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13. The Late North African Connection between Barcino and Carthage: Rescue Excavations at Barcelona and the Aiguablava V

Cèsar Carreras and Joan Mayoral

One of the first academic contributions of Simon Keay was the study of late Roman amphorae, which involved the classification of late Roman amphorae assemblages from different sites in Catalonia such as *Barcino* (Barcelona), La Salut (Sabadell), or *Tarraco* (Tarragona). His pioneering work included the study of a selection of amphorae assemblages from old excavations in Barcelona before 1982 (Sant Iu, Tinell, Plaça del Rei, Villa de Madrid, Tapineria, Sant Miquel, etc.). The result was a two-volume publication that included new late Roman amphorae typologies and some conclusions about late Roman trade in this territory (Keay 1984). Almost 80% of the amphora types recorded in these Catalan sites were produced in the North African provinces, showing an exhaustive evolution of African amphorae typologies from the 3rd to the 7th centuries AD. Almost 20 years later, Bonifay (2004) redefined some North African amphorae typologies based on the evidence of the North African workshops and sites, including more conclusive archaeometric data about the content of every type. Nevertheless, with some minor corrections Simon's classification of late North African vessels still remains nowadays the main typological catalogue.

Although the late North African amphorae were important in all the main ports of the western Mediterranean, the Catalan harbours recorded extremely large amounts of amphorae and other coarse and fine wares from North Africa. Some years later, Remolà (2000) completed a study of all the late amphorae evidence from rescue excavations at the site of ancient *Tarraco* (Tarragona) and confirmed the high dependence of the city on North African imports in later periods, which were mainly vessels containing olive oil and fish sauce. Likewise, the excavation of the *cardo maximus* at *Iluro* (Mataró) also reported a large amount of North African vessels together with African Red Slip and coarse ware (Cerdà *et al.* 1998).

1. North African Amphorae at *Barcino*

With reference to *Barcino*, local amphorae from rescue excavations have been studied since 1996 but not fully published. Some partial publications revealed a high percentage of North African amphorae in any late context from the 3rd century AD onwards, reaching values of more than 50% of the overall assemblage in weight and sherds (Carreras and Berni 2005; Carreras 2012).

The first North African amphorae in *Barcino* arrived in the late 2nd century AD with the classical forms of Africana I, and the most common Africana II in their four versions (A, B, C, and D) that were numerous in urban contexts in the 3rd and 4th centuries AD. Most contexts of this early period such as the excavations of Can Cortada, Sant Pau del Camp, Avinguda de la Catedral, Sant Miquel, Ajuntament 96, Arc Boters, Bones Lletres, Rasa de la Catedral, Sant Honorat, or C/Avinyó 15-16 contained African amphorae, but always in relatively low numbers. All these amphorae types have been understood as being used to import olive oil to the city together with the contemporaneous Baetican Dressel 20 and 23. One of the most notable features of these early Northern African amphora types is the presence of stamps. The number of stamps documented in 2009 (Berni and Carreras 2009) was still low, only four marked vessels, but it has increased in the recent unpublished excavations at Sant Honorat and C/Avinyó 15/16 reaching a total of 11 North African stamps, most of which appeared on Africana II-D amphorae dated between the late 3rd and 4th centuries AD (Carreras 2021).

Three of the latest stamps on Africana II-D recovered at C/Avinyó 15-16 can provide some insight into their origins, and the transport routes selected to carry these vessels (see Figure 13.1).

The first stamp reads **LEPMN/BSCD** (MUHBA- 094/03-1402-1), which stands for LEP(tis) M[i]nor – present Lamta (Tunisia) in the southern part of the Hammamet Gulf. A possible workshop of this production is located at Dahar Slima (Peacock *et al.* 1989: 197-98, fig. 24). This family of stamps presents different variants, but the ones with a second line including BSCD are recorded in places such as Villa de Can Rafart (Mataró), Porto-Torres, Cabrera I, and Cabrera III on the route south-north crossing the Mediterranean. The second stamp **COLN** (MUHBA-094/03-1402-2) does not have any parallel so far, although it is part of a family of African stamps that identify colonies such as *colonia Leptis Magna* (Khom) or *colonia Hadrumentum* (Sousse). In this particular case, the stamp might identify the COL(*onia*)

