The last gate to the East: The Roman army outpost at Biğān on the Euphrates revisited

Abstract: The army outpost on Biğān Island on the Euphrates (in Iraq) was excavated in the early 1980s, but it is only now that a thorough examination of the material from the Roman layers has been completed, giving grounds for a revisiting of issues related to the site's chronology, function and role in the frontier zone between Rome and the empires of the East. The archaeological sources, mainly pottery and coins, are discussed in light of the army post's island location and its role in interregional and long-distance trade. Of greatest interest in the pottery category are the transport/storage vessels that seem to belong to the same family as the widely discussed so-called Mesopotamian Torpedo Jars.

Keywords: Roman pottery, Brittle Ware, Bijan, long-distance trade, North Mesopotamia, Roman pottery, transport/storage vessels

A long overdue examination of the Roman-age pottery from the excavation of Biğān Island in northern Iraq (previously transcribed in English-language literature as Bijan) has resulted in a revisiting of the published information on site chronology and function in the Roman period. The site was investigated in 1979–1983 by a team from the Polish Centre of Mediterranean Archaeology University of Warsaw, within the frame of the Qadisiyya Dam Salvage Project dedicated to the task

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Last but not least, I would like to thank the Polish Center of Mediterranean Archaeology for giving me access to archival material from the Bijan project.

of documenting, surveying and exploring ancient sites in the Euphrates Valley. Today the site lies at the bottom of the Qadisiyya Dam lake. The material studied by the author comes in its entirety from the PCMA UW archives.

Biğān was an artificial island on the Euphrates, some 25 km south of ʻAna Island, which had formed in midstream during the Middle-Assyrian period and was continuously aggrandized with sand deposited by the river [*Fig. 1*]. The Polish investigations uncovered an occupational sequence almost two millennia long, extending from the 9th century BC through the 10th century AD, albeit not continuously. The chronology proposed originally is as follows (Krogulska and Stępniowski 1995: 132–135):

– 9th century BC: first Middle-Assyrian fortress;
– 8th–7th century BC; Neo-Assyrian reconstruction of the original structure;
– 2nd–1st century BC: Parthian occupation;
– 2nd century AD: Roman outpost;
– 8th–10th century AD: Abbasid occupation.

The focus in this article is on the 2nd-century-AD phase, confronting the findings from a study of the Roman-age pottery with the numismatic and geographic evidence from the site in order to deconstruct the factors that determined the insular location of the Roman army outpost and its integration as the farthest south Roman military site into the Roman–Parthian frontier zone network.

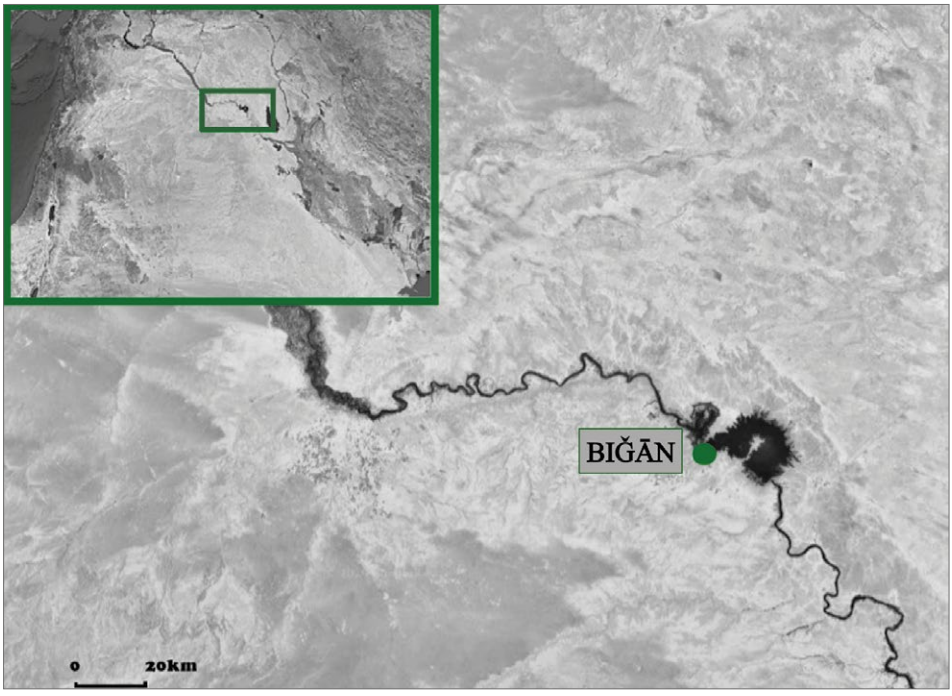

Fig.1. Localization of Biğān Island and the archaeological site (J. Oleksiak based on https://orbis.stanford.edu/ map)

STRATIGRAPHY OF THE SITE

The trenches with Roman-age material explored between 1979 and 1983 were seven [*Fig. 2*]. They are described here in brief in the following sequence: TT, A/B, F, H and C/G.

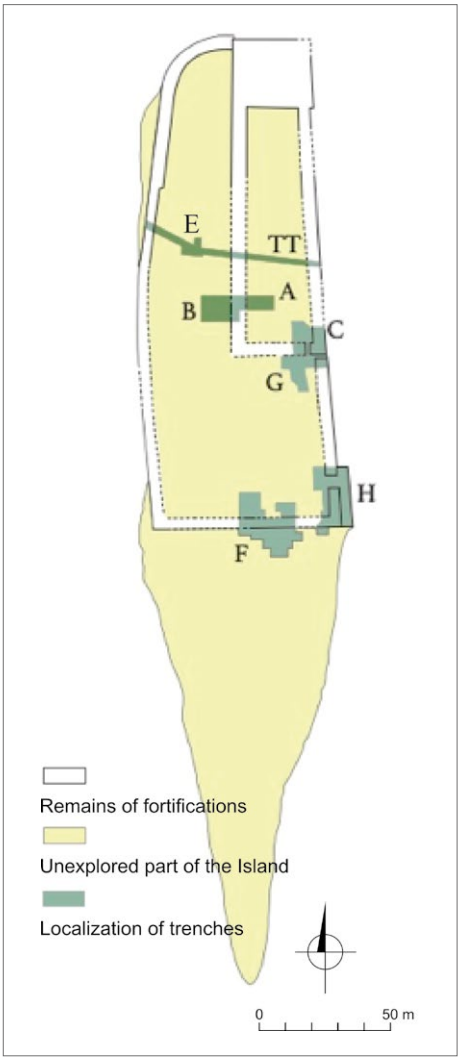

Fig. 2. Site map with location of the trenches (PCMA UW | editing J. Oleksiak, original drawing M. Barański and F.M. Stępniowski, update M. Puszkarski)

TRENCH TT

TT was a trench 52 m long that cut across the island from east to west. It was the first to be excavated in 1979 with the purpose of establishing site stratigraphy. The thickness of historic layers varied from 0.80 m to 3.00 m. The chronological sequence uncovered in this trench was applied later to the remains in all the other trenches.

Remains of 12 different walls attributed to the Parthian/Roman period were recorded in the trench section, but the information provided in the fieldwork documentation is limited. The mainly mixed assemblages of Parthian/Roman pottery were characterized by an abundance of big transport/storage vessels (frequently almost complete forms) [*Fig. 3*]. Only 11 of the Roman-period sherds were fully documented.

TRENCHES A/B

These two trenches, located end-to-end in the central part of the site, were explored in 1980/1981. The excavation uncovered two sets of architectural units separated by a road [*Fig. 4*]. A clear building sequence was observed: the earliest Assyrian structures, overlying Parthian buildings, reconstructed without any apparent modifications in Roman times (Gawlikowski 1985: 18). The same pattern is true of practically all the architectural remains uncovered on Biğān Island.

Two rooms with deposits of transport/storage jars, dated by coins to the Roman period, were located in the northwestern part of the trench (Gawlikowski 1985: 19). The Roman-age material con-

Fig. 3. Complete transport/storage vessels in the mixed Parthian/Roman layers of Trench TT (PCMA UW | photo K. Gawlikowska)

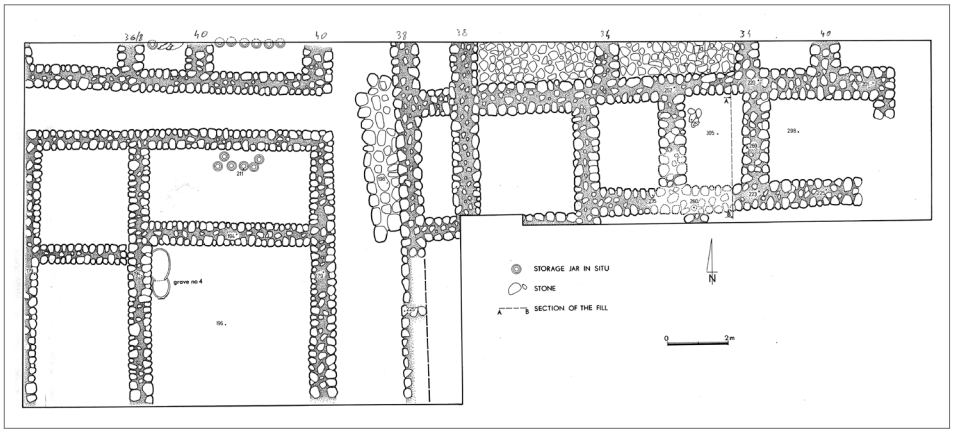

Fig. 4. Plan of Parthian/Roman architectural remains in Trenches A/B in the central part of the site (PCMA UW | drawing M. Barański, F. Stępniowski; inking Puszkarski)

sisted of several complete transport/storage jars, hundreds of non-diagnostic fragments (not documented) and many fragments of so-called Brittle Ware kitchen and cooking pottery; only 30 diagnostic sherds of the latter were documented.

