

Epilogue

Ovoid Amphorae in the Mediterranean (2nd century BC–early 1st century AD). State of the play and future research perspectives

1. Revisiting and reassessing: all about ovoid amphorae

Dealing with the ‘big family’ that ovoid transport containers comprise, and finding a definition that can encapsulate their many formal, geographical and cultural variations, was never going to be a straightforward or trouble-free matter. Despite the early adoption of the expression ‘ovoid’ to refer to amphorae produced in southern Italy between the late 2nd and the late 1st centuries BC (Baldacci 1972), the truth is that the employment of a single definition of the term, based on its shape, is imprecise. In practice, when asked of the wide range of containers produced in different Mediterranean regions around the same period (2nd-1st centuries BC), the answer to the simple question, ‘What is an ovoid amphora?’ remains elusive. This is probably because the question is, in a sense, phrased incorrectly. A single term is being applied to cover a widespread ‘family of amphorae’, one which emerged as a result of a long and complex process involving most of the ancient Mediterranean, the sequencing of which can, in the current state of our knowledge, be but poorly glimpsed.

The concept of the ovoid form embraces a huge and diversified range of actual vessels. Traditionally, it includes such shapes as: 1) the so-called Brindisian amphorae, which were probably inspired by Corinthian and north Peloponnesian ovoid prototypes; 2) the little-known ovoid amphorae from the central and northern Italian Adriatic; 3) the also poorly systematised Campania-Lazio ovoid amphorae; 4) the early African amphorae from the *Proconsularis*, previously known as ‘Ancient Tripolitanian’ and recently renamed as ‘Ancient African’ type; 5) the ovoid amphorae from *Tingitania* – western north Africa; 6) the amphorae from several production areas of *Hispania*, each of them with its own specific repertoire, including four main and extensive regions – the Bay of Cadiz and the Mediterranean coastal area of *Hispania Ulterior*, the Guadalquivir valley also in *Hispania Ulterior*, the eastern coastal area of *Hispania Citerior Tarraconensis*, and finally the western Atlantic façade of *Hispania Ulterior*, later *Lusitania*.

All these regions produced amphorae shapes that share significant common features, and all together they make up a kind of homogenous family. This observation is based on:

- a) *Their definition of shape.* These containers are morphologically distinct, but nonetheless present a series of characteristics, especially in the profile of the body, which is invariably oval in shape; the girth is widest around the middle or the top third of the body; they are around c. 60cm in height. The short necks are straight or a truncated-cone in shape, and are often given a moulding or ring, to which are connected the short handles, whose section is often that of a quarter circle. The pointed bases are generally also a truncated-cone in shape and short, although they may vary widely by region. Their capacity does not exceed 30 litres.
- b) *Their chronological and geographic range.* It is as yet unclear when the production of these containers began, but they are generally dated between the mid-2nd and the very early 1st century AD. Their manufacture has been attested from the north Peloponnese to the coasts of Lusitania, and it appears to have been particularly intensive in south Italy, North Africa and in some parts of the Iberian Peninsula. The characteristics of the production processes differ considerably from region to region, although it seems clear that the species expanded progressively from a focal point of origin, with the most successful types serving as inspiration for new ones in new regions. The local workshops did not slavishly copy the prototypes, but adapted the general design to suit their own pottery-making traditions and in some cases developed their own technological approaches. From our current perspective, we can divide the family into at least two main groups, separated by their relative peaks in the production/distribution of the type.

The first group encompasses ovoid amphorae from the northern Peloponnese (cf. Filis in this volume), Brindisi (Manacorda in this volume) and North Africa (Contino and Capelli and Contino *et al.*, both in this volume). Perhaps, the group should also include the little-known products from southern Lazio and north Campania (Benquet in this volume). This group was active from the mid-2nd century BC, and peaked in the late 2nd and, especially, the first half of the 1st century BC.

The second group includes productions from the Iberian Peninsula (García Vargas, González Cesteros and Almeida; García Vargas and Sáez Romero; Almeida and Fabião and Miró i Canals and Járrega Domínguez, all in this volume), related forms from *Mauritania Tingitania* and, probably, the continuation of the still poorly known ovoid amphorae of the central and northern Adriatic and the Campania-Lazio region. Their production began later, in the second quarter of the 1st century BC and peaked in the third quarter of the same century.

- c) *Their historical significance.* The Fourth Macedonian War, which ended in 148 BC, the subsequent destruction of Corinth in 146 BC, and the obliteration of Carthage in that same year, and the end of the Celtiberian Wars around 133 BC, together completely overturned the balance of power in the Mediterranean, giving Roman elites access to an enormous wealth, which was added to the gains made after the defeat of the Barca family in Hispania in 206 BC, of Philip V in Cynoscephalae in 197 BC, of Antiochus III in Magnesia in 189 BC and of the successor of Philip V, Perseus, in Pydna in 168 BC.

Silver production peaked in the year 143 BC, according to the lead residues attested in Greenland's ice columns (Hong et al. 1994). In the hundred years that followed the second battle of Pydna (148 BC), Roman coinage made with silver mostly coming from the Macedonian and Hispanic mines increased by 10%. The suppression of commercial rivals, such as Carthage, Corinth and Rhodes (the last had remained neutral during the war against Phillip of Macedon) put the levers of an increasingly monetised Mediterranean market in the hands of *publicani* and *mercatores* (now based in Delos) and the wine and oil-producing aristocracies.

The emergence of new amphora types such as the Tyrrhenian Dressel 1 and the Adriatic Lamboglia 2 on the east and the west coasts of Italy alike is, therefore, unsurprising. In addition, the emergence in Apulia of a family of ovoid amphorae inspired by earlier Corinthian models marked both a continuity for a traditional Adriatic *koiné*, which found its axis in Brindisi and Corinth, and at the same time a clear displacement of its centre of gravity from Corinth to the south Adriatic Italian cities (including Brindisi), where the Roman aristocrats had started accumulating pieces of land (Manacorda 1988). During this period, this ceramic family achieved an international dimension and presence. The Roman control of commercial mechanisms in both the Aegean and the western and central Mediterranean soon

triggered the production of ovoid amphorae at the main commercial hubs. It seems no coincidence that the 'first wave' of ovoid productions was developed in regions such as Apulia and north Africa - areas that were fully integrated into the Roman economy and already hosting an important number of Italian colonies and settlers, all set on increasing the investment in their farming lands. Later, this process seems also to draw in other important production districts and commercial regions, such as the Bay of Cádiz and the northeast coast of *Hispania Citerior Tarraconensis*.

