'Marea'/Northern Hawwariya – 2019 Excavation Season

Authors:

T. Derda,¹ M. Gwiazda,² T. Barański,³ A. Pawlikowska-Gwiazda,⁴ D.F. Wieczorek⁵

Team:

Director: Prof. T. Derda (Institute of Archaeology, University of Warsaw)

Field director: Dr M. Gwiazda (Institute of Archaeology, University of Warsaw)

Archaeologists: A. Pawlikowska-Gwiazda (Institute of Archaeology, University of Warsaw), T.

Barański (The Institute of Mediterranean and Oriental Cultures of the Polish Academy of

Sciences), D.F. Wieczorek (Polish Centre of Mediterranean Archaeology, University of Warsaw)

Glass specialist: R. Kucharczyk (Polish Centre of Mediterranean Archaeology, University of

Warsaw)

Pottery specialist: K. Danys (Polish Centre of Mediterranean Archaeology, University of Warsaw)

Numismatist: A. Panic (not affiliated)

Architect: A. Kutiak (not affiliated)

Building engineer: Jose Cano Correa (not affiliated)

Restaurator: Julia Burdajewicz (Faculty of Conservation and Restoration of Works of Art,

Academy of Fine Arts in Warsaw)

Students: Natalia Lockley, Marcin Sobańda, Maciej Żmuda (University of Warsaw)

¹ https://orcid.org/0000-0002-1419-9650 University of Warsaw, Institute of Archaeology; 00-970 Warsaw, Poland, Krakowskie Przedmieście 26/28; t.derda@uw.edu.pl

² https://orcid.org/0000-0002-9984-9375 University of Warsaw, Institute of Archaeology; 00-970 Warsaw, Poland, Krakowskie Przedmieście 26/28; mariusz.gwiazda@gmail.com

³ https://orcid.org/0000-0001-8028-0628 Polish Centre of Mediterranean Archaeology, University of Warsaw, Nowy Świat 4, PL – 00-497 Warszawa, tomaszbaranski@uw.edu.pl

⁴ https://orcid.org/0000-0003-4957-5860 University of Warsaw, Institute of Archaeology; 00-970 Warsaw, Poland, Krakowskie Przedmieście 26/28; az.pawlikowska@uw.edu.pl

⁵ https://<u>orcid.org/0000-0003-2516-4098</u> Polish Centre of Mediterranean Archaeology, University of Warsaw, Nowy Świat 4, PL – 00-497 Warszawa, dawidfwieczorek@uw.edu.pl

Inspectors: Amr Ibrahim Ali (director of the Fawzy el-Fakhrany Storage Museum), Mohammad Abdirahman, Ahmed Ibrahim Ahmed Mohammed, Iman Youssif Abd el-Hakim (archaeological inscpectors), Abdalla Ahmed Abdalla Ibrahim (restauration inspector).

Acknowledgments: Special thanks are due to Nashwa Gaber General Director of Foreign and Egyptian mission Affairs and Permanent Committee of the Supreme Council of Antiquities for her understanding of the work of the Mission and her special consideration. The excavations were financed by the National Science Centre (UMO-2017/25/B/H3/01841) and Polish Centre of Mediterranean Archaeology, University of Warsaw).

'Marea'/Northern Hawwariya – 2019 Excavation Season

Abstract:

The 2019 season at 'Marea' is a continuation of the research excavation started the year before. The goal is to determine the date of foundation and using all the structures visible on the site and to use trial trenches to find the remains of habitation below those structures. Remains dated in the Roman, Byzantine and Early Islamic periods were found in nine trenches. The oldest remains are a series of locally-manufactured amphorae, discovered under one of the Byzantine buildings in the northern part of the site. The entire eastern waterfront was uncovered, along with the adjacent latrines, streets and buildings which are presumed to be residential. The structures which were examined were very regularly formed and involved large-scale earthworks. They were built no earlier than the mid-6th century A.D., and, although their purpose sometimes changed, they remained in use until about the mid-8th century A.D.

Keywords: Egypt, Roman period, Byzantine period, Early Islamic period, architecture, amphorae, terracotta figurine

Dates of work: The twentieth season of activities at 'Marea'/Northern Hawwariya lasting from 21 September to 24 October 2019.

