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First Seasons of Work and Research of the Polish-Egyptian Conservation Mission El Darazya – Marina el-Alamein (Architecture, Archaeology, Conservation)

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Introduction (by Rafał Czerner)

From September 28–30, 2021, and from May 10 to June 2, 2022, the first two seasons, the Polish-Egyptian Conservation Mission worked at the site of the Hellenistic and Roman settlement of El Darazya (or Dresieh).¹ The conservation work carried out by the mission was accompanied by studies and research of preserved architectural relics and archaeological research, the results of which we also present. The site, today at the heart of the modern tourist resort of Marina el-Alamein, is located on the Mediterranean coast in the middle of the Arabs Gulf, known in ancient times as Bay of Plinthine, on ancient trade routes [Paprocki 2019, p. 195, map 11] 100 km west of Alexandria, the Ptolemaic capital (Fig. 1). This is another archaeological site under investigation in the Marmarica region.

Egyptian archaeologists from the Archaeological Area of Marina of the Supreme Council of Antiquities preserved the ancient ruins during the construction of a tourist settlement and salvage surveyed them in 2006. However, they were already known to travelers in the first half of the nineteenth and in the twentieth centuries, notably Jean Raimond Pacho [1827, pp. 13–18] and Anthony De Cosson [1935, pp. 123–126]. It still remains to be established whether they should also be identified with the Derrhis mentioned in descriptions of the coast written by ancient geographers [Bąkowska-Czerner, Czerner 2023, pp. 456–458]. Some remarks by Strabo [*Geographia*, XVII, 1,14; Jones 1949] and Claudius Ptolemaeus [*Geographia*, IV, 5, 6; Müller 1901] may have referred to them. The closest we can come to identifying Darazya with Derrhis is *Stadiasmus Maris Magni* [Müller 1855, pp. 427–514]—a descrip-

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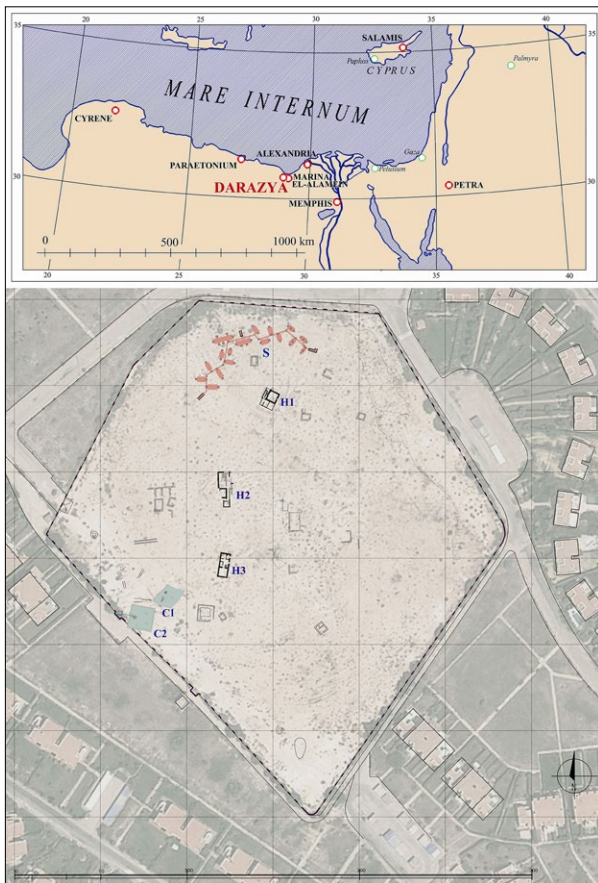


Fig. 1. Top: the location of Darazya in the eastern Mediterranean; drawing by R. Czerner; bottom: site plan with highlighted structures: H1–H3 – houses; C1, C2 – cisterns; S – shelters from the Second World War; drawing (using Google Earth) by S. Poplawski. Ryc. 1. Na górze: lokalizacja Darazyi we wschodniej części Morza Śródziemnego; rys. R. Czerner; na dole: plan stanowiska z zaznaczonymi strukturami: H1–H3 – domy; C1, C2 – cysterny; S – schrony z II wojny światowej; rys. (na tle fotografii z Google Earth) S. Poplawski.

tion of sailing by an anonymous author from the second half of the third century, confirming the functioning at this site of a summer anchorage with water.

The site's focal point of interest in terms of conservation and future exhibition is the remains of an ancient settlement from Hellenistic-Roman times. This includes relics of residential houses, and possibly other above-ground structures and underground cisterns. The present site probably covers the southern areas of the ancient town. A complementary theme is the well-preserved remnants of underground military structures from the Second World War, from 1941–1942 (Fig. 1).