This process lasted until the closing years of the Republic. It may be contextualised as a progressive transformation of Mediterranean commercial models: from an open, multilateral world, in the mid-2nd century BC, to one that revolved around a single focus, Rome. Eventually, Rome's internal political inconsistencies pushed the polis-empire towards the more autocratic forms of government that it had previously confronted in the East (especially Egypt: cf. Chic García 2009). The emergence around the turn of the century of new families of provincial amphorae is probably indicative of a new episode in the progressive adaptation of material culture to the imperial political and commercial structure emerging in the Mediterranean.

It is widely assumed that the shape and the content of an amphora are directly related, but in this sense ovoid amphorae are a notable exception. They also break another general principle, namely that different regions produce different amphora shapes.

All ovoid amphora-producing clusters were developed in response to the same concept (although some minor variations exist), and the vessel seems to have been intended very early on for the storage and transport of diverse foodstuff commodities, even if, originally, their use was limited to a single product. It is argued that most of the earliest ovoid amphorae were used to transport olive oil. In fact, the three regions where the production of early ovoid amphorae is attested (the northern Peloponnese, Brindisi and Tunisia) were indeed famous for their olive oil throughout antiquity. However, the coexistence of different types of ovoid amphorae in a single region (for instance in Brindisi or the Guadalquivir valley, among others), as well as the production of ovoid shapes in a region so strongly focussed on the production of fish-products as the coast of Cadiz, let alone the evidence suggesting that some ovoid amphorae were used to transport wine or grape by-products (Manacorda¹ and García Vargas, González Cesteros and Almeida, both

¹ Although it is true that the Giancola workshop (and perhaps other workshops too) appears to have produced wine containers (Manacorda and Palleschi 2012: 141-169), we are not sure whether these containers can be labelled as 'ovoid amphorae'.

in this volume), all combine to strongly suggest that the direct relationship between shape and content ceased to apply to ovoid amphorae perhaps as early as the opening decades of the 1st century BC.

It is possible that this apparent fidelity to the ovoid shape reflects a growing homogenisation in the production facilities and techniques in a world displaying a tendency to adopt increasingly standardised manufacturing and distribution practices. In that scenario, kilns and other pottery-firing infrastructures were becoming more and more alike in every corner of the Mediterranean, and the very ships were changing their dimensions and shapes too. Probably, the need for more uniform stacking techniques inside the firing chambers of the pottery kilns and the holds of the merchant ships required more regularised amphora shapes all around the Mediterranean (García Vargas and Sáez Romero 2018).

The interests of the Roman elites in regions such as Apulia or *Proconsularis* also played an important role at a time, viz. the late 2nd century BC, when the economic mechanisms that dominated the central and western Mediterranean were becoming thoroughly Romanised. As with the Corinthian potters who moved to southern Italy after the destruction of their city – which likely explains the origin of Brindisian ovoid amphorae, Italian immigrants, arriving in the Iberian Peninsula since the late 2nd century onwards, may have driven the emergence of Italian artisanal traditions in the Guadalquivir valley and the nearby coastal areas. In the Guadalquivir valley in particular the similarity of 1st-century BC Roman-style containers and Brindisian ovoid amphorae is beyond doubt. The unification, for the first time, of routes and distribution systems, was also a powerful factor towards encouraging a homogeneity of form, overwhelming any region- and product-related characteristics in form. These latter features can still be typologically traced, but now they play a secondary role; the homogeneity and the ‘family resemblance’ dominates.

As an alternative, or perhaps a complementary argument, it may be argued that a close, almost direct, relationship between shape, provenance and content, largely could only make sense and develop from the Imperial period onwards, when the consolidation of provincial structures and public and private channels of supply encouraged the standardisation of ceramic containers. In the Republican period, as production structures were still being formed and commercial mechanisms were more individualistic and autonomous, it could be that there was less need for homogenisation, and so more room for morphological variety.²

² Nevertheless, we have important exceptions such as the Dressel 1 and the Lamboglia 2, that were produced during the same period and achieved a high level of standardisation, probably due to the huge demands imposed by supplying the Roman army and the ‘civil markets’ with Italian wines both in the east and west Mediterranean, as well as in the inland native territories of Gaul (Tchernia 1986: 68–94).

2. Birth, rise and decline of the ovoid amphora family

In order to better understand the abundance of ovoid types, as well as their significance for 2nd and 1st centuries-BC trade, we must examine several basic matters, such as the evolution in form of the different groups, the active periods of different production centres, and the development of the main markets of consumption. This next section aims to provide a general perspective on the production of Mediterranean ovoid amphorae based on the contributions presented in this volume.

Although the initial and final dates of production vary from region to region, some general patterns of development may be recognised; the relative importance of both production and consumption centres also shifts over time. The type declined in each region for different reasons, but there is a general consensus that ovoid amphorae disappeared from the market in the last decades of the 1st century BC or in the early 1st century AD. It was not a homogenous process; as we shall see, some products ceased abruptly, along with the exports they carried, while in other regions the shape simply evolved morphologically as the ovoid shapes were progressively (but not necessarily slowly) replaced by the regional Early Imperial repertoires.

2.1. The origins of the ovoid amphorae repertoire

As previously mentioned, the precise moment and geographical area in which the earliest members of the widespread ‘ovoid amphorae family’ were produced remain undefined. There is, however, some agreement that the production of the first ‘proper ovoid’ series was developed during the middle decades of the 2nd century BC. This is supported by archaeological evidence found in the three possible initial foci: the county around Brindisi, the north Peloponnese and North Africa.

Among these three regions, the most likely to have been the cradle of the ovoid amphorae is the north Peloponnese. Until quite recently, the Hellenistic ceramic products of the region were relatively poorly known, except for the Corinthian amphorae studied by Koehler (1979, 1981). The production of these Corinthian amphorae apparently ceased in the late 3rd or the first half of the 2nd centuries BC, and it was generally assumed that there was no link between them and the productions that followed the destruction of Corinth in 146 BC. However, K. Filis’s contribution to this volume, concerning the products of Aigion, clearly suggests the opposite: even if there was some morphological variation, the Corinthian region continued exporting its agricultural surpluses in local transport amphorae.

The production of similar amphorae to those from Aigion has been attested elsewhere in the northern Peloponnese, for instance in Sikyon (Trainor 2015: 43, 48–53). It is also

possible that a local workshop existed at Aegira³ and that, as with Carthage, the destruction of Corinth is unlikely to have involved the total disappearance of the commercial and production infrastructures of the region, which was a major commercial hub, located as it is in a remarkably strategic position between the central Mediterranean and the Aegean.⁴

The material from Aigion is particularly significant due to the abundant epigraphic evidence found in association with Brindisian products (cf. *Filis* in this volume). Although it is possible that some of this epigraphical data merely reflects an accidental similarity in potters' names, it has been argued that the evidence rather denotes the same potters working in more than one place, or the possible presence of subsidiary or branch workshops, with the main enterprise remaining in Aigion.

