

REI CRETARIÆ ROMANÆ FAVORVM

ACTA 42



CONGRESSVS VICESIMVS SEPTIMVS
REI CRETARIÆ ROMANÆ FAVORVM
SINGIDVNI HABITVS
MMX

BONN
2012

ISSN 0484-3401

Published by the REI CRETARIE ROMANÆ FAVTORES, an international learned society

Editorial committee:
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Typesetting and layout: ars archäologie redaktion satz, Waldstraße 8 D-65719 Hofheim am Taunus

Printed and bound by: BELTZ Bad Langensalza GmbH, D-99947 Bad Langensalza

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ISBN 978-3-7749-3797-0

Distributor: Dr. Rudolf Habelt GmbH, Am Buchenhang 1, D-53115 Bonn, verlag@habelt.de

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VORWORT DER REDAKTION

Der 27. RCRF-Kongress fand vom 19. bis zum 26. September 2010 im Nationalmuseum in Belgrad statt. Thema des Kongresses war: „LATE ROMAN AND EARLY BYZANTINE POTTERY: the end or continuity of Roman production?“.

Von den anlässlich des Kongresses präsentierten Postern und Vorträgen wurden folgende nicht publiziert:

M. BERGAMINI, P. COMODI & I. FAGA	Scoppieto: La produzione di vasi a pareti sottili
D. BERNAL CASASOLA, M. LARA MEDINA & J. VARGAS GIRÓN	Roman clay fishing weights in Hispania. Recent research on typology and chronology
A. BIERNACKI & E. KLENINA	Red slip ware from <i>Novae (Moesia Secunda)</i> : 4 th –5 th local production and imports
M. CASALINI	Circolazione ceramica a Roma tra l'età delle invasioni e la riconquista bizantina. Nuovi dati dai contesti delle pendici nord orientali del Palatino
SV. CONRAD	Pottery of the second half of the 3 rd century from <i>Romuliana</i>
T. CVJETIČANIN	Late Roman pottery in Diocese Dacia: overview, problems and phenomena
M. DASZKIEWICZ & H. HAMEL	Roman pottery from Baalbek (Lebanon): provenance studies by laboratory analysis
J. DAVIDOVIĆ	Late Roman burnished pottery from Srem
E. DOKSANALTI	The late Roman pottery from “the Late Roman House” in Knidos and the Knidian late Roman pottery
D. DOBREVA	Late Roman amphorae on the Lower Danube: trade and continuity of the Roman production
D. DOBREVA & G. FURLAN	Progetto Aquileia: <i>Fondi ex Cossar</i> . Commercio e consumo ad Aquileia. Analisi delle anfore tardoantiche alla luce di alcuni contesti
KR. DOMZALSKI	Late Roman light-coloured ware: tradition and innovation
P. DYCZEK	Remarks on the so called legionary pottery
A. JANKOWIAK & F. TEICHNER	A household inventory of a <i>Mirobrigensis celticus</i>
G. KABAKCHIEVA	Spätromische Keramik in den Provinzen <i>Dacia Ripensis</i> und <i>Moesia Secunda</i>
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J. KRAJSEK	Late Roman pottery from <i>Municipium Claudium Celeia</i>
J. LEIDWANGER	Economic crisis and non market exchange: fabric diversity in the Late Roman 1 cargo amphoras from the 7 th century shipwreck at Yassiada (Turkey)
T. LELEKOVIĆ	Pottery from the necropoleis of <i>Mursa</i> (1 st –4 th centuries)
B. LIESEN	First century fine ware production at Xanten (Germany)
R. PALMA	La ceramica dipinta di Schedia (Egitto)
D. PARASCHIV, G. NUTU & M. IACOB	La ceramique romaine d' <i>Argamum (Moesia Inferior)</i>
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D. RADICEVIĆ	Early Byzantine pottery from Liška Čava, near Guča (Western Serbia)
D. RATKOVIĆ	The territory of Serbia in Roman times
CHR. SCHAUER	Pottery of the late Roman and early Byzantine periods in Olympia

- G. SCHNEIDER & M. DASZKIEWICZ In-situ chemical analysis of pottery using a portable X-ray spectrometer
- A. STAROVIĆ & R. ARSIĆ Cherniakhovo-type ceramic vessels from NW Serbia and the question of inhabitants of the central Balkans in the late 4th century AD
- M. TEKOCAK Roman pottery in the Aksehir Museum
- P. VAMOS Some remarks about military pottery in *Aquincum*
- M. VUJOVIĆ & E. CVIJETIĆ *Mortaria* from Komini-Municipium S. (Montenegro)
- Y. WAKSMAN “Byzantine White Ware I”: from Late Roman to Early Byzantine Pottery in Istanbul/Constantinople
- I. ŽIŽEK Late Roman pottery in Roman graves in *Poetovio*

Bei der Korrektur und Durchsicht der Artikel stand mir das *editorial committee* zur Seite. Ganz besonders danke ich Philip Kenrick für die zuverlässige Unterstützung und Dieter Imhäuser (ars) für die gute und freundschaftliche Zusammenarbeit bei Satz und Layout.