Materials and methods (by Rafał Czerner)

This paper is based on original field research and studies. The authors are members of the Polish-Egyptian Conservation Mission El Darazya – Marina el-Alamein and participated in the first seasons of its work in September 2021 and May 2022. Over the period of 1996–2018, they also participated in and co-directed

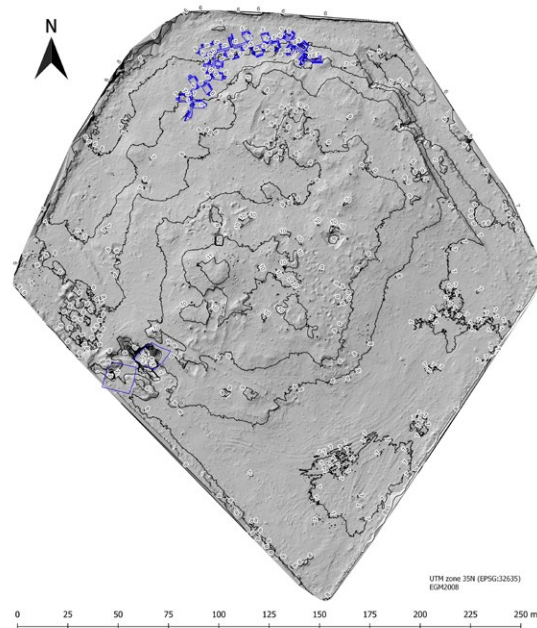


Fig. 2. Digital terrain model of the Darazya site with contours and layout of the underground structures; by B. Ćmielewski. Ryc. 2. Cyfrowy model terenu stanowiska Darazya z warstwicami i układem podziemnych struktur; oprac. B. Ćmielewski.

the then-functioning Polish-Egyptian Conservation Mission at the nearby Marina el-Alamein archaeological site. The ancient town and necropolises, whose remains are preserved there, offer a direct reference and analogy for the studies presented here that have recently been undertaken at El Darazya, focusing on the architecture, building techniques, culture, beliefs and life of the inhabitants. The mission where the present authors formerly worked carried out a program of protection and conservation of the site and architectural relics, while also performing architectural and archaeological research. Analysis of the results of analogous work carried out at El Darazya, the relics uncovered as well as comparative studies referred primarily to the neighboring site of Marina el-Alamein and other cities in the region constitute the main research method and the basis for understanding the ancient town, particularly its architecture. The authors' personal experience of the research carried out at both sites is of particular importance.

In the first seasons, geodetic surveying measurements, architectural and archaeological research, and conservation work were conducted at the site using, among others, the Seek thermal Pro thermal imaging camera. The mortars were observed under a Levenhuk DTX 500 Mobi microscope at X20–200 magnification.

Results

The mission focused on the conservation and investigation of selected ancient structures as well as documentation. This was supplemented by reconnaissance of the site and the relics located there, while also grad-

ually ordering and organizing the area. Several operations were performed.

The main focus was the investigation and maintenance of house H1. Structures marked as H2 and H3, two cisterns (C1, C2) and structures from the Second World War were also initially described.

Geodetic measurements (by Bartłomiej Ćmielewski)

Nine geodetic points were established. We chose one of the points as the first one and determined its coordinates using the GNSS-PPP method (based on 5 hours of observation). It was then used as constant for creating a net of the GNSS vectors between successive points. In the next step, the vectors were calculated and adjusted to create a spatial network of points. These were used for traditional land surveying and georeferencing photogrammetry projects. Then, the surveys were successively taken using a 3D camera combined with distance measuring sensor, respectfully to a network of control points. This made it possible to collect spatial data describing the site in terms of elevation (Fig. 2), and also indicated the location of some underground structures—shelters, cisterns.

Studies on House H1 and conservation of its remains

The preserved relics of this house were the first to be selected for research and conservation with the idea of developing methods and techniques for future work on other objects at the site.

Architectural research (by Rafał Czerner)

Within the scope of preparing the conservation and cleaning of the house's relics, the study and analysis of the preserved remains of this structure commenced in the first season was continued in 2022 (Fig. 3). This architectural and complementary archaeological research was also continued during the conservation period.

The investigation found that the house functioned as an oikos-type residential house—i.e., with a main reception hall organizing its layout. The house consisted of several rooms. Apart from the oikos hall (1), the following spaces led from it: from the west, a stairwell (2, 4–6) and three interconnected rooms (7–9) from the south. Two entrances from the north led to the main hall and a stairwell from the rest of the house, which has not yet been fully explored. Therefore, the extent of the next rooms from the north (3 and 10) and the question of whether this was also the boundary of the building remains undetermined.

