more blue bead fragments (**) currently exhibited at the Wuqro Museum, Tigray, Ethiopia.

	Maryam Anza 2014	Maryam Anza 2015	Maryam Anza 2015	Maryam Anza 2015	Maryam Anza 2015	Maryam Anza 2016	Maryam Anza 2016	Maryam Anza 2016	Maryam Anza 2016	Tsegerida 2016	Total complete beads
Material/Grave	Grave 1	Grave 5/6	Grave 7	Grave 9	Grave 12	Grave 13	Grave 14	Grave 15	Grave 16	Grave 2	
Stone	2					4	1		1	3	11
Copper alloy					23 (1)						23
Faience							1				1
Glass	2	1043 (<211)	82	20	135* (<16**)		779 (<34)	40		49 (<15)	2150*
Total complete beads	4	1043	82	20	158*	4	781	40	1	52	2185*

centuries AD). Opaque red and translucent dark blue drawn and segmented beads are the most common type at Red Sea port and Eastern Desert sites in Egypt and are commonly recognised at Classic and Late Meroitic (first to mid-fourth centuries AD) and Post-Meroitic (mid-fourth to sixth centuries) sites in Nubia (e.g. Then-Obluska and Wagner 2019a, 2019b). Chemical compositional analysis of Nubian samples has confirmed the East Mediterranean/Egyptian provenance of their glass (Then-Obluska and Wagner 2019a, 2019b).

Drawn glass tubes could be cut into beads when cold, preserving the cylindrical shape of the perforation. They are usually heat-rounded, but can be left unworked. Drawn and rounded beads could be made using a technique similar to the ‘lada’ method of large-scale drawing of tubes used in bead-making (Francis 2002). Several dozen kilogrammes of glass were introduced into a furnace. When the right temperature was achieved, the large gob of glass was pierced through by one tool and drawn out from the opposite site of the furnace with the aid of a second tool until all of the glass had been used. The tubes were then cut into sections when cold. The sharp ends of the drawn glass sections were smoothed by mixing with ash and heating while stirring in a pan. Ash prevents the beads from sticking together and the holes do not close due to heat action, resulting in beads with more or less rounded ends. This method of rounding drawn beads is considered to be indicative of Indian technology and the beads concerned are usually called ‘Indo-Pacific’ in the literature as they were the most prevalent glass trade beads in Indian Ocean commerce (Francis 2002, 2007). The Indo-Pacific beads may have been made in many regions of South and Southeast Asia using many different glass recipes (e.g. Dussubieux and Lankton 2006; Carter 2016). For the period under discussion, a South Indian/Sri Lankan provenance of Indo-Pacific glass beads is confirmed by chemical compositional analysis of specimens found in South Asia (Dussubieux *et al.* 2010), Northeast Africa at the Red Sea port of Quseir (Then-Obluska and Dussubieux 2016), Post-Meroitic sites in Nubia (Then-Obluska and Wagner 2019a, 2019b) and in Europe, both within Early Merovingian graves of fifth/sixth-century date in France and Belgium and more widely in what is now the Netherlands, Germany, Switzerland, Spain and Serbia (Picon and Gratuze 2016).

Results and discussion

About 70 single- and double-segment glass beads were identified at Maryam Anza. Monochrome beads are recorded in two colours: 39 are translucent dark blue and 23 opaque red (Figure 2). They are all small oblate beads measuring approximately 5 mm or less in diameter. Ten single-segment beads and some fragments and one double-segment bead are eroded, meaning that their colour(s) could not be determined. Five beads and fragments have a long tubular shape. A few fragments belong to a striped bead, now completely weathered and preserved as white and yellowish stripes.

About 4140 Indo-Pacific beads were identified from Maryam Anza. When compared to all other Maryam Anza glass types, the drawn and rounded glass beads are very well-preserved. No trace of weathering, tinge or patina can be discerned. All of the Maryam Anza Indo-Pacific beads are monochrome yellow, blue, blue-green, orange, black, red and green, following Francis’ (2002) colour terminology (Figure 3). A collection of about 2650 tiny orange beads dominates the Maryam Anza assemblage. Blue (N = 628)

