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LATE REPUBLICAN–EARLY IMPERIAL FLAT-BOTTOMED AMPHORAE: SOME REMARKS ABOUT THEIR ORIGINS AND WIDESPREAD SUCCESS

About 25 years ago P. Arthur suggested an Italic origin for the flat-bottomed amphorae model: he maintained that in the Augustan Age in Northern Campania, in the Garigliano basin¹, precisely in the Masseria S. Donato workshop (located near Suessa Aurunca), Dressel 2–4 bearing the stamp MAESCELS and Dressel 28/Oberaden 74² amphorae were produced side by side. According to the author, these flat-bottomed forms or similar ones were manufactured in the same area as early as the beginning of the 1st century BC as they were found in the ship which sank at Spargi (fig. 1; 2,1) after having set out from Campania³.

The dating of these Campanian amphorae in the early 1st century BC can be corroborated by other finds, in particular the 2nd–1st century BC flat-bottomed amphorae from *Albintimilium* and from the Albenga shipwreck⁴ (fig. 2,2) which N. Lamboglia attributed to the Dressel 28 form – underlining that it had a long evolution from the 2nd century BC to the Augustan Age⁵ – and the amphorae found at *Portus Cosanus* and *Cosa* (fig. 2,3), dating from the second quarter of the 1st century BC, in local fabric according to E. Lyding Will⁶.

Furthermore, a fragment which can be attributed to the same form has been found in the *ager Cosanus* near Albinia (Casa Brancazzi) (fig. 2,4), in a rural site dated in the early decades of the 1st century BC⁷. All these above-mentioned Italic items appear to belong to the same form and very significantly are similar to the earliest flat-based amphorae produced in Marseilles (Butte des Carnes), from the second half of the 1st century BC⁸, and at Velaux (Moulin-du-Pont)⁹ and Aix-en-Provence¹⁰ from the Augustan Age.

In P. Arthur's view, as in the case of Dressel 1 and Dressel 2–4 types, the production of Dressel 28/Oberaden 74 amphorae spread from the central Tyrrhenian area to Gaul and Spain where they were abundantly produced in Augustan times and later¹¹.

A. Tchernia considered this hypothesis “*envisageable*” but lacking in corroborative evidence¹².

In 2001 C. Panella wrote that the flat-bottomed model had derived from Late-Republican prototypes¹³, citing the chronological evidence provided by N. Lamboglia¹⁴, but, analyzing the Paul Arthur arguments about the productions of these amphorae in *Campania*, *Narbonensis* and *Tarraconensis*, she came to the conclusion that it was not possible to determine a chronological priority among the three regions¹⁵.

But now, given the development of the research about the Roman amphorae in the Western Mediterranean, the recent new data derived from excavations of amphorae workshop centres in Italy and with an overall review of the data already known for some time, we think this topic could be reconsidered, by trying to support P. Arthur's opinion.

We will present the data from the following workshop centres:

¹ The district, including the towns of *Minturnae*, *Sinuessa*, *Suessa*, is still well-known for its luxury wines, such as *Falernum* and *Massicum* and for the massive production of wine amphorae starting from the later part of the 2nd century BC (Dressel 1a type): ARTHUR 1991, 71–77.

² ARTHUR 1991, 74–76; see also TCHERNIA 1996, 208. The amphorae do not appear to have been published, but the site is most probably the one referred to by HESNARD ET AL. 1989, 26: according to the authors Dr. 1 e Dr. 2–4 forms were produced there. A fragment of rim, published in HESNARD ET AL. 1989 (fig. 10 on the lower right-hand side) seems similar to the Bertucchi 6b = Gauloise 7 form from the Velaux workshop (see PORCHER 2009 fig. 7,6; BERTUCCHI 1992, 109 fig. 50,2). Perhaps the flat-based and miniature Dressel 2–4 amphorae produced in the *ager Falernus* and in other Campanian districts (ARTHUR 1991, 76; PANELLA/FANO 1977, 151 figs. 25–26) may also be linked to the same productive phenomenon. They were regionally distributed as documented by the items identified in the Pompei deposits (PANELLA/FANO 1977, 145; 150–151; PANELLA 2001, 194). The work by Panella and Fano remains of fundamental importance for the characterization of the Campanian production see: S. IAVARONE/G. OLCESE, *Le anfore Dressel 2–4 di produzione tirrenica: una proposta di progetto archeologico ed archeometrico*. In: G. Olcese (ed.), *Immensa Aequora Workshop*. Atti del Convegno, Roma 2011 (Roma 2013) 221–226. See also RIZZO 2014, 109.

³ ARTHUR 1991, 76; PALLARÈS 1986 89–102 esp. 93 fig. 6. – For the dating of the shipwreck about 75 BC see C. BELTRAME, *Per l'interpretazione del relitto tardo repubblicano di Spargi*. Riv. Arch. 30, 1998 (1999), 38–45.

⁴ LAMBOGLIA 1952, 166 fig. 24.

⁵ N. LAMBOGLIA, *Sulla cronologia delle anfore romane di età repubblicana* (II–I sec. a.C.). Riv. Studi Liguri, 21, 1955, 241–270 esp. 265–266.

⁶ LYDING WILL 1987, 214 figs. IX–441, 442 (type 24a).

⁷ CIAMPOLTRINI 1984, 156–157 fig. 11,43.

⁸ BERTUCCHI 1992, 107–110 (type 6b).

⁹ PORCHER 2009 figs. 7,5–9.

¹⁰ N. NIN/M. PASQUALINI/M.-TH. PESTY, *Les céramiques à pâte claire d'Aix-en-Provence et du bassin de l'Arc. Rebutts d'une officine de potiers aux 38–42, Boulevard de la République*. Rev. Arch. Narbonnaise 36, 2003, 283–304 forme 20,296–298.

¹¹ ARTHUR 1991, 76.

¹² TCHERNIA 1996, 208; republished in an updated and revised version: *Maesianus Celsus et Caedicia Victrix sur des amphores de Campanie*. In: F. Salviat/A. Tchernia (eds.), *Vins, vigneron et buveurs de l'Antiquité* (Roma 2013) 167–174.

¹³ PANELLA 2001, 184

¹⁴ See notes 4–5.

¹⁵ PANELLA 2001, 214 note 30.

