

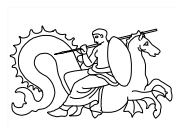
THETIS

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ZUR ARCHÄOLOGIE UND GESCHICHTE
DER ANTIKEN MITTELMEERKULTUREN

HERAUSGEGEBEN VON
REINHARD STUPPERICH UND CORINNA STUPPERICH

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Umschlagbild: Schloss Mannheim, Aufriss der Stadtseite vor der Zerstörung im
2. Weltkrieg, Mittelpartie, nach H. Huth, Die Kunstdenkmäler des Stadtkreises
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Berenike 2019: Report on the Excavations

Steven E. Sidebotham – Iwona Zych – Rodney Ast – Olaf E. Kaper
– Martin Hense – Marianne Bergmann – Marta Osypińska – Claire Newton
– Alfredo Carannante – Roberta S. Tomber

Abstract: Berenike 2019 Report on the Excavations

The 2019 excavation season was the largest in terms of numbers of staff and workmen, and the longest since the initiation of the project in 1994. The project excavated all or portions of 19 trenches in five areas of the site ranging in date from the Ptolemaic era to the 4th-5th centuries AD. Investigated areas included Ptolemaic-era water channels, Roman period necropoleis for humans and animals, and a large monument at the intersection of a major north-south/east-west street. Excavations especially focused on the Isis temple and on a quarter to the north that seems to have had, at least in part, a religious purpose. Also briefly surveyed were areas north of the city that had previously been unrecorded. Noteworthy finds from the excavation included impressive architectural remains, numerous and varied inscriptions on stone, among them one recording the name of a Blemmye king, and donations made to the Isis temple, and numerous sculptural finds in metal, stone and wood. Some of the stone sculpture, both relief and in the round, included images of Buddha and other South Asian deities. Examination on site of malacological and botanical (including wood) remains provided additional insights regarding life at this ancient Red Sea emporium.

Introduction

Fieldwork at Berenike (Pl. I 1 and 2) this season took place in January and February 2019 under the aegis of the University of Delaware (S.E. Sidebotham), the Polish Centre of Mediterranean Archaeology of the University of Warsaw (I. Zych), Heidelberg University (R. Ast) and Leiden University (O.E. Kaper). M. Hense, titular head of the Isis temple project, could not be present due to personal considerations. Funding came from a variety of sources.¹ The Polish Centre of Mediterranean Archaeology in Cairo provided logistical support and

offices of the Egyptian Supreme Council of Antiquities were most helpful in granting permits.²

This season the project excavated all or portions of 19 trenches in five areas across the site (Pl. II 1). One lay at the western end of the settlement near Ptolemaic (3rd-2nd century BC) hydraulic features and an Early Roman (1st century AD) cemetery (trench 125). Two others were in an Early Roman (mainly 1st century AD) trash dump and animal necropolis north and northwest of the Roman-era city center (trenches 48 and 132). Five were in the northern part of the site in an area tentatively labelled the Northern Complex, mainly of Roman and late Roman-era date (trenches 116, 124, 129-131). The fourth area, towards the eastern end of the site,

1 These included the University of Delaware's Center for Global Area Studies (Prof. Cynthia Schmidt-Cruz), History Department (Prof. Arwen Mohun, former department chair), Dean of the College of Arts and Sciences Dr. John Pelesko, Associate Dean of the College of Arts and Sciences Dr. Lauren Petersen, and Pro-vost Dr. Robin Morgan. Additional financial support came from the Seeger Family Fund held by the Arizona Community Foundation. Polish sources included National Science Center government grants (awarded through the PCMA UW) NCN Grant Preludium 9: 2015/17/N/HS3/00163, Marek Woźniak, MA "From military base to international emporium: the nature and functioning of the Hellenistic port of Berenike on the Red Sea;" NCN Harmonia 6: UMO-2014/14/M/HS3/00795, Prof. Michał Gawlikowski "Infrastructure of the international trade in the Red Sea area in the Roman period;" Consortium grant of the Institute of Archaeology and Ethnology Polish Academy of Sciences and PCMA UW NCN Grant Opus 12: 2016/21/N/HS3/00040, Dr. Marta Osypińska, "Africa-Europe-Asia: the significance of intercontinental trade in the Roman period for the history of domestic animals. New archaeozoological data from the Red Sea port of Berenike (Egypt)," Polish Centre of Mediterranean Archaeology University of Warsaw, special subsidy. Dutch sources comprised Stichting Huis van Horus (House of Horus Foundation), Stichting Mehen (Mehen Foundation), Stichting Berenike (Berenike Foundation), ADC Archeoprojecten. Most of the temple portion of the project was financed by the Fritz Thyssen Stiftung through a grant awarded Rodney Ast and Olaf Kaper (Az. 10.18.2.005AA). The authors thank Mary Sidebotham for formatting the photographs.

2 The Project would like to thank the Authorities of the SCA for permission to continue excavations at the site and Minister Khaled al-Enany, Mr. Mohamed Ismail, and Nashwa Gaber, Directors of the SCA Department of Foreign Mission Affairs, for their efforts to resolve all the issues connected with the set of permits required for the Project. In the field, the Project benefited enormously from the assistance of SCA inspector Mahmoud Ahmed Husein. Without his involvement, work could not have proceeded as smoothly as it did. Mr. Hillal Mahmud el Dellal, SCA General Director of Red Sea Antiquities, and Mr. Yassin Mohammed, Director of the SCA Department in Quseir, extended their official supervision to the work. We are particularly grateful to Quseir Manager Mr. Emad Abdel Hamid for his all-round help in various administrative matters. We thank Mr. Mohamed Ouidid and Mr. Mohamed Saad of Arab Saleh for continuous, year-to-year help at the site. As always, Ahmed Abdelmohsen of Hurgada has generously supported logistics in and out of the season. In Cairo, the staff of the Research Centre of Archaeology PCMA UW dealt with the efficient transfer of the team to the site and with the required paperwork. We wish to thank PCMA ground staff Elżbieta Smolińska and Karol Kogutek for arranging both the routine and extraordinary formal matters and for "processing" field members passing through Cairo on their way to and from the field. Our thanks also go to Dr. Artur Obluski, Director of the PCMA UW Research Center in Cairo.

had two trenches of the Late Roman-era located at the intersection of major north-south/east-west streets that documented portions of a tetrakionion (trenches 117 and 133). There were nine trenches in and adjacent to the Isis temple (trenches 112, 114, 120-123 and 126-128) ranging in date from the 1st to the 5th centuries AD. In addition, the project identified a previously unknown area of the site, north-northwest of the ancient city center and east of the modern military bunkers.

Background

Ptolemy II Philadelphus (reigned 285/282-246 BC) founded Berenike (23° 54.62' N/35° 28.42' E) in ca. 275 BC and named it after his mother.³ Berenike is about 825 km south-southeast of Suez and approximately 260 km east of Aswan. Its construction was part of a broader infrastructure initiative of road building in the Eastern Desert of Egypt, of canal construction (Nile to the Red Sea) and of port foundations along the African coast of the Red Sea undertaken by early Ptolemaic rulers.⁴ Acquisition of elephants for military purposes and ivory from areas of what are today Sudan and Eritrea were the initial reasons for Berenike's foundation.⁵ Archaeological evidence has confirmed the presence of elephants and ivory on the site.⁶

Under the Ptolemies there were commercial relations with southern Arabia and, on a much more limited scale, with other areas of the northwestern Indian Ocean.⁷ According to ceramic evidence Berenike's zenith under the Ptolemies was approximately the mid-3rd to mid-2nd century BC. However, a serious indigenous revolt waged as a guerilla war in Upper Egypt against Ptolemaic rule lasting approximately 20 years (ca.

207/206-186 BC) would have had a negative impact on Berenike and probably curtailed, at least temporarily, the port's initial period of prosperity by the end of the third or early 2nd century BC.⁸ Thereafter, Berenike continued to operate on a reduced scale until the advent of the Romans.

The Roman acquisition of Egypt in 30 BC spurred Berenike's fortunes, especially in the 1st and 2nd centuries AD. Literary and, more so, archaeological evidence, indicates extensive commercial and cultural contacts extending as far west as the Iberian Peninsula and north-western Africa on the one hand and the Near East, Red Sea, southern Arabia and South Asia (India and Sri Lanka) on the other on a regular basis.⁹ Contacts, though likely indirect, extended as far east as Java in Indonesia.¹⁰ The documentation of twelve written languages – European, African, Semitic and South Asian –, of extensive and varied botanical, faunal, geological, numismatic, and ceramic evidence together with identification of a variety of religious practices conducted at the port highlights links between Berenike and Europe, Asia and Africa about which the extant ancient literary sources are silent. Archaeological data also illustrate the cosmopolitan nature of Berenike as an important point of exchange and contact along an ancient overland and maritime network that linked three great continents together.

Berenike, the southern-most Red Sea port in Ptolemaic and Roman Egypt, flourished, in part, due to the prevailing and powerful northerly winds that caused many mariners to land at and depart from Berenike rather than to and from ports farther north such as Myos Hormos or Arsinoë/Clysm/Suez in Egypt or Aila in Arabia.¹¹ Of course, mariners also had to consider

3 Plin. n.h. 6, 33, 168.

4 S.E. Sidebotham, *Berenike and the Ancient Maritime Spice Route* (Berkeley 2011) 28-31; S.E. Sidebotham – I. Zych – M. Hense – R. Ast – O.E. Kaper – M. Bergmann – M. Osypińska – A. Carannante, *Results of the Winter 2018 Excavation Season at Berenike (Red Sea Coast), Egypt. The Belzoni Bicentennial Report*, *Thetis – Mannheimer Beiträge zur Archäologie und Geschichte der antiken Mittelmeerkulturen* 24, 2019, 7-19, pls. 1-28.

5 S.E. Sidebotham loc. cit. (n. 4) 39-53; for the likely species of elephant see A.L. Brandt – Y. Hagos – Y. Yacob – V.A. David – N. J. Georgiadis – J. Shoshani – A.L. Roca, *The Elephants of Gash-Barka, Eritrea: Nuclear and Mitochondrial Genetic Patterns*, *Journal of Heredity* 105, 2014, 82-90; P. Schneider, *Again on the Elephants of Raphia: Re-Examining Polybius' Factual Accuracy and Historical Method in the Light of a DNA Survey*, *Histos* 10, 2016, 132-148; C.R. Thouless – H.T. Dublin – J.J. Blanc – D.P. Skinner – T.E. Daniel – R.D. Taylor – F. Maisels – H. L. Frede-rick – P. Bouché, *African Elephant Status Report 2016. An Update from the African Elephant Database* (Gland 2016) 95-98.

6 S.E. Sidebotham – I. Zych, *Berenike, Archaeological Fieldwork at a Ptolemaic-Roman Port on the Red Sea Coast of Egypt 2008-2010*, *Sahara* 21, 2010, 10; M. Osypińska – M. Wozniak, *Livestock Economy at Berenike, A Hellenistic City on the Red Sea (Egypt)*, *African Archaeology Review* 36, 2019, 372.

7 Sidebotham loc. cit. (n. 4) 32-53; M.A. Cobb, *Rome and the Indian Ocean Trade from Augustus to the Early Third Century CE* (Leiden-Boston 2018) 28-60.

8 Cf. P.W. Pestman, *Haronnophris and Chaonnophris. Two Indigenous Pharaohs in Ptolemaic Egypt (205-186 B.C.)*, in: S.P. Vleeming (ed.), *Hundred-gated Thebes, Acts of a Colloquium on Thebes and the Theban Area in the Graeco-Roman Period*, *Papyrologica Lugduno-Batava* 27 (Leiden 1995) 101-137; A.-E. Veïsse, *Les Révoltes égyptiennes: Recherches sur les troubles intérieurs en Égypte du règne de Ptolémée III à la conquête romaine*. *Studia Hellenistica* 41 (Leuven 2004) 11-26, 83-112, 240-242; B. McGing, *Guerilla Warfare and Revolt in Second Century BC Egypt*, in: B. Hughes and F. Robson (eds.), *Unconventional Warfare from Antiquity to the Present Day* (Berlin, Heidelberg 2017) 219-230.

9 Sidebotham 2011 loc. cit. (n. 4); Cobb loc. cit. (n. 7) passim; R. MacLaughlin, *The Roman Empire and the Indian Ocean. The Ancient World Economy and the Kingdoms of Africa, Arabia and India* (Barnsley 2014) e.g. 83-86, 183-184.

10 S.E. Sidebotham – W.Z. Wendrich, *Berenike, Archaeological Fieldwork at a Ptolemaic-Roman Port on the Red Sea Coast of Egypt 1999-2001*, *Sahara* 13, 2001-2002, 42 Fig. 43; P. Francis, Jr., *Personal Adornments*, in: S.E. Sidebotham – W. Wendrich (eds.), *Berenike 1999/2000. Report on the Excavations at Berenike, Including Excavations in Wadi Kalalat and Siket, and the Survey of the Mons Smaragdus Region* (Los Angeles 2007) 254-255.

11 J. Whitwright, *How Fast is Fast? Technology, Trade and Speed under Sail in the Roman Red Sea*, in: J. Starkey – P. Starkey – T. Wilkinson (eds.), *Natural Resources and Cultural Connections of the Red Sea* (Oxford 2007) 77-87.

monsoon wind patterns in the Indian Ocean for any voyages to or from that region.¹²

Giovanni Belzoni rediscovered Berenike in 1818 and throughout the nineteenth and early twentieth centuries a number of European, British, American and Russian visitors made cursory examinations of the remains; they all focused attention on the central temple at the most elevated part of the settlement.¹³ From 1994 until 2001 a US-Dutch project and then, from 2008/9 on, a US-Polish project conducted scientific excavations at numerous locations throughout the site. In the 2018 season Heidelberg and Leiden joined this consortium.

Excavations

Trench near the Ptolemaic hydraulic area

Trench (BE19-125) (Pl. II 1 and 2), with several extensions, lay immediately east and northeast of the Ptolemaic well and putative baths excavated in previous seasons.¹⁴ Excavations this season identified some Ptolemaic period water channels cut into bedrock (Pl. III 1) and human burials from about the 1st century AD interred in soft sand atop and surrounding bedrock and amid abandoned Ptolemaic defenses and hydraulic facilities. Interred after the area had fallen out of use were 11 individual adult skeletons, but their preservation was so poor that determination of gender was impossible. There was at least one body deposited inside a wooden coffin made of teak and constructed using iron nails (Pl. III 2-3). Only bare outlines of the coffin survived and what did remain almost completely disintegrated when exposed to air; two closed form terracotta jars lay at the feet of the body. Several other burials also had grave goods, primarily ceramic vessels of various sizes and shapes. Of special interest were two burials placed perpendicularly across one another accompanied by ceramic vessels (Pl. IV 3). Clearly, one burial had cut into an earlier one. Another interment, likely of a male, contained a silver ring with an engraved intaglio

made of carnelian (Pl. IV 1 and 2). Previous seasons of excavation in and around this area documented numerous human burials also dating to about the 1st century AD.¹⁵

Early Roman trash dump and animal necropolis

Portions of two trenches (BE01/18/19-48 and BE19-132) (Pl. II 1) excavated adjacent to one another in the Early Roman trash dump and animal cemetery documented additional burials. Most were domesticated cats (*Felis silvestris catus*): adults, sub-adults and kittens. There were far fewer domesticated dogs (*Canis lupus f. domestica*). The latter were mainly adults, although there was also one puppy. In layers dated to the Early Roman period, excavations also documented burials of two species of macaques: bonnet macaque (*Macaca radiata*) and rhesus macaque (*Macaca mulatta*). In a 3rd century AD context – and not associated with the Early Roman-era animal cemetery – was the burial of a dwarf goat, the second found thus far. Including those from previous seasons, the number of animal interments at the end of the 2019 winter excavations totaled 344.¹⁶ Pet cemeteries from around the Roman world are very unusual,¹⁷ which makes evidence from the necropolis at Berenike even more valuable.

