



# REVUE DES ETUDES ANCIENNES

TOME 124  
2022 – N°1

UNIVERSITÉ BORDEAUX MONTAIGNE

## A NEW 'ENIGMATIC SETTLEMENT' DISCOVERED IN THE EASTERN DESERT OF EGYPT: ZABARA NORTHWEST

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*Résumé.* – Une prospection récente dans la région de l'ancien Mons Smaragdus (à l'intérieur du parc national de Wadi Gemal) dans le désert oriental d'Égypte a mis au jour une installation jusque-là inconnue appelée Zabara Northwest. Son emplacement, son apparence et ses dates d'occupation ressemblent à ces «enigmatic settlements» précédemment étudiés dans la région. Le site nouvellement localisé s'ajoute au corpus de peuplements de fonction inconnue apparaissant à la fin de la période romaine / byzantine dans le désert oriental. Ce rapport préliminaire propose une hypothèse sur la fonction du site et note, avec inquiétude, à quel point l'actuelle exploitation non réglementée des ressources naturelles dans la région représente une menace imminente pour sa préservation.

*Abstract.* – A recent survey in the region of the ancient Mons Smaragdus (inside Wadi Gemal National Park) in the Eastern Desert of Egypt recorded a previously unknown settlement called Zabara Northwest. Its location, appearance and dates of occupation resemble those “enigmatic settlements” previously studied in the region. The newly located site adds to the corpus of settlements of unknown function that appeared in the Late Roman/Byzantine period in the Eastern Desert. This preliminary report proposes a hypothesis about the site's function and notes, with alarm, how current unregulated exploitation of natural resources in the region represents an imminent threat to its survival.

*Mots-clés.* – Désert oriental, Wadi Gemal, Zabara Nord-Ouest, *enigmatic settlements*, Blemmyes, période romaine tardive.

*Keywords.* – Eastern Desert, Wadi Gemal, Zabara Northwest, *enigmatic settlements*, Blemmyes, Late Roman period.

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During January 2018,<sup>1</sup> members of the Sikait Project/Berenike Project visited the northern area of Wadi Gemal National Park, in the Eastern Desert (fig. 1), to continue survey work begun during the 1980s.<sup>2</sup> The latter project recorded archaeological sites and roads, especially those from the Ptolemaic-Roman period.<sup>3</sup> The current Sikait Project studies evidence for emerald extraction and trade in Roman times.

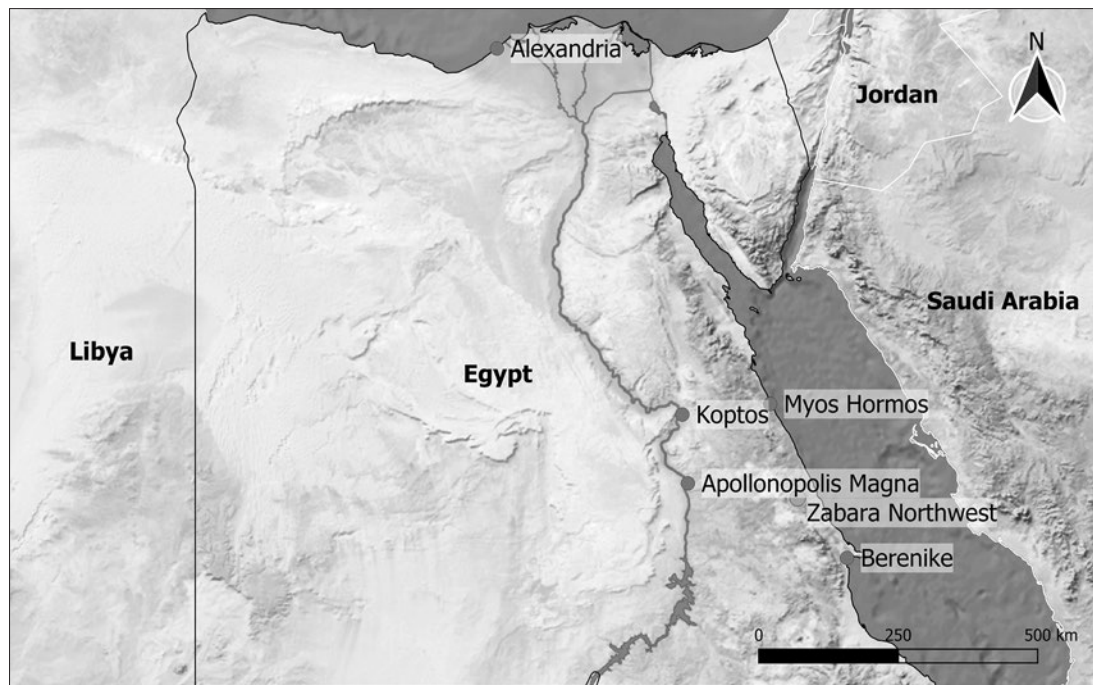


Figure 1: Location of Zabara Northwest within Roman Egypt (source: authors).

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1. The Sikait Project is based at the *Universitat Autònoma de Barcelona* and works in scientific partnership with the Polish Centre of Mediterranean Archaeology in Cairo. In the case of the Berenike Project, it is a joint mission between the University of Delaware (USA) and the Polish Centre of Mediterranean Archaeology. We want to thank the Egyptian Ministry of Antiquities for granting the corresponding 2018 permits for surveying the areas around the emerald mines in the Wadi Gemal National Park. The *Fundación PALARQ* provided financial support for this project.

2. By S.E. Sidebotham from the University of Delaware, USA.

3. The results of this work, which also combined the results of expeditions conducted by the University of Delaware and the University of Michigan, have been recently published: S.E. SIDEBOTHAM, J.E. GATES-FOSTER, J.-L. RIVARD eds., *The Archaeological Survey of the Desert Roads between Berenike and the Nile Valley. Expeditions by the University of Michigan and the University of Delaware to the Eastern Desert of Egypt, 1987-2015*, Boston 2019.

Since ancient times the local green-colored gemstone consisting of the chromium and/or vanadium variety of beryl, an aluminium-beryllium silicate, has attracted commercial interest.<sup>4</sup> The Mons Smaragdus region was the only known source for this gemstone within the confines of the Roman Empire. Strabo (*Geog.* 17.1.45), Pliny the Elder (*NH* 37.17.65, 37.18.69), Claudius Ptolemy (*Geog.* 4.5.8), Olympiodorus (*FHN* 3.309), the fourth-century monk and bishop Epiphanius (*FHN* 3.305) and the sixth-century monk Cosmas Indicopleustes (*Christian Topography* 11.21), provide details regarding emerald mining in this region, which they call ὄρος Σμάραγδος.

Fieldwork during the 2018 season focused primarily on excavations at Sikait, the most impressive of the emerald mining settlements in the region.<sup>5</sup> However, the project also undertook surveys including visits to well-known settlements to ascertain their general states of preservation. During a trip to the emerald mining settlement at Zabara,<sup>6</sup> the project located a previously undocumented ancient site. As it is a few kilometres northwest of the settlement at Zabara, the team decided to name it "Zabara Northwest" (fig. 2).

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4. D. SCHWARZ, K. SCHMETZER, «The definition of emerald: the green variety of beryl coloured by chromium and/or vanadium» in *Emeralds of the world, ExtraLapis English 2: The legendary green beryl*, East Hampton 2002, p. 74-78. Regarding the geology of this area and the geological characteristics of the Wadi Gemal emeralds, see: I. SHAW, J. BUNBURY, R. JAMESON, «Emerald mining in Roman and Byzantine Egypt», *JRA* 12, 1999, p. 203-215; G. GIULIANI, M. CHAUSSIDON, H.-J. SCHUBNEL, D.H. PIAT, C. ROLLION-BARD, C. FRANCE-LANORD, D. GIARD, D. DE NARVAEZ, B. RONDEAU, «Oxygen isotopes and emerald trade routes since antiquity», *Science* 287, 2000, p. 631-33; J.A. HARRELL, «Archaeological geology of the world's first emerald mines», *Geoscience Canada* 31/2, 2004, p. 69-76; J.A. HARRELL, «Archaeological geology of Wadi Sikait», *PalArch's Journal of Archaeology of Egypt/Egyptology* 4/1, 2006, p. 1-12.