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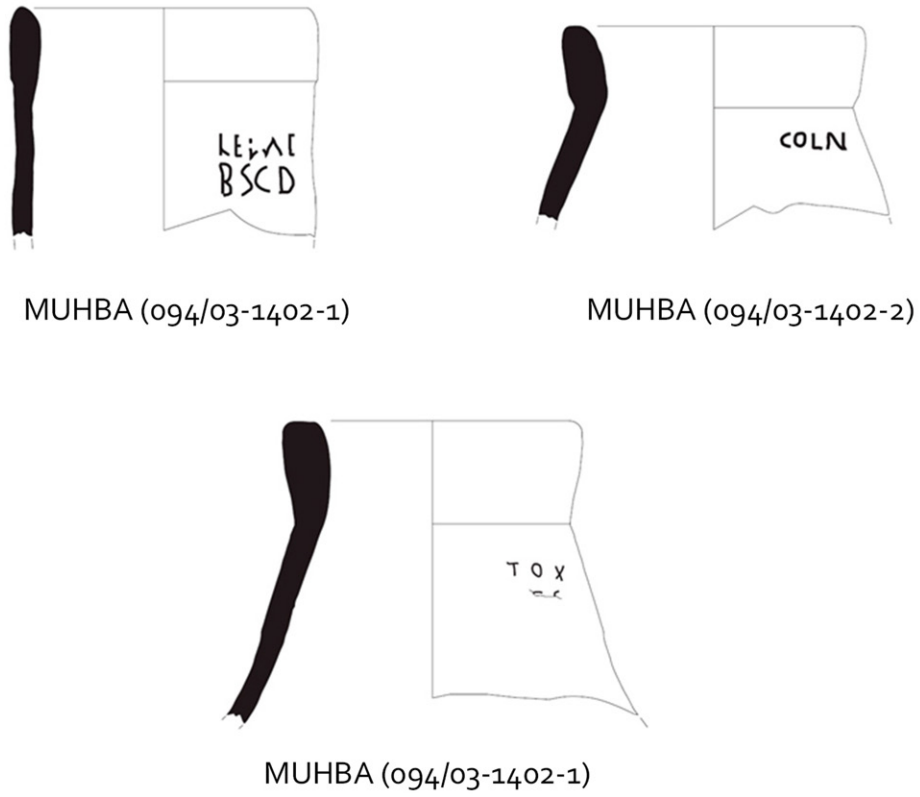

Figure 13.1. Amphora stamps on Africana II-D found at C/Avinyó 15-16.

N(*eapolis*), currently Nabeoul in the Zeugitana region (northern part of the Hammamet Gulf). Lastly, the third stamp **TOP/HCS** (MUHBA-094/03-1402-1) has been found within archaeological contexts at Ostia or the *Nuovo Mercato* of Testaccio (Rome), but its precise origin is still unknown. The evidence of the stamps from *Barcino* suggests that the Africana series were produced in the Gulf of Hammamet and were probably filled with the olive oil produced in the Byzacena region, and perhaps, fish sauces from Zeugitana. In addition to the Africana II-C and II-D, the North African imports in *Barcino* during the 3rd and 4th centuries also included another heterogenous type of amphora known as Keay XXV in its different variants (Carreras and Berni 2005).

The Keay XXV – also known as Africana III or Sullecthum 10 and 11 (Nacef 2015: 48-50) – was a common import in the urban excavations at *Barcino*. Although the specific contents of this type of amphora are still unknown, some samples suggest that they may have contained wine (Woodworth *et al.* 2015). The distribution of this type of amphora inside *Barcino* was concentrated in the central and western quarters of the city where they were used as a recycled construction material in a period of intense building activity. Before the late 3rd century AD, most rubbish deposits containing amphorae within the city were documented outside the city walls. However, from the 3rd century onwards there was a significant development of the construction activity in the town centre and most amphorae sherds were used to raise the street levels and create terraces (Beltran and Carreras 2011). This building work with North African amphorae is recorded in the density maps of late African vessels that also correspond to the Keay XXV distribution (see Figure 13.2) (Beltran and Carreras 2011: 215, fig. 22).

From the end of the 4th century onwards, the numbers of North African amphorae (Keay XXXV, XXXVI, XL, and XLI) increased in the *Barcino* contexts, reaching percentages of more than 50% of the amphora assemblages (Carreras 2012: 42, fig. 2). The success of the North African exports was general in the whole Western Roman Empire probably due to the privileges granted to the African *navicularii* by Theodosius to bring the *annona* to Rome in the year AD 364 (C.Th. 13.5.10), 395 (C.Th. 13.5.24), 400 (C.Th. 13.5.30), and 412 (C.Th. 13.5.36). Such privileges may have favoured the African traders, encouraging them to open new routes and markets such as the eastern ports of the Iberian Peninsula including *Cartago Nova*, *Tarraco*, or *Barcino* (Reynolds 2010: 74).

