



UNIVERSITY
OF WARSAW

Polish Centre of
Mediterranean Archaeology



Title: ***Results of a survey conducted in the area of the Jiyeh Marina Resort hotel complex in the 2012 season.***

Author(s) : ***Zofia Kowarska, Szymon Lenarczyk***

Journal: *Polish Archaeology in the Mediterranean* 24/1 (Research)

Year: 2015

Pages: 491 - 503

ISSN 1234–5415 (Print), ISSN 2083–537X (Online)

Publisher: Polish Centre of Mediterranean Archaeology, University of Warsaw (PCMA UW),
Wydawnictwa Uniwersytetu Warszawskiego (WUW)

www.pcma.uw.edu.pl www.wuw.edu.pl

Abstract: In 2012, an initial reconnaissance was conducted of the area north of the Jiyeh (Porphyreon) site. This coastal region is heavily urbanized and progressing building investment is causing the destruction of archaeological remains, which until quite recently were relatively well preserved in places. Subsequent investments involved the expansion of the Jiyeh Marina Resort hotel complex into terrain lying to the north of the Polish excavation area. Earlier construction work connected to the hotel complex was carried out in an area originally occupied by a pottery workshop from the late Hellenistic and early Roman periods, as well as at the site of a Roman– late antique necropolis. Further construction work, conducted without archaeological supervision, revealed more ancient structures which were in all probability connected with wine production.

Keywords: winepress, rescue archaeological research, late antiquity, collecting vat, wine production

نتائج المسح الذي أجري في منطقة الجيه مارينا ريزورت المجمع فندقي في موسم 2012.
Zofia Kowarska, Szymon Lenarczyk

الملخص: في عام 2012 تم إجراء إستطلاع أولي لمنطقة شمال الجيه موقع (بورفيريون) : هذه المنطقة الساحلية ذات التطور والبناء العمراني والإستثمار يسببان الدمار لبقايا الآثار التي حتى وقت قريب كانت محفوظة بشكل جيد نسبياً في بعض الأماكن. ساهمت إستثمارات لاحقة في توسع المجمع الفندقي في الجيه مارينا إلى المنطقة الواقعة شمال منطقة أعمال حفريات البعثة البولندية . تم تنفيذ أعمال بناء في وقت سابق متصلة بالمجمع الفندقي في منطقة كانت مشغولة أصلاً من قبل كورشة عمل الفخار من الحقبة الهلنستية المتأخرة والرومانية الحديثة إضافة إلى موقع مقبرة أثرية من الحقبة الرومانية المتأخرة و أعمال بناء إضافية أجريت بدون إشراف أثري كشفت عن هياكل قديمة والتي من المحتمل أن تكون ذات صلة بصناعة النبيذ .

POLISH ARCHAEOLOGY IN THE MEDITERRANEAN (PAM)
Annual of the Polish Centre of Mediterranean Archaeology, University of Warsaw

Editorial Board

Piotr Bieliński
Krzysztof M. Ciałowicz
Wiktor Andrzej Daszewski
Michał Gawlikowski
Włodzimierz Godlewski
Karol Myśliwiec
Tomasz Waliszewski

International Advisory Board

Jean Charles Balty
Charles Bonnet
Giorgio Buccellati
Stan Hendrickx
Johanna Hlaubek

Peer-reviewed by members of the *PAM* committee of independent reviewers.
<http://www.pcma.uw.edu.pl/en/pam-journal/pam-independent-reviewers/>

POLISH CENTRE OF MEDITERRANEAN ARCHAEOLOGY
UNIVERSITY OF WARSAW

POLISH ARCHAEOLOGY IN THE MEDITERRANEAN

XXIV/1

RESEARCH



ABBREVIATIONS

<i>AA</i>	<i>Archäologischer Anzeiger; Jahrbuch des Deutschen Archäologischen Instituts</i> (Berlin)
<i>ANM</i>	<i>Archéologie du Nil Moyen</i> (Lille)
<i>ASAE</i>	<i>Annales du Service des Antiquités de l'Égypte</i> (Cairo)
<i>AV</i>	<i>Archäologische Veröffentlichungen, Deutsches Archäologisches Institut, Abteilung Kairo</i> (Berlin–Mainz am Rhein)
<i>BAAL</i>	<i>Bulletin d'archéologie et d'architecture libanaises</i> (Beirut)
<i>BAH</i>	<i>Bibliothèque archéologique et historique</i> (Paris)
<i>BAR IS</i>	<i>British Archaeology Reports International Series</i> (Oxford)
<i>BASOR</i>	<i>Bulletin of the American Schools of Oriental Research</i> (Ann Arbor, MI)
<i>BCH</i>	<i>Bulletin de correspondance hellénique</i> (Paris)
<i>BdE</i>	<i>Bibliothèque d'étude</i> (Cairo)
<i>BIFAO</i>	<i>Bulletin de l'Institut français d'archéologie orientale</i> (Cairo)
<i>BSAA</i>	<i>Bulletin de la Société d'archéologie d'Alexandrie</i> (Cairo)
<i>BSFE</i>	<i>Bulletin de la Société française d'égyptologie</i> (Paris)
<i>CCE</i>	<i>Cahiers de la céramique égyptienne</i> (Cairo)
<i>EtTrav</i>	<i>Études et travaux. Travaux du Centre d'archéologie méditerranéenne de l'Académie des sciences polonaise</i> (Warsaw)
<i>FIFAO</i>	<i>Fouilles de l'Institut français d'archéologie orientale</i> (Cairo)
<i>GAMAR</i>	<i>Gdańsk Archaeological Museum African Reports</i> (Gdańsk)
<i>GM</i>	<i>Göttinger Miszellen</i> (Göttingen)
<i>IAMS</i>	<i>Institute of Archaeo-Metallurgical Studies</i> (London)
<i>JARCE</i>	<i>Journal of the American Research Center in Egypt</i> (Boston–Princeton–New York–Cairo)
<i>JEA</i>	<i>Journal of Egyptian Archaeology</i> (London)
<i>JGS</i>	<i>Journal of Glass Studies</i> (Corning, NY)
<i>JJP</i>	<i>Journal of Juristic Papyrology</i> (Warsaw)
<i>JRS</i>	<i>Journal of Roman Studies</i> (London)
<i>MDAIK</i>	<i>Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo</i> (Wiesbaden)
<i>OIP</i>	<i>Oriental Institute Publications</i> (Chicago)
<i>OLA</i>	<i>Orientalia lovaniensia analecta</i> (Louvain)
<i>PAM</i>	<i>Polish Archaeology in the Mediterranean</i> (Warsaw)
<i>PSAS</i>	<i>Proceedings of the Seminar for Arabian Studies</i> (London)
<i>SAAC</i>	<i>Studies in Ancient Art and Civilisation</i> (Kraków)
<i>SAK</i>	<i>Studien zur altägyptischen Kultur</i> (Hamburg)
<i>SAOC</i>	<i>Studies in Ancient Oriental Civilization</i> (Chicago)
<i>WVDOG</i>	<i>Wissenschaftliche Veröffentlichungen der deutschen Orient-Gesellschaft</i> (Berlin–Leipzig)

RESULTS OF A SURVEY CONDUCTED IN THE AREA OF THE JIYEH MARINA RESORT HOTEL COMPLEX IN THE 2012 SEASON

Zofia Kowarska,¹ Szymon Lenarczyk²

^{1,2} Independent

Abstract: In 2012, an initial reconnaissance was conducted of the area north of the Jiyeh (Porphyreon) site. This coastal region is heavily urbanized and progressing building investment is causing the destruction of archaeological remains, which until quite recently were relatively well preserved in places. Subsequent investments involved the expansion of the Jiyeh Marina Resort hotel complex into terrain lying to the north of the Polish excavation area. Earlier construction work connected to the hotel complex was carried out in an area originally occupied by a pottery workshop from the late Hellenistic and early Roman periods, as well as at the site of a Roman–late antique necropolis. Further construction work, conducted without archaeological supervision, revealed more ancient structures which were in all probability connected with wine production.