It is important to observe here that these amphorae developed in the north Peloponnese during the second half of the 2nd century BC, and continued, at least into the first half of the 1st century BC, in the shape of the Dressel 25 type. This transition is archaeologically well attested and is of great importance, as the area of Brindisi, along with North Africa, has traditionally been identified as the original nuclei of ovoid series, even if from the late 1980s some authors were already emphasizing the close connections existing with the Hellenistic transport vessels produced in the Corinthian region (Désy 1989; Finkielstzejn 2002; Manacorda and Palleschi 2012).

Commonly, the first stage of the ovoid Brindisian products is dated to the third quarter of the 2nd century BC, based on the available evidence for the dissemination of Brindisian amphorae, and also on the period of activity of several workshops (some of which have been extensively analysed, such as Apani and Giancola), which cannot be dated any earlier by the available data. However, many questions have been raised concerning the African products, as most contexts in which 'Ancient African' amphorae (Capelli and Contino 2013) have been found are dated to the second half of the 2nd century BC or can only be broadly assigned to that century (although some exceptions exist and some authors still argue for the early production of ovoid African amphorae). The presence of what seems like an 'Ancient African' amphora rim in the Iberian settlement of Alorda Park (modern Calafell, Tarragona) alongside Punic vessels from Ibiza and 'early Campanian A' wares, in an abandonment level dated to the late 3rd and early 2nd centuries BC (Asensio Vilaró 1996: 45-46, fig. 6 no. 89), could push back the beginning of these products by several decades. Nevertheless, two more occupation levels can be attested after the

abandonment of this early Iberian settlement; these are dated to the last three quarters of the 2nd century and the 1st century BC (Asensio Vilaró 1996: 36-37), so we cannot rule out the possibility that the aforementioned fragment of African ovoid amphora could be an intrusion from a later period.

Another argument in favour of an early production of 'Ancient African' amphorae in the first half of the 2nd century BC is the existence of stamps bearing Greek lettering on some individuals, including Punic shapes such as the T-7.4.3.1, commonly dated in the first half of the 2nd century BC (Ramon Torres 1995). One of these examples is the well-known stamp of ΜΑΓΩΝ (*Magon*), a typically Punic name (but written in Greek). Several examples of these stamps have been found impressed on 'Ancient African' amphorae (Aranegui Gascó 2002; Ramon Torres 2008). Another example is the stamp ΑΡΙΣ (*Aris*), which has to date only been found on T-7.4.3.1 amphorae (Ramon Torres and Fuentes Estañol 1994: 31; Ramon Torres 1995: 291) and on an unpublished 'Ancient African' amphora currently stored in a private collection in Alcalá del Río (Seville).⁵

According to J.-P. Thuillier (1979: 335; 1983) the *Magon* stamps in Carthage can be dated to the first half of the 2nd century BC, continuing down to the destruction of the city, as confirmed by some examples published by C. Aranegui Gascó (2002), although the chronology of these last stamps is not entirely certain. On the other hand, J. Ramon has suggested that the *Magon* and *Aris* stamps were used in a workshop in operation during the second quarter of the 2nd century BC (Ramon Torres 1995: 291). On the palaeographic evidence, both 'Graeco-Punic' seals are quite uniform, and are almost invariably placed on the neck of the vessels. Consequently, it seems likely that they are evidence for the products of the same individual or workshop, rather than a coincidental use of names common to different places.

The aforementioned stamps, together with the discovery of the one at Alorda Park, despite its uncertain dating, suggest that the production of 'Ancient African' amphorae could have started during the decades between the Second and the Third Punic Wars. If this can be confirmed in the future, it will mean that it is necessary to consider an alternative hypothesis for the initial development of the ovoid amphorae family: two isolated 'genealogies' of ovoid amphorae would then exist, one in North Africa and the other one in the Peloponnese and Brindisi. The chronologies of these two branches would be slightly different, but their shapes show a clear tendency to converge at least from the late 2nd century BC onwards.

For the moment, until such new archaeological evidence is uncovered and published, some sort of connection between these production areas must be considered.

³ We are grateful to Dr C. Hinker, who is currently working with the Hellenistic and Roman material from the excavations of the Austrian Archaeological Institute in Aegira, for the information.

⁴ We are grateful to Dr G. Sanders, director for many years of the Corinth Excavations (American School of Classical Studies at Athens) for his interesting comments.

⁵ Studied by E. García Vargas.

This idea is supported by the presence of the ‘Graeco-Punic stamps’ where Greek names are impressed on Tunisian ‘Ancient African’ amphorae. The latest finds in Aigion, Sykion and other probable key spots in the north Peloponnese would indicate that the ovoid amphorae family in their early stages display a strong Greek heredity (cf. Filis in this volume), much more closely linked to the Hellenistic Corinthian amphora production than was previously thought. The hypothesis of the arrival of potters from the Corinthian Gulf in Apulia and perhaps in Tunisia too, cannot be rejected, since commercial and cultural links established between all these regions can be dated to many centuries earlier.⁶

2.2. Rise and dissemination of ovoid amphorae

Despite the difficulties surrounding their archaeological characterisation and the vagueness with which until relatively recently ovoid types had been described, it is possible now to produce a first reliable distribution map. Unsurprisingly, the greatest uncertainties and blanks correspond to the recently defined types produced in the north Peloponnese. This volume will help create a more solid basis for the study of the consumption and distribution of the ovoid series, and fill out the scattered dots on the maps offered to now by the historiography about production areas and consumption patterns (Pascual Berlanga and Ribera i Lacomba 2002; García Vargas, Almeida and González Cesteros 2011; Manacorda and Pallechi 2012: 490-500 and 514; Palazzo 2013: 169-183; Capelli and Contino 2013; Contino 2013; Mateo Corredor 2012, 2016; Bernal Casasola, García Vargas and Sáez Romero 2013: 359-363; Carreras Monfort et al. 2016). In this state of play, the western Mediterranean seems to be somewhat overrepresented, despite the efforts made by some general works to redress this imbalance (Lund 2000) or the existence of some specific studies that examine sites in the east Mediterranean (Bezeczky 2006, 2013: 110-114, 136-137). G. Finkielsztein’s contribution to this volume, which presents fresh data from Israel, can be considered a substantial development in that sense.

All these studies accentuate the fact that there is hardly a region or site within the Mediterranean commercial sphere in which ovoid amphorae are not expected to be found. Based on the valuable information provided by these present proceedings and the increased visibility of these types, we are convinced that many more sites in which ovoid amphorae exist will come to light in the near future. We are also persuaded that the new data will also nuance or even eradicate some recurring commonplaces, such as the regular classification of some Late Republican Baetican and African ovoid vessels as regional productions of Early Imperial times, or associating all ovoid types with those from Brindisi.