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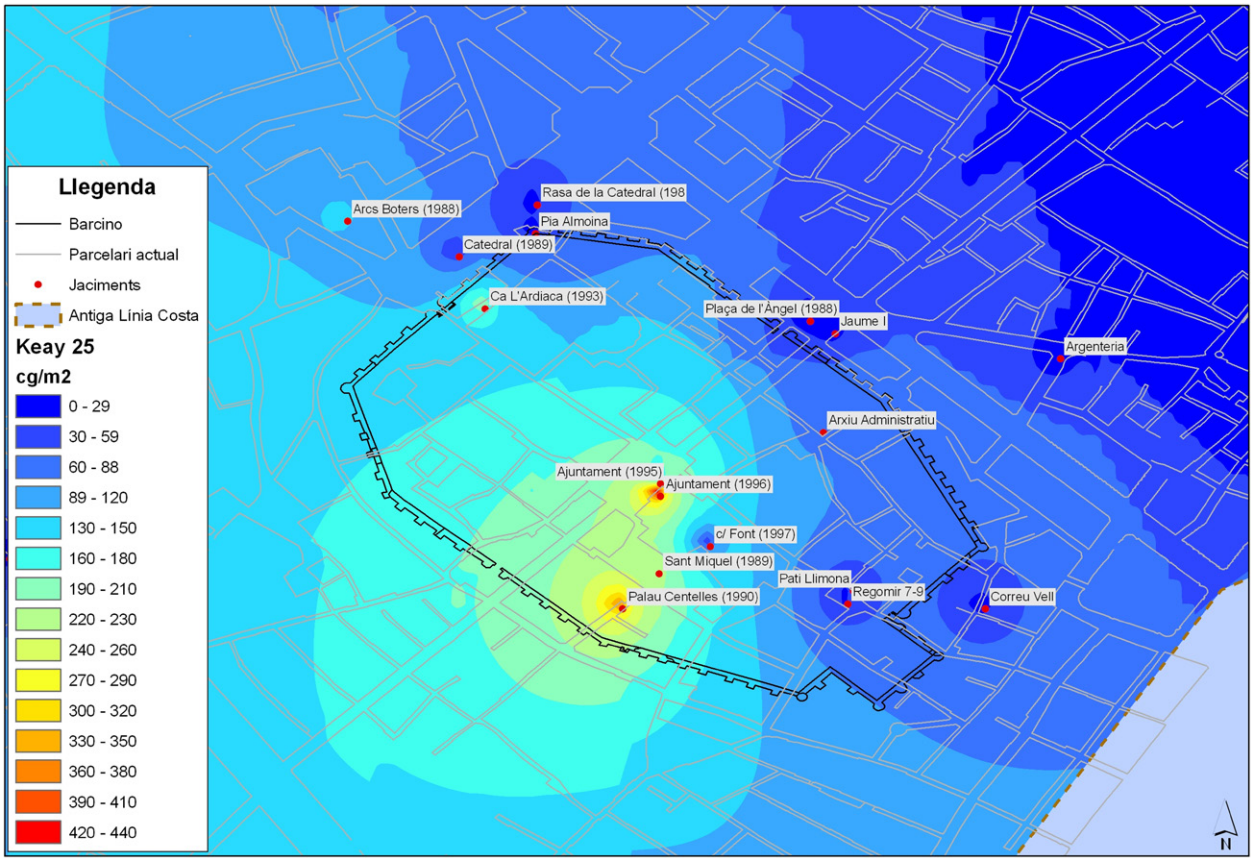

Figure 13.2. Density of North African amphorae at *Barcino* (Beltran and Carreras 2011: 215, fig. 22).

Despite the political changes that occurred in *Hispania* with the arrival of the Visigoths in the 5th century AD and the establishment of the Vandal kingdom in Carthage (AD 430), the commercial flow between *Barcino* and Carthage remained unaltered (Carreras 2012: 46-50). New olive oil amphora types, such as Keay LV and Keay LXI, appeared in good numbers in *Barcino* contexts. Nevertheless, the most popular African vessel was the Keay LXII, which possibly carried either wine or fish sauces (Bonifay 2004: 137-39).

Similarly to earlier periods, North African amphorae were not transported alone but, instead, were usually accompanied by cooking wares and African Red Slip D; forms such as the Hayes 87 A-C, 88, 99, 103, and 104 are characteristic of the end of the 5th century and the beginning of the 6th, while the Hayes 91 D, 104 C, 105, 106, 107, and 108 were more common during the 6th and 7th centuries AD (Járrega 2005).

The importance of North African imports at *Barcino*, as well as across the whole north-eastern coast of *Hispania* in Late Antiquity was clear, reaching percentages of 50% in some amphora assemblages. These strong contacts between *Tarraconensis* and northern Africa were also present during the Republic and Early Empire, although never as intensely as the later periods. In order to understand such economic phenomena, one should look to the sea routes in some detail.

2. Sea Routes between *Barcino* and Carthage

Commercial contacts between the Catalan coast and the region of Carthage date back to, at least, the 5th-4th centuries BC, when Punic amphorae reached the main Iberian *oppida* of the north-eastern coastal region (Ramon 1995; Martínez HahnMüller 2016). These early commercial contacts were probably arbitrated by Ebussitanian traders through the southern Balearic island of Ibiza, since most amphora assemblages also contain Punic-Ebussitanian vessels. This argument is confirmed in the Augustan period by the overwhelming presence of Punic-Ebussitanian amphorae in 1st century AD contexts at Riudarenes (049/4) and C/Avinyó 2015/6 (046/05) excavations close the ancient Roman port of *Barcino*.