Keywords: winepress, rescue archaeological research, late antiquity, collecting vat, wine production

Intense construction work in the vicinity of the bay of Jiyeh, south of Ras al-Saadiyat cape, has led to major changes of landscape in the prospected coastal fragment, resulting in major destruction of existing archaeological remains. A reconnaissance conducted in the area by the Polish–Lebanese Archaeological Mission working at Jiyeh (Porphyreon) in Lebanon in 2012 checked the conditions on the ground and aimed to evaluate areas of possible research interest and key project locations.

Areas for future research include, among others, the as yet undeveloped terrain lying next to the Ras al-Saadiyat

cape, most probably used in the past as a quarry, the fragment of the bay located north of the Jiyeh site, and the terrain situated to the east of the coast, outside the range of modern-day buildings. Most of the land with few or no buildings lies in the northern part of the discussed area, i.e., to the north of the archaeological site excavated by the joint team from the Polish Centre of Mediterranean Archaeology, University of Warsaw and the General Directorate of Antiquities of Lebanon.

Remains of ancient structures were located also beneath the modern-day Jiyeh Marina Resort hotel complex, which

continues to be enlarged and is situated about 200 m to the north of the site [Fig. 1].

The first information on ancient remains in this vicinity came in 2003 and 2004 when Polish archaeologists investigated a Roman–Byzantine necropolis exposed during construction work for the hotel complex. Remains of a pottery production workshop were documented in the vicinity of the necropolis (Waliszewski et al. 2006: 40–47). Pottery encountered within the production complex was dated to the late Hellenistic and early Roman periods (Wicenciak et al. 2003; Domżański et al. 2005; Waliszewski et al. 2006: 51–66; Wicenciak 2013).

Enlargement of the hotel complex in 2012, conducted without archaeological supervision, uncovered more traces of ancient human activity in this area. An archaeological prospection of the site

immediately to the south of the hotel buildings had identified a complex of ancient structures which later proved to be the remains of an installation related in all probability to wine production [Fig. 2]. The construction site exceeded 1000 m² (approximately 50 m by 20 m). The remains of the installation were found in the northeastern part of this area, but the intense nature of the construction work has resulted in extensive destruction of the ancient substance [Figs 2, 3].

Remains of a room or basin with a preserved surface not exceeding a few square meters were exposed in the dig area, directly adjacent to the northeastern profile (about 12.41 m a.s.l.) [Fig. 4 left]. The surviving fragment of room floor indicates that it was in all probability adapted to the rectangular plan of the basin. The floor consists of a layer of hydraulic mortar. It seems that the walls were also covered by impermeable



Fig. 1. The Jiyeh coast with a view of the Jiyeh Marina Resort hotel complex situated north of the Jiyeh (Porphyreon) site; white arrow marks the area documented extensively in 2012 (Photo Google Earth)

hydraulic mortar, which is evidenced by the remains, preserved to a height of a few centimeters. Short sections of two walls enclosing the room/basin from the south and west have also survived. A slight ledge, 1 cm high, can be seen inside the basin [Fig. 4 right], running along the wall of the room, as well as remains of white mortar covering the layer lining the basin, which can be interpreted as the bedding for another level of mosaic floor(?).

Two vertically standing stone blocks were found in the wall enclosing the basin on the south. The space between the blocks was filled with small round stones plastered with white mortar [Fig. 5]. To the west of the room/basin but beyond its limits, at a height of 11.90 m a.s.l., a small fragment of mosaic floor was preserved [Fig. 6]. The mosaic consisted of white tesserae averaging 2 cm to the side (about 36 tesserae fitted into a fragment 10 cm by 10 cm in size). No remains of the walls enclosing this fragment of floor were preserved.

Lying directly on the paved floor of the basin were remains of an approximately 5-cm-thick layer of earth mixed with significant amounts of ash and charcoal. This layer was deposited evenly throughout the exposed fragment of the room.

The stratigraphic sequence can be followed in the east trench wall, cutting north-south through the room [Figs 2, 7]. Starting with the topmost layer:

- 1 – Level of basin floor
- 2 – Layer of hydraulic mortar
- 3 – Layer of fairly compact white lime mortar mixed with small stones
- 4 – Mosaic (same level as fragment preserved in the western end of the room)

5 – Layer of lime mortar underneath the mosaic

6 – Layer of grey-colored lime mortar

7 – Layer of small irregular stones

8 – Layer of brown soil with small number of stones

9 – Layer of reddish-brown fine-grained compact soil.

South of the basin, in an area situated lower ($h=11.10$ m a.s.l.), remains of five collecting vats were uncovered. The circular vats were constructed of lime mortar directly on the bedrock. Individual basins were situated a few meters apart, in a section about 13 m long. Details of how the vats were structured (in their present poor state of preservation) are limited. They had circular floors/bottoms (about 1.00 m–1.20 m in diameter) with sumps in the center, measuring 17–20 cm in diameter and about 20 cm deep with walls flaring out at an angle of about 60 degrees.

The walls and bottoms of four out of five collecting vats were lined with white tesserae [Fig. 8: Nos 1, 2, 3, 5] of irregular size (about 1.5 cm by 1.7 cm/1.3 cm by 1 cm in size; about 42 tesserae fitting in a surface measuring 10 cm x 10 cm). The bottom of one collecting vat [Fig. 8: No. 4] was covered with pinkish-brown hydraulic mortar. Significant damages to the mosaic floors was observed in all but one of the vats.¹ The remains of white mortar are visible around the preserved fragments of the vat bottoms [see Fig. 3 center right and bottom].

The exact shape and dimensions of these collecting vats, including their original height, cannot be reconstructed. Parallels from southern Phoenicia suggest

¹ A few smaller irregularly-placed openings were situated in the same rocky terrain as the individual collecting vats. These openings were a few meters deep and almost round in section, very much like natural holes observed in rocky coastal areas. They were formed by natural processes of erosion in all likelihood and may have been put to use later.

