LUSITANIAN AMPHORAE: PRODUCTION AND DISTRIBUTION

edited by

Inês Vaz Pinto, Rui Roberto de Almeida and Archer Martin



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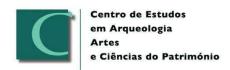
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edited by

Inês Vaz Pinto,* Rui Roberto de Almeida** and Archer Martin***

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Early Imperial Lusitanian Amphorae from the Eastern Iberian Coast¹

Ramón Járrega Domínguez* and Horacio González Cesteros**

*Institut Català d'Arqueologia Clàssica (ICAC) rjarrega@icac.cat

** Österreichisches Archäologisches Institut (ÖAI) / Institut Català d'Arqueologia Clàssica (ICAC) hgonces@hotmail.com

In this article we study the scarce evidence (mainly due to a gap in research) currently known about the distribution of Lusitanian amphorae in the early Empire, specifically Dressel 14 amphorae, on the Mediterranean Spanish coast. As a result of the revision of the bibliography and of some direct revision of the materials, it is evident there was a wide distribution of these amphorae on the Mediterranean Spanish coast, but in small quantities. We can conclude that Dressel 14 amphorae were distributed along the Mediterranean coast of Spain, but their presence is very secondary, possibly because these amphorae arrived in this zone on their way to other destinations, like Gaul and Italy.

KEYWORDS: ROMAN AMPHORAE; LUSITANIAN AMPHORAE; DRESSEL 14; DISTRIBUTION; MEDITERRANEAN COAST OF SPAIN.

Introduction

At present, thanks to several studies (Fabião and Carvalho 1990; Diogo 1987; Mayet 1990; Fabião 2004; Fabião 2008 and others) we are in a position to say that during recent years knowledge about Lusitanian amphorae production has reached a high point, similar to other Iberian regions. Nevertheless, some points are still unclear, mainly the distribution these products achieved and the routes used for their commerce, sometimes hidden by the huge distribution of Baetican amphorae. During the congress in Tróia in October 2013 many lectures presented interesting new results to resolve these kinds of deficiencies and going forward drawing new distribution maps according to the archaeological and historical reality. This paper is a modest attempt to lay the bases of a better understanding of the commercial relationships between Lusitania and the eastern Iberian regions (mainly the coastal area) of Hispania Citerior or Hispania Tarraconensis in the imperial period.

We emphasize the fact that this geographical area was never a priority market for Lusitanian exports (as the scarcity of Lusitanian amphorae found in excavations shows), but this assumption may be due to the lack of archaeological research and the misidentification of these pieces by the archaeologists. Some useful conclusions can be obtained, however, such as, for example, the role the territory of present-day Valencia and Catalonia played in the commercial routes Lusitanian products followed or attempting to define the periods in which they arrived in these regions.

Even if it is not the goal of our paper, we should point out the relative significance Lusitanian imports achieved in the coastal area of Hispania Tarraconensis during Late Antiquity, mainly due to the high distribution of amphora types such as Keay 22 or Almagro 51c. Nevertheless, it

Dressel 14 distribution on the Mediterranean coast of Hispania Citerior Tarraconensis

Lusitanian products of the first two centuries AD are gradually coming to be better recognized in the western Mediterranean. Regions such as the Hispanic coast (Bombico and Quevedo, in this volume), southern France (Marty and Zaaraoui 2009: 309-402; Djaoui and Quaresma, in this volume), Sardinia and the Strait of Bonifacio (Pascual Guasch 1968: 145; Piccardi and Nervi 2013: 376),² or the Tyrrhenian area, with the special significance of contexts at Rome and Ostia (Dell'Amico 1990: figs. 30-31; Panella 1973: 82-84; Panella 2001: 206; Rizzo 2003; Rizzo, in this volume; Martin, in this volume). Concerning the Spanish Levant, there are no specific studies about this trade but we will try to set the first bases to fill this gap.

We have to face some problems to reach our objective, as for example the difficulties in making an appropriate distinction and a good classification of Lusitanian products. There is no doubt that during the 1st and 2nd centuries AD the most widely distributed Lusitanian container was Dressel 14, mainly produced in kilns in central and south Portugal, especially in the Tagus and Sado region. However, this type can also be found among the products of other regions, as for example Baetica, where a different version of Dressel 14 is also documented in some kilns along the coastal territory (García Vargas 1998: 101; García Vargas 2001: 83-84; Bernal Casasola 1998; Mora Serrano and Corrales Aguilar 1997;

concerns a different moment with a different commercial dynamic (Remolà, in this volume). We will focus on the geographical distribution of Lusitanian amphorae throughout the Mediterranean areas of Hispania Tarraconensis during the Principate, from the south to the north, based on current evidence.

¹ This paper was made within the Spanish national I+D Project: 'Amphorae ex Hispania: paisajes de producción y consumo' (HAR2011-28244)

² It is possible some Lusitanian Dressel 14 arrived also at Porto Torres in northwestern Sardinia but F. Villedieu's publication (1984) does not mention if they are Baetican or Lusitanian, nor can we find drawings, pictures or a simple description of the fabrics.

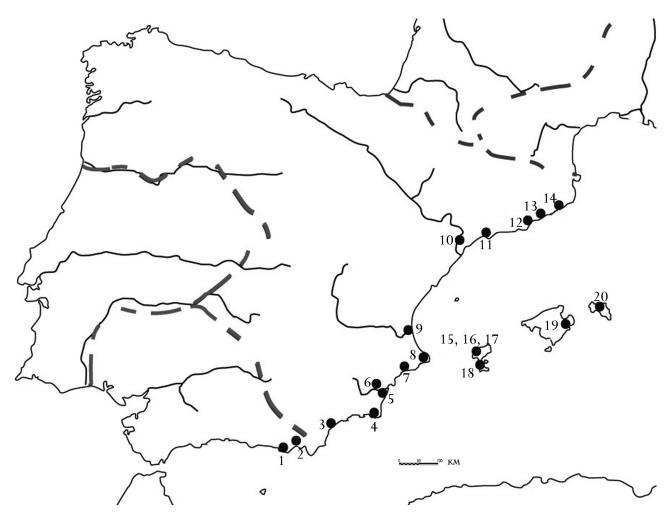


FIGURE 1. MAP OF THE IBERIAN PENINSULA WITH THE PLACES REFERRED IN THE TEXT.

