



e. New Views on the Wine Import from *Hispania Tarraconensis*

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The assemblage of Kops Plateau includes a limited number of amphorae coming from the *Tarraconensis* province (NE Spain). Nowadays, most pottery specialists are able to distinguish the fabrics from amphorae coming from this territory, which are normally associated with two popular wine amphora typologies: the Pascual 1 and Dressel 2-4.

The presence of wine amphorae from *Hispania Tarraconensis* in the Northern provinces is well-known from early works by Deniaux (1980), Williams (1981) and Galliou (1984). They already recorded primarily the Pascual 1 amphorae, with its distinctive fabric from NE Spain. Some of the earliest documented Pascual 1 amphorae came from Iron Age contexts in Gaul and Britain, albeit in a relatively low numbers. They do, however, reveal an interesting trade between the Roman provinces and Celtic chiefdoms.

The Tarraconensis fabrics are distinguished according to Williams (1981) and Peacock and Williams (1986, class 6) by:

Fabric 1: Slightly soft and smooth fabric with a creamy-white colour (between 7.5YR 8/2 and 7/4), which lacks of the noticeable mica but containing the quartz and feldspar. It probably comes from Barcelona region and the inland territory of Vallès.

Fabric 2: Hard, rough fabric, with a characteristic dark red to reddish-brown (10R 4/4 to 4/6) in colour. It shows large (1 mm) white inclusions of quartz and feldspar, and with fragments of granite and some golden mica. It probably comes from the area near present Mataró.

Wine amphorae from *Tarraconensis* reached *Germania Inferior* in relatively low numbers, especially compared to sites in southern-Gaul or Italy. The amphora type Pascual 1, is perhaps the most distinctive typology that carried *Tarraconensis* wine. This type of amphora was identified comparatively early by R. Pascual (1977) as a *Tarraconensis* evolution of a Dressel 1B amphora. Afterwards, this distinct form was also identified in northern areas of Gaul, Britain and *Germania Inferior*.

Miró (1988) was the first author who attempted to identify the distribution of *Tarraconensis* amphora in the Western Roman provinces. He did so by creating a series of dotted maps, based on a good number of Gaulish sites. This distribution of dots appears to suggest that Gaulish and German markets were the main consumers of *Tarraconensis* amphorae, in particular the Pascual 1. The same conclusions could be drawn from a more complete dotted map published by Comas (1998).

Meanwhile, the distribution of the Tarraconensis amphorae was also studied by Remesal & Revilla

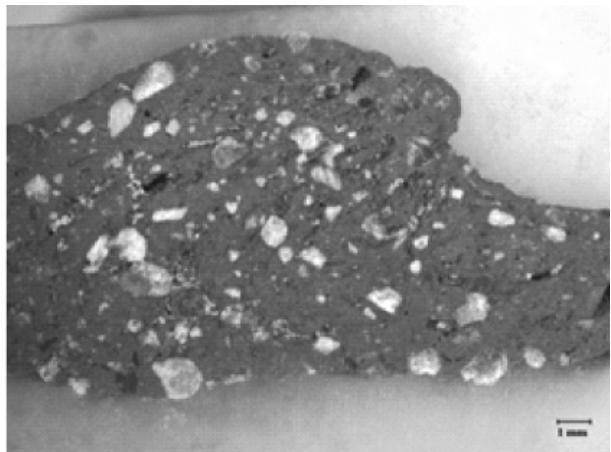


FIG. 1. FABRICS 1 AND 2 FROM TARRACONENSIS AMPHORAE (COLLECTION OF ICAC).