The remains of the main hall measuring 5.14 m (north–south) by 4.94 m have walls 0.76 m thick, built from rubble masonry, bonded with clay and plastered with lime mortar. In the northern wall, the remains of a central entrance were discovered—1.61 m wide, framed with limestone blocks, preserved to a height of

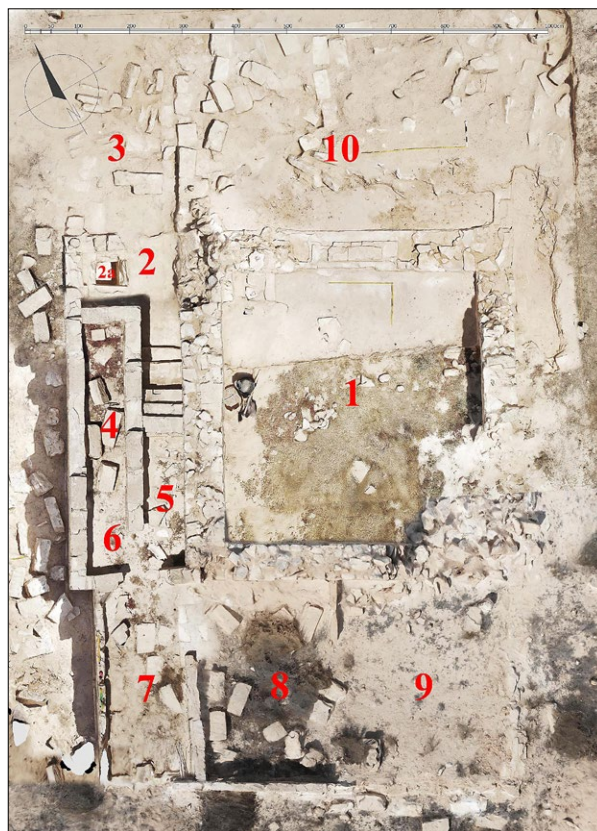


Fig. 3. House H1, topographic photoscan with room indications; by S. Popławski.

Ryc. 3. Dom H1, fotoskan topograficzny z oznaczeniem pomieszczeń; oprac. S. Popławski.

one layer, the upper layers having collapsed. A stone threshold has survived with a middle section raised by about 0.1 m, 0.36 m wide and with traces of unpreserved jambs at its ends. They would narrow the passage by 0.3 m on each side. The single entrance ran from another hall (10) or a courtyard of the same width and similar size as the oikos. The lower layers of the eastern and western walls, constructed from limestone ashlar have been preserved. In the oikos hall, the remains of a floor made of limestone rubble has survived.

The hall was rebuilt and described layout is secondary. The original entrance, later bricked up and whose remnants are preserved, was located in the middle of the eastern wall. It was 0.94 m wide, narrowed from the east to 0.75 m by jambs. Opposite, in the western wall, there was a niche (about 0.7×0.55 – 0.66 m and 0.4 m deep), also later bricked up. The relic of another niche added to the north wall at the west corner, made from limestone ashlar, also comes from the remodeling phase.

Three rooms (7–9) in the southern part of the house (from the west: 1.54×3.9 m, 2.53×3.9 m and 3.3×3.9 m) had walls made from limestone slabs, 0.18 m thick, partially preserved. The relic of a passage between rooms 8 and 9 was discovered. The floors in the rooms were made from limestone slabs.

Technologically speaking, the most intricate was a two-flight stairwell (3.82×1.9 m, with a vestibule 1.06



Fig. 4. House H1, vestibule 2; photo by R. Czerner.
Ryc. 4. Dom H1, przedsionek 2; fot. R. Czerner.

× 1.9 m), added to the main hall from the west during the secondary phase. Its walls are made of regular limestone ashlars. The entrance to it and to the stairs starting in the eastern flight led from the north. Alongside, in the northwest corner of the vestibule (2), a casing of a square well opening (0.44 × 0.45 m), possibly with the function of a latrine, made of limestone slabs, with a depth of 0.84–0.95 m, was discovered, from which a canal led northwards at the bottom, perhaps towards an underground reservoir, probably a cloaca. (Fig. 4). The floor in the vestibule was made from limestone slabs.

Rich relics of the stairs have been preserved. The first six steps were made of limestone slabs set on a sand and rubble bed, closed at the back with a vertical wall. The steps were 0.18 m high, 0.25 m deep, while the width of the flight was less than 0.8 m. Successive slabs of steps overlapped each other by about 0.04 m. The upper part of the first flight of stairs was made from a supporting wooden structure. Grooves were cut into the walls where it was embedded. However, the steps in this part were also made of stone slabs. In this part of the room (5), 8 complete sets were found.