On the one hand, Guerrero (1993) documents the navigation south to north through the northern Balearic Islands (Mallorca and Menorca) from prehistoric times, which took advantage of the currents and winds, allowing contact between northern Africa

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and north-east Spain through the Balearic ports of call. Moreover, the prevailing regime of winds and currents favoured navigation from the African coasts to southern Gaul, the Balearic Islands, and Levantine Spain as recorded in the *Compasso da navigare* of the 13th century AD (Quaini 2004). Some routes sailed directly from *Thrabaca* to Narbonne or from *Igilgili* to Marseille, while others called at Balearic ports before reaching their final southern European destinations. On the other hand, the inverse route north to south was extremely difficult because ships had to sail against currents and winds, so the stop in the Balearic Islands was even more necessary.

During the Principate, a great number of amphorae from *Tarraconensis* (i.e. Pascual 1 and Dressel 2-4) were documented in the main ports of the northern Balearic Islands such as *Palma*, *Pollentia* (Mallorca) and *Maios* and Sa Nitja (Menorca), but they also reached the city of Carthage in great numbers in the middle of the 1st century AD (Berni and Miró 2020). The only literary evidence of the route between North Africa and the eastern Narbonense coast comes from Strabo (2.5.8), who referred to a distance of 5000 stadia between the Gallic Gulf (Gulf of Leon) and Libya (Africa). This should be understood as the distance between the main port of this gulf, Narbonne, and the North African coast – a place close to *Thrabaca* where the distance reaches 5000 stadia (870km) (Arnaud 2005: 153, route 1).

Although sailing routes south to north was relatively easy on account of the favourable winds regime and sea currents (Ruiz de Arbulo 1997), travelling in the opposite direction was considerably more complicated since it required sailing against both winds and currents. The 19th-century sources (Derrotero general del Mediterráneo 1883) recommended that the route from Argel to Marseille should pass the western side of Menorca or even Mallorca in order to avoid the strong currents of the Gulf of Leon. Additionally, there were also routes that sailed to the south of Sardinia and then to northern Menorca and the Catalan coast. Therefore, in the south to north navigation it was advisable to sail through the Balearic Islands, from which ships could decide the best destination from the Levantine or north-eastern coast of Hispania Tarraconensis or south-eastern Gaul.

In fact, the main ports of the Balearic Islands and some of their shipwrecks provide large quantities and a wide variety of North African amphorae. Marimon (2004) describes the African amphora evidence from the ports of *Pollentia*, Colonia Sant Jordi, and Porto-Pi (*Palma*), concluding that they were regular trading ports on the route from *Africa Proconsularis* to *Hispania Citerior Tarraconensis*. This use of the Balearic ports as stopping points on longer journeys could explain the presence of Baetican, eastern, and Italian amphorae, which reached the Islands from other routes, and appear mixed with African vessels in shipwrecks such as the Cabrera I and III. In the 6th century, two late Roman fortresses were built at Penya de sa Bastida and Alaró castle in Alaró (Serra de Tramuntana) with a significant presence of African pottery.

On the northern coast of Menorca, in the port of Sa Nitja, there is evidence of the presence of Africana II-D amphorae with stamps. One of these stamps was LEPM/BSD, which also appears in *Barcino*, as we have previously indicated. The number of African vessels at this site is considerable (Rita 1994), including amphorae from other origins such as the eastern Mediterranean and Baetica (Marimón 2004: 1060).

While it is true that the surveys carried out so far in the port of Sa Nitja have provided a large quantity of materials from the Roman period, amphorae of African origin in this case (Contreras *et al.* 2013: 119-20), there is no indication that this is the site of one or more wrecks. Instead, the finds seem to point at the continued use of this space as the port of *Sanisera*.

We should not, however, dismiss the significance of this site, because it shows us how long it has been in operation as an anchorage, as well as the periods of greatest and least intensity in its use. Aside from the Aiguablava V site, there are currently no other documented underwater sites along the Catalan coast with cargoes similar to that of Sa Nitja. Even so, the wreck of Aiguablava V is believed to be a vessel that was used to service a redistribution route given that, besides the shipment of African amphorae, it also transported goods from other parts of the Empire. Additionally, there is evidence of isolated finds, both by the CASC[1] and as contributions from individuals.[2] With regard to the Balearic coast, there are more documented underwater sites with African amphorae such as Cap Blanc, Dragonera A, Cabrera I and III (Parker 1992).

Most African workshops producing amphorae and pottery (African Red Slip ware and coarse ware) were located in the Gulf of Hammamet (*Neapolis* – Nabeoul; *Hadrumentum* – Sousse; *Leptis Minor* – Lamta; *Sullecthum* – Salakta), currently eastern Tunisia (Byzacena, Zeugitana). Therefore, African traders sailed from this gulf following the coast and turning west around the Hermaion cape towards the two main harbours of the province: Carthage and Utica. Then, the ships sailing towards the Balearic Islands followed the African coast westwards to Cape Tretum, located between *Thabraca* and *Igilgili*, where they took a north-westerly direction leading them to either Mallorca or Menorca.

[1] Centre d'Arqueologia Subaquàtica de Catalunya
[2] Source: CASC database

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The advantage of this Balearic route is that sailors did not lose sight of the coast (either African, Balearic, or European) except for a very short time (see Arnaud 2005: 30-31).