Die Zitierweise wurde den Richtlinien der Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts angeglichen (Ber. RGK 71, 1990, 973–998 und Ber. RGK 73, 1992, 478–540).

Susanne Biegert

Florian Schimmer

AMPHORAE FROM THE ROMAN FORT AT GHERIAT EL-GARBIA (LIBYA)

The Roman fort of Gheriat el-Garbia

The Roman fort at Gheriat el-Garbia is situated near an oasis in the Tripolitanian pre-desert about 280 km south of Tripoli on the fringes of the Hamada al-Hamra in Libya. It was built around AD 200 during the expansive frontier policy of Septimius Severus and represents the most important Severan military site of the *limes Tripolitanus* (fig. 1). While a vexillation of the *legio III Augusta* from Lambaesis was based in the fort until 238, it has been proposed that the fort was the headquarters of the *praepositus limitis (regionis) Tripolitanae* between 238 and 270/275 when the garrison abandoned the site¹.

A German-Libyan Archaeological field project which was initiated by M. Mackensen (Institute of Prehistory and Archaeology of the Roman Provinces, University of Munich) first started in 2009². It focuses on the documentation and excavation of the fort's structural remains but also includes the surrounding areas including the nearby temple precinct, quarries and *vicus*.

In spring 2009 a pottery survey was conducted in the fort and its vicinity (fig. 2). It was intended as a starting point to obtain first information on the pottery supply and the site's chronology. The survey yielded more than 1300 pottery fragments including African and Tripolitanian Red Slip Ware, lamps, amphorae, cooking and coarse wares as well as handmade vessels. The majority of the Red Slip and the cooking wares provide a late 2nd–3rd-century date. However, a number of forms attest an occupation in the 4th and 5th centuries³.

Amphorae from the pottery survey 2009 and from the excavations 2009–2010

The survey material includes 212 diagnostic amphora sherds⁴. Almost the same amount was found during the excavations at various sites inside the fort. This paper will concentrate on

the amphorae from the survey. Amphora types exclusively represented in the excavation material will also be mentioned.

Tripolitanian amphorae make up the largest quantity with more than half of the entire assemblage (fig. 3, 1–17). Most of the rim profiles belong to oil amphorae Tripolitana III (fig. 3, 2–9) which were common from the 2nd century AD onwards, whereas their predecessor, Tripolitana I, occurs in minimal numbers only (fig. 3, 1). Amphora stamps (fig. 3, 16–17) are sporadic in contrast to the large number of stamps recorded at the contemporary fort of *Gholaia*/Bu Njem approximately 190 km to the East⁵. A few vessels may be classified as form Tripolitana II (fig. 3, 10–13) which is believed to have carried mainly fish products⁶. A Tripolitanian wine amphora is represented by a handle of a small imitation of Dressel 2–4, belonging most likely to the early/mid Roman form Schöne-Mau 35 (fig. 4, 1)⁷. Moreover, a limited number of oil amphorae Africana I (fig. 4, 2–3) and Africana IIA for fish products (or wine?) (fig. 4, 4) were transported from the Tunisian part of *Africa Proconsularis* to Gheriat el-Garbia probably during the 3rd century⁸.

Amphorae of type Dressel 30/(Keay 1a⁹) (fig. 4, 7–11) have long been regarded as wine containers from *Mauretania Caesariensis* based on epigraphic evidence. However, recent research has shown that these vessels were also produced in Tunisia in the 3rd and 4th centuries; similar amphorae are known from other parts of the Mediterranean such as the southern Iberian Peninsula and even Cilicia¹⁰. The provenance of the examples from Gheriat el-Garbia remains to be verified, but both Mauretanian and Tunisian vessels seem to be attested.

⁵ Cf. REBUFFAT 1997. This difference is possibly due to statistical reasons, but as yet no precise figures on the total amount of amphorae from Bu Njem have been published.

⁶ For Tripolitana forms I–III see BONIFAY 2004, 89–92; 105–107; for the contents cf. id. 2007.

⁷ Id. 2004, 146–147; S. FONTANA in: E. Fentress/A. Drine/R. Holod (eds.), *An Island through Time: Jerba Studies 1. The Punic and Roman Periods*. *Journal Roman Arch. Suppl.* 71 (Portsmouth, Rhode Island 2009) 278–283; see also REYNOLDS 2010, 237 note 35.

⁸ BONIFAY 2004, 107–111; id. 2007.

⁹ All rims correspond to (sub)form Keay 1a, but it can not be excluded that a few handles belong to form Keay 1b.

¹⁰ For Dressel 30 and related forms see BONIFAY 2004, 148–151; R. TOMBER, *Imitation and diffusion: the case of Dressel 30 in Egypt*. In: J. H. Humphrey (ed.), *Studies on Roman Pottery of the Provinces of Africa Proconsularis and Byzacena (Tunisia)*. *Hommage à Michel Bonifay*. *Journal Roman Arch. Suppl. Ser.* 76 (Portsmouth, Rhode Island 2009) 151–156. P. Reynolds suggests that Keay 1a contained wine whereas 1b carried fish sauce: REYNOLDS 2010, 258 note 193.