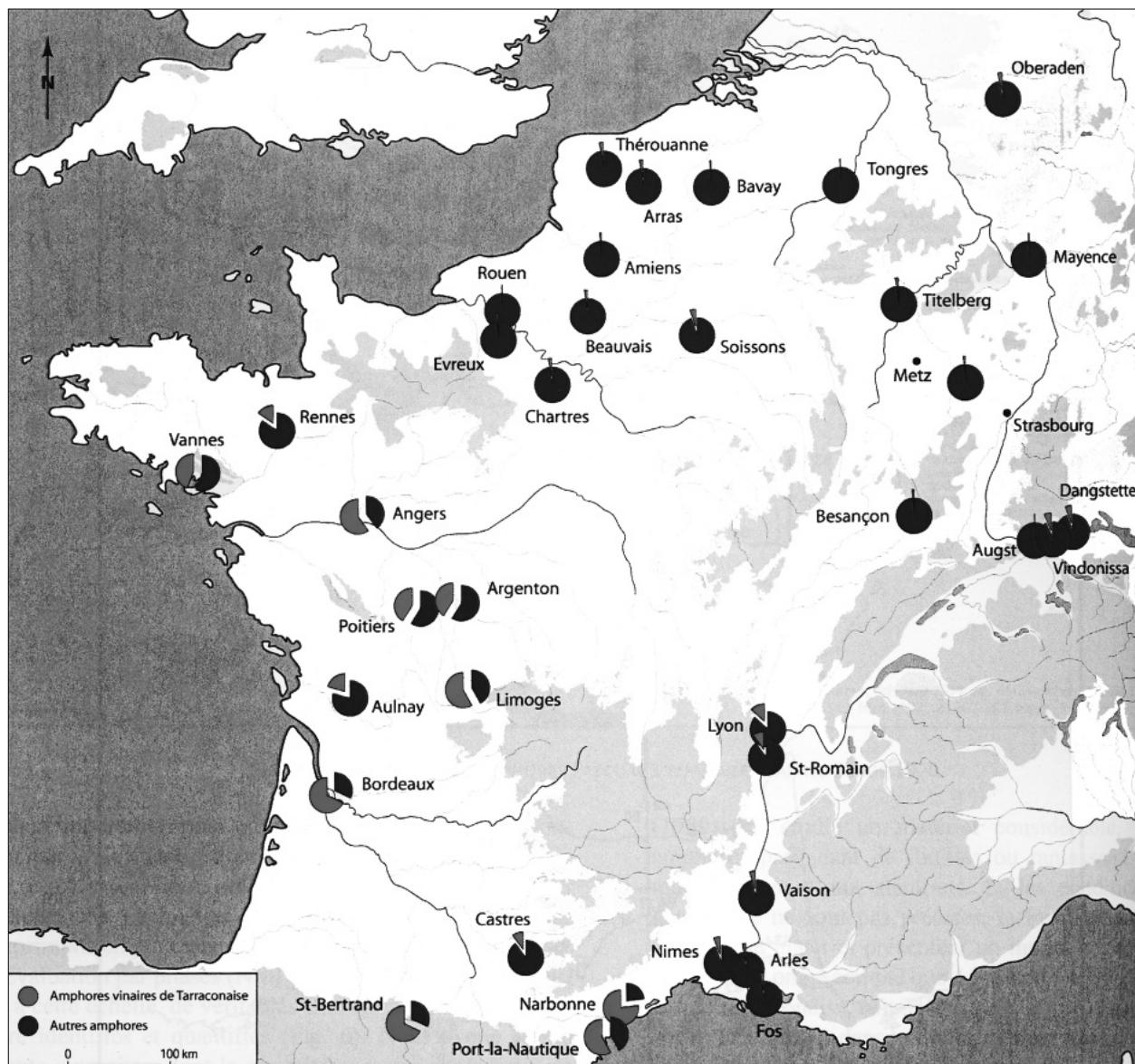


FIG. 2. DISTRIBUTION OF PASCUAL 1 AMPHORAE IN GAUL (LAUBENHEIMER, 2015, FIG. 6, 186).

(1991). They analysed the distribution pattern of the Catalan amphorae stamps in Gaul and Germany. Of course, *Tarracanensis* amphorae were not stamped in a regular basis and each workshop had its own stamping pattern. In fact, some workshops did not stamp at all. Therefore, stamps do not always represent the realistic amphorae distribution. A few years later, the distribution of *Tarracanensis* amphorae in Roman Britain was analysed by Revilla & Carreras (1993). They did so on the basis of quantified assemblages from a series of Romano-British sites. However, in these contexts *Tarracanensis* amphorae are scarce, because the British Isles were conquered by Romans in the Claudian period.