Lagóstena Barrios and Bernal Casasola 2004). The duality between the Baetican and the Lusitanian Dressel 14, even if we are able to point out some morphological differences,³ leads to misunderstandings and to false identifications by researchers unfamiliar with these amphorae. We think this is what happened with several Lusitanian pieces found all around the eastern Hispanic coast. The lack of real knowledge and familiarity with Lusitanian products by local archaeologists made them go unnoticed and led to frequent confusion with other amphora types, as is the case of some rim fragments classified as Dressel 2-4 or with the already mentioned Baetican variant of Dressel 14.⁴ In any case, this lack of precision indirectly shows the scarcity of Lusitanian amphorae in the eastern Spanish region. The unfamiliarity of local archaeologists itself manifests that these imports are

not relevant from a quantitative point of view and that they

The distribution of Dressel 14 throughout the Mediterranean

territories of Hispania Citerior Tarraconensis is still not well

known. Nevertheless, some attempts to study their distribution

were carried out by some scholars (Pascual Guasch 1968: 145 and 147, fig. 3.4; Beltrán Lloris 1970: 456-462; Beltrán

Lloris 2000: 466),⁵ but unfortunately they made no distinction

are found only sporadically on our archaeological sites.

Catalogue of archaeological sites in Hispania Citerior Tarraconensis with possible presence of Lusitanian amphorae of the imperial period

Although our research is mainly focused on the area of modern Valencia and Catalonia, we thought it would be appropriate to integrate the information we have about

between Lusitanian and Baetican variants. Attempts to search for other Lusitanian types produced before the middle of the 3rd century AD, as for example the Lusitana 3 form (Diogo 1987), are totally unknown to us.

³ In an article published by the École Française de Rome, A. J. Parker (1977: 37-39) made the distinction between two variants of the previous type IV of M. Beltrán Lloris (1970: 456-464). The first type, called 'A' by A. J. Parker, should correspond to the Baetican one and the second one or 'B' to the Lusitanian version.

⁴ In this sense, we should mention the hypothesis made by a group of scholars, led by Dr. D. Bernal Casasola, about a direct development of Baetican Dressel 14 from the Baetican version of Dressel 2-4 (Bernal Casasola *et al.* 2004). This theory would dissociate the evolution of both variants, because the Lusitanian version can derive from other Hispanic types such as Haltern 70 or similar Lusitanian ovoid forms (Fabião 2008).

⁵ Beltrán's map (2000: 466) has some inaccuracies, like some generic references to the presence of 'Dressel 7 to 14' amphorae. This broad reference does not give the reader the chance to really determine the amphora type.

possible Lusitanian pieces in the whole Roman province of Hispania Citerior or Tarraconensis.

West coast of Andalusia

Province of Almería

In the Augustan administrative division of the Iberian Peninsula, the frontier between the newly created provinces of Baetica and Hispania Citerior or Tarraconensis should be placed somewhere in the modern Andalusian province of Almería. Although the exact line of the border is still far from being solved, a large number of scholars tend to situate it between the current municipality of El Ejido and the city of Almería. This is the reason for including the archaeological sites of this area in our study.

We have to emphasize that it is a geographic sector where a large number of Dressel 14 amphorae are documented, mainly because there are several shipwrecks along its coast (Blánquez Pérez *et al.* 1998). Nevertheless, most of these Dressel 14 show some features that are considered typical of the Baetican versions, and normally they form part of ship cargoes together with other Baetican containers. The most obvious example comes from the amphorae in the 'Gandolfo' shipwreck. Found off the coast near the village of Dalias, its cargo was loaded basically with Baetican Dressel 14 and Beltrán IIA.⁶

- Guardias Viejas (El Ejido) Off the coast in front of this town was found a shipwreck with two or three Dressel 14 amphorae and a Dressel 20 (Beltrán Lloris 1970: 457 and 459, 458, fig. 183, nos. 3-4; Blánquez Pérez et al. 1998: 259). In the underwater archaeological chart we do find no detailed description of these pieces (Blánquez Pérez et al. 1998), but M. Beltrán Lloris believes the morphological characteristics of the Dressel 20 belong to a 2nd or early 3rd-century version. With respect to the Dressel 14s, this scholar makes some interesting remarks, as, for example, that the two versions of his 'Forma IV' (= Dressel 14), normally associated with the Lusitanian and Baetican productions, were found together, or, also important, the fabric description, which he says is red with a red-brownish slip. Unfortunately, neither the fabric description nor the drawings are enough to determine the production region. Nevertheless, due to the high presence of Baetican amphorae in this geographic area, we believe that we are probably dealing with Baetican material, although we cannot guarantee it.
- Roquetas de Mar (Almería) R. Pascual Guasch (1968: 147-147, fig. 3.2) and M. Beltrán Lloris (1970: 458, fig. 5) mention a complete Dressel 14 from a shipwreck. As we could not see the piece,

we cannot say in this case whether it is a Lusitanian or a Baetican product. However, considering that the other amphorae appearing together with the Dressel 14 are mainly Baetican Dressel 10 and Beltrán II,⁷ we can argue that probably the whole cargo was composed of Baetican amphorae.

Also near this place, the team under the direction of J. Blánquez published another piece from another underwater find. In this case, the Baetican origin of the piece is unquestionable (Blánquez Perez *et al.* 1998: 254-256, fig. 87, C-514).

3. Villaricos (Cuevas de Almanzora) – Near this town, the find of several amphorae of the Roman period was reported (Blánquez Pérez *et al.* 1998). Within this collection we can see the presence of a Dressel 14 with some formal peculiarities, such as, for example, the horizontal rim with a small ledge in the lower part (Blánquez Pérez *et al.* 1998: fig. 25, no. 15868). Nevertheless, we think the main morphological characteristics of this piece (sloping handles, the cylindrical form of the body and neck, etc.) can point, once again, to Baetican production, an aspect that has already been mentioned by the team responsible for the Almería underwater archaeological map (Blánquez Pérez *et al.* 1998: 262).

Coast of Murcia

Province of Murcia

As expected, in spite of the presence of a Dressel 14 (probably of Baetican production) documented by M. Beltrán Lloris (2000: 455, fig. 11) in the area of Lorca, most of the finds in this region were made in the territory surrounding Carthago Nova.