¹ For a summary of the current state of research see MACKENSEN 2010 (with bibliography).

² The project was funded by the university's LMUexcellent initiative in 2009 and 2010.

³ M. MACKENSEN/F. SCHIMMER/S. SCHMID/M. WEBER in: Mackensen 2010, 395–418; see also the contribution of M. Weber and S. Schmid in this volume.

⁴ F. SCHIMMER in: Mackensen 2010, 411–416.

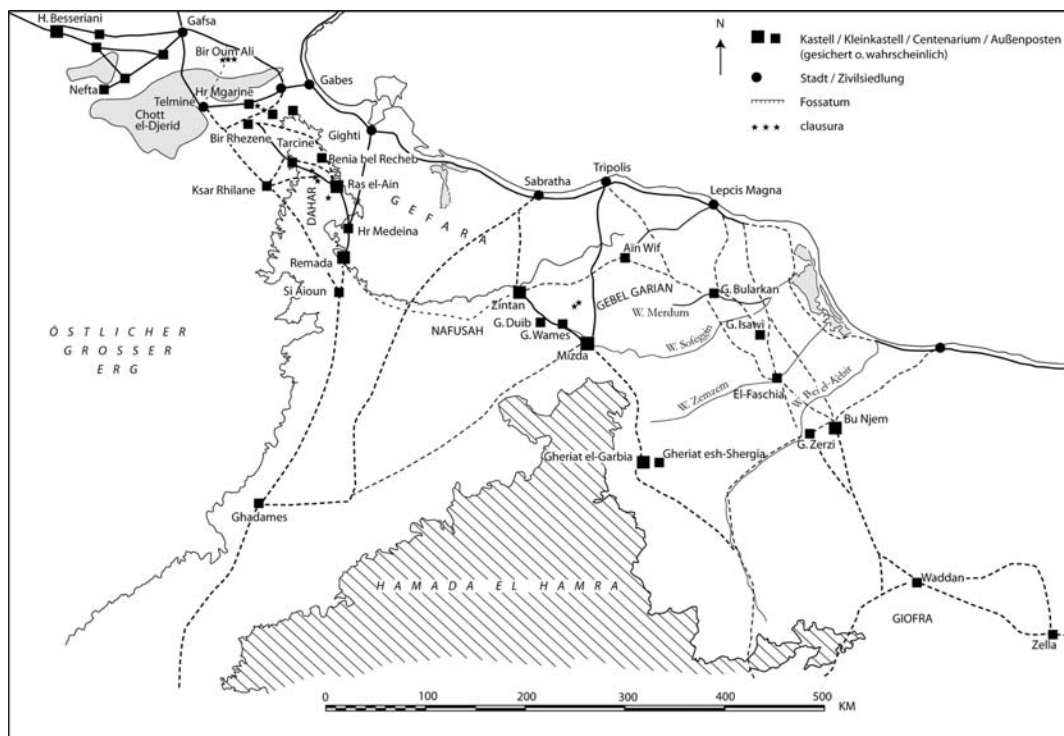


Fig. 1. Roman military sites in Tripolitania from the 2nd to the 4th century AD (after MACKENSEN 2010, 364 fig. 1).

