

# Research and architectural conservation in Marina el-Alamein in 2018 (Polish–Egyptian Conservation Mission)



**Abstract:** Activities undertaken by the Polish–Egyptian Conservation Mission to Marina el-Alamein in 2018 comprised research and conservation mainly in the public district of the ancient town and, additionally, in private houses. Work focused foremost on research and presentation of remains of two streets, running east and south of the southeastern corner of the main town square, and the adjoining monuments. Research and conservation continued also on the remains of public Roman baths dating from the 1st to the 3rd century AD, located in the area south of the square. Maintenance conservation was carried out in Houses H21c and H1 and in the ancient town center. Land grading to enhance exhibition value and ensure rainwater drainage was carried out in some areas.

**Keywords:** Marina el-Alamein, town center, street, main square, southern baths, houses, research, preservation, conservation

It has been 23 years since the first season in 1995 when the Polish–Egyptian Conservation Mission embarked on the preservation and conservation of the ancient remains of the Hellenistic and early Roman harbor town at the site of Marina el-Alamein. The work this year was geared to prepare for the imminent opening of the archaeological excavation site to visitors, as announced by Egypt's Ministry of Antiquities. The focus was on the ancient town center, which is of particular interest in terms of field exhibition and may soon be included in

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## **Team**

*Dates of work:* 7 May–7 June 2018

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*SCA representatives:* Nama Sanad Yakoub (Marina Site Director), Soheir Fekry Ahmed and Medhat Saleh Kamal Yousif (SCA inspectors)

*Archaeologist:* Dr. Grażyna Bąkowska-Czerner (Jagiellonian University)

*Architects:* Wiesław Grzegorek (freelance, PCMA UW associate), Anna Chodkowska, Monika Drab and Szymon Popławski (PhD candidates, Wrocław University of Science and Technology)

*Stone and sculpture conservator:* Piotr Zambrzycki (Inter-academy Institute of Conservation and Restoration of Works of Art, Academy of Fine Arts in Warsaw), responsible also for copper-alloy/small finds preservation

*Painting conservator:* Anna Selerowicz (Inter-academy Institute of Conservation and Restoration of Works of Art, Academy of Fine Arts in Warsaw)

*Numismatist:* Prof. Barbara Lichočka (Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences)

*Archaeozoologist:* Dr. Urszula Iwaszczuk (PCMA University of Warsaw)

*Cooperating specialists:*

*Pottery expert:* Dr. Grzegorz Majcherek (PCMA University of Warsaw)

*Glass expert:* Renata Kucharczyk (PCMA University of Warsaw)

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the tourist itinerary as one of the main attractions. At the other extreme are the mundane conservation activities needed to remove damage to the ancient architectural substance that is the effect of unfavorable weather conditions.

The Mission worked in several areas [Fig. 1], but the most important activity was concentrated in the ancient town center (identified as the forum). Here, the protection and exposition of the street running east of this square was continued [Fig. 2]. Another square and remains of buildings situated east of the eastern end of this street were cleared. Research and partial preservation were undertaken in the southern section of a street running south of the southeastern corner of the forum. The Roman baths in this zone remained within the team's scope of interest as well.

Interventional conservation and restoration repairing damage resulting from unfavorable weather conditions concerned first of all the commemorative monument of Commodus located in House H21c (see Grzegorek 2019, in this volume) and some walls in House H1. Removal of rubble heaps and land grading to enhance the exhibition value of some areas simultaneously ensured proper drainage of rainwater from the vicinity of historical structures. Methods for protecting and restoring the remains of plaster and polychromy were researched. Objects from the storerooms underwent conservation (see Selerowicz and Zambrzycki 2019, in this volume). Research on coins from Marina el-Alamein (see Lichočka 2019, in this volume), animal bone remains (Urszula Iwaszczuk), as