As excavations demonstrated in previous seasons, many animals had been interred in jars or under large ceramic fragments. Some wore collars made of iron or beads. Excavations in 2019 identified more iron and bead collars and, for the first time, a large bronze collar around the neck of a cat (Pl. III 4 and V 1). Excavations in trench 132 documented the unique deposition of a young macaque zati. It was the first animal burial thus far discovered with grave goods.

12 J. Beresford, *The Ancient Sailing Season* (Leiden, Boston 2013) 213-235; Cobb loc. cit. (n. 7) 39-45.

13 D. Meredith, *Berenice Troglodytica*, *Journal of Egyptian Archaeology* 43, 1957, 56-70; M. Hense – O.E. Kaper, *A Stela of Amenemhet IV from the Main Temple at Berenike*, *Bibliotheca Orientalis* 72, 2015, 586; M. Hense – S. Sidebotham, *A Middle Kingdom Text from a Hellenistic-Roman Red Sea Port*, *Egyptian Archaeology* 51, autumn 2017, 41-43; M. Hense, *The Great Temple at Berenike*, in: A. Manzo – C. Zazzaro – D.J. de Falco (eds.), *Stories of Globalisation: The Red Sea and Persian Gulf from Late Prehistory to Early Modernity. Selected Papers of Red Sea VII* (Leiden 2019) 246-251.

14 S.E. Sidebotham – I. Zych, *Results of the Winter (2014-15) Excavations at Berenike, Egypt and Related Fieldwork in the Eastern Desert*, *Journal of Indian Ocean Archaeology* 12, 2016, 21-22; M. Woźniak, *Shaping a City and Its Defenses: Fortifications of Hellenistic Berenike Troglodytika*, in: I. Zych (ed.), *Research on the Red Sea. Polish Archaeology in the Mediterranean*, *Special Studies* 26, 2 (Warsaw 2017) 53-57; M. Woźniak – S.E. Sidebotham, *Hellenistic Berenike: Investigations of Daily Life in a Remote Ptolemaic Fortress on the Red Sea Coast of Egypt*, *AJA*, forthcoming.

15 Sidebotham – Zych loc. cit. (n. 14) 22-24.

16 Sidebotham – Wendrich loc. cit. (n. 10) 31-32; S.E. Sidebotham – I. Zych – M. Hense – J.K. Rądkowska – M. Woźniak, *Archaeological Fieldwork in Berenike in 2014 and 2015: From Hellenistic Rock-Cut Installations to Abandoned Temple Ruins*, *Polish Archaeology in the Mediterranean* 25, 2016, 326-328; I. Zych, *The Harbor of Early Roman "Imperial" Berenike: Overview of Excavations from 2009 to 2015*, in: I. Zych (ed.), *Research on the Red Sea. Polish Archaeology in the Mediterranean*, *Special Studies* 26,2 (Warsaw 2017) 116, 117 Fig. 21; 118; Sidebotham – Zych loc. cit. (n. 14) 24 and Figs. 45-46; M. Osypińska – P. Osypiński, *New Evidence for the Emergence of a Human-Pet Relation in Early Roman Berenike (1st-2nd century AD)*, in: I. Zych (ed.), *Research on the Red Sea*, in: I. Zych (ed.), *Research on the Red Sea. Polish Archaeology in the Mediterranean*, *Special Studies* 26,2 (Warsaw 2017) 167-192; S.E. Sidebotham, *Overview of Fieldwork at Berenike (Red Sea Coast), Egypt, and in the Eastern Desert: 2011-2015*, in: A. Manzo – C. Zazzaro – D.J. de Falco (eds.), *Stories of Globalisation: The Red Sea and Persian Gulf from Late Prehistory to Early Modernity: Selected Papers of Red Sea Project VII* (Leiden 2019) 211-212 Fig. 10.9a; 213 Fig. 10.9b; Sidebotham et al. loc. cit. (n. 4) 10, 11 (Table 1).

17 For an example from Serbia see S. Vuković-Bogdanović – M. Jovičić, *Dog Burials from the Cemeteries of the Roman City of Viminacium (Moesia Superior, Kostolac, Serbia)*, in: L. Vagalinski – N. Sharankov (eds.), *Limes XXII. Proceedings of the 22nd International Congress of Roman Frontier Studies Ruse, Bulgaria, September 2012* (Sofia 2015) 687-702.

Next to the animal's head were two large seashells: a Red Sea *Anadara antiquata* and a blue iridescent shell of *Haliotis* (abalone). Amphora fragments lay at the sides of the monkey's body. One contained the remains of a very young piglet, and the other had knotted rags. Also buried with the monkey were three very young kittens. Another cat burial discovered in trench 48 lay atop the wing of a very large bird. In the 2018 season, in trench 48, there were numerous cats with healed limb fractures. In the 2019 season, excavations recorded two dog burials; skeletal remains indicated that they would not have survived without human care. One was a male who had broken leg bones (tibia and femur). As a result of injuries to the knee his legs had different lengths, which certainly hindered his mobility. In trench 132, was the burial of an old female. She had spinal degeneration, tooth defects and a healed fracture of the humerus. Both dogs suffered injuries long before their deaths and were undoubtedly under special care, clearly by loving owners.

While excavations could not, with certainty, identify all the skeletons as those of pets, the mode of burial of many and the presence of collars on some indicated their status as cherished animal companions of residents of Berenike in about the 1st century AD. Evidently, some inhabitants had enough resources to maintain animal companions in this forlorn location.

Northern Complex

Portions of five trenches excavated in this area this season (BE18/19-116, BE19-124, BE19-129, BE19-130 and BE19-131) produced dramatic findings (Pl. II 1 and V 2). There had been excavations in this location in previous years (trenches BE15-110, BE18-115 and BE18-116), beginning in 2015 with a single trench (BE15-110), but with inconclusive results.¹⁸ Nor did excavation of two additional trenches in 2018 (BE18-115 and BE18-116) produce any definitive evidence for the purpose of the area.¹⁹ This season, however, excavations began to identify some of the activities that took place here, at least from about the 4th century AD on, most of which centered, somewhat surprisingly, on religious activities. Excavations in trench BE18/19-116 (Pl. VI 1 and 2) documented statuettes in bronze (Pl. VII 1-2 and 4-5) and stone, one of which dated to the early Hellenistic period (3rd-2nd centuries BC) and represented the head of Amun (Pl. VII 3) with the closest parallels being Meroitic.²⁰ It had been in use for centuries thereafter.

Another fragment made of a rare type of gypsum, likely from Greece from trench 116 in the Northern Complex, was a standing draped male figure, 15.8 cm high, with missing head and portions of his robe in his left hand (Pl. VII 6).²¹ The voluminous garments and the piece of cloth held in his uplifted left hand were similar to a more fragmentary marble statuette found in 2018 in trench 113 in the Isis temple courtyard.²² The meaning and provenance of both these images, which differ considerably in their style of execution, require further investigation. There are, however, parallels for them in gold coins from Kushan – a north Indian-Central Asian empire – minted by Kanishka I (ruled 127-151 AD) with the reverse image of a standing Buddha accompanied by the text *Boḍḍo*, i.e. *Boddo, Buddha*.²³

Additionally, there was a small helmeted head, probably of a warrior, made from local gypsum and carved in a local workshop discussed more infra (Pl. VII 7 and XXII 2 left).²⁴ The largest statuary was a stone bust of the god Sarapis (Pl. VIII 2) found upside down outside and near the entrance to the room that dominated trench 116. Other objects in bronze and a small stone altar suggested religious activities here. An ostrakon containing a staurogram and a few Greek letters (Pl. VIII 1) indicated the presence of Christians though not necessarily of their religious activities in this structure.

The area shifted from one where pre-Christian cult activities took place to one supplanted by evidence of Christian presence. In addition to the ostrakon noted above, excavations in this same trench in 2018 recovered the bottom of a terracotta oil lamp that had carved onto it the chi/rho, an early Christian symbol. Whoever used this room and the area immediately to the east abandoned it probably sometime in the 5th century.

Twenty-five unworked tortoise fragments from trench 116 suggested that they were particularly important in this context, but for unknown reasons. Food remains were quite rare and there were no shell ornaments.

Excavations in trench BE19-124 (Pl. VIII 3) documented several impressive architectural remains including a column base and portions of a pediment. Most importantly, a long, multi-lined inscription in Greek had once adorned the front (southern) entrance to the edifice on which it had been affixed (Pl. IX 1). It recorded a dedication of an interpreter named Mochosak to the gods Isis and Sarapis on behalf of the Blemmyan king Isemne, whose name appears in only two other texts, both from the Nile Valley.²⁵ Unfortunately, the precise dates of his reign are unknown, but probably he

18 Sidebotham – Zych loc. cit. (n. 14) 8-11 and Figs. 10-15; I. Zych loc. cit. (n. 16) 115. 116 Fig. 19.

19 Sidebotham – Zych loc. cit. (n. 14) 8-11; Sidebotham et al. loc. cit. (n. 4) 11 Taf. VI 1-2; VII 1-2; VIII 1.

20 Identification made by O.E. Kaper, on the basis of two parallels in M. Baud (ed.), *Méroé, Un empire sur le Nil* (Milan, Paris 2010) 192 Figs. 245-246.

21 Registration number BE19-116/032/001.

22 Registration number BE18-113/010/005: see Sidebotham et al. loc. cit. (n. 4) 17 Taf. XXVI 1-2.

23 S. Bhandare personal communication.

24 Registration number BE19-116/039/001.

25 R. Ast – J. Rądkowska, *Dedication of the Blemmyan Interpreter Mochosak on Behalf of King Isemne*, ZPE 215, 2020, 147-158.

reigned sometime in the late fourth or first half of the fifth century AD.

The Blemmyes were a semi-nomadic tribal kingdom that existed from about 600 BC into at least the 6th century AD and probably later.²⁶ Their territorial boundaries changed over the centuries, but generally, they inhabited Lower Nubia (Egypt south of Aswan), parts of Upper Egypt and the southern portions of Egypt's Eastern Desert to the Red Sea coast (Pl. IX 2). Their adherence to the cult of Isis appears to have continued into the 6th century AD especially focused on her temple on the island of Philae, which was closed by imperial decree in 537 AD according to the Byzantine court historian Procopius.²⁷ Therefore, the association of a Blemmye king with the cult of Isis at Berenike is not surprising.

Previous seasons' excavations in Berenike documented artifacts, especially an unusual type of pottery labelled Eastern Desert Ware (EDW),²⁸ suggesting that peoples from the Eastern Desert, Lower Nubia and Upper Egypt, perhaps including Blemmyes, may have resided here. This inscription indicates that some Blemmyes, at least, were at Berenike late in the life of the port in an official role. Whether they controlled Berenike at that time with or without some *de jure* arrangement with the Roman government remains an open question. According to the historian Olympiodorus,²⁹ by at least the 5th century AD they dominated portions of the Eastern Desert, including the lucrative beryl mines at Sikait north-west of Berenike. Therefore, official Blemmye presence at Berenike at that time can be expected.

The remainder of the trenches in the Northern Complex (BE19-129, 130 and 131) (Pl. X 1 and 2) appeared, from initial examination of the geomagnetic map and prior to excavation, to be *horrea*, i.e. typically shaped Roman warehouses. A geomagnetic map shows the outlines of walls and buildings up to a maximum of

about 1 meter below the modern ground surface (Pl. V 2).

While excavations could not confirm the identification of these rooms as *horrea*, surprising evidence indicated that one of the rooms (trench 131) and at least part of another one adjacent to it (trench 130) served religious cult functions (Pl. XI 1 and 2). The smaller room to the west (trench 131) preserved a sizeable stone altar in front of which was a small cubic statue in Meroitic style,³⁰ portions of two miniature columns and an iron harpoon (Pl. XI 3 and XII 1). Atop the altar and elsewhere in the area were numerous skeletons of falcons, most of which lacked heads. A door connected this altar area in trench 131 with trench 130 immediately to the east. Here excavations brought to light two large door lintels (Pl. XI 3 foreground) and a pictorial stela in Egyptian style accompanied by a short Greek inscription containing a prohibition against boiling "the head" on the premises (Pl. XII 2).³¹ At the eastern end of trench 130, which was also the eastern end of the room, and inside and north of the entrance was a votive deposit of 15 large (56-75 mm) unworked *Cypraea tigris* (cowrie) shells that had served as foundation offerings (Pl. XII 3).

Clearly, the inscription is related to the altar and falcon skeletons documented in neighboring trench 131. The iron harpoon, a symbol of Horus, the falcon bones, also symbols of Horus, and the prohibition against boiling heads (likely referring to the headless falcon skeletons in the adjacent room) indicated that these two rooms in the later period had been designated, at least in part, as an area dedicated to the cult of Horus, son of Isis.

From trenches 129, 130 and 131 samples of *Chicoreus ramosus* may have been seafood, but there was no clear attestation of cooking activities here.

The purpose of 66 large sub-fossil *Tridacna* valves, in the same context as the boiled head stele noted above, remains unclear. Some may have been part of the wall construction, decoration or used as containers for offerings or other objects.

Trenches at the intersection of two main north-south/east-west streets: tetrakionion

Examination of a geomagnetic map made of the site during previous excavation seasons led to the initial identification of features in the street at this location as a tetrakionion (Pl. XIII 1). Excavations begun in this area in 2018 in trench BE18-117 partially confirmed

26 For example R.T. Updegraff, *The Blemmyes I. The Rise of the Blemmyes and the Roman Withdrawal from Nubia Under Diocletian* (with Additional Remarks by L. Török), ANRW II 10, 1, 44-10; H. Barnard, *Sire, il n'y a pas de Blemmyes: A re-evaluation of historical and archaeological data*, in: J.C.M. Starkey (ed.), *People of the Red Sea: Proceedings of Red Sea Project II held in the British Museum October 2004* (Oxford 2005) 23-40; S.M. Burstein, *Trogodytes = Blemmyes = Beja? The Misuse of Ancient Ethnography*, in: H. Barnard – W. Wendrich (eds.), *The Archaeology of Mobility: Old World and New World Nomadism* (Los Angeles 2008) 250-263; H. Cuvigny (ed.) in collaboration with M-P. Chaufray – J. Cooper – J. Gates-Foster, *Blemmyes. New Documents and New Perspectives* (Cairo forthcoming).

27 Procop. Pers. I 19, 35-37.

28 H. Barnard, *Eastern Desert Ware. Traces of the Inhabitants of the Eastern Deserts in Egypt and Sudan during the 4th-6th Centuries C.E.* (Oxford 2008).

29 Olymp. Hist. 1, 37. T. Eide – T. Hägg – R. H. Pierce – L. Török (eds.), *Fontes Historiae Nubiorum. Textual Sources for the History of the Middle Nile Region between the Eighth Century BC and the Sixth Century AD 3. From the First to the Sixth Century AD* (Bergen 1998) 1126-1128.

30 According to O.E. Kaper, the closest parallels are from inside the temple of Naga, from the early Roman period; cf. V. Rondot, *De la fonction des statues-cubes comme cale-porte*, *Revue d'Égyptologie* 62, 2011, 146-48 Pl. 25 and K. Kroeper – S. Schoske – D. Wildung (eds.), *Königsstadt Naga – Naga Royal City: Grabungen in der Wüste des Sudan. Excavations in the Desert of the Sudan* (Munich, Berlin 2011) 146-149 Figs. 187-195.