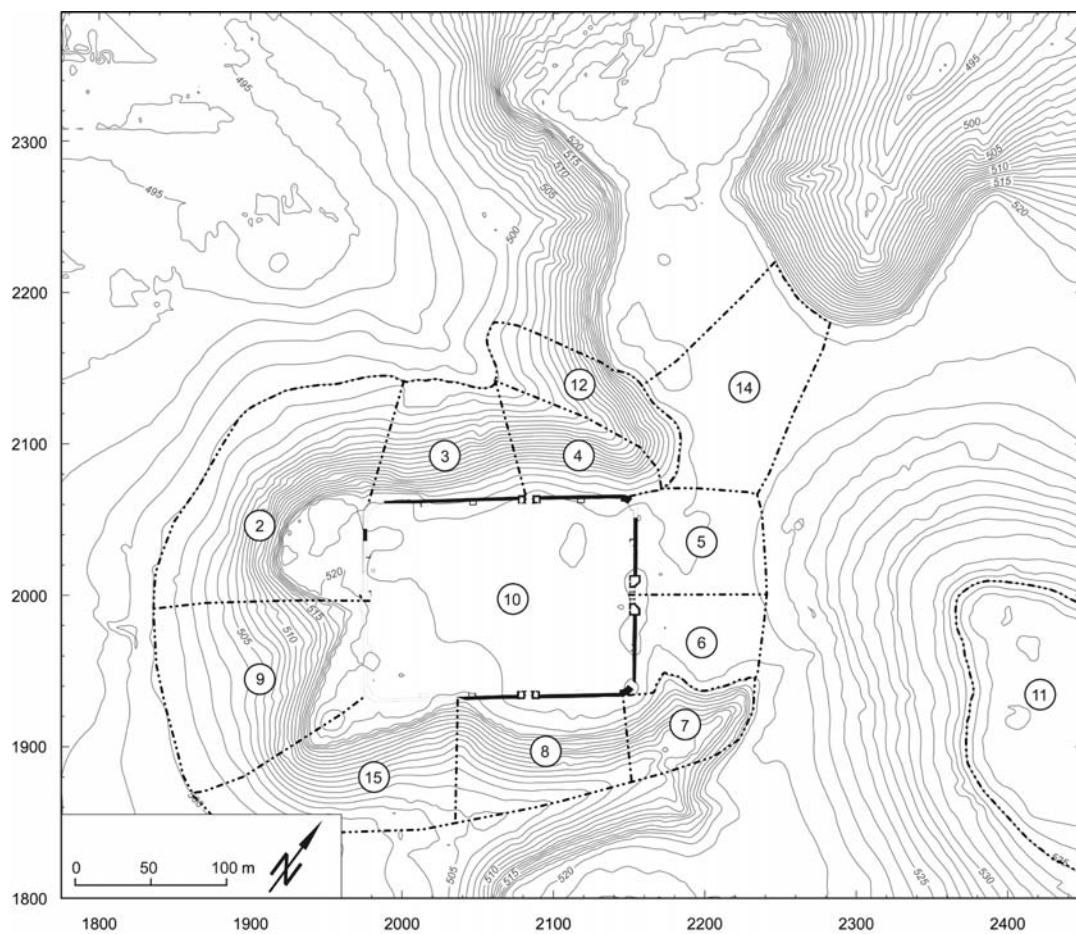


Fig. 2. Gheriat el-Garbia. Plan of the Roman fort with the individual areas of the survey 2009. – Scale 1:5000.

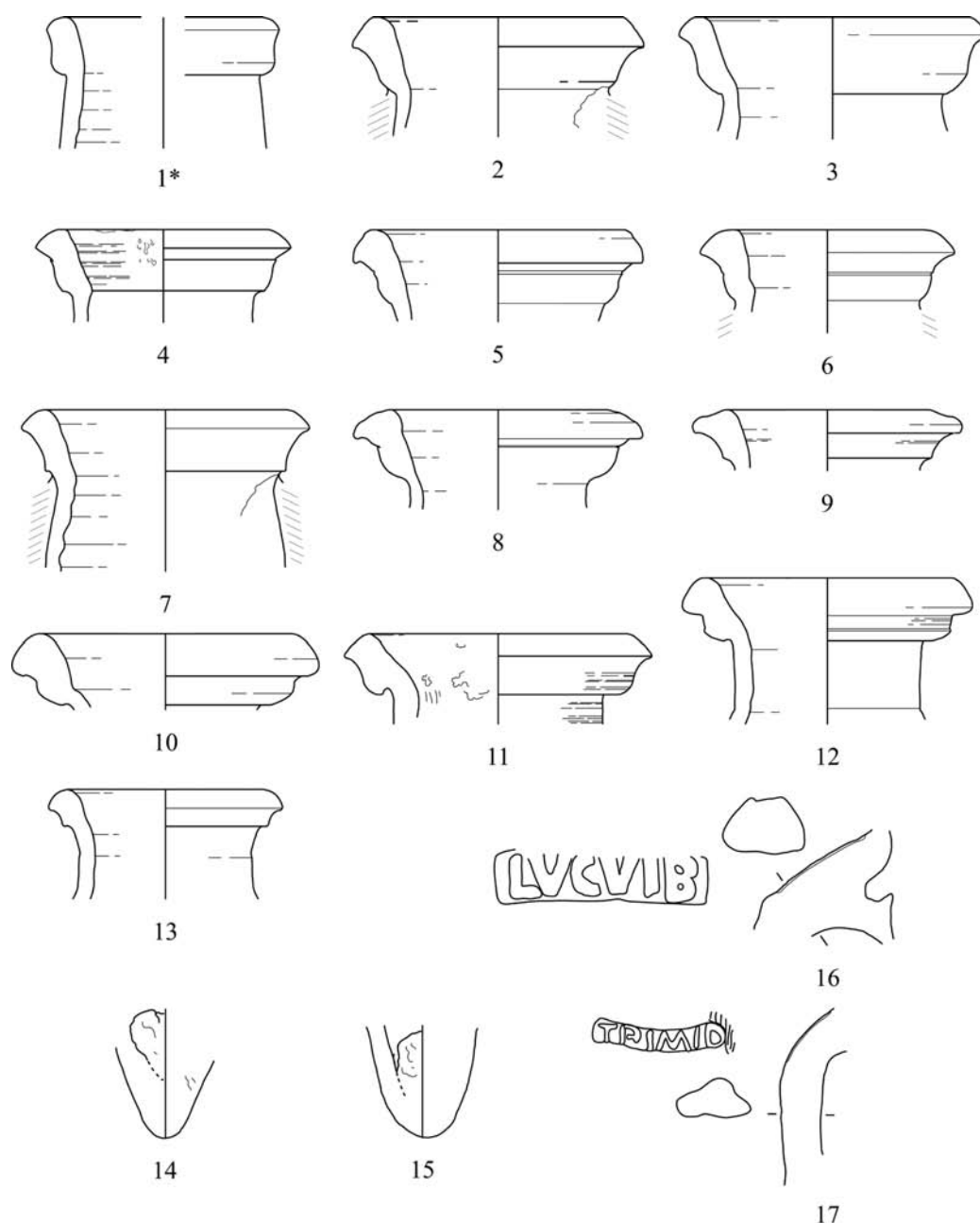


Fig. 3. Gheriat el-Garbia. Tripolitanian amphorae from the survey 2009 and the excavations 2009–2010 (marked with *). – Scale 1:4, stamps 1:2.