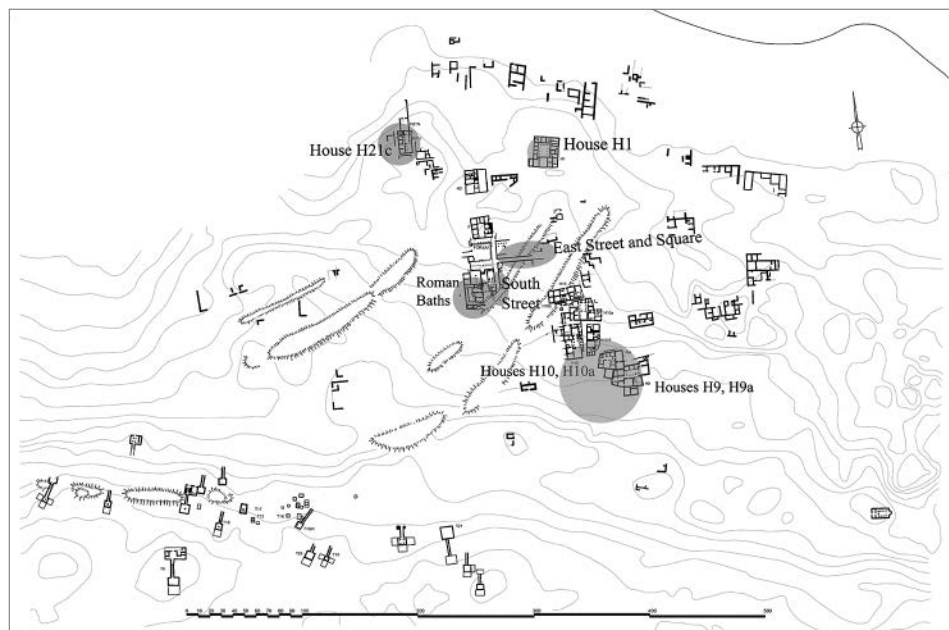


Fig. 1. Areas of research and conservation work in Marina el-Alamein in 2018 (Polish–Egyptian Conservation Mission Marina el-Alamein)

well as pottery (Grzegorz Majcherek) and glass finds (Renata Kucharczyk) accompanied the conservation work. Documentation with regard to site

measurements (in the city center, the houses, and the Christian basilica) was updated, requiring the cleaning of selected areas of the site.