31 Publication in progress.

this initial identification with the discovery of portions of a base for a such street monument.³² It consisted of four columns that formed, in plan, a box (Pl. XIII 2). This type of four-columned monument marked the intersection of major streets and was often found in major cities, especially in the eastern parts of the Roman Empire. There are many parallels through-out Roman Egypt and elsewhere in the Near East.³³ Work begun in 2018 in this trench continued this season with excavation of one of the massive column bases of this monument, which was built of local stone. A second base was also documented in trench BE19-133 just west of trench 117 (Pl. XIV 1). Investigations in 2018 and this season were unable to determine the date of construction of this impressive urban feature, though it was clearly in use, if not actually built, in late antiquity, viz. sometime in the middle or late 4th century AD.

Trenches in the Isis Temple

In the approximate center of ancient Berenike and at its highest point, excavations in January-February 2019 continued those begun in previous seasons in and around the Isis temple (Pl. XIV 2; XV and XVI 1).³⁴ This was the principal temple of the town, and it had been mistakenly attributed to the cult of Sarapis since the 19th century. This winter excavations took place in nine trenches and their extensions; some of these continued in trenches begun in previous years. These were BE15/18/19-112, BE18/19-114, BE19-120, BE19-121, BE19-122, BE19-123, BE19-126, BE19-127 and BE19-128 (Pl. II 1). Seven of them lay within the temple, the courtyard and the propylon, or main entrance, while two abutted the external walls of the temple. The excavation results were remarkable.

In the propylon at the eastern end of the temple (Pl. XV, area enclosed by white box, and XVI 2), part of the main northern temple wall was identified, against which was a long, but poorly preserved, inscription in Greek from the early Roman period (1st or 2nd century AD). The floor was paved with large stone slabs. The entrance had remains of two columns, one behind each pylon that flanked the gate. The discovery of fragments of a life-sized statue carved from local stone at the threshold of the gate necessitated a small extension of the trench outside the entrance to the east. Large stone fragments of a single statue as well as blocks with inscriptions in hieroglyphs and in Greek also lay tightly packed in this narrow, excavated area. The statue fragments of a male adding the now missing legs, when joined, would have

measured about 1.6-1.7 m in height (Pl. XVII 1). Carved details of falcons adorned his clothing, complemented by a beard and a tall crown with uraei. O.E. Kaper identified the statue as Sebiuwerker, an important Meroitic god.³⁵ Typically, in Meroitic temples there would also have been a statue of the god Arensnuphis near the entrance.³⁶ Therefore, a statue of Arensnuphis may still be lying in the unexplored area adjacent to where excavations brought to light the large statue fragments of Sebiuwerker this season.

Excavations had previously recorded evidence of Meroitic influence. The documentation of numbers of Indo-Pacific beads from excavations at both Berenike and Meroe suggest that the former was one avenue by which objects from the Indian Ocean trade reached Nubia.³⁷ This may also suggest that people from Meroe had come to Berenike independently for commercial purposes. The find of the huge statue fragments of Sebiuwerker indicates, however, that at some point in the early Roman period there was, indeed, an official Meroitic presence at Berenike. Excavations this season also brought to light a bronze statuette of Arensnuphis in a room abutting the southern exterior side of the main temple wall in trench 126 discussed below (see Pl. XXV 3).

Meroe was a kingdom in the area of the Middle Nile in what is today Sudan that existed between about 800 BC and the 4th century AD (Pl. IX 2).³⁸ The relationship that the Meroitic government had with the Romans or the Blemmyes or that the Blemmyes had with Meroe in general remains unknown and poses new questions to be addressed by future excavations.

Other noteworthy finds from the propylon area included a fragment of the temple ceiling decorated with a partial wing of a vulture (Pl. XVII 2) and another one with incised stars. Similarly decorated fragments had been excavated in 2015 and 2018 in different areas of the temple.³⁹ During the excavations several fragments of hieroglyphic texts from the temple entrance and a fragment of a monumental inscription in Greek from the early Roman period from the lintel of the same gateway (Pl. XVII 3) were unearthed; the latter included the end

32 Sidebotham et al. loc. cit. (n. 4) 11-12 and Pl. VIII 2-3; IX 1.

33 Sidebotham et al. loc. cit. (n. 4) 11-12 and notes 21-22.

34 Sidebotham et al. loc. cit. (n. 4) 12-18; Hense – Kaper loc. cit. (n. 13) 585-601; Hense – Sidebotham loc. cit. (n. 13) 41-42; Sidebotham – Zych loc. cit. (n. 14) 11-21; Zych et al. loc. cit. (n. 16) 336-340; M. Hense, *The Great Temple in Berenike: new findings of the Berenike Temple Project*, *Polish Archaeology in the Mediterranean* 26/2 (2017) 133-145; Hense loc. cit. (n. 13) 246-263; Sidebotham loc. cit. (n. 16) 212-217.

35 E. Kormysheva, *Gott in seinem Tempel: lokale Züge und ägyptische Entlehnungen in der geistigen Kultur des alten Sudan* (Moscow 2010) 273-279.

36 E.g. in Meroe and Naga. A full list appears in P. Wolf, *Die Bronze-Statuette des kuschitischen Gottes Sebiuwerker aus dem Tempel von Hamadab*, *Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin* 14, 2003, 104.

37 J. Then-Obluska – B. Wagner, *Glass Bead Trade in Northeast Africa: The Evidence from Meroitic and Post-Meroitic Nubia* (Warsaw 2019) 188.

38 See R. Haaland, *The Meroitic Empire: Trade and Cultural Influences in an Indian Ocean Context*, *African Archaeology Review* 31/4, 2014, 649-673; for discussion of post-Meroitic Lower Nubia, see L. Török, *Between Two Worlds. The Frontier Region between Ancient Nubia and Egypt 3700 BC-AD 500* (Leiden 2009) 515-530.

39 Sidebotham – Zych loc. cit. (n. 14) 20 and Fig. 36 Pl. 9; Sidebotham, et al. loc. cit. (n. 4) 20 Fig. 36; 21; Zych, et al. loc. cit. (n. 16) 336-337; Hense loc. cit. (n. 13) 255.

of an imperial title of an undetermined emperor with nicely engraved letters highlighted in red paint.

Also excavated from the propylon area were shattered *Strombus tricornis* shells that preserved burn marks suggesting that they had been cooked directly on embers. Other shells, primarily consisting of *Chicoreus ramosus* and *Spondylus marisrubri*, may also represent food remains. This malacological evidence suggests that in very late antiquity, after the propylon no longer served its original function, cooking and consumption of food took place here.

Three opercula (chitinous doors) of the *Chicoreus ramosus* gastropod excavated in the propylon area supported the hypothesis proposed last season of their use in incense burning rituals. Lower valves of *Spondylus marisrubri*, with a greasy substance and evidence of burning inside, suggested their use as lamps. Two sawn off “cowrie lips” (*Cypraea tigris* and a *Cypraea turdus*) probably were ornaments from the propylon area. Eight tortoise shell fragments served unknown functions.

In the temple courtyard itself, also completely paved with large flat stones, excavations brought to light, as in previous seasons, huge quantities of marble slabs, which had once decorated the floors and walls. Much of this had been imported from Proconnesian quarries near the Sea of Marmara in Turkey.⁴⁰ In the courtyard, excavations documented additional square blocks atop podia. One of them contained a poorly preserved Greek dedication from the reign of Domitian (AD 81-96); it refers to an arabarch, the chief official in charge of collecting taxes on imported goods. In addition, a loose fragment from a large and well-cut inscription of early Roman date (1st-2nd century AD) represents a dedicatory building inscription (Pl. XVII 4).

Of special interest in the category of epigraphic finds were seven small fragments of Greek texts written on bituminous limestone (Pl. XVII 5 and 6).⁴¹ None of the fragments joined, and the texts, which seem to date to the late 2nd or 3rd century AD, were inscribed on both sides of a slab only ca. 2.5 cm thick. The texts were probably dedicatory in nature, but not of the kind usually seen in the temple. A couple of two-sided fragments found in the 19th century may well have come from the same inscribed stela.⁴²

After it fell out of use in late antiquity as a temple, probably sometime in the 5th century AD, portions of the courtyard had been reused for unclear purposes as the recycled and jerry-rigged temple blocks indicated.

According to the archaeological evidence documented in the courtyard of the Isis Temple (trenches

111, 113, 119, 121, 128) (Pl. XVIII 1-2 and XIX 1) cooking, at least of some seafood, took place here during some phases in the Roman period. Twenty-three valves of *Spondylus*, preserving broken edges or burn marks, indicated their use as food. Other archaeomalacological remains showed that cooking molluscs on embers was a common practice in later times. Abundant amounts of large shattered *Strombus tricornis* shells from trenches 111, 119, 121 and 128 had been cooked directly on embers and finally broken to extract the cooked flesh. Also, some *Pinctada* pearl oyster valves from trench 111 were probably consumed in raw form. *Chicoreus*, *Spondylus* and *Pinctada* remains from trench 119 preserved external burning marks confirming that cooking them on open fires was more important in later than in earlier Roman times. Some large *Tridacna* specimens from trench 119 preserved burning marks on their external sides, which may indicate that they had been cooked near fire as food; or that the solid shells functioned as skillets to prepare other kinds of food. From 119 came the only fragment of a *Tridacna* shell decorated with red ochre dots on the edges of the internal ridges. Cowries (mostly *Cypraea annulus*, but also *C. turdus* and *C. moneta*) were the shells most often used for ornamental purposes. Their dorsal parts had been removed to obtain the typical “cowrie lips” ornament still used for personal jewellery and decoration. Excavations recorded 47 worked cowrie lips in trenches 111, 112, 113 and 122. Twenty-two “cowrie lips” found together in trench 111 were probably part of the same object.

Three *Oliva bulbosa* beads drilled on the apex and smoothed on the outer lip from trench 111 may attest imports from Southern Arabia or the Persian Gulf. Forty-five *Chicoreus* opercula (from most of the loci of trenches 111, 119, 121, 128) highlight the importance of this raw material in temple activities.

A votive deposit in trench 128 containing six large and unworked *Cypraea pantherina* specimens (56-75 mm) attested their importance as “foundation offerings” in the temple courtyard, similar to those recorded in trench 130 in the Northern Complex (discussed above: see Pl. XII 3). There were 128 tortoise shell fragments from trenches 111, 113 and 128. Some had been sawn and drilled into cylinders, rings and buttons attesting the utilitarian nature of this raw material.

Inside the temple itself, west of the courtyard and connected to it via two doors, excavations continued in several rooms some of which had been partially excavated in previous seasons and some of which had not. Extensive wall decorations survived as did decorated and undecorated ceiling blocks that had fallen onto the floors of the rooms. The room excavated in Trench 112 contained the remains of statuettes in bronze (Pl. XX 1) and stone (Pl. XX 2).

In the center room farthest west inside the temple and in a corner, excavations brought to light a huge bark stand made of gypsum with cartouches bearing the

40 Personal communication from J.A. Harrell.

41 Personal communication from J.A. Harrell. For numerous examples of sculpture, reliefs and other small objects made of bitumen in ancient Persia see J. Connan and O. Deschesne, *Le bitume à Suse: Collection du Musée du Louvre* (Paris 1996).

42 A. Bernand, *Pan du désert* (Leiden 1977) 188-191 nos. 71. 73-75.

name of the Roman emperor Tiberius (reigned 14-37 AD) (Pl. XIX 2 and XX 3). The bark stand must have been replaced by another stand when this older one was buried in the corner of the room and a new floor was laid over it. This is likely to have taken place during the 1st or 2nd century AD.

From Trench 112 in the temple interior marine remains included *Spondylus* valves and shattered *Strombus tricornis* shells that attested cooking activities at various times during the Roman era. Excavations also documented 15 *Cypraea annulus* and *C. turdus* “cowrie lips” and simple cowries. In addition, excavations recorded three *Chicoreus opercula* from this trench. There were 26 sea turtle remains. In one instance, a piece of bone turtle-shell remained attached to its tortoise shell. There were also many unworked fragments of tortoise-shell including a workshop “waster” from which two disks had been drilled.

There were fewer malacological remains in trench 118 and the cellar. These were mainly edibles and may indicate that this room had been cleaned more often than that in 112. A large *Tridacna* valve, with internal residues smelling like frankincense, probably served as an incense burner.

Other areas abutting the Isis temple

The project excavated two other trenches outside and abutting the main temple walls. One on the north lay against a portal leading from the temple courtyard to the outside (trench BE19-122) (Pl. XX 4). There was evidence here of structures built against and near the exterior of the temple wall in late antiquity. Here, and at a few other places inside the temple, excavations recovered more fragments of an Egyptian Middle Kingdom stela of Pharaoh Amenemhet IV (reigned ca. 1772-1764 BC), one fragment of which Belzoni had found in 1818 and other pieces of which had been excavated in 2015 and 2018. As proposed in earlier reports, the presence of such an inscribed stone may indicate that Berenike served as a waystation for Pharaonic-era voyages to Punt (precise location unknown) from ports farther north in the Red Sea, particularly Marsa Gawasis (ancient Saww). The stela fragments collectively suggest that there was some maritime activity at or near Berenike approximately 1,500 years before its Ptolemaic “founding” in the 3rd century BC.⁴³

Excavations in trench 122 also produced an additional fragment of the only surviving Greek inscription dating to the Ptolemaic period known from the site, two pieces of which had been previously documented in the 19th century. This new fragment narrows the date of the inscription to the year 133 BC.⁴⁴

Excavations in the same trench also turned up many malacological specimens. Most of the food remains (32), mainly *Chicoreus* and *Strombus*, and various species of cowries, *Cypraea caurica*, *C. nebrites*, *C. teres*, *C. tigris*, *C. vitellus*, were abundant and six large *C. tigris* may represent the remains of a curtain or decoration associated with the door leading from the temple courtyard north to the area of trench 122.

The second trench abutted the exterior face of the southern temple wall (trench BE19-126) (Pl. XXI 1-2). The room found inside this trench had been built in late antiquity, probably mid-4th century AD or later, of fossilized coral heads typically found throughout Berenike from that time. It contained a bonanza of artifacts including bronze, stone and wooden statuettes, other wooden objects and a stone stela.

Two of the many artifacts crammed into this small room had been carved from local stone and by local artisans. Yet, they were South Asian in style and reflected religious beliefs from that region. One was a stela hewn in stone with extant measurements of ca. 38 cm high x 42 cm wide x 7.8 cm thick (Pl. XXII 1). Carved at its top were crude representations of a triad of Indian figures, possibly deities, standing on a ground line supported at both ends by two columns with “volute” type capitals. Beneath the ground line and between the columns was a large blank space 0.31 m wide that may have originally been decorated with paint. A specialist in ancient Indian iconography is currently studying this stela.

The second item was a small stone head of Buddha measuring 9.3 cm high.⁴⁵ Its hair was drawn back from the front and sides in wavy strands. The topknot was unusually flat, but clearly marked by a ribbon surrounding it, both typical elements of Buddha heads. The ears, which would have to be characterized by long earlobes, were not represented, but were probably painted on slightly protruding surfaces (Pl. XXIII 1, 2 and 4). An artisan at Berenike had produced it from local gypsum. According to its overall appearance this iconography seems to be Gandharan, Kushan or Guptan.⁴⁶ Nevertheless, the style of depiction of the eyes and mouth is unmistakably seen on the heads of other stone statuettes found elsewhere at Berenike this season and during excavations in 2018 and depicting a range of non-South Asian images. These included a head of Isis from trench 113 (Pl. XXIII 3), the above-mentioned small head of a warrior (Pl. VII 7) and a half of a female head (Pl. XXII 2).⁴⁷ Clearly, there was

45 Registration number BE19-126/016/001.

46 H. Ingholt, *Gandharan Art in Pakistan* (New York 1957) Figs. 195-273; J. Kurita, *Gandharan Art II. Butsuden = The World of the Buddha* (Tokyo 1990) Figs. 192-230; for the ribbon see Kurita loc. cit. (this note) Figs. 209, 210, 213, 242, 260-267 etc. and J. Kurita, *Gandharan Art I, Butsuden = The Buddha's Life Story 2* (Tokyo 2003) *passim*.