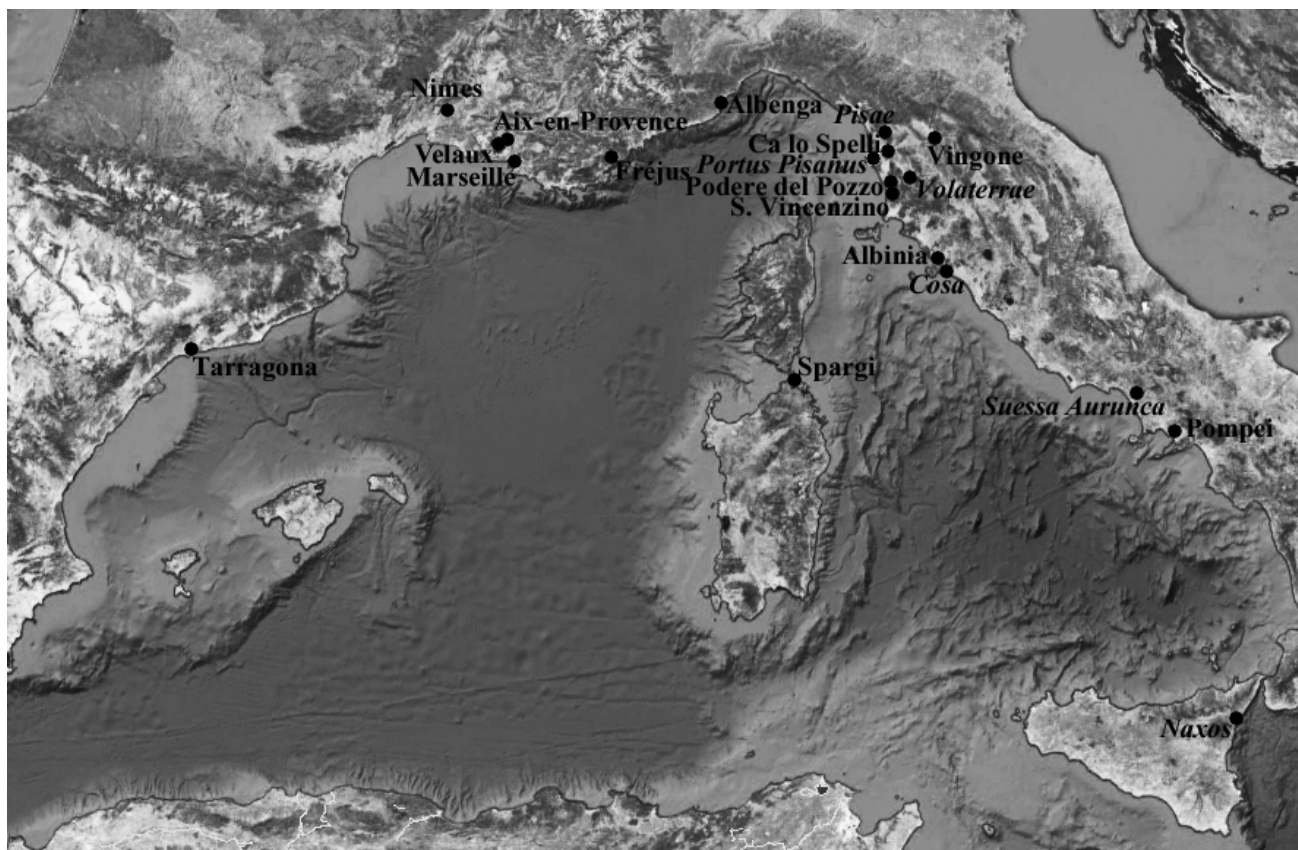


Fig. 1. The sites quoted in the text.

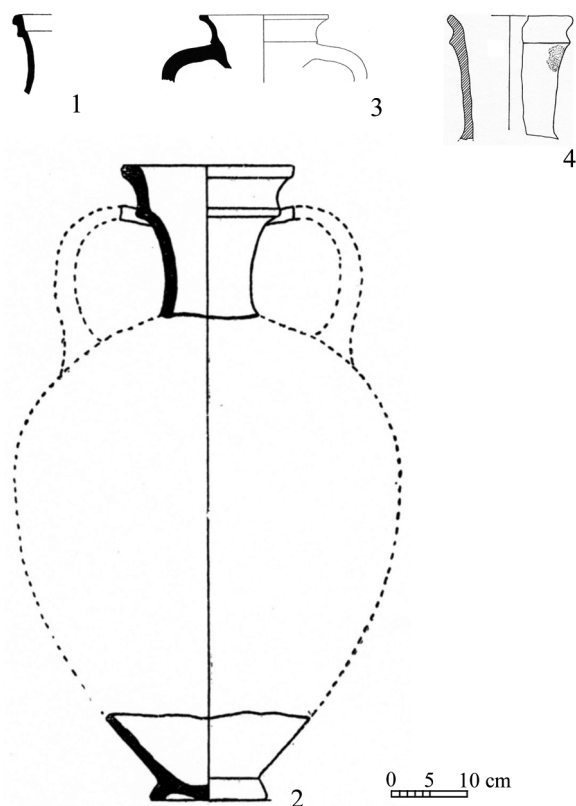


Fig. 2. Flat-bottomed amphorae similar to Dressel 28/Oberaden 74.

- 1) Vingone near *Florentia* (Florence, Tuscany).
- 2) Ca lo Spelli in the *ager Pisanus* (Livorno, Tuscany).
- 3) Various centres in the coastal *ager Volaterranus* (Livorno, Tuscany).
- 4) Albinia near *Cosa* (Tuscany).
- 5) Naxos near *Tauromenion* (Sicily).

1) Vingone

Vingone is a quarter of Scandicci, a small town bordering the south-western periphery of Florence; its name derives from the torrent Vingone, a left tributary of the river Arno. Here rescue excavations carried out by the Soprintendenza Archeologica della Toscana (in 1980) brought to light a workshop centre involved in various productions (bricks and tiles, common and cooking wares, thin walled pottery, amphorae and others).¹⁶ The Vingone workshop is interpreted as a pottery service centre for the immediate needs of the *Florentia* colony which dated 59–41 BC on the basis of literary sources¹⁷. The city wall of *Florentia*, dated 30–15 BC by stratigraphic evidence, consists of *sesquidedales* rectangular

¹⁶ SHEPHERD ET AL. 2008.