With regard to the production region, the recent work by Nacef (2015) illustrates the potential of the North African workshop at Salakta (Sullecthum) with a wide variety of amphorae typologies (Sullecthum series) as well as African Red Slip (ARS) and coarse wares. In addition to this, the local amphorae epigraphy (i.e. ASYL/) reveals the destination of their production towards particular markets. In this case, the stamp ASYL and its variants are documented in Ostia (4 ex.), Rome (15 ex.), Marseille (1 ex.) and the Spanish coast near Alicante (1 ex.).

The stamp LEPMI recorded at *Barcino* and produced at *Leptis Minor* (Lamta), was again directed towards the city of Rome, as revealed by the epigraphy (Ostia: 4 ex.; Rome: 2 ex.; Porto Torres: 1 ex.), as well as other destinations (Cabrera I: 1 ex.; Cabrera III: 1 ex; Sa Nitja: 1 ex.; Mataró: 1 ex.; *Barcino*: 1 ex.) following the Balearic route. Lastly, the stamp TOP – also recorded at *Barcino* – again indicates a preference for the Roman market (Ostia: 14 ex.; Rome: 38 ex.; Gricignano: 1 ex.), although it was also distributed in southern Gaul (Narbonne: 1 ex.; Llupià: 1 ex.; Lussan: 1 ex.), the Balearic Islands (Cabrera I: 1 ex.; Cabrera III: 1 ex.), *Hispania* (Villaricos: 1 ex.; Santa Pola: 1 ex.), and Mauretania (Thamusida: 4 ex.; Banasa: 1 ex.; Volubilis: 1 ex.).

Probably, the arrival of these northern African cargoes was due to a commercial network in different Mediterranean ports, which involved the presence of agents or representatives of African cities or individuals (i.e. *negotiatores*). In the case of *Hispania Citerior Tarraconensis*, three African *negotiatores* (Haley 1991) are documented so far in epigraphic sources. Most people with African *cognomina* in the province lived in *Tarraco* (16 inscriptions) – though most of them had military or administrative careers – and *Barcino* (five inscriptions) – probably with commercial links, of which only *Quintus Ovidius Venusianus* (CIL II.14, 1289) appears to have been born in Africa.

Lastly, once these North African ships reached the ports of *Tarraconensis*, the cargoes could either be consumed in the town and hinterland or redistributed to other ports along the coast through coastal navigation.

3. Aiguablava V: A Shipwreck with a Cargo including North African Amphorae

The final link in this connection between northern Africa and the Catalan coast is a series of shipwrecks with mixed cargoes documented off the north-east coast of Catalonia. One of these examples is the Aiguablava V shipwreck, which is located in the cove of Aiguablava to the south of Cape Begur in the province of Girona (Figure 13.3). The cove is oriented towards the north-east, being protected to the north by Cape Begur itself, the current port of Fornells and the *Illa Blanca* (White Island), and to the east it is sheltered by the *Punta des Mut*, a raised ledge where the Parador de Aiguablava is currently located. This setting shelters the cove from northern winds, predominant in the area, and reduces its exposure to dangerous eastern storms. Thanks to its location, the cove is ideal for making stopovers on a cabotage route, as well as being a place to stop in the event of adverse weather conditions while crossing the cape or even after passing it on a north-south route. Nevertheless, the cove is completely exposed to north-easterly winds, which could easily surprise a boat anchored there, trapping it with no possibility to exit the cove and even crashing it against the rocks.

The origin of the Aiguablava V ship is not entirely clear. It has been hypothesised that the vessel sailed along a redistribution route, running either from north to south starting at the port of Narbonne or from south to north starting at the port of *Tarraco* or *Barcino*, and made a stop at the cove of Aiguablava where it finally sank. It is likely that such stop at the cove was due to bad weather, or to obtain fresh water from the coast. Therefore, it seems feasible that such a small boat was surprised by an inescapable storm from the north-east that caused her to sink.

The Aiguablava V wreck presents a heterogeneous cargo, indicating that it was a vessel intended for cabotage and redistributive trade, and that it possibly sank while returning to its port of origin. Generally, when ships left a second-order (or third-order) harbour for a first-order one, their cargo was homogeneous, since they came from a specific production area. Therefore, a vessel such as the Aiguablava V would leave a secondary port loaded with a variety of products from its hinterland, heading towards a main port in order to sell the merchandise. As is the case today, the cost of returning with an empty merchant vessel in Roman times was extremely high and not very profitable (Nieto 1989). However, it is still too soon to accept this hypothesis; further, more detailed study of the materials and their chronology is necessary.

The main cargo of the Aiguablava V provides a wide variety of amphorae coming from different origins such as Africa, Baetica, Ebussus, the Aegean, eastern Mediterranean, and Gaul. Such a variety of products suggests that a redistributive port of high order may have been the starting origin of the commercial venture. These containers indicate a rich cargo of wine, salted fish, and olive oil (Mayoral 2016). Furthermore, within the repertoire of African amphorae it is possible to distinguish the following typologies (Figure 13.4):

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Figure 13.3. Location of Aiguablava V shipwreck.