47 From left to right: head of Isis registration number BE18-113/010/004; warrior BE19-116/039/001; half of female head: BE18-113/010/015 and Buddha; for the warrior see text above and note 24.

43 Sidebotham – Zych loc. cit. (n. 14) 17-18; Sidebotham et al. loc. cit. (n. 4) 14 and Pl. XX Fig. 3.

44 R. Ast, I. Pan 70, a Dedication from the Year 133 BC, ZPE 213, 2020, 108-110.

a workshop at Berenike that created modest-quality sculpture on demand for local patrons.

Excavations over the years have documented extensive botanical, artifactual and limited written and numismatic evidence for contacts with South Asia if not the presence of South Asians from India and Sri Lanka at Berenike. Therefore, the discovery of South Asian religious and cult objects is not surprising, but is, rather, corroboration of the longer-term residence of people from that part of the world at Berenike. Nevertheless, representations of Indian religious scenes or figures are very rare in the wider ancient classical Greco-Roman world.⁴⁸ Their discovery at Berenike is, therefore, noteworthy.

In addition, in trench BE19-126, excavations documented a large bottomless wooden box.⁴⁹ A flat bronze statuette of a winged Isis (Pl. XXIV 5), found near the box, may have once decorated it.

Most surprisingly, excavations in trench 126 recorded three images of the god Sarapis carved from wood that lay atop one another in the northeastern corner of the room. The smallest and most fragile had been carved from fig wood (Pl. XXIV 1),⁵⁰ which has several potential provenances. Wild fig trees grow in the Eastern Desert, cultivated fig trees in the Nile valley, and cultivated or wild fig trees around the Mediterranean basin, in Arabia and in Asia.

The larger two images of Sarapis had been fashioned from teakwood (Pl. XXIV 2-4). The middle-sized teak bust was in especially impressive condition (Pl. XXIV 2-3). Flecks of gold leaf remained on the teak busts and in the soil where excavations recorded them, indicating that at least portions of the images had been gilded at one time.

Teak derived from India in the Roman era. The question then arises as to the original purpose of the teak used to make the busts. It may have been imported specifically to carve images of Sarapis, but this is not likely. Alternatively, and more probable, the teak had been recycled from some other source. The most reasonable explanation is that the busts had been produced from recycled ship parts, likely from masts, bowsprits/artemons, crossbeams or steering oars (Pl. XXIV 7). The project sculpture specialist M. Bergmann noted that images of Sarapis with shoulders, as appear on our two busts, date no earlier than about 100 AD.⁵¹

This indicated that the putative ship parts had, of course, to predate the busts. There is abundant evidence from Berenike for the recycling of ship parts into the walls of buildings throughout the centuries of the common era. For instance, teak was the only wood employed to manufacture the dovetail clamps used in the temple to hold the large stone blocks together.⁵² Apart from architectural elements, teak was also recycled into an array of wooden objects, including part of the wooden coffin found in the 1st century AD cemetery (BE19-125: see Pl. III 2-3) noted above.⁵³

There is also epigraphic and archaeological evidence for replacing worn out or damaged ship parts. An inscription known as the Coptos Tariff dating May 10, 90 AD lists tolls levied on people, products and conveyances crossing between the Nile and the Red Sea ports.⁵⁴ It references the transport of ships' masts from the Nile across the Eastern Desert to the Red Sea and also notes dockyard workers and sailors thereby indicating that replacement of these key components of Roman sailing vessels and transport across the desert of maritime personnel was a regularly recurring event. Another document somewhat corroborates the Coptos Tariff. An ostrakon dated July 109 AD excavated at Krokodilo, a Roman fort on the road linking the Red Sea port of Myos Hormos north of Berenike with the Nile emporium of Coptos, records the transport by

2, 2 (Berlin 1940) Pl. 9. 15 a. b; 19 a. b; 24). Note that the busts of Sarapis never have strong three dimensional differentiation of shoulders and breast, which is usual in the busts of Trajan and Hadrian (117-135 AD) and that their lower contour also remains rather undifferentiated.

52 Forty-two of 48 samples were teak (*Tectona grandis* L.f.) while the others were not preserved well enough to permit precise identification (personal communication from C. Newton).

53 For various uses of teakwood on site, cf. C.E. Vermeeren, Wood and Charcoal, in: S.E. Sidebotham – W.Z. Wendrich (eds.), Berenike 1998. Report of the 1998 Excavations at Berenike and the Survey of the Egyptian Eastern Desert, Including Excavations in Wadi Kalalat (Leiden 2000) 332; C.E. Vermeeren, Boats in the Desert, the Desiccated Wood and Charcoal from Berenike (1998), BIAxial 90, 2000/2003, 1-11; Sidebotham – Wendrich loc. cit. (n. 10) 40 Figs. 35-36; S.E. Sidebotham, Excavations, in: S.E. Sidebotham – W.Z. Wendrich (eds.), Berenike 1999/2000. Report on the Excavations at Berenike, Including Excavations in Wadi Kalalat and Siket, and the Survey of the Mons Smaragdus Region (Los Angeles 2007) 79 Figs. 4-45 no. 2 Pl. 4-46; 80 Pl. 4-47; 81 Figs. 4-48 no. 2 Pl. 4-49; 82 Pl. 4-51; 82-83; S.E. Sidebotham, Archaeological Evidence for Ships and Harbor Facilities at Berenike (Red Sea Coast), Egypt, in: R.L. Hohlfelder (ed.), The Maritime World of Ancient Rome. Proceedings of "The Maritime World of Ancient Rome," Conference held at the American Academy in Rome 27-29 March 2003 (Ann Arbor 2008) 310. 311 Figs. 9-11; S.E. Sidebotham, The Excavations, in S.E. Sidebotham – W.Z. Wendrich (eds.), Berenike 1998. Report of the 1998 Excavations at Berenike and the Survey of the Egyptian Eastern Desert, including Excavations in Wadi Kalalat (Leiden 2000) 21-22. 141. 143; S.E. Sidebotham, Religion and Burial at the Ptolemaic-Roman Red Sea Emporium of Berenike, Egypt, African Archaeology Review 31,4, 2014, 611-617; Sidebotham – Zych loc. cit. (n. 14) 11-21.

54 A. Bernand, Les portes du désert: recueil des inscriptions grecques d'Antinooupolis, Tentyris, Koptos, Apollonopolis Parva et Apollonopolis Magna (Paris 1984) 199-208, especially 200-201 = no. 67.

48 Cf. the famous ivory depicting Lakshmi from Pompeii (K.G. Evers, Worlds Apart Trading Together. The Organisation of Long-Distance Trade between Rome and India in Antiquity (Oxford 2017) 22-28).

49 The box was made of teakwood (personal communication from C. Newton).

50 A more precise identification cannot be made, but *Ficus sycomorus*, the sycamore fig, is excluded. The genus *Ficus* L. comprises about 900 species.

51 In Roman art busts of portraits and, less frequently, ones of other beings tended to be represented with growing volume. The broad-shouldered busts of the wooden Sarapis from Berenike cannot be earlier than those of the emperor Trajan (98-117 AD) (W.H. Gross, Die Bildnisse Traians. Das römische Herrscherbild

wagon of wood, undoubtedly originating from the Nile Valley, to serve ships at Myos Hormos.⁵⁵

Recycling dismantled ship parts had a millennia-old tradition along the Red Sea coast of Egypt.⁵⁶ Ships arriving in Egyptian Red Sea ports, battered by winds, required repair. These dismantled parts did not go to waste, but in the relatively timber-poor environment of the Egyptian Red Sea coast were recycled into walls as leveling courses, ceilings, shelving, furniture, doors, etc., and sometimes as fuel.

The best-preserved teak Sarapis bust measured 24.5 cm in height x ca. 20 cm in width x ca. 11.7 cm in thickness (Pl. XXIV 2-3) while the larger, but less well-preserved specimen, was 29 cm high x 23.0 cm wide (Pl. XXIV 4) with thickness undetermined. The extreme fragility of these wooden busts prevented taking measurements with more precision. What size ships could these busts have been carved from and which parts?

An unpublished 1st-3rd century AD shipwreck from the Black Sea may be helpful in this discussion. This wreck was 13 m long and its artemon measured 4.5 m in length x 15 cm in diameter.⁵⁷ Roman-era masts found in Genoa, Italy and Olbia, Sardinia have extant diameters ranging from approximately 42 to 48 cm.⁵⁸ Unfortunately, these masts were not associated with any hull remains, but based on modern mast-to-ship dimensions, the Olbia example would have belonged to a vessel about 30-35 m long.⁵⁹ Thus, we might estimate, if carved from recycled masts, that the teak Sarapis busts came from a ship with a length longer than 13 m, but shorter than about 30-35 m.

Masts, artemons, crossbeams and steering oars – the most likely sources of our busts – were proportional to the sizes of the ships on which they had been used. Therefore, the busts may eventually provide some minimum dimensions for the ship parts from which they derived and, eventually, provide some basic parameters for the overall sizes of the ships from which they came. Additional measurable sizes of the remains of relevant ship parts should, in the future, at least permit better

calculations of the sizes of vessels that once plied the Red Sea and Indian Ocean in early Roman times.

Even if the teak Sarapis busts came from ship parts, it will probably never be known whether they came from “Roman,” “South Asian” or vessels made elsewhere. Many non-Indian built ships undoubtedly underwent repair and replacement of vital components in Indian ports prior to their return voyages. Thus, these vessels would have been an amalgam of parts originally crafted and replaced or repaired at multiple ports of call.⁶⁰ Those timber replacements added at Indian ports would, in many cases, have been teak. Thus, identifying the original places of construction of whatever ship or ships bore teak parts would be impossible to determine.

The iconography of the best preserved⁶¹ Sarapis bust is also unusual. At the end of the 2019 excavation season there were 14 Sarapis monuments from Berenike, two reliefs with Sarapis’ foot imprint found in 2018,⁶² nine other figures having their heads preserved and three with no heads, but with iconographic indicators associated with Sarapis. The heads differed significantly from one another. In part, this was due to quality and simplifications in local or regional workshops. Part of it, however, reflected a known problem of Sarapis’ iconography, which was originally created on the occasion of the god’s introduction from Memphis to Alexandria in the earlier 3rd century BC.⁶³ There is a canonical type of representation of the god, showing him seated and with a typical hair style, where hanging corkscrew curls veil his front.⁶⁴ This is known only from the period of Augustus on.⁶⁵ Earlier representations, especially their hairstyles, all seem to look rather like those of Zeus, for reasons which are still debated.⁶⁶ These

55 H. Cuvigny, *Ostraca de Krokodilô. La correspondance militaire et sa circulation O.Krok. 1-151. Praesidia du désert de Bérénice II* (Cairo 2005) 77-85 = O.Krok. 41, lines 17-26 on pp. 79 and 81; cf. M. van der Veen, *Consumption, Trade and Innovation. Exploring the Botanical Remains from the Roman and Islamic Ports at Quseir al-Qadim, Egypt* (Frankfurt/Main 2011) 223.

56 P. Tallet, *The Egyptians on the Red Sea Shore during the Pharaonic Era*, in: M-F. Boussac – J-F. Salles – J.-B. Yon (eds.), *Ports of the Ancient Indian Ocean* (Delhi 2016) 3-19; C. Ward – C. Zazzaro, *Ship-related Activities at the Pharaonic Harbour of Mersa Gawasis*, in: M-F. Boussac et al. (eds.), *Ports of the Ancient Indian Ocean* (Delhi 2016) 21-40.

57 Personal communication from J. Whitewright.

58 E. Riccardi, *A ship’s mast discovered during excavation of the Roman port at Olbia, Sardinia*, *IntJNautA* 31, 2, 2002, 268-269; V. Gavini – E. Riccardi – F. Tiboni, *Notes on the Identification of the Roman Masts found in the Port of Olbia, Sardinia*, *IntJNautA* 43, 1, 2014, 27-34; F. Tiboni, *Fragments of a Roman Mast from the Port of Genoa, Italy*, *IntJNautA* 43, 2, 2014, 443-444.

59 Riccardi loc. cit. (n. 58) 268-269; Gavini et al. loc. cit. (n. 58) 27-34; Tiboni loc. cit. (n. 58) 443-444.

60 Cf. L. Blue – J. Whitewright – R. Thomas, *Ships and Ships’ Fittings*, in: D. Peacock – L. Blue – J. Whitewright (eds.), *Myos Hormos – Quseir al-Qadim. Roman and Islamic Ports on the Red Sea 2: Finds from the Excavations* (Oxford 2011) 197.

61 The surface of the slightly bigger second bust made from teakwood is too corroded to define its exact iconography and the small bust made from fig wood seems iconographically indistinct.

62 Sidebotham et al. loc. cit. (n. 4) 15 and Pl. XXI 3.

63 Written sources: U. Wilcken, *Urkunden der Ptolemäerzeit I. Papyri aus Unterägypten* (Berlin, Leipzig 1927) 77-95; P. M. Fraser, *Ptolemaic Alexandria* (Oxford 1972) 246-254; recent interpretations: P. Borgeaud – Y. Volokhine, *La formation de la légende de Sarapis: une approche transculturelle*, *Archiv für Religionsgeschichte* 2, 2000, 37-76; S. Pfeiffer, *The God Sarapis, his Cult and the Beginnings of the Ruler Cult in Ptolemaic Egypt*,” in: P. McKechnie – Ph. Guillaume (eds.), *Ptolemy II Philadelphus and his World* (Leiden 2008) 387-408; M. Bergmann, *Sarapis im 3.Jh. v. Chr.*, in: G. Weber (ed.), *Alexandria und das ptolemäische Ägypten. Kulturbegegnungen in hellenistischer Zeit* (Berlin 2010) 109-135.

64 LIMC VII (1992) Pl. 504 Nr. 8-14; Pl. 508-511 no. 83a. 83e. 87-89 a. b.; 93 a. b. 99. 104. 119a. passim. s.v. Sarapis (G. Clerc – J. Leclant); most extensive overview of sculptural material remains W. Hornbostel, *Sarapis, Studien zur Überlieferungsgeschichte, den Erscheinungsformen und Wandlungen der Gestalt eines Gottes* (Leiden 1973) Figs. 11. 13. 17a-d; 18. 19. 48a; 51. 60; head type only: Figs. 146-182. 207-296.

65 Hornbostel loc. cit. (n. 64) 210 no. 2; 213 with Fig. 148.

66 L. Castiglione, *La statue de culte hellénistique du Sarapieion*

types were also copied in later periods, especially in Egypt. Accordingly, at Berenike only three small heads of alabaster and limestone excavated within the temple in earlier seasons, which must have been imported from the Nile valley, show the canonical Sarapis type.⁶⁷ The others differ, but the well-preserved bust made of teak is of a type that has a close parallel in a probably late Hellenistic head from Egypt, whose iconography may be traced back to representations of the god from the 3rd century BC.⁶⁸

A further find from trench 126, also related to sea travel, is in the form of a fragment of the Graeco-Roman sea god Poseidon/Neptune (Pl. XXIV 6). The Ptolemaic protectors of maritime journeys were the Greek Aphrodite and Isis,⁶⁹ and Isis, together with Neptune, continued to perform this function in the Roman world. The fragmented figure (registration number BE19-126/016/002) of a naked male rests his left foot on a support, leaning his left arm on his thigh and holding, most probably, a trident with a long staff or pole in his elevated right hand. This is a copy of a variant of a famous statue type.⁷⁰ This figure type was not exclusively, but very frequently, used and widely distributed. An example of such representations of the god Poseidon/Neptune⁷¹ includes a bronze statuette that traveled as far as Kolhapur in the region of Bombay.⁷² Several parallels for the statuette from Berenike indicate

that it represents Poseidon/Neptune.⁷³ Made from gypsum in a local workshop, it is additional evidence for his popularity among those engaged in the Eastern maritime commerce.