5. For the site of Sikait, see: J.-L. RIVARD, B.C. FOSTER, S.E. SIDEBOTHAM, «Emerald City», *Archaeology* 55, May/June 2002, p. 36-41; S.E. SIDEBOTHAM, H.M. NOUWENS, A.M. HENSE, J.A. HARRELL, «Preliminary Report on Archaeological Fieldwork at Sikait (Eastern Desert, Egypt), and Environs: 2002-2003», *Sahara* 15, 2004, p. 7-30; B.C. FOSTER, J.-L. RIVARD, S.E. SIDEBOTHAM, H. CUVIGNY, «Survey of the Emerald Mines at Wadi Sikait. 2000/2001 seasons» 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, p. 304-343; S.E. SIDEBOTHAM, M. HENSE, M. NOUWENS, *The Red Land. The Illustrated Archaeology of Egypt's Eastern Desert*, Cairo-New York 2008; S.E. SIDEBOTHAM, *Berenike and the Ancient Maritime Spice Route*, Los Angeles 2011; S.E. SIDEBOTHAM, J.E. GATES-FOSTER, J.-L. RIVARD eds., *op. cit.* n. 3, p. 136-145; J. OLLER, D. FERNÁNDEZ, V. TREVÍN, O. ACHON, «La explotación de esmeraldas en el Egipto romano. Primeros resultados del Sikait Project», *Trabajos de Egiptología* 10, 2019, p. 283-303; J. OLLER, D. FERNÁNDEZ, V. TREVÍN, O. ACHON, S. GARCÍA-DILS, «New evidence regarding emerald production in Roman Egypt at Wadi Sikait (Eastern Desert)», *JNES* 80/1, 2021, p. 123-142.

6. The settlements at Zabara have been previously visited and described, but no detailed survey producing a plan of the site or analysis of the finds has been undertaken. For earlier work see: J. BRUCE, *Travels to Discover the Source of the Nile, in the Years 1768, 1769, 1770, 1771, 1772 and 1773*, Dublin 1790, p. 213-216 may refer to Zabara. A few travelers have accused Bruce of falsifying some of his descriptions or basing them on second-hand accounts; F. CAILLIAUD, *Voyage à l'Oasis de Thèbes et dans les déserts situés à l'Orient et à l'Occident de la Thèbaïde*, Paris 1821, p. 60-62 and 70-71; G.B. BELZONI, *Narrative of the operations and recent discoveries within the pyramids, temples, tombs and excavations in Egypt and Nubia*, London 1820, p. 86-89 for Sikait (Sakiet), and



Unfortunately, lack of time prevented detailed examination of the site, but preliminary documentation included photography, drawing a sketch plan, and recovery and analysis of surface pottery. This paper offers a preliminary assessment of the features, chronology, and possible function of Zabara Northwest. Publications like this are critical as increasing dangers to Eastern Desert sites in recent years, such as looting, vandalism, increased tourism, and illegal gold mining, have negatively impacted the area. In this context, it is important to document and publish as many ancient sites as possible, and to preserve some record of their historical and archaeological importance.

### 1. – THE SITE OF ZABARA NORTHWEST

Zabara Northwest lay at the eastern base of the Gebel Zabara mountain range, in a secondary dead-end wadi branching from Wadi Ghadir, 4 km northwest of the site of Zabara. It is a long and narrow settlement covering an area of approximately 250 m N-S x 420 m E-W (ranging from 24° 47.17' N/34° 41.04' E to 24° 47.14' N/34° 40.51 E). The survey identified 30

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transcription and translation of some Greek inscriptions there. He also cites Cailliaud. Also see, Belzoni's Plates 33 and 35; "Great shaft of the emerald mines Gebel Zabarra", drawing by J.G. WILKINSON Ms.S. WILKINSON, XLV D.15 (courtesy Bodleian Library, Oxford); see also J.G. WILKINSON, *Hand-book for travellers in Egypt: including descriptions of the course of the Nile to the second cataract, Alexandria, Cairo, the Pyramids, and Thebes, the overland transit to India, the peninsula of Mount Sinai, the oases*, Massachussets 1847, p. 403; G. FORNI, *Viaggio nell'Egitto e nell'Alta Nubia*, 2, Milan 1859, p. 120-26; E.A. FLOYER, «Mines of the Northern Etbai or of Northern Aethiopia. With a Map, Water-colour Drawings and Photographs by the Scientific Expedition to the Northern Etbai», *Journal of the Royal Asiatic Society* 24, 1892, p. 828; E.A. FLOYER, *Étude sur le Nord Etbai entre le Nil et la Mer Rouge*, Cairo 1893, p. 26; E.A. FLOYER, «Further Routes in the Eastern Desert», *Geographical Journal* 1/5, 1893, p. 424-25; J. BALL, *The Geography and Geology of South-Eastern Egypt*, Cairo 1912, p. 169-170 and 345; G.W. MURRAY, «The Roman Roads and Stations in the Eastern Desert of Egypt», *JEA* 11, 1925, p. 144-145; F.W. HUME, *Geology of Egypt*, II. *The Fundamental Pre-Cambrian Rocks of Egypt and the Sudan; their Distribution, Age, and Character Part I. The Metamorphic Rock*, Cairo 1934, p. 110-111, 114, 117-18; *Id.*, *Geology of Egypt*, II. *The Fundamental Pre-Cambrian Rocks of Egypt and the Sudan; their Distribution and Character Part III. The Minerals of Economic Value*, Cairo 1937, p. 690, 965; D. MEREDITH, «The Roman Remains in the Eastern Desert of Egypt (continued)», *JEA* 39, 1953, p. 103; *Id.*, *TABVLA IMPERII ROMANI: Map of the Roman Empire, Sheet N.G. 36 – Coptos*, Oxford 1958, map sheet; M.A. HASSAN, H.M. EL SHATOURY, «Beryl occurrences in Egypt», *Mining Geology* 26, 1976, p. 253-262; O. GRUBESSI, C. AURISICCHIO, A. CASTIGLIONI, «Lo Smeraldo delle miniere dei faraoni/The Pharaoh's Emerald Mines», *La Gemmologia* 14/1-2, 1989, p. 7-21; O. GRUBESSI, C. AURISICCHIO, A. CASTIGLIONI, «The Pharaohs' forgotten emerald mines», *Journal of Gemmology* 22/3, 1990, p. 164-177; R.H. JENNINGS, R.C. KAMMERLING A. KOVALTCHUK, G.P. CALDERON, M.K. EL BAZ, J.I. KOIVULA, «Emeralds and green beryls of Upper Egypt», *Gems & Gemology* 29/2, 1993, p. 107-08; I. SHAW, «Sikait-Zubara» in K.A. BARD ed., *Encyclopedia of the Archaeology of Ancient Egypt*, London-New York 1999, p. 731-733; I. SHAW, J. BUNBURY, «A petrological study of the emerald mines in the Egyptian Eastern Desert» in N. MOLONEY, M.J. SHOTT eds., *Lithic Analysis at the Millennium*, London 2003, p. 207; G. GRUNDMANN, G. MORTEANI, «Multi-Stage Emerald Formation during Pan-African Regional Metamorphism: The Zabara, Sikait, Umm Kabo Deposits, South Eastern Desert of Egypt», *Journal of African Earth Sciences* 50, 2008, p. 171; T. POWER, *The Red Sea from Byzantium to the Caliphate AD 500-1000*, Cairo 2012, p. 24, 37, 154-155 and 228.