Africana 2A (Keay IV and V), 2C (Keay VI), and 3A (Keay XXV variant B and C) (Keay 1984; Bonifay 2004).

The chronology of the Aiguablava V site is still under study. However, currently the evidence seems to point to a date between the 3rd and 4th centuries AD, based on the cargo carried on the boat. This hypothesis is supported by the study of the plan and stratigraphy of the site, where a large quantity of materials with late antique chronology were found in the first layer, whereas the second layer contained less material of an older chronology. However, we must consider several points before reaffirming this hypothesis, such as the fact that the wreck is in a cove which has been continuously used from the Iron Age to present day. It is also imperative to bear in mind that the site is located in a shallow area (3 to 5 m), and that a wreck is not a closed site and currents can easily move heavy cylindrical/spherical material.

By the time the Aiguablava V sank, the port of *Emporion* had already lost its importance, only *Narbo*, *Tarraco*, or even *Barcino*, which was becoming increasingly relevant, remained as first-rate ports in the area. As for the port of Narbonne, there is evidence of trade during the 3rd and 4th centuries AD; a good example is the case of the Mandirac site discovered by the archaeologists Corinne Sánchez and Marie-Pierre Jézégou. At this site a canal was found, originally built to protect ships entering the port of Narbonne seeking shelter from storms. The

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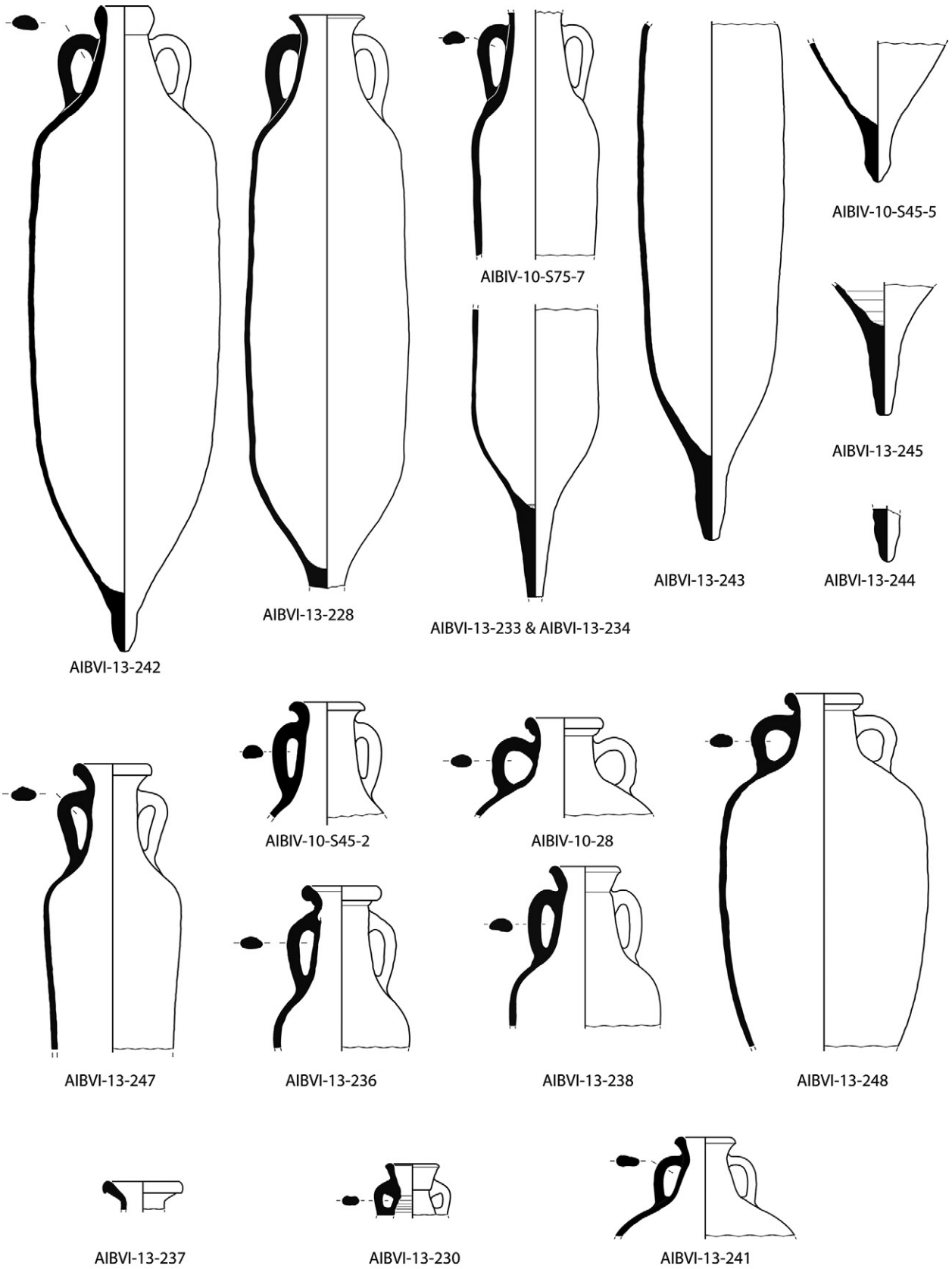

Figure 13.4. North African amphorae from the Aiguablava V (Africana II-A, II-C, and III-A type).