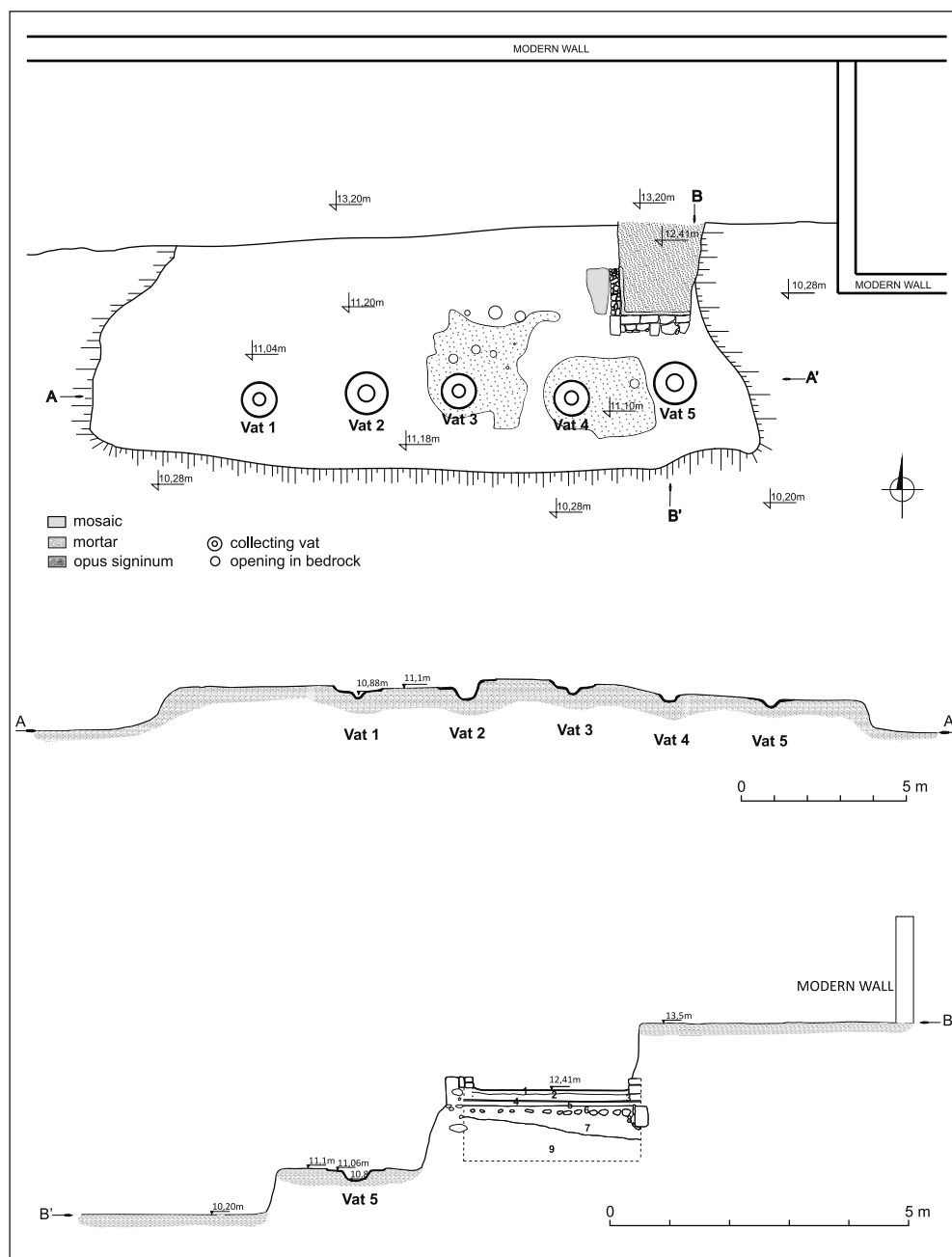


Fig. 2. The site: top, plan; center, E–W section looking north; bottom, N–S section looking west (Drawing S. Lenarczyk, Z. Kowarska)

a depth of about 1.20–1.30 m (see Syon 2009: 35; 'Ad 2011; Haiman 2009; Weksler-Bdolah 2012; Kletter 2010: 174). This estimated depth has been confirmed by the survey data, which has shown the difference between the level of the basin

floor and the bottom of the collecting vat to be about 1.30 m. Despite the lost context, it can be assumed on these grounds that the vats were functionally connected to the basin situated on a higher level [see *Figs 2 bottom, 3*].



Fig. 3. Basin and collecting vats documented in 2012: viewed from the west (top left), east (top right), north (center right) and north (bottom) (Photos Z. Kowarska)



Fig. 4. Basin with mortar floor, view from the north; right, close-up of the southwestern corner with slight ledge (Photos Z. Kowarska)



Fig. 5. Outside face of walls enclosing the basin/room, seen from the southern side (Photo Z. Kowarska)



Fig. 6. Fragment of mosaic floor found west of the room with basin (Photo Z. Kowarska)



Fig. 7. Fragment of a basin floor cut by construction work (Photo Z. Kowarska)

The small mosaic fragment preserved near the wall enclosing the basin from the west turned out to be located about 0.50 m below level of the basin but about 0.80 m above the level of the collecting vats. It may have been associated with the vats or constitutes proof of an earlier phase of usage. Such modifications of an

installation linked to wine production have been observed, among others, in research conducted in Israel (see Syon 2009: 35; Parnos, Milevski, and Khalaily 2010: 49–52).

The sumps in the bottoms of the collecting vats served in all probability to collect the sediment from the product/

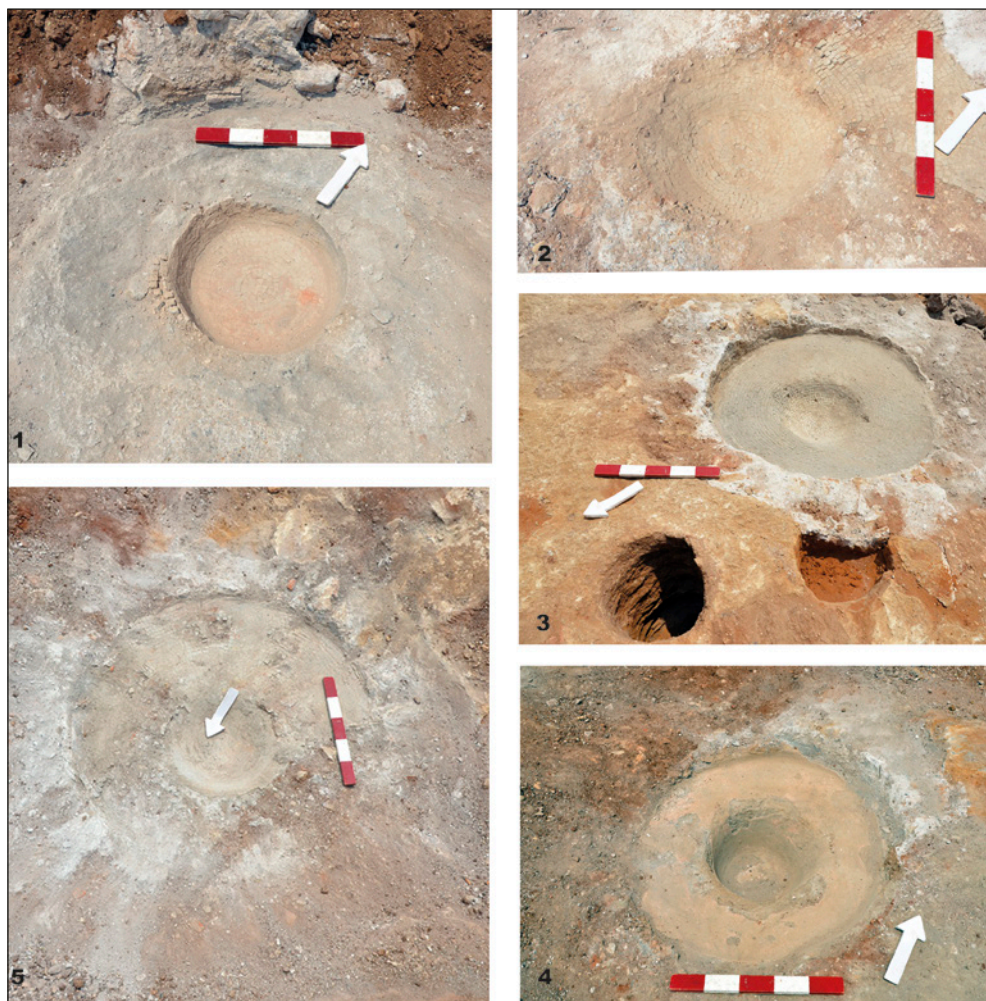


Fig. 8. Collecting vats (clockwise): nos 1, 2, 3, 4, 5
(Photos Z. Kowarska)

liquid. Little more can be said about the function of the complex due to the state in which the features were found and the lack of opportunities for further exploration (the area was destroyed completely by the hotel construction project). However, data collected on numerous analogical structures from southern Phoenicia indicate that the structures in question were part of an installation used for wine production (see below).