The Greek-tradition layout of the two-story oikos-type residential houses and the building technology would seem to indicate that the settlement should be dated to Ptolemaic-Roman times, on the basis of analogies, primarily with a nearby ancient city dating from

the mid-second century BCE to the fourth century CE at the Marina el-Alamein site that has been identified as the Antiphræ or Leucaspis mentioned by the geographers. Archaeological objects and the characteristic geometric forms of relics of architectural decoration also provide confirmation [Bąkowska-Czerner, Czerner 2019, pp. 19–39].

Archaeological finds (by Grażyna Bąkowska-Czerner)

Archaeological research was also carried out as part of the conservation works. A surface survey was conducted in 2021, which distinguished various stone structures, fragments of architectural decoration and ceramic assemblages. The sherds represent various kinds of pottery, from storage vessels to tableware. These include Egyptian and imported wares. A relatively large amount of Cypriot Sigillata, belonging mostly to the first, second and early third century CE horizon, was noticed. Several stone vessels were also discovered. Some fragments of architectural decoration indicate the existence of cult niches, as in the houses at the archaeological site of Marina el-Alamein [Czerner 2009, pp. 40–41, 112–113, Fig. 55–60, 64, 73, Pl. XVI; Bąkowska-Czerner, Czerner 2017, pp. 142–144]. The presence of domestic cults is also confirmed by recovered fragments of small decorated altars [Czerner 2024, 13–14].

The conducted conservation work in house H1 required archaeological supervision. In room 1, the entire northern wall was cleaned. A layer of rubble and clean, loose sand was removed, also revealing a part of floor at the northern wall. Several fragments of large stone slabs were discovered. In the north-western corner of the room, a stone structure was exposed, which still requires cleaning. Approximately 0.05–0.02 m above the floor lay a few sherds of cooking ware, amphorae and a glass part of a glass vessel. On the other side of the wall in room 10, several small fragments of pottery and glass vessels were discovered, as well as some animal bones. Near the northeastern corner, under stone ashlars and stones from a broken wall, an oil lamp was found in a layer of clean sand. This is an Egyptian oil lamp, probably of Alexandrian production, with radial decoration, dated to the second century CE [Chrzanowski 2019, pp. 258–257]. Nearby a fragment of a large glass vessel also lay, along with sherds of Cypriot Sigillata bowls, amphorae and kitchenware. A piece of roof tiling and the remains of burnt wood were also discovered there.

The stairwell was also cleaned. A bronze coin, unfortunately illegible, was found in a layer of dense sand (approx. 0.70 m below the floor) in a well (2a) along with fragments of pottery (e.g., the rim of a terra sigillata jug), a small piece of iron, animal bones, as well as a small marble slab and a stone – perhaps used as a grinder.

Room 5 contained stone blocks (steps) from the construction of the stairs. Below, under a layer of hard earth, the foundations of the stairwell wall and the western and southern wall were unearthed. They were added to the western wall of room 1. During the work,

many pottery sherds, including ‘pinched handle’ amphorae, cooking ware, Cypriot Sigillata bowls and jugs were found along with glass vessels (some decorated) and a small fragment of an oil lamp, as well as animal bones and some damaged pieces of iron nails that may have been used in the construction of the stairs. The artefacts recovered during the exploration in the lower layers in this room, originate from the late first to the second century CE period.

Room 6 has not been explored. However, a fragment of a Kapitän II amphora was observed in the profile to be lying above the floor. These amphorae can also be found in the nearby Marina el-Alamein [Majcherek 2007, pp. 16–18, Fig. 3, no. 19–22], among others in the H1 and H10E houses.

The foundations and remains of the walls of rooms 7, 8 and 9 were also cleaned. Fragments of pots were discovered (including amphorae, kitchen utensils, a frying pan, terra sigillata, as well as faience and glass vessels). Exposing the foundations of the wall between rooms 8 and 9 at the location of the door opening, some small fragments of burnt wood were found—perhaps the remains of a burnt wooden threshold.

During the work, two bronze coins were discovered on the surface, unfortunately extremely damaged.

The state of preservation of the walls of house H1 before conservation work (by Wiesław Grzegorek)

The walls of the main hall (1) remained in parts up to a height of 1.5–1.6 m: the southern one without the eastern corner, the western one without the northern corner, and the central part of the eastern wall. The walls of the stairwell survived to a height of 3–5 layers, and the walls of the rooms from the south (7–9) stood fragmentarily up to a height of 1 layer. Collapsed slabs that once belonged to them were exposed here directly next to the foundations on both sides of the walls. Similarly, numerous stone blocks were unearthed at the western wall of the stairwell.