Also of interest from trench BE19-126 were a bronze statuette of a male dancer or acrobat (Pl. XXV 1-2), a small bronze decorative figurine of a falcon that had a nub on the bottom to fit it into some larger, likely wooden, object (Pl. XXV 5), a small bust of Sarapis (the missing head was once attached by a dowel) borne by an eagle, who crouches on a globe (Pl. XXV 4), and a bronze statuette of the Meroitic deity Arensnuphis (Pl. XXV 3).

Many of the artifacts from the small room inside trench 126 ranged in date from early to late Roman. Yet, they had been deposited here, very likely, in the mid to late 4th century AD or later. The incredible array, quantity and quality of objects, primarily of religious significance and undoubtedly originally dedicated inside the temple, raise the question of why they had been placed here. In addition to South Asian themes, the bulk of the sculpture was Egyptian and Greco-Roman in style. Pious individuals may have stored them here for protection. Alternatively, persons unknown may have placed them here while clearing the temple of images no longer in use. The small size of the room and dense packing into it of all the artifacts precludes it having been a small antiquarium or museum.

Archaeomalacological remains from trench 126 included Spondylus valves the contents of which had been eaten raw. Rare remains of *Chicoreus* and *Strombus* suggested a different use of marine foods at different periods.

Excavations recorded six cowrie shells and lips from different species – *Cypraea turdus*, *C. tigris*, *C. grayana*, *C. caurica* – that had been used as ornaments. A large valve of *Acrosterigma* had functioned as a lamp. There were also ten unworked tortoise fragments. Their purpose in this context is unknown. Thirty-one unworked *Conomurex fasciatus* shells may have been a votive deposit. Yet, as it is a common species on site, it is not clear why anyone would collect and deposit their shells here.

There were also two fragments of imported Mediterranean red coral in trench 126. Pliny the Elder⁷⁴ notes great Indian demand for Mediterranean red coral.⁷⁵ The *Periplus Maris Erythraei*⁷⁶ also mentions the export of coral to Arabia and India and this must have been the famous Mediterranean red coral noted by Pliny.⁷⁷ Mediterranean red coral branches have also been attested at the Red Sea port of Adulis in Eritrea.⁷⁸ In the

d'Alexandrie, *Bulletin du Musée Hongrois des Beaux Arts* 12, 1958, 17-39; for the discussion following Castiglione, see Hornbostel loc. cit. (n. 64) 8-11; the material Hornbostel loc. cit. (n. 64) 133-206 Figs. 88-139; on the possibly early existence of the iconography with the corkscrew curls, see most recently S. Schmidt, *Sarapis – ein neuer Gott für die Griechen in Ägypten*, in: *Ägypten, Griechenland und Rom. Abwehr und Berührung. Katalog der Ausstellung Städtisches Kunstinstitut und Städtische Galerie Frankfurt*, 26. November 2005-26. Februar 2006 (Frankfurt, Tübingen 2005-2006) 291-304, esp. 302, with reference to cat. Nr. 182 = LIMC VII loc. cit. (n. 64) Pl. 504 no. 7.

67 All found in trench 111 in the temple forecourt: registration number BE18-111/029/003, cf. Sidebotham et al. loc. cit. (n. 4) 15 and Pl. XXI 2; registration numbers BE18-111/029/004 and BE18-111/029/005.

68 Late Hellenistic: head Leutstetten: Castiglione loc. cit. (n. 66) 26 no. 13 Fig. 15; Hornbostel loc. cit. (n. 64) 73 n.1; 173 Pl. 58, 110 a. b; early Hellenistic: the gems, Castiglione loc. cit. (n. 66) 22-23 Figs. 11-13; D. Plantzos, *Hellenistic Engraved Gems* (Oxford 1999) Pl. 31 and 32 nos. 181-187; for the head from the Sarapeion in Alexandria see H. Kyrieleis, *Ein hellenistischer Götterkopf*, in: N. Ζαφειρόπουλος – Β. Λαμπρινουδάκης – Λ. Μαραγκού – Α. Καλογεροπούλου – Μ. Προύνη Φιλίπ, *Stele. Tomos eis mnemen Nikolaou Kontoleonos* (Athens 1980) 383-387 Pl. 168-174.

69 L. Bricault, *Isis, dame des flots* (*Aegyptiaca Leodiensia* 7) (Liège 2006); DNP 9 (2000) 1145 s.v. *Ploiaphesia/ Navigium Isidis* (S. Tacacs).

70 Poseidon Lateran: Museo Gregoriano ex Lateranense II,1 (C. Vorster, *Werke nach Vorlagen und Bildformeln des 5. und 4. Jahrhunderts v. Chr.* (Mainz 1993) 68-74 Nr. 27; E. Bartman, *Ancient Sculpture Copies in Miniature* (Leiden 1992) 102-146; A. Klöckner, *Poseidon und Neptun. Zur Rezeption griechischer Götterbilder in der römischen Kunst* (Saarbrücken 1997) 20-60).

71 Klöckner loc. cit. (n. 70) 54.

72 R.D. De Puma, *The Roman Bronzes from Kolhapur*, in: V. Begley (ed.), *Rome and India. The Ancient Sea Trade* (Madison 1991) 82-112 Fig. 5, 1-3; Klöckner loc. cit. (n. 70) 200 LB 2 with citations.

73 Convincingly defined as a special type: Klöckner loc. cit. (n. 70) 61-71 Figs. 18-28.

74 Plin. n. h. 32, 11, 21-24.

75 See Sidebotham loc. cit. (n. 4) 238-239.

76 *Peripl. M. Rubr.* 28. 39. 49. 56.

77 L. Casson, *The Periplus Maris Erythraei. Text with Introduction, Translation, and Commentary* (Princeton 1989) 163.

78 A. Carannante – C. Flaux – C. Morhange – C. Zazzaro, *Adulis in*

context of trench 126, however, the Mediterranean red coral was likely dedicated to deities in this temple.

It is likely that priests or other temple employees periodically cleaned the adjacent Isis temple and removed objects no longer wanted, including seashells. These objects, considered “holy waste,” might then have been deposited in the room in trench 126, which would indicate that the area had functioned as a *bothros*, i.e. a storage pit/area for sacred objects.

Area north northwest of the ancient city center and east of the modern military bunkers

Investigation of heretofore unnoticed architectural remains in an area well north and northwest of the ancient city center and of the so-called “three podia building” excavated in trench 105 in 2015⁷⁹ led to the serendipitous find on the ground surface of a hoard of 14, apparently burned, early Roman aes coins inside a small broken coarse ware jar. Found late in the field season, there was insufficient time to clean or examine the coins closely though at least one had been minted at Alexandria during the reign of Tiberius (14-37 AD). It is evident that the limits of ancient Berenike towards the north extended much farther than previously believed. A more detailed examination will take place during the next field season.

Conclusion

Results of the 2019 excavation season documented an impressive array of human and animal burials, architectural remains, malacological and botanical finds and artifacts, especially statuary and inscriptions, made of stone, metal and wood that permitted a better understanding of life at this emporium.

Burial of human remains amidst the ruins of Ptolemaic structures was common in early Roman Berenike signifying that those areas of the settlement were no longer considered within the boundaries of the Roman city. The numerous animal burials indicated that having pets or animal companions was not uncommon, at least in early Roman times.

Excavations in and around the Isis temple and in the Northern Complex provided additional documentation

about religious activities throughout the centuries of the common era. Evidence provided by our excavations since 1994 indicated that Berenike experienced a renaissance starting sometime in the mid-4th century AD. Unlike other religious centers in the city where activities continued or began in this later period, it is unclear whether this was the case in the Isis temple. Late in the life of the building (later 4th or 5th century AD) at least portions, if not all, of the edifice no longer served religious functions, but seem to have been abandoned altogether or converted into domestic housing and, possibly, structures for defense against an unknown threat.

Excavations documented unexpected and impressive evidence that raises some exciting new questions especially about the *de jure* and *de facto* status of Berenike in late antiquity. While there is little historical testimony concerning the port in this period, the new epigraphic evidence for the Blemmye king Isemne lends some support to the statement of Epiphanius of Salamis that the Blemmyes were in control of Berenike at the end of the 4th century.⁸⁰ Whether the Romans had a stake in the place anymore is unclear. The documentation of a Blemmye embassy sent to Constantinople in 336 AD indicates that diplomatic relations with the Romans were important to both parties at that time, if not earlier.⁸¹ Topics of discussion during this and likely subsequent embassies must have included the political, military and economic status of southern Egypt.

Recent finds of Meroitic ceramics from excavations at Samut,⁸² a Hellenistic site on the route linking Berenike to Apollonopolis Magna, modern Edfu, on the Nile, suggest one avenue used by persons traveling between that Nile Kingdom and the Red Sea coast at Berenike at least in the Ptolemaic period.

Finally, it is evident that Berenike extended much farther north than previously believed. How much farther and what function these newly identified areas served is presently unknown.

The project consortium hopes, however, to answer these and other questions during the next field season at Berenike.

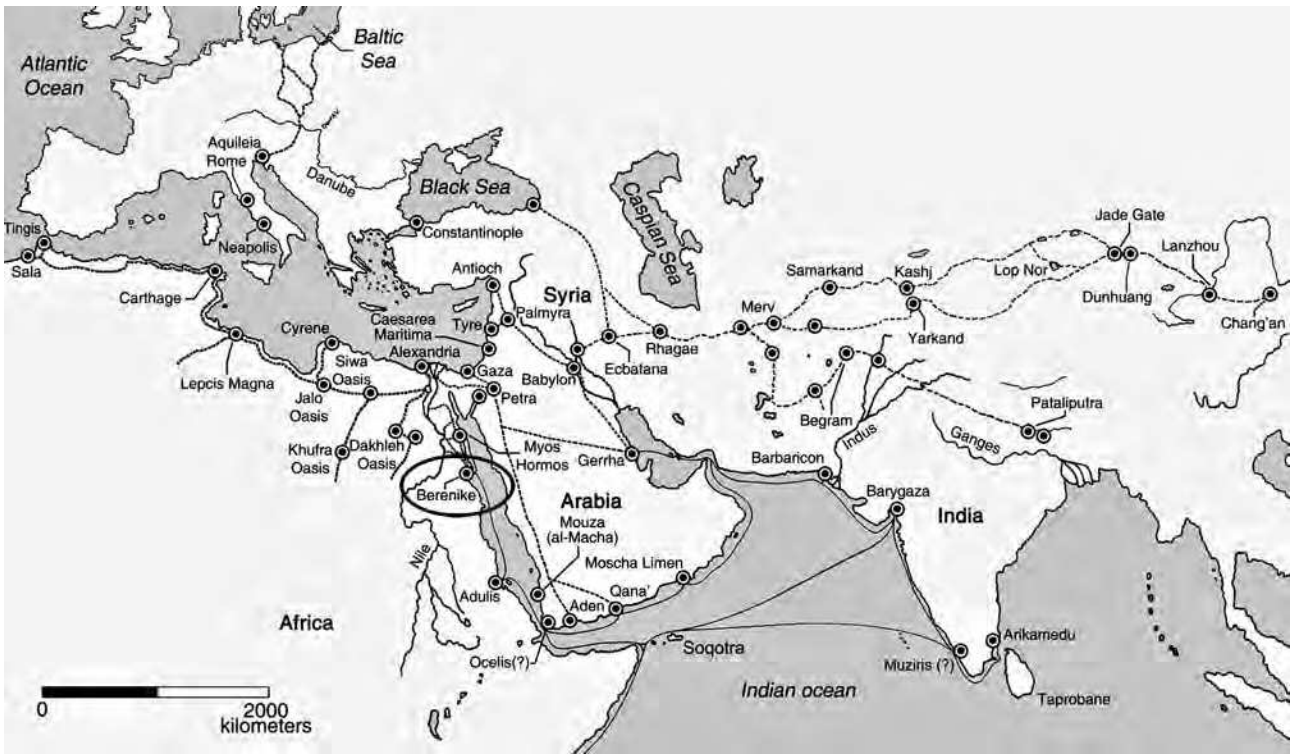
Its Regional Maritime Context. A Preliminary Report of the 2015 Field Season, Newsletter di Archeologia CISA 6, 2015, 279-294.

79 Sidebotham – Zych loc. cit. (n. 14) 25 and Fig. 47; Zych loc. cit. (n. 16) 115 and Fig. 18.

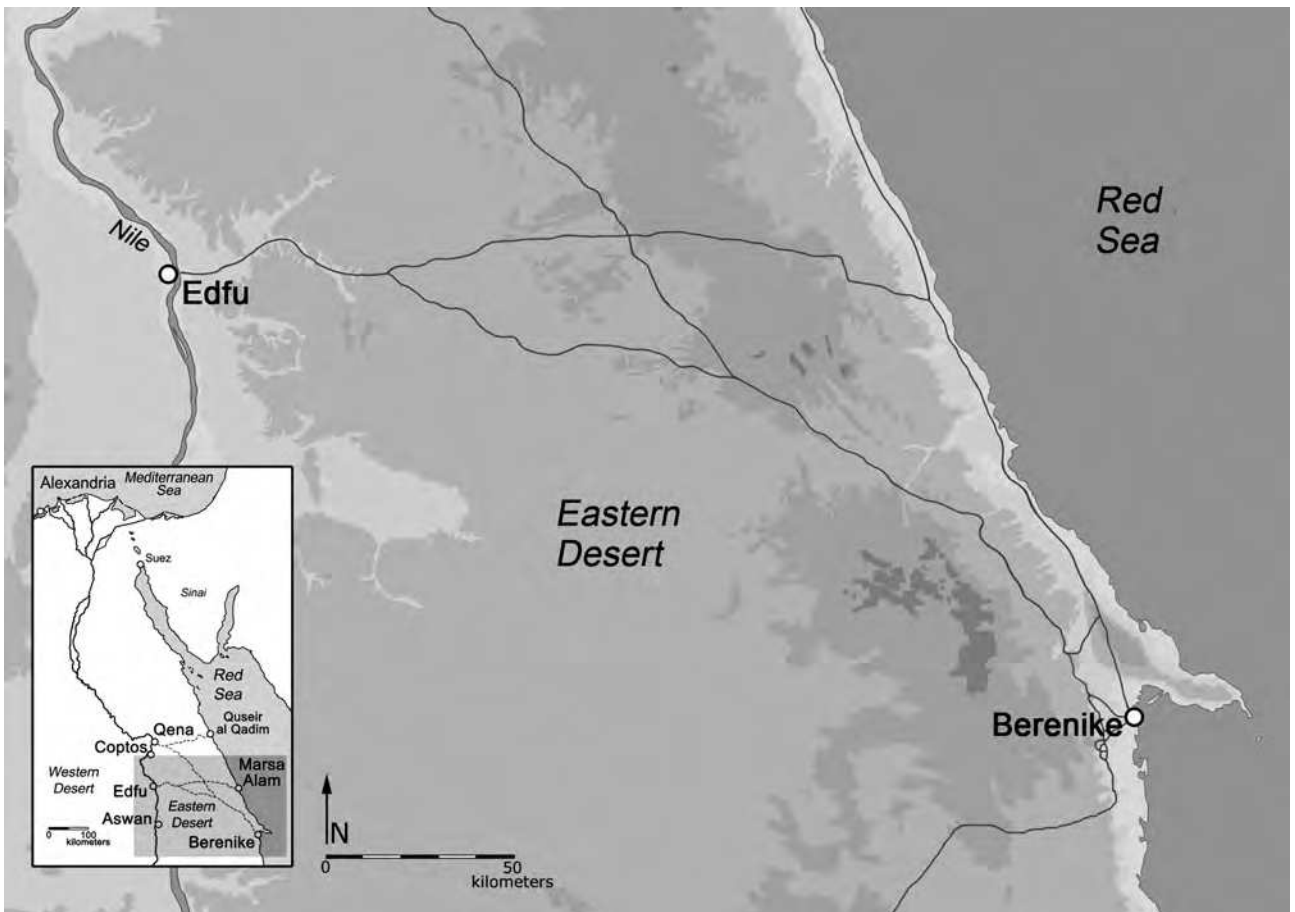
80 Eide – Hägg – Pierce – Török loc. cit. (n. 29) 1115-1121.