Concerning the commercialisation and dissemination of ovoid amphorae, it is worth stressing that the production and marketing patterns vary widely from region to region. Also equally diversified are the markets with which these shapes were delivered, the routes and commercial mechanisms through which they were sent, on both the local and Mediterranean scales. The earliest types, although still being produced in the late 1st century, had found their commercial peak around the last quarter of the 2nd and the first half of the 1st centuries BC, whereas the production of the western groups began not before the second quarter of the 1st century BC and remained in production until the final years of the Roman Republic or first years of the Empire.

In this regard, little can be said yet about the products from the Gulf of Corinth, as their study has barely started; it is likely though that they were exported to the same areas where the later Dressel 25 type has been found, that is, essentially the Aegean, the Adriatic (Tonio 1993; Mazzochin 2013) and central Tyrrhenian regions (Dressel 1879, 1899; van den Werff 1986).

Brindisian products were the most widely disseminated ovoid amphorae; they also are relatively frequent in the second half of the 2nd and first half of the 1st centuries BC (Manacorda and Pallechi 2012), in Italy, south-west Gaul and the Iberian Peninsula. However, the type was also exported in large numbers to the east Mediterranean (Will 1989; Lund 2000; Bezeczky 2006, 2013). Despite the wide geographical range of the type, Brindisian amphorae are not found in large numbers at any site – generally their presence is limited to but a few individuals. Their relationship with ovoid shapes from the north Peloponnese in some contexts is worth exploring in the near future.

Among the productions from *Hispania*, the ovoid amphorae production along the Lower Guadalquivir valley was especially active and morphologically diversified, although no workshops have been found in the region dating to this early stage; in contrast, the Bay of Cadiz and its nearby countryside has provided suggestive data about its ovoid amphora workshop (discussed in this volume). A significant example can be found in the paper presented by D. Bernal Casasola *et al.* in this volume on the results of the recent excavations at the Verinsur workshop, which have revealed an important centre of production for LC67 amphorae in the northern sector of the Bay of Cadiz coastal countryside. These finds raise a typological issue that needs to be addressed in depth. The authors suggest naming this local variant ‘Ovoide 1 Gaditana’ (Gaditan Ovoid 1), while the LC67 produced in the interior of the Guadalquivir valley are referred to as ‘Guadalquivir Ovoid 1’. From our current perspective, this leads to a typological confusion between two different types: ‘Ovoide Gaditana’ (Gaditan Ovoid) (cf. García Vargas and Sáez Romero, in this volume) and this new group called ‘Gaditan Ovoid / Ovoide Gaditana 1’. Based on the

⁶ The typological connexion between the ‘Corinthian B’ and the amphorae produced by many cities in Magna Grecia during the 5th and 4th centuries BC illustrates these close links (Göransson 2007).

arguments developed around the Guadalquivir type, the Gaditan Ovoid would then be better called Gaditan Ovoid 2, which does not however make much sense, as the type was defined much earlier than the ‘Ovoide 1 Gaditana’ type (cf. [García Vargas 1996](#) and [1998](#)). For the moment, and in order to avoid confusion, we have decided to keep both denominations and to postpone the revision of the regional typologies. A preliminary solution to answer the terminological confusion could be to label the ‘Ovoide 1 Gaditana’ as Verinsur 1 type amphorae.

The dissemination of the various types of the south Hispanic ovoid amphorae is well attested, not only in the area of the Strait of Gibraltar and the ‘Atlantic route’, but also on the coast of *Narbonensis*, as pointed out in this volume by K. Quillon and M. Luaces. In *Narbonensis*, Hispanic ovoid amphorae are found in association with Late Punic (T-7.4.3.3) and regional imitations of Dressel 1 types, both represented among the earlier productions of the previous period. The presence of Guadalquivir and Cadiz Bay amphorae in Rome and its hinterland is relatively frequently encountered, as demonstrated by A. Contino *et al.* in this volume; Rome also received amphorae from *Tarraconensis*, whose ‘natural’ expansion areas were not only within the province, but also into *Gallia Narbonensis*. These Hispanic productions are increasingly well known (cf. [García Vargas, González Cesteros and Almeida](#) in this volume); for instance, Ovoid 4 can no longer being defined as a ‘small variant’ of the Haltern 70 type. Ovoid olive oil amphorae types, which underwent a rapid evolution between the times of Caesar and Tiberius (from the Ovoid 6 to the Ovoid 7/Oberaden 83, to the Haltern 71), should be referred to as ‘archaic Dressel 20’ or Dressel 19, denominations which do nothing but add extra confusion to an increasingly complex scenario. This last has to accommodate such types as the Ovoid 5, which has frequently been mistaken for other forms, despite its huge ‘morphological personality’, previously underlined by R.R. de Almeida ([2008](#), [2010](#)).

Concerning the export of ovoid amphorae from the future province of Lusitania, less information is currently available. As mentioned for the types produced in the eastern Adriatic area, the Lusitanian series have been defined but recently, and their characterisation, in terms of fabrics and morphological features, is unfortunately still incomplete (cf. [Almeida and Fabião](#) in this volume), even after remarkable efforts and advances achieved during the last decade ([Morais 2004](#); [Morais and Fabião 2007](#); [Morais and Filipe 2016](#)). Nevertheless, considering the latest proposals, the Lusitanian series seems to be a transposition, or rather, a ‘derivation’, that reflects the direct influence of the Hispanic repertoire on the western-most side of the Atlantic territory, during its process of its late conquest by Rome, as early as the middle of the 1st century BC.

Other minority production areas, such as Lazio/Campania and the central and northern Adriatic, are

still poorly known, even in their own regions. However, L. Benquet and H. González Cesteros’ contributions to this volume suggest that south Gaul was an important ‘market’ for these containers, which perhaps followed the same routes as the Tyrrhenian Dressel 1. Similarly, the productions from the central and northern Adriatic are not well known, but it cannot be ruled out that they occasionally can hitch a ride on the backs of the Lamboglia 2 amphorae, that constitute the main ceramic product in the region.

2.3. The last ovoid amphorae in the Mediterranean

In the final years of the Republic and the beginning of the Empire, the late productions of ovoid amphorae display connections with the emerging types that will characterise the provincial Imperial repertoires. It is a paradox that such a morphologically heterogeneous and functionally varied group of amphorae evolved into such well-defined regional and functional categories.