Carthago Nova (Cartagena) and surrounding area – The presence of Dressel 14 amphorae is quite well documented in underwater finds (Aguilas, Cabo de Palos, Bajo Campana 2 and 3 shipwrecks) and in recent land excavations in Cartagena. Even though not all pieces found can be catalogued as Lusitanian products, we could determine that origin for some of them. The geographical position of Carthago Nova and its magnificent harbour, probably made this city an important point on the routes that went from Lusitania and Baetica toward the Tyrrhenian coast of Italy, with the city of Rome as the main final destination. We suppose that the capital of Conventus Carthaginensis was a turning point with respect to the coast of Almería in general, a region closer to the eastern Baetican production sites, where Lusitanian products should only accidentally arrive

⁶ The Gandolfo shipwreck had an important number of Dressel 14 whose Baetican origin is unquestioned because of their typological characteristics and the other amphora types present in the cargo (Blánquez Pérez *et al.* 1998: 260).

⁷ Described by R. Pascual Guasch as a 'strange variant of Dressel 38'. We must consider that at the time Pascual wrote this article M. Beltrán Lloris had not yet made his classification of Spanish amphorae.

Even if we think Dressel 14 and other Lusitanian types arrived frequently in the harbour of Carthago Nova, the archaeological evidence we have today does not show a large number of Lusitanian amphorae (Bombico and Quevedo, in this volume). We can point out one piece displayed in the archaeological Museum Enrique Escudero de Castro, whose form and fabric could be Lusitanian.

Coast of Valencia

Province of Alicante

5. Portus Illicitanus (Santa Pola) – There are fragments of rims, necks and part of the handles of two different pieces (Márquez Villora 1999: 222, 509, fig. 8, nos. 1 and 2). Assuming a Baetican or Lusitanian origin for the first piece (a very moulded rim) is not an easy question. On the other hand, the second piece seems to be a Lusitanian Dressel 14 amphora.

Also on this site, a piece was found without rim and handles which, from its morphological and petrological characteristics, looks like a Lusitanian product. This piece was found during construction work carried out at the Santa Pola cemetery, together with other complete or partly preserved amphorae of different origins. All of them are now in the archaeological museum of La Alcudia.⁸ According to A. Ramos Folqués (1974: 66), it is possible that these amphorae came from an ancient harbour warehouse.

- 6. *Illici* (La Alcudia de Elche) J. Molina Vidal (1997: 76-78) mentions the presence of one Dressel 14 rim on this site, but he does not give any indication about the fabric or any drawing of the piece. It represents just a very small part of the whole amphora assemblage, something similar to other fish-sauce amphorae such as the Baetican Beltrán II, present only with three rims.
- 7. Anchorage and shore of Vila-Joiosa In modern Vila-Joiosa, we have counted the presence of two Dressel 14 amphorae. One of them is a fragment of rim/neck with handles (Figure 2, no. 3), published by A. Espinosa Ruiz (1995-96: 31), found in an ancient anchorage off the urban settlement. We know only the drawing of this piece and cannot guarantee whether it is a Lusitanian or a Baetican product, but considering the form we believe that the second is the more probable option.

Some years ago another Dressel 14 piece (without rim, handles and base) was donated to the local museum. The provenance of this piece is once again from an underwater

site, probably around the coast of Vila-Joiosa. ¹⁰ The morphological and petrological characteristics (in spite of the difficulties in analysing those aspects in an underwater find), seem to be similar to most of the typical Lusitanian versions.

8. Duanes (Jávea) – J. Molina Vidal (1997: 94-96) published a Dressel 14 rim found in this anchorage, among 84 amphorae rim fragments. The author gives no information about the fabric and morphological characteristics of this rim nor a drawing or a picture. For this reason it is not possible to say whether it is a Baetican or Lusitanian product.

Coastal area of Alicante

In an uncertain place on the coast of this Spanish province, a Dressel 14 body was found with no neck, handles or rim (Pascual Guasch 1968: 145 and 147, fig. 3.3). From the drawing we are not able to determine whether it is a Lusitanian or Baetican product. In addition, M. Beltrán Lloris (1970: 462) comments another piece found in the bay of Alicante, now in a private collection.

Provinces of Valencia and Castellón

We have no direct evidence for the central coastal area of Valencia, but we are sure that in the first two centuries AD Lusitanian amphorae arrived at the main trading posts such as Valentia or Saguntum and that they will probably be recognized in future investigations.

9. City of Valencia – Awaiting the important monograph on the excavations of L'Almoina, we are currently only able to indicate the presence of Baetican Dressel 14 among the material from the second half of the 2nd century AD from the excavations in 'plaza del Negrito' (Pascual Berlanga and Ribera Lacomba 2000). The complete study of the amphorae of this site is still unpublished, and it is difficult to say if these pieces are really Baetican or Lusitanian.

Catalan coast

Province of Tarragona

10. Dertosa (Tortosa) – In this important commercial place near the Ebro Delta, some fragments of two Lusitanian Dressel 14 amphorae were found during recent excavations that took place in calle Moncada. The archaeologists found some pillars, maybe related to a storage building from the ancient

⁸ We would like to thank Ms. Ana Ronda, archaeologist from the archaeological site of La Alcudia de Elche for her indications about these finds.

⁹ We would like to thank Mr. Antonio Espinosa Ruiz and Ms. Amanda Marcos, from the Vila-Joiosa museum, for giving us notice of this interesting piece and for the graphic documents they have sent to us.

 $^{^{\}rm 10}$ Unfortunately the place and context where this amphora was found are not known.

¹¹ The information these authors give about this context was based on the study carried by A. Herreros in 1994-95: *Estudio del material anfórico de la plaza del Negrito*. G. Pascual Berlanga and A. Ribera Lacomba (2000: 574) mention the need for a good publication about this important context.

port of Dertosa. ¹² Both fragments present the main petrographic features of the products from central Lusitania, particularly the workshops of the Tejo and Sado estuaries (Figure 3).

Even if the number is not really significant, these pieces are interesting not just because they indicate an important commercial place, which acted as a double maritime and fluvial port directly connected with the inland Ebro Valley,¹³ but also for the quite important chronological range this offers. According to other kinds of pottery, the presence of Hispanic Sigillata and the complete absence of any kind of African products, we are able to place this context within the Flavian period.