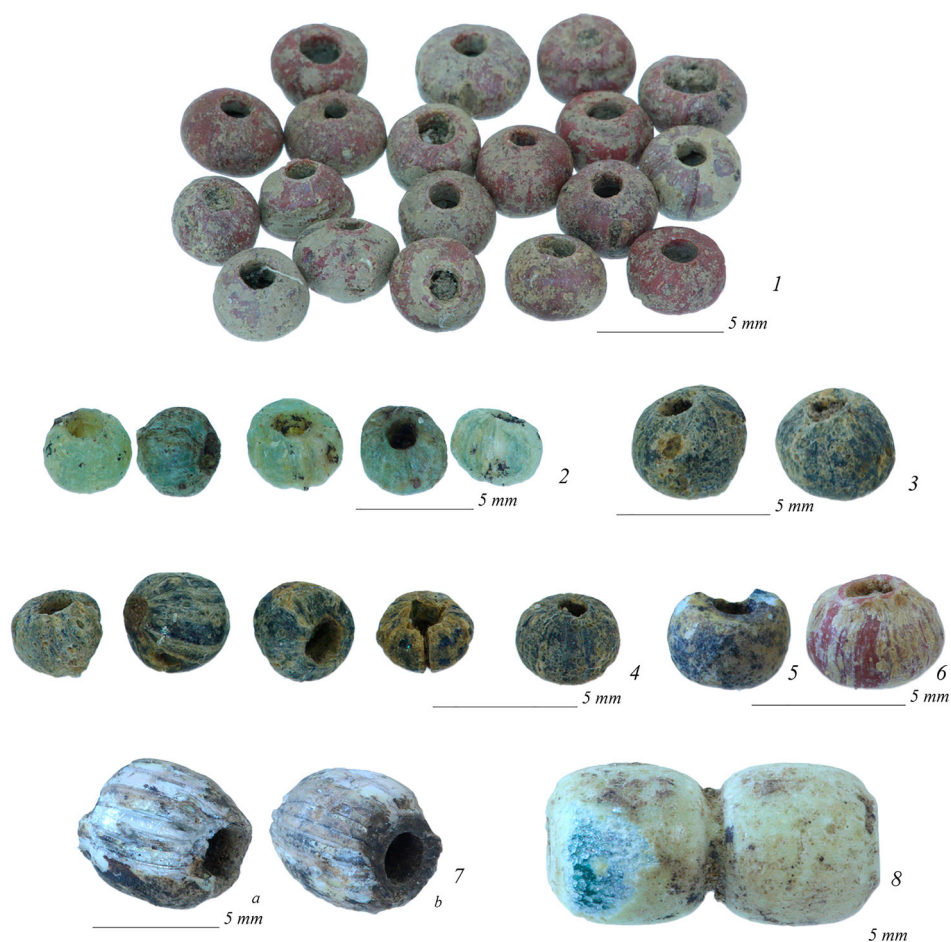


Figure 2. Examples of monochrome drawn and segmented glass beads found at Maryam Anza: 1–3: beads 204.17, 204.19, 204.7 (Grave 14); 4–8: beads 25.11 (Grave 5/6) (photographs by J. Then-Obluska).

and black (N = 633) are the next most common colours at the Maryam Anza cemetery. The remaining beads are green (N = 119), blue-green (N = 43), red (N = 31) and yellow (N = 28) (Table 2). These beads measure between 1 and 6 mm in diameter, with the orange beads being only 1–2 mm in diameter.

Traces of beadwork and bead owners

No threading survives at Maryam Anza. Only one glass bead adorns a copper-alloy earring (Figure 4). *In situ* evidence for other probable bead use at Maryam Anza includes a bracelet of tiny glass and copper alloy beads, a single-bead bracelet, a necklace made of many glass beads, another consisting only of one carnelian and two glass beads, a single-bead necklace and a likely diadem of glass beads accompanied by a steatite pendant and faience bead.

Although most of the graves excavated were single interments, as previously noted as many as six individuals were sometimes buried in the same grave. However, the beads in