Conservation and partial restoration of the walls (by Rafał Czerner and Wiesław Grzegorek)

First of all, the walls of the main reception hall, (1) were made of rubble masonry, which had been subjected to considerable damage and in some parts were demolished, thus requiring urgent securing and partial restoration (Fig. 5). The northern wall of the room along with both corners and sections of the walls—western (up to a height of about 1.5 m) and eastern (up to about 0.9 m)—was rebuilt with the use of historic material (partially gathered in heaps). They were also reconstructed from the original limestone ashlar of the entrance opening located in this wall, westwards to a height of four layers, and eastwards to three.

The stones were placed on the mortar along the outer and inner faces, and the central part of the wall between them was filled with smaller stones. The facing stones were selected so that their outer surface was patinated “yellow,” as it were, and hard. After the stones



Fig. 5. House H1 before and during conservation; photo by R. Czerner.

Ryc. 5. Dom H1 sprzed i z czasu konserwacji; fot. R. Czerner.

had been laid, they were pointed with mortar. Every so often, the wall was raised in steps to break the monotony. The walls have not yet been topped with mortar crowns or small stones, because these walls will be raised in upcoming seasons.

Walls made of ashlar and stone slabs were also subjected to conservation. Within the stairwell, on its outer western wall, stone blocks originally part of it were arranged at its base. Large defects were filled in the ashlar of the outer, lower layer of the wall. In a complex of 3 rooms on the south side (7–9), the top part of the foundations was cleaned. Some overturned stone slabs lying along the walls were placed on mortar on the foundation to a height of one full layer, closing the outline of the western and middle rooms.

A type of mortar was used in the work, consisting of white cement, lime and sand in a proportion of 1:2:6.

Restoration of the flight of stairs (by Piotr Zambrzycki)

In line with the methodology adopted for the entire site, a decision was made to preserve the original parts and supplement where necessary on the basis of anastylosis. In the case of the stairwell, this was limited to securing the historical plasters with bands and conservation of the flight of stairs along with essential reconstruction of gaps.

Until present, this structure had remained in a poor state of repair. Out of the six surviving first risers of the lower section, the third was missing, and the two above were cracked and sunken. In order to secure and



Fig. 6. House H3, topographic photoscan; by S Popławski.
Ryc. 6. Dom H3, fotoskan topograficzny; oprac. S. Popławski.



Fig. 7. House H2, topographic photoscan; by S Popławski.
Ryc. 7. Dom H2, fotoskan topograficzny; oprac. S. Popławski.



Fig. 8. Underground cisterns C1 and C2; photo by P. Zambrzycki, S. Popławski.
Ryc. 8. Podziemne cysterny C1 i C2; fot. P. Zambrzycki, S. Popławski.

clarify the form of the stairs, it was decided to reconstruct the missing riser. To obtain an effect consistent with the original, the stone was processed by hand via techniques analogous to ancient methods. It was also necessary to temporarily dismantle the fourth and fifth risers. The new riser was installed in the flight of stairs on a lime-cement mortar.

Conservation and repair work on the plaster and walls (by Anna Selerowicz)

The integrity of mortar and plaster is threatened by adverse weather conditions, including strong winds, rainfall, increased salinity, direct sunlight or vegetation growing on the crowns of the walls. As a result of these factors, historical plasters were damaged in a number of ways in the form of local structural degradation, detachment from the face of the walls, partial fragmentation or surface chipping.

A serious challenge is posed by the in situ protection of the remains of external plaster on the walls, due to its particularly difficult conditions of exposition. Single-layer plaster with a relatively smooth surface and no traces of painting decorations have survived to this day. Damage in the form of chipping or local powdering of the mortar has mainly resulted from salt migration and weakening of the wall structure.

At the present stage of work, the main aim was to secure the edges of the plaster with bands made of mineral mortar modified with acrylic resin. The operational