INTRODUCTION

The archaeological site at 'Marea' is located in the northern part of the Arabic village of Hawwariya. During the Byzantine period (5th century to first half of the 7th century AD), the town located there was an important staging point for pilgrims travelling from Alexandria, located about 40 km from the village, to the shrine of Abu Mena, 17 km further south. Surface studies indicate that 'Marea' occupied an area of about 13 ha at the pinnacle of her history. Even though the archaeological research of the 1970s led to the discovery of numerous buildings (a church, a house, a mill, two thermae complexes, latrines, a sepulcher and buildings assumed to be workshops) (Babraj and Szymańska 2008: with further references) (Fig. 1.), the majority of the buildings on the site remain unclassified with regard to form, function, and date of construction and abandonment. Since 2018, a research program has been carried out to recreate the topography of this ancient town in these previously unidentified areas and to determine how the buildings there changed throughout history. In 2019, nine large-area trial trenches were set in the northern and eastern parts of 'Marea.' The excavations in those research areas considerably enriched our knowledge of the original topography of the area, the date of construction for buildings and their manner of use.

RESULTS

1.1. Area S5

The first building examined in 2019 (S5) is located north of the large basilica's exedra (Fig. 1), immediately adjacent to the place where one of the quays is connected to the land. The crowns of that building were partly uncovered in the previous season, which allowed for an initial estimation of the building's plan. In 2018, excavations were carried out on two rooms on the eastern side (S5/2A and S5/2B) (Derda, Gwiazda, and Pawlikowska-Gwiazda 2020: pp.). A row of amphorae, set in a vertical position, was partly uncovered in the southern part of room S5/2A. The works there were not finished because of the end of the season. In the second room, a stone slab

floor was fully uncovered. Once the work resumed, it was focused on achieving two goals: obtaining materials dating the foundation of the building and uncovering the row of amphorae.

The first objective was achieved by a trial of 1.1 m x 1.2 m in the south-western corner of room 2B. After removing the slabs, layers leveling the ground and creating a sub-floor were spotted. Those layers contained coins, one of which was later identified as Byzantine (late 5th century to first half of 7th century A.D.).⁶ This coin served as the *terminus a quo* for the floor foundations and the connected S5 building. Those same layers also hid the Late Roman Amphorae 1 and 3 and Amphore Égyptiene 5/6, also dated to the Byzantine period (Pieri 2005: 67–84, 94–100; Dixneuf 2011: 142–153). There were also small numbers of residual fragments of AE 3 and LRA 4.1 from the Roman period (Dixneuf 2011: 97-128). The second type of amphorae is mainly found in deposits dating to the 2nd century A.D. (Pichot and Şenol 2015: 275–278). Below these layers of construction, native rock was found, which had been used as the initial foundations for the southern and western walls of room 2B. Once that level was discovered, the trench was backfilled, and the slab floor was reconstructed.

The works in room 2A began by removing some of the layers around the amphorae. This allowed it to be determined that there were eight pieces (Fig. 2). The amphorae were placed in a row a little shorter than 2 m. All were put neck down, with their bodies and bottoms damaged. The amphorae were identified as type AE 3, the production of which is conclusively confirmed in the 'Marea' area (Gwiazda, Wielgosz-Rondolino 2020: pp). The unearthed layer also contained lumps of resin (Fig. 3.1) and over 200 fragments of Early Roman amphorae LRA 4.1, which were used for storage.⁷ Resin was used to waterproof the AE 3 and 4 produced in 'Marea.' The amphorae were probably used to store wine produced near Lake Mareotis (Abd el-Ghani 2010: 4-5).

-

⁶ Coin identification was performed by A. Panic.

⁷ The amphorae were identified by Katarzyna Danys. The same set of artifacts was found in the nearby Akademia site, where AE 3 and 4 were manufactured in the Roman period (Pichot and Flaux 2015: 259–276)

Determining the function of the rows of neck-down amphorae requires further study. It is possible that the row continued eastward. However, they must have been partially destroyed when the Byzantine building S5 was erected. This is suggested by the fact that the row is cut by the foundations of the eastern wall of room 2A. Surprisingly, no traces of the Byzantine flooring were found by the team working in that room. This may be explained by the well-documented practice of stealing and reusing floor elements in the Early Islamic period in this town (Gwiazda, Wielgosz-Rondolino 2020: pp). Coins from 695-750 A.D. found in the layers above the amphorae may serve to support such an interpretation. Those findings outline the threshing floor in the room and suggest that the building was abandoned at that date or slightly later.