TRENCH F

The main gateway to the army post and remains of fortifications rising to a height of 1 m were cleared in Trench F, which was located at the southern end of the site. Following a pattern already established for the architecture in Trenches A/B, the Roman fortifications were built directly on top of walls from the Parthian period. However, the Assyrian and Parthian settlements were located west of the fortifications, whereas the Roman-age architecture started immediately behind the gateway (Krogulska 1992: 358) [*Fig. 5*]. Five solid steps led from the sandbank to the level of the massive doorstep cut in blocks from the earlier Assyrian structures. Double gates connected to a short tunnel, which opened into a narrow street that ran to the central part of the outpost. A wide wall bordered the street on the east. The space beyond this wall was not explored. West of the street was a series of chambers. The first room, nearest to the fortifications, was paved with stone slabs; the unit next to it featured a hydraulic mortar floor sealed with bitumen, a natural kind of asphalt. The two rooms contained several transport/storage jars still in place (Krogulska and Stępniowski 1995: 132). The pottery assemblage from this trench consisted mainly of fragments of transport/storage jars, Brittle Ware kitchen and cooking pottery, a few pieces of imported terra sigillata vessels

Fig. 5. Roman-age fortifications and main gate of the post; view of the remains in Trench F looking east (PCMA UW | photo A. Reiche)

and imported lamps, originally from Dura Europos and Palmyra, dated to the 2nd/3rd century AD (Krogulska 1992: 362; Krogulska and Stępniowski 1995: 133).

TRENCH H

Trench H on the eastern bank of the island, northeast of Trench F, held the remains of Assyrian structures built on a pottery leveling layer and a possible docking spot from the same period. Two poorly preserved Roman curtain walls stood on top of these remains, following closely the course of the Assyrian foundations, much like the gate structure in Trench F. The only annotation of the excavators regarding this architecture is that these units could have been used in some kind of administrative capacity [*Fig. 6*].

Fig. 6. Roman administrative(?) buildings in Trench C+G on the eastern bank of the island; view looking south (trench H with the ramp seen among the palms in the background) (PCMA UW | photo A. Reiche)

TRENCHES C/G

Two structures, separated by a thick wall running east–west, excavated in two interconnected trenches on the eastern side of the island in the central part of the site, were tentatively interpreted by the excavators as administrative or residential buildings (Krogulska 1992: 362). Generally, there does not seem to be any visible interlayer between structures from different chronological phases. Walls of Roman date stand directly on top of Assyrian or Parthian remains or foundations. Nonetheless, both the architecture and the finds from one of the layers were interpreted as revealing a Roman presence on Biğān Island from the end of the 2nd century AD to AD 238 (Gawlikowski 1985: 21). Two main phases of Roman date were recognized: I – connected with the establishment of the Roman army camp; and II – dated to the reconstruction of the camp in the reign of Septimius Severus (this second phase was distinguished mainly based on the finds from Trenches A/B) (Krogulska 1987).

STUDY METHODOLOGY

To fully understand the ramifications of the present study, it is necessary first to comment on the nature of the archaeological finds assemblage (which was never fully published), the state of the archival documentation available for research, and the methods applied to its study.

The material from Biğān is in itself not available for study. The bulk of the unprocessed pottery from each season was transported to the archaeological storeroom in al-Fahimi in northern Iraq, leaving only a few of the more important artifacts at the local archaeological museum in al-Ramadi. The author did not have the opportunity to inspect this material in person owing to the political situation in the Syrian–Iraqi frontier zone. Therefore, the data presented in this article comes from the documentation made by the excavators, deposited now in the archives of the Polish Centre of Mediterranean Archaeology at the University of Warsaw. It consists of 169 drawings, 127 inventory descriptions of photographed fragments, 74 color slides and 192 monochromatic photos of the assemblage as well as field photos of each trench, an inventory of selected finds (including coins) and several general stratigraphic sections and plans of architectural units.

In order to work with the pottery material, the author made an effort to understand the excavators' recording routine for maximum clarity. A comparison of the pottery documentation with the finds inventory revealed several discrepancies and incorrectly recorded data, also in the references to specific contexts. Provenance studies without access to the pottery itself were unfeasible due to frequently flawed or laconic descriptions in the documentation and the impossibility of sampling the fabrics. The available documentation was sufficient to support a morphological study of the assemblage. Different vessel categories were identified, their chronology established and distribution patterns across the site reconstructed.

The study benefitted considerably from the published results of research on the so-called Brittle Ware class of cooking pottery from the Roman Near East (Dyson 1968; Waksman et al. 2005; Reynolds and Waksman 2007; Vokaer 2009) and the torpedo-shaped jars studied intensively by Seth Priestman (2013), Roberta Tomber (Tomber, Spataro, and Priestman 2020) and Caroline Durand (2021). A comparative study of the other common ware forms took advantage of published parallels from many sites of similar date and purpose, like ʻAin Sinu, ʻĀna, and Kifrin, among others, in the Middle Euphrates region.

The same problem of incomplete and unverifiable documentation concerned the coin finds from the seasons between 1979 and 1982. The available records consist of notes and entries in the general finds register, collected apparently in a fairly arbitrary manner.

THE POTTERY ASSEMBLAGE

Roman-period Brittle Ware and transport/storage vessels from the Biğān site are discussed here in that order.

BRITTLE WARE

This type of cooking and kitchen pottery was produced for close to a millennium, from the beginning of the 1st century BC to the first half of the 10th century AD (Amodio 2008: 325). Vessels of this type were strongly standardized and the distribution limited to the zone extending from the modern Turkish–Syrian border to the areas of Jordan and Palestine. During the Roman domination of Syria, Brittle Ware distribution corresponded to the extent of the Roman province. From the 3rd century AD until the end of the Umayyad period this type of pottery was produced in central Syria exclusively (Vokaer 2010: 115).

The term "Brittle Ware" was used for the first time in Stephen L. Dyson's study of the pottery from Dura Europos (1968). It describes a brick-red, thin-walled and externally ribbed class of cooking and kitchen ware, representing a highly standardized line of production, both technologically and typologically. The forms comprised in this category—globular cooking pots, casseroles with sharp carination, lids, funnels and jugs—changed little over time. These vessels were also used for boiling water (Vokaer 2013: 520).

Brittle Ware is best known through the assemblages coming from two different periods: the first half of the 3rd century AD (assemblages from sites like Zeugma, ʻAin Sinu, Dura Europos, precisely dated by historical events such as the Sasanian conquest in the mid-3rd century) and the 4th to 7th century AD (well studied occupational layers at sites like Apamea, Reṣāfa, Deḥes, Kifrin etc.) (Vokaer 2010: 116). Early Roman specimens, as well as Brittle Ware from the second half of the 3rd and beginning of the 4th century AD, have never been found in larger quantities. Different Brittle Ware fabrics, studied extensively by Agnès Vokaer (2013) and Gerwulf Schneider (Schneider et al. 2007), are indistinguishable to the naked eye; however, only one of the distinguished wares can be assigned to the assemblage from Biğān

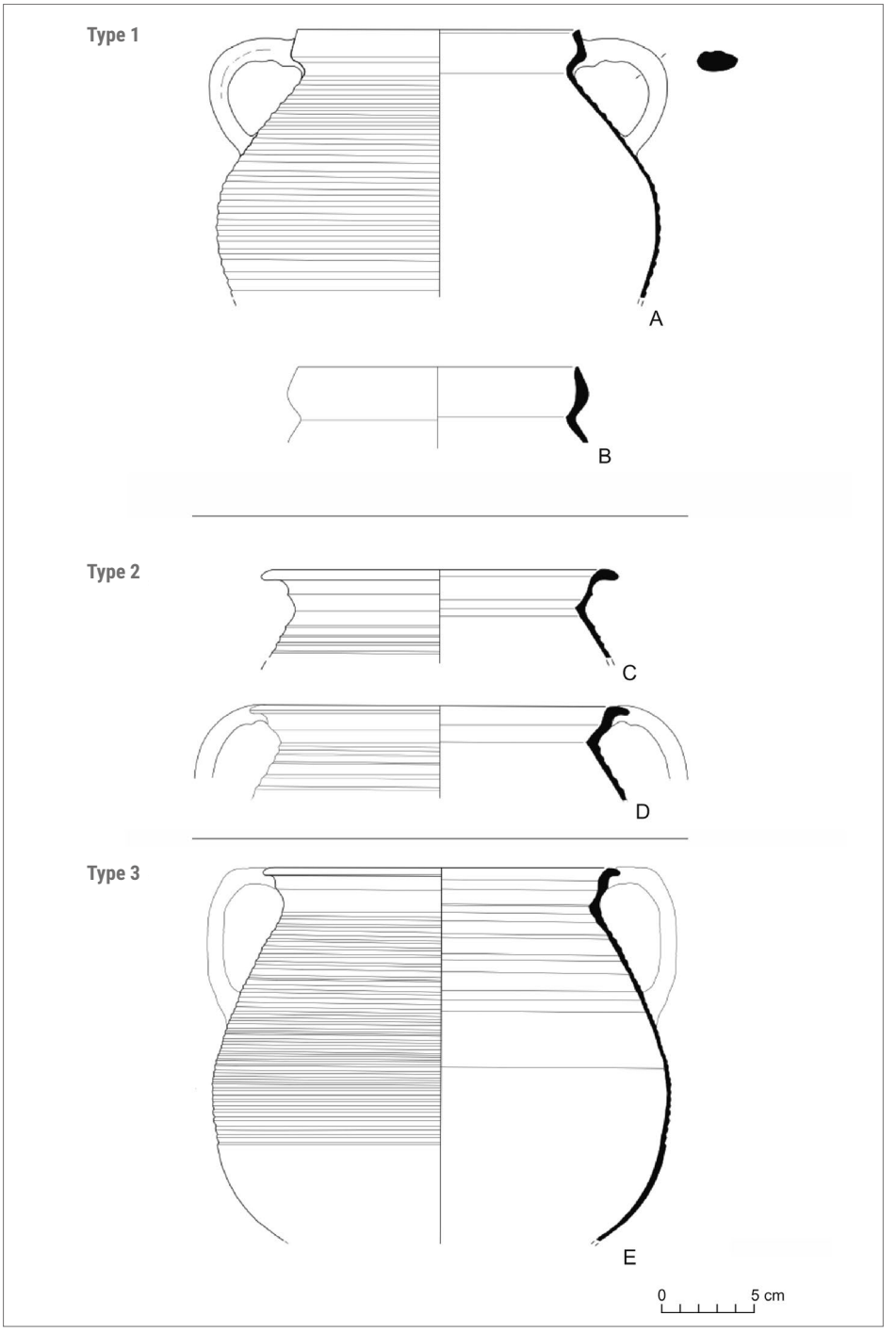

Fig. 7. Brittle Ware: cooking pots Types 1, 2, and 3 (PCMA UW | drawing A. Reiche/M.F. Stępniowski; inking M. Puszkarski; digitizing M. Lausz)

Island based on chronological and distributional compatibility. It is Workshop 1 (Schneider et al. 2007: 717–718; Vokaer 2013: 524–525).