The example provided by *Hispania* presents interesting evidence for the terminal phase of the ovoid Mediterranean series and for illustrating this process. In the last quarter of the 1st century BC, the Guadalquivir ovoid models evolved into Haltern 70, Oberaden 83 and Haltern 71 types (which, towards the middle of the century, evolved again, resulting in the Dressel 20 series). The popular Dressel 20 type was late on the scene, due to the technical difficulties involved in producing a perfectly spherical amphora, and was preceded by a long sequence of ovoid variants (Berni Millet forthcoming). Also, in the end of the third quarter of the 1st century BC, the ‘Gaditan Ovoid’ (Ovoide Gaditana) group started its own evolution towards the Dressel 10 shapes. In the light of the available data, it seems reasonable to assume that the Dressel 10 shape evolved directly from the late variants of the high-necked Gaditan Ovoid, incorporating as it did so the Gaditan Imperial repertoire of salted-product containers, together with the Dressel 7, 8 and 9 types. The study of the Dressel 9 group raises a minor typological problem, as there is some evidence (but not conclusive archaeological support) that the type emerges quite early as an independent branch of the family during the third quarter of the 1st century BC, in parallel to the latest Gaditan Ovoid amphorae (for further data and discussion cf. [E. García Vargas and A. Sáez Romero](#) in this volume).

On the other hand, Lusitanian ovoid amphorae evolved from Lusitanian imitations of Ovoid 1 and maybe Ovoid 4, and originated the so-called Lusitanian 12 and other types. Unfortunately, the characterisation of these amphora clusters remains incomplete and they still lack an accurate typological discussion, which will have to include the process that resulted in the development of the ‘classic shapes’ of the Lusitanian Imperial repertoire, dominated from the second third of the 1st century AD by the Dressel 14 type.

One interesting aspect is the almost complete lack of evidence about ovoid amphorae production in the south Mediterranean coast of *Hispania*, where late Punic shapes (T-9.1.1.1, T-7.4.3.3), the local Dressel 1 versions and its derivative the Dressel 12 type, and imitations of Italian Dressel 21-22 types seem to dominate production in the regional workshops. They could, even so, have coexisted with some particular ovoid types, such as LC67 and Ovoid 6 variants. At first the so-called Gaditan Ovoid forms were absent; their derivative shapes, especially Dressel 10, and others ones somehow related to them, such as Dressel 9, must be a later arrival on the Spanish south Mediterranean coast, dated to the Imperial period, perhaps following influences stemming from Gades/Cadiz. The emergence of the Dressel 14 type, which has no precedents in the region and looks like a direct loan from Lusitania, may have come about by a similar mechanism.

In the case of *Hispania Tarraconensis*, the ovoid groups completely vanished in the early Imperial period, leaving almost no typological traces. This is due to a complete cessation in the erstwhile massive production of Pascual 1, an amphora type that evolved from the last versions of *Tarraconensis* ovoid types. This abrupt closure may also be owed to the speedy introduction into the regional repertoire of local versions of the Italian type Dressel 2-4:⁷ something arguably initiated by a commercial shift in the *Tarraconensis* wine production, that started to focus more and more on the Italian Peninsula. This shift of the most important customers of *Tarraconensis* wine from south Gaul to Rome and Latium would explain the change of containers and the progressive abandonment of the provincial typological line that had started with the group of the *Tarraconensis* ovoid and continued from around 25-20 BC with the Pascual 1, whose efficiency as container should be as good as that of the later Dressel 2-3.

In the 1st century AD, African products also evolved towards larger and cylindrical shapes, such as Ostia XXX, Ostia XLI, Puppit 7004 and 7005, Uzita PL, 52. 10 (Bonifay 2004). Nevertheless, in the Adriatic, this process of change seems to take a different path: it is not easy to find archaeological support to define what happens. Though central and northern Adriatic forms such as Lamboglia 2 and later Dressel 6A should have been used for wine exporting, and in the south the Dressel 6B would have been used for olive oil, yet the previous significant Brindisian production seems to have finished or be in but minimal circulation by and during Augustan times. Such probably were not produced after the beginning of the 1st century AD (Manacorda and Pallechi 2012; cf. also Manacorda in this volume).

In conclusion, we must admit that currently the evidence for the chronological, rather than typological,

connections between these last African and Adriatic ovoid productions and the Imperial amphora repertoires of both regions is very limited (as stated before, in the Adriatic they disappear before the end of the 1st century AD, and also in Tunisia they are almost entirely absent by the turn of the BC/AD watershed).

3. Some pending issues and perspectives: the future of study of ovoid amphorae

Currently, there is a significant lack of information concerning the kiln sites where most ovoid groups were produced; hardly any workshops have been excavated, with the significant exception of the Brindisian sets unearthed at Giancola (Manacorda and Pallechi 2012) and Apani (Palazzo 2013), the recent finds in Aigion (Filis in this volume) and in the area of Carthage-Tunis-Utica (Ben Jerbania 2013, 2017). The late Republican workshops in the Bay of Cadiz (some examples in Lagóstena 1996 and García Vargas 1998; also, cf. Bernal Casasola *et al.* this volume) may be added to the list. Similarly, despite recent advances in the research, there are substantial gaps in our knowledge concerning certain ovoid types from areas that have been commonly considered as marginal, and where other typologies were more frequent, such as Lazio-Campania and the central and the northern Adriatic. The productions from Mauritania Tingitana, which may be related to those produced in the coast of *Hispania Ulterior* are also poorly known at the present.

Our understanding about epigraphy is also far from complete, with the exception of the Corinthian and the Adriatic productions. In those areas, the available evidence suggests that production was largely dependent on slave labour, under the direction of free managers, a production structure that is frequently found in rural workshops, not only during the Republic but also in later periods. Despite the abundance of the epigraphic record, few amphorae stamped inscriptions on vessels produced in *Hispania Ulterior* have been attested; what is more, they are in all cases dated to the final period in the production of ovoid shapes (Ovoid 7/Oberaden 83 and Haltern 71; cf. Almeida 2008 and Fabião *et al.* 2016, focussing on some examples concerning the Guadalquivir valley ovoid types). Some stamps have been attested in the workshop of El Rinconcillo, in Algeciras, although to date these have only been connected to non-ovoid shapes (Bernal Casasola and Jiménez-Camino Álvarez 2004).

We have already mentioned stamps with respect to early African ovoid clusters, and the problems associated with the interpretation of the *Aris* and *Magon* ones, found also on non-ovoid Late Punic shapes such as the T-7.4.3.1 series. Other amphorae types associated with these, such as the T-7.4.3.3 type, produced in the Bay of Cadiz, the south coast of *Hispania* and the north coast of *Tingitana*, can be connected with a remarkable group of stamps bearing Punic and Roman personal names not found in other contemporary types, although it is known that all

⁷ In this case only forms Dressel 3 and Dressel 2 seem to have been produced in the *Tarraconensis* workshops: Berni Millet 2015.

the types were produced in the same workshops. A typical example can be found in the pottery dumps excavated at Calle Gregorio Marañón (Cádiz), where only the T-7.4.3.3 type was stamped, in contrast to the Dressel 1 type. In an Italic colonial context, like that of the Latin *colonia* of Carteia (Bay of Algeciras), Dressel 1 amphorae of the El Rinconcillo Workshop bear 1st century BC stamps with Italian-type names, written in Latin (Bernal Casasola and Jiménez-Camino Álvarez 2004).