1.2. Area A1

Area A1 is located directly west from the buildings of the atrium of the large basilica (Fig. 1 and 4). Two trenches (eastern part: A1-1, western part: A2-1) were set up there to enable the initial arrangements of this previously non-researched area to be determined. These two trenches were separated by a baulk and their borders were outlined by the wall crowns which were partially visible on the surface.

1.2.1. Trench A1-1

The works in trench A1-1, measuring 2.45 m x 3 m, began by removing the debris from the damaged neighboring walls. Apart from pseudo-ashlars and crushed mortar, it contained, among other things, two limestone shafts and an ashlar with holes for wooden beams. Directly below this deposit, a concentration of broken limestone slabs (0.45 m thick) was discovered. These slabs are the remains of the flooring of a room set on a higher level or of a flat roof. Broken slabs from damaged ceilings were also found in building H1 on the eastern side of the large basilica (personal observation). The room likely ceased to be used in the 7th or 8th century, as suggested by the elements of AE 8 found there, since their production in Egypt is confirmed for that time period

(Dixneuf 2011: 178–179). Such a *terminus a quo* is supported by the discovery a bronze coin of Focas (602-610 A.D.) with the broken floor slabs in the backfill.

Below these significant deposits in trench A1-1, a well-preserved mortar flooring was found. It was connected with the walls of the room on the southern and eastern sides, and also partially on the north. Its continuation was later discovered in the neighboring trench W1-2. The northern wall of room A1-1 had a doorway, sealed at an unspecified time during the room's use (Fig. 5). The fact that the northern wall was tied to the eastern part of the large basilica's atrium merits attention. Such a connection was not discovered for the southern wall, which was likely a partition wall built later than the others, although still within the same phase of construction.

Further works were conducted in this trench within the trial (1.2 m x 2.3 m) at the western baulk. After removing the limestone floor in that area, a sub-floor layer was revealed. A Byzantine coin and elements of amphorae dating to the same period were found there. An installation made of pseudo-ashlars and a re-used shaft joined with pink hydraulic mortar was located below (Fig. 5). It was 0.8 m wide, arranged in a linear fashion and oriented towards the eastern wall of room A1-1 at a right angle. Further works did not find a continuation of this installation on the western side, but it was present on the eastern side below the limestone floor level. Within the same trial, a limestone floor adjacent to the northern and southern walls of the room was discovered. Its central part was completely destroyed during the construction of the above-mentioned installation with hydraulic mortar. Subsequent works in the northern part of the trial revealed the foundation trench of the northern wall. Its filling contained fragments of LRA 1, 4 and 8 (Pieri 2005: 67–84, 101-113, 132-136), which confirms a terminus a quo for the foundation of this structure in the Byzantine period.

The foundation trench cut through a layer of earth with large amounts of cockle shells (Cerastoderma edule) (Fig. 6). These shells are found in 'Marea' in large quantities as admixtures for

hydraulic mortars used in Byzantine construction.⁸ They were also ground up and added to the clay used in the Roman period to make amphorae (Gwiazda, Wielgosz-Rondolino 2020: pp). Deposits from trench A1-1 did not contain any diagnostic material that allowed for an estimation of the date. Therefore, it is not possible to tie this discovery reliably to the possible applications mentioned above. The last layer explored in the trench was an orange-brown color. Its thickness did not exceed 0.25 m and it covered the native rock below, which has a slight slope towards south. After reaching that level, the groundworks were concluded, and the trench was backfilled.

1.2.2. Trench A1-2

Works in the neighboring trench A1-2 (3.2 m x 4 m) began by removing a layer of approx. 0.5 m consisting of dust and ashes. Elements of a dismantled furnace, waste related to glass production and two molds were also found (Fig. 3.2). The same deposit contained a large number of AE 7 fragments and broken ventilation pipes usually used in thermae (Szymańska and Babraj 2008: 30, photo 16). This varied set of artifacts suggests that it was a landfill. Its footwall was placed on debris formed from disintegrating walls, continuing in trench A1-1 (see above). Apart from disintegrated pseudo-ashlars, the debris was composed of fragments of plasterwork with Greek inscriptions carved in wet material, with the letters painted red (Fig. 3.3). A limestone column covered with plaster was also found with individual letters scratched on it. As in trench A1-1, the lower part of this area contained elements of broken floor slabs (Fig. 7). There was also a coin from the Umayyad period, which suggests a *terminus a quo* for when the room ceased to be used at around the end of 7th or 8th century A.D. for both trench A1-1 and A1-2. These deposits covered the last usable layer. A related hearth, dug into a lime mortar floor, was discovered in the north-eastern part of the trench (Fig. 8). Consumer waste, namely animal bones, was found nearby. The surface of the floor in the western section was damaged in many places due to heavy use.