81 Eus. Vita Constantini 4, 7 cited with commentary in: Eide – Hägg – Pierce – Török loc. cit. (n. 29) 1079-1081.

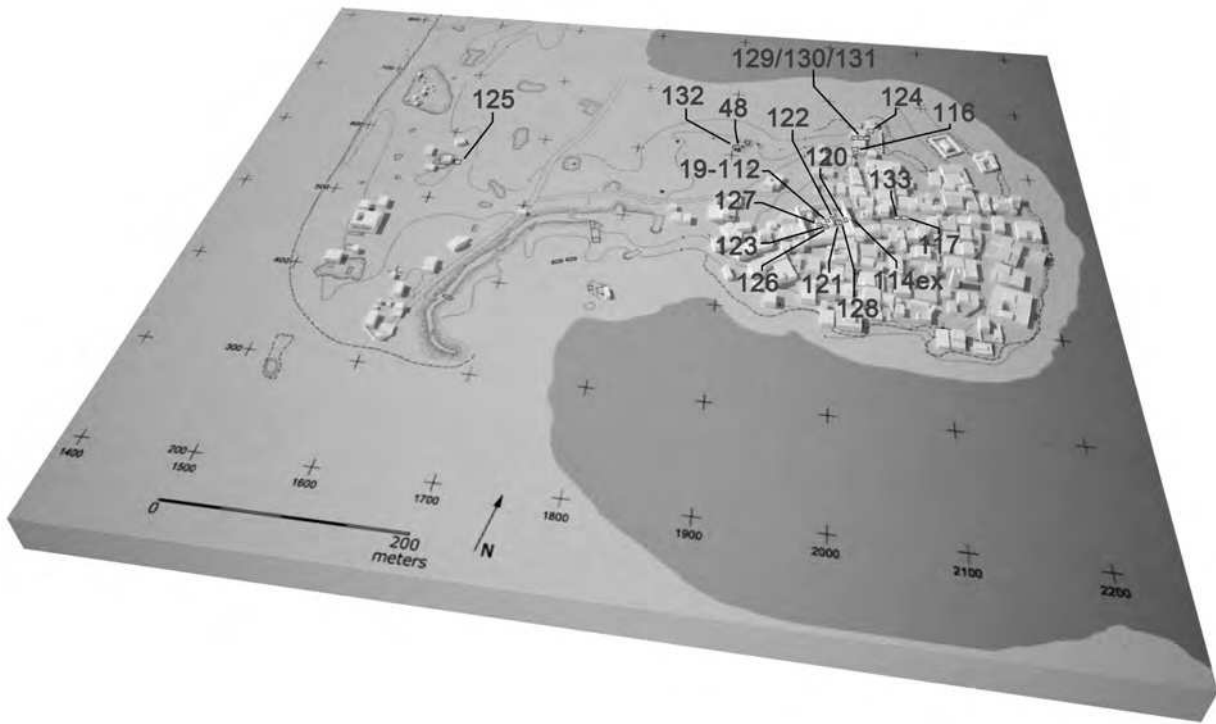
82 J. Gates-Foster personal communication.



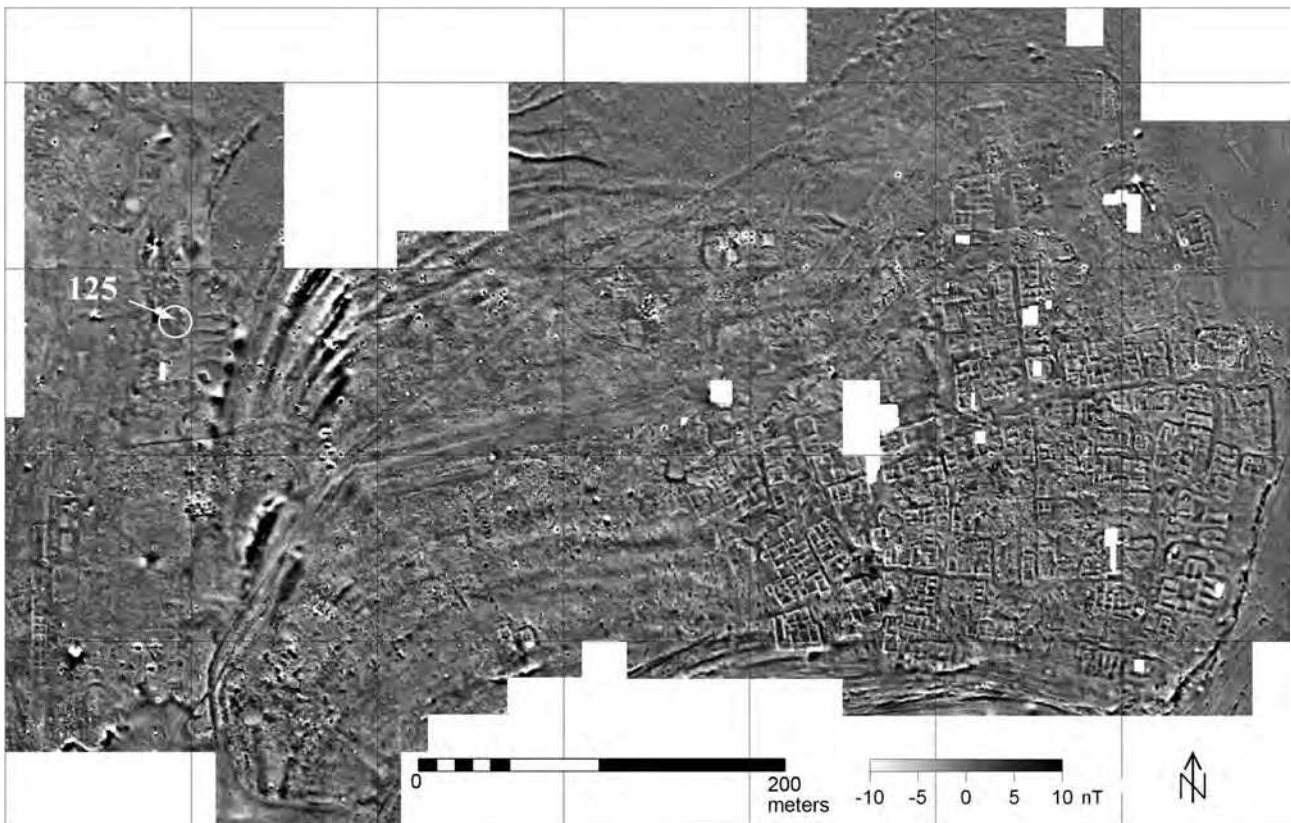
1: Berenike and the trade routes (drawing by M. Hense)



2: Berenike's location in the Eastern Desert and along the Red Sea coast of Egypt (drawing by M. Hense)



1: Berenike: trenches excavated during the 2019 season (drawing by M. Hense)



2: Geomagnetic plan of Berenike (survey by D. Swiech and R. Ryndziewicz; processed by T.M. Herbich)



1: Trench BE19-125, view looking west (photo by S.E. Sidebotham)



2: Trench BE19-125, early Roman-era burial with shroud and grave goods. View looking south south-east. Scale = 20 cm (photo by S.E. Sidebotham)



3: Trench BE19-125. Same early Roman-era burial as in Pl. III 2, but with shroud removed. View looking west northwest. Scale = 20 cm (photo by S.E. Sidebotham)



4: Trench BE19-132. Bronze collar seen in Pl. V 1. Scale = 5 cm (photo by S.E. Sidebotham)



1: Trench BE19-125. Intaglio from silver ring from early Roman-era burial. (photo by S.E. Sidebotham)



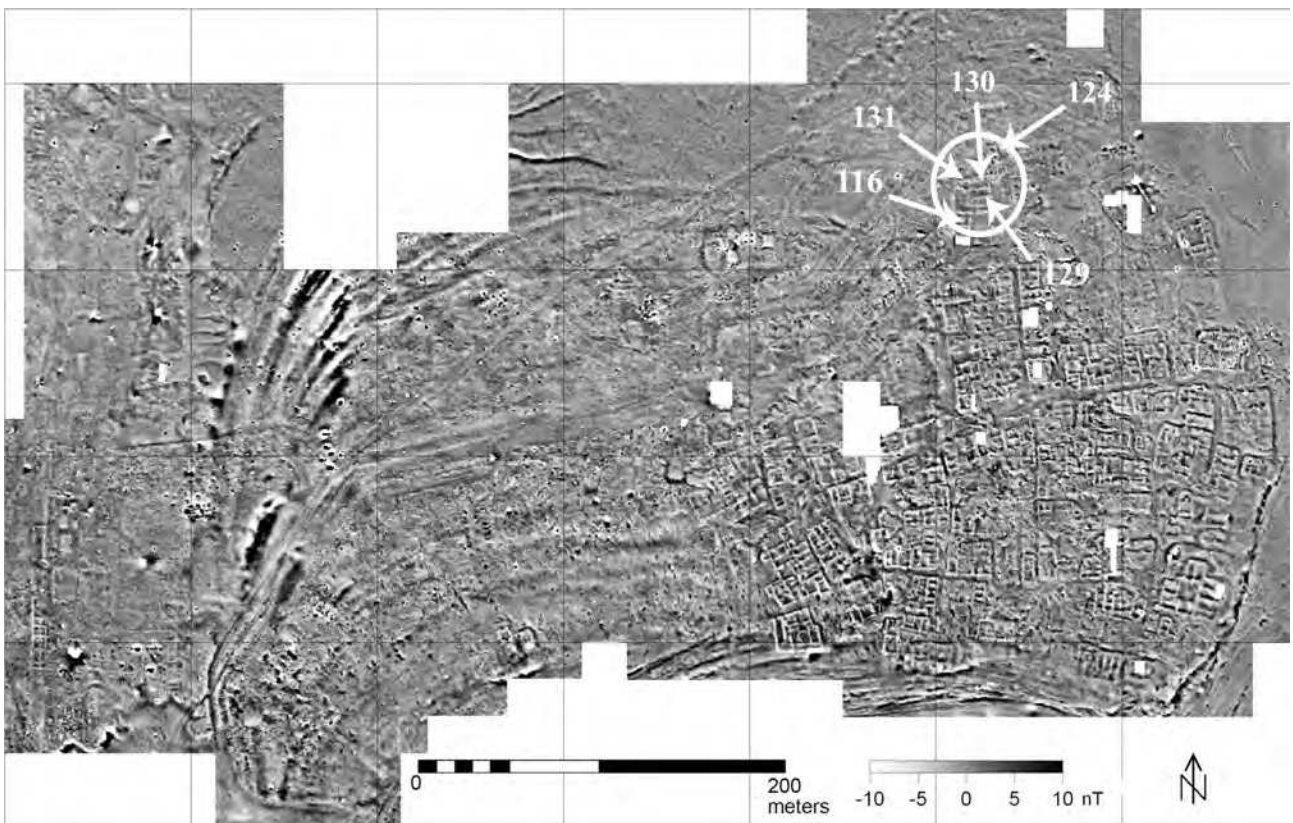
2: Trench BE19-125. Impression of intaglio in Pl. IV 1 (photo by S.E. Sidebotham)



3: Trench BE19-125. Cross burials. View looking north. Scale = 50 cm (photo by S.E. Sidebotham)



1: Trench BE19-132. Skeleton of cat wearing bronze collar. Scale = 10 cm (photo by S.E. Sidebotham)



2: Geomagnetic plan of Berenike indicating trenches in the Northern Complex (survey by D. Swiech and R. Ryndziewicz. Processed by T.M. Herbich)



1: Trench BE18/19-116. View looking northeast (photo by S.E. Sidebotham)



2: Trench BE18/19-116. View looking southwest (photo by S.E. Sidebotham)



1: Trench BE18/19-116. Bronze protome with satyr face and wearing an elephant's exuvia. Scale = 5 cm (photo by S.E. Sidebotham)



2: Trench BE18/19-116. Miniature bronze wheel. Scale = 5 cm (photo by S.E. Sidebotham)



3: Trench BE18/19-116. Stone head of Amun in Meroitic style (photo by S.E. Sidebotham)



4: Trench BE18/19-116. Bronze statuette in Egyptian style. Scale = 5 cm (photo by S.E. Sidebotham)



5: Trench BE18/19-116. Bronze cornucopia. Scale = 5 cm (photo by S.E. Sidebotham)



6: Trench BE18/19-116. Stone statuette likely of a standing Buddha. Scale = 5 cm (photo by S.E. Sidebotham)



7: Trench BE18/19-116. Stone head of a helmeted warrior. Scale = 5 cm (photo by S.E. Sidebotham)



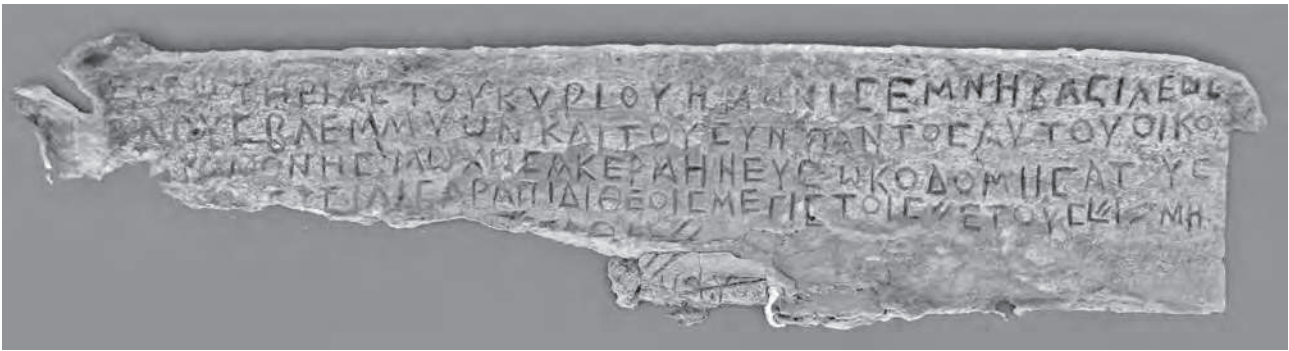
1: Trench BE18/19-116. Late antique ostracon prefaced with a cross. Scale = 5 cm (photo by S.E. Sidebotham)