Another group of amphorae with flat bottom, termed ‘Mid Roman Amphora (MRA) 1’ and almost certainly used for the transport of wine, consists of a number of variants belonging to different periods (fig. 4, 12–15)¹¹. According to the rim profiles, this form occurs at Gheriat el-Garbia mainly in the 3rd century¹², although a few examples may have reached the site during the late Roman period. There is little doubt now

about a primarily Sicilian origin of these amphorae; however, petrographic evidence points to an additional North African production (on a limited scale?)¹³.

Trade connections with the Aegean or Black Sea regions are demonstrated by the handle of a wine amphora Kapitän

¹¹ J. A. RILEY, *The Coarse Pottery from Berenice*. In: J. A. Lloyd (ed.), *Excavations at Sidi Khrebish Benghazi (Berenice) 2*, *Libya Ant. Suppl.* 5 (Tripoli 1979) 91–467 esp. 177–180; BONIFAY 2004, 146–148.

¹² C. PANELLA, *Anfore*. In: *Ostia III. Le terme del Nuotatore. Scavo dell’ambiente V et di un saggio dell’area SO*. *Studi miscellanei* 21 (Roma 1973) 463–633 esp. 469–471 (form Ostia I fig. 453).

¹³ CAPELLI/BONIFAY 2007, 554; for the production in Sicily cf. D. MALFITANA, *Roman Sicily Project (“RSP”): Ceramics and trade*. A multidisciplinary approach to the study of material culture assemblages. First overview: *The transport amphorae evidence*. *Facta* 2, 2008, 127–192; see also REYNOLDS 2010, 259 note 195. – Thin sections as well as WD-XRF and MGR analyses of a few samples from the survey material indicate that at least a part of the MRA 1 at Gheriat came from Sicily. The analyses were conducted by G. Schneider (Berlin) and M. Daszkiewicz (Warsaw).