_

⁸ This admixture was also noticed in the southern thermae (Szymańska and Babraj 2008: 28) and the tank near the *saqia* at the western part of the site (personal observation).

Once the flooring level was found, the excavations were terminated. The next points of focus were the northern and southern walls found in the trench. Both had two pillars opposite one another, which possibly used to hold an arch supporting the ceiling. There were two separate areas to the east and west. The eastern one was connected with the room uncovered in trench A1-1, but the limits of the western one were not determined. Furthermore, in the eastern part of the southern wall, there was a doorway which was blocked with ashlars at a later stage of the building's use. Another doorway might have been placed in the western periphery of the wall, where proof of the wall's continuation was not found.

1.3. Area W1

The next phase of works took place in the eastern waterfront area, between the large basilica and southern thermae (Fig. 1). There were four elements there: a simple wall creating the waterfront, a street, a row of buildings parallel to it, and a street on the western side of those areas. There were two large-area trenches and two trials, which established the chronology and changes in use for this part of the site.

1.3.1. Waterfront (W1) and latrine (W1-1)

The works commenced by removing plants and sediment brought there by the wind, which had partially covered the waterfront construction. The construction consisted of row of pseudo-ashlars, varying in thickness from 0.6 m to 0.93 m and joined with pink hydraulic mortar (Fig. 9). The construction started in the north-west and continued in a straight line towards the south-east for over 200 m. At the southern end, the wall turned westward to avoid the *saqia* near the southern thermae. It was not determined how the structure continued afterwards. It likely joined the Roman dyke, located about 80 m further and parallel to the waterfront (Pichot 2010: 58). Both constructions created a regular artificial bay in the eastern part of 'Marea.'

From the east, there were two constructions made of limestone pseudo-ashlars that joined the waterfront, located about 70 m from each other (Fig. 1). The one in the south was examined

more thoroughly after all the other walls were cleaned. The layer covering the structure was up to 0.4 m in thickness, becoming shallower towards west. There were many elements of broken kitchenware, tableware (*Assuan*) and amphorae. In the last category of vessels, it was possible to find imported LRA 1, 4 and 8, along with AE 5/6, 7 and 8 made in Egypt. Attention should also be paid to the broken amphorae AE 5/6, which had many fish bones at the bottom (Fig. 10). This is likely proof of the amphorae being reused for fishmeal production (e.g. *garum*, *salsamenta*, etc.).9 In the south-eastern corner of the structure, a concentration of fragments of over 800 glass bottles and flasks was found. Furthermore, the layer contained three ceramic incense burners with soot marks, elements of terracotta figurines made in Abu Mina (a camel, a pregnant woman, a man's head), animal bones, and mussel and snail shells. This collection should be treated as a landfill for the neighboring areas (see below). It was started no sooner than the end of 7th century or the first half of the 8th century, as suggested by an Umayyad coin found there.

Removing this deposit allowed for the identification of a latrine (W1-1) composed of two platforms (Fig. 11). They were surrounded by sewage channels which transported the waste directly to the lake. The upper part of the walls, the seats and the platform floors were discovered to have been stolen, and the theft must have taken place immediately before transforming the area into a landfill. A trial was established at the northern platform to explore the layers that would make it possible to date the foundation of the building. The ceramics found there contained, among other things, fragments of LRA 4.4, the production of which is dated no earlier than the second half of the 6th century A.D. (Majcherek 1995: 169; Pieri 2005: 101-111), and elements of late Roman tableware D f. 9A-B (Hayes 1972: 382), also dated after the second half of the 6th century A.D. Construction-wise, the latrine is newer than the waterfront itself, since the two structures were not connected. Another interesting discovery in this trench was that of coated ceramic fragments (Fig. 12). This concentration was found outside the eastern wall, at the level of the northern platform. A

⁹ On fishmeal production involving reused wine amphorae see Van Neer et al. 2007: 147–159.

similar concentration of ceramic fragments was spotted while unearthing one of the walls of building H1, east of the large basilica (Gwiazda, Pawlikowska-Gwiazda 2019). In the second case, the external face of the wall was also oriented towards the lake. Bearing in mind the fact that some fragments bore mortar marks, it is possible to assume that they were somehow used to finish the external faces of the walls. Nevertheless, this hypothesis will only be confirmed by further discoveries of such concentrations.