¹⁷ Liber Coloniarum I, 212–214 L. For the topic E. J. SHEPHERD, L'impianto produttivo del Vingone e la costruzione di *Florentia*. In: Shepherd et al. 2008, 15–26; E. J. SHEPHERD, Produrre per *Florentia*. In: V. D' Aquino et al., *Archeologia a Firenze: città e territorio*. Atti Workshop Firenze 2013 (Oxford 2015) 183–192.

bricks, the same type produced in the Vingone kilns.¹⁸ The most productive phase of the centre lasted up to 20 AD.¹⁹

In this site Dressel 2–4 and flat-bottomed amphorae were produced, the latter were classified in various types which were thought to be derived from “Gaulish” forms.²⁰

Vingone form 2 variants 1 and 2 (MARTELLI 2008 fig. 110) (figs. 3,1–2). They appear very similar to Gauloise 7 amphorae produced in Gallia from the last third of the 1st century BC, e. g. in the Marseilles (Butte des Carmes) (fig. 3,3) and Velaux (fig. 3,4) workshops²¹.

Vingone form 4 (MARTELLI 2008 figs. 119–120) (fig. 3,5). From about 30 BC this form started to be manufactured in various areas of Gallia and the Iberian peninsula, respectively classified as Gauloise 2²² (fig. 3,6), Gauloise 8²³ (fig. 3,7) and Oberaden 74²⁴ (fig. 3,8).

Vingone form 3 (MARTELLI 2008 figs. 116–117) (fig. 3,9). It is very similar to the Bertucchi 7a produced at Marseille in the first half of the 1st century AD²⁵ (fig. 3,10).

2) Ager Pisanus: Ca lo Spelli Workshop

It is a large productive centre located about 5 km from *Portus Pisanus* (Northern periphery of Leghorn). It consists of almost five kilns located in different levels along hilly slopes, near the Acqua Salsa torrent. The two lower kilns were partially destroyed by uncontrolled public works, subsequently (2003) the area was the object of surveys and excavations²⁶. The two kilns were found to be part of a complex which included a large portico room²⁷. They produced brick and tiles, common ware, thin walled pottery and, mainly, amphorae Dressel 1A, Dressel 1B and their intermediate variants²⁸, followed by a scarcer production of Dressel 2–4 and flat-bottomed amphorae (Vingone 2, variant 3 – fig. 4,1 – and Vingone 3 forms²⁹ –

fig. 4,2). We have no stratigraphic information for dating the production of these Ca lo Spelli amphorae, but in accordance with the chronology of the other ceramics manufactured in the site, this activity should be circumscribed within the Augustan Age. Furthermore, Vingone 4 amphorae have been found in the *horreum* recently excavated in the *Portus Pisanus* area³⁰, thus confirming a local and/or regional distribution of these flat-based containers.

3) Coastal Ager Volaterranus

A lot of pottery workshops have been identified by surveys in the hinterland of *Vada Volaterrana*³¹. They were active from the Late Republican up to Late Roman times and produced bricks and tiles, cooking and common wares, *dolia*, thin walled pottery and amphorae (from Graeco-Italic to Empoli types). In this district flat-based amphorae were also manufactured: Vingone 3 forms were made at the Podere del Pozzo site³² (fig. 4,3), and local similar amphorae appear to have been redistributed in the consumption sites in the countryside, such as the forms Vingone 3 or Vingone 4³³ (fig. 4,4) and the Gauloise 5 *similis*³⁴ (fig. 4,5) found in the San Vincenzino Villa which dates from 50 BC³⁵. Moreover, it seems that the Volaterran workshops went through an experimental phase, during which they attempted to produce other types of flat-bottomed amphorae³⁶ which would have constituted a transition to the 1st century AD forms, such as the Spello type, locally produced in large numbers³⁷.

4) Albinia

It is a large and well-known workshop centre located in the *ager Cosanus*, along the Via Aurelia and near the modern small-town of Albinia and the Albegna river mouth. It was pointed out by Peacock in 1977³⁸ and later it was the object of survey campaigns coordinated by D. Manacorda (University of Siena) and of excavations by G. Ciampoltrini (Soprintendenza per i Beni Archeologici della Toscana)³⁹. In 1999 a Franco-Italian team started an integrated project including survey campaigns, geophysical research and excavations which brought to light a large manufacturing complex consisting of four kilns. It produced bricks, tiles, cooking and

¹⁸ E. J. SHEPHERD, Laterizi da copertura e da costruzione. In: Shepherd et al. 2008, 165–200 esp. 186.

¹⁹ A. PATERA, Le strutture produttive. In: Shepherd et al. 2008, 43–50 esp. 43.

²⁰ MARTELLI 2008, 137–158.

²¹ BERTUCCHI 1992, 107–110 (type 6b); PORCHER 2009; TCHERNIA/VILLA 1977, 231–239 fig. 6.

²² LAUBENHEIMER 1989, 123–125; BERTUCCHI 1992, 101, note 146 (6a type). According to CARRERAS/GONZALES 2012, G8 amphorae produced in *Narbonensis* were derived from the Oberaden 74 form.

²³ LAUBENHEIMER 1985, 306 fig. 166.

²⁴ CARRERAS/GONZALEZ 2012; H. GONZALES/C. CARRERAS, Oberaden 74 (Costa septentrional de Tarraconensis). Amphorae ex Hispania. Paisajes de producción y de consumo (http://amphorae.icac.cat/tipol/view/49) (2012).

²⁵ BERTUCCHI 1992, 111–115.

²⁶ PICCHI ET AL. 2010, 291–302.

²⁷ S. DUCCI/F. CARRERA/D. PASINI, Collesalveti (LI). La seconda campagna di scavo in località Guasticce-Ca' lo Spelli. Not. Soprintendenza Beni Arch. Toscana 3, 2007, 341–345.