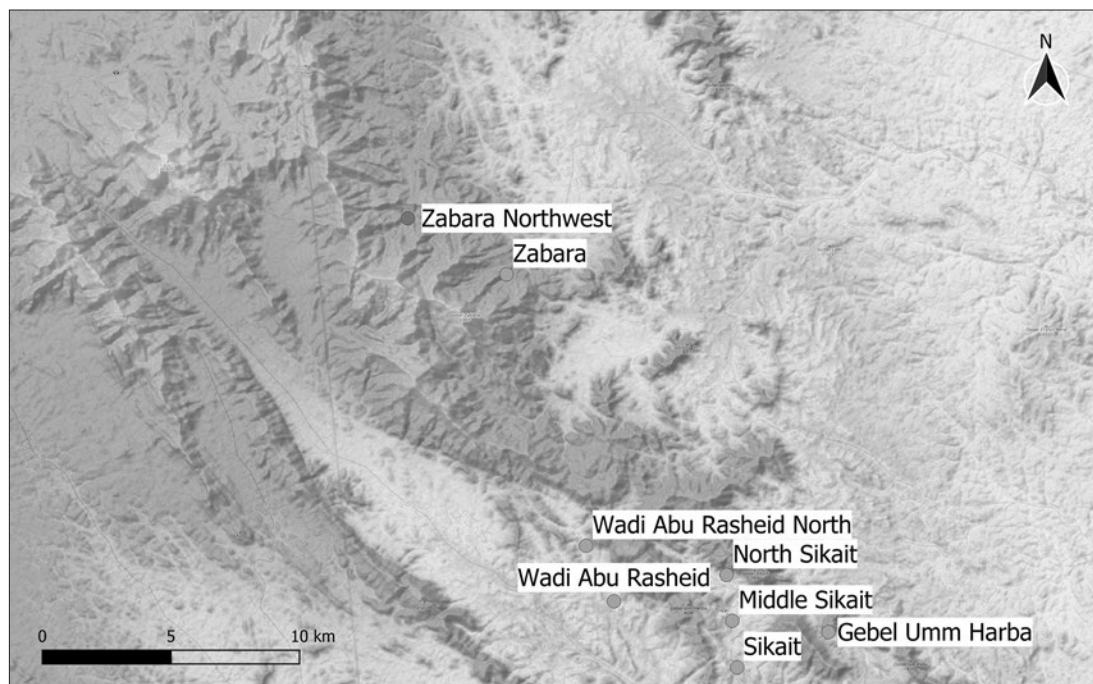


Figure 2: Location of Zabara Northwest in the Mons Smaragdus region (source: authors).

structures (fig. 3). However, satellite images from Google Earth show that at least four edifices had been destroyed between 2011 and 2017. It is likely that floods over the centuries have washed away other structures as well.

The general condition of the architectural features is poor due mainly to their simplicity and basic construction techniques. The settlement is in three separate areas, each with clusters of small buildings. The three zones are flat natural terraces connecting the wadi floor with the surrounding hills. It is impossible to know if these originally formed a single residential area as water erosion coming from the mountains has partially altered the appearance of the wadi since the time the settlement was built and inhabited (fig. 4).

The first concentration (“Area A”) lies at the eastern edge of the site, on a small sandy terrace with five extant structures. Approximately 180 m west and northwest of this point, another terrace rises on the eastern edge of a ridge that divides the wadi in two. This western and northwestern terrace (“Area B”) preserves 23 structures (27 if we consider the buildings here prior to about 2011). Finally, the last zone (Area C) is on the southwestern edge of the site, atop a small sandy elevation in the middle of the wadi, which preserves two structures.

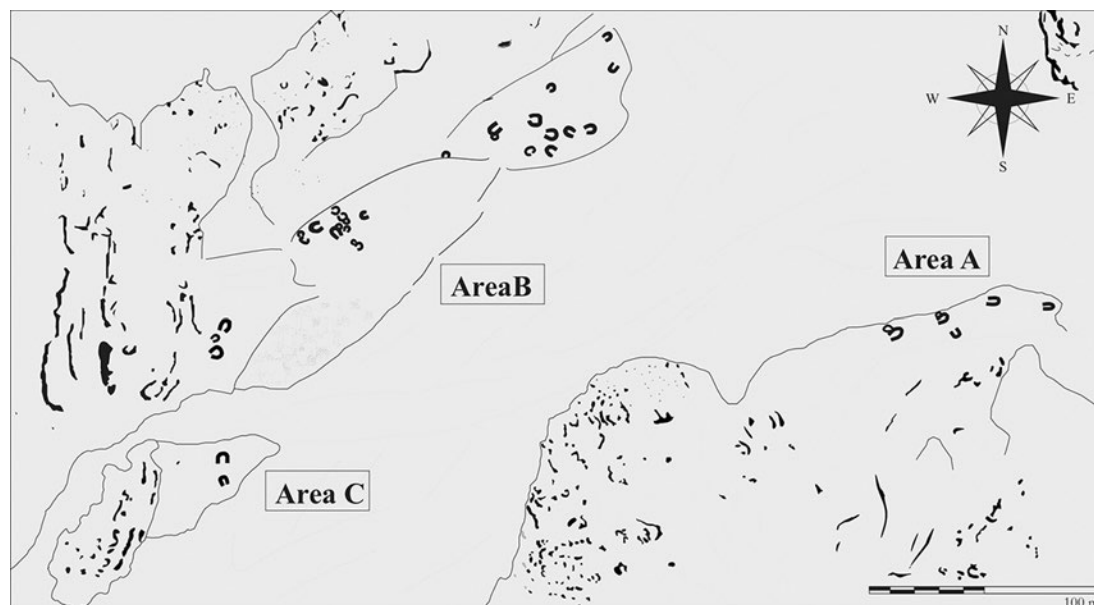


Figure 3: Sketch plan of the site with the three areas of concentration (source: authors).



Figure 4: View from the west of the wadi in which Zabara Northwest is located (source: authors).



Despite some variations, the structures are simple, mostly single-room buildings or huts of circular or rectangular shape that share the same basic construction techniques (fig. 5). The walls, between 0.40 m and 1 m high, consist of locally available unworked boulders and cobbles arranged without mortar. In some cases, the structures have walls made of local stone slabs stuck in the ground, always in a circular shape and with small dimensions (see Group II below). Almost none of the structures preserve internal architectural elements, such as partition walls. There is practically no tumble associated with them. This suggests that the original wall heights were not much greater, implying either no superstructures or superstructures made of less permanent materials, such as walls and roofs made of wood, matting, leather, cloth or canvas.<sup>7</sup> It is worth highlighting, too, that there is no evidence for hearths either inside or outside the structures. Surface finds consisted of potsherds indicating a Late Roman period of occupation (see below).



Figure 5: View of Area B from the west. In the central right part of the image (circled), are two members of the team for scale (source: authors).

The structures fall into three groups.<sup>8</sup> Group I comprises most of the structures documented (22 or 64% of the total). These are small single-room huts that are circular or rectangular in plan, with the former being the more common (fig. 6-7). Dimensions vary, but they do not

7. As still used by the 'Ababda Bedouins: S.E. SIDEBOTHAM, H. BARNARD, G. PYKE, «Five Enigmatic Late Roman Settlements in the Eastern Desert», *JEA* 88, 2002, p. 189.

8. We follow here the same type of classification previously used in similar settlements by S.E. SIDEBOTHAM, H. BARNARD, G. PYKE, *ibid.*



exceed a diameter of 2 m or 3 m x 2 m if rectangular. They appear in all three areas of the site. The features, dimensions and materials recovered suggest that they were for domestic use, probably not for long stays but, more likely, for seasonal residence.



Figure 6: Example of one of the rectangular shaped structures of Group 1 in Area B. The dimensions are 3 m long by 2 meters wide. View from the southwest (source: authors).