The second structure (W1-2) adjacent to the waterfront wall and located further north was identified as another smaller latrine after the ceilings were partially uncovered. The walls were also robbed, to an even larger extent in this case. However, no remains of a landfill, such as the one covering the remains of the building of latrine W1-1, were spotted.

1.1.1. Trench W1-5

Moving further north, a 31 m trench was established, cutting at a right angle to all the buildings in that part of the site (waterfront, eastern street, building W1-B and western street) (Fig. 13 and 14). The basic task of the research in that area was to determine the date of construction for particular structures located therein. Starting in the west, a level of an Early Islamic street was found, covered by debris from the western wall of building W1-B (Fig. 14, T10). Older levels in that part of the trench were not unearthed. The building adjacent to the street was composed of three rows of rooms, with the walls made of pseudo-ashlars joined by mortar. Westward, there was a transverse vestibule (T8), after which an impressive yard was located, judging from the considerable size (T7). At least two narrow rooms (T6 and T1-T2) were located next to it on the eastern side.

As in other rooms, after removing the construction-related debris in the yard T8, the entire trench area revealed a floor of hard soil. On the southern side along the profile, a trial was set up to uncover the foundations of the building. A level of dense sand and dust was found therein. It contained a fragment of the ampulla of St. Menas and a small number of broken numbulitic

limestones. This stone was imported from 'Marea' to other parts of Egypt and used to manufacture architectural details, such as plinths and pillars. This discovery proves that this layer was man-made. This is also confirmed by the fact that it partially covered the ceiling of a wide wall foundation on the western side of the trial. This covering was at least 1m thick, but it was not possible to examine the lower part due to a high level of groundwater. While uncovering the foundation of the wall in the eastern part, a concentration of 14 Byzantine coins was found in the grouting between some pseudo-ashlars. The coins were illegible, so their exact dating is not known. However, based on preserved analogous coins with similar diameter and weight, it is possible to estimate a date between the end of the 5th century A.D. and the beginning of the 7th century A.D. The collection also included a scrip, that is, a disc made of a white metal (possibly lead) (for further information on these discs see Bijovsky 2012: 44, 128). Such monnaies de nécessité were included in the treasure discovered by the wall of building H1, along with coins from the 5th and 6th century A.D. (Gwiazda and Pawlikowska-Gwiazda 2019). This finding suggests a date for the foundation of this building no earlier than in this exact period.

No other installations were discovered at the threshing floor of the alleged yard T7. In turn, the northern side of the trench revealed a concentration of marble tiles. Thickness measurements (approx. 0.25 m) suggest that they were a part of a larger floor slab that was broken apart and left there. In room T6, located further east, the threshing floor level revealed a concentration of ashes in its central area. An Umayyad coin was also found, suggesting this building was used in the Early Islamic period. A more complex situation was discovered in the adjacent room T1. In its eastern part, at an undetermined point in time, a small cell (T2) was attached to the original walls of room T1 (Fig. 14). From the western side, a rounded platform of burnt bricks and a stone slab was erected. The base was approx. 0.2 m above the level of the adjacent threshing floor. That platform revealed a concentration of ashes related to the tableware which was discovered nearby. The inside of cell T2 was empty, so its function remains unknown.

In the more easterly part of trench W1-5, the remains of walls were found attached to the eastern face of building W1-B, likely from the Early Islamic period. Four sections (T3, T4, T5 and T9) were identified for that area (Fig. 14). This newer structure was built using a completely different technique. It used broken limestone with an average size of approx. 0.2 m, placed with no regular row-based arrangement. No mortar substance was identified for those walls; the stones were probably joined using mud, which did not survive to the present day. Thinner limestone ashlar constructions were found between the walls. It seems they did not serve as load-bearing walls, but low partitions separating particular sections of this building. All of them had a threshing floor. In room T5, the floor was also filled in with a large reused marble slab.