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team excavating the site found a wreck loaded with Lusitanian, Baetican, and African amphorae dating to the 3rd and 4th centuries AD under the foundations of one of the two dikes of the canal (Sánchez and Jézégou 2014). This clearly indicates that, during these centuries, the port of Narbonne continued to be an important first-rate trading point, especially considering the monumental dimensions of the canal. With regard to the port of Tarragona, according to Macias and Remolà (2010), during the second half of the 2nd century AD the city experienced a social crisis. Nevertheless, the port continued to be a space for commercial exchange; new public baths were built on the old site of a large port warehouse, which could imply that the volume of goods had decreased and therefore the former importance of the port was already in decline. Regarding *Barcino*, the remains found in the rescue excavations carried out in the city point towards significant growth, although there is still no evidence for the location of its port and the studies covering this subject are scarce.

4. Final Remarks

We are far from understanding how the commercial circuits between North Africa and north-eastern *Tarraconensis* worked in the late Roman period. However, what the archaeological record clearly reveals is the high dependence of African products (ARS, coarse wares, amphorae) in the coastal towns of the north-east of the Iberian Peninsula. The imported amphora found in *Barcino* are an illustrative example, also employed by S.J. Keay in the mid-80s, to document an important commercial flow between the production centres of the Gulf of Hammamet and the urban centres of the eastern Spanish coast. With the recent developments in our knowledge of the production centres (i.e. particular products) and amphora stamps, reconstructing sailing routes and ports of call has become considerably easier. Some of these routes faced opposing winds and currents and required short stops at ports in the Balearic Islands. In this sense, the Balearic Islands played an important role in the transit between north and south in the late Roman period, as they had previously (i.e. Punic trade, *Tarraconensis* wine). The key Balearic ports have provided North African ceramic assemblages similar to those recorded in the eastern Spanish ports.

Once these North African merchant ships arrived at the destination ports, all their cargo was unloaded there but not all of it was necessarily consumed in the destination town. Underwater archaeology has documented shipwrecks of small vessels loaded with African products together with amphorae and products of other regions that followed coastal routes along the north-east Spanish and south-east Gallic coasts. These small ships completed a redistribution trade between the main ports (i.e. *Tarraco*, *Barcino*, *Narbo*) and small coastal towns. We have chosen the Aiguablava V shipwreck, located in a cove on the Costa Brava, to illustrate this type of watercraft. This shipwreck contained a mixed cargo with products predominantly coming from North Africa, but also amphorae and pottery from other origins such as the Guadalquivir Valley, the island of Ebussus, southern Gaul, the Aegean, and other eastern Mediterranean regions. In light of the above, it is likely that the Aiguablava V vessel departed from either a southern Gallic port such as Narbonne or a north-eastern Spanish port such as *Barcino* to sell their cargo along the coastal route north to south. In conclusion, the partial pieces of evidence available to us reveal an intense commercial traffic between the north and the south of the western Mediterranean, an idea already proposed for the first time by S.J. Keay in his pioneering work in 1984.

Bibliography

Arnaud, P. 2005. *Les routes de la navigation antique: itinéraires en Méditerranée*. Paris: Errance.

Beltrán, J. and C. Carreras 2011. Barcino, in J.A. Remolà and J. Acero (eds) La gestión de los residuos urbanos en Hispania (Añejos del Archivo Español de Arqueología 50): 233-54. Madrid: Consejo superior de investigaciones científicas.

Berni, P. and C. Carreras 2009. Les marques d'àmfores importades o d'altres àrees de la Tarraconense, in C. Carreras and J. Guitart (eds) *Barcino*, I: *Marques i terrisseries d'àmfores al Pla de Barcelona*: 45-62. Barcelona: Institut d'estudis catalans.

Bonifay, M. 2004. *Études sur la céramique romaine tardive d'Afrique* (British Archaeological Reports, International Series 1301). Oxford: Archaeopress.

Carreras, C. 2012. Circulació amfòrica al port de la Barcino tardoantigua: segles V al VII dC. *Quarhis* 8: 40-54.

Carreras, C. 2021. Nous segells d'àmfora de les excavacions de Barcino (2009-2020). *Faventia* 43: 35-69.

Carreras, C. and P. Berni 2005. Late Roman amphorae in the city of Barcino (Barcelona), in J.M. Gurt, J. Buxeda and M.A. Cau (eds) *LRCW1: Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean; Archaeology and Archaeometry* (British Archaeological Reports, International Series 1340): 165-78. Oxford: Archaeopress.