Cooking pots

Type 1. Rim triangular and concave on the inside, neck short; S-shaped upper rim and neck profile. Strong ribbing just below the short neck. Short and looped handles attached just below the rim. Rim diameter 15–18 cm. *Parallels*: Tell Barri (Amodio 2008: 329, Fig. 3.1–3), Palmyra (Schmidt-Colinet and al-As'ad 2013: Fig. 63.d), Umm el-Tlel (Majcherek and Taha 2004: 246, Figs 3.18, 3.21). Production of this form began in the 2nd and ended at the beginning of the 4th century AD [*Fig. 7:A–B*].[1]

Type 2. Rim outturned and rounded in section. Short neck extending slightly toward the rim. Characteristic small groove on the inside just below the rim. Ribbing strongly pronounced just below the neck. Rim diameter 17–19 cm. *Parallels*: Tell Barri (Amodio 2008: 328, Fig. 1.2–8). Dated to the 3rd century AD [*Fig. 7:C–D*].

Type 3. Rim strongly outturned and rounded in section. Neck extends toward the rim in a much more horizontal manner than in Type 2. Ribbing (not as deep as in the previous forms) begins just below the neck. Handles triangular in section, attached directly to the rim. Characteristic narrowing in the section close to the lower end of the handles. Rim diameter 17.5 to 20 cm. *Parallels*: Dibsi Faraǧ (site catalog DF4306. 2 271) and 'Ain Sinu (Oates and Oates 1959: Pl. LVIII.81). Dated from the end of the 2nd to the beginning of the 3rd century AD [*Fig. 7:E*].

Casseroles

Type 4. Atypical form, assigned by the excavators to the Brittle Ware category. Rim rounded, outturned and undercut on the outside. Handles oval in section with slight depression on top. Rim diameter 23 cm. No parallels found so far. The formal differences between this fragment and other Brittle Ware casseroles are significant enough to question the correctness of the excavators' first identification based on their description of the fabric color and inclusions [*Fig. 8:A*].

Type 5. Rim square-shaped with rounded top. Wide groove on the outside turns into a thickening, below which the plain walls run straight down. Rim diameter 20 cm. *Parallels*: Tell Barri (Amodio 2007: 247, Fig. 7.IA). Dated to the 3rd century AD [*Fig. 8:B*].

Type 6. Rim rounded and externally undercut by a narrow groove. Strongly pronounced carination close to the rim. Body walls below this line run straight down, breaking off at a sharp angle near the vessel bottom. Handles oval in section, attached directly to the rim. Rim diameter 20 cm. *Parallels*: Tell Barri (Amodio 2008: 333, Fig. 6.1–3). Dated from the middle to the end of the 3rd century AD [*Fig. 8:C*].

Type 6/7. Transitional form between Types 6 and 7. Carination line positioned at mid-height. Rim smaller, more rectan-

1 Based on the similarity of form, Type 1 could be considered as an earlier form of the Dhiorios "Cypriot-style" cooking pot and, therefore, a predecessor of this type, equivalent to the later, 5th–6th century AD Workshop X forms (Vokaer 2010: 232, Fig. 47.52–54; Reynolds and Vokaer 2007: 74, Figs 37–45).

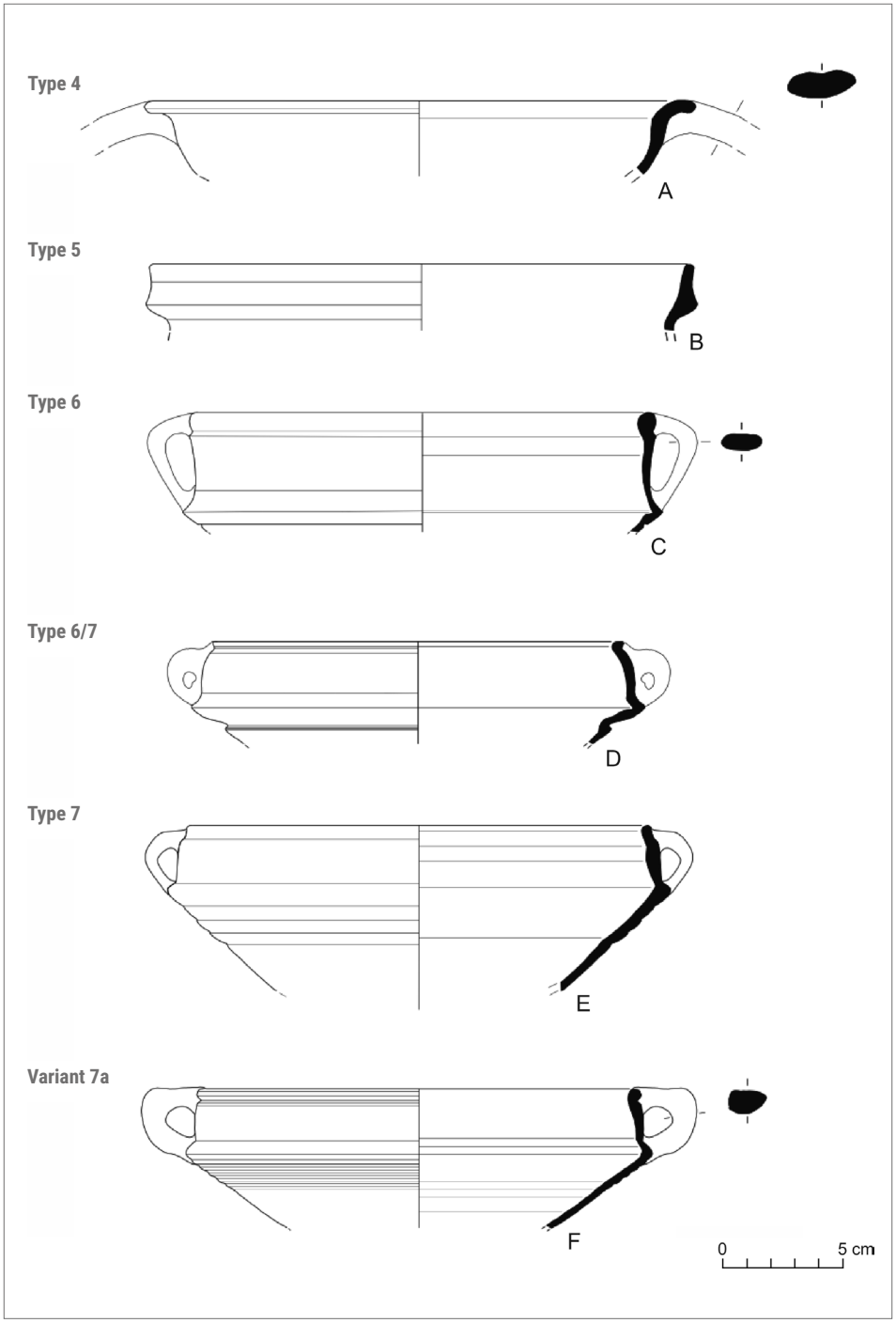

Fig. 8. Brittle Ware: casseroles Types 4, 5, 6, transitional 6/7, 7 and variant 7a (PCMA UW | drawing A. Reiche/F.M. Stępniowski; inking M. Puszkarski; digitizing M. Lausz)

gular and well undercut externally. Handles shorter and thicker. Rim diameter 18 cm. No parallels recognized. Dated to the second half of the 3rd century AD [*Fig. 8:D*].

Type 7. Rim rounded, distinguishably undercut externally and slightly outturned. Sharp carination dividing form into two halves. Upper part of the body vertical and slightly inturned. Lower part strongly ribbed, running in to the vessel bottom at a sharp angle. Handles short. Rim diameter from 18 cm to 22 cm. *Parallels*: Tell Barri (Amodio 2008: 333, Fig. 6.6–9), 'Ain Sinu (Oates and Oates 1959: Pl. LVIII.78–79) and Palmyra (Schmidt-Colinet and al-As'ad 2013: 40, Fig. 21). Dated from the beginning of the 3rd to the beginning of the 4th century AD [*Fig. 8:E*].

Variant 7a. Rim sharply undercut on the outside. Carinated twice, just below the rim and at mid-height. Handle section oval, slightly sharper on the outside. Ribbing below the carination line, less pronounced than in Type 7. Rim diameter 20 cm. *Parallels:* Tell Barri (Amodio 2008: 333, Fig. 6), dating this type to the beginning of the 4th century AD; the present author is persuaded to suggest a slightly earlier dating [*Fig. 8:F*].