A trial was set in room T₃ to compare the levels of the foundations of its walls. Research confirms that the foundation of the eastern wall (W₁-5-54) was higher than that of the western wall (W₁-5-52) (Fig. 15). Prior to building the second wall, a levelling layer (W₁-5-47) with large amounts of cinder from unknown production was laid on the previous usable level, and all this was covered with one more layer (W₁-5-45). Only then was the eastern wall built using broken limestone. Below the cinder level, a layer of dense sand and dust was located, which was later used to backfill the foundations of building W₁-B's walls, such as in trench T₈ (see above).

A similar sequence of layers was identified on the eastern side of the eastern wall of room T5. Below the debris which formed after the town was abandoned, two levelling layers were found; one contained cinder and was identical with that unearthed in room T3 (Fig. 13 and 16). A wall was built directly on those layers using broken limestone. Within this layer, a fragment of AE 8 was spotted, dating to no earlier than the 7th century A.D. This find suggests that the structure made of broken limestone on the eastern side of building W1-B was built in the same century or the next.

Below the cinder levelling layer, the initial street level was located, composed of threshed sand and dust (Fig. 13). A trial was set in its western part to uncover the western face of the waterfront. In contrast to the eastern side (Fig. 17), the elements were irregular and without

plasterwork to even the surface. This is understandable, since that side was covered with a layer to elevate the terrain from the moment of its construction. The layer was composed of sediments with large amounts of cinder from unidentified production (Fig. 17, Layers W1-5-16, 18, 19 and 25). Furthermore, the deposit contained an abundance of broken ceramic vessels, including the African Red Slip Ware form 97 (dated in 490-550 A.D., Hayes 1972: 151), LRD f. 9A-B (550-700 A.D., Hayes 1972: 382), and LRA 4.4 (Majcherek 1995: 169; Pieri 2005: 101-111). These findings suggest that the waterfront and the adjacent street were not established before the second half of the 6th century A.D., that is, at a time period similar to the southern latrine (see above). Moreover, in the levelling layer below the street, several broken terracotta figurines were found, which were produced at Abu Mina from the end of 5th century to the first half of the 7th century A.D. (Kaminski-Menssen 1996: 115, 153–154) (Fig. 3.4). Another interesting finding was a bone plaque, probably cladding for a wooden chest, depicting a naked, reclining woman, likely a Nereid (Fig. 3.5). Such iconographic motifs were popular in Alexandria in the Roman and Byzantine period (Rodziewicz 2007: 71-73).

Works in the eastern part of trench W1-5 fully uncovered the external face of the waterfront. It was hidden by several layers, the total thickness of which reached 1 m (Fig. 17, layers W1-5-1, 3, 10), resulting from waste deposition in the Early Islamic period. This is further proof that at least some of the waterfront buildings lost their original function and became a landfill.

1.1.2. Trench W1-3

Another trench (W1-3) was set south from W1-5 and west from latrine W1-1 (Fig. 1) within building W1-A. It was located in the north-western corner of the alleged yard of a complex of rooms arranged in a manner similar to that found in the western part of trench W1-5. The registered sequence of layers is partially different from that of building W1-B (see above). The thickness of the remains of the debris barely reached 0.25 m. Below was a sediment layer, likely formed after the building was finally abandoned. Once it was removed, a threshing floor and the remains of a hearth were found by the northern wall. Three Umayyad coins were also found in that layer. In the course

of further exploration and the removal of approx. 0.1 m of the layer, another threshing floor was discovered. This level also revealed the crowns of two thin walls creating a rectangular pen connected to the northern and western walls of the space. After removing the layer surrounding the structure, a deposit was found inside - seven complete LRA 4.4, laid on their sides next to one another (Fig. 18). A doorway was also located in the southern part of the western wall at that level. The threshold revealed a small fragment of flooring made from reused lime slabs and burnt bricks. The remaining part of the floor was, in fact, another threshing floor, with the walls of the pen with the amphorae built directly on top. This threshing floor made up the third and oldest usable layer preserved in this area of the buildings.