11. Els Carbuncles (Tarragona) – The name 'Els Carbuncles' or 'L'Angul' refers to an anchorage place off the coast of the city of Tarragona. Here, at a depth of about 20-25m, two rim fragments and one neck fragment of two different Lusitanian Dressel 14 amphorae were found in 1975 (Pérez Martín 2007: 168-169). The author indicates that the rim's diameters reach 12.5 and 14cm and that one of them, with a red-brownish porous fabric, still preserves some pitch on its internal walls. According to the fabric description and the drawings, W. Pérez Martín presents both examples as having a probable Lusitanian origin.

Province of Barcelona

12. Barcino (Barcelona) – In this city we can mention the certain presence of Baetican Dressel 14 amphorae. Nevertheless, a more accurate revision of the material from some archaeological sites in Barcelona would be necessary to verify the arrival of Lusitanian amphorae during the early imperial period.

In 2007 A. Martín Menéndez published an interesting amphora context from the old excavations of the so-called 'Tower 16' of the Roman walls. This context was composed of almost complete pieces reused to build a kind of drainage system. There were several Beltrán IIA and Beltrán IIB, an Africana 1 and a Dressel 14. It was dated to the second half of the 2nd century AD, but the presence of Dressel 14 and Beltrán IIA amphorae suggests an earlier moment, and we think it would be better to consider a broader timeframe throughout the whole 2nd century AD, even if Africana 1 amphorae were not produced before the middle of this century. A. Martín Menéndez designates a Baetican origin for the Dressel 14 amphora, which is in accordance with the description he makes of the piece.

¹² We would like to thank Dr. Jordi Diloli, Mr. Ramón Ferré and Mr. Jordi Vilà (the excavation's directors), for the facilities we found for the study of these and other materials.

Outside the Roman walls, in calle Avinyó, another Dressel 14 fragment was found during the excavation works that took place some years ago. This piece was classified as a Baetican product and was part of a larger context consisting of one Tarraconensian amphora, one Gaulish Sigillata Ritterling 8B, and some African cooking wares and local coarse wares. 14 The chronology of this context is not really well framed. Maybe a date in the mid-late first century AD could be suggested. However, the final moment of this phase can be placed during the first quarter of 2nd century AD, which means a similar date range to the one in Dertosa.

- 13. Baetulo (Badalona) An almost complete Dressel 14 amphora was found in this Roman city and has already been published by M. Comas i Solà (1985: 80-81, fig. 43). Unfortunately, the piece comes from an old excavation without stratigraphic or contextual data. We had the chance to see this piece, which still bears a low-quality white slip on a soft pink fabric with dark and red inclusions. 15 The morphological features, with sloping handles that start at the lower edge of an almost triangular rim, and the fabric are quite similar to some products from the central area of the western region of Lusitania. Furthermore, we can compare this piece with the one found in Vila-Joiosa (Figure 2, no. 3), because they probably share the same production region and date range.
- 14. Can Blanc (Argentona) During the excavations of a Roman villa in 1993, a Dressel 14 fragment was found in this Catalan town (Rigo Jovells and Carreras Vidal 1994: 193). The field archaeologist identified it directly as a Lusitanian Dressel 14, in particular as part of the group b of class 20-21 assigned by C. Fabião and A. Carvalho (1990: 47). It is quite interesting the way this piece was found (without the base and lower part of the body) in a dump from a chronological horizon of the second half of the 1st century AD, together with some Gaulish Sigillata fragments (Rigo Jovells and Carreras Vidal 1994: 186). Unfortunately no drawing or picture was published, nor could we have access to this piece.

Balearic Islands

15. Bahía de Sant Antoni (Ibiza) – In this bay, a Roman shipwreck was found with an unknown number of amphorae already summarily published (Vilar Sancho and Maña 1964; Pascual Guasch 1968: 143-144; Beltrán Lloris 2000: 466). R. Pascual Guasch describes some of them as 'from a form really close to Dressel 14' and underlines that

¹³ Dertosa must have served as connexion point between the interior lands of the Ebro and the coast. It is possible that part of the Mediterranean goods that have arrived at Caesaraugusta, came from Dertosa first. Therefore the connexion between Dertosa and the Catalan inland is unquestioned.

¹⁴ Thanks to the archaeological directors we were able to see the excavation reports of this intervention. Unfortunately we did not have access to the depot where the pieces are stored and could not see these interesting pieces.

¹⁵ We would like to thank E. Gurri and M. Comas i Solà from the History Museum of Badalona for permission to see the amphora.

inside the amphorae many fish bones were found. Once again we could not see these pieces, and we are not able to say whether they are Lusitanian or Baetican products.

- 16. Costa de Ibiza R. Pascual Guasch (1968: 145, 147, fig. 3.4) published an almost complete Dressel 14 amphora from an underwater provenance found in an unknown point of the coast of Ibiza. The drawing by R. Pascual points to the Baetican version of Dressel 14.
- 17. Grum de Sal (Illa Conejera, Ibiza) In a difficult navigation point before entering into the bay of Sant Antoni, an anchorage point was used at least from Punic until mediaeval times (Martínez Díaz and León Amores 1993: 265). Here the remains of a Roman shipwreck with a cargo of Dressel 14 amphorae were found as early as the 1960s (Vilar Sancho and Mañá 1964). According to the graphic documentation the authors present, there is no doubt these are Lusitanian Dressel 14 (Figure 2, nos. 4-5; Martínez Díaz and León Amores 1993: 265-266), probably produced during the late 1st or early 2nd century AD.

This find is a good example of the use of the Balearic ports by Lusitanian products en route to their final Italian destination. Coming from the south Levantine coast of Hispania, Ibiza must have played an important role in the maritime routes that connected the Iberian and Italian Peninsulas through the Strait of Bonifacio.

- 18. Cova de sa Llumeta (Illa des Conills, Cabrera)
 Inside a cave 18m above sea level, directly on
 the coast, some Roman materials were found,
 among which was a Dressel 14 amphora (Trías
 1974; Aramburu-Zabala 2000). We cannot specify
 whether it is Lusitanian or Baetican, because we
 could not see the piece, nor is there any drawing or
 picture of it.
- 19. Talaiot de Ses Païses (Artà, Mallorca) During the archaeological works in this Talayotic settlement, a rim-neck and part of handle fragment of an amphora identified as Dressel 14 were found (Quintana 2005: fig. 8, nos. 6-8). Even if the beginning of the handle preserved could be from a Dressel 14, after examining the graphic documentation presented by C. Quintana, we are not sure whether it is really a Dressel 14 or some other kind of imperial amphora, as for example a Dressel 2-4.
- 20. Costa de Menorca R. Pascual Guasch (1968: 145) mentions the find of a Dressel 14 amphora near the coast of Minorca, but he does not give any reference about the precise place where it was found.