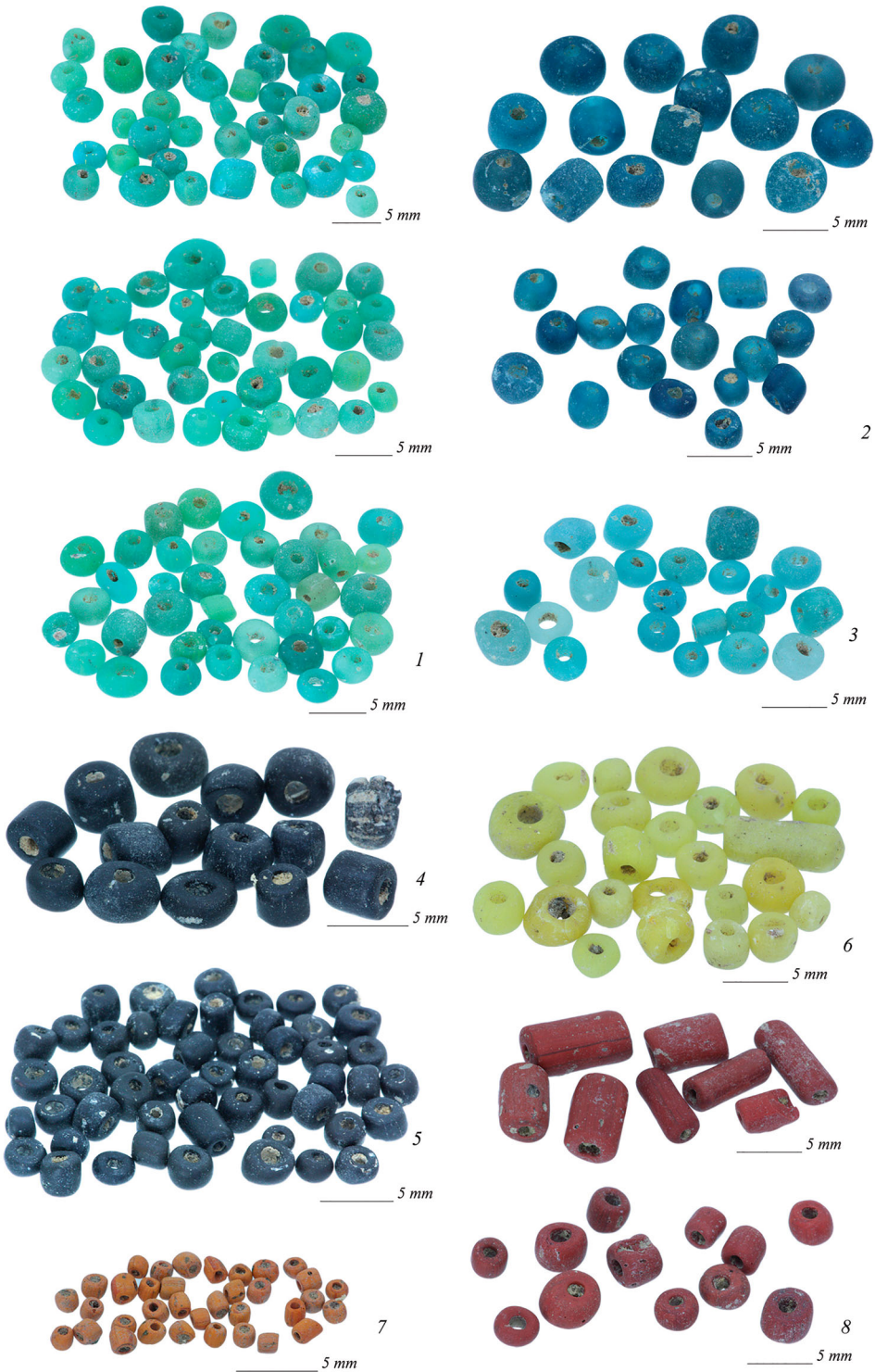


Figure 3. Examples of monochrome drawn and rounded glass beads found at Maryam Anza: 1–6, 8: beads 25.5; 25.4, 25.5, 25.1b, 25.1, 25.2, 25.3 (all Grave 5/6); 7: beads 220.15 (Grave 14). (photographs by J. Then-Obfuska).



Figure 4. A copper-alloy earring with a single glass bead from Maryam Anza (170.95, Grave 9) (photograph by J. Then-Obluska).

these graves can be associated by context only with the primary and most likely final interment. The individuals in Graves 13–17 and at Tsigerida await study, but analysis of the rest of them by one of us (Tucker 2015) allows us to identify some of the glass beads' owners. Bead finds are associated only with women, although other jewellery is associated with men in some Maryam Anza graves. Grave 12, the richest burial in terms of bead quantity, was that of an 18–25-year-old woman. Beads were found *in situ* beside her neck and in cleaning embedded in soil adhering to an iron bangle fragment. The latter are tiny blue drawn glass beads that, together with other glass and copper-alloy tubular beads, may have formed a bracelet. Nevertheless, the Grave 12 assemblage is dominated by some 2600 tiny orange Indo-Pacific glass beads (Table 2). Additionally, red, blue, blue-green and black Indo-Pacific beads were recorded in this grave, which would make it the largest collection of beads at Maryam Anza. Interestingly, the largest quantities of Indo-Pacific orange beads found thus far in Nubia also belonged to a woman and comprise four anklets (each approximately 68 mm in diameter) of orange beads found on the right ankle of a queen buried in a royal tomb at Ballaña, dated to about AD 430 (Emery and Kirwan 1938: 191; Then-Obluska 2017a).