In the northern part of the trench, a trial was set to uncover the foundations of building W1-A. A sequence of levelling layers for the first usable layer was discovered. They contained fragments of LRA 1, which suggest that the building was not erected prior to the Byzantine period. Below this layer, a level with the foundation trench, filled in with ashes and residual fragments of locally manufactured amphorae AE 3 and 4, was found. A Byzantine practice similar to the Roman use of production waste to fill in foundation trenches is also confirmed in other parts of the site (Derda, Gwiazda, and Pawlikowska-Gwiazda 2020: pp.). In this case, a deposit of ashes and broken Roman amphorae, which the builders did not use to fill in the trench, was unearthed right next to the foundation trench. Trial works were continued to a depth of 0.75 m below that deposit, and more LRA 1 fragments were found in subsequent levelling layers. Natural ground could not be reached because of a high groundwater level.

1.1.3. Trench W1-4

The last trench was set on the western side of the central part of building W1-A (Fig. 1). It encompassed a street to the west and an adjacent narrow vestibule. In both areas, the works began by removing the debris that had resulted from wall disintegration. Within those layers, fragments of AE 8 and three Umayyad coins were found, which puts the *terminus a quo* for the abandonment

of this part of the site in the Early Islamic period. Further works took place only on the street to the west.

The remains of a makeshift wall covering the entrance to building W1-A, at approx. 0.5 m from its façade, were discovered (Fig. 19, wall W1-4-1). West from the wall, the remains of a floor made of reused limestone slabs were found. This is the first instance in 'Marea' of finding a street surface of such high quality – in all other cases, limestone was only used for threshing floors (Gwiazda and Pawlikowska-Gwiazda 2019: pp.; Derda, Gwiazda, and Pawlikowska-Gwiazda 2020: pp.). Other layers of the street uncovered in trench W1-4 had a simple, non-hardened form. Based on different colors of earth, nine layers were identified. Their thickness did not exceed 0.25 m, but the thickness was not uniform and decreased towards the wall of building W1-A. The formation process was associated with the makeshift deposition of small amounts of waste and natural inblown sediment.

Below, the original street layer was uncovered, contemporary with the foundation of building W1-A. It was made of ground lime or gypsum mixed with soil (Fig. 19, layer W1-4-25). Underneath, a layer of sand mixed with dust and cinder from unknown production was discovered. The characteristics of the layer suggest that it might have been identical to other levelling layers related to the construction of buildings W1-A and W1-B and the waterfront construction. Works in the trench were not completed, since the season had come to an end.

Summary

The 2019 excavations considerably broadened our knowledge of the diverse stratification and the habitation history of this part of the Lake Mareotis coastline. In the northern part of 'Marea,' settlement layers dated to the Roman period (trench S5-2A) were found, which had later been covered by Byzantine buildings. However, excavations in trials at the eastern waterfront did not reveal any signs of structures that would precede the Byzantine period. A unique aspect is the remains of ashes with locally-manufactured Roman amphorae, used to fill in the foundation

trenches for much later buildings (trench W1-3). This suggests that the Roman residence was probably limited to the northern part of the 'Marea' cape, in the region where the large basilica was built in the Byzantine period. The inhabitants of the settlement manufactured amphorae, as proved by the discovery of ceramic furnaces and amphorae waste (Gwiazda and Wielgosz-Rondolino 2020: pp). As for the Roman period, habitation is confirmed on an island located about 300 m north-east from the cape (Pichot 2010).