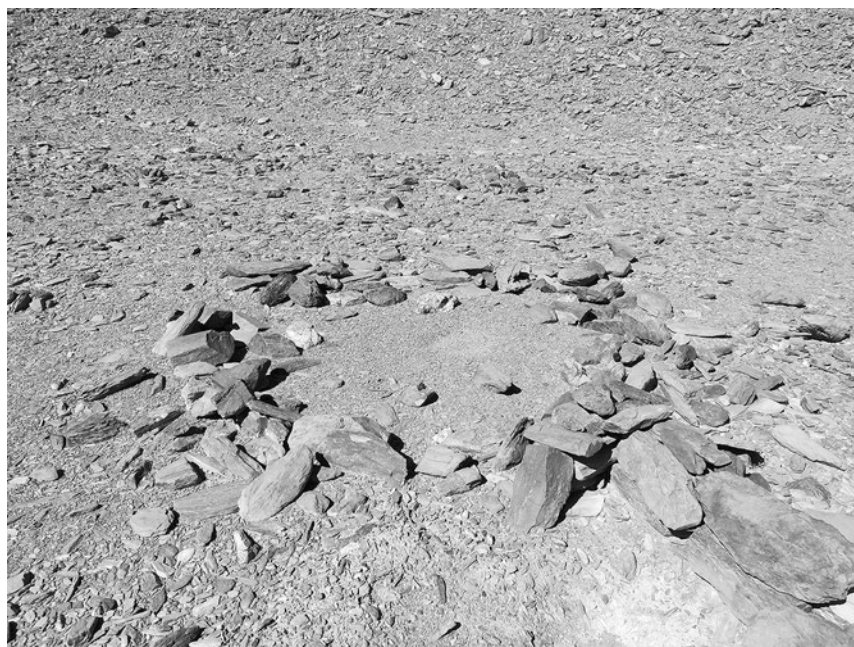


Figure 7: Example of one of the circular shaped structures of Group 1 in Area B, with a diameter of 1.30 m (source: authors).

Group II includes several structures that present a different shape and typology (seven structures, 20% of the total). For example, there are cases in which the walls are made of small and medium-sized stone slabs vertically inserted in the ground, with a narrow entrance on one side (fig. 8-9).<sup>9</sup> The dimensions of these spaces never exceed 2 meters in diameter, being normally ca. 1 to 1.5 m. The height of the walls is ca. 0.40-0.50 m, with a distinctive circular or oval shape. This type of construction only appears in Area B, both in isolation and as part of slightly more complex edifices. The survey noted seven structures of this type. Their dimensions and manner of construction, and the fact that, in some cases, they appear appended to one of the huts or domestic spaces from Group I, suggest that they may have been animal pens, probably to accommodate livestock during the night. If this is correct, then we must assume that, as with the domestic spaces, other, perishable materials completed the structure to prevent animals from escaping.<sup>10</sup>



Figure 8: Example of one of the “Group II” structures in Area B, with a diameter of 1 m (source: authors).

9. There is no regular pattern to the location of entrances, and they survive on any side of the houses/huts. This could be evidence for seasonal occupation; the brevity of the stay made location of such features less relevant.

10. Similar structures have been identified in other sites in the region. Possible functions include animal enclosures, small gardens or yards for working: S.E. SIDEBOTHAM, H. BARNARD, G. PYKE, *op. cit.* n. 7, p. 189; S.E. SIDEBOTHAM, «Preliminary Report on the 1990-1991 Seasons of Fieldwork at ‘Abu Sha’ar (Red Sea Coast)», *JARCE* 31, 1994, p. 157; S.E. SIDEBOTHAM, «University of Delaware fieldwork in the Eastern Desert of Egypt, 1993», *Dumbarton Oaks Papers* 48, 1994, p. 267.





Figure 9: Another example of structure included in the Group II in Area B, with an approximate diameter of 1.50 m (source: authors).

Some of these structures had been robbed at some undetermined point. This initially suggested that they were graves. However, at other *necropoleis* in the Eastern Desert, such as at Sikait or Berenike, looted graves usually contain an abundance of related material damaged and discarded during looting, including potsherds, bone fragments, pieces of glass, etc. At Zabara Northwest the survey documented no such items either inside or around the structures; especially remarkable was the lack of bone fragments. This, and the shape of the features, which were not typical of other graves in the region, suggest a different function, perhaps as animal enclosures or diminutive storage/working areas.<sup>11</sup>

Group III includes more complex edifices comprising two rooms. The survey identified five such structures, all in Area B. These are the largest constructions, which normally comprise a circular or rectangular structure and a small annex. In some cases, the Group III structures represent a combination of Groups I and II, with a hut of circular or rectangular shape joined to a small room, probably for storage or as an enclosure for livestock (fig. 10-11). These

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11. For a summary of burial customs in the Late Roman period in the Eastern Desert: G. LASSÁNYI, «On the archaeology of the native population of the Eastern Desert in the first-seventh centuries CE» in H. BARNARD, K. DUISTERMAAT eds., *The History of the Peoples of the Eastern Desert*, Los Angeles 2012, p. 262-265; for burials at Berenike see S.E. SIDEBOTHAM, «Religion and Burial at the Ptolemaic-Roman Red Sea Emporium of Berenike, Egypt», *African Archaeology Review* 31, 2014, p. 622-24.

two-room edifices may indicate facilities for more prominent inhabitants of the settlement, with a larger residential zone that included areas for economic activities such as animal husbandry. However, even the largest of these structures was still small (3 m x 2 m).



Figure 10: Example of a complex structure, composed of a rectangular Group I type building (dimensions of 3 m long x 1.80 wide) with a small Group II structure added at the western wall (diameter = 1 m), located in Area B. View from the south.

Figure 11: Another example of a complex structure in West Zabara, with a main rectangular room (2.30 m long x 1.80 m wide) and the addition of a small circular space to the east (diameter = 1.20 m), located in Area B. View from the south.





## 2. – THE SMALL FINDS

The small finds documented during the survey comprise ceramics collected from the surface around structures mainly in Area B. They provide a general overview of the chronology and kinds of vessels present at Zabara Northwest. The material has been divided into the following categories: transport wares, which conveyed comestibles, coarse storage wares, vessels used for storing food and liquids, and a single example of an imported moulded fine ware table vessel. The survey gathered 29 diagnostic pieces among the existing surface pottery from the site. Because only photographic documentation was available, the project created a simple typology and only approximate dating.

Most of the pottery collected from the surface at Zabara Northwest dates to the fourth to seventh century AD (table 1). The assemblage represents a variety of fabrics, which cannot be discussed in detail because of the lack of macro-optic analysis, although some could be readily identified and are discussed below.

Early variants of Late Roman Amphora 1 (LRA1 fragments of types 1A and 1A transitional) dating from the fourth to end of the fifth century dominate the transport wares.<sup>12</sup> The LRA1 originated in Cilicia or Cyprus,<sup>13</sup> and was predominantly a wine container.<sup>14</sup> In addition to four handles with characteristic ridge in the mid-section and two fragments of a neck, there were also two pieces (single body and neck sherds) with letters written in red ink. One of the texts is a *titulus pictus* painted just below the neck of the vessel; it measures 3 cm long x 2.8 cm high (fig. 12, upper image). The text is cut off on the bottom but appears to be from a monogram (rather than part of a cross). One can possibly read *theta* plus an unidentified letter: θ.

The second fragment (fig. 12, lower image) contains what appear to be two unrelated *dipinti*, possibly written by the same hand, which we are inclined to assign to the late fourth or, perhaps more likely, the fifth century. The main text, located in the center-left part of the vessel, occupies three lines. The first line has the name Johannes (spelled with one v) in the genitive case, “of Johannes,” which is presumably the wine producer. The second line also

Typology	Dating
LRA 1 (19 fr.)	4th to 5th century AD
LRA 7 (5 fr.)	4th to 7th century AD
Aswan Amphora (1 fr.)	Late Antiquity
Aswan Jug (1 fr.)	Late Antiquity (?)
Aswan FW Bowl (1 fr.)	4th to 6th century AD
Marl Clay Jar (2 fr.)	Early Roman (?)

Table 1: Summary of the pottery assemblage recovered in Zabara Northwest (source: authors).