Jugs

Type 8. Rim triangular and extended internally. Spout often located opposite the handle. Slightly swollen neck with strongly pronounced ribbing, disappearing at the base and reappearing in the middle of the vessel. A long handle attached just below the rim, dropping to

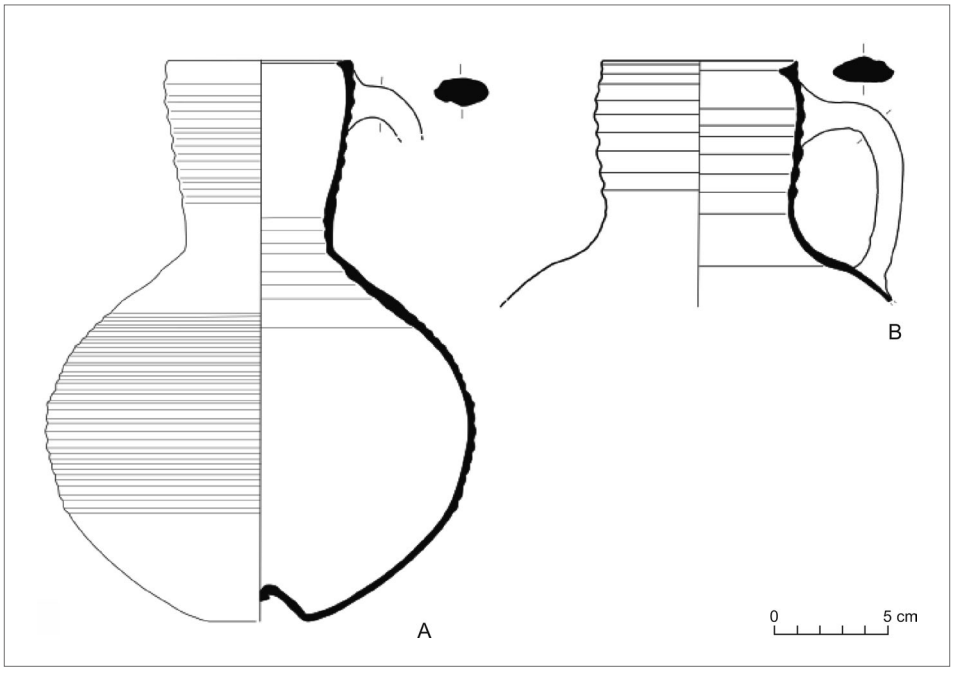

Fig. 9. Brittle Ware jugs (PCMA UW | drawing A. Reiche/F.M. Stępniowski; inking M. Puszkarski; digitizing M. Lausz)

the vessel shoulder. Rim diameter 9 cm. *Parallels*: 'Ain Sinu (Oates and Oates 1959: Pl. LVIII.85) and Tell Barri (Amodio 2008: 332, Fig. 5.1–4). Dated from the 3rd to the 5th century AD [*Fig. 9:A*].

Type 9. Evolution from Type 8. Rim triangular with a characteristic externally undercut rim. Slightly bulging neck with strongly pronounced ribbing that disappears at the neck base to reappear at mid-height. Long single handle attached just below the rim and on the vessel shoulder. Rim diameter 9 cm. *Parallels*: Tell Barri (Amodio 2008: 332, Figs 5.5–7). Dated from the 3rd to the 5th century AD [*Fig. 9:B*].

Other kitchen-ware utensils

Strainer

Rim rounded, outturned and strongly undercut. The profile runs straight down from the rim, turning off at a slight angle into the rounded vessel bottom. Perforations distributed evenly over the entire lower part of the vessel. Rim diameter 18 cm. Parallels: Palmyra (Schmidt-Colinet and al-As'ad 2013: 41, Fig. 22) where the form is dated from the 2nd to the 3rd century AD [*Fig. 10:A*].

Funnel

The fragment is an almost complete funnel (big fragment of the body wall and neck without preserved rim). The walls are typically thin, the outer wall surface featuring strongly pronounced ribbing. No parallels have been found in chronologically corresponding contexts, but similar funnels come from much later assemblages, representing the production of the so-called Workshop X (Vokaer 2010–2011: 213–216) [*Fig. 10:B*].

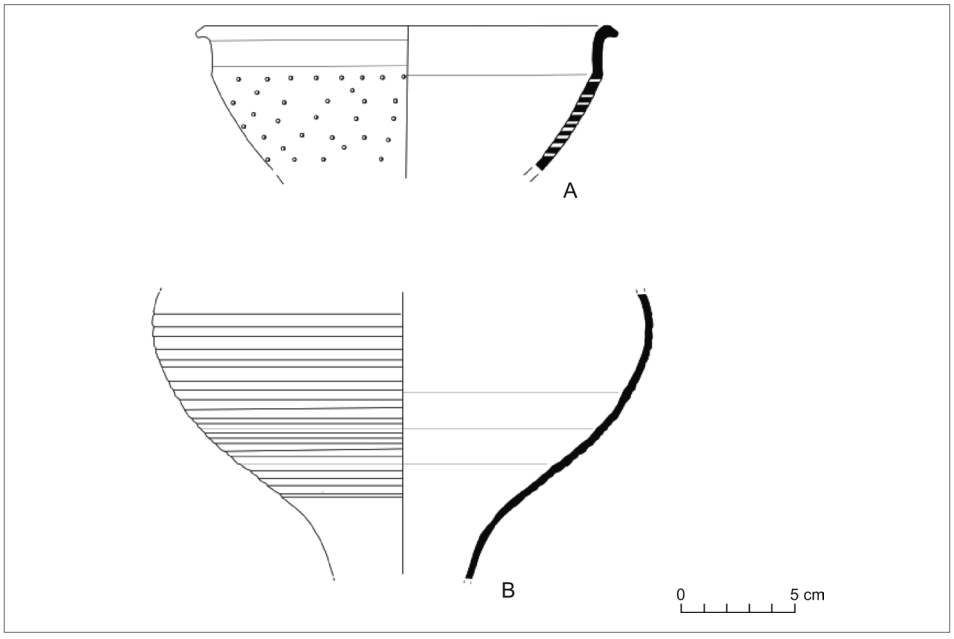

Fig. 10. Brittle Ware: A – strainer; B – funnel (PCMA UW | drawing A. Reiche/F.M. Stępniowski; inking M. Puszkarski; digitizing M. Lausz)

TRANSPORT AND STORAGE VESSELS

M.AMPH (Mesopotamian Amphora)

A few words on the state of research are essential for a broader discussion of this category of vessels from the Biǧān excavation. Roberta Tomber first presented a group of long, torpedo-shaped transport and storage vessels with internal bitumen lining, which she aptly called Torpedo Jars (2008: 39–42). These vessels have a very wide distribution range, with diagnostic fragments reported from Red Sea sites (Tomber 2008: 39–41, and her catalog of pottery from the Quseir al-Qadim site, QQ.94), India (e.g., Wheeler, Ghosh, and Deva 1946: 79, Fig. 30 Type 76; Stern et al. 2008: 411), Sri Lanka (e.g., Stern et al. 2008: 424), the Gulf (e.g., al-Qusur: Kennet 1991: 111, Fig. 6/1021; Siraf: Tomber, Spataro, and Priestman 2020), the southern Arabian Peninsula (e.g., Khor Rori: Sedov 2007: 105–106; Pavan 2017: 208–211) and the inner and northern Mesopotamian sites, e.g., Kifrin (Moriggi 2020), ʻAna (Northedge, Bamber, and Roaf 1988: 71–73) and Tell Barri (Palermo 2019: 180–182).

The scattered data on Mespotamian and Khuzestan material has recently been collected and studied (Priestman 2013; Tomber, Spataro, and Priestman 2020; Connan et al. 2020). These researchers have proposed to distinguish two major groups: TORP-S, dated from the second half of the 3rd to the 7th centuries AD (Sasanian and early Umayyad), and TORP-C from the 8th to the 9th centuries AD (early Abbasid) (Connan et al. 2020: 16). The TORP-C fabric is described as cream-colored, with less distinctive sand inclusions. The texture and a characteristic internal fattening of the rim, as well as significantly thicker walls are typical of this group. The TORP-S fabric is described as brownish-orange, containing abundant well-sorted sandy grit inclusions, and the body walls are rather thinner compared to the other group (Connan et al. 2020: 6).

A second classification, recently presented by Caroline Durand, is based on a dataset counting hundreds of vessels from two sites: Failaka in Kuwait and Thaj in eastern Saudi Arabia (Durand 2021: 22). The typology includes vessels spanning a wide period between the 2nd century BC and the 3rd century AD. The form has an ovoid body (hence the designation Ovoid Jars), 60 cm tall; it is neckless, with a rim 16 cm in diameter, set directly on the shoulders, and no handles (Durand 2021: 25, Fig. 4). Two features are distinctive: a bitumen lining of the internal surface (sometimes accidentally splashed also on the outside), and an organic-tempered fabric. Despite significant variations in the quantity of secondary inclusions and sand added to the raw clay, the abundance of organic inclusions is treated as a decisive feature attributing these vessels to the Greenish Chaff Tempered Ware (Durand 2021: 22). A second variant of this fabric, referred to by Durand as Orange Sandy Ware, is denser, featuring an abundance of sand inclusions; it is associated with later production, from the 1st to the 3rd century AD.

The third proposed classification (Lischi et al. 2020) is supported by detailed minero-petrographic analyses of samples taken from 18 transport vessels found at two different sites: Alagankulam (Coromandel Coast in India) and Inqitat

(southern coast of Oman). Based on these results, Silvia Lischi distinguished three different fabrics: Fabric A corresponding to TORP-S, and Fabrics B with abundant organic-temper remains, and C containing micro-fossils, mica and feldspar, and sericite, which Lischi would like to associate with Priestman's TORP-C category (Lischi et al. 2020: 4), this despite the fact that TORP-C fabric does not apparently contain any organic temper. Stratigraphic dating of samples of Fabric B weaken this association even more. The Hellenistic to early Roman dating of these samples (from the 3rd century BC to the 3rd century AD), as well as the organic tempered, creamy fabric (Lischi et al. 2020: 9–11) seem to be much closer to the fabric of the Ovoid Jars as described by Durand. Lischi does not present a typological sequence of the sampled material, raising questions about the correctness of her vessel identification, especially with regard to sample A10, which was the base for a description of her Fabric C.

A common feature of both Torpedo and Ovoid Jars is the internal bitumen sealing. Bitumen could have been acquired from several sources in the Near East, such as the southern Hit area, Lurestan, Khuzestan or the Dead Sea region (Connan 1999: 34–35). The sealing was applied as an extra protection for long-distance transport. Jacques Connan and Michel Mouton (1999: 245) have pointed out that bitumen was a good heat-isolation layer and might have been used as a liquid material for fixing broken pots.

The bitumen also served Connan (Connan et al. 2020: 16) as evidence for a possible production center (no actual workshops making Ovoid and Torpedo Jars have ever been found) in the Khuzestan province, nowadays in southwestern Iran. Chemical analyses of the bitumen samples from Torpedo Jars of late antique and early Islamic date, made in TORP-S fabric, also suggested different production centers located in central Mesopotamia, north of modern Baghdad (S. Priestman, personal communication, 2021), for the earliest production line of the TORP-S type.