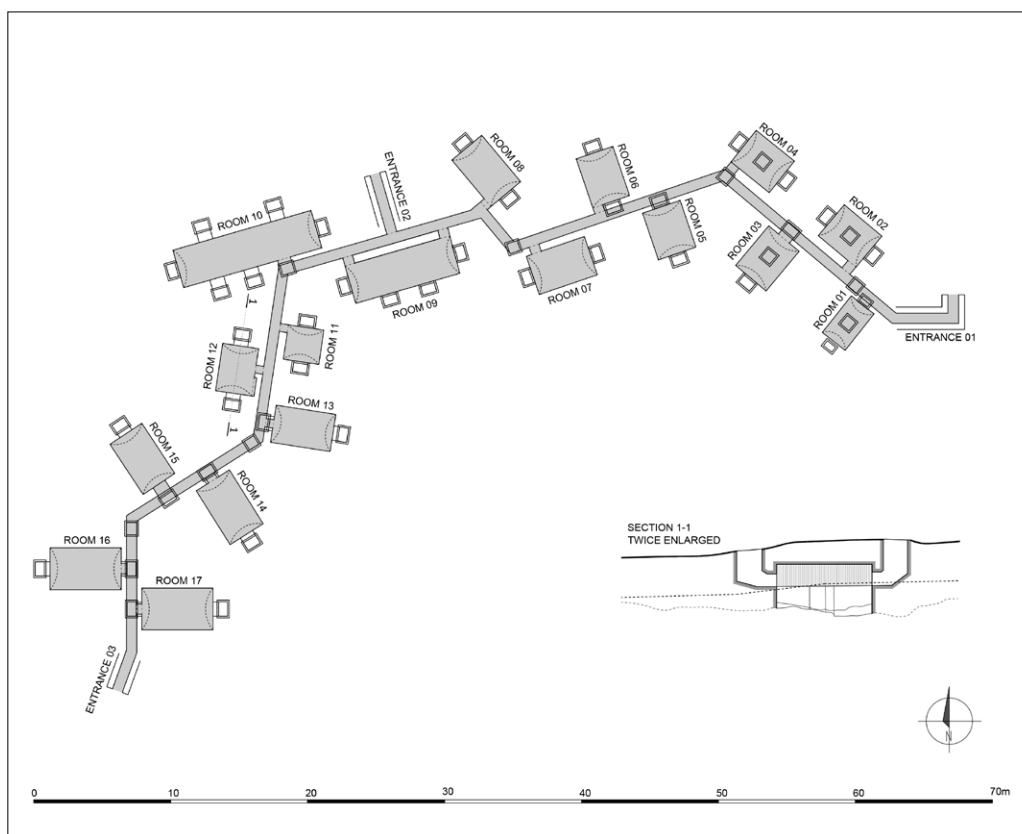


Fig. 9. Map of underground structures from the Second World War; drawing S. Popławski.
Ryc. 9. Plan podziemnych struktur z II wojny światowej; rys. S. Popławski.

scheme was based on the experience gained from over a dozen seasons of work at the neighboring Marina el-Alamein site. The objective was to strengthen the adhesion of plasters to the wall substrate and secure the edges of the detached fragments, at risk of further degradation. Structural repair of the actual walls was also a key element.

The plaster surface and the detached edges were cleared of loose dirt, sand, and small fragments of stones and dust. The walls were dampened with water, then the loose plaster fragments were fortified with a 5% aqueous solution of Primal AC33 while the stratified and crumbling layers were consolidated with a 2% solution of the same preparation. Minor plaster defects were supplemented with lime-cement mortar with the addition of brick powder and a small amount of 5% water solution of Primal AC33 (as a plasticizer). An addition of milled brick enhanced the water-repellent properties of the mortars. The edges of the detached plaster were secured in the same way.

Larger damages to the plaster and losses in the lower parts of the walls were repaired using mineral mortar in a ratio of 1:2:6 (white cement, lime and sand). Large gaps in the wall in critical places were repaired by inserting stones, imitating the original layout.

The archaeological objects found were also cleaned and conserved.

Architectural and archaeological research of the partially cleaned structure indicates an oikos-type house that was rebuilt at least once. Artefacts discovered in

the building have been dated to the first and second centuries. Conservation work consisted of reconstructing and protecting the building's walls, stairs and plaster. The aim of further research will be to determine the size of the house and the phases of reconstruction and then to date them.

Research, analysis and documentation: Ordering and organizing relics of the remaining structures

Research on houses H2 and H3 (by Rafał Czerner)

A preliminary analysis of the relics of these houses was conducted in 2021. In the next season, a topographic survey of the remains of both structures was made via the photo-scanning method. H3 is an oikos-type house with a main reception hall to the south, open with a wide entrance onto a courtyard surrounded by four smaller rooms to the west and north. Two entrances to the house were from the east (Fig. 6). House H2 appears to have a more developed use (Fig. 7). While studying the house, some relics of a small added-on structure were found, adjacent to the lower part of the column preserved in situ (up to a height of about 1.5 m). A fragment of architectural decoration that may have come from the top of a wall aedicula was also found, reused as material in a wall made of broken stone. The area of house H3 was decluttered, arranged and cleared in preparation for future conservation.