12. D. PIERI, *Le commerce du vin oriental à l'époque byzantine*, Beyrouth 2005, p. 71.

13. P. REYNOLDS, «Levantine Amphorae from Cilicia to Gaza: A Typology and Analysis of Regional Production Trends from the 1<sup>st</sup> to 7<sup>th</sup> Centuries» in J.M. GURT, J. BUXEDA, M.A. CAU eds., *LRCW I. Late Roman coarse wares, cooking wares and amphorae in the Mediterranean. Archaeology and archaeometry*, Oxford 2005, p. 563-611.

14. D. PIERI, *op. cit.* n. 12, p. 69.

has a proper name, but it is unclear if it is a personal name (a patronymic?) or a toponym. The most plausible interpretation of it is Μάνδρου (genitive of, e.g., Mandros or Mandres). Μανδρο- and -μανδρος names are well attested in earlier periods, especially the Archaic and Classical, and are largely associated with Asia Minor. While once thought to be theophoric, such names have more recently been classed as potamophoric, deriving from the name of the Maeander River.<sup>15</sup> It is tempting to see a connection between the name and the fact that the LRA1 transport ware, which the *dipinti* were written on, originated in Asia Minor. However, we do not think too much should be made of this because of the uncertainty of the reading. If the name is a toponym, it could designate the place from which the wine came. The number recorded in the third line, β = 2, might then be the total number of amphorae coming from this vineyard.<sup>16</sup> Alternatively, the number might be an indictional year (despite the absence of the word ἰνδικτίων).<sup>17</sup>

We offer the following transcription of both *dipinti*:

1) Center-left text

Ἰωάννου  
Μάνδρου  
3 β  
-----

1 Ἰ. Ἰωάννου  
“Of Johannes of Mandros, 2.”

Line 2: The reading Μάνδρου is preferable to a name beginning Μανφρ-, Μωνφρ-, Δωνφρ-, Λωνφρ-, but the supposed delta is somewhat tenuous.

2) Upper right text, oriented 90° in relation to center-left text

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Ι.Υ

The small ceramic corpus includes Late Roman Amphora 7 fragments. Lack of diagnostic pieces and heavy post-depositional damage does not allow an exact identification of the type, which generally dates from the mid-fourth to seventh century.<sup>18</sup> Examples found at Zabara

15. For discussion of this name, see: P. THONEMANN, «Neilomandros. A Contribution to the History of Greek Personal Names», *Chiron* 36, 2006, p. 11-43. The personal name Μάνδρος does not seem to be attested elsewhere (cf. Thonemann's catalogue on p. 16-24).

16. For treatment of Late Antique *dipinti*, specifically those preserved on LRA1, see J.-L. FOURNET, «La «dipintologie» grecque : une nouvelle discipline auxiliaire de la papyrologie» in P. SCHUBERT ed., *Actes du 26<sup>e</sup> Congrès international de papyrologie, Genève 16-21 août 2010*, Geneva 2012, p. 249-258. Fournet's Type C (p.254-255; Fig. 9) is very similar in layout and content to the *dipinto* published here.

17. Cf. *ibid.*, p. 252.

18. D. DIXNEUF, *Amphores Égyptiennes: production, typologie, contenu et diffusion (III<sup>e</sup> siècle avant J-C – IX<sup>e</sup> siècle après J-C)*, Alexandria 2011, p. 163-170.

Northwest have fabrics of Nile silt. However, the exact production center is impossible to determine without petrographic analysis. The LRA7 was mainly used as a wine container.<sup>19</sup>

There is also a fragment of an Aswan table amphora and one handle from an Aswan jug (fig. 13). Deep erosion prevents precise recognition of the forms. However, clearly recognizable is the yellowish pink kaolin clay originating in pottery workshops in the Elephantine region.<sup>20</sup> Production of table wares continued there until Late Antiquity (fourth to seventh century).<sup>21</sup>

There is only a single diagnostic coarse sherd of storage ware made of marle, pale brown clay with greenish surface treatment (fig. 14). The irregularity of the rim's shape and the flattened wide handle resembles Early Roman forms found in other Eastern Desert sites such Wadi Umm Wikala,<sup>22</sup> Mons Claudianus<sup>23</sup> and Berenike.<sup>24</sup> This is the only possible Early Roman sherd documented by the survey, which would make it anomalous.

Finally, the survey documented one sherd of heavily eroded fine ware. It is a fragment of a deep bowl with a wide diameter made from pink kaolin clay from the Elephantine region. Orange-red slip originally covered the surface and the form suggests a collar band bowl. This kind of slipped fine vessel production dates to the fourth to sixth century.<sup>25</sup>

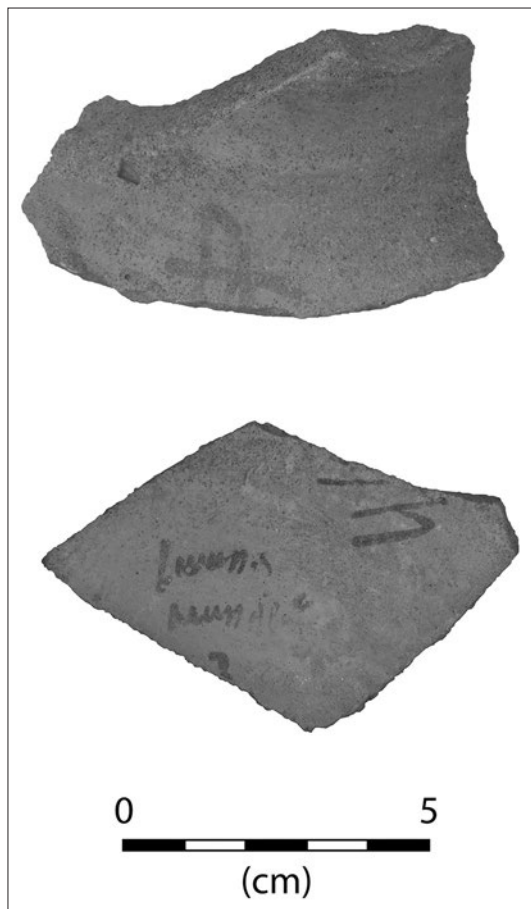


Figure 12: Images of the fragments of LR1 amphora with a letter from a *titulus pictus* (upper image) and a multi-text *dipinto* (lower image) (source: authors).

19. D. PIERI, *op. cit.* n. 12, p. 132.

20. M. RODZIEWICZ, «Field Notes from Elephantine on the Early Aswan Pink Clay Pottery», *CCE* 3, 1992, p. 103-104.

21. D. KATZJÄGER, «Late Antiquity on Elephantine Island, Upper Egypt», *Rei Cretariae Romanae Fautorum acta* 43, 2014, p. 598-599.

22. S.E. SIDEBOTHAM, H. BARNARD, J. HARRELL, R.S. TOMBER, «The Roman Quarry and Installations in Wadi Umm Wikala and Wadi Semna», *JEA* 87, 2001, p. 159, fig. 12.6.

23. *Mons Claudianus* Jar Type 78/79.