The overview of the distribution of early imperial Lusitanian amphorae along the Levantine coast of the Iberian Peninsula we have presented above shows several gaps that suggest more new questions than they provide us with answers. The first and most important gap, already mentioned, is due to the difficulty in recognizing and distinguishing the Lusitanian from the Baetican version of Dressel 14. This problem that still persists among archaeologists is far from being solved and, in our point of view, is to be expected. Therefore, mere typological arguments must be used with prudence in determining the exact origin of the pieces. The multiplicity of production areas inside Roman Lusitania adds to this difficulty. Even if the region around the Tagus and Sado estuaries is the main production area for Dressel 14 and other types of Lusitanian amphorae (Fabião 2004), there is also amphora production in today's Algarve, confirmed thanks to several workshops found in southern Portugal (Fabião 2004; Morais and Fabião 2007; Viegas 2014).

The multiplicity of production regions and the existence of two main versions of Dressel 14, one in Baetica and the other in Lusitania, could be resolved in part by the presence of other amphora types in the same contexts where the Dressel 14 appear, but in fact, with the exception of some underwater finds, Baetican and Lusitanian amphorae are normally found together, and the presence of Dressel 14 together with typical Baetican types such us Beltrán II or Dressel 20 is common. It seems logical that Lusitanian vessels made at least one stop in a Baetican harbour on the way to their main import markets along the Mediterranean, perhaps around Gibraltar, probably in the city of Cádiz.¹⁷ The use of the same routes and harbours that were used for the distribution of Baetican products seems to be the reason explaining the mixed finds of Baetican and Lusitanian fish amphorae along the coast of Hispania Citerior Tarraconensis. Another possibility could be the existence of mixed cargoes, but we think this should be a minor option, at least until the vessels arrived at an important harbour outside the limits of Baetica. The huge Baetican production of salted fish and fish sauces excludes a regular importation of these Lusitanian products, which never found an important market in this province.¹⁸

Taking these problems into account and the fact that we were not able to see for ourselves all the material we present in this paper, we believe it is appropriate to begin with a first overview of the distribution of Lusitanian amphorae in our region during early imperial times. We are aware that we have important limitations, but we think that the only way to overcome them is by starting

First conclusions and future development

¹⁶ A new material revision of this shipwreck was presented by M. Hermanns, S. Bombico and R. Almeida at the last SECAH Congress in Tarragona December 2014.

¹⁷ We would like to thank S. Bombico for her interesting comments.

¹⁸ Lusitanian wine, well documented in some inland regions during the 2nd and 3rd centuries AD (García Vargas, in this volume; Fabião 2006), should be a different case.

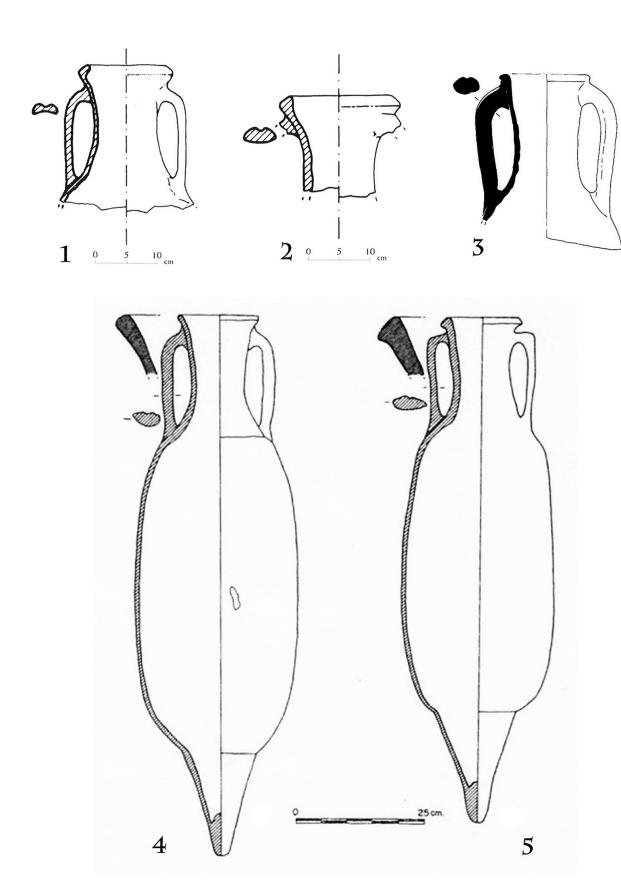
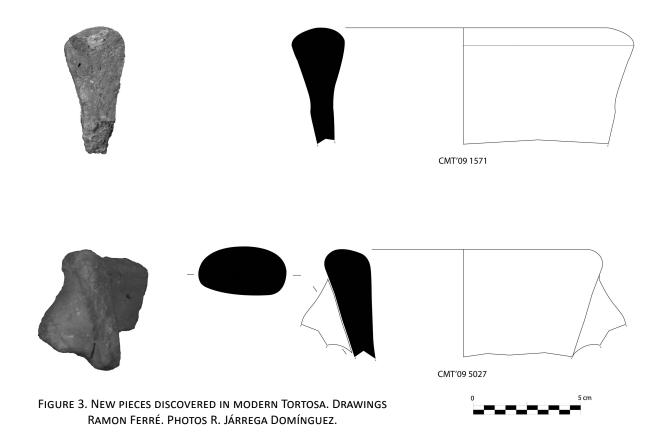


Figure 2. Some examples of Lusitanian Dressel 14 from Hispania Citerior Tarraconensis. Nos. 1-2: Tarragona (Pérez Martín 2007); no. 3: Vila-Joiosa (Espinosa 1995-1996); nos. 4-5: Grum de Sal Shipwreck (Martínez Díaz and León Amores 1993).



to bring to light these containers in our geographical framework.

Even if it was not always easy to differentiate between Lusitanian and Baetican Dressel 14, we can argue that we have already a small number of places from Murcia to northern Catalonia where these products have been documented.