Durand's Ovoid Jars and the TORP-S transport vessels are the most important parallel material for finds of the M.AMPH class of vessels discovered in massive numbers at the Biğān site. The amphora-like, long, torpedo-shaped, neckless and handleless containers were the most numerous type of transport vessels found at Biğān Island. Entries in the original inventory hardly reflect the true quantities of these vessels. Complete or nearly complete forms were mentioned repeatedly in preliminary reports as well as in the general documentation from each trench, and taking into account the non-diagnostic fragments that were neither collected nor documented, one can be certain that the number of vessels of this class must have been overwhelming. However, since only a few full forms and rim fragments were recorded and documented during the excavation, the author of this paper is left without sufficient evidence for attributing them to either of the two classes. Equally so, due to enigmatic references to layers in the documentation, as well as general uncertainties concerning periodization of this type, it is almost impossible to precisely date the bulk of the transport vessels from the island. The vessel forms and fragments undoubtedly from Roman

layers (Phases B.I and B.II; for site chronology see below), which served as a base for the author's study, were all described in the original excavation documentation as a sandy fabric resembling the TORP-S fabric description; no organic temper was ever mentioned. Typologically, however, the M.AMPH assemblage from Roman layers resembles the latest of the types distinguished by Durand (2021: 25, Fig. 4, mostly Types G and H from Mleiha), dated to the 2nd and 3rd century AD. Even the limited number of documented vessels from Biğān reveals no apparent standardization of the production.

Two general classes can be observed, differentiated by rim positioning and pronounciation of the shoulders. Type M.AMPH.1 has a tall, slender body with a vertically positioned rim attached to an almost shoulderless body [*Fig. 11*]. The rim is rounded and slightly outurned. The rim on Type M.AMPH.2 is more horizontal, the body wider at the shoulders which are more pronounced. Delicate ribbing is often present underneath the rim both inside and outside [*Fig. 12*]. The foots of both types are solid and spiked. Type M.AMPH.2 looks very similar to Durand's Ovoid Jars, while M.AMPH.1

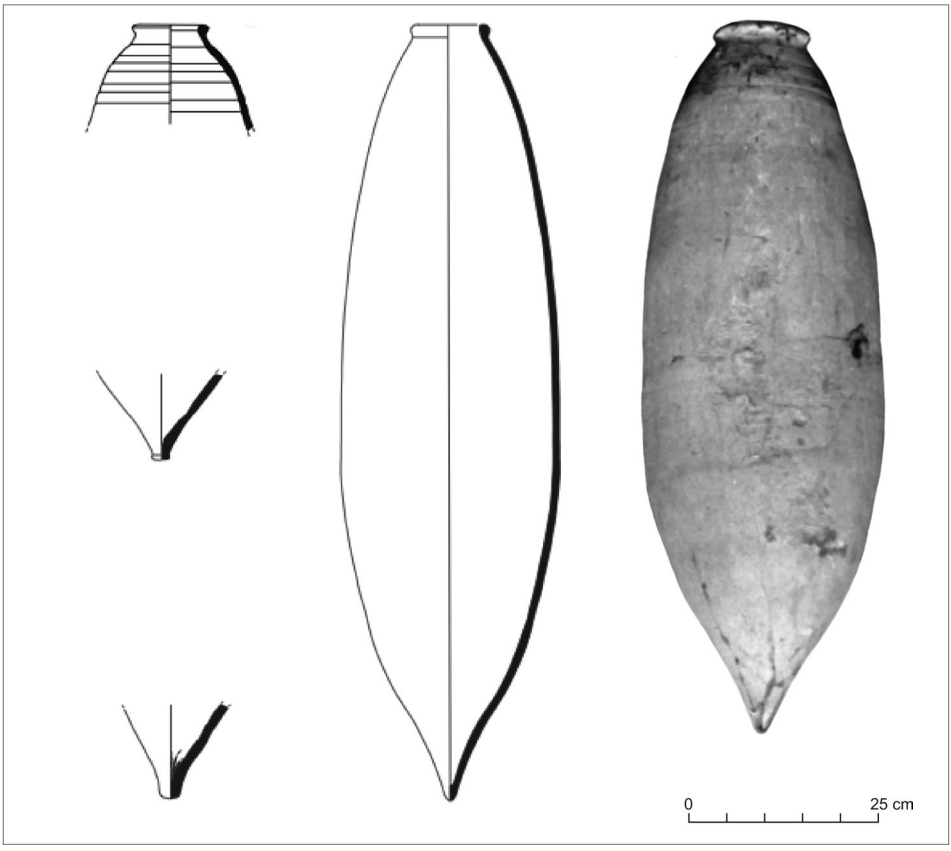

Fig. 11. M.AMPH.1 transport jars; a complete vessel at far right (PCMA UW | drawing M. Barański, inking M. Puszkarski; digitizing M. Lausz; photo K. Gawlikowska)

seems to be a typological mix of Durand's Type H and Priestman's TORP-S form. If so, then it is very likely that the forms found at Biğān represent Roman-era production of torpedo-shaped transport vessels, fitting perfectly the gap between Priestman's and Durand's typological classifications [*Fig. 13*].

Archival drawings of the full forms from Trenches B, F and TT show a thin-walled, tall form [*Fig. 11* right; see also *Fig. 3*]. Bitumen lining was apparently omnipresent. Considering the dating of Roman layers at the site from the second half of the 2nd till the mid-3rd century AD, and the evident predominance of these vessels, leads one to speculate that the Roman outpost at Biğān was supplied with pottery produced relatively close by. The absence of sherds of Mediterranean amphorae seems to reflect on the low status of the Biğān outpost and/or logistical pragmatism, calling for the site to be supplied with local produce.

This brings us to the issue of what was transported in these vessels. The primary content is still unknown, but the waterproofing with bitumen indi-

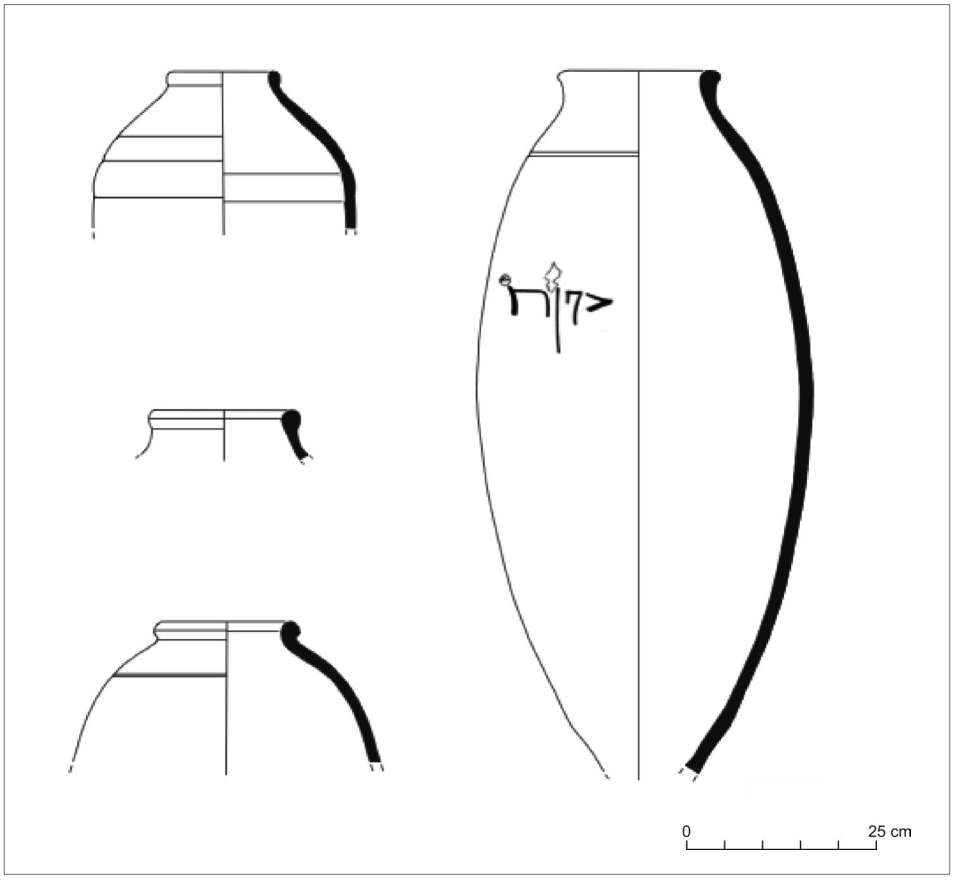

Fig. 12. M.AMPH.2 transport jars (PCMA UW | drawing M. Barański, inking M. Puszkarski; digitizing M. Lausz)