24. Berenike Site Catalog: G1460. This fragment, however, was found in a Late Roman context.

25. D. KATZJÄGER, *op. cit.* n. 21, p. 599.

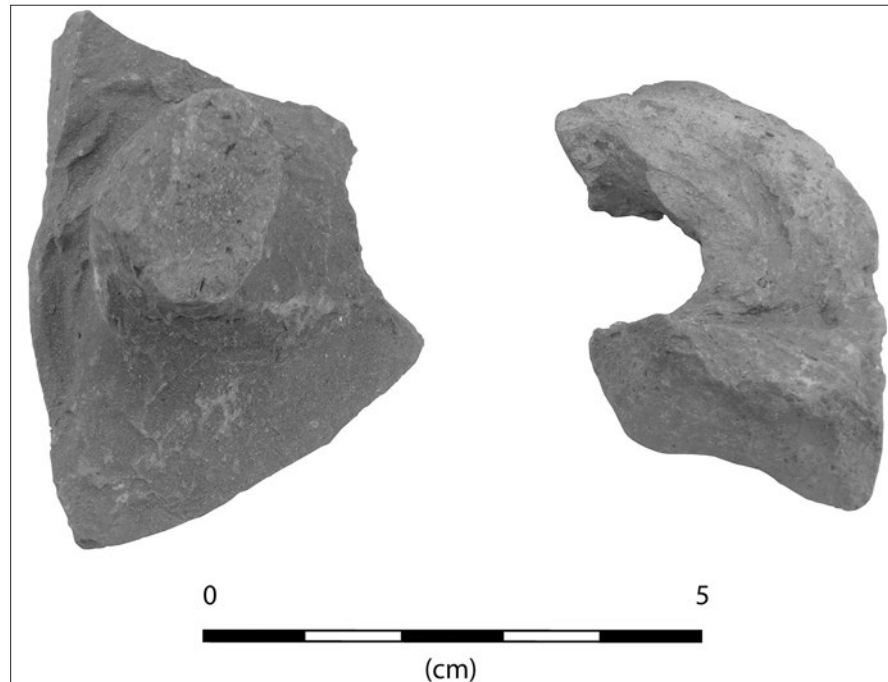


Figure 13: Image of a handle of Aswan jug (source: authors).

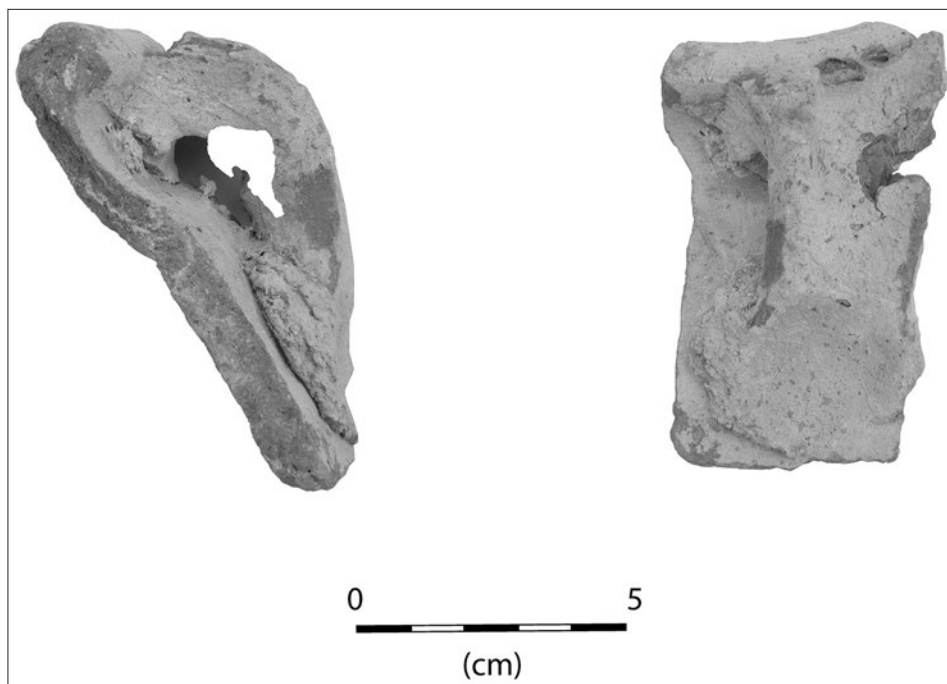


Figure 14: Image of a handle of coarse ware (source: authors).



Surface finds collected during the survey at Zabara Northwest clearly date to Late Antiquity (with one questionable exception mentioned above). The assemblage is typical of Late Antique contexts observed at other Eastern Desert sites. The amount of LRA1 fragments implies its close connection to trade routes linking the Red Sea coast with the Eastern Mediterranean.

### 3. – ZABARA NORTHWEST, ANOTHER “ENIGMATIC SETTLEMENT”?

Analysis of Zabara Northwest’s architectural remains and surface sherds permits a preliminary interpretation of the site’s function. Of course, the paucity of data does not allow a detailed understanding of the settlement. However, one can compare it with similar sites attested in the Eastern Desert during the same period. Clearly, Zabara Northwest should be included in the debate about the purpose of the so-called “enigmatic settlements” identified during earlier surveys conducted by teams led by S.E. Sidebotham.

“Enigmatic settlements” lay in isolated areas, sometimes dead-end wadis close to but not directly on major desert roads. Construction techniques are simple, using locally available unworked stone laid without mortar and likely combined, in some cases, with perishable materials in structures comprising one or two rooms (with few multi-roomed buildings) in dispersed settlements. There are no traces of urbanization or defensive enclosures. The general lack of household refuse or trash dumps probably implies a brief period of occupation, although this cannot be confirmed without excavation. The materials recovered point to a chronology between the fourth and the seventh century for all these settlements, with a concentration in the fifth century. Unfortunately, the absence of stratified data hinders any explanation of their *raison d’être*, as their locations do not relate to trade routes or quarrying/mining activities. Several options have been proposed such as small mining prospect settlements linked with the extraction of the gold-bearing wadi sediments, bases for the production of charcoal or for hunting purposes, military marching or training camps, semi-permanent Bedouin villages, Christian monastic settlements or *laura*, etc.<sup>26</sup>

None of these options is completely convincing and, at present, there is no overall persuasive interpretation. However, the extensive presence of this type of settlement in the same chronological period probably implies that they were related to the same socioeconomic and political dynamics. Thus, we consider other settlements in the Eastern Desert that show similar

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26. Regarding these “enigmatic settlements”, see: S.E. SIDEBOTHAM, H. BARNARD, G. PYKE, *op. cit.* n. 7; S.E. SIDEBOTHAM, M. HENSE, M. NOUWENS, *op. cit.* n. 5, p. 407-411; S.E. SIDEBOTHAM, *Berenike...*, *op. cit.* n. 5, p. 173-74; G. LASSÁNYI, *op. cit.* n. 11, p. 253-260; T. POWER, «‘You shall not see the tribes of the Blemmyes or of the Saracens’: On the other Barbarians of the Late Roman Eastern Desert of Egypt» in H. BARNARD, K. DUISTERMAAT eds., *op. cit.* n. 11, p. 287-292.

patterns to Zabara Northwest, such as Umm Howeitat al-Bahri, Bir Gidami, Bir Handosi, Hitan Rayan, Qaria Mustafa Amr Gama'a, Angoriyya, Umm Hiran, Siqdit and Nugrus West, among others, to have similar functions (fig. 15).<sup>27</sup>