Wine production facilities on most of the known sites, as in Israel,² present a range of traits that are repeated from site to site: treading floors/treading vats situated on a higher level and taking on the form of large flat surfaces, usually of a shape similar to a rectangle or square;³ surfaces, often covered with a mosaic, on which the fruit juice would be extruded; this might also have been where the first fermentation process was conducted. Grape juice was directed to narrow distribution vats or directly, through special channels or pipes, to the collecting/fermentation vats situated below, where the fermentation process took place, spices were added, etc.⁴ The collecting vats were also often covered with a white mosaic (see Tepper 2013: Fig. 5; Avshalom-Gorni, Frankel, and Getzov 2008: Fig. 3; Dray 2011; Arbel 2011: Fig. 8; 'Ad 2011: Figs 3, 4, 6;

Haiman 2009; Zissu, Moyal, and Ganor 2009; Avner 2007; Re'em and de Vincenz 2006; Parnos, Milevski, and Khalaily 2010; Kletter 2010; Seligman 2006: 51).

Collecting vats differed in shape, being frequently round (Arbel 2011: Fig. 8; Sion 2012: Fig. 5; Avshalom-Gorni, Frankel, and Getzov 2008: 65, Fig. 8), almost square-shaped (Zissu, Moyal, and Ganor 2009; Thatcher and Gal 2009: Fig. 27, Plan 8), octagonal ('Ad 2011: Figs 3–5; Haiman 2009: Figs 1, 3, 5, 12, 13) or horseshoe-shaped (Zissu, Moyal, and Ganor 2009). Their depth was usually about 1.20–1.30 m (see Syon 2009: 35; 'Ad 2011; Haiman 2009; Weksler-Bdolah 2012; Kletter 2010: 174). The sumps were often furnished with additional round holes in the center, in some cases substituted by a vessel (Tepper 2013: Fig. 5). In the case of some of the larger installations, small stairs or steps led down to the collecting vats enabling the cleaning of the basins (Zissu, Moyal, and Ganor 2009; Parnos, Milevski, and Khalaily 2010: 50–51; Kletter 2010: 174).

Most of the listed features are characteristic of winepresses constructed and used in the late antique period.⁵

In the case of the documented structures, the round bottoms/floors can be interpreted as the remains of collecting

² E.g., Mishmar Ha-'Emeq, Horvat Qastra, Horvat Sumaq, Horvat Siv, Khirbet Deiran, Khirbet Jaladiya, Ashqelon, Negba, Eshtemoa', Haluza, Shivta, Avedat, all in Israel. At the Mishmar Ha-'Emeq site, a large complex of wine production presses was uncovered, described by the excavators as representing the highest stage in the development of this type of presses in Israel during late antiquity, before the Muslim conquest (Avshalom-Gorni, Frankel, and Getzov 2008).

³ The press at the Horbat Siv site is of a unique shape (round treading floor) and unusual dimensions (about 22 m in diameter), but it has not been dated precisely (Sa'id and 'Ad 2011: 68; see Dray 2011: Fig. 1).

⁴ A slightly different opinion concerning the system of wine production is presented by Yehoshua Dray, who emphasizes that not all the installations containing treading floor surfaces and collecting vats were necessarily winepresses (Dray 2011).

⁵ One of the closest analogies geographically for the finds in Jiyeh (Porphyreon) is a large complex of presses, one of the largest from the Israeli area, uncovered at the Achziv site. The large size of the installation suggests extensive wine production in southern Phoenicia during the late Roman period (prior to the end of the 4th century AD when it was most

vats, while the basins (or fragment of mosaic floor) as the remains of treading floors. One of the most similar presses in terms of dimensions was discovered at the Shiqmona site (Kletter 2010: 174). Interestingly enough, pithoi fragments were encountered there inside the press (Calderon 2010: 187, Figs 1.1, 3.27), which would be an analogy to this type of vessels uncovered in large amounts at the Jiyeh and Chhîm sites (Kowarska and Lenarczyk 2012; 2014: 127–128).

Due to the nature of the discovery, it is difficult to determine the chronology of the studied remains. If we take into

account the analogies, the installations documented at Jiyeh probably come from the late antique period. The lack of small finds connected to the stratigraphy of the documented remains signifies that these ideas can be treated merely as hypotheses.

At a distance of about 20 m from the described production installations, in the western section of the north trench wall of the construction dig, one context stood out as containing significant quantities of locally produced pottery [Fig. 9]. The characteristic funnel-shape of the deposit might suggest that it was a post-production



Fig. 9. Deposit of coarse-ware sherds in the north trench wall of the construction dig (Photo Z. Kowarska)

probably abandoned) (Syon 2009: 35). In terms of chronological parallels, there are many sites in present-day Israel associated generally with late antiquity (Avner 2007; Yannai 2009: 52; 2010), or dated more precisely to the 5th–early 6th centuries AD (Arbel 2011), 6th–7th centuries AD (Ad 2011; Haiman 2009; Kletter 2010: 175) or 5th–8th centuries AD (Parnos, Milevski, and Khalaily 2010). According to Weksler-Bdolah, mosaic floors in vats and the presence of beam or screw presses are probably characteristic of installations from the late antique period (Weksler-Bdolah 2012).