A 36–45 old woman (Tucker 2015) associated with many of the other bead finds is the primary (i.e. latest) of six individuals in Grave 5/6. Over 1000 beads and many fragments were found in the area of her neck and head, with another four beads and three fragments collected from within her skull. Indo-Pacific beads (yellow, blue, blue-green, black, red, green) constitute over half of the assemblage here ($N = 588$, plus fragments) and Grave 5/6 is the second largest collection of beads at Maryam Anza.

Overseas bead trade in Northeast Africa

While they form a minor component (about 1.5%) of all the glass beads at Maryam Anza, the dark blue and red single- and multiple-segments are the most common glass bead

types in both Early and Late Roman Egypt and Meroitic and Post-Meroitic Nubia (e.g. Then-Obłuska 2015, 2018b: Plate 9: 2–3).

Beyond South Asia, some Indo-Pacific beads have also been macroscopically identified in South Arabia (Lischi 2018) and in Late Roman contexts in Middle Egypt (Then-Obłuska and Pleša 2019). At the Red Sea ports of Berenike and Marsa Nakari in contexts dating from the fourth to the beginning of the sixth centuries they represent almost 50% of all Late Roman glass bead assemblages (Then-Obłuska 2015, 2017b, 2019) (Figure 5). However, some beads are also recorded in Early Roman assemblages at the Red Sea ports of Quseir, where they are yellow in colour (Then-Obłuska and Dussubieux 2016) and Berenike, where they are yellow, red and dark blue (Then-Obłuska 2015, 2018c: Figure 6: 1, 3). They also represent 40% of the glass bead assemblage at Shenshef, in the Eastern Desert near Berenike, where they date to the Late Roman period (Then-Obłuska 2017c). Further inland, Indo-Pacific beads have been identified in Lower and Upper Nubia at Post-Meroitic sites, where they represent 10–65% of the glass bead assemblages (Then-Obłuska 2016a, 2016b, 2016c, 2017a, 2018b, 2018d; Then-Obłuska and Wagner 2019a, 2019b).

Helen Morrison (1989: 170, Figure 11: 23, 24) describes Type VI drawn beads at Aksum as occurring in many colours. Minute to small sizes (2–5 mm in diameter) outnumber those of medium size (5–8 mm in diameter). They are the most numerous beads in the 1973–1974 excavations at the site, with more than half (all small) recovered in the later fourth-century DA I tomb (the so-called Tomb of the Brick Arches) excavated in 1993–1997. However, none were found in the third-century GT II tomb. Drawn beads are the most common type in the 1993–1997 excavations as a whole (Harlow 2000: 85, Figure 62c, 64q and t, 65a), where they comprise 77.5% of the bead assemblage (883 examples out of 1139). Most are of green glass. They fall into two main sizes: small (1.3–2.3 mm) and large (the largest of which is 3.6 mm in diameter).

Thus, about 88% of the entire Maryam Anza glass bead assemblage is comprised of Indo-Pacific beads. Based on the calculations of Indo-Pacific beads from other Northeast African assemblages discussed above, this means that the Maryam Anza collection has one of the largest percentages of Indo-Pacific beads in Northeast Africa known to date. The location of Aksum as the southernmost ancient country in Northeast Africa and the proximity of its capital and other sites to the Red Sea port of Adulis are most probably the main reasons for it having the largest share of Indo-Pacific beads in this part of Africa.

Traces of Aksumite overseas contacts

Although no glass beads were found among the glass finds in Roberto Paribeni's 1907 excavations at Adulis (Zazzaro 2013, pers. comm.), a drawn and rounded green glass bead recently found there (ADU 12, B5–12, SU 1035) can be considered a starting point for tracing Indo-Pacific glass beads at this port (Then-Obłuska and Wagner 2019b: 184). Adulis was an Aksumite port located near modern Massawa in Eritrea and was most probably the point where overseas goods were unloaded before being moved inland. According to the *Periplus* (§6), Adulis was already a commercial hub in the mid-first century AD, supplying articles destined for the Aksumite king, for local people and likely those further inland, as well as for resident foreign merchants.