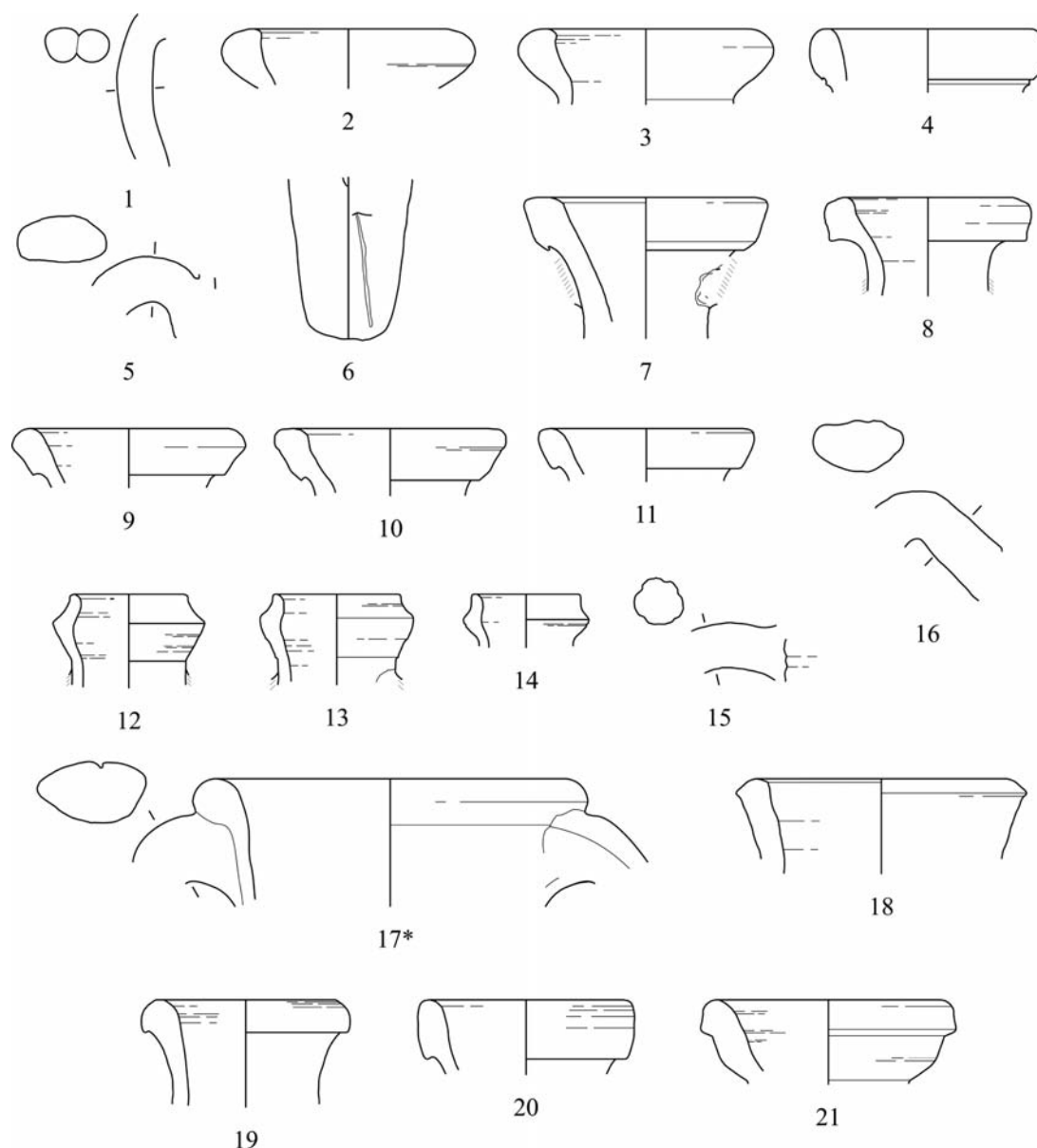


Fig. 4. Gheriat el-Garbia. Tunisian, Western and Eastern Mediterranean amphorae from the survey 2009 and the excavations 2009–2010 (marked with *). – Scale 1:4.

II (fig. 4,16), presumably of 3rd-century date¹⁴. Furthermore, a massive rim of an amphora from the southern Iberian Peninsula has to be mentioned (fig. 4,17). It corresponds to form Dressel 14 for fish products which is common during the 1st and 2nd centuries, even if the production of late variants seems to have continued into the 3rd century¹⁵.

Amphorae and the food supply of Gheriat el-Garbia

While a 3rd-century date seems most likely for the majority of the amphorae, a few late Roman/Byzantine types were identified in the survey material: A rim fragment belongs

¹⁴ T. BEZECZKY, Roman Amphorae from Vindobona. In: F. Krinzinger (ed.), Vindobona. Beiträge zu ausgewählten Keramikgattungen in ihrem topographischen Kontext. Denkschr. Wien 328 (Wien 2005) 35–107 esp. 43–54; for a Black Sea origin of Kapitän II (west of Crimea?) see REYNOLDS 2010, 257 note 187.

¹⁵ For the production of Dressel 14 in *Hispania Baetica* and *Lusitania* cf. E. GARCÍA VARGAS, La producción de ánforas ‘romanas’ en el sur de Hispania. República y Alto Imperio. In: *Ex Baetica Amphorae*. Conservas, aceite y vino de la Bética en el Imperio Romano. Congreso Internacional, Écija y Sevilla, 17 al 20 de Diciembre de 1998 (Écija

2000) 57–174 esp. 83–84; D. BERNAL CASASOLA, La producción de ánforas en la Bética en el s. III y durante el Bajo Imperio Romano. In: *Ibid.* 239–372 esp. 278–279 (late variants); C. FABIÃO, Centros oleiros da Lusitania: balanço dos conhecimentos e perspectivas de investigação. In: D. Bernal/L. Lagóstena (edd.), *Figlinae Baeticae*. Talleres alfareros y producciones cerámicas en la Bética romana (ss. II a. C.–VII d. C.). BAR Internat. Ser. 1266 (Oxford 2004) 379–410; see also E. GARCÍA VARGAS/D. BERNAL CASASOLA, Ánforas de la Bética. In: D. Bernal Casasola/A. Ribera i Lacomba (edd.), *Cerámicas hispanorromanas*. Un estado de la cuestión (Cádiz 2008) 661–687; C. FABIÃO, Las ánforas de Lusitania. In: *Ibid.* 725–745.

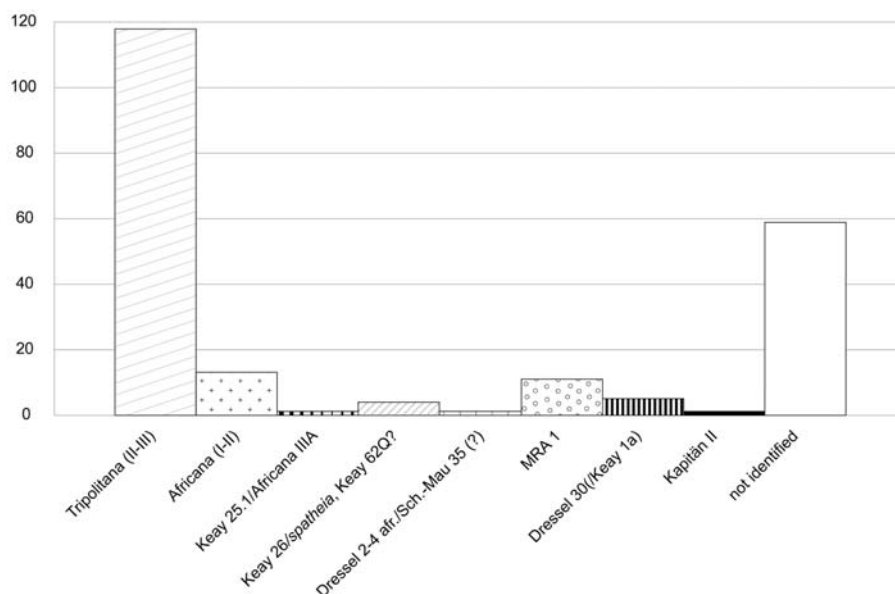


Fig. 5. Gheriat el-Garbia. Quantities of amphora types represented in the survey material (by number of fragments).