Water installations and cisterns (by Szymon Popławski)



Fig. 10. Top: fragment of plaster from the eastern wall of the stairwell in H1 house, image at X20 magnification; bottom: fragment of the mortar pointing the ashlars from the western wall of the stairwell, house H1, X200 magnification; photo by P. Zambrzycki.

Ryc. 10. Na górze: fragment tynku ze wschodniej ściany klatki schodowej domu H1, obraz w powiększeniu x 20; po prawej: fragment zaprawy ze spoiny bloków z zachodniej ściany klatki schodowej, dom H1, powiększenie x 200; fot. P. Zambrzycki.

In the southern part of the site, an underground cistern designed as C1 identified by Egyptian archaeologists in 2006, was studied by the mission during its first seasons (Fig. 8). Another cistern designed as C2 was discovered in 2022 fully preserved underground. The channel leading to its inlet from an above-ground pool was also identified. Similar cisterns are known from the Marina el-Alamein site [Bentkowski 1991, pp. 20–23].

Cistern C1 carved into the limestone bedrock is about 4–5 m high and its plan represents an irregular quadrangle with walls ranging from about 10.4 to 12 m long. Its ceiling is supported by two pillars. The vertical shaft of the well and the remains of the channel supplying water to it have been preserved. The southern wall of the cistern was destroyed during earthworks related to the construction of a modern road, which was abandoned as a result.

Cistern C2, similar to a square in layout, measures approximately 13.42 × 13.5 × 4.8 m. It was completely carved into the parent limestone. Its ceiling is supported by four unevenly spaced pillars. The inlet to the tanker from the top is located on the east–west axis, one quarter of its length from the western wall. In the lower part of the cistern stands a circular bench 0.35–0.95 m wide and 3.0 m high above the bottom of the tank.

To the west of the cistern ran a limestone channel,

whose eastern end ended at the inlet of the cistern about 1.65 m below ground level, while the western end began in a walled basin above ground. The canal was built in cross-section from four slabs, one on the bottom, two vertical, and one covering the whole. The remains of channels near cistern C1, identified in the previous season, were constructed in a similar way. The basin measuring 2.10 × 1.75 m was made from limestone ashlars. Its depth as currently preserved is about 0.70 m. Both cistern C2 and the system of channels running into it and the basin show signs of reuse, most probably in the twentieth century.

Remaining military structures from the Second World War (by Szymon Popławski)

The relics of structures from the Battle of El Alamein preserved at the site were distinguished as a result of 3D prospecting, photo-scanning and then field surveying. A total of 17 underground rooms were revealed, connected by a shared corridor with three entrances from the ground level (Fig. 9). In addition, the remains of three small structures have been noted on the surface, one of which has survived in fairly good condition.

The underground complex was built of limestone blocks and covered with reinforced concrete coatings poured over corrugated sheet formwork. The corridors are topped with a flat ceiling, while the halls are vaulted. Each room is illuminated and ventilated by openings located in the gable walls of the rooms and led slightly above the ground level through rectangular brick chimneys. The highest recorded height in the interior is 2.30 m. The dimensions of the individual rooms vary between 2.53 × 2.62 m and 2.84 × 10.50 m. The corridors have their own lighting panes, square in cross-section. Underground passages are between 0.74 and 0.78 m wide.

Thermal imaging tests and conservation analysis (by Piotr Zambrzycki)

The following research tasks were undertaken: Non-invasive research of the area and the structures located there, classification of types of mortar and plaster used in the ancient walls of house H1 at the conservation work stage, research on mortars from the Second World War structures and investigating the plaster on the group of ancient cisterns.

Thermal imaging tests

Areas grouped around the relics of ancient house H1, the Second-World-War fortifications and the underground cistern were selected for the study. Recordings were made using a Seek thermal Pro camera. As a result, a diversified temperature distribution was confirmed for the area. Depending on location in relation to compass and exposure, underground artefacts were revealed to have colder and warmer spots in relation to the surroundings. These sites are promising and in the future may be included in archaeological works. In

the case of architectural structures, thermal imaging confirmed the complex structure of the walls and the absence of horizontal insulation in ancient buildings.

Microscopic analyses

One method of non-invasive field studies involves observations via mobile microscopes. At an initial stage, they help obtain an extended data resource for the identification of historic structures. At the Darazya/Marina el-Alamein site, a Levenhuk microscope was used, capturing images via basic X20 and X200 magnification. The main aim was to distinguish between the types of mortars used for pointing stone ashlars and plaster on the walls of house H1. The analyses were carried out directly at the archaeological site.