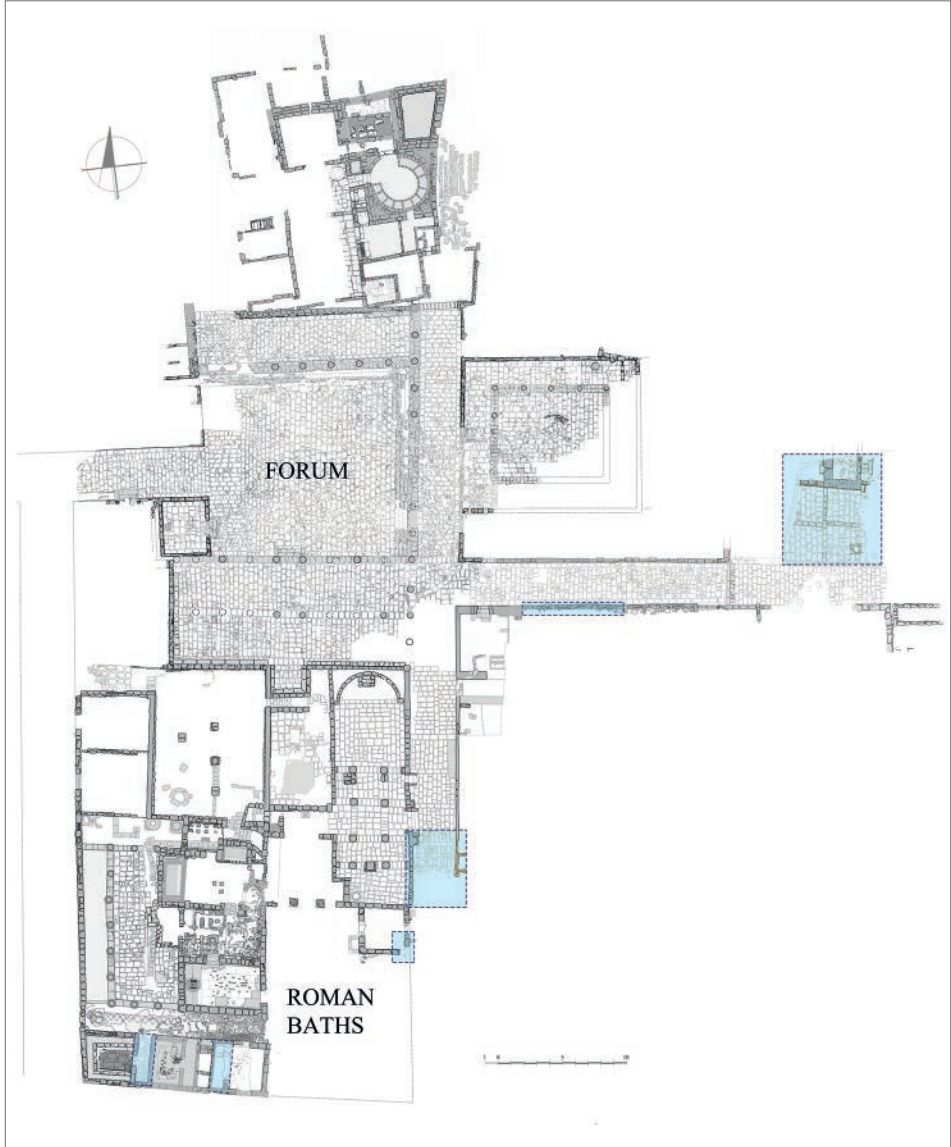


Fig. 2. Areas of research and conservation in the ancient town center of Marina el-Alamein in 2018 (Polish–Egyptian Conservation Mission Marina el-Alamein | drawing and updates A. Błaszczyk, A. Brzozowska, R. Czerner, M. Grzegorek, M. Krawczyk-Szczerbińska, K. Majdzik, S. Popławski)

## STREET AND SQUARE EAST OF THE FORUM

Excavation of the area directly east of the main square of the ancient town by the Polish Archaeological Mission (from the Polish Centre of Mediterranean Archaeology, University of Warsaw) in 2002 uncovered, among others, the western part of a street running east of the south-eastern corner of the forum (Daszewski et al. 2005: 89–90). The eastern part of this street was excavated in 2000 (Daszewski 2001: 58–61). The two sections were connected in 2017 when the Conservation Mission explored the middle part of the street and thus a significant exhibition effect in the area of the ancient center was achieved (Czerner, Bąkowska-Czerner, and Grzegorek 2018: 71–74) [see *Fig. 2*]. The street, which is 20.72 m long and wide from 3.24 m in the east to 3.44 m in the west, is paved with rectangular limestone slabs. Two steps at its east end led down to a paved space that extended northward, widening into a square (Daszewski 2001: 58–61; Czerner, Bąkowska-Czerner, and Grzegorek 2018: 70, 73). The Conservation Mission now explored a stretch about 5.50 m wide over a distance of about 8 m north of the street line.

The exposition purpose was to reveal a part of the square's surface paved with stone slabs; the research purpose was to examine the remains of a building situated there. A section of the pavement was cleared together with the remains of a stately building comprising walls of well dressed limestone blocks. The considerable thickness of some of these walls (0.67 m) indicates a building of substantial size [*Fig. 3*]. The presence of elements of large-scale architectural decoration in

the area stands in confirmation (Czerner 2009: 114–116). A building of substance was expected here already in earlier studies, taking into consideration the location on the axis of the main square and the adjacent peristyle (Pensabene 2010: 203; Bąkowska-Czerner and Czerner 2019: 34).

The uncovered remains constituted the southeastern corner of a building, in which several elements can be distinguished [see *Fig. 3*]. The south wall is roughly aligned with the stylobate of the southern portico of the peristyle adjoining the forum, situated about 20 m to the west [see *Fig. 2*]. Assuming that the north wall of the building would be aligned with the northern portico of the peristyle, the building would stretch for 7.80 m from north to south. However, the alignment is only approximate and the direction of the wall is slightly inclined in relation to the stylobate discussed. Further research is necessary.