Concerning *tituli picti*, the situation is similar; the only example known that can be properly read corresponds to a *tria nomina* found upon a 'Ovoide Gaditana' (Gaditan Ovoid) from Villaricos (Mateo Corredor 2013), which identifies a *mercator* called *M. Fabius Arisim*, whose *nomen* is clearly Roman and whose *cognomen* only finds parallels in the Semitic population in the area of Carthage (Mateo Corredor 2013).

No labels that refer to the content of the amphora are known up to date. Some Brindisian shapes and their 'equivalent' types in the Guadalquivir (Ovoid 1, Ovoid 6 and Ovoid 7/Oberaden 83 types), and perhaps the Adriatic 'early Dressel 6B'⁸ can be related to the transport of olive oil, like other types produced in the Corinthian gulf and 'Ancient African' amphorae. It has been argued that the Guadalquivir Ovoid 4 amphorae were used to store and transport wine or perhaps more accurately wine by-products, as is suggested by their similarity with the Haltern 70 type, their successors in the Imperial period. This has been suggested too on the basis of the presence of pitch in some individuals, as in the case of vessels found in the Illes Formigues 1 shipwreck (Martín Menéndez 2008). Also, the ovoid types from *Tarraconensis* were surely used to contain wine. On the other hand, the ovoid amphorae from the Cadiz region have generally been associated with salted fish products - following a similar argument to that used to identify the Guadalquivir ovoid amphorae as wine and/or olive oil containers, but inside some individuals grape seeds have been found (Chic García 1978). These last are isolated and limited finds: they suggest that, rather than wine (which does not contain grape fruits), some of the local ovoid amphorae would have been used to contain low-quality grape derivatives such as *lora* and *lympha* or maybe a fish sauce mixed with some wine or wine by-products.⁹ D. Bernal Casasola *et al.* (in this volume) also associate the 'Ovoid 1' production from the workshop of Verinsur with the transport of wine produced in the Cadiz coastal countryside.

In general terms, as previously stated (cf. also Manacorda in this volume), it seems that no strict correspondence

should be sought between shape and content, as has been claimed for Roman amphorae of the Imperial period (Peacock and Williams 1986). Perhaps this later habit is a result of more standardised trade structures, as has been argued above. We expect that future research, and in particular chemical residue analysis, will help clarify this complex issue. Either way, it may well be that this future research will mean, as has happened so many times before, that it will be necessary to revise our current proposals and perspectives.

Epilogue

Much time has passed, and ink been spilt, since the first identifications and early publications dealing with the ovoid amphorae of the Late Republic came out. The workshop held in Seville in December 2015 and this present monograph, with contributions from all around the Mediterranean basin and western continental Europe, have served to highlight the interest of this topic for the scientific community. Nevertheless, the editors consider that this is just a new starting point, one that will stimulate further research and specific studies, that eventually will help to provide a broader perspective on the various production areas active in the Mediterranean throughout the 2nd and 1st centuries BC.

As the great number of contributions presented in this volume suggest, the various regional economic settings of the 2nd and 1st centuries BC tended to converge, chiefly as a result of the homogenising effect of Rome's growing hegemony, as reflected, for instance, in the development of a varied family of ovoid amphorae clusters, which applied different local solutions to shared concepts and needs. Although regional variations exist, all ovoid amphorae followed similar typological and metrological criteria, and maintained an '*air de famille*', as reflected on the title of the workshop celebrated in Seville.

The main target of the studies contained in this volume has been the examination of the current state of the knowledge on these topics, so as to contribute towards establishing a basis for future research connecting typology (features, influences, volumes, etc.) and historical events ('Romanisation' of the economy, expansion of slave-based production, converging markets, etc.). Such topics had been analysed up to date in isolation from one another, or had only been jointly explored at the regional level. This volume seeks to be a first step in this approach to the 'globalised' late Republican world, as well as providing a pan-Mediterranean reference for the conceptual definition and historical-archaeological analysis of the Republican ovoid amphorae, which are still relatively poorly known from historical, morphological, economic and technological points of view.

We trust that in the near future, more conferences and monographs dealing with this significant 'amphora family' will come to be, and that some of the ideas

⁸ Also known as 'ante Dressel 6B' (Carre and Pesavento 2003).

⁹ R.I. Curtis mentions that wine was frequently added to the *garum* (Curtis 1991: 124) and even if in the *Geoponica* this process is ascribed to the Bithynians, we should consider the likelihood that this kind of mixed sauce, using wine or wine by-products, could be normal in other regions as well.

presented in this book will be further discussed, accepted or rejected, as is the normal way forward in any scientific process. Such would mean that we are working in the right direction, even if we later discover many wrong opinions or inexact data in our earlier deliberations.

Enrique García Vargas
 Horacio González Cesteros
 Rui Roberto de Almeida
 Antonio Sáez Romero
 Seville, Vienna, Lisbon and Cádiz
 November 2018