to a late 3rd–4th-century wine (or fish sauce?) amphora Keay 25.1/Africana IIIA (fig. 4,18)¹⁶. An even later date must be assumed for two rims of small-sized vessels Keay 26, so-called *spatheia* (fig. 4,19–20). There is no consensus on the primary content of these amphorae (wine, fish sauce, olives?), but oil has been largely excluded as their inner surface is mostly lined with pitch¹⁷. The first (fig. 4,19) and perhaps also the latter example from Gheriat el-Garbia (fig. 4,20) can be assigned to M. Bonifay's *spatheion* form 1, suggesting a date in the 1st half or middle of the 5th century¹⁸. It is possible that a further rim fragment belongs to a late 5th–6th century Tunisian amphora Keay 62Q (fig. 4,21)¹⁹, but this classification remains problematic. In addition, a closed deposit of late Roman date – probably a midden which accumulated until the second third of the 5th century – yielded few fragments of the late Roman/Byzantine form Late Roman Amphora (LRA) 1 for wine (or oil?); this type was manufactured in *Cilicia* and Cyprus²⁰.

A quantitative analysis of the amphora forms represented in the survey material demonstrates a considerable preponderance of Tripolitanian types, notably Tripolitana III (oil) and, to a minor degree, Tripolitana II (fish sauce)

(fig. 5). In contrast, amphorae of type Africana I and II (oil, fish sauce?) as well as MRA 1 and Dressel 30 (wine) were documented in moderate quantities, while other types occur only sporadically. The latter also applies to Dressel 14 and LRA 1, recorded exclusively among the excavation finds which otherwise show a similar quantitative pattern of forms to the survey material.

Most of the amphorae of type Tripolitana II and III, Africana I and IIA as well as MRA 1 and Dressel 30 arrived at Gheriat el-Garbia probably during the first three quarters of the 3rd century when a military unit was garrisoned in the fort. Forms which are normally common before the 3rd century (Tripolitana I, Schöne-Mau 35, Dressel 14) may have reached the site in the first decades of this century. On the other hand, the Tunisian and Eastern Mediterranean vessels from the late Roman/Byzantine period (Keay 25.1, Keay 26/*spatheia*, Keay 62Q? and LRA 1) add to the evidence of a late Roman occupation provided by the Red Slip and cooking wares.

According to the amphorae, we are looking at a regionally – i. e. within the *regio Tripolitana* – organised supply with olive oil to Gheriat el-Garbia from the early 3rd century onwards. Oil shipments from more distant areas (Tunisia) are attested, but they played only a marginal role. It is plausible that the main part of the Tripolitanian oil came from the fertile Gebel Garian area some 180 km to the North (fig. 1). However, comparatively few amphora kilns producing Tripolitana amphorae have yet been located in the Gebel mountain range between the coastal plain in the North and the pre-desert zone in the South²¹. Ostraca from the fort at

¹⁶ BONIFAY 2004, 119 (type 27); cf. ID. 2007, 24 fig. 8; REYNOLDS 2010, 302 note 444.

¹⁷ See BONIFAY 2004, 125–129 (Type 31–33) and REYNOLDS 2010, 284 note 331; 302 note 444.

¹⁸ BONIFAY 2004, 125–127.

¹⁹ S. J. KEAY, Late Roman Amphorae in the Western Mediterranean. A typology and economic study: the Catalan evidence. BAR Internat. Ser. 196 (Oxford 1984) 334; 336; BONIFAY 2004, 137 (Type 45).

²⁰ P. REYNOLDS, Levantine amphorae from Cilicia to Gaza: A typology and analysis of regional production trends from the 1st to 7th centuries. In: J. M. Gurt i Esparraguera/J. Buxeda i Garrigós/M. A. Cau Ontiveros (edd.), LRCW 1. Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean. Archaeology and Archaeometry. BAR Internat. Ser. 1340 (Oxford 2005) 563–611 esp. 565–567; REYNOLDS 2010, 276 note 300.