The section cleared was roughly 2.30 m wide from south to north [*Fig. 4*]. The east part, 2.83 m long from east to west, constitutes the southern section of the wall perimeter. The south and west walls are thicker at the corner—0.67 m and 0.64 m respectively—whereas the east wall is only about 0.30 m thick. The west wall is the most massive and well made. Dressed blocks form the west and east walls, the south one is built of irregular stones. One course of blocks, 0.34 m high, survives in most of the feature, two courses in some places (about 0.60 m). Collapsed stone blocks filled the inside of the structure. Adjoining the east wall on the east is a platform, which is 0.88 m



Fig. 3. Part of the square and remains of structures siding the street running east from the forum: top, plan; bottom, the northern part after cleaning, looking east (Polish–Egyptian Conservation Mission Marina el-Alamein | photo R. Czerner, drawing S. Popławski)

wide and raised about 20 cm above the level of the pavement. It could be a kind of very wide step. A damaged stone drum of a column, about 0.50 m in diameter, found in the vicinity, may have come from the said building, and be it so, then the solid west wall may have been a stylobate.

A thinner wall (0.37–0.45 m wide) runs westward from the southwestern corner of the feature described above. Its direction is also slightly inclined in relation to the portico in the peristyle adjacent to the forum, but the difference could have been corrected in the westward section.

The paving of rectangular limestone slabs south of the structure would have been laid later than the building. It is not uniform, being compartmentalized by lines of more massive stone blocks, which could have been the tops of walls of some underground structures. The southeastern quadrant probably delineates a cistern, the mouth of which was discovered in the southeastern corner during earlier investigations (Daszewski 2001: Fig. 11). Similar solutions are found elsewhere in the paving of streets in Marina. [RC]

### ARCHAEOLOGICAL RESEARCH

Finds from the room behind the wall lining the south side of the street, recovered during the reconstruction work on the wall, included a glass pawn [Fig. 4:b] and a mortarium fragment [Fig. 4:e]. Oval pawns of this kind, slightly convex with black shiny surface (Dia. 1.6/1.4 cm, H. 0.6 cm), are fairly common (e.g., Nuțu and Boțan 2009: 148, 151, Pl. 2, Nos 2–4). The small fragment

of a limestone mortar has a base 15 cm in diameter and body walls smoothed inside with traces of treatment on the outside. The bottom was slightly concave, the foot profiled. The pottery from this context was dated to the 2nd through 3rd century AD (G. Majcherek, personal communication). In Marina, pawns and mortaria are frequent finds. Most of the mortars discovered in Marina date from this period.

The corner of a building discovered while clearing the paving at the eastern end of the street was covered with a thick layer of clean sand (0.70–0.90 m), below which was darker soil yielding ceramics, glass and a severely corroded bronze coin. The uncovered part inside the walls of various thickness (see above) was 1.86 m long and up to 1.65 m wide. The rubble inside was mixed with potsherds. West of the room the soil is firmly packed and contains some ceramics. Fragments of pottery dated to the 4th century were found on the paving. [GB-C]

### RESTORATION AND EXPOSITION

Once the restoration of the walls lining the street is accomplished, the feature will contribute significantly to the visual exhibition impact of the ancient city center (Czerner, Bąkowska-Czerner, and Grzegorek 2018: 74–76).

The restoration started in the previous season with a wall on the northern side of the street, built in ashlar masonry. A short stretch of the southern elevation built of rubble masonry was protected then. In 2018, this wall was raised to a height of 0.65 m for a stretch 7.80 m long [Fig. 5]. In the eastern square work was limited to uncovering the paved surface.



Fig. 4. Glass, faience and stone finds: a – glass unguentarium; b – glass game pawn; c – glass marble; d – faience plate; e, f – stone mortaria (Polish–Egyptian Conservation Mission Marina el-Alamein | drawing R. Bąkowski, photos R. Czerner)





Fig. 5. South side of the street running east from the forum, view from the east: top, before preservation; bottom, after preservation in 2018 (Polish–Egyptian Conservation Mission Marina el-Alamein | photos R. Czerner)

## STREET SOUTH OF THE FORUM

The northern section of the street, 8.50 m long, was uncovered by the Polish Archaeological Mission in 2005 (Daszewski et al. 2007: 77, Fig. 1), and then by the ARCE/EAP Site Presentation Project in 2006, which also carried out an anastylosis and limited reconstruction of the walls on both sides of the street. In 2018, another 6.50 m of the street was cleared, removing blocks from the collapsed walls piled up on the paving on both sides [Figs 6, 7 top]. The east wall is preserved as a single course of blocks for a stretch of 2.10 m beyond the last preserved entrance on the south. A wall just 0.14 m thick appears to have been constructed rather sloppily on top of the collapsed wall.