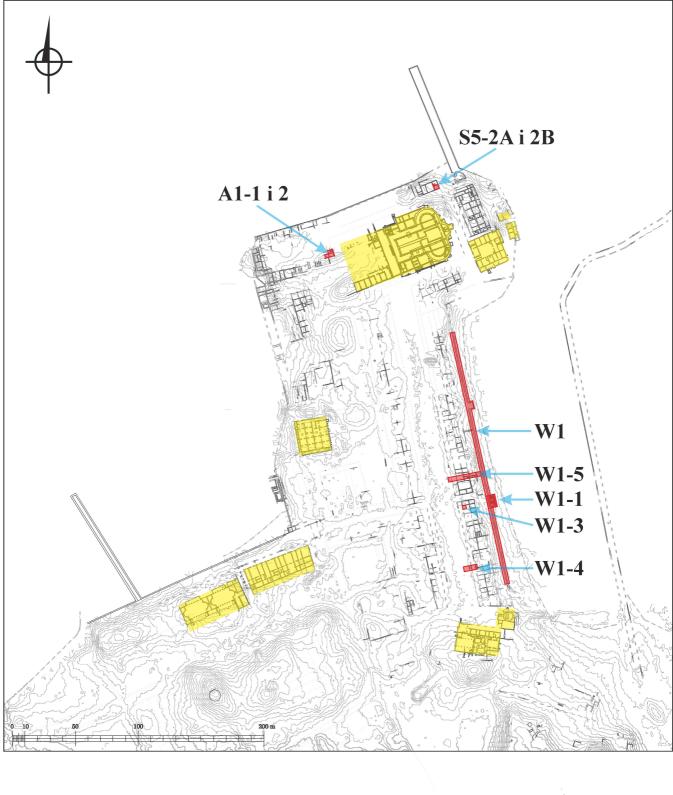
The Byzantine era saw considerable expansion of the settlement in 'Marea.' Excavation results prove that numerous new structures were erected at that time, such as streets, residential buildings, public latrines and over 200 m of waterfront. The buildings are all characterized by linearity, pointing to a centralized investment program. In some cases, these investments entailed large-scale earthworks aimed at levelling the area for construction (W1-3, W1-4 and W1-5).

For the majority of the locations under examination, the habitation continued until the beginning of the Early Islamic period (see also Gwiazda, Wielgosz-Rondolino 2020). In trench W1-5, clear indications of organized construction activity were found, where new buildings were added to older ones (W1-B). At the same time, there are signs of the abandonment and demolition of some Byzantine constructions (W1-1). Makeshift landfills within the town turned out to be more commonplace. A varied manner of using rooms may also be observed. In trench W1-3, at least three usable layers, one on top of the other, were registered. In the western part of trench W1-5, there were no traces of a similar process of creating new usable layers. This proves the changeable dynamics of inhabiting various places in 'Marea' over time. No Abbasid coins were found during the 2019 excavation season, confirming the earlier assumptions that the town was abandoned in mid-8th century A.D. (Gwiazda and Wielgosz-Rondolino 2020).

FIGURE CAPITATIONS

Fig. 1. Site plan marking unearthed buildings and trenches for 2019 (drawing A. Kutiak, W. Małkowski, modifications M. Gwiazda)

- Fig. 2. View from the north of the row of amphorae in room S5-2A (Photo A. Pawlikowska-Gwiazda)
- Fig. 3. 1. Resin from trench S5-2A; 2. Cast from trench A1-2; 3. Fragment of the inscription on plasterwork from trench A1-2; 4. Terracotta figurines from the levelling layer in trench W1-5; 5. Bone plaque depicting a reclining woman (Photo T. Derda)
- Fig. 4. View from the west of trenches A1-2 and A1-1 (Photo M. Gwiazda)
- Fig. 5. View from the south of trench A1-1 (Photo A. Pawlikowska-Gwiazda)
- Fig. 6. Cockle shells from trench A1-1 (Photo A. Pawlikowska-Gwiazda)
- Fig. 7. Fragments of limestone floor slabs from trench A1-2 (Photo T. Barański)
- Fig. 8. View from the south of the floor in trench A1-2 (Photo T. Barański)
- Fig. 9. View from the north of the waterfront wall W1 (Photo M. Gwiazda)
- Fig. 10. Fragment of an amphorae with fish remains at the bottom (Photo A. Panic)
- Fig. 11. Orthophotography of latrine W1-1 (Photo M. Gwiazda)
- Fig. 12. Covered pottery sherds found at the wall of latrine W1-1 (Photo J. Cano)
- Fig. 13. View from the west of the waterfront W1 and adjacent buildings (Photo M. Gwiazda)
- Fig. 14. Orthophotography of trench W1-5 (Photo M. Gwiazda)
- Fig. 15. Southern profile of the trial in room T3 in trench W1-5 (Drawing M. Gwiazda)
- Fig. 16. View from the east of the wall of room T5 and levelling layers below (Trench W1-5) (Photo M. Żmuda)
- Fig. 17. Southern profile of the western part of trench W1-5 (Drawing M. Gwiazda)
- Fig. 18. Deposit of Late Roman amphorae 4 in trench W1-3 (Photo T. Barański)
- Fig. 19. Orthophotography of the street and building W1-A in trench W1-4 (Photo D.F. Wieczorek)























) |10 m