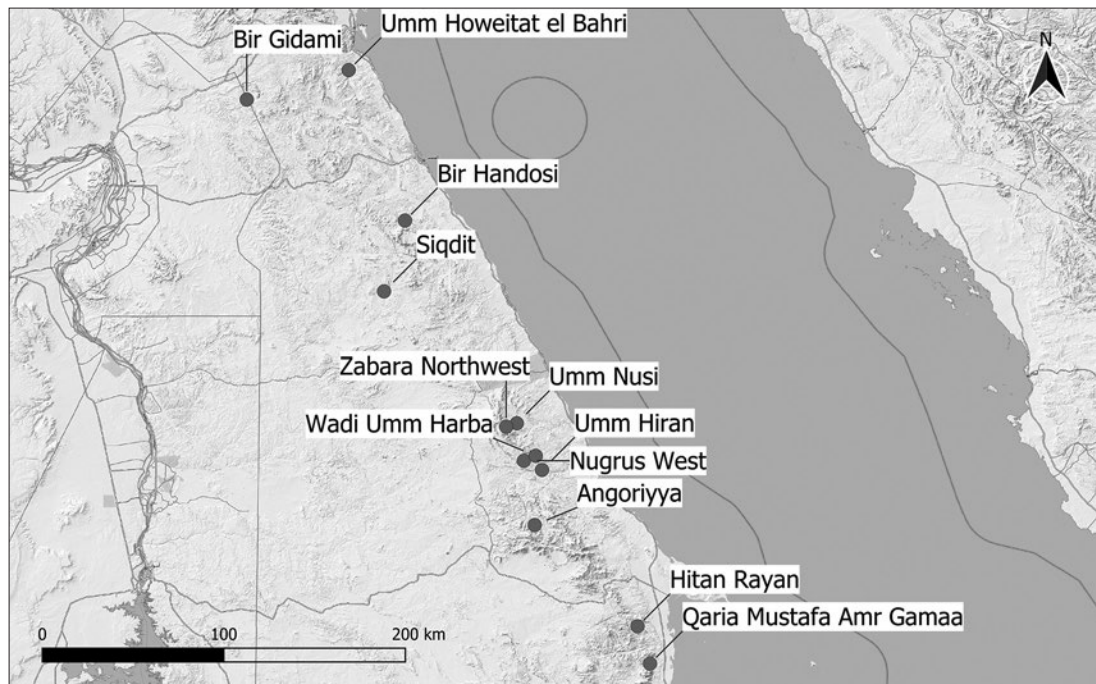


Figure 15: Location of some of the “enigmatic settlements” in the Eastern Desert (source: authors).

Preliminary analysis of evidence from Zabara Northwest suggests the following. First, the lack of trash dumps or household refuse, and the simplicity of the structures seem to point to a brief period of occupation or to several brief periods of use. On the other hand, if we accept the idea that the second type of documented structures (Group II) are small animal shelters, then the possibility that we are dealing with a community of desert dwellers dedicated to pastoralism increases exponentially. This option has been considered for several of these

27. For information concerning these settlements, see: S.E. SIDEBOTHAM, H. BARNARD, G. PYKE, *op. cit.* n. 7, p. 187-225; S.E. SIDEBOTHAM, J.E. GATES-FOSTER, J.-L. RIVARD eds., *op. cit.* n. 3, (261-262 for Siqdit; 156-158 for Nugrus West; 159-161 for Umm Hiran; 283-285 for Angoriyya); for Hitan Rayan, southwest of Berenike (also published in Sidebotham, Barnard and Pyke, *JEA* 88), see F.G. ALDSWORTH, H. BARNARD, «Survey of Hitan Rayan» in S.E. SIDEBOTHAM, W.Z. WENDRICH eds., *Berenike 1995. Preliminary Report of the 1995 Excavations at Berenike (Red Sea Coast) and the Survey of the Eastern Desert*, Leiden 1996, p. 411-440; S.E. SIDEBOTHAM, *Berenike...*, *op. cit.* n. 5, p. 173-174, counts 12-13 of these types of settlements, some as far north as Nakheil (west of Quseir al-Qadim/Myos Hormos) and Mons Claudianus.

“enigmatic settlements” and, in some of them, structures related to shelters for protecting small animals from predators have been identified. This is the case with Umm Hiran, in which a structure with a maximum dimension of 3.5 m long by 1.5-1.6 m wide and 1 m high was associated with this function.<sup>28</sup> Even if the dimensions of the shelter in Umm Hiran are greater than the ones in Zabara Northwest, they may be analogous structures intended to keep animals safe during the night.

We can find other interesting parallels in the *praesidia* along the roads connecting the Red Sea ports of Myos Hormos and Berenike with the Nile valley. Thus, in the case of Krokodilô, Didymoi, Dios and Xeron Pelagos, evidence for raising pig has been found in the so-called “pig sties” dating to the first to third century AD. These constructions could be joined with the other structures of the fort or exist in isolation, but they consisted of simple, small-sized rooms built from locally available stones. Their surfaces vary from 1 to 2 m<sup>2</sup> with walls surviving to maximum heights of one meter, probably accommodating a single animal. It is probable that they were used during brief periods of time. At some of the forts (Didymoi, Dios and Xeron Pelagos), soldiers’ barracks were transformed into sheepfolds in the second half of the third century AD.<sup>29</sup> Of course, we are talking about different contexts. However, these examples provide good evidence for the existence of similar types of animal shelters in the Eastern Desert.

In light of the dimensions of the site and structures at Zabara Northwest, domestic spaces likely accommodated one person and one animal (probably a small one, most likely a goat or sheep). This is a general pattern for these sites, and it had been previously proposed that most of the structures accommodated only a single person.<sup>30</sup> This ratio has been used to estimate the number of inhabitants of these settlements, approximately equating the total number of structures with the maximum number of inhabitants. Thus, using this formula, in the case of Zabara Northwest the settlement had about 30-40 people, similar to other settlements, such as Bir Handosi, which is one of the best parallels for Zabara Northwest, if we consider the site’s dimensions (fig. 16). Nevertheless, the more intricate structures at Bir Handosi (with seven complex spaces) and the presence of an Islamic occupation that may have substantially altered the previous phase (end of the fourth-fifth century) make it difficult to compare both sites. However, the archaeologists that documented the site proposed a Bedouin occupation with the presence of several animal pens as the most logical explanation for the Late Antique phase of the settlement.<sup>31</sup>

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28. ‘Ababda Bedouins still use this type of structure, with they call a *keleb*: S.E. SIDEBOTHAM, J.E. GATES-FOSTER, J.-L. RIVARD eds., *op. cit.* n.3, p. 159-160.

29. J.-P. BRUN, «Chronology of the forts of the routes to Myos Hormos and Berenike during the Graeco-Roman Period» in J.-P. BRUN ed., *The Eastern Desert of Egypt during the Greco-Roman period: Archaeological Reports* [online], Paris 2018; M. LEGUILLOUX, «The exploitation of animals in the Roman *praesidia* on the routes to Myos Hormos and to Berenike: on food, transport and craftsmanship» in *ibid.*

30. S.E. SIDEBOTHAM, H. BARNARD, G. PYKE, *op. cit.* n. 7, p. 218.

31. *Ibid.*, p. 201-206.

Thus, taking into account the features and dimensions of the site and its structures, the recovered materials, as well as parallel settlements, the preponderance of the evidence suggests that Zabara Northwest was a temporary camp for a small community of desert dwellers dedicated to pastoralism, probably to goat/sheep husbandry. People would have occupied the site for brief periods of time, although it is impossible, at present, to ascertain if they lived here only once or visited on several occasions. Of course, a more thorough study of the structures and their environs might alter this interpretation.

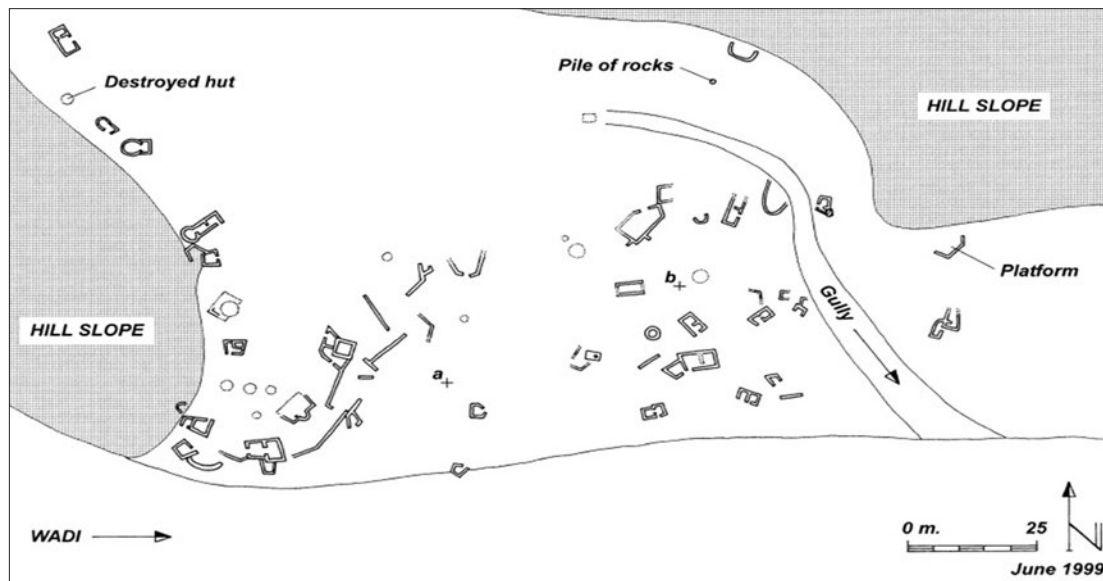


Figure 16: Plan of Bir Handosi, according to Sidebotham, Barnard and Pyke, *JEA* 88, 202.