It was built of stone slabs (0.24 x 0.55 x 0.16 m) and screened off a room east of the street [Figs 6, 7 bottom]. The north wall of this unit was built of vertically placed slabs (0.36 x 0.60 x 0.14 m) covered with white plaster on the southern side. The entrance leading east, 0.90 m wide, was also blocked with a thin wall of similar slabs. A wider wall, perhaps of rubble stone, closed the room on the southern side. [RC]

### ARCHAEOLOGICAL RESEARCH

The archaeological research in the southern street was undertaken in order to reconstruct the east wall of the basilica (on the west side of the street) and the wall on the east side



Fig. 6. The south section of the street running south from the forum: left, before cleaning; right, after cleaning in 2018 (Polish–Egyptian Conservation Mission Marina el-Alamein | drawing S. Poplawski)



Fig. 7. Street running south from the forum, view from the south: top, before cleaning and preservation; bottom, after cleaning and preservation in 2018 (Polish–Egyptian Conservation Mission Marina el-Alamein | photos R. Czerner)

of the street. Loose stone blocks coming from both walls were cleaned and documented, then removed to uncover the street surface (3.68 m wide) [see Fig. 6]. Part of a room situated on the eastern side of the street was also uncovered [see Figs 6, 7 bottom]. Stone blocks from the basilica walls, which might have been the first to collapse, were lying on a layer of sand 5–10 cm thick or directly on the paving, whereas blocks slightly smaller in size, most probably coming from the east wall, were found on a layer of sand about 20–30 cm thick. Among the stone blocks coming from the east wall there were several elements of jambs and architectural elements. Plaster, mainly white and pale yellow in color, came from a layer of sand under the stone blocks. Traces of plaster (four layers) have survived *in situ* on the lower section of the basilica wall, right above the paving. The fill also yielded a small amount of animal bones, identified as sheep and gazelle, and a bronze coin of Antoninus Pius from the mid-2nd century, found under a stone block coming from the basilica wall (for more on the coins, see Lichočka 2019, in this volume). The walls of the basilica were evidently still standing at this time. The deposit of dark packed soil east of the east wall yielded pottery and glassware dated to the 2nd–3rd century (G. Majcherek and R. Kucharczyk, personal communication). Several oil lamp fragments were also found, as well as half of a faience plate, 16 cm in diameter, form T13.3 (Nenna and Seif el-Din 2000: 52, 323, 326, No. 473, Pl. 13; 2014: 280–281, Pl. 9), still preserving traces of

a bright green glaze [Fig. 4:d]. According to Mieczysław Rodziewicz (2005: 30, 101), this is an imitation of an Eastern Sigillata form from the first half of the 1st century AD. Plates of this kind, attested also in Marina, were popular in Egypt in the 2nd century and the beginning of the 3rd century. Bones of animals, including camel, gazelle and birds, were also found in the room. Of the five bronze coins, two were legible, one being a Ptolemaic and the other a Hadrian issue.

The room ceased to function probably in the second half of the 3rd century, possibly as a result of earthquake damage in AD 251 or AD 262. The fallen walls of buildings on both sides of the street lend credibility to this assumption, especially as similar damage dated to the second half of the 3rd century and the second half of the 4th century has been attested in Marina before (Czerner et al. 2017: 97). [GB-C]

#### RESTORATION AND EXPOSITION

Cleaning the space revealed another section of the street and its paving. Blocks from the collapsed walls were documented and removed from the street, to be used later in a partial anastylosis of both walls. In 2018, two courses of blocks were added to the top of part of the wall on the western side of the street. One element was also added to the top of an engaged column flanking the entrance [see Fig. 7]. On the western side, south of the basilica, a relic of the southeastern corner of a vestibule (Room 9) leading to the baths was also protected with an extra course of stone blocks.