Cerdà, J.A., J. García, C. Martí, J. Pujol, J. Pera and V. Revilla 1998. *El cardo maximus de la ciutat romana d'Iluro (Hispania Tarraconensis)* (Laietania 10). Mataró: Museu de Mataro.

Contreras, F., A.J. Talavera and P. Massó 2013. Estudio de las ánforas de la África Bizacena localizadas en el fondo subacuático del puerto de Sa Nitja (Menorca). *V Jornades d'Arqueologia de les Illes Balears*: 119-26.

Guerrero, V.M. 1993. *Navíos y navegantes en las rutas de Baleares durante la Prehistoria*. Palma de Mallorca: El Tall.

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Haley, E.W. 1991. *Migration and Economy in Roman Imperial Spain*. Barcelona: Universitat de Barcelona.

Járrega, R. 2005. Los contextos cerámicos tardoantiguos del grupo episcopal de Barcino. *Acta Antiqua Complutensia* 5: 231-52.

Keay, S.J. 1984. *Late Roman Amphorae in the Western Mediterranean: A Typology and Economic Study; The Catalan Evidence* (British Archaeological Reports, International Series 196). Oxford: Archaeopress.

Marimón, P. 2004. Las Insulae Baliares en los circuitos de intercambio africano: la importación de alimentos (123 a.C.-707 d.C.). *L'Africa romana* 15: 1051-76.

Martínez Hahnmüller V. (2016). Una historia del Mediterráneo Occidental. La lucha por el poder en Cartago durante la segunda mitad del siglo III a.C. *Gerión. Revista de Historia Antigua*, *34*, 127-144.

Mayoral, J. 2016. Estudio preliminar del pecio Aiguablava v. un barco hundido en la cala de aiguablava en el siglo II d.C., in I. Pinto Coelho, J. Bento Torres, L. Serrão Gil and Tiago Ramos (eds) *Entre ciência e cultura: da interdisciplinaridade à transversalidade da arqueologia; actas das VIII jornadas de jovens em investigação arqueológica* (Colecção ArqueoArte, 4): 429-38. Lisbon: Centro de história d'Aquém e d'Além-Ma.

Nacef, J. 2015. *La production de la céramique antique dans la région de Salakta et Ksour Essef (Tunisie)* (*Roman and Late Antique Mediterranean Pottery 8).* Oxford: Archaeopress.

Parker, A.J. 1992. *Ancient Shipwrecks of the Mediterranean and the Roman* (British Archaeological Reports, International Series 580). Oxford: Archaeopress.

Peacock, D.P.S., F. Bejaoui and N. Belazreg 1989. Roman amphora production in the Sahel region of Tunisia. *Publications de l'École française de Rome* 114: 179-222.

Quani, M. 2004. Inquadramento geostorico del Mediterraneo occidentale, in L. De Maria and R. Truchetti (eds) *Rotte e porti del Mediterraneo dopo la caduta dell' impero romano d'Occidente: continuità e innovazione tecnologiche e funcionale; Genova, IV Seminario ANSER*: 333-42. Soveria Mannelli: Rubettino.

Ramon, J. 1995. *Las ánforas fenicio-púnicas del Mediterráneo Central y Occidental* (Instrumenta 2). Barcelona: Edicions Universitat de Barcelona.

Remolà, J.A. 2000. *Las ánforas tardo-antiguas en Tarraco (Hispania Tarraconensis)*. Barcelona: Universitat de Barcelona.

Reynolds, P. 1995. *Trade in the Western Mediterranean, AD 400-700: The Ceramic Evidence* (British Archaeological Reports, International Series 604). Oxford: Archaeopress.

Reynolds, P. 2010. *Hispania and the Roman Mediterranean. AD 100-700: Ceramics and Trade*. London: Duckworth.

Rita, MªC. 1994. Ánforas africanas del bajo imperio romano en el yacimiento arqueológico de Sanitja (Menorca), in *III Reunió d'Arqueologia cristiana hispànica, Maó 1988*: 321-32. Barcelona: Institut d'estudis catalans.

Vivar, G. 2013. El derelicte d'Illa Pedrosa. Comerç marítim i xarxes de distribució en època tardorrepublicana al Mediterrani centre-occidental. Unpublished PhD dissertation, Universitat de Barcelona.

Vivar, G. and R. Geli 2015a. *Memòria de l'excavació del derelicte Aiguablava V 2013*. Informe d'excavació inèdit.

Vivar, G. and R. Geli 2015b. *Informe de l'excavació del derelicte Aiguablava V* (Begur, Baix Empordà) 2014. Informe d'excavació inèdit.

Woodworth, M., D. Bernal, M. Bonifay, D. De Vos, N. Garnier, S.J. Keay, A. Pecci, J. Poblome, M. Pollard, F. Richez and A. Wilson 2015. The content of African Keay 25/ Africana 3: initial results of the Coronam Project. *Archaeoanalytics: Chromatography and DNA Analysis in Archaeology*: 41-57. Esposende: Município de Esposende.

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