Both Baetican and Lusitanian Dressel 14 are always secondary imports within the amphora contexts along the Iberian Mediterranean coast. However, in the Levantine region we can suggest a different relevance for the Baetican and Lusitanian Dressel 14 in some areas. In the southern Levantine region, mainly in the province of Almería, according to other authors, drawings and fabric descriptions, Baetican products are predominant.

On the other hand, in spite of the small number of documented pieces, we suggest that from Carthago Nova northward the trend changes and the Lusitanian products that seemed absent south of this city, now are starting to be found. From Carthago Nova northward the number of Lusitanian amphorae is very small, but we can argue that, with the exception of the Baetican piece from Barcelona (Martín Menéndez 2007: 130), all the Dressel 14 whose origin can be defined are Lusitanian products. This picture is similar to the one provided by some sites from the Narbonensis where Lusitanian Dressel 14 commonly arrive, such as Fos-sur-Mer (Marty and Zaaraoiu 2009), the important harbour of Arles (Quaresma and Djaoui,

in this volume), or the contexts around the city of Narbo (Sanchez, Carrato and Favennec 2011¹⁹).

It is still early to suggest a duality of markets for Lusitanian and Baetican Dressel 14, even more if we accept that Lusitanian imports appear together with other kinds of Baetican amphora types and share the same routes since Lusitanian vessels would go through Baetica to reach their main markets in the central Mediterranean. However, we could argue that in the places where Lusitanian Dressel 14 amphorae are found, the Baetican version is not present.

The Balearic Islands are a different case, and even if they were part of Hispania Citerior Tarraconensis, their special position on the direct routes from southern Spain to Rome and central Italy suggests a closer connexion with Lusitanian products. This connexion is demonstrated by the presence of several examples of Dressel 14 along the Balearic coasts, with special relevance for the Grum de Sal shipwreck, a vessel with several Lusitanian Dressel 14 (Martínez Díaz and León Amores 1993).

In our opinion, the different distribution of Baetican and Lusitanian Dressel 14 we can suspect north and south of Carthago Nova from this first overview and the special case of the Balearic Islands do not give a valid vision of the significance of this commerce. Yet it draws a picture of the use of certain routes by Lusitanian products to reach

¹⁹ We believe the piece from the port context of 'Castélou' published in the SFECAG Acta from 2011 (Sanchez, Carrato and Favennec 2011: 187, fig. 30), although it is very small (maybe a *parva* or a kind of semi-standard amphora), is closer to the Lusitanian than to the Baetican version, following by morphological and petrological criteria.

their main markets along the Mediterranean, especially Rome.²⁰ They must have used the two main routes that connect the Iberian Peninsula to western Italy through the Balearic Islands or by the Spanish coast, the Gulf of Lion and the Ligurian Sea; in both cases Carthago Nova would play a relevant role (Chic García 1981; Ruiz de Arbulo 1990; Márquez Villora and Molina Vidal 2005: 91-95).²¹ Nevertheless, we must admit that the coastal region of southern Gaul could also have been a secondary market for Lusitanian products, and it seems to have imported more of these products than ones from the Spanish coast.

The find of two Lusitanian Dressel 14 fragments in the ancient port of Dertosa suggests an inland distribution of this kind of material. We do not have any information about the arrival of early Lusitanian amphorae at the important city of Caesaraugusta,²² but if they can be found in some parts of the province of Tarragona it should also be possible that they penetrated as far as some important places such as Ilerda, Caesaraugusta or some other places in the Ebro region.

These and other questions are now open for future research, which we are sure is going to provide new light on the markets in Tarraconensis for Lusitanian products in a date range earlier than the late Roman Empire and Late Antiquity.

Bibliographical references

- Alarcão, A. and Mayet, F. (eds). Ânforas lusitanas. Tipologia, produção, comércio / Les amphores lusitaniennes. Typologie, production, commerce (actas da mesa-redonda de Conímbriga, 1988). Conimbriga and Paris, Museu Monográfico de Conimbriga and E. de Boccard.
- Aramburu-Zabala, J. 2000. Prospección arqueológica en el archipiélago de Cabrera (islas Baleares): 1-46. Online: www.talayots.com.
- Beltrán Lloris, M. 1970. *Las Ánforas Romanas en España*. Zaragoza, Institución "Fernando El Católico."
- Beltrán Lloris, M. 1977. Problemas de la morfología y del concepto histórico geográfico que recubre la noción tipo. Aportaciones a la tipología de las ánforas béticas. In *Méthodes classiques et méthodes formelles dans l'étude des amphores*. Collection de l'École Française de Rome 32: 97-131. Rome, École Française de Rome.
- Beltrán Lloris, M. 2000. Ánforas béticas en la Tarraconense: bases para una síntesis. In *Congreso Internacional Ex Baetica Amphorae. Conservas, aceite y vino de la*