²⁸ S. MENCHELLI ET AL., Anfore dell'Etruria settentrionale costiera in età romana: nuovi dati alla luce delle recenti indagini archeologiche ed archeometriche. In: D. Vitali (ed.), Le fornaci e le anfore di Albinia. Primi dati su produzioni e scambi dalla costa tirrenica al mondo gallico (Bologna 2007) 141–150; S. MENCHELLI ET AL., Nuove scoperte d'ateliers di anfore repubblicane nell'Etruria settentrionale costiera. In: F. Olmer (ed.), Itinéraires des vins romains en Gaule III^e–I^{er} siècles avant J.–C. Confrontation de faciès (Lattes 2013) 471–478.

²⁹ Respectively S. MENCHELLI/M. PASQUINUCCI/G. PICCHI, Produzioni e circolazione delle ceramiche dell'Etruria (III secolo a.C.–II secolo d.C.): raccolta di dati editi e recenti acquisizioni. In: G. Olcese (ed.), Immensa aequora workshop. Atti Convegno Roma 2011 (Rome 2013) 103–110 fig. 4,4–5.

³⁰ Information given personally by Dr. S. Genovesi. Regarding the site see S. DUCCI/M. PASQUINUCCI/S. GENOVESI, Livorno. Ricerche archeologiche a *Portus Pisanus*: la campagna 2006. Not. Soprintendenza Beni Arch. Toscana 2, 2007, 238–241.

³¹ CHERUBINI/DEL RIO/MENCHELLI 2006, 69–76 fig. 394.

³² CHERUBINI/DEL RIO 1997 fig. 3.5. The name of the workshop site has been given personally by the authors.

³³ DONATI/PAOLETTI/PARRA 1989, 306; 308 fig. 28,4.

³⁴ GENOVESI 2012, 564 fig. 9,29.

³⁵ F. DONATI (ed.), La villa dei Cecina a San Vincenzino (LI). Materiali dallo scavo e aggiornamenti delle ricerche (Ghezzeno 2012) 151.

³⁶ From the Montebono site: M. PASQUINUCCI ET AL., Monte Bono (Guardistallo, PI): la campagna 2008. Laboratorio Univ. Volterrano Quad. 12, 2009, 57–66 fig. 14,11.

³⁷ CHERUBINI/DEL RIO/MENCHELLI 2006, 73.

³⁸ D. P. S. PEACOCK, Recent discoveries of Roman amphorae kilns in Italy. *Ant. Journal* 57, 2, 1977, 262–269.

³⁹ CIAMPOLTRINI 1984, 149–180.

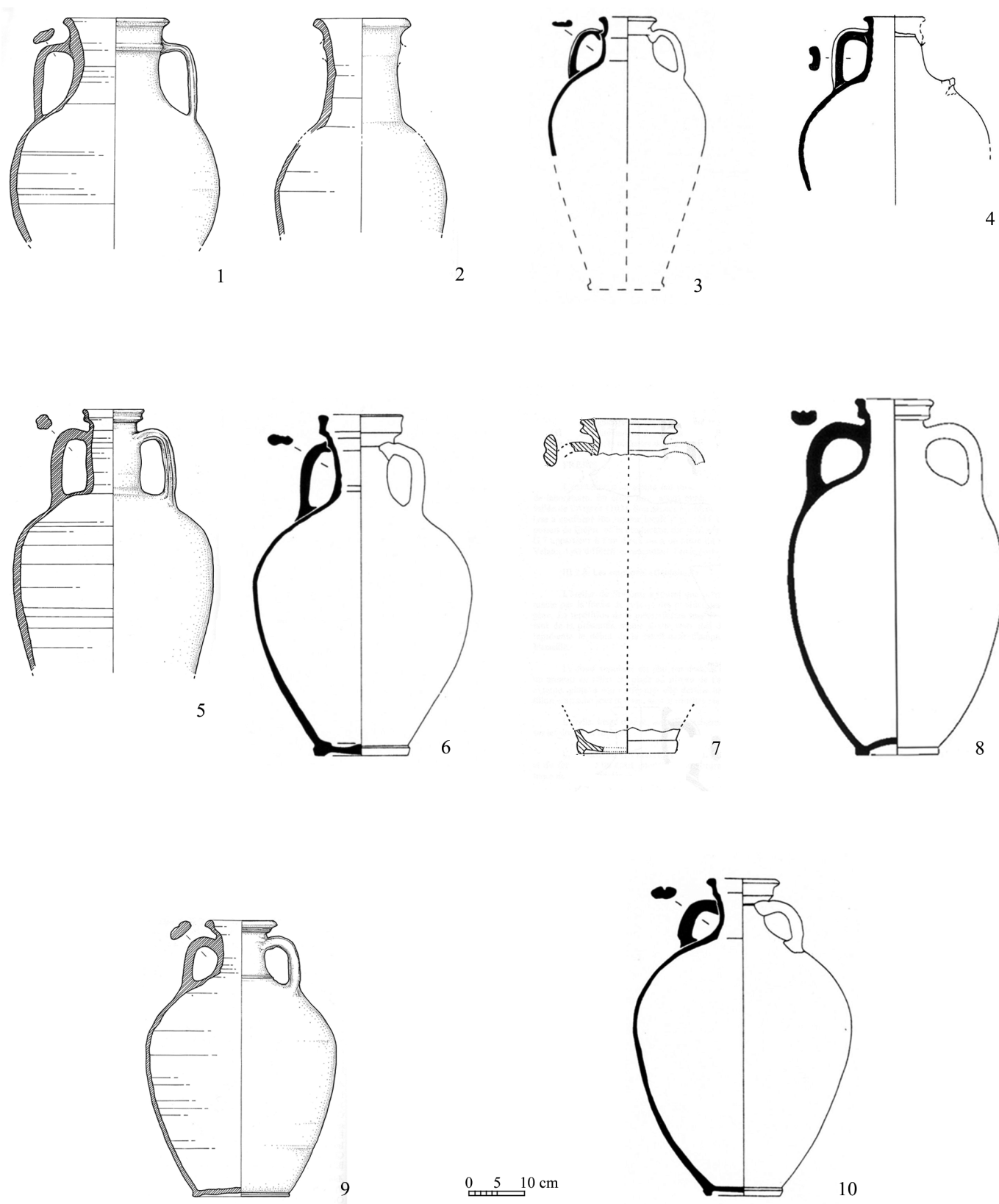


Fig. 3. Vingone amphora forms compared with Gaulish and Spanish productions.