As a result of the analyses, it was found that lime-sand mortar was used to plaster the walls of the stairwell. Most of the mortar filler is finely crushed local limestone or sea sand. In places, thick, well-dusted grains of quartz sand are visible with a highly crystallized binder (CaCO_3) (Fig. 10). In the case of the steps, most of the mortar filler consists of finely crushed local limestone or sea sand. In places, thick, well-dusted grains of quartz sand are visible with a highly crystallized binder (CaCO_3). This kind of mortar was also used for pointing the ashlars used in the wall structure and the floor slabs (Fig. 10).

Ancient underground cistern C1 is another object of materials science research. One of the first studies involved the plaster preserved on its walls. In general, lime mortar with a ceramic filler was used to protect the walls of the cistern. The sample shows an addition of quartz sand—well coated quartz grains of different grades. An addition of sea sand is visible in the mortar. Two-layered plaster was observed locally. The first is a structural lime-sand, and the outer one is a lime hydraulic mortar with a good dose of ground ceramics.

The applied method turned out to be an effective tool to identify the composition of ancient mortar and plaster from the preserved structures of the Second World War. The walls made of limestone were confirmed to have been filled with a sand-clay mix of a similar composition to the soil around the houses. Most likely, an aqueous solution was poured in, thus compacting the filler.

Conclusions (by Rafał Czerner and Grażyna Bąkowska-Czerner)

Preliminary research carried out at the El Darazya – Marina el-Alamein site indicates that there are relics of part of a larger settlement from the Hellenistic-Roman period. The two houses described represent the oikos type, familiar from the nearby archaeological site of Marina el-Alamein. Comparable construction techniques and similar architectural decoration were used at both sites. Further research will contribute to better understanding, above all, the architecture of houses in this region and will also help determine how Greek, and then Roman, culture influenced local construction. The architectural details and small stone altars that have been discovered suggest that, as in Marina el-Alamein, forms of domestic religious practice existed. In addition to artefacts produced in Egypt, the site also contains many fragments of vessels from the eastern Mediterranean. Here we must not only reconstruct domestic architecture, but also determine how households functioned. The above-mentioned cisterns and exposed canals are a key issue and provide new information on ongoing studies of the extensive water installations that existed in ancient times in this semi-arid area of Marmarica.

The first seasons of the mission's work have managed to confirm the tremendous historical value of the site and its considerable research potential. The site should also become a regional tourist attraction. One advantage is its location in close proximity to the Marina tourist estates and the town of New Alamein. Soon, it will be possible to map out itineraries for visiting the site, ranging from ancient times to the period of the Second World War and the Battle of El Alamein. The Darazya – Marina el-Alamein archaeological reserve will become an important place of social impact and an example of world cultural heritage.

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Abstract

The newly established Polish-Egyptian Conservation Mission began work in 2021 and 2022 at the El Darazya – Marina el-Alamein archaeological site. In addition to conservation, architectural and archaeological research of the Hellenistic-Roman relics preserved here was undertaken. The site is located on the Mediterranean coast of Egypt, on ancient trade routes 100 km west of Alexandria. Some accounts by ancient geographers may have referred to it. The ancient ruins at the site were also mentioned by travellers of the early nineteenth and twentieth centuries. Egyptian archaeologists preserved the remains in 2006. The work presented here is the first undertaken since then. Walls of numerous structures have been identified at the site, among them residential houses with a Greek oikos-type layout. Large underground water cisterns also stand out. Very well-preserved remnants of underground military structures from the Second World War and the Battle of El Alamein complete the picture of the site.

Streszczenie

Nowo utworzona Polsko-Egipska Misja Konserwatorska rozpoczęła pracę w 2021 i 2022 r. na stanowisku archeologicznym El Darazya – Marina el-Alamein. Oprócz konserwacji podjęto badania architektoniczne i archeologiczne zachowanych tu relikwów hellenistyczno-rzymskich. Miejsce zlokalizowane jest na śródziemnomorskim wybrzeżu Egiptu, na starożytnych szlakach handlowych 100 km na zachód od Aleksandrii. Do niego być może odnosiły się niektóre relacje starożytnych geografów; starożytne ruiny w tym miejscu wspominali też podróżnicy z pierwszej połowy XIX i XX w. Egipcjści archeolodzy zabezpieczyli pozostałości w 2006 r. Prezentowane w artykule prace są pierwszymi podjętymi od tego czasu. Na stanowisku zidentyfikowano mury licznych struktur, wśród nich domów mieszkalnych o greckim układzie typu oikos. Wyróżniają się również wielkie podziemne cysterny na wodę. Obrazu stanowiska dopełniają bardzo dobrze zachowane pozostałości podziemnych struktur militarnych z czasu II wojny światowej i bitwy pod El-Alamein.