- Bética en el Imperio Romano (Écija and Seville, 1998): 441-535. Écija, Editorial Gráficas Sol.
- Bernal Casasola, D. 1998. La producción anfórica en la Bahía de Algeciras en época romana. In D. Bernal Casasola (ed.), *Excavaciones Arqueológicas en el alfar romano de Venta del Carmen (Los Barrios, Cádiz)*: 19-42. Madrid and Cádiz, Universidad Autónoma de Madrid and Ayuntamiento de Los Barrios.
- Bernal Casasola, D. 2000. Las ánforas béticas en los confines del Imperio. Primera aproximación a las exportaciones a la pars orientalis. In *Congreso Internacional Ex Baetica Amphorae. Conservas, aceite y vino de la Bética en el Imperio Romano (Écija and Seville, 1998)*: 935-989. Écija, Editorial Gráficas Sol.
- Bernal Casasola, D., Roldán Gómez, L., Blánquez Pérez, J., Díaz Rodríguez, J. J., Prados Martínez, F. 2004. Las Dr. 2/4 béticas. Primeras evidencias de su manufactura en el conventus Gaditanus. 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.). Actas del Congreso internacional (Cádiz, 12-14 de noviembre de 2003), British Archaeological Reports International Series 1266: 633-648. Oxford, J. and E. Hedges Ltd. and Universidad de Cádiz.
- Blánquez Pérez, J., Roldán Gómez, L., Martínez Lillo, S., Martínez Maganto, J., Sáez, F. and Bernal Casasola, D. 1998. La carta arqueológica-subacuática de la costa de Almería (1983-1992). Madrid, Universidad Autonoma de Madrid.
- Comas Solà, M. 1985. *Baetulo. Les àmfores*. Badalona, Institut D'Estudis Catalans/Museu de Badalona.
- Chic García, G. 1981. Rutas comerciales de las ánforas olearias hispanas en el Occidente romano. *Habis* 12: 223-250.
- Dell'Amico, P. 1990. Albintimilium: le anfore del periodo augusteo provenienti dall'area dell'officina del gas. *Bollettino Società Archeologica Comense* 172: 103-108.
- Diogo, A. M. 1987. Quadro tipológico das ânforas de fabrico lusitano. O Arqueólogo Português, Série IV, 1: 179-191.
- Espinosa Ruiz, A. 1995-96. El fondeadero de la Platja de la Vila (La Vila Joiosa, Alicante): la época clásica. *Lvcentvm* XIV-XVI: 19-37.
- Fabião, C. 2004. Centros oleiros da Lusitânia: balanço dos conhecimentos e perspectivas de investigação. 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.). Actas del Congreso internacional (Cádiz, 12-14 de noviembre de 2003), British Archaeological Reports International Series 1266: 379-410. Oxford, J. and E. Hedges Ltd. and Universidad de Cádiz.
- Fabião, C. 2006. Las ánforas romanas. *Munigua. La colina sagrada*: 106-107. Sevilla, Junta de Andalucía/Consejería de Cultura.
- Fabião, C. 2008. Las ánforas de Lusitania. In D. Bernal Casasola and A. Ribera Lacomba (eds), *Cerámicas*

²⁰ Probably some amphorae could continue travelling from Rome to other destinations such as some cities of the eastern Mediterranean, where a small number of Lusitanian Dressel 14 have been found (Ferrazzoli 2008).

²¹ R. Pascual Guasch (1968: 154) suspected also of the use of two alternative routes to reach Rome from Carthago Nova.

²² Some years ago in a visit to the 'Museum of the Foro of Caesaraugusta' one of us could see some pieces on display catalogued as 'Tarraconensian wine amphorae'. We do not have enough graphic material to rely on, but it is possible two of them were Dressel 14, maybe of Lusitanian production.

- hispanorromanas. Un estado de la cuestión: 725-745. Cádiz, Universidad de Cádiz.
- Fabião, C. and Carvalho, A. 1990. Ânforas da Lusitânia:
 uma perspectiva. In A. Alarcão and F. Mayet (eds),
 Ânforas lusitanas. Tipologia, produção, comércio /
 Les amphores lusitaniennes. Typologie, production,
 commerce (actas da mesa-redonda de Conímbriga,
 1988): 37-63. Conimbriga and Paris, Museu
 Monográfico de Conimbriga and E. de Boccard.
- Fernández García, M. I. 2004. Alfares y producciones cerámicas en la provincia de Granada. Balance y perspectivas. 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.). Actas del Congreso internacional (Cádiz, 12-14 de noviembre de 2003), British Archaeological Reports International Series 1266: 195-238. Oxford, J. and E. Hedges Ltd. and Universidad de Cádiz.
- Ferrazzoli, A. F. 2008. Economy of Roman Eastern Rough Cilicia: Some Archaeological Indicators. *Acts* of International Congress of Classical Archaeology. Meetings between cultures in the ancient Mediterranean. Bolletino di Archeologia on Line: 39-50. Roma.
- García Vargas, E. 1998. La producción de ánforas en la bahía de Cádiz en época romana (siglos II a. C.- IV d. C.). Écija, Editorial Gáficas Sol.
- García Vargas, E. 2001. La producción de ánforas "romanas" en el sur de *Hispania*. República y Alto Imperio. In *Congreso Internacional Ex Baetica Amphorae*. *Conservas*, aceite y vino de la Bética en el Imperio Romano (Écija and Seville, 1998): 51-174. Écija, Editorial Gráficas Sol.
- Lagóstena Barrios, L. and Bernal Casasola, D. (eds) 2004. Figlinae Baeticae: Talleres alfareros y producciones cerámicas en la Bética romana (ss. II a.C.-VII d.C.). Actas del Congreso internacional (Cádiz, 12-14 de noviembre de 2003), British Archaeological Reports International Series 1266. Oxford, J. and E. Hedges Ltd. and Universidad de Cádiz.
- Liou, B. and Rodríguez Almeida, E. 2000. Les inscriptions peintes des amphores du pecio Gandolfo (Almería). *Mélanges de l'École française de Rome* 112 : 7-25. Roma, École Française de Rome.
- Márquez Villora, J. C. 1999. El comercio romano en el Portus Ilicitanus. El abastecimiento exterior de productos alimentarios (siglos I a.C. V d.C.). Alicante, Universidad de Alicante.
- Márquez Villora, J. C. and Molina Vidal, J. 2005. *Del Hiberus a Carthago Nova. Comercio de alimentos y epigrafía anfórica grecolatina*, Col.lecció Instrumenta 18. Barcelona, Universitat de Barcelona.
- Martín i Menéndez, A. 2007. El dipòsit d'àmfores de la torre 16 de la muralla romana de Barcino. *Quarhis: Quaderns d'arqueologia i història de la ciutat de Barcelona* 3: 126-137.
- Martínez Díaz, B. and León Amores, C. 1993. Proyecto de la carta arqueológica submarina del litoral de Ibiza (Baleares, España). In *II Curso d'Arqueología Subacuática. Serie Varia* 2: 251-275. Madrid, Universidad Autónoma de Madrid.