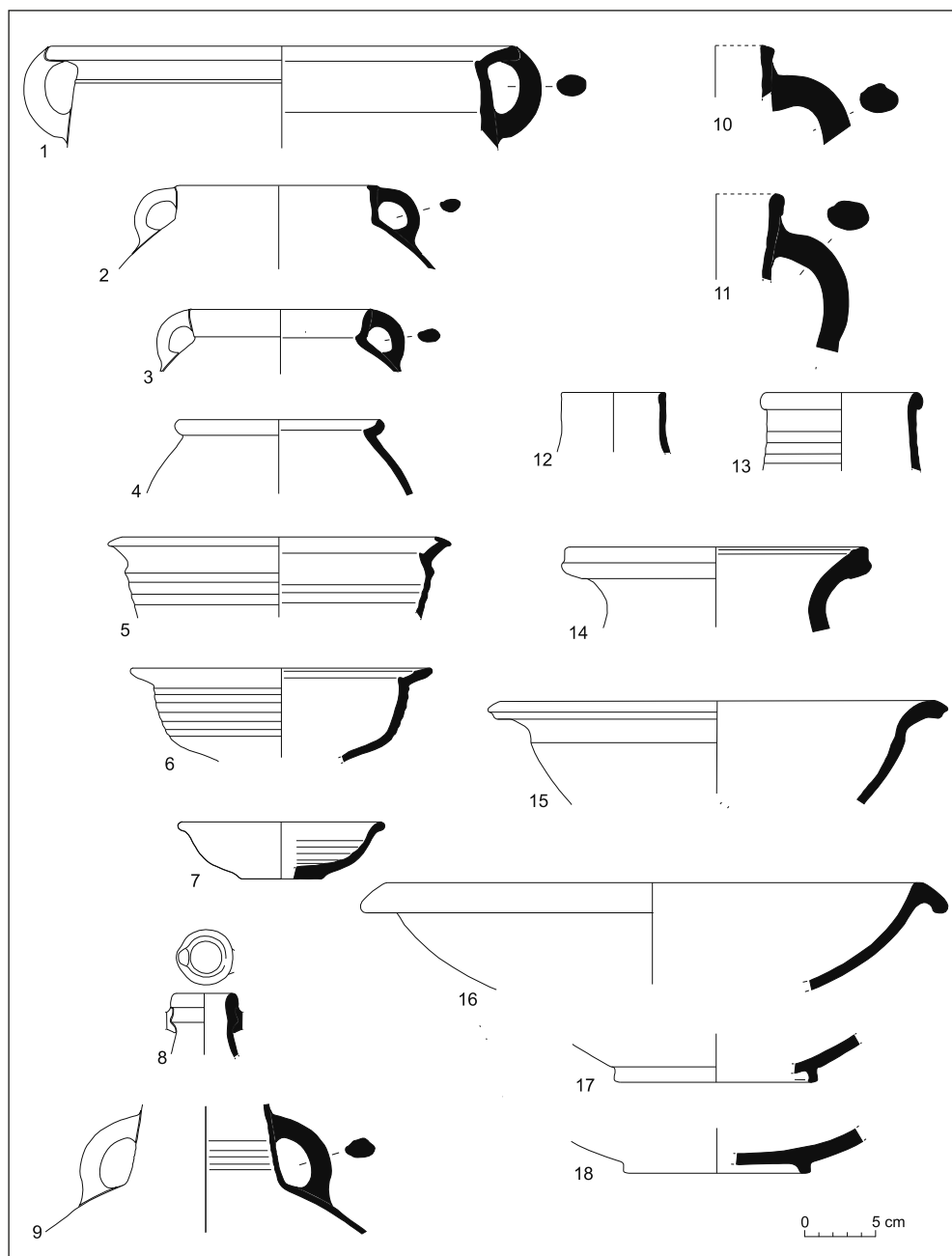


Fig. 10. Examples of pottery vessels found in the north trench wall
(Drawing A. Dzwonek; digitizing Z. Kowarska)

chute or levelling layer. It extended over a distance exceeding a dozen meters and the thickness was up to 2.50 m. Diagnostic vessel fragments were sampled, about 20 sherds, the aim being to identify and characterize the archaeological material from this area.

The initial inspection of the material indicated that the layer may have been connected to the production area from the survey conducted by Polish archaeologists in 2004, and that the material is analogical to the finds documented at that time. The described collection of vessel fragments consisted of a large amount of wasters (appropriate in the case of a production area) and fragments of kitchen ware and amphorae produced in local workshops during the late Hellenistic and early Roman periods (Wicenciak et al. 2003; Domžalski

et al. 2005; Waliszewski et al. 2006: 51–66; Wicenciak 2013; 2014). Some exemplary forms of vessel types not encountered earlier at Jiyeh are illustrated here [Fig. 10:2, 12]. Both in terms of the fabrics and forms (pots, casseroles, *lekanai*, bowls, pot stands, pilgrim flasks, amphorae), this material does not differ significantly from the finds discovered a few years earlier.

While it was impossible to connect the items from the north trench wall unequivocally with the production installations located in the western part of the dig, it is more than likely that the installations were in use during the late antique period.

ACKNOWLEDGMENTS

The authors owe a debt of gratitude to Dr. Urszula Wicenciak for assistance in identifying the ceramic assemblage.

Zofia Kowarska
zofiakowarska@wp.pl
Szymon Lenarczyk
szymonlenarczyk@wp.pl

REFERENCES

- ‘Ad, U. (2011). Hafez Hayyim (Southwest). *Hadashot Arkheologiyot*, 123. Retrieved from http://www.hadashot-esi.org.il/report_detail_eng.aspx?id=1637&mag_id=118 [accessed: October 2015].
- Arbel, Y. (2011). Hafez Hayyim. *Hadashot Arkheologiyot*, 123. Retrieved from http://www.hadashot-esi.org.il/report_detail_eng.aspx?id=1790&mag_id=118 [accessed: October 2015].
- Avner, R. (2007). Building remains and an installation from the Byzantine and Early Islamic Periods at Nahal Daliya (Umm Tut). *‘Atiqot*, 57, 51–70 [in Hebrew with English summary].
- Avshalom-Gorni, D., Frankel, R., and Getzov, N. (2008). A complex winepress from Mishmar Ha-‘Emeq: Evidence for the peak in the development of the wine industry in Eretz Israel in Antiquity. *‘Atiqot*, 58, 47–66 [in Hebrew with English summary].
- Calderon, R. (2010). Pottery from the Late Byzantine remains near Shiqmona. *‘Atiqot*, 63, 183–208.
- Domžalski, K., Wicenciak, U., El-Tayeb, M., and Waliszewski, T. (2005). Late Hellenistic and early

- Roman pottery production center at Jiyeh. Rescue excavations 2004. *PAM*, 16, 429–439.
- Dray, Y. (2011). The complex winepress at Horbat Siv: Analysis and interpretation. *‘Atiqot*, 65, 89–92 [in Hebrew with English summary].
- Haiman, M. (2009). Horbat Shelah (west). *Hadashot Arkheologiyot*, 121. Retrieved from http://www.hadashot-esi.org.il/report_detail_eng.aspx?id=1251&mag_id=115 [accessed: October 2015].
- Kletter, R. (2010). Late Byzantine remains near Shiqmona: A monastery, a cemetery and a winepress. *‘Atiqot*, 63, 147–182.
- Kowarska, Z., and Lenarczyk, S. (2012). Pithos-type vessels from Chhîm: Preliminary assessment of finds from 1996–2009. *PAM*, 21, 643–651.
- Kowarska, Z., and Lenarczyk, S. (2014). Pithos-type vessels from the excavations in Chhîm, Lebanon. In B. Fischer-Genz, Y. Gerber, and H. Hamel (Eds.), *Roman pottery in the Near East: Local production and regional trade. Proceedings of the round table held in Berlin, 19–20 February 2010* [=Roman and Late Antique Mediterranean Pottery 3] (pp. 125–134). Oxford: Archaeopress.
- Parnos, G., Milevski, I., and Khalaily, H. (2010). Remains from the Late Prehistoric to Early Islamic Periods at the foot of Tel Malot (East). *‘Atiqot*, 64, 25–77.
- Re’em, A., and de Vincenz, A. (2006). Installations and burial caves in Ramat Sharet, Ramat Denya, Jerusalem. *‘Atiqot*, 54, 31*–45* [in Hebrew with English summary].
- Sa’id, K., and ‘Ad, U. (2011). Horbat Siv: Quarries, burial caves, kilns, agricultural installations, roads and a columbarium. *‘Atiqot*, 65, 65–87 [in Hebrew with English summary].
- Seligman, J. (2006). Jerusalem, Khirbat Ka’kul (Pisgat Ze’ev H): Early Roman farmsteads and a medieval village. *‘Atiqot*, 54, 1–73.
- Sion, O. (2012). A Roman-Period farmstead at El-Qabu, south of Ashqelon. *‘Atiqot*, 71, 1–12 [in Hebrew with English summary].
- Syon, D. (2009). A wine press from Achziv. In E. Ayalon, R. Frankel, and A. Kloner (Eds.), *Oil and wine presses in Israel from the Hellenistic, Roman and Byzantine periods* [=BAR IS 1972] (pp. 35–40). Oxford: Archaeopress.
- Tatcher, A., and Gal, Z. (2009). The ancient cemetery at Migdal Ha’Emeq (el-Mujeidil). *‘Atiqot*, 61, 1*–47* [in Hebrew with English summary].
- Tepper, Y. (2013). Tamra, in the Valley. *Hadashot Arkheologiyot*, 125. Retrieved from http://www.hadashot-esi.org.il/report_detail_eng.aspx?id=5403&mag_id=120 [accessed: October 2015].
- Waliszewski, T., Wicenciak, U., El-Tayeb, M., Domżański, K., Witecka, A., Wagner, M., Herbich, T., Nouredine, I., Woźniak, M., Kotlewski, K., Żukowski, R. (2006). Jiyeh (Porphyreon). Hellenistic, Roman and Byzantine settlement on the southern coast of Lebanon. Preliminary report on the 1997 and 2003–2005 seasons. *BAAL*, 10, 5–80.
- Weksler-Bdolah, S. (2012). Horbat ‘Illin (Upper): Rock-cut installations from the Late Hellenistic and Early Roman Periods, and remains of a settlement from the Byzantine and Early Islamic Periods. *‘Atiqot*, 71, 13–75 [in Hebrew with English summary].
- Wicenciak, U. (2013). *Ceramika okresu hellenistyczno-rzymskiego z obszaru Fenicji a wytwórczość*