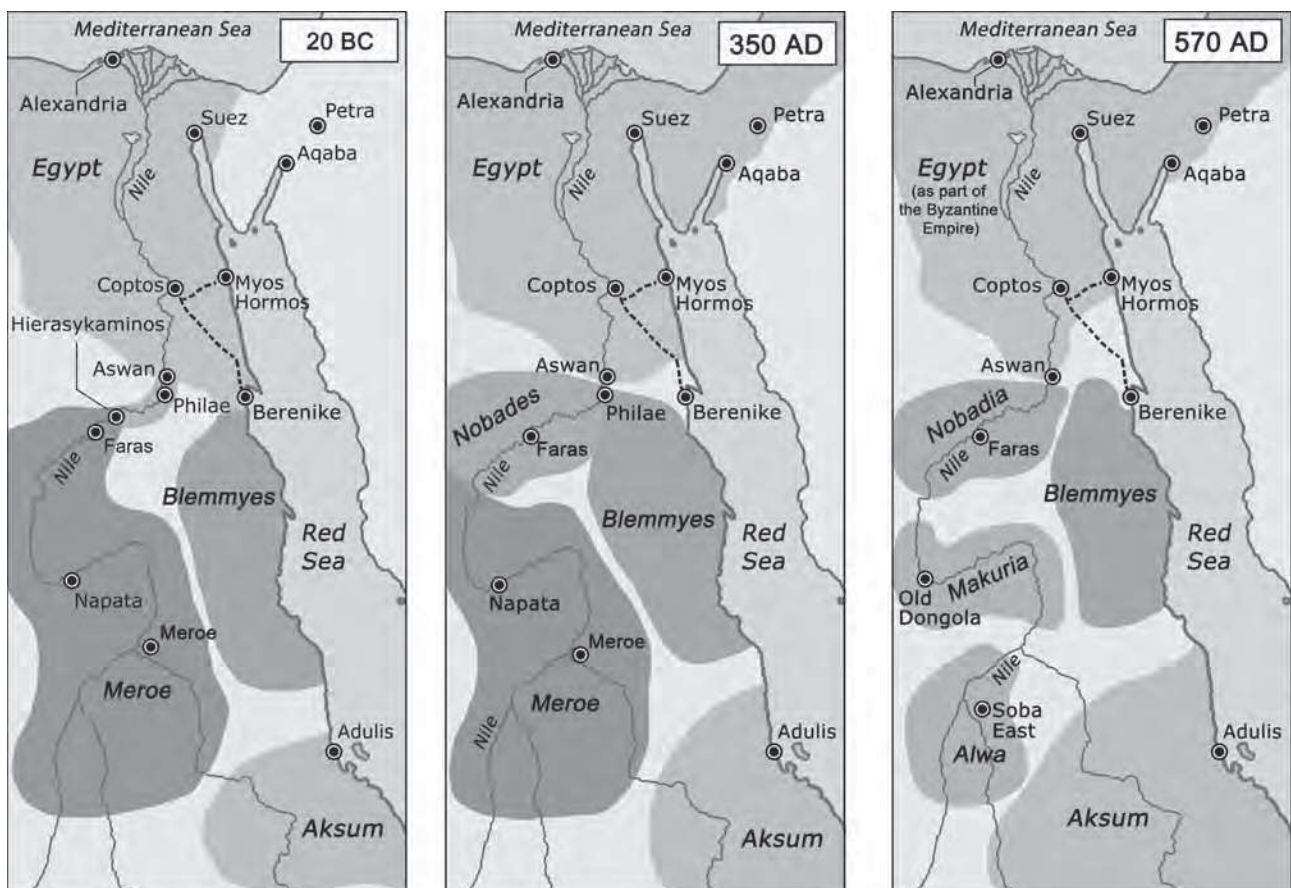
2: Trench BE18/19-116. Stone bust of Sarapis. Scale = 10 cm (photo by S.E. Sidebotham)



3: Trench BE19-124. Circle indicates location of inscription in Pl. IX 1. View looking northwest (photo by S.E. Sidebotham)



1: Trench BE19-124. Inscription in Greek naming Blemmye King Isemne (orthophoto by S. Poplawski)



2: Map indicating approximate location of Blemmyes and Kingdom of Meroe from the late first century BC to the later sixth century AD (drawing by M. Hense)



1: Trenches BE19-129, 130, 131. View looking northwest (photo by S.E. Sidebotham)



2: Trenches BE19-129, 130, 131. View looking west (photo by S.E. Sidebotham)



1: Trenches BE19-129, 130, 131. Trench 131 is at the bottom right, 130 is next to it and to the left, 129 is at top of photo. View looking southeast (photo by S.E. Sidebotham)



2: Trenches 130 (top of photo) and 131 (bottom of photo). Scale = 50 cm (photo by S.E. Sidebotham)



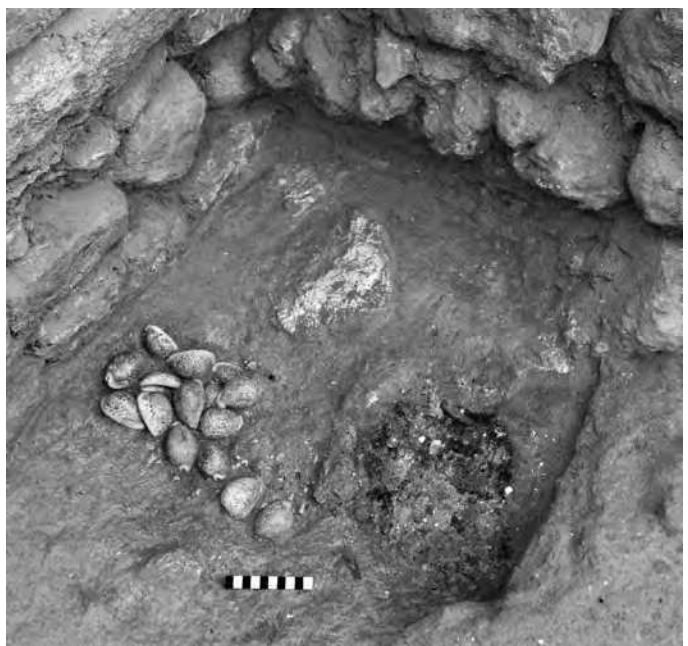
3: Detail of trench 130 (foreground) and (through doorway) of altar in trench 131. View looking west. Scale = 50 cm (photo by S.E. Sidebotham)



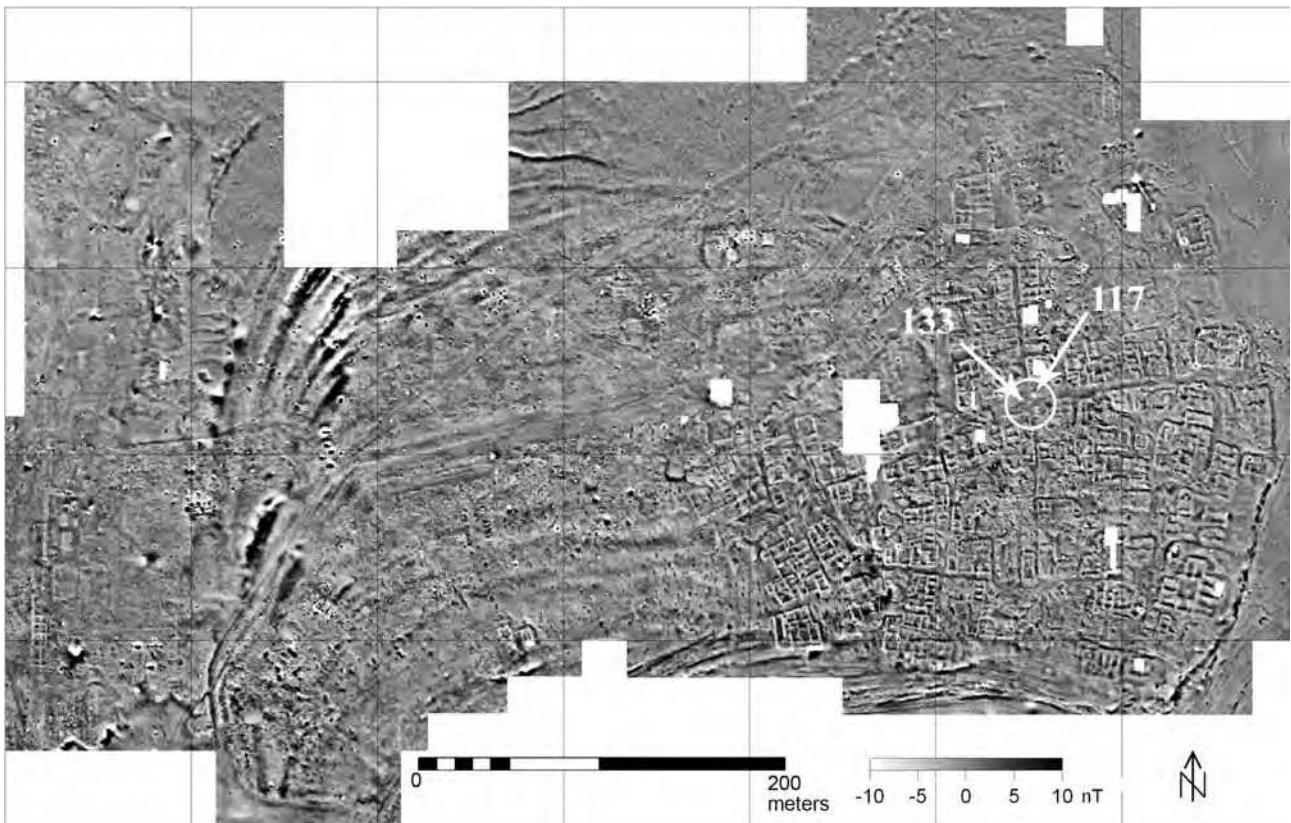
1: Trench BE19-131. Detail of altar and offerings. View looking west. Scale = 50 cm (photo by S.E. Sidebotham)



2: Trench BE19-130. Stele in Egyptian style with Greek inscription prohibiting the boiling of the "head." Scale = 20 cm. photo by S.E. Sidebotham)



3: Trench BE19-130. Northeastern corner of trench. Votive offering of cowrie shells. View looking northeast. Scale = 10 cm (photo by S.E. Sidebotham)



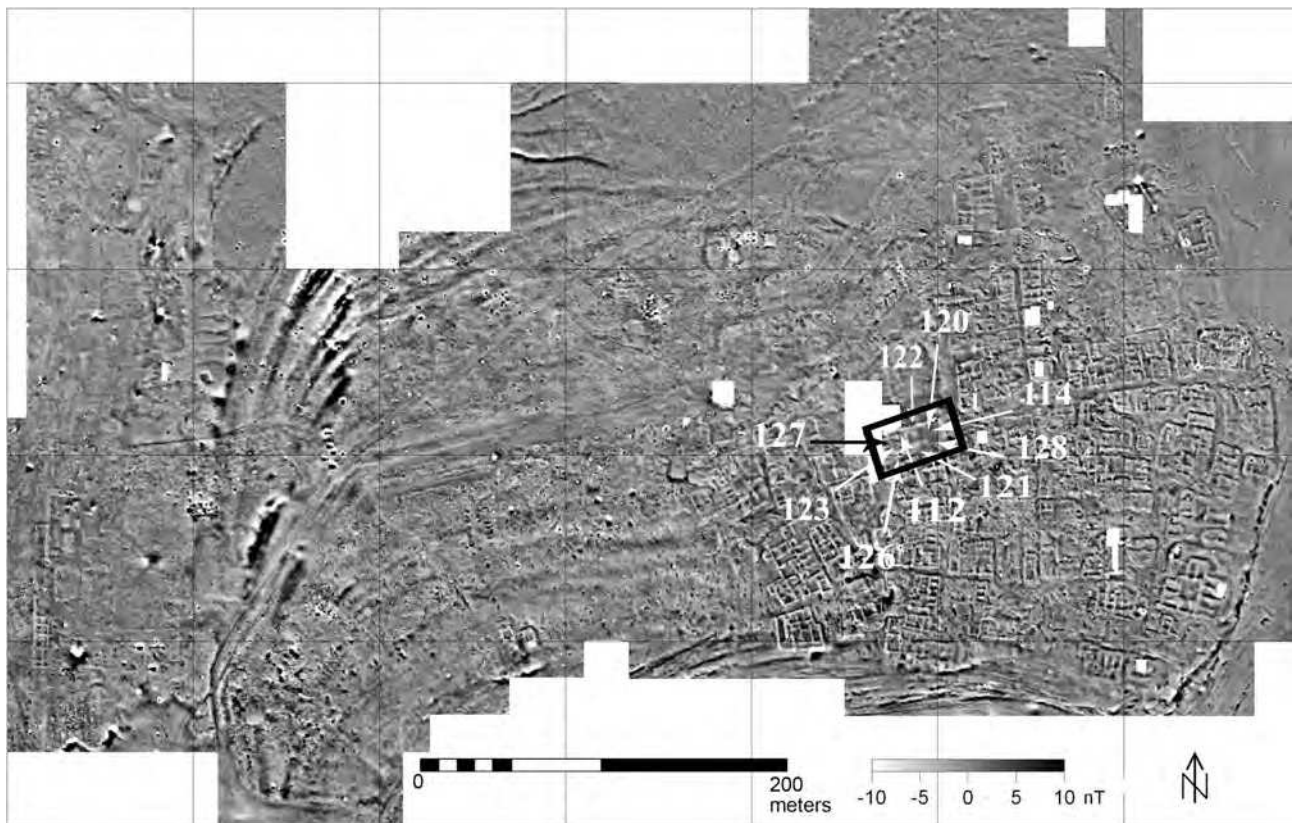
1: Geomagnetic plan of Berenike indicating trenches BE19-133 (the northwestern most pillar of the tetrakionion) and BE18/19-117 (northeastern most pillar of the tetrakionion) (survey by D. Swiech and R. Ryndziewicz. Processed by T.M. Herbich)



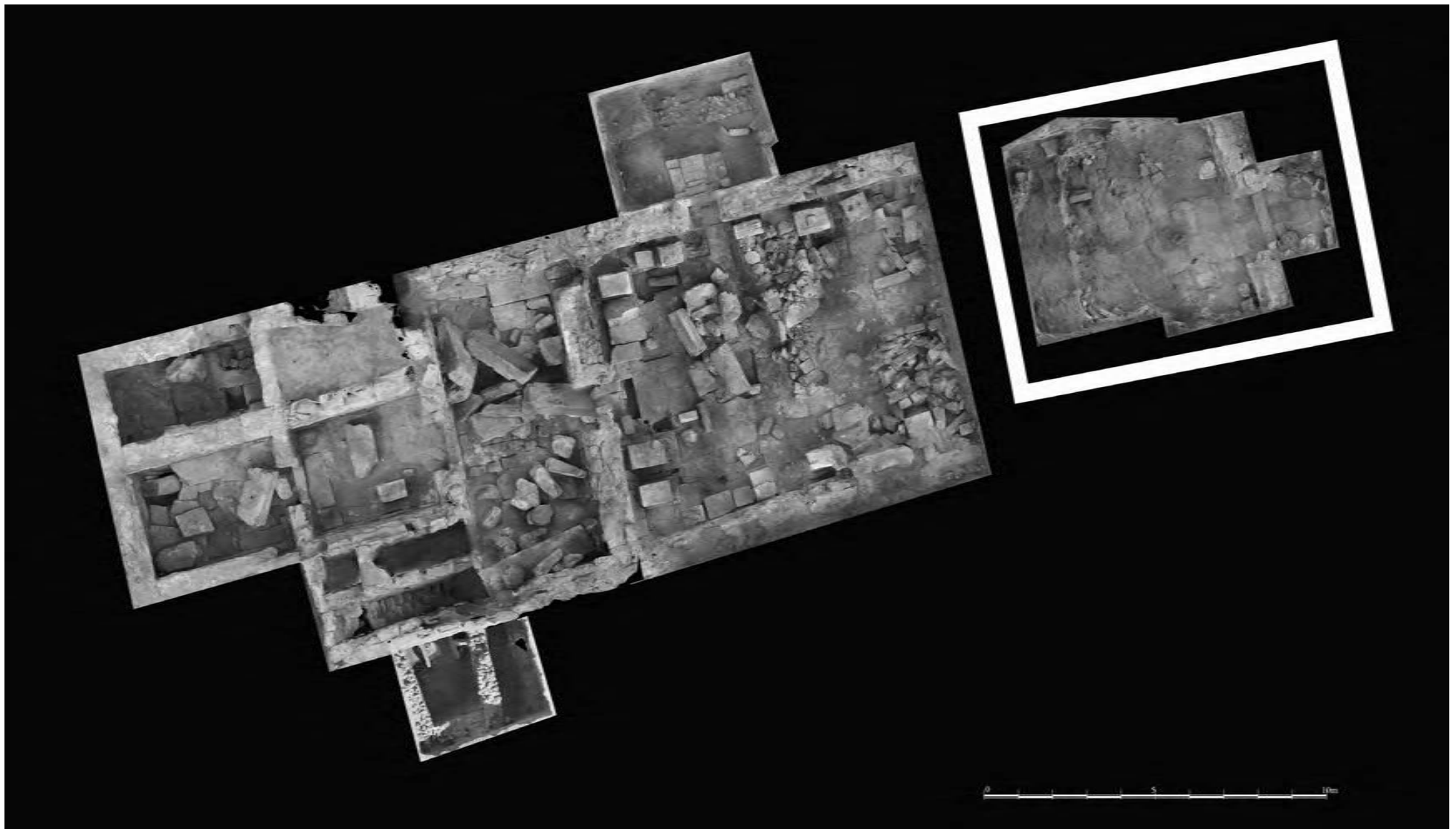
2: Artist's rendition of the tetrakionion at Berenike (drawing by S. Popławski)