## ROMAN BATHS SOUTH OF THE FORUM

Baths from the Roman period, dating from the 1st to the 3rd century AD, were discovered in 1987 by the PCMA University of Warsaw mission (Daszewski 1995: 19–20) and investigated again in 2005–2007 (Daszewski et al. 2007: 79–82). The Conservation Mission has been researching and conserving the remains of the baths since 2007 (for the most recent work, see Czerner et al. 2017: 90–93; Czerner, Bąkowska-Czerner, and Grzegorek 2018: 77–79). In 2018, the third and original level of flooring was uncovered in the southern part of the structure, in Room 17 [Fig. 8]. The walls, which partition the interior, were built later on that floor.

In 2018, Room 13 [Figs 9, 10], which used to be an entrance corridor to Latrine 12, was explored, revealing painted wall decoration on the lower parts of all the walls. The excavation of this unit had been postponed from 2013 (for the earlier research, see Czerner et al. 2015: 126; Bąkowska-Czerner and Czerner 2017: 181) in order for a painting restorer to be present during the investigation.

Maintenance conservation and protection work was carried out in several units of the bath, protecting the edges of original plaster, which had become detached (for a discussion of this work, see Selerowicz and Zambrzycki 2019, in this volume). [RC]



Fig. 8. Room 17 of the Roman baths south of the main square: view from the north (Polish–Egyptian Conservation Mission Marina el-Alamein | photo R. Czerner)



Fig. 9. Rooms 12 (latrine) and 13 of the Roman baths south of the main square: top, view from the west; bottom, view from the north (Polish–Egyptian Conservation Mission Marina el-Alamein | photos R. Czerner)

### ARCHAEOLOGICAL RESEARCH

Archaeological research in Room 9 of the baths involved cleaning of the southeastern corner of the wall foundation (for earlier work in this room, see Czerner, Bąkowska-Czerner, and Majcherek 2015: 129, Fig. 6). Finds included pieces of mortar, plaster and bricks, as well as several fragments of pottery and a glass marble (Dia. 1.9 cm) [see Fig. 4:c]. The east wall was 0.46 m wide, the south one 0.32 m. A door 1.55 m wide is located in the east wall. Remains of a threshold made of bricks have survived. Steps led to the room from the street, lined with a sloped wall on the northern side. Paving was recorded outside in the street.

In Room 17, cleaning work under archaeological supervision uncovered by

the northern door a severely damaged fragment of a floor made of marble tiles set in mortar [see Fig. 8]. It was the latest floor, lying about 12 cm above an earlier floor of lime mortar with ceramic filler. The dark burnt soil layer on this floor yielded a good many fragments of pottery and a clay oil lamp, glassware and animal bones, the latter including pig, camel, bird and fish remains, as well as small fragments of terracotta articles and a fragment of a bone pin. A small hearth was situated in the corner by the south wall, which used to support stairs. A fragment of damaged burnt grey marble turned out to be a piece of the right arm of a large sculpture. Relics found in this layer are dated to the 2nd century and the first half of the 3rd century.



Fig. 10. East wall of Room 13 of the Roman baths south of the main square, with two layers of painting decoration (Polish–Egyptian Conservation Mission Marina el-Alamein | photo R. Czerner)

Testing in the western part of the room revealed another floor of lime mortar about 0.35 m lower down. The overlying packed layer of soil yielded pottery, glassware and animal bones (goat/sheep, pig), dated mainly to the 2nd century and through the mid-3rd century AD. The wall supporting the landing of the stairs and a small structure in the northwestern corner were built of rough stone blocks placed directly on the floor surface. Another test pit excavated on the other side of the wall supporting the stairs, in the corner by the south wall, explored a small hearth producing, among others, a fragment of a terra sigillata bowl and three partly preserved crucibles, fragments of oil lamps and animal bones (cattle included).