Bibliography

- Almeida, R.R. de 2008. *Las ánforas del Guadalquivir en Scallabis (Santarém, Portugal). Una aportación al conocimiento de los tipos minoritarios* (Col.leció Instrumenta 28). Barcelona: Publicacions i Edicions Universitat de Barcelona.
- Almeida, R.R. de 2010. The incorporation of the Baetican Hinterland into the Western supply during the Late Republic. A reading based on the distribution of the Guadalquivir's minority amphora types, in C. Carreras Monfort and R. Morais (eds) *The Western Roman Atlantic Façade. A study of the economy and trade in the Mar Exterior from the Republic to the Principate* (British Archaeological Reports, International Series 2162): 191-196. Oxford: Archaeopress.
- Aranegui Gascó, C. 2002. Las ánforas con la marca MAFON, in L. Rivet and M. Sciallano (eds) *Vivre, Produire et Échanger: Reflets Méditerranées. Mélanges offerts à Bernard Liou* (Collection Archéologie et Histoire romaine 8): 409-415. Montagnac: Éd. Mergoil.
- Asensio Vilaró, D. 1996. Les àmfors d'importació de la ciutatella ibèrica d'Alorda Park o Les Toixineres (Calafell, Baix Penedès, Tarragona). *Revista d'Arqueologia de Ponent* 6: 35-79.
- Baldacci, P. 1972. Importazione cisalpina e produzione apula, in *Recherches sur les Amphores Romaines* (Collection de L'École Française de Rome 10) : 7-28. Rome : École Française de Rome.
- Ben Jerbania, I. 2013. Observations sur les amphores de tradition punique d'après une nouvelle découverte près de Tunis. *Antiquités Africaines* 49: 179-19.
- Ben Jerbania, I. 2017. La production des amphores ovoïdes de type 'Africaine ancienne' à Utique. *Antiquités Africaines* 53: 175-192.
- Bernal Casasola, D. and Jiménez-Camino Álvarez, R. 2004. El taller de El Rinconcillo en la Bahía de Algeciras. El factor itálico y la economía de exportación (ss. I a.C. – I d.C.), in D. Bernal Casasola and L. Lagóstena Barrios (eds) *Figlinae Baeticae. Talleres alfareros y producciones cerámicas en la Bética romana (ss. II a.C. – VII d.C.)* (Cádiz, 12-14 noviembre 2003) (British Archaeological Reports, International Series 1266): 589-606. Oxford: John and Erica Hedges Ltd.
- Bernal Casasola, D., García Vargas, E. and Sáez Romero, A.M. 2013. Ánforas itálicas en la Hispania meridional, in G. Olcese (ed.) *Immensa Aequeora Workshop: ricerche archeologiche, archeometriche e informatiche per la ricostruzione dell'economia e dei commerci nel bacino occidentale del Mediterraneo (metà IV sec. a. C. - I sec. d. C.)* (Roma, 24-26 gennaio 2011): 352-372. Roma: Quasar.
- Berni Millet, P. 2015. Novedades sobre la tipología de las ánforas Dressel 2-4 tarraconenses. *Archivo Español de Arqueología* 88: 187-201.
- Berni Millet, P. forthcoming. Las otras ánforas del Monte Testaccio, in O. Bourgeon, E. García Vargas and St. Mauné (eds) *La producción de aceite y de ánforas olearia en el valle del Guadalquivir en época romana. Actas del Coloquio de la Casa de Velázquez Madrid (29-30 de octubre de 2015)*.
- Bezeczky, T. 2006. Consumer behaviour in Ephesus in the first century BC, in D. Malfitana, J. Poblome and J. Lund (eds) *Old pottery in a new century. Innovating perspectives on Roman pottery studies. Atti del Convegno Internazionale di Studi (Catania, 22-24 aprile 2004)*: 287-398. Lecce: Consiglio Nazionale delle Ricerche.
- Bezeczky, T. 2013. *The amphorae of roman Ephesus* (Forschungen in Ephesos XV/1). Wien: Verlag der Österreichischen Akademie der Wissenschaften.
- Bonifay, M. 2004. *Etudes sur la céramique romaine tardive d'Afrique* (British Archaeological Reports, International Series 1301). Oxford: Archaeopress.
- Capelli, C. and Contino, A. 2013. Amphores tripolitaines anciennes ou amphores africaines anciennes? *Antiquités Africaines* 49: 199-208.
- Carre, M.-B. and Pesavento-Mattioli, S. 2003. Tentativo di classificazione delle anfore olearie adriatiche. *Aquileia Nostra* LXXIV: 453-476.
- Carreras Monfort, C., Martín Menéndez, A., Pera Isern, J. and Rodrigo Requena, E. 2016. Las ánforas de Brindisi en la Hispania Citerior. Pautas de distribución. *Saguntum* 48: 103-121.
- Chic García, G. 1978. Acerca de un ánfora con pepitas de uva encontrada en la Punta del Nao (Cádiz). *Boletín del Museo de Cádiz* 1: 37-41.
- Chic García, G. 2009. *El comercio y el Mediterráneo en la Antigüedad*. Madrid: Akal.
- Contino, A. 2013. Tripolitana Antica e Dressel 26 a Roma. Il caso del Nuovo Mercato Testaccio. Dati preliminari, in M.B. Cocco, A. Gavini and A. Ibba (a cura di) *L' Africa romana XIX. Trasformazione dei paesaggi del potere nell'Africa settentrionale fino alla fine del mondo antico* (Sassari, 16-19 dicembre 2010): 1471-1488. Roma: Carocci.
- Curtis, R.I. 1991. *Garum and Salsamenta. Production and Commerce in Materia Medica*. Leiden: Brill.
- Désy, Ph. 1989. *Les timbres amphoriques de l'Apulie républicaine. Documents pour une histoire économique et sociale* (British Archaeological Reports, International Series 554). Oxford: B.A.R.
- Dressel, H. 1879. Di un grande deposito di anfore rivenuto nel nuovo quartiere del Castro Pretorio, *Bullettino della Commissione Archeologica Comunale di Roma*, Anno VII - Serie seconda: 36-64, Tav. VII-XVIII.