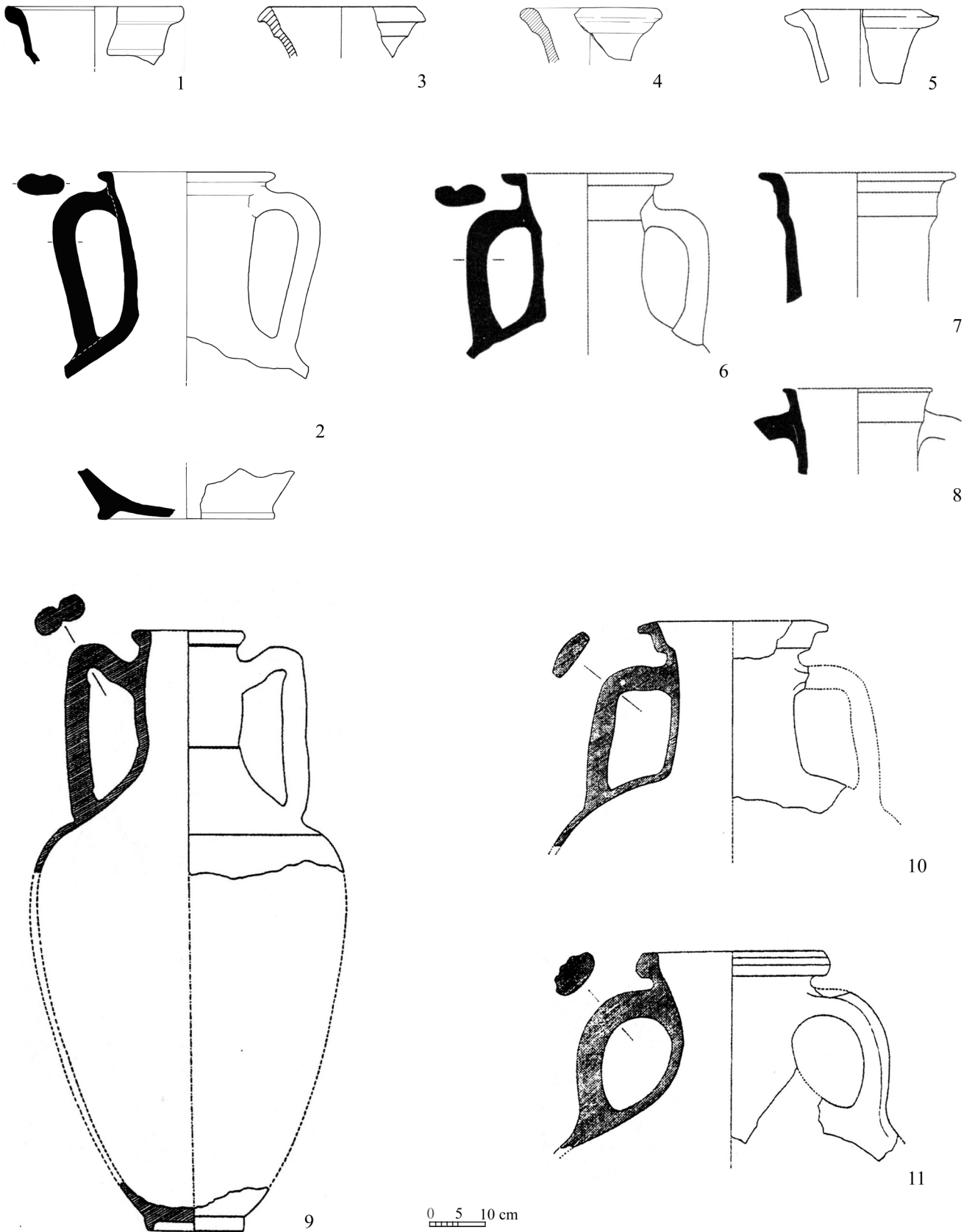


Fig. 4. Flat-bottomed amphorae produced in various Italian workshops.

common wares and amphorae: Dressel 1A and 1C were the most ancient forms, later followed by Dressel 1B⁴⁰.

Starting from the last third of the 1st century BC⁴¹ the Albinia workshops produced Dressel 2–4 and flat-based amphorae classified by the Authors as being similar to Gauloise 7 and Gauloise 5⁴² (figs. 4,6–8) which were respectively produced in Gaul in the last decades of the 1st century BC and in the 1st century AD⁴³. As shown above⁴⁴, locally produced flat-based amphorae, having an even older chronology, were found at *Portus Cosanus and Cosa*⁴⁵ and just south of Albinia (Casa Brancazzi)⁴⁶.

5) Naxos workshops

There is evidence of pottery production in Naxos since the 4th century BC; when the city was destroyed in 403 BC and soon afterwards *Tauromenion* was founded on the neighbouring hills, the potters' activities continued, in fact they developed a specialized production of bricks, tiles and wine amphorae⁴⁷, in particular the MGS III and Dressel 1 forms.

Starting from the end of the 1st century BC⁴⁸ these workshops manufactured miniature and flat-bottomed Dressel 2–4 forms (fig. 4,9) and amphorae similar to Gaulish types (G 1b⁴⁹ – fig. 4,10 – and G 4⁵⁰ – fig. 4,11) respectively produced in Gaul in the 1st century AD⁵¹ and from the mid-1st century AD⁵².

It was not by chance that when N. Ollà published these amphorae, she considered the problem of the temporal priority of the Sicilian production in relation to the Baetican and Gaulish ones, pointing out moreover that the presence in Sicily of those “provincial” forms was very limited⁵³. However she did not arrive at a specific conclusion because obviously a single instance was not sufficient to challenge a consolidated tradition of studies. It is therefore possible that this experimental phase started in Naxos in the last decades of the 1st century BC, in the period of the foundation of the colony of *Tauromenium* dated 36 or 21 BC⁵⁴ which sanctioned

the Latin and Roman economic presence, already active in the district for a lot of time⁵⁵.

As is well known, in the Naxos area the flat-based amphorae production continued with other types up to the 5th–6th century productions⁵⁶.
G. P.

The above-presented documentation seems to have shown that the flat-based amphorae were produced in various Italian workshops in the last decades of the 1st century BC. The Gaulish amphorae do not seem to have been produced before the early Augustan period⁵⁷, and both the Tarraconensis Oberaden 74, recently analyzed by Carreras and Gonzales⁵⁸, and the Baetican flat-based amphorae designated as *urcei* by R. Morais⁵⁹ can be dated to the same period.