- garncarska warsztatów z Porphyreon/Jiyeh (Liban)* [*Hellenistic and Roman pottery from Phoenicia and the pottery production of the workshops from Porphyreon/Jiyeh (Lebanon)*] (unpubl. Ph.D. diss.). University of Warsaw [in Polish].
- Wicenciak, U. (2014). Pottery production in the Late Hellenistic and Early Roman Periods at Jiyeh – ancient Porphyreon (Lebanon). In B. Fischer-Genz, Y. Gerber, and H. Hamel (Eds.), *Roman pottery in the Near East: Local production and regional trade. Proceedings of the round table held in Berlin, 19–20 February 2010* [=Roman and Late Antique Mediterranean Pottery 3] (pp. 103–124). Oxford: Archaeopress.
- Wicenciak, U., El Tayeb, M., Domżański, K., and Waliszewski, T. (2003). Preliminary report on a salvage campaign at Jiyeh, 2004: The pottery production area. *Światowit*, 5 (46) Fasc. A, 129–134.
- Yannai, E. (2009). Excavations at Or ‘Aqiva (North). *‘Atiqot*, 61, 51–73.
- Yannai, E. (2010). Horbat Nazur: Settlement remains from the Iron Age through the Hellenistic Period and an industrial area from the Byzantine Period. *‘Atiqot*, 64, 63*–97* [in Hebrew with English summary].
- Zissu, B., Moyal, H., and Ganor, A. (2009). Tombs, quarries and agricultural installations at Fardisya (East). *‘Atiqot*, 61, 61*–74* [in Hebrew with English summary].

CONTENTS

CONTENTS

ACKNOWLEDGMENTS	10
ABBREVIATIONS.....	11

PAM REPORTS

PCMA FIELD MISSIONS AND PROJECTS IN 2012 AND 2013 (WITH MAP)	17
--	----

EGYPT

ALEXANDRIA: KOM EL-DIKKA

ALEXANDRIA: EXCAVATIONS AND PRESERVATION WORK ON KOM EL-DIKKA,
SEASONS 2012 AND 2013

<i>Grzegorz Majcherek</i>	29
---------------------------------	----

ISLAMIC NECROPOLIS AT KOM EL-DIKKA IN ALEXANDRIA:
RESEARCH IN THE 2010–2013 SEASONS

<i>Emanuela Kulicka</i>	62
-------------------------------	----

ISLAMIC GLASS FROM AREA U (2012–2013)

<i>Renata Kucharczyk</i>	73
--------------------------------	----

MARINA EL-ALAMEIN

RESEARCH AND CONSERVATION IN MARINA EL-ALAMEIN IN THE 2012
AND 2013 SEASONS. THE POLISH–EGYPTIAN CONSERVATION MISSION

<i>Rafał Czerner, Grażyna Bąkowska-Czerner, Wiesław Grzegorek</i>	87
---	----

SELECTED CONSERVATION WORK IN MARINA EL-ALAMEIN IN THE 2012
AND 2013 SEASONS

<i>Marlena Koczorowska, Wojciech Osiak</i>	101
--	-----

RESEARCH AND CONSERVATION IN THE ROMAN BATHS OF MARINA EL-ALAMEIN
IN THE 2012 AND 2013 SEASONS (POLISH–EGYPTIAN CONSERVATION MISSION)

<i>Rafał Czerner, Grażyna Bąkowska-Czerner, Grzegorz Majcherek</i>	113
--	-----

TELL EL-RETABA

TELL EL-RETABA, SEASON 2012

<i>Sławomir Rzepka, Józef Hudec, Łukasz Jarmużek, Lucia Hulková, Veronika Dubcová</i>	139
---	-----

APPENDIX: TELL EL-RETABA 2012. PRELIMINARY REPORT ON ARCHAEOBOTANICAL
INVESTIGATIONS

<i>Claire Malleson</i>	156
------------------------------	-----

TELL EL-RETABA 2012: THE POTTERY

<i>Anna Wodzińska</i>	164
-----------------------------	-----

CONTENTS

TELL EL-FARKHA

TELL EL-FARKHA. EXCAVATIONS, 2012–2013

Marek Chłodnicki, Krzysztof M. Ciałowicz 173

TELL EL-MURRA

TELL EL-MURRA (NORTHEASTERN NILE DELTA SURVEY). SEASONS 2012–2013

Mariusz A. Jucha, Grzegorz Bąk-Pryc, Natalia Małecką-Drozd 199

SAQQARA

SAQQARA: SEASONS 2012 AND 2013/2014

Karol Mysliwiec 215

APPENDIX: CONSERVATION WORK IN SAQQARA (2012 AND 2014)

Zbigniew Godziejewski, Urszula Dąbrowska 224

SAQQARA 2012: THE POTTERY

Teodozja I. Rzeuska 230

WEST THEBES (ASASIF, DEIR EL-BAHARI) AND VALLEY OF THE NILE

THE TOMBS OF ASASIF: ARCHAEOLOGICAL EXPLORATION
IN THE 2013/2014 SEASON

Patryk Chudzik 239

TEXTILES FROM TOMB II IN DEIR EL-BAHARI: PRELIMINARY REPORT
FROM SEASON 2012/2013

Aleksandra Hallmann 247

DEIR EL-BAHARI. TEMPLE OF TUTHMOSIS III, CAMPAIGNS 2012–2013

Monika Dolińska 257

REPORT FROM FIELD RECONNAISSANCE AT GEBELEIN, KHOZAM AND EL-RIZEIQAT

Wojciech Ejsmond, Julia M. Chyla, Cezary Baka 265

DAKHLEH OASIS

DAKHLEH OASIS PROJECT, PETROGLYPH UNIT: SEASONS 2012 AND 2013

Ewa Kuciewicz, Paweł Polkowski, Michał Kobusiewicz 275

BERENIKE

BERENIKE PROJECT. HELLENISTIC FORT, ROMAN HARBOR, LATE ROMAN TEMPLE, AND
OTHER FIELDWORK: ARCHAEOLOGICAL WORK IN THE 2012 AND 2013 SEASONS