- Dressel, H. 1889. *Inscriptiones Urbis Romae Latinae. Instrumentum Domesticum* (CIL XV, 2). Berlin: Reimer Verlag.
- Fabião, C., Guerra, A., Almeida, J., Almeida, R.R. de, Pimenta, J. and Filipe, V. 2016. *Marcas de ânforas romanas na Lusitânia (do Museu Nacional de Arqueologia de Lisboa ao Museu Nacional de Arte Romano de Mérida)* (Corpus Internationale des Timbres Amphoriques Fascicule 19). Lisboa: Union Académique Internationale / Academia das Ciências de Lisboa / Uniarq.
- Finkielsztejn, G. 2002. Les amphores hellénistiques de Crète et les questions des imitations d'amphores et des timbres amphoriques à types monétaires. *Oinos Palaios*: 137-145.
- García Vargas, E. 1996. La producción anfórica en la bahía de Cádiz durante la República como índice de romanización. *Habis* 27: 49-57.
- García Vargas, E. (1998): *La producción de ánforas romanas en la bahía de Cádiz en época romana (siglos II a. C. - IV d. C.)*. Écija, Gráficas Sol.
- García Vargas, E.; Almeida, R.R. de and González Cesteros, H. 2011. Los tipos anfóricos del Guadalquivir en el marco de los envases hispanos del siglo I a.C. Un universo heterogéneo entre la imitación y la estandarización. *Spal* 20: 185-283.
- García Vargas, E. and Sáez Romero, A.M. 2018. Todo el pescado vendido. Una lectura cuantitativa de la producción púnica y romana de ánforas, sal y salazones en la Bahía de Cádiz, in J. Remesal Rodríguez, V. Revilla Calvo and J. M. Bermúdez (eds) *Cuantificar las economías antiguas. Problemas y métodos* (Col.lección Instrumenta 60): 161-214. Barcelona: Publicacions i Edicions Universitat de Barcelona.
- Göransson, K. 2007. *The Transport Amphorae from Euesperides. The Maritime Trade of a Cyrenaican City 400-250 BC* (Acta Archaeologica Lundensia Series 25). Lund: Lund University.
- Hong, S., Candelone, J.-P., Patterson, C.C. and Boutron, C. F. 1994. Greenland Ice Evidence of Hemispheric Lead Pollution Two Millenia Ago by Greek and Roman Civilizations. *Science* 265: 1841-1843.
- Koehler, C.G. 1979. *Corinthian A and B transport amphoras*. Michigan: Ann Arbor.
- Koehler, C.G. 1981. Corinthian developments in the study of trade in the fifth Century. *Hesperia* 50: 449-458.
- Lagóstena Barrios, L. 1996. *Alfarería romana en la Bahía de Cádiz*. Cádiz: Servicio de publicaciones de la Universidad de Cádiz.
- Lund, J. 2000. Transport amphorae as evidence of exportation of Italian wine and oil to the Eastern Mediterranean in the Hellenistic period, in *Between Orient and Occident. Studies in honour of P. J. Riis*: 77-99. Copenhagen: The National Museum of Denmark.
- Manacorda, D. 1988. Per uno studio dei centri produttori delle anfore brindisine, in *La Puglia in età repubblicana. Atti del I Convegno di Studi sulla Puglia romana (Mesagne, 22-22 marzo 1986)*: 91-108. Galatina: Congedo.
- Manacorda, D. and Pallichi S. (eds) 2012. *Le fornaci romane di Giancola (Brindisi)*. Bari: Edipuglia.
- Martín Menéndez, A. 2008. Àmfores tarraconenses i bètiques en els derelictes de mitjan segle I a.C. a la costa catalana, in *SFECAG. Actes du Congrès de l'Escala-Empúries (Escala-Empúries, 1-4 mai 2008)*: 103-127. Marseille, SFECAG.
- Mateo Corredor, D. 2012. La importación de aceite tripolitano en Hispania Ulterior durante la época tardorrepública, in *Estudiar el pasado: aspectos metodológicos de la investigación en Ciencias de la Antigüedad y de la Edad Media. Proceedings of the First Postgraduate Conference on Studies of Antiquity and Middle Ages (Barcelona, 26-28 October 2010)* (British Archaeological Reports, International Series 2412): 119-127. Oxford: Archaeopress.
- Mateo Corredor, D. 2013. *Quintus Fabius Arisim, un comerciante de origen púnico en la Bética*. *Spal* 22: 87-89.
- Mateo Corredor, D. 2016. *Comercio anfórico y relaciones mercantiles en Hispania Ulterior (ss. II a.C. - II d.C.)* (Col.lección Instrumenta 52). Barcelona: Publicacions i Edicions Universitat de Barcelona.
- Mazzocchin, S. 2013. *Vicenza. Traffici commerciali in epoca romana: i dati delle Anfore*. Trieste: Pulsar.
- Morais, R. 2004. Tipologia de les àmfores Haltern 70 i produccions similars. Problemàtiques i noves perspectives sobre les àmfores ovoides Tardo-Republicanes. Les àmfores ovoides de producció lusitana, in *Culip VIII i les Àmfores, Haltern 70* (Monografies del Casc 5): 36-41. Girona: Museu d'Arqueologia de Catalunya / Centre d'Arqueologia Subaquàtica de Catalunya.
- Morais, R. and Fabião, C. 2007. Novas produções de fabrico lusitano: problemáticas e importância económica, in L. Lagóstena Barrios, D. Bernal Casasola and A. Arévalo González (eds) *CETARIAE 2005. Salsas y salazones de pescado en occidente durante la Antigüedad* (Cádiz, 7-9 de noviembre del 2005) (British Archaeological Reports, International Series 1686): 127-133. Oxford: John and Erica Hedges Ltd.
- Morais, R. and Filipe, V. 2016. Ovoide Lusitana (Lusitania Occidental), in *Amphorae ex Hispania. Paisajes de producción y de consumo*, viewed 5-10-2017, <<http://amphorae.icac.cat/amphora/ovoid-lusitan-western-lusitania>>.
- Palazzo, P. 2013. *Le anfore di Apuni (Brindisi)*. Roma: Scienze e Lettere.
- Peacock, D.P.S. and Williams, D.F. 1986. *Amphorae and the Roman Economy. An Introductory Guide*. London and New York: Longman.
- Pascual Berlanga, G. and Ribera i Lacomba, A. 2002. Las ánforas tripolitanas antiguas en el context del Occidente Mediterráneo. Un contenedor poco conocido de la época republicana, in L. Rivet and M. Sciallano (eds) *Vivre, produire, échanger: reflets méditerranéens. Mélanges offerts à Bernard Liou* (Collection Archéologie et Histoire romaine 8): 302-317. Montagnac: Éd. Mergoïl.
- Ramon Torres, J. 1995. *Las ánforas fenicio-púnicas del Mediterráneo central y occidental* (Col.lección Instrumenta

- 1). Barcelona: Publicacions i Edicions Universitat de Barcelona.
- Ramon Torres, J. 2008. El comercio púnico en Occidente en época tardorrepública (siglos II/I). Una perspectiva actual según el tráfico de productos envasados en ánforas, in J.M. Noguera Celadrán and A.M. Poveda Navarro (eds) *Iberia e Italia: modelos romanos de integración territorial (IV Congreso internacional hispano-italiano)*: 67-100. Murcia: Tabularium.
- Ramon Torres, J. and Fuentes Estañol, M.J. 1994. Ánforas y jarras púnicas con elementos epigráficos del Museu Arqueològic de Barcelona. *Anuari de Filologia* 4: 25-36.
- Tchernia, A. 1986. *Le vin de l'Italie romaine* (Bibliothèque des Écoles Française d'Athènes et de Rome 261). Rome: École Française de Rome.
- Thuillier, J.-P. 1979. Une marque amphorique au nom de Magon, en grec, in S. Lancel (dir.) and J.-M. Carrié (ed.) *Byrsa I: rapports des fouilles (1974-1976)* (Collection de l'École française de Rome 41): 333-337. Rome, École française de Rome.
- Thuillier, J.-P. 1983. Timbres amphoriques écrits en lettres grecques, in *Actes du Colloque sur la Céramique Antique, Dossier 1 (Carthage, 23-24 juin 1980)*: 15-22. Carthage: Centre d'Études et Documentation Archéologique de la Conservation de Carthage.
- Toniolo, V.A. 1993. *Le Anfore di Altino*. Padua: Società Archaeologica Veneta.
- Trainor, C. 2015. *The ceramics industry of Roman Sikyon: a technological study* (Studies in Mediterranean Archaeology and Literature 181). Uppsala: Aströms Förlag.
- Van der Werff, J. H. 1986. Excavations in the House of the Porch (V.ii.4-5) at Ostia. *Bulletin Antieke Beschaving* 61: 77-137.
- Will, E.L. 1989. Relazioni mutue tra le anfore romane. I ritrovamenti in Oriente alla luce dei dati ottenuti nell'Occidente, in *Amphores romaines et histoire économique. Dix ans de recherche. Actes du colloque de Sienna (Sienna, 22-24 mai 1986)* (Collection de l'École de Rome 114): 297-309. Rome: École Française de Rome.