²¹ P. ARTHUR, Amphora Production in the Tripolitanian Gebel. Libyan Stud. 13, 1982, 61–72. – G. Schneider (Berlin) and M. Daszkiewicz (Warsaw) analysed 16 samples of Tripolitana III amphorae from the survey material by means of WD-XRF, MGR and thin sections. It turned out that these samples provide very heterogeneous fabrics. Moreover,

Gholaia/Bu Njem indicate that olive oil, presumably from the Gebel or from agricultural areas south of it, was delivered by indigenous camel riders (*camellarii*), even though parts of the consignments may have originated from the coastal region (Lepcis Magna)²². Contrary to the supply with olive oil it is difficult to estimate the amount of Tripolitanian and Tunisian fish products transported to Gheriat el-Garbia. Wine amphorae seem to have reached the site primarily by long-distance trade. However, it should be noted that we cannot estimate to what extent food was delivered by goat skins etc.

The pottery supply of the Tripolitanian pre-desert zone northeast of Gheriat el-Garbia and its development during the Roman period was studied by J. Dore as part of the UNESCO Libyan Valleys Archaeological Survey (ULVS) conducted between 1979 and 1989²³. His work provided a valuable overview of the common local range of amphora forms. However, a number of aspects concerning trade and provision of foodstuffs are still difficult to assess. The lack of comprehensive and well-dated pottery deposits is a general problem that complicates the development of a precise chronology. The pattern of food supply emerging at Gheriat el-Garbia for the 3rd-century occupation phase matches Dore's results for the ULVS area insofar as he also states a predominance of Tripolitanian amphorae and an explicitly smaller percentage of Tunisian vessels in the 3rd, but also in the 4th century; while the number of Tunisian vessels hardly changes from the 3rd century onwards, there is a considerable decline of Tripolitanian amphorae in the 5th century²⁴. It still remains to be verified if this phenomenon also occurs at Gheriat el-Garbia. A few forms attested at Gheriat el-Garbia were not recorded in the ULVS area and vice versa.

Further parallels become obvious if compared to the amphora evidence from the fort of *Gholaia*/Bu Njem. This site was also mainly supplied with Tripolitanian olive oil in the first half of the 3rd century, whereas fish-sauce (and wine?) was delivered primarily from Tunisia as shown by a considerable number of amphorae type *Africana* IIA²⁵.

It is noteworthy that, according to R. Rebuffat, the proportion of Tripolitanian and *Africana* IIA amphorae at *Gholaia*/Bu Njem comes to approximately 2:1 or 3:1²⁶. At Gheriat el-Garbia, in contrast, the percentage of Tripolitanian amphorae is considerably larger (fig. 5), even if it must be emphasised that the survey material includes amphora types that reached the site after the 3rd century. I do not have a satisfactory explanation for this phenomenon at the moment. One may suppose that *Gholaia*/Bu Njem was closer tied to the long distance trade-routes along the coast which possibly favoured a stronger influx of Tunisian amphorae. On the other hand, the ratio of Tripolitanian and Tunisian amphorae of 3rd and 4th-century date recorded in the ULVS area show more affinities to *Gholaia*/Bu Njem than to Gheriat el-Garbia²⁷.

Summary

The amphorae assemblage from the Severan fort at Gheriat el-Garbia represents the largest series of amphorae recorded at a Roman site – along with the assemblage from the contemporary fort at *Gholaia*/Bu Njem – in the Tripolitanian pre-desert to date. The vessels presented in this article were collected during a pottery survey in 2009, including a few forms which were identified exclusively during the excavations in 2009–2010. An analysis of the amphora forms and their contents shows that Gheriat el-Garbia was supplied primarily with olive oil from Tripolitania. Fish products came likewise from areas within the *regio Tripolitana*, but also from Tunisia and the southern Iberian Peninsula, while wine was delivered mainly from more distant regions like Sicily and the Eastern Mediterranean as well as presumably Tunisia and Mauretania. A preponderance of Tripolitanian amphorae in contrast to a more or less moderate amount of vessels from Tunisia (and other regions) has also been observed both in the pre-desert northeast of Gheriat el-Garbia and at the fort of *Gholaia*/Bu Njem, even though the proportion of Tripolitanian amphorae is distinctly larger at Gheriat el-Garbia. The main part of the amphorae may have reached Gheriat el-Garbia between circa 200 and 270/275 AD when a garrison was stationed in the fort. However, a few amphora types of 4th–5th-century date (and later?) as well as late African Red Slip and cooking ware forms attest an occupation during the late Roman period.

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they could be divided into several different groups probably indicating a large number of different (small) workshops.

²² R. MARICHAL, Les ostraca de Bu Njem. *Libya Ant. Suppl.* 7 (Tripoli 1992) 103–104; 181–182; 195–196 (nos. 75 and 88); REBUFFAT 1997, 164–165.

²³ DORE 1996.

²⁴ Ibid. 352–354.

²⁵ M. BONIFAY, Observations préliminaires sur les amphores africaines de l'oasis de Bahariya. In: S. Marchand/A. Marangou (eds.), *Amphores d'Égypte. De la basse époque à l'époque Arabe* 2. *Cahiers Céramique Égyptienne* 8/2, 2007, 451–462 esp. 458; cf. REBUFFAT 1997. So far there is no conclusive evidence of Rebuffat's assumption that Tunisian *Africana* IIA-types were imitated in Tripolitania.

²⁶ REBUFFAT 1997, 163.

²⁷ DORE 1996, 354 fig. 47.1.

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