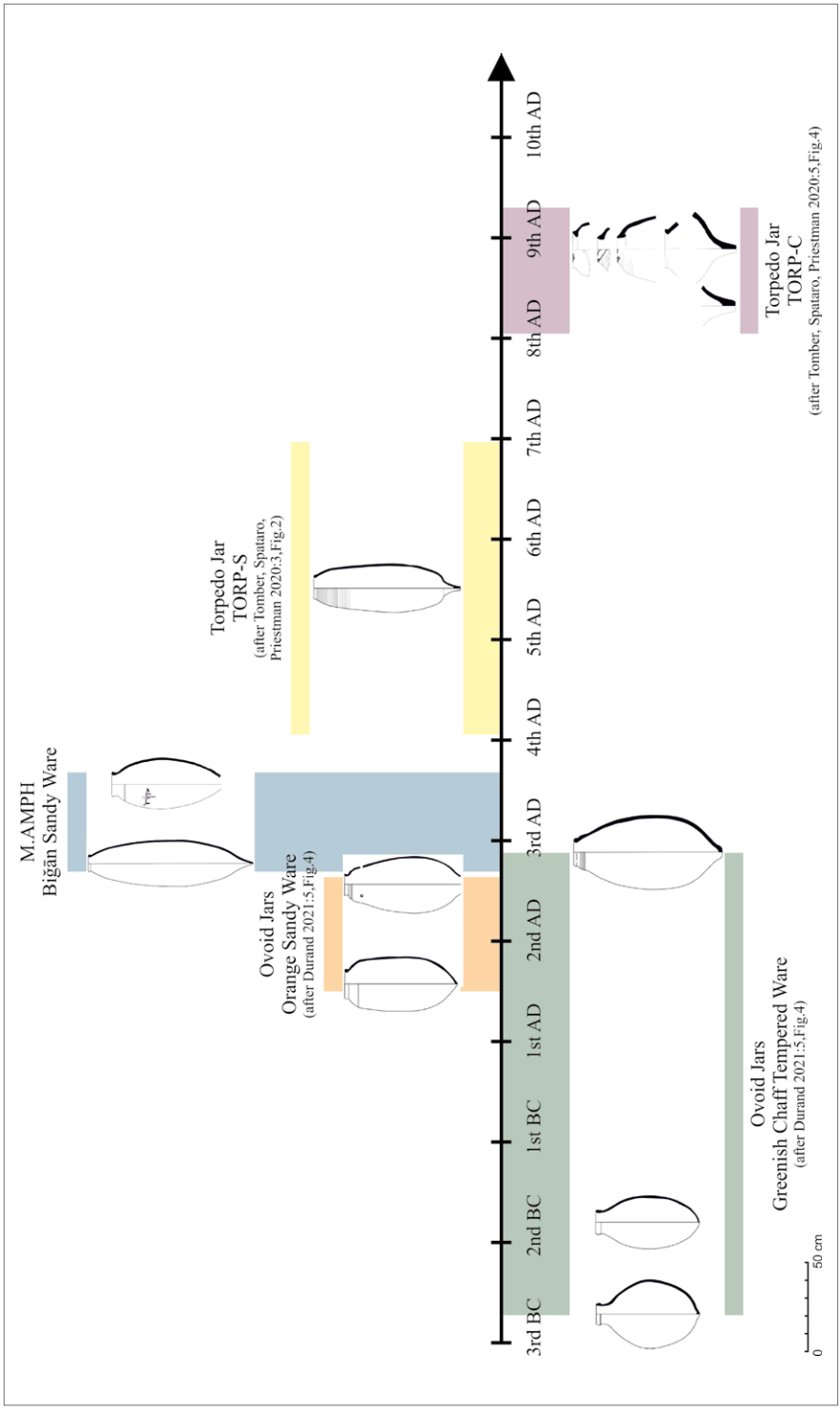

Fig. 13. Typochronology of Ovoid and Torpedo Jars, with the M.AMPH types filling the chronological gap between them (J. Oleksiak; graphic enhancement M. Momot)

cates a container for liquids. Tomber (2008: 42–43) suggests that Torpedo Jars served (primarily) as a Mesopotamian wine container and Durand is vaguely in agreement (2021: 28). Durand's mention of two intact Ovoid Jars that were found fully loaded with bitumen (Jasim and Yousif 2014: 65–66, 70–71, Figs 37–39) could suggest their role as bitumen containers. The Biğān finds contribute another bit of information in the form of a bitumen-splashed inscription consisting of four signs on the upper body of a M.AMPH vessel [see *Fig. 12* vessel on the right]. It is a number and a presumed description of content in Hatran Aramaic. The following transliteration has been proposed: '20 *pqn*' (M. Moriggi, personal communication; M. Pennacchetti, personal communication). It refers to the quantity and type of "sweet-taste" content of the vessel. Precisely the same *dipinto*, as well as other Hatran Aramaic inscriptions were found at the Kifrin site in the Middle Euphrates region (Moriggi 2020). It could refer to products like date wine or date syrup, which would have certainly been a centuries-old tradition in the Mesopotamian region.

Storage jars

For most of the types described below there are little or no original descriptions from the excavations, reducing any chance at identifying the provenience. However, close observation of the photo documentation, as well as a typological study, lead to the assumption that the Grooved Rim and the Handled Jar types were produced most probably in the Euphrates valley or in the Palmyra region.

Grooved Rim Jars

Type GRJ.1. A stationary storage form with a vertical rectangular rim, displaying a characteristic multiple grooving on the external side, terminated in an undercut. A wide-diameter ring base indicates a standalone form. Rim diameter 20–25 cm. Parallel material is known from Palmyra (Schmidt-Colinet and al-As'ad 2013: 63, Fig. 51d). The form is dated to the turn of the 2nd century AD [*Fig. 14:A*]. A variant of this form has a narrower rim with less regular grooving on the outside. The variant is significantly smaller, the rim diameter being 16 cm.

Type GRJ.2. A more massive version of the first type. The rim is more rectangular, and the usual grooving on the outside is doubled. The shoulders are much more horizontal. Also a standalone form as indicated by a wide-diameter ring base. Rim diameter 15–16 cm. No parallels are known, but formal similarities are enough to suggest a similar date as for Type GRJ.1 [*Fig. 14:B*].

Type GRJ.3. Rim much narrower, flat and rounded at the top, with multiple grooves, deeply undercut, on the outside. The shoulders not as pronounced as in the GRJ.2 type. A standalone form judging by a wide-diameter ring base. Rim diameter 11 cm. Parallels also from Palmyra (Schmidt-Colinet and al-As'ad 2013: 67, Fig. 55g). This form is dated to the turn of the 1st century AD [*Fig. 14:C*].

Handled Jars

Type HJ.1. Rim diamond-shaped, thick and undercut on the outside. Form biconical with the widest part just below the shoulders; two small handles of ellipsoid section attached to the shoulders.

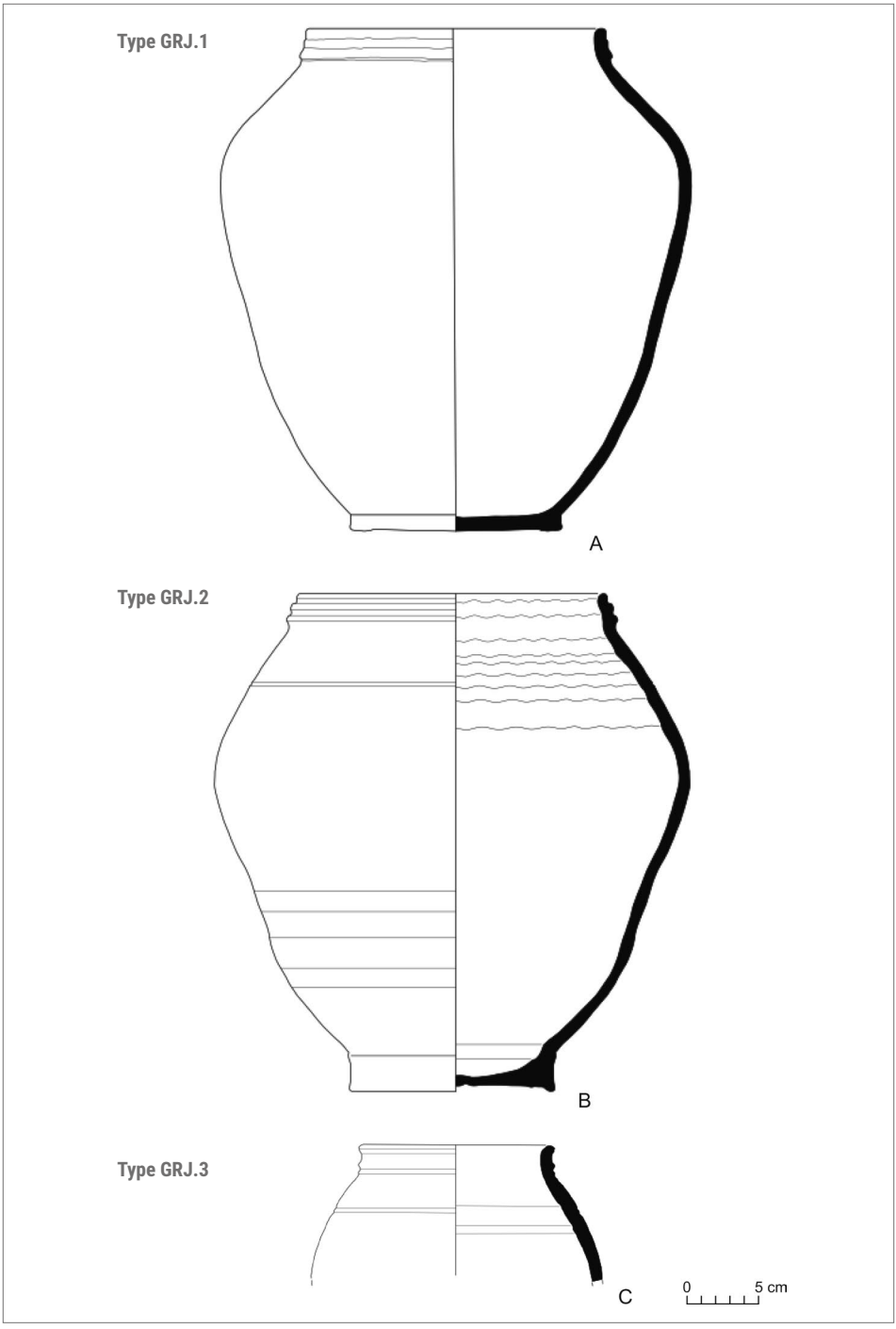

Fig. 14. Storage jars of the Grooved Rim Jar variety, Types GRJ.1, GRJ.2 and GRJ.3 (PCMA UW | drawing A. Reiche/F.M. Stępniowski; inking M. Puszkarski; digitizing M. Lausz)