Steven E. Sidebotham, Iwona Zych, Joanna K. Rądkowska, Marek Woźniak 297

SUDAN

DONGOLA

DONGOLA. SEASONS IN 2012–2013

Włodzimierz Godlewski 325

APPENDIX: THE SKELETAL REMAINS FROM THE SANCTUARY OF ANNA
IN THE MONASTERY ON KOM H

Robert Mahler 340

CONTENTS

WALL INSCRIPTIONS IN THE SOUTHWEST ANNEX TO THE MONASTERY ON KOM H AT DONGOLA: REPORT ON WORK IN THE 2013 SEASON <i>Adam Łajtar</i>	344
CRYPT 3 IN THE NORTHWEST ANNEX OF THE MONASTERY ON KOM H IN DONGOLA: REPORT ON THE EXPLORATION IN 2012 <i>Robert Mahler, Włodzimierz Godlewski, Katarzyna Danys-Lasek, Barbara Czaja</i>	352
BANGANARTI AND SELIB	
BANGANARTI AND SELIB IN 2011/2012 AND 2013 <i>Bogdan Żurawski</i>	369
EXCAVATIONS AT SELIB 2 IN 2012 <i>Roksana Hajduga, Katarzyna Solarska</i>	389
SELIB 1. PRELIMINARY REPORT FOR THE 2012 AND 2013 SEASONS <i>Aneta Cedro</i>	397
FAUNAL REMAINS FROM THE FORTIFIED SETTLEMENT AROUND THE CHURCH AT BANGANARTI IN SUDAN <i>Marta Osypińska</i>	411
EARLY MAKURIA (MTOM) PROJECT	
ANIMAL REMAINS FROM THE EARLY MAKURIAN CEMETERY IN EL-ZUMA (SEASON 2013) <i>Urszula Iwaszczuk</i>	425
GHAZALI	
GHAZALI 2012: PRELIMINARY REPORT <i>Artur Obłuski, Grzegorz Ochala, Miron Bogacki, Wiesław Małkowski, Szymon Maślak, Zaki ed-Din Mahmoud</i>	431
CYPRUS	
NEA PAPHOS	
NEA PAPHOS. SEASONS 2012 AND 2013 <i>Henryk Meyza</i>	443
LEBANON	
JIYEH	
PRELIMINARY REPORT ON THE 2012 AND 2013 EXCAVATION SEASONS AT JIYEH (PORPHYREON): WORK IN SECTOR D (RESIDENTIAL QUARTER) <i>Tomasz Waliszewski, Magdalena Antos, Piotr Jaworski, Piotr Makowski, Marcin Romaniuk, Rafał Solecki, Agnieszka Szymczak</i>	453
PRELIMINARY RESULTS OF A STRATIGRAPHIC ANALYSIS OF LATE ROMAN AND EARLY BYZANTINE ARCHITECTURE IN THE RESIDENTIAL QUARTER OF JIYEH <i>Michał Dzik</i>	475

CONTENTS

RESULTS OF A SURVEY CONDUCTED IN THE AREA OF THE JIYEH MARINA RESORT HOTEL COMPLEX IN THE 2012 SEASON <i>Zofia Kowarska, Szymon Lenarczyk</i>	491
---	-----

KUWAIT

AL-SUBIYAH AND FAILAKA ISLAND

TUMULUS BURIAL FIELD ON THE NORTH COAST OF KUWAIT BAY. PRELIMINARY EXCAVATION REPORT ON THE SPRING SEASON IN 2012 <i>Łukasz Rutkowski</i>	505
CHRISTIAN SETTLEMENT AT FAILAKA, QUSUR SITE (KUWAIT): EXCAVATIONS IN 2011 AND 2013 <i>Magdalena Żurek</i>	529
PRELIMINARY REPORT ON THE ARCHAEOLOGICAL SURVEY OF THE JOINT KUWAITI–POLISH MISSION, FAILAKA ISLAND, 2012 <i>Franciszek Pawlicki</i>	547
FAILAKA ARCHAEOLOGICAL RESEARCH PROJECT. PRELIMINARY RESULTS AFTER THE FIRST SEASON OF EXCAVATION AT THE KHARAIB EL-DESHT SITE IN 2013 <i>Agnieszka Pieńkowska</i>	560
APPENDIX 1: KHARAIB EL-DESHT 2013: POTTERY. PRELIMINARY REPORT <i>Marta Mierzejewska</i>	571
APPENDIX 2: SURVEY OF KHARAIB EL-DESHT BAY ON FAILAKA ISLAND: PRELIMINARY REPORT <i>Magdalena Nowakowska</i>	579

IRAQI KURDISTAN

NEWCOMERS AND AUTOCHTHONS. PRELIMINARY REPORT ON 2013 ACTIVITIES IN THE KURDISTAN AUTONOMOUS REGION, IRAQ <i>Dorota Ławecka</i>	591
---	-----

PAM STUDIES

LEVALLOIS TRADITION EPIGONES IN THE MIDDLE NILE VALLEY: SURVEY IN THE AFFAD BASIN <i>Marta Osypińska, Piotr Osypiński</i>	601
ZOOMORPHIC CLAY FIGURINES FROM TELL ARBID. PRELIMINARY REPORT <i>Maciej Makowski</i>	627
PLANT MACROFOSSILS FROM THE SITE OF TELL ARBID, NORTHEAST SYRIA (3RD–2ND MILLENNIUM BC). PRELIMINARY REPORT <i>Aldona Mueller-Bieniek, Krystyna Wasylkowa, Anna Smogorzewska</i>	657
THE ANIMAL ECONOMY OF PEOPLE LIVING IN THE SETTLEMENT OF TELL RAD SHAQRAH (SYRIA) <i>Joanna Piątkowska-Matecka, Rafał Koliński</i>	675

CONTENTS

THE SOLAR ALTAR IN THE TEMPLE OF HATSHEPSUT AT DEIR EL-BAHARI: ARCHITECTURE AND IDEOLOGY <i>Andrzej Ćwiek</i>	693
FAIENCE OBJECTS FROM THE TOMB MMA 1152 AT SHEIKH ABD EL-GURNA <i>Patryk Chudzik, Andrzej Ćwiek</i>	701
INDIAN STEEL: A FORGOTTEN COMMODITY OF THE GREAT TRADE ROUTES <i>Marek Woźniak</i>	709
MONETIZATION OF ROMAN EGYPT DURING THE FLAVIAN DYNASTY (AD 69–96): THE CASE OF ALEXANDRIA AND BERENIKE <i>Katarzyna Lach</i>	727
CROSS-CULTURAL BEAD ENCOUNTERS AT THE RED SEA PORT SITE OF BERENIKE, EGYPT. PRELIMINARY ASSESSMENT (SEASONS 2009–2012) <i>Joanna Then-Obluska</i>	735
A NEW LOOK ON SOME OLD GLASS FINDS FROM PALMYRA <i>Krystyna Gawlikowska</i>	779
NEW INSIGHTS INTO NUBIAN ARCHERY <i>Łukasz Zieliński</i>	791
INDEX OF SITES	803
GUIDELINES FOR AUTHORS	804
PCMA PUBLICATIONS	805

POLISH ARCHAEOLOGY IN THE MEDITERRANEAN (PAM)
Annual of the Polish Centre of Mediterranean Archaeology, University of Warsaw

PAM Editor-in-chief: Iwona Zych

Volume 24/1: Research

All texts peer-reviewed.