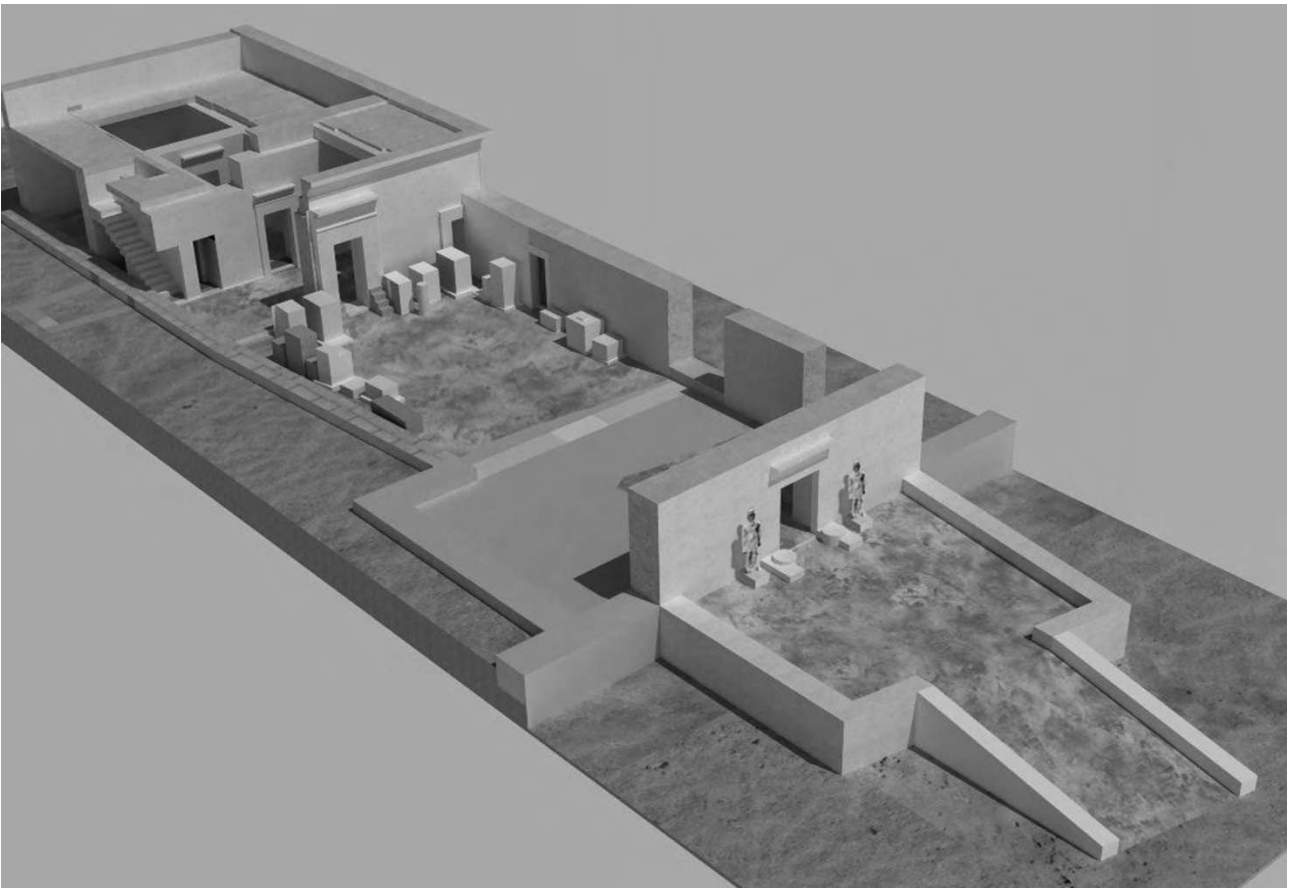
1: Trenches BE18-117 (right) and BE19-133 (left). Two pillars of the tetraklion. View looking north (photo by S.E. Sidebotham)



2: Geomagnetic plan of Berenike indicating trenches in the Isis Temple (survey by D. Swiech and R. Ryndziewicz; processed by T.M. Herbich)



Orthophoto of trenches excavated in and adjacent to the Isis Temple by the end of the 2019 season. White box is the propylon area; trenches BE19-120 (to left) and trench BE18/19-114 (to right) (orthophoto by S. Poplawski)



1: Axonometric reconstructed view of the Isis Temple. View looking northwest (drawing by M. Hense)



2: Trenches BE18/19-114 (to right) and BE19-120 (left). View looking northeast (photo by S.E. Sidebotham)



1: Trench BE18/19-114. Three fragments of top part of life-size stone statue of Meroitic god Sebiumecker. Scale = 1 m (orthophotos by S. Popławski)



2: Trench BE18/19-114. Fragment of relief depicting a vulture wing. Scale = 20 cm (photo by S.E. Sidebotham)



3: Trench BE18/19-114. Joining fragments of a portion of a monumental inscription in Greek. Scale = 10 cm (photo by S.E. Sidebotham)



5: Isis Temple courtyard (trench BE19-121) one side of fragment of a Greek text carved onto a piece of bituminous limestone (other side in Pl. XVII 6). Scale = 5 cm (photo by S.E. Sidebotham)



4: Isis Temple courtyard (trench BE19-121) fragment of a monumental inscription in Greek. Each black and white increment on the scale = 10 cm (photo by S.E. Sidebotham)



6: Isis Temple courtyard (trench BE19-121) other side of fragment of a Greek text carved onto a piece of bituminous limestone (seen in Pl. XVII 5). Scale = 5 cm (photo by S.E. Sidebotham)



1: Isis Temple (not including the propylon area). Area with sandbags is trench BE19-122. View looking southwest (photo by S.E. Sidebotham)



2: Isis Temple (not including the propylon area). Area with sandbags to extreme left is trench BE19-122. View looking east southeast (photo by S.E. Sidebotham)



1: Isis Temple (not including the propylon area). Area with sandbags is trench BE19-122. View looking east (photo by S.E. Sidebotham)



2: Trench BE19-127. Northwest corner of trench. Bark stand with cartouche of the Roman Emperor Tiberius (reigned 14-37 AD) (see another side of the bark stand in Pl. XX 3). View looking west. Scale = 20 cm (photo by S.E. Sidebotham)



1: Trench BE15/18/19-112. Bronze statuette of seated Isis nursing the infant Horus. Scale = 5 cm (photo by S.E. Sidebotham)



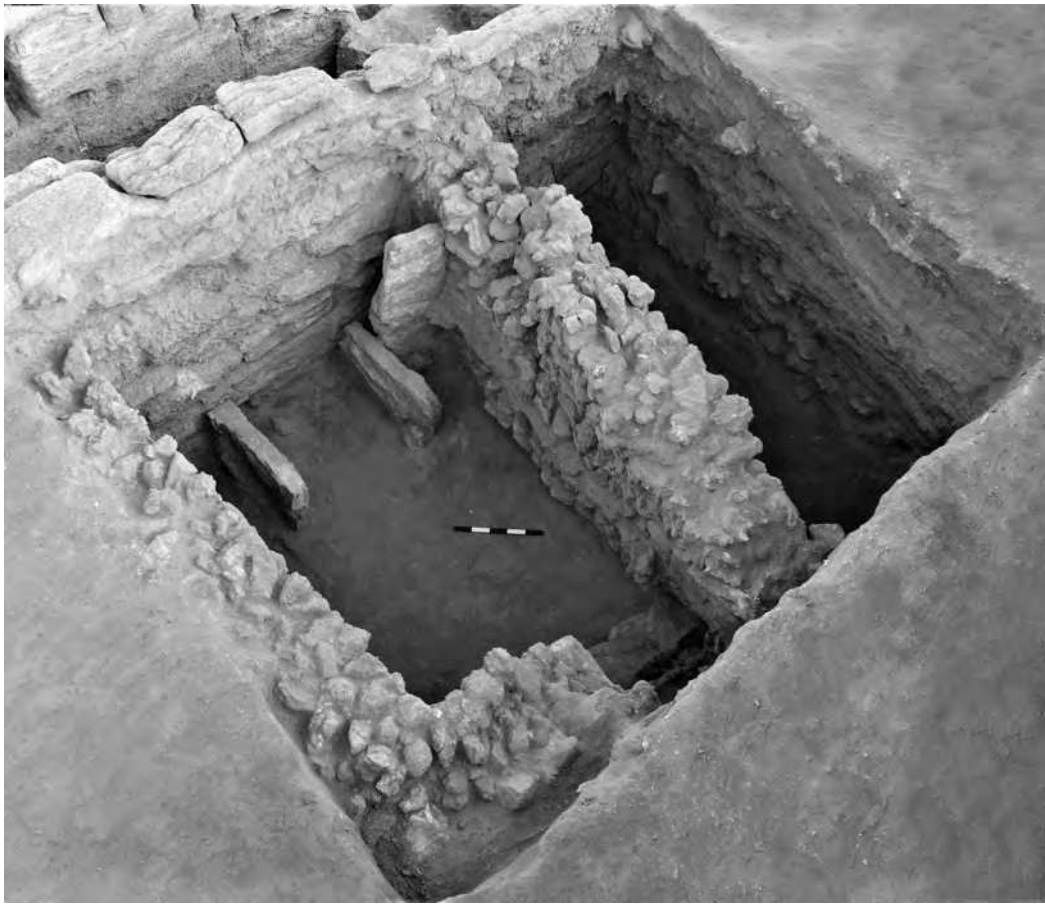
2: Trench BE15/18/19-112. Female goddess with a short garment (Artemis?). Note reworked bottom for insertion into a base. Scale = 10 cm (photo by S.E. Sidebotham)



3: Trench BE19-127. Another side of the bark stand in Pl. XIX 2. View looking north. Scale = 10 cm (photo by S.E. Sidebotham)



4: Trench BE19-122. View looking east (photo by S.E. Sidebotham)



1: Isis Temple. Trench 126 (at end of excavations). View looking northeast. Scale = 50 cm (photo by S.E. Sidebotham)



2: Isis Temple. Southwestern end. Trench BE19-126 in front of Bedouin. View looking west northwest (photo by S.E. Sidebotham)



1: Trench BE19-126. Stela depicting (at top) three South Asian figures, possibly deities. Scale = 20 cm (photo by S.E. Sidebotham)



2: From left to right: Helmeted warrior from Trench BE19-116, half head of female from Trench BE18-113, Buddha head from Trench BE19-126. Scale = 10 cm (photo by M. Bergmann)



1: Trench BE19-126. Small stone head of Buddha. Scale = 5 cm (photo by S.E. Sidebotham)



2: Trench BE19-126. Small stone head of Buddha (in Pl. XXIII 1) showing topknot. Scale = 5 cm. (photo by S.E. Sidebotham)



3: Trench BE18-113. Small stone head (partial gilding extant) of Isis. Scale = 5 cm (photo by S.E. Sidebotham)



4: Trench BE19-126. Small stone head of Buddha (in Pl. XXIII 1) left profile. Scale = 5 cm (photo by S.E. Sidebotham).



1: Trench BE19-126. Head of Sarapis made of fig wood. Scale = 5 cm (photo by S.E. Sidebotham)



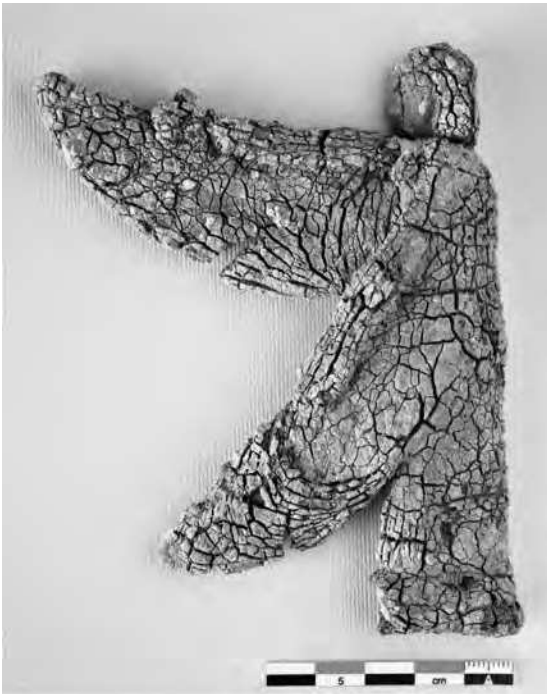
2: Trench BE19-126. Bust of Sarapis made of teak wood. Scale = 20 cm (photo by S.E. Sidebotham)



3: Trench BE19-126. Detail of bust of Sarapis (in Pl. XXIV 2) (photo by S.E. Sidebotham)



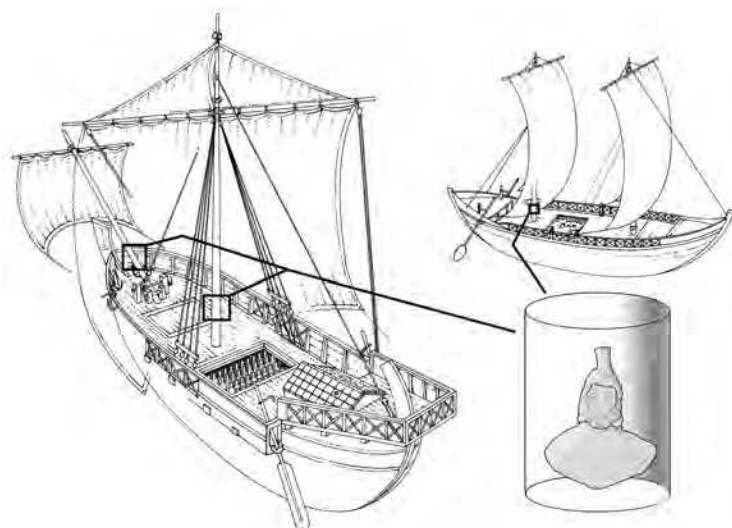
4: Trench BE19-126. Second (larger) bust of Sarapis made of teak wood. Scale = 10 cm (photo by S.E. Sidebotham)



5: Trench BE19-126. Bronze image of winged Isis. Scale = 5 cm (photo by S.E. Sidebotham)



6: Trench BE19-126. Fragment of stone statuette of Poseidon. Scale = 10 cm (photo by S.E. Sidebotham)



7: Artist's rendition of possible sources of teak for the two teak Sarapis busts (drawing by M. Hense)



1: Trench BE19-126. Bronze statuette of a male dancer or acrobat (another view in Pl. XXV 2). Scale = 5 cm (photo by S.E. Sidebotham)



2: Trench BE19-126. Another view of statuette of a male dancer or acrobat illustrated in Pl. XXV 1. Scale = 5 cm (photo by S.E. Sidebotham)



3: Trench BE19-126. Bronze statuette of Meroitic deity Arensnuphis. Scale = 5 cm (photo by S.E. Sidebotham)



4: Trench BE19-126. Small relief monument depicting the bust of Sarapis (the missing head was once attached by a dowel) borne by an eagle, who crouches on a globe. Scale = 10 cm (photo by S.E. Sidebotham)



5: Trench BE19-126, Bronze statuette (protome?) of Horus. Scale = 5 cm (photo by S.E. Sidebotham)