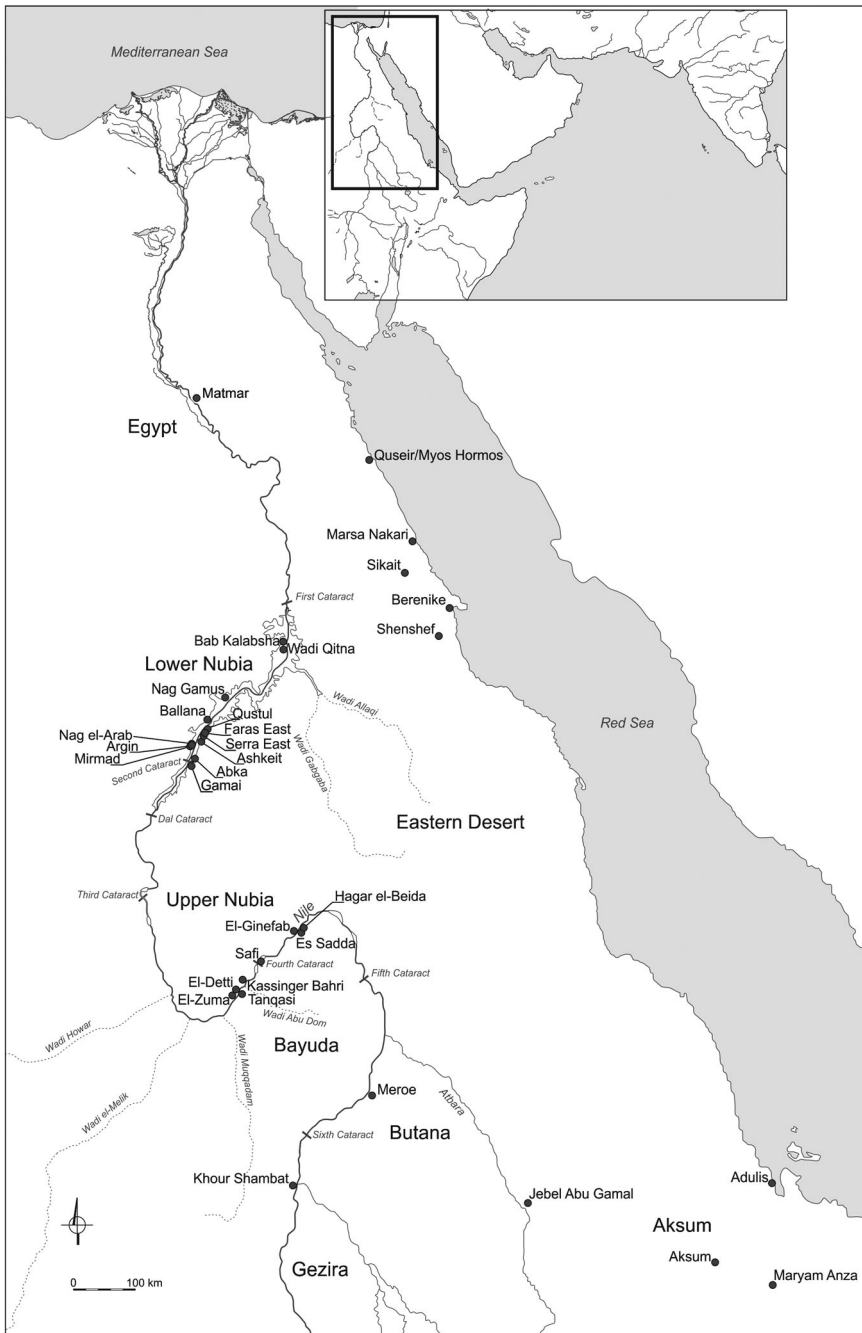


Figure 5. Map showing distribution of Indo-Pacific glass beads in Northeast Africa (by Sz. Maślak and J. Then-Obtuska).

Goods traded through this port are also mentioned by Pliny the Elder (*Naturalis Historia* §VI.173) shortly thereafter and in c. 540 by Cosmas Indicopleustes (*Christian Topography* §2.49), who stated that Adulis was a fair-sized village that trans-shipped goods

between the Red Sea and the Mediterranean Sea, the Indian Ocean, Arab lands, the Middle and Far East and Asia, as well as the African interior.