This generic model had standardized dimensions: the height ranged from a minimum of 45 cm to a maximum of 65 cm. In the Vingone productions the sizes went from 45 to 50 cm⁶⁰; the Tarraconensis Oberaden 74 had an average height of about 65 cm⁶¹; the Baetic *urcei* about 50 cm⁶². The Gaulish amphorae 2 and 8 had an average height of about 60 cm, while the Gaulish amphorae 9 and 7 were about 55 cm⁶³.

Therefore we think that these Italian, Gaulish and Iberian flat-based forms were regional variations of the same basic prototype and this hypothesis can be supported by the close likeness noted between Gaulish and Spanish amphorae. Many years ago A. Tchernia and J. P. Villa had stressed the great similarities between the flat-bottomed amphorae produced at Velaux-Moulin-du-Pont (kiln B) and the ones from Tivissa (Tarracona)⁶⁴. More recently, Carreras and Gonzales have identified many similarities between the Oberaden 74 and the Gaulish amphorae, in particular the G 2 and G 8 forms, high-

⁵⁵ Ibid. 278–280.

⁵⁶ C. FRANCO/C. CAPELLI, New archaeological and archaeometric data on Sicilian wine amphorae in Roman period (1st to 6th century AD). Typology, origin and distribution in selected western Mediterranean contexts. RCRF Acta 43, 2014, 547–555; C. FRANCO/C. CAPELLI, Sicilian flat-bottomed amphorae (1st–5th century AD). New data on typochronology and distribution from an integrated petrographic and archaeological study. In: D. Malfitana/G. Cacciaguerra (eds.), *Archeologia classica in Sicilia e nel Mediterraneo* (Catania 2014) 341–353.

⁵⁷ The earlier Gaulish amphorae were: BERTUCCHI 1992, 6a = Gauloise 2; BERTUCCHI 1992, 6b = Gauloise 7, Gauloise 8 and Gauloise 9 (LAUBENHEIMER 1985, 385–386).

⁵⁸ CARRERAS/GONZÁLES 2012.

⁵⁹ R. MORAIS, Anforas tipo *urceus*. In: L. Lagostena/B. Bernal Casasola/A. Arévalo (eds.), *Cetariae. Salsas y salazones de Pescado en Occidente durante la Antigüedad*. BAR Internat. Series 1686 (Oxford 2007) 401–405. The Augustan Sud-Perduto 2 shipwreck provides evidence of their trade in the Western Mediterranean (BERNARD 2007). See also E. GARCIA VARGAS, Anforas Béticas de época augusteo-tiberiana. Una retrospectiva. In: A. M. Niveau de Villedary/M. V. Gómez Fernández (eds.), *Las Necrópolis de Cádiz. Apuntes de Arqueología gaditana en Homenaje a J. F. Sibón Olano* (Cadiz 2010) 581–622 in part. 596.

⁶⁰ MARTELLI 2008, 150 fig. 116 (Vingone 3 type); 152 fig. 119.1 (Vingone 4 type).

⁶¹ CARRERAS/GONZÁLES 2012, 263.

⁶² See for example the items found in the Sud Perduto 2 shipwreck (BERNARD 2007 fig. 2).

⁶³ Respectively BERTUCCHI 1992, 101–106 forms 6a = G2, and LAUBENHEIMER 1985, 308 fig. 166; 309 fig. 167; 303 fig. 161.

⁶⁴ TCHERNIA/VILLA 1977, 234; see also A. TCHERNIA, L'Atelier d'amphores de Tivissa et la marque SEX DOMITI. In: *L'Italie préromaine et la Rome républicaine. Mélanges offerts à Jacques Heurgon* (Rome 1976) 973–979.

⁴⁰ BENQUET/VITALI/LAUBENHEIMER 2013, 513–529.

⁴¹ Ibid. 528.

⁴² Ibid. fig. 22,19–21.

⁴³ Gaulish 7: LAUBENHEIMER 1985, 302–306; 385 fig. 162–165. – Gaulish 5: Ibid. 293–299; 390 fig. 158.

⁴⁴ See note 6–7.

⁴⁵ LYDING WILL 1987, 214.

⁴⁶ CIAMPOLTRINI 1984, fig. 11.43.

⁴⁷ LENTINI/MUSCOLINO 2013, 275–277.

⁴⁸ C. M. COLETTI/M. C. LENTINI, NAXOS (ME), Proprietà GDM (Larunchi). In: G. Olcese (ed.), *Atlante dei siti di produzione ceramica* (Toscana, Lazio, Campania e Sicilia) (Rome 2012) 461–462 tav. 4,XXIV nn. 2 e 4–5. In particular, the amphorae have been found in the dumping grounds of the GDM building site near the harbour area (OLLÀ 2001, 47).

⁴⁹ OLLÀ 2001, 55 n. 6 comparable with amphorae produced at Mandelieu in the 1st century AD. See also the productions of Frejus: GÉBARA/BÉRAUD 1996 fig. 11,1.

⁵⁰ OLLÀ 2001, 55 fig. 5.

⁵¹ RIVET 1986, 125–126 fig. 11; GÉBARA/BÉRAUD 1996 fig. 11,1.

⁵² LAUBENHEIMER 1985, 390; F. LAUBENHEIMER/J. A. GISBERT SANTONIA, La standardization des amphores Gauloise 4, des ateliers de Narbonnaise à la production de Denia (Espagne). In: F. Laubenheimer (ed.), *20 ans de recherches à Sallèles d'Aude* (Paris 2001) 33–50. See also RIZZO 2014, 175.

⁵³ OLLÀ 2011, 48 and note 12.

⁵⁴ LENTINI/MUSCOLINO 2013, 279.

lighting the extreme difficulty in distinguishing between these types⁶⁵, as has been evident since Loeschcke's classification of the Oberaden amphorae⁶⁶. Moreover, the Authors consider the *Tarraconensis* Oberaden 74 very similar to the Gauloise 8 amphorae manufactured in some workshops in Narbonese (Saint-Côme, Gard; Saint-Lambert, Frejús; Aspiran, as well as the above-mentioned Velaux)⁶⁷. Amphorae classified as Oberaden 74 and G 2 appear to have been manufactured side by side also in the Loron workshop in Istria, dated from 10 AD⁶⁸.