- Marty, F. and Zaaraoui, Y. 2009. Contextes céramiques du Haut-Empire de la bonification de l'Estagnon, à Fossur-Mer (Bouches-du-Rhône). In *Actes du congrès de Colmar (21-24 Mai 2009)*: 397-426. Marsella, Société Française d'Étude de la Céramique Antique en Gaule (SFECAG).
- Mayet, F. 1990. Typologie et chronologie des amphores lusitaniennes. In A. Alarcão and F. Mayet (eds), Ânforas lusitanas. Tipologia, produção, comércio / Les amphores lusitaniennes. Typologie, production, commerce (actas da mesa-redonda de Conímbriga, 1988): 29-35. Conimbriga and Paris, Museu Monográfico de Conimbriga and E. de Boccard.
- Molina Vidal, J. 1997. *La dinámica comercial romana entre Italia e Hispania Citerior (siglos II a. C.-II d. C.).* Alicante, Universidad de Alicante / Instituto de Cultura Juan Gil-Albert.
- Mora Serrano, B. and Corrales Aguilar, P. 1997. Establecimientos salsarios y producciones anfóricas en los territorios malacitanos. In Figlinae Malacitanae. La producción de cerámica romana en los territorios malacitanos: 27-59. Málaga.
- Morais, R. and Fabião, C. 2007. Novas produções de fabrico lusitano: problemáticas e importância económica. In L. Lagóstena, D. Bernal and A. Arévalo, *Cetariae 2005: salsas y salazones de pescado en Occidente durante la Antigüedad (Actas del congreso internacional (Cádiz, 7-9 noviembre de 2005))*, British Archaeological Reports International Series 1686: 127-133. Oxford, J. and E. Hedges Ltd. and Universidad de Cádiz.
- Panella, C. 1973. Appunti su un gruppo di anfore della prima, media e tarda età Imperiale. In *Ostia III: Le terme del Nuotatore: scavo dell'ambiente V et di un saggio dell'area*. Studi miscellenei 21: 460-633. Roma.
- Panella, C. 2001. Le anfore di età irriperiale del Mediterraneo occidentale. In P. Levèque and J. P. Morel (dirs), Céramiques hellénistisques et romaines III: 177-275. Paris, Presses Universitaires Franc-Comtoises.
- Parker, A. J. 1977. Lusitanian amphoras. In Méthodes classiques et méthodes formelles dans l'étude des amphores (Actes du Colloque de Rome (27-29 mai 1974)): 33-46. Roma, École Française de Rome.
- Pascual Berlanga, G. and Ribera Lacomba, A. 2000. El consumo de productos béticos en Valentia y su entorno: la continuidad de una larga tradición. In Congreso Internacional Ex Baetica Amphorae. Conservas, aceite y vino de la Bética en el Imperio Romano (Écija and Seville, 1998): 565-576. Écija, Editorial Gráficas Sol.
- Pascual Guasch, R. 1968. El pecio Gandolfo (Almería). Pyrenae. Revista de Prehistòria i Antiguitat de la Mediterrània Occidental IV: 141-155. Barcelona, Universitat de Barcelona.
- Pasquinucci, M., Del Rio, A. and Menchelli, S. 2000. Dalla Baetica all'Etruria settentrionale costiera: le dinamiche commerciali dall'età augustea al tardoantico. In Congreso Internacional Ex Baetica Amphorae. Conservas, aceite y vino de la Bética en el Imperio Romano (Écija and Seville, 1998): 853-859. Écija, Editorial Gráficas Sol.

- Pérez Bonet, M. A. 1996. El tráfico marítimo en el puerto de Carthago-Nova: las ánforas romanas. *Cuadernos de Arqueología Marítima* 4: 39-55.
- Pérez Martín, W. 2007. *Troballes arqueològiques al litoral* tarragoní. Dotze anys d'arqueologia subaquàtica (1968-1980). Tarragona.
- Piccardi, E and Nervi, C. 2013. Produzioni anforiche dalla Penisola Iberica in Sardegna. In D. Bernal, L. C. Juan, M. Bustamante, J. J. Díaz and A. M. Sáez (eds), *Hornos, talleres y focos de producción alfarera en Hispania* (I Congreso Internacional de la SECAH (Cádiz, 3-4 March 2011)) II: 365-387. Cádiz, Universidad de Cádiz and Ex Officina Hispana, Sociedad de Estudios de la Cerámica Antigua en Hispania (SECAH).
- Quintana, C. 2005. El conjunt amfòric del poblat de Ses Païses, segles V a.C. I/II d.C. In J. Aramburu-Zabala and J. Hernández Gasch, J. (coord.), *Memoria de las excavaciones arqueológicas en el poblado talayótico de Ses Païses (Artà Mallorca). Campañas 1999-2000.* Palma de Mallorca (electronic publication: http://www.arqueobalear.es/articulos/Excavaciones_SP99-00.pdf)
- Ramos Folqués, A. 1974. *Santa Pola y su historia*. Elche. Rigo Jovells, A. and Carreras Vidal, N. 1994. Can Blanc (Argentona, Maresme): una vil·la romana de mitjans del segle I de a inicis del segle III de. *Laietània* 9: 181-214. Mataró.
- Rizzo, G. 2003. Instrumenta Urbis I. Ceramiche fini da mensa, lucerne ed anfore a Roma nei primi due secoli

- *dell'impero*. Collection de l'École Française de Rome 307. Roma, École Française de Rome.
- Ruiz de Arbulo, J. 1990. Rutas marítimas y colonizaciones en la Península Ibérica. Una aproximación náutica a algunos problemas. *Italica* 18: 79-115.
- Sanchez, C., Carrato, C. and Favennec, B. 2011. Recherches récentes sur les contextes portuaires de Narbonne (Aude): les fouilles de Port-La-Nautique et du Grand Castélou. In *Actes du Congrès d'Arles (juin 2011)*: 171-201. Arles, Société Française d'Étude de la Céramique Antique en Gaule (SFECAG).
- Trías, M. 1974. Una campanya a les Illes de Cabrera. *Endins* 1: 33-55.
- Viegas, C. 2014. Dressel 14 (Lusitania meridional). In *Amphorae ex Hispania. Paisajes de producción y de consumo*. Institut Català d'Arqueologia Clàssica. (http://amphorae.icac.cat/tipol/view/13).
- Vilar Sancho, B and Maña, J. M. 1964. Informe sobre la excavación arqueológica en la bahía de San Antonio Abad de Ibiza. *Noticiario Arqueológico Hispánico VI*, cuadernos 1-3: 177-188. Madrid.
- Vilar Sancho, B and Maña, J. M. 1965. Informe sobre la segunda fase de la excavación arqueológica realizada en aguas de la bahía de San Antonio Abad de Ibiza. *Noticiario Arqueológico Hispánico VII*, cuadernos 1-3: 188-194. Madrid.
- Villedieu, F. 1984. *Turris Libisonis. Fouille d'un site romain tardif à Porto Torres, Sardaigne*. British Archaeological Reports International Series 224. Oxford, Archaeopress.