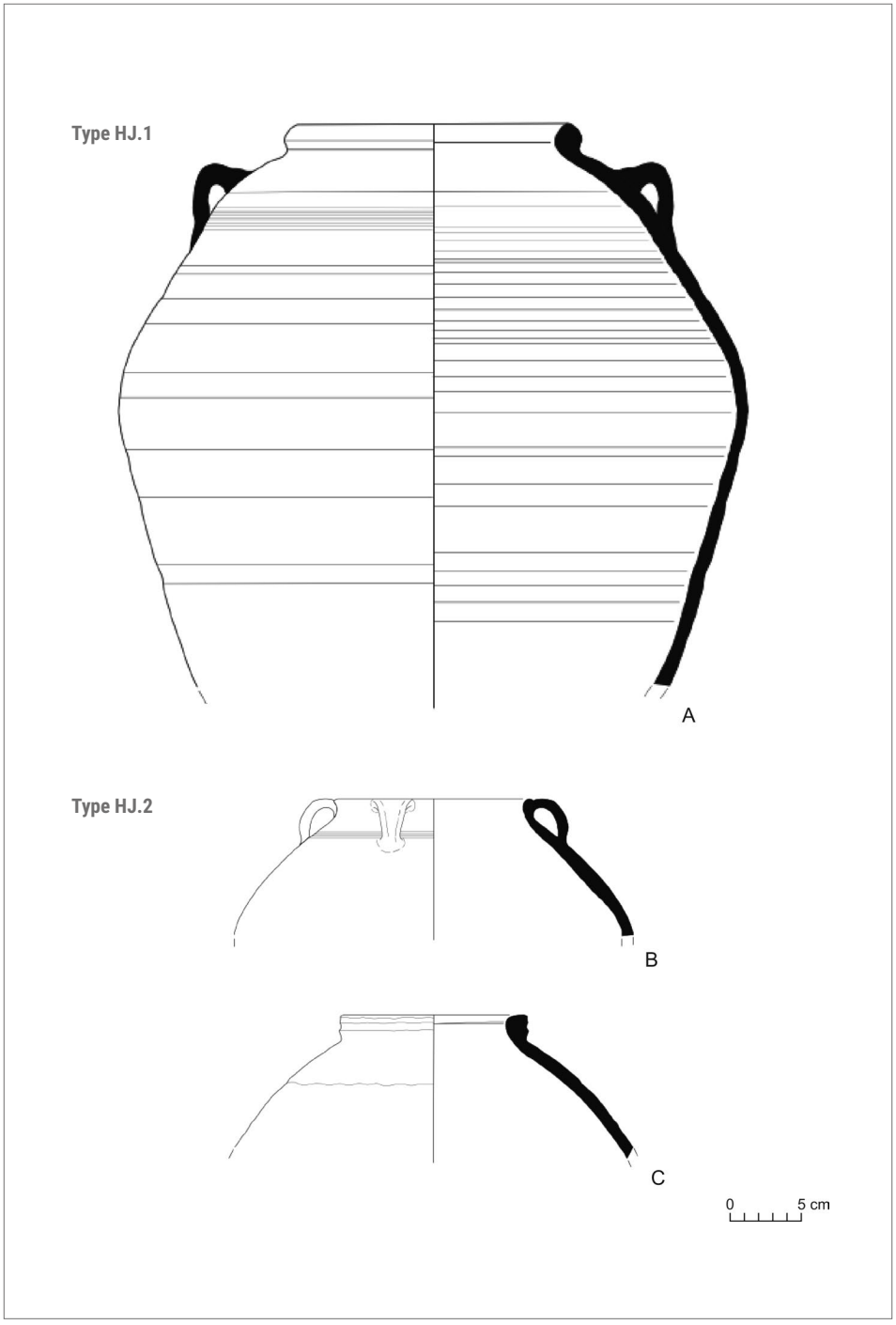

Fig. 15. Storage jars of the Handled Jar variety, Types HJ.1 and HJ.2 (PCMA UW | drawing A. Reiche/F.M. Stępniowski; inking M. Puszkarski; digitizing M. Lausz)

Walls thick with visible wheeling marks on the inside. Most probably a standalone form, although not a single base has been preserved. Rim diameter from 12 cm to 16 cm. Shape, size and positioning of the handles recall an Indian jar type from the turn of the 1st century AD (Tomber 2008: 77, Fig. 14), but the rim is of an entirely different shape. No exact parallels have been noted [*Fig. 15:A*].

Type HJ.2. Rim simple, vertical and rounded. A neckless form, handles attached directly to the rim. Two horizontal incised lines can be seen on the outside of the vessel, flush with the lower end of the handle. Globular shape, standalone form. Rim diameter 15 cm. Similar forms used for water storage are known from the 7th century BC Levant (Shai and Maeir 2003: 113, Fig. 3). Parallel vessels have been recorded in 2nd-century-AD layers at Khirbet edh-Darih in Jordan (site catalog, No. DH93S2K loc.27) [*Fig. 15:B, C*].

Indian Ocean imports

Storage vessel I1. Rim slightly outturned, rounded and doubly cut on the outside. Neckless form, the rim passing into an almost vertical body wall. Irregular, wavy, incised decoration applied on the upper part of the body. A scratched graffito just below the narrowing under the rim. Rim diameter 10 cm. Parallels found in Arikamedu in southern India: Form 54 from Wheeler's catalog (Wheeler, Ghosh, and Deva 1946: 72, Fig. 26) or Form 3.390 from Begley's catalog (Begley et al. 2004: 320, Fig. 3.390). The form is dated to the 2nd century AD [*Fig. 15:A*].

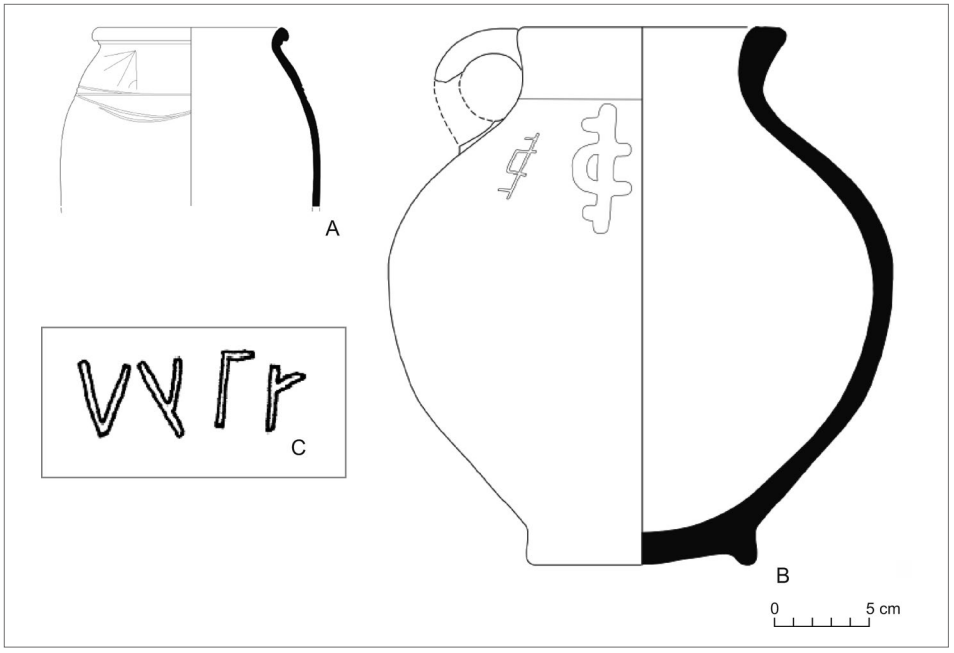

Fig. 16. Indian Ocean imports: A – storage vessel I1 with graffito; B – storage jug(?) I2 with two inscriptions on the shoulder; C – bitumen splashed inscription in box on left appears on the lower part of storage(?) jug I2 (PCMA UW | drawing A. Reiche/F.M. Stępniowski; inking M. Puszkarski; digitizing M. Lausz)

The graffito was scratched after firing. It consists of four thin lines, the outer ones forming an angle not exceeding 90°, the inner ones rays dividing teh angle into more or less equal parts. A short line arches inward from the bottom end of the vertical line. A parallel graffito was noted on a vessel in Casal's catalog (Casal 1949: Fig. 15.33) and a similar sign appears in Begley's catalog (Begley et al. 2004: 421, Fig. 79.G27). The sign is interpreted as a representation of a river delta [*Fig. 16:A*].

Storage(?) jug I2. Almost fully preserved globular jug with a thick, outturned, slightly rectangular rim and very short neck. A small handle of circular section is attached at the top of the rim and to the top of the shoulder. Rim diameter 13.5 cm. Ring-shaped base. Walls rather thick, with the thickest part close to the bottom of the form [*Fig. 16:B*].

A graffito painted with bitumen appears below the neck, on the opposite side of the vessel to a scratched swastika mark made on the same level. It is a compilation of two signs: a C-shaped mark applied on top of a long vertical line with horizontal one-sided bars. No parallels are known.

A four-letter word in the Tamil-Brahmi script (Salomon 1998: 32, Table 2.3) appears close to the base [*Fig. 16:C*]. It should most probably be interpreted as a signature of the vessel's owner or a description of the vessel's content (Wheeler, Ghosh, and Deva 1946: 110, Fig. 45).

COIN FINDS

The numismatic material recorded by the excavators consisted of 25 bronze coins. This collection covers a period from the second half of the 1st to the second half of the 3rd century AD. It supports a phasing of the Roman presence on the island into two broader periods. The first phase refers to the earlier 2nd century AD, with single residual finds of late 1st and early 2nd century AD coins (reigns of Trajan and Hadrian and one dated to the Flavian emperors). Most of this earlier group (five coins) comes from the mid-2nd century AD. The second group of coins, a total of six, are Severan issues.

Almost all of the coins were minted in Syrian and North Mesopotamian mints, the most popular ones being Edessa, Antioch and Emesa. Only two coins were minted at more distant locations, on Cyprus and in an unidentified mint in the Black Sea region.