Zabara Northwest fits well with the general context of this area in Late Antiquity. Thanks to classical sources, we know that from at least the late third/early fourth century AD Roman Egypt suffered from several incursions of desert tribes such as the Blemmyes.<sup>32</sup>

32. Procopius (*De Bellis*, I 19, 27-37) briefly discusses Blemmyan activities from the time of Diocletian to Justinian I. For a compilation of relevant ancient texts see pertinent sections of T. EIDE, T. HÄGG, R.H. PIERCE, I. HOFFMANN, 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*, vols. I-IV, Bergen 1994-2000. See also L. TÖRÖK, «A contribution to Post-Meroitic chronology: the Blemmyes in Lower Nubia», *Meroitic Newsletter* 24, March 1985, p. 1-96; R.T. UPDEGRAFF, «The Blemmyes I: The Rise of the Blemmyes and the Roman Withdrawal from Nubia under Diocletian», *ANRW* II.10.1, 1988, p. 44-106; R.H. PIERCE, «A Blemmy by any other name... A study in Greek ethnography» in H. BARNARD, K. DUISTERMAAT, eds., *op. cit.* n. 11, p. 227-237; J.H.F. DIJKSTRA, «Blemmyes, Noubades and the Eastern Desert in Late Antiquity. Reassessing the written sources» in H. BARNARD, K. DUISTERMAAT eds., *op. cit.* n. 11, p. 239-247; T. POWER, *op. cit.* n. 6, index under «Blemmyes»; J.H.F. DIJKSTRA, «Blemmyes», *The Encyclopedia of Ancient History*, Malden 2012, p. 1145-1146; J.H.F. DIJKSTRA, «Blemmyes», *The Oxford Dictionary of Late Antiquity*, Oxford 2018, p. 253; J.-L. FOURNET, «The Eastern Desert in Late Antiquity» in J.-P. BRUN ed., *op. cit.* n. 29; M. CHAUVÉAU, «Démotique», *Annuaire de l'École Pratique des Hautes Études* 148, 2017, p. 10.



Late antique authors such as Epiphanius (*FHN* 3.305), Olympiodorus (*FHN* 3.309) and Cosmas Indicopleustes (*Christian Topography* 11.21) confirm the increasing presence and power of these people at that time. By at least the fifth century Mons Smaragdus was under direct control of the Blemmyes. Those conducting archaeological work elsewhere in the Eastern Desert have also written about the role the Blemmyes possibly played in the region politically, socially and economically in late antiquity.<sup>33</sup> Of course, we have no clue about the ethnicity of those living in Zabara Northwest. However, the creation of these settlements could fit well with the increased presence of these desert dwellers in this region.<sup>34</sup>

In fact, the location of the site, in the Gebel Zabara range, close to one of the main beryl deposits of Mons Smaragdus, is also noteworthy. Thus, apart from Zabara Northwest, we have other sites that can be included in the same group of isolated settlements located near beryl mines, for example, Nugrus West, Umm Hiran or the late occupation areas of Wadi Umm Harba. Most of them have been recently identified as Christian *laura* settlements.<sup>35</sup> However, this identification remains uncertain, as no direct evidence for the presence of Christian settlers has been documented thus far. References in the sources to the importance of the emerald mines for the Blemmyes might point to the sites located around the Mons Smaragdus region as evidence of their increased presence in the area, linked with the control of the emerald mining and trade and probably the provisioning of the mining settlements. Excavation of these settlements might permit confirmation of this possibility.

We are aware of the problems of this hypothesis, such as, for example, the absence of Eastern Desert Ware, a type of pottery which is often associated with these desert dwellers. We must consider, however, that the surface pottery analysed comprises only a small, and likely non-representational, portion of that potentially available were excavations to be undertaken. Until that occurs, a more complete picture of the material culture of Zabara Northwest is not

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33. E.g. H. CUVIGNY, «La Correspondance officielle et sa circulation» in H. CUVIGNY ed., *Didymoi. Une Garnison romaine dans le désert Oriental d'Égypte. Praesidia du désert de Bérénice* IV. II – *Les Texts*, Cairo 2012, p. 106-115; H. CUVIGNY, «Papyrological evidence on 'barbarians' in the Egyptian Eastern Desert» in J.H.F. DIJKSTRA, G. FISHER, eds., *Inside and Out. Interactions between Rome and the Peoples on the Arabian and Egyptian Frontiers in Late Antiquity*, Leuven 2014, p. 165-198; S.E. SIDEBOTHAM, J.E. GATES-FOSTER, «Introduction» in S.E. SIDEBOTHAM, J. GATES-FOSTER, J.-L. RIVARD eds., *op. cit.* n. 3, p. 23-24; H. BARNARD, «The Native Desert Dwellers» in S.E. SIDEBOTHAM, J. GATES-FOSTER, J.-L. RIVARD eds., *ibid.*, p. 391-392, 406-408.

34. It is noteworthy that recent archaeological work in this area, at sites such as Sikait and Berenike, suggests the importance of the presence of Blemmyes in the region from the fourth century. Especially relevant are recent discoveries at Berenike of religious spaces and inscriptions directly related to a *de jure* as well as *de facto* presence of the Blemmyes in the area immediately north of the *Dodekaschoinos* in the Late Roman/Byzantine period. For Sikait see J. OLLER, D. FERNÁNDEZ, V. TREVÍN, O. ACHON, «La explotación de esmeraldas...» *op. cit.* n. 5, p. 283-303; J. OLLER, D. FERNÁNDEZ, V. TREVÍN, O. ACHON, S. GARCÍA-DILS, «New evidence regarding emerald...», *op. cit.* n. 5, p. 123-142. For Berenike, see R. AST, J. RĄDKOWSKA, «Dedication of the Blemmyan Interpreter Mochosak on Behalf of King Isemne», *ZPE* 215, 2020, p. 147-158.

35. For these sites, see: S.E. SIDEBOTHAM, J.E. GATES-FOSTER, J.-L. RIVARD eds., *op. cit.* n. 3, : for Nugrus West: 156-158; for Umm Hiran: 159-161; for Wadi Umm Harba: 145-147.

possible. On the other hand, the lack of Eastern Desert Ware (also noted in almost all the "enigmatic settlements") might also be related to the trade dynamics of these communities within the region.<sup>36</sup>

Only further research will permit a complete view of these enigmatic settlements. For the moment, sites like Zabara Northwest still constitute a historical enigma. However, with the available data we can relate them to the social, political and economic dynamic in Late Antiquity in the Eastern Desert, showing the progressive disappearance of Roman/Byzantine military control of this area and its replacement by new actors such as the Blemmyes. Thus, we consider that most of these settlements were linked with this progressive change in the region's structure, even if we cannot precisely detail the concrete function of every one of them. On the other hand, we cannot discount the possibility that some of the sites were related to other historical processes such as the expansion of monasticism in Egypt.

Finally, this paper warns of the dangers posed to the archaeological heritage of the Eastern Desert and specifically to the region of ancient Mons Smaragdus and its surroundings. The threats to this natural and cultural heritage demand a strong and combined response from the scientific community, and from Egyptian national and local authorities. We hope that the documentation and publication of sites like Zabara Northwest will raise awareness of this crisis and help prevent additional loss of this rich historical heritage.

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36. S.E. SIDEBOTHAM, H. BARNARD, G. PYKE, *op. cit.* n. 7, p. 222-223.

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