Earlier archaeological research in Room 13 of the bath, a corridor leading to the latrine (room 12), was halted upon discovering the painted wall decoration in this units (Czerner, Bąkowska-Czerner, and Majcherek 2015: 126) [see *Figs 9, 10*]. The walls survived to a height of about 0.57–1.00 m. Stone blocks from the collapsed wall lay in a layer of clean sand overlying an accumulation of mortar and plaster fragments, mostly white in color. Finds included ceramics and glass, dated mainly to the 2nd century through the mid-3rd century. The room is 3.75 m long, 1.02 m wide at the northern entrance and 1.05 m wide on the southern side. The door to the latrine was located more or less in the middle of the west wall; it was 0.76 m wide. The floor of the room was laid with irregular marble tiles [see *Fig. 9* bottom]. A threshold (0.11 m high, 0.13 m wide) remains in the northern entrance. The painted decoration [see *Figs 9* bottom, *10*]

comprised two layers of painted plaster coated with two layers of whitewash. The first paint layer is best preserved and most elaborate; it is associated with the decoration project of the baths as a whole. The east wall features a black band, 2 cm wide, running horizontally about 0.28 m above the floor, cutting off the dark-grey socle from the panels above, the latter imitating stone slabs of different colors: greenish, reddish and grey. The second paint layer, best preserved on the south wall, bears a simpler decoration. A black horizontal stripe, about 2 cm wide, runs 0.42 m above the floor separating the white wall below from vertical panels imitating decoration in stone. Yellow survives in the corners and an imitation of red stone appears in the middle. Plaster fragments found in the latrine (Room 12) and in Room 9 may come from this corridor (Czerner, Bąkowska-Czerner, and Majcherek 2015: 126–128, *Fig. 8*). Research by Anna Selerowicz, the team's conservator, who preserved the vestiges of the painting, improved the interpretation of this decoration (see Selerowicz and Zambrzycki 2019, in this volume).

The baths were built towards the end of the 1st century or at the beginning of the 2nd century, and were destroyed around the middle of the 3rd century AD. During that time the corridor walls were covered with two layers of paint and then the damaged polychromy was coated with a double layer of white plaster. The interpretation of the decoration of the Roman baths will be enhanced by a better understanding of the wall painting in the corridor as well as other wall painting from the baths.



## SURFACE FINDS

Surface finds included a bronze Roman coin from the times of Hadrian from the area near the forum.

A large mortarium of nummulithic limestone (the stone identified by geologist Małgorzata Mrozek-Wysocka) was found west of House H21 [see *Fig. 4:f*]. The bottom is slightly concave (unlike the other fragment) and the rim is flat and plain. With an 8 cm high shallow bowl and a diameter of approximately 37 cm (the usual diameter is 13–28 cm), it is the largest stone mortarium found in Marina so far. Although made for use primarily in housework, mortararia were also present in sanctuaries or for industrial purposes (for more on mortararia, see Villing 2009). They were used for pounding or mixing food, grinding cereals, but also for preparing medicines, mixing pigments or binding mortar.

An almost complete unguentarium [see *Fig. 4:a*] and a small marble sculpture fragment [*Fig. 11*] were found in the area east of the Roman baths. The statue frag-

ment is a headless male torso, apparently with longer hair reaching to the shoulders. The front of the sculpture is heavily damaged, whereas its back, with a robe (himation) slung over the left shoulder, is well preserved. It could be a representation of a god, either Serapis, Asklepios or Zeus, all of whom tend to be imagined in this way. [GB-C]

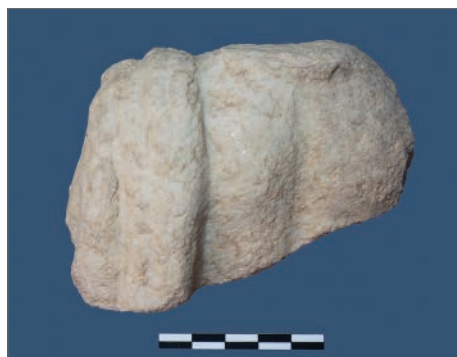


Fig. 11. Fragment of a marble statuette (Polish–Egyptian Conservation Mission Marina el-Alamein | photo R. Czerner)

## DUMP REMOVAL AND LAND GRADING

Dumps of debris from earlier excavations were removed using a loader in order to improve visibility of the ancient remains and to clear the ground in some places of the excavation site, mainly in the area east of the ancient town center. At the same time, land grading was aimed at solving

the problem of channeling rainwater away from the vicinity of the ancient remains. The aim was to prevent it from flowing near the ancient walls and for this purpose proper drainage was formed from the west, south and east, around the complexes of houses H9, H9a and H10.

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