SITE CHRONOLOGY

The pottery assemblage from the Biğān site is typical of military sites functioning in Northern Mesopotamia from the second half of the 2nd to the mid-3rd century AD. The earliest forms coming from the excavations, from layers B.II and F.II, which yielded early 2nd century material, are instrumental for a reinterpretation of the dating when the site was first occupied in the Roman period. Layer B.II was dated by two coins of the Antonine emperors found in "sealed" contexts, that is inside a storage jar, together with the earliest pottery forms, which, however,

cannot be tied in directly with the findspot of the coins. The second deposit, coming from a small room next to the outpost gate in Trench F, contained evidently earlier pottery (cooking pot type T1, and casseroles of types T4, T5) also found in well-dated contexts (in between the floor slabs) together with two coins, one of Hadrian, the other of Antoninus Pius. The first half of the 3rd century AD is strongly represented in the Roman-pottery assemblage. The latest coins are from the reigns of Alexander Severus and Maximinus Thrax. Consequently, the chronological division of the Roman layers into two phases, proposed by the excavators, is reflected in the pottery material.

The establishment of the outpost at a date earlier than suggested by Maria Krogulska (1992: 354) fits the historical events. Contexts with early coinage, as well as with early pottery material, reflect in all likelihood a Roman army presence either directly or shortly after the campaign of Lucius Verus against the Parthians in AD 162–163, which ended in the pillage of Seleucia and Ctesiphon, but otherwise brought little territorial benefits for the Roman Empire (conquest of Dura Europos and possibly extended control over the middle Euphrates region). No new provinces were formed as was the case after Trajan's invasion in AD 113–116, although Roman positions and Roman rule over the Eastern limes were reinforced and lasted in unchanged form through the reign of Septimius Severus and his two military campaigns in AD 194 and 197 (Palermo 2019: 35–36). The campaign of Lucius Verus resulted in the army establishing outposts in the Euphrates valley: the fortress in Kifrin and the post on Anatha Island (Kennedy and Northedge 1988: 6–7).

As for the end of the Roman military presence on Biğān Island, it must have been connected with a weakening of Roman military control of the limes in the mid-3rd century AD. It could have been the result of the first Sasanian offensive under Ardašir in AD 229, which reached as far north as Nisibis (Ziółkowski 2004: 457). The counteroffensive of Severus Alexander in AD 230 may not have reached far enough south in the Euphrates valley to retake Biğān from Sasanian hands. The year AD 244 is also possible. After the defeat of the Roman army during the second campaign of Gordian III and the death of the young emperor, his successor, Philip the Arab, had to use diplomacy to find a way out of a fatal military situation. While there is no archaeological evidence for an abrupt abandonment of the site, the situation could reflect a truce between Philip the Arab and Šapur I, whereby the Roman army was forced to withdraw north beyond Dura-Europos (Ziółkowski 2004: 510–512).[2]

BIĞĀN AND THE TRADE ROUTE NETWORK

The route along the valley of the Euphrates was the third long-distance trade road to the Far East, next to the overland Silk Road and the maritime Red Sea Spice Route. It connected the east coasts of the Mediterranean Sea with

2 Inscription of Šapur I in Ka'ba Zardosh mentioned these events as well: *ŠKZ* 11.

the Gulf, where ships plying the Indian trade route docked (Sidebotham 2011: 206). Control over this trade hub promised significant profits from mercantile exchange, especially in late Hellenistic and early Roman times. Even though the scale of the economic exchange was not very high, it supplied the Roman market with luxury goods, such as gold, gems, silk, ivory, spices, sandal and teak wood, coconuts, mung bean, rice and incense (Cherry 2007: 740; Tomber 2008: 54–55; Sidebotham 2011: 222). The Euphrates road was an alternative for the Red Sea route, which was the primary maritime connection between the Mediterranean and India during the first three centuries of the 1st millennium AD. The sea route offered an advantage over the land road in terms of time and expense and despite the hazards involved in sea travel.[3] Traveling along the Euphrates one reached the Gulf, where an economic exchange with the west coast of the Indian subcontinent was sustained. Furthermore, the significance of the Euphrates route increased after the Antonine Plague in AD 166, which decimated the population in the harbors and cities of the western and northern Red Sea coasts, such as Myos Hormos and Berenike (Sidebotham 2011: 215–221). The successful campaign of Lucius Verus in Mesopotamia, ensured and stabilized Roman military and economic control over the Empire's eastern frontier. Additionally, the land route, even if smaller in scale and much slower, avoided the hazards of sea travel, docking costs, port usage and ship repairs, and other extra expenditures, such as nomad escort for merchants and cargo from Red Sea coasts to the Nile Valley (Sidebotham 2011: 5).

The Palmyrenians organized caravan transport from Palmyra to the east and then at the confluence of the Euphrates and the Khabur south to Hit, Vologesias and Spasinou-Charax, where goods could be exchanged with sailors reaching the Gulf from northern and western India. This practice laid teh ground for Palmyra's "golden age"—the greatest economic flourishing in the 1st and 2nd century AD. A great number of inscriptions from Palmyra, dated between AD 131 and AD 151, reveal the city's prosperity and wealth (Gawlikowski 1994: 30).

The military outpost of Biğān was located at the far edge of the Roman frontier, in mid-river [*Fig. 17*]. This is where roads from the major cities of Northern Mesopotamia, such as Nisibis, Rhesaenna, and Singara, reached their end within Roman territory. The Mediterranean coast was well connected with the Euphrates road by two shortcuts. The one taking the shortest route from Antioch to the river in the whereabouts of the modern-day Asad Lake (Gawlikowski 2017: 16) passed through several military posts on the upper Euphrates: Tell Šayḫ Ḥassan, Dibsi Faraǧ, Reṣāfa, Ḥalabiyya. The other went through Palmyra and then northeast, skirting Ǧabal Bišri on the south, and passing through several military settlements in the Syrian Desert, such as Qebāqeb, Quṣaybe (Lönnqvist 2009: 15–19), and Qreiyye (Geschwind 2004; Linck et al. 2012: 75–76),

3 The dangers of setting sail out in the Indian Ocean from late autumn till early spring were set forth in the *Periplus Maris Erythraei* (*PME* XXXII).

before reaching the valley of the Euphrates. The two roads merged at the confluence of the Euphrates and Khabur rivers, and then proceeded south through other Roman settlements like Dura-Europos, ʻAna (Kennedy 1986; Northedge, Bamber, and Roaf 1988), Kifrin (Valtz 1985; Invernizzi 1986), and Telbis (Excavations… 1983: 222; Graf 2018: 491), ultimately reaching Biǧān. A mapping of these settlements highlights the strong military and economic control over both the rivers in Mesopotamia even during the fierce rivalry between Rome and the empires of the East.

The pottery from Biǧān reflects the island's involvement in Roman mercantile activity. The many M.AMPH vessels found in the storage-like rooms in Trenches A/B and F indicate a high level of goods exchange up and down the river between northern and southern Mesopotamia. Imported Indian pottery is evidence of the passing of merchants (most probably Palmyrene) engaged in the India trade via the Gulf. In turn, the Brittle Ware finds link the island outpost to the organized infrastructure of the Roman army present in the valley of the Euphrates until the mid-3rd century AD. Even so, the system of food supplies and other deliverables needed at the military outpost is still unknown. There are still many questions concerning the exact role played by Biǧān in the local network, specifically whether it was the first post under Roman control where merchants returning from the Gulf paid their taxes. And did Biǧān act as a loading station on the Roman frontier?

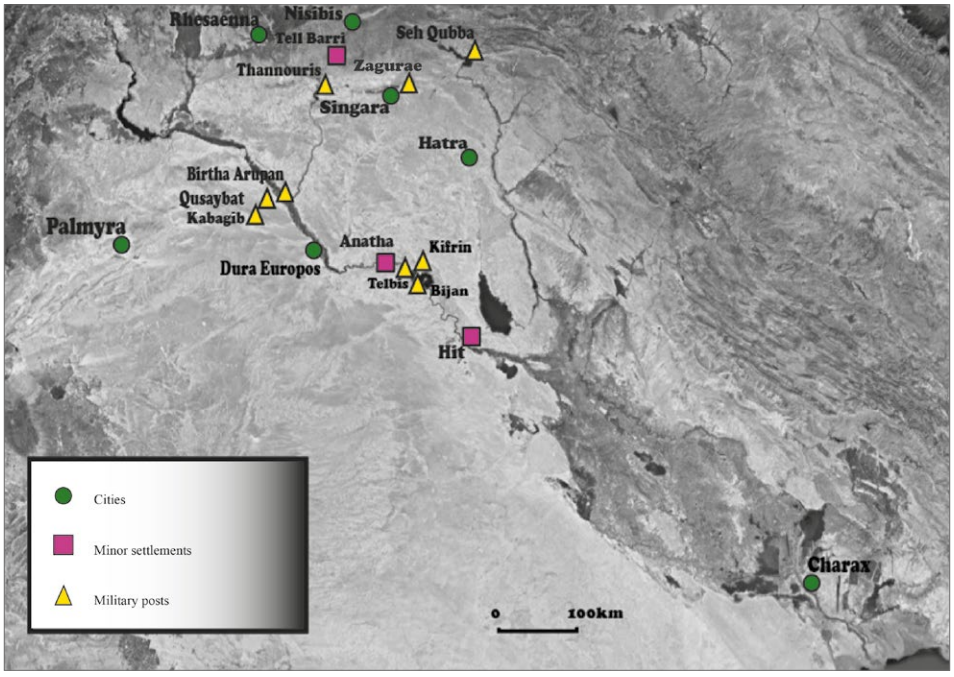

Fig. 16. Sites along the two main rivers in Mesopotamia (Editing J. Oleksiak based on https://orbis.stanford.edu/ map)

CONCLUSION

An examination of the Roman material, pottery and coins, coming from excavations on Biğān Island in the early 1980s, sheds light on the dating of the site and its role in the local network. For some 80 years after AD 163 or 164 Biğān functioned as a Roman bridgehead, the southernmost economic and military post in the valley of the Euphrates. The ceramic assemblage reveals information about the outpost's connections and its involvement in regional and long-distance trade. Its location made Biğān the last station within the borders of the Roman Empire, one that merchants from Palmyra had to pass through on their way to the Gulf coasts.

The chronological data places the end of the Roman occupation of the site between AD 229 and 244. Recognizing this, one should reexamine the dating of sites in the vicinity, like Kifrin, Telbis and Qreiyye, where an early 3rd century AD presence has been indicated based on local ceramic and coin evidence, paying closer attention to the broader historical background of the Roman presence in Northern Mesopotamia.

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