<http://www.pcma.uw.edu.pl/en/pam-journal/pam-independent-reviewers/>

Press-reviewing process: Urszula Wicenciak

Bibliographic editor: Aleksandra Zych

Language consultation: Iwona Zych

Technical editor: Iwona Zych

Digital processing: Ewa Czyżewska-Zalewska

Image processing and copyediting assistance: Ewa Czyżewska-Zalewska, Szymon Maślak, Marta Momot, Marek Puzkarski, Urszula Wicenciak

Original graphic design: Jerzy Kowalski, updated by Ewa Czyżewska-Zalewska for PCMA

DTP: Ewa Czyżewska-Zalewska, assisted by Agnieszka Dzwonek

Cover: Tumulus SB 100 from the Al-Subiyah region of Kuwait during exploration
(Photo M. Makowski)

ISSN 1234–5415 (Print), ISSN 2083–537X (Online)

© Polish Centre of Mediterranean Archaeology, University of Warsaw, Warszawa 2015

© Wydawnictwa Uniwersytetu Warszawskiego, Warszawa 2015

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the Polish Centre of Mediterranean Archaeology of the University of Warsaw.

Polish Centre of Mediterranean Archaeology, University of Warsaw

00-497 Warszawa, Poland, ul. Nowy Świat 4

e-mail: pam.pcma@uw.edu.pl

www.pcma.uw.edu.pl

Orders can be placed c/o Agnieszka Pieńkowska

a.pienkowska@uw.edu.pl

University of Warsaw Press

00-497 Warszawa, Poland, ul. Nowy Świat 4

www.wuw.pl; e-mail: wuw@uw.edu.pl

Internet Bookshop: www.wuw.pl/ksiegarnia

Printed in Poland

POLISH ARCHAEOLOGY IN THE MEDITERRANEAN

Published annually since 1990



PAM XXIV/1 *Research*

REPORTS

Fieldwork projects carried out by PCMA teams in the Ancient Near East and Africa

- scope: archaeological, geophysical, restoration and study work
- areas of interest: Egypt, Sudan, Cyprus, Syria, Lebanon, Kuwait, Iraq
- timespan: ten millennia from prehistory and protohistory through the medieval period

STUDIES

- archaeological, architectural and material research within the fields of study covered by PCMA fieldwork

PAM XXIV/2 *Special Studies*

Deir el-Bahari Studies

Editor Zbigniew E. Szafrński

Volume dedicated to research on specific egyptological and archaeological themes resulting from the ongoing work of the Polish conservation and restoration project in the Temple of Queen Hatshepsut in Deir el-Bahari (West Thebes, Luxor, Egypt). The 11 contributions included in this book concern mostly a later phase in the occupation of the complex, in the Third Intermediate Period (11th–8th century BC), when the abandoned temple was reused as a burial ground. A few of the articles refer to the original architectural form and decoration of the temple from the times of Hatshepsut (15th century BC). Also included is an article on tombs of three other queens of the Eighteenth Dynasty in the Valley of the Kings.

Available as full texts on-line at www.pcma.uw.edu.pl

PAM volumes 17 to the present available on-line from www.ceeol.com

Information and orders:

www.pcma.uw.edu.pl

pcma@uw.edu.pl

pam.pcma@uw.edu.pl

www.wuw.pl/ksiegarnia

RESEARCH

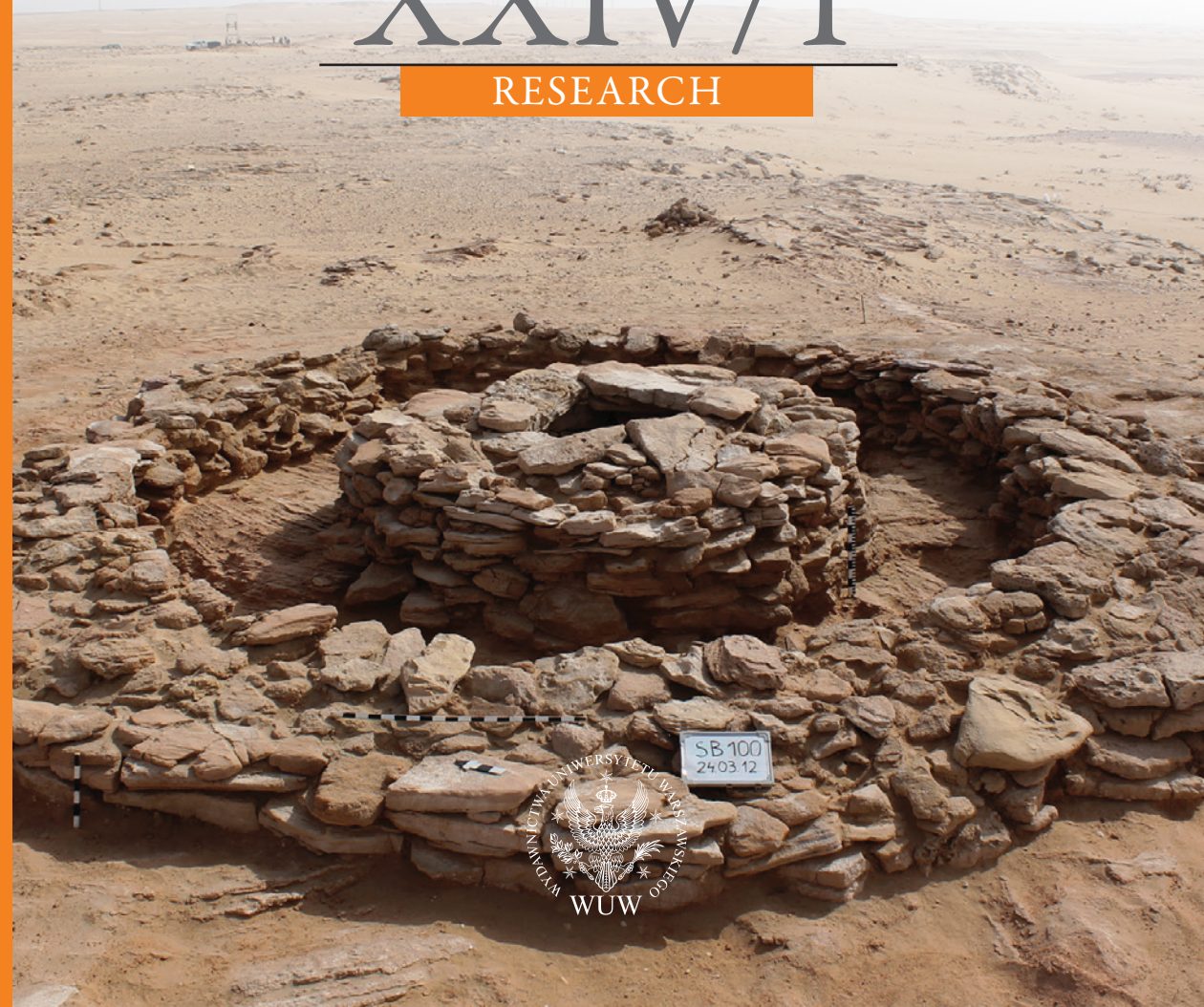
PAM XXIV/1

POLISH CENTRE OF MEDITERRANEAN ARCHAEOLOGY
UNIVERSITY OF WARSAW

POLISH ARCHAEOLOGY IN THE MEDITERRANEAN

XXIV/1

RESEARCH



Polish Centre of
Mediterranean Archaeology