That the Baetican, *Tarraconensis* and Gaulish flat-bottomed amphorae had the same fundamental prototype has been pointed out also by E. Garcia Vargas, R. Roberto de Almeida and H. Gonzalez Cesteros, who took into consideration the issue of possible reciprocal influences and derivations between these different regional productions⁶⁹.

In conclusion, we think that this model derived from an experimental phase in the central Tyrrhenian area of Italy, where the flat-bottomed amphorae appear to have been produced from the beginning of the 1st century BC.

This basic model spread increasingly and became standardized, with the obvious regional variants, in Italy and in the Western Provinces, in the late-Republican-early Imperial period, linked with Augustan colonization and his policy of conquest, particularly because of the veterans' and soldiers' requirements.

Quite rightly Carreras and Gonzáles linked the beginning of the Oberaden 74 production in *Tarraconensis* with the Romanization process: previously with the Cantabrian-Asurian war (29–19 BC) and then with the foundation of the *coloniae* of *Celsa* and *Caesaraugusta* in the Ebro valley⁷⁰.

The same link with the Romanization process can be applied to Gaul where the production of flat-bottomed amphorae started in the districts (Marseille, Nîmes, Fréjus)⁷¹ which had, for a long time, been progressively involved in the Roman military, political, economic and social system⁷².

During the conquest of the Western Provinces, Rome established an integrated communication system based on land routes and navigable rivers from the Ebrus to the Rhone⁷³. Therefore in this vast area the new model from Italy was particularly successful: the smaller dimensions and the flat bottoms were very suitable for carts and river-borne transport and moreover these containers could be involved also in the maritime trade⁷⁴.

Hence the flat-based amphorae were soon utilized for the wine supply for the Roman army throughout the Rhone-Rhine axis, in the same circuits used for *terra sigillata* and other goods which were sent to the *castra*⁷⁵. In this case the smaller capacity and the flat bottoms were no evidence of a "crisis" leading to a reduced distribution of goods, as it would have been the case in Italy from the late 1st century AD⁷⁶, but, rather, an adaptation to the specific requirements of an expanding market.

For example, flat-bottomed amphorae classifiable as Oberaden 74 began to be manufactured in Lyon between 15 BC and 15 AD⁷⁷. It is very significant because the town was the site of both the mint for paying the troops on the *limes* and the branch of *Ateius*' *sigillata* workshops, also supplying the Roman army⁷⁸.

Transporting wine for the veterans and immediately afterwards for the soldiers along the German *limes*, these small containers became a symbol of this expansive phase of the Western Mediterranean economy: not only the amphorae models but, above all, the economic processes were a direct consequence of the Augustan policy, in Italy, Gaul, Spain and Germany.

It was not by chance that the greatest exports of Oberaden 74 amphorae are dated between 20 BC and 20 AD, the period which included the operational phase of the best known *castra* (Oberaden, Dangstetten, Haltern, Neuss)⁷⁹.

An Oberaden 74 amphora bearing the stamp MAESCELS reached the homonymous camp, as is known, dated 12–8 BC⁸⁰. Even if A. Tchernia excluded the possibility that this stamp belonged to the same series of Dressel 2–4 amphorae stamped in the Masseria S. Donato workshops near Suessa Aurunca⁸¹, in any case the productive link between this particular Oberaden 74 amphora and the *ager Falernus* district seems obvious.⁸²

⁶⁵ CARRERAS/GONZÁLES 2012, 255–256.

⁶⁶ S. LOESCHCKE, Die Römische und die Belgische Keramik aus Oberaden nach den Funden der Ausgrabungen von Albert Baum. In: C. Albrecht (ed.), *Das Römerlager in Oberaden und das Uferkastell in Beckinghausen an der Lippe* (Dortmund 1942) 7–148 esp. 78; CARRERAS/GONZÁLES 2012, 255.

⁶⁷ CARRERAS/GONZÁLES 2012, 260–261

⁶⁸ P. MAGGI/Y. MARION, Le produzioni di anfore e di terra sigillata a Loron e la loro diffusione. In: G. Lipovac Vrkljan/I. Radić Rossi/B. Šiljeg (eds.), *Atti Convegno Crikvenika 2008* (Crikvenika 2011) 175–187.

⁶⁹ GARCÍA VARGAS/ROBERTO DE ALMEIDA/GONZÁLES 2011, 250–252.

⁷⁰ CARRERAS/GONZÁLES 2012, 262–266.

⁷¹ In general see LAUBENHEIMER 1985; F. LAUBENHEIMER/A. SCHMITT, *Amphores vinaires de Narbonnaise. Production et grand commerce. Création d'une base de données géochimiques des ateliers* (Lyon 2009).

⁷² See WOOLF 1998, 38–47 regarding the ways in which Roman power was established in Gaul, through warfare, political favours, colonies, taxation and the new economy expanding into Gallic society.

⁷³ This topic has been considered by GARCÍA VARGAS/ROBERTO DE ALMEIDA/GONZÁLES 2011, 250–252.

⁷⁴ As stressed by C.PANELLA 2001, 214 note 30.

⁷⁵ I dealt with this subject some years ago: S. MENCHELLI, *Terra sigillata pisana: forniture militare e «libero mercato»*. RCRF Acta 35, 1997, 191–198. Concerning the Roman Army supply, E. Lo Cascio's paper is of fundamental importance (E. LO CASCIO, *L'approvvigionamento dell'esercito romano: mercato libero o commercio amministrato?* In: L. de Blois/E. Lo Cascio [eds.], *The impact of the Roman Army* [Leiden, Boston 2007] 195–206.)

⁷⁶ The bibliography about this topic is very abundant: see PANELLA 2001, 183–185; RIZZO 2014, 126–133. For further bibliographical information regarding the 2nd century crisis see S. MENCHELLI/G. PICCHI, *Distorsioni interpretative e concretezza epistemologica nello studio delle anfore romane: l'esempio dell'ager Firmanus* (Marche meridionali, Italia). www.fastionline.org/docs/FOLDER-it-2014-304.pdf (2014).