Diverse archaeological finds support the literary evidence for Aksum's overseas connections. The discovery of a hoard of coins from the Kushan Empire in the northern Indian sub-continent at Debra Damo in eastern Tigray confirms the existence of some form of contact with this state in the third century (Mordini 1960, 1967; see also Fattovich 2019), although the hoard itself can be dated no earlier than the monastery's foundation, which is generally considered to have taken place in the sixth century. A fourth- to sixth-century Indian figurine recently recovered at Adulis also now emphasises this connection in the fifth/sixth centuries (Zazzaro *et al.* 2014), as may a collection of questionably Indian moulded figural plaques at Hawalti found in association with material of fourth-century date (de Contenson 1963; cf. Garnayak *et al.* 2014/15). Aksumite trade with Roman Syria began in the late third/fourth centuries and increased in the fifth/early sixth centuries, although trade with Egypt was always dominant (Fattovich 2019). Evidence from Beta Giyorgis, Aksum, Matara and elsewhere in highland Ethiopia also points to contacts with Nubia and Sasanian Persia at this time (Phillips 2014). Aksumite coins and ceramics similar to those from Aksum and Adulis have been found at Aqaba in Jordan, Quseir al-Qadim and Berenike in Egypt, al-Madhariba and Qana in southern Yemen, Khor Rori in Oman, Mangalore, Madurai, and Kaur in southern India, Tissamaharama in Sri Lanka and perhaps Kamrej in northern India (Tomber 2005, 2008). Several Aksumite and Indian graffiti have also been recorded on the island of Socotra in the Gulf of Aden (Evers 2014/15). As a consequence of these inter-regional connections, foreigners may have settled in the territory of the Aksumite polity, probably mainly at Adulis, although evidence for this is scanty (Fattovich 2019).

Conclusions

Female members of the community buried at Maryam Anza were mostly adorned with foreign glass ornaments dominated by Indo-Pacific tiny orange glass beads that, together with others in blue, green, red, yellow and black, were included in cargoes shipped to the Aksumite kingdom from South Asian ports, through Arabian ones. They reached Northeast Africa at a time of intensive Indian Ocean trade in which Aksum was a major player. The direct relationship between Maryam Anza and the Red Sea port at Adulis also resulted in other overseas bead imports. These took the form of glass beads that were most likely produced in Egypt and probably arrived in Aksumite territory either on ships coming from Egyptian Red Sea ports or overland from neighbouring Nubia. That Maryam Anza has the largest percentage yet known of Indian beads recorded in Northeast Africa makes the people represented in its cemeteries — and the Aksumite kingdom more generally — major active participants in the intensive overseas trade of the Western Indian Ocean region in Late Antiquity.

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Notes on contributors

Joanna Then-Obluska is a researcher at the University of Warsaw and an Associate of the Oriental Institute of the University of Chicago, specialising in the archaeology of Northeast Africa. Since receiving her PhD in Archaeology from the Jagiellonian University in 2008, her interests have focused primarily on issues of society and trade, looking at ancient Sudanese and Egyptian beads and jewellery in terms of both material and bead-making techniques and exploring the economic role of bead imports in Indian Ocean trade. Recently, her research has also extended to Ethiopia.

Jacke Phillips is a Research Associate at the Centre of African Studies, School of Oriental and African Studies, University of London, and Affiliated Scholar at the McDonald Institute, University of Cambridge. Her interests focus on foreign relations and cross-cultural interaction and influences, especially the social, technological and typological impact of imported and exported goods over time and space. She has undertaken research and fieldwork in Sudan, Egypt, Greece and Ethiopia and is co-director of the Maryam Anza Project.

Katie Tucker is a Research Associate at the Centre of African Studies, School of Oriental and African Studies, University of London, an independent researcher and consultant in human osteoarchaeology, and Co-Director of the Jucu Necropolis Project for Transylvania Bioarchaeology. She previously worked at the University of Winchester and at the German Archaeological Institute, Berlin. Her research interests include the study of leprosy and peri-mortem trauma in skeletal remains, the bioarchaeology of the medieval period in the Ethiopian highlands of Ethiopia and the development of digital methods to record multiple large assemblages of archived skeletal remains.

ORCID

Joanna Then-Obluska  <http://orcid.org/0000-0002-4690-0069>

Katie Tucker  <https://orcid.org/0000-0001-6651-0132>

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