⁷⁷ A. DESBAT/M. GENIN/J. LASFARGUES, *Les productions des ateliers des potiers antiques de Lyon, 1^{ère} partie: les ateliers précoces*. Gallia 53, 1996, 1–249, 111 fig. 84.

⁷⁸ A. PELLETIER, *Histoire de Lyon: de la capitale les Gaules à la métropole européenne* (Lyon 2004). No less important for the town, in Lyon was the Altar of priesthood worshipping *Roma* and *Augustus* (WOOLF 1998, 35).

⁷⁹ The Oberaden 74 overall chronology extends from 30 BC to 60 AD: CARRERAS/GONZÁLES 2012, 266.

⁸⁰ P. ARTHUR 1991, 74 attributed the stamp to the family of the *Maesianii Celsi*, in particular to *Quadratus Maesianus Celsus*, a young man of senatorial rank, mentioned in an inscription found at Suessa Aurunca (CIL X 4749). More recently, G. Camodeca has provided a new interpretation of this stamp, attributing it to the *Maesii*, the Suessan family from which the *Maesianii Celsi* derived (G. CAMODECA, *I ceti dirigenti di rango senatorio equestre e decurionale della Campania romana* [Napoli 2008] in particular 23–24). See also CARRERAS/GONZÁLES 2012, 266.

⁸¹ TCHERNIA 1996, 208 (2013): see notes 1 and 2.

⁸² PANELLA 2001, 183–184; RIZZO 2014, 109.

The end of the production of the late Republican/early Imperial flat-based amphorae occurred in the mid-1st century AD: the Oberaden 74 form was replaced by Dressel 28, produced in the Gualdaquivir valley since approximately 50 AD⁸³. In more or less the same years the above-mentioned Gaulish amphorae were replaced by the G 4 form, which, from the 60s AD, began to dominate the markets in Germany and Britain.⁸⁴

In the following decades and centuries many other amphorae characterized by flat-bottoms or small spikes were produced in Italy and in the provinces, due to different regional and general historical and economic factors.

For example:

- The form Gauloise 4/Dressel 30 was manufactured in North-Africa from the late 2nd century AD: as well as in the well-known Mauretanian workshops⁸⁵ we now also have to take into consideration the Tunisian ones, identified more recently⁸⁶. The type also appears to have been produced in *Lusitania*, *Baetica*⁸⁷, *Britannia*⁸⁸ and in Eastern Cilicia⁸⁹.
- Spello, Forlìmpoli, Empoli types were produced in various regions in Central Italy (Tuscany, Emilia-Romagna, Umbria, the Marches, Abruzzo) ranging from the 1st to the early 6th century AD⁹⁰.

- Sicilian amphorae were manufactured in many workshops in the North-Eastern part of the region from the 1st to the 6th century AD (Ostia II, 523 form; Sant' Alessio Amphora type, Spinella/via Larunchi amphora type; MR1a and MR1b; Keay 52, Termini Imerese 151 amphora, and others)⁹¹.

But this is another story.

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Credits

Fig. 1: Giulia Picchi, Pisa. – **Fig. 2: 1** PALLARÈS 1986, 93 fig. 6d; **2** LAMBOGLIA 1952, 166 fig. 24; **3** LYDING WILL 1987 fig. IX-442 cat. A295; **4** CIAMPOLTRINI 1984 fig. 11,43. – **Fig. 3: 1–2** MARTELLI 2008, 146 fig. 110; **3** BERTUCCHI 1992, 109 fig. 50,2; **4** TCHERNIA/VILLA 1977 fig. 6; **5** MARTELLI 2008, 152 fig. 119,1; **6** BERTUCCHI 1992, 103 fig. 45,4; **7** LAUBENHEIMER 1985 fig. 166; **8** CARRERAS/GONZÁLES 2012; **9** da MARTELLI 2008, 150 fig. 116; **10** da BERTUCCHI 1992, 113 fig. 54,2. – **Fig. 4: 1–2** PICCHI ET AL. 2010 fig. 6,3–5; **3** da CHERUBINI/DEL RIO 1997 fig. 3,5; **4** DONATI/PAOLETTI/PARRA 1989 fig. 28,4; **5** GENOVESI 2012 fig. 9,29; **6–8** BENQUET/VITALI/LAUBENHEIMER 2013 fig. 22,19–21; **9–11** OLLÀ 2001, 54 nr. 2; 55 nr. 5–6.

⁸³ GARCÍA VARGAS/ROBERTO DE ALMEIDA/GONZÁLES 2011, 249–250.

⁸⁴ LAUBENHEIMER 1985, 390; CARRERAS/GONZÁLES 2012, 265–266.

⁸⁵ PANELLA 2001, 207; BONIFAY 2004, 148–151; RIZZO 2014, 29.

⁸⁶ BONIFAY 2004, 148–151; M. BONIFAY ET AL., Les productions d'amphores romaines sur le littoral Tunisien. *Archéologie et Archéométrie*. RCRF Acta 41, 2010, 319–327 esp. 321 fig.4,20.

⁸⁷ D. BERNAL CASASOLA, Las producciones anfóricas de taller. In: D. Bernal Casasola (ed.), *Los Matagallares* (Salobreña, Granada). Un centre romano de produccion alfarera en el siglo III d.C. (Granada 1998) 231–305. See also PANELLA 2001, 205–206; 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 (Portsmouth, Rhode Island 2009) 151–156.

⁸⁸ R. P. SYMONDS, Romano-British amphorae. In: J. Plouviez (ed.), *Amphorae in Britain and the Western Empire*. *Journal Roman Pottery Stud.* 10, 2003, 51–54 figs. 2–3.

⁸⁹ P. REYNOLDS, Levantine amphorae from Cilicia to Gaza: a typology and analysis of regional production trends from the 1st to the 7th centuries. In: J. M. Gurt I Esparraguera/J. Buxeda i Garrigos/M. A. Cau Ontiveros (eds.), *LRCW 1. Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry 1*. BAR Internat. Ser. 1340 (Oxford 2005) 563–611 esp. 565 fig. 23.

⁹⁰ PANELLA 2001, 195–196; RIZZO 2014, 126–133. New data about the Empoli type will be provided by L. ALDERIGHI (ed.), *Proceedings of the Conference L'Anfora di Empoli. Produzione e diffusione in età romana*, Empoli 14–16 October 2010 (forthcoming).

⁹¹ See note 56.

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