Perhaps the latest and more complete study on distribution in Northern Europe comes from Laubenheimer (2015).

She analyses the distribution of the amphora Pascual 1, based on numerous quantified assemblages of many sites in Roman Gaul. The percentage of Pascual 1 amphorae in each assemblage allows her to create a distribution map (see figure 2) that clearly shows a higher concentration in the Western Gaul, from *Narbonensis* to Aquitania and up to Britanny.

1. Typologies of *Tarracanensis* amphorae documented

Kops Plateau records at least 3 amphora types with fabrics that identify the province of *Tarracanensis* as their origin: Pascual 1, Dressel 2-4 and Oberaden 74. There is a fourth type, Dressel 7-11, which also comes from this province and appears in some sites in Northern Europe. The main features of these types are as follows:

a. Pascual 1

This amphora type is reminiscent of the Italian Dressel 1B, but with a more vertical rim. The rim is distinctive, due to the form its high vertical collar, with a cylindrical neck, an ovoid body with a solid spike and rounded handles with a distinctive vertical groove (Pascual, 1977; 1991; López Mullor & Martin 2007, 33-94). López Mullor & Martin (2007, 55-57) distinguished between two variants according to heights, rim, spikes and handles: Pascual 1 A and B. The typology is often stamped on the rim or the spike with two or three letters, sometimes more (Comas, 1997; Carreras & Guitart, 2009; Carreras, López Mullor & Martin, 2013).

The Pascual 1 was produced from circa 40 BC onwards and reached its peak in Augustan period. It was gradually substituted by the Dressel 2-4 in Tiberian times, but there were a few Catalan workshops that still produced this type around A.D. 60-70 (López Mullor & Martin, 2007, 63). There are later dating from Pompeii and Rome, but they seem to be residual material in later contexts. However, most dateable finds from north-western Europe tend to be Augustan (Williams, 1981).

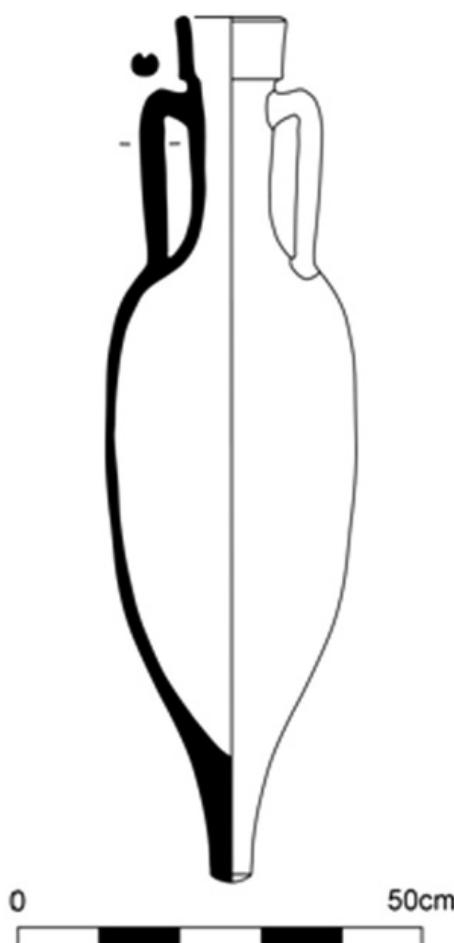


FIG. 3. EXAMPLE OF COMPLETE PASCUAL 1 AMPHORA.

The workshops of Pascual 1 amphorae are distributed along the Catalan coastal zone of north-eastern Spain, particularly in the Barcelona region (Miró, 1988; Revilla, 1993; 1995). It is supposed to contain the well-known wines produced in this territory such as Laietania, Lauro and Tarraco (Pliny the Elder, NH XIV, 71-72).

The same form was also produced in Southern Gaul in a wide variety of sites such as Aspiran, Montans or Corneilhan (Laubenheimer, 1989; Meffre & Meffre, 1992; Martin, 2007). However, no Gaulish Pascual 1 have been recorded so far at Kops Plateau, though an example is known from the *oppidum* (Van den Berg, forthcoming). A fairly widespread distribution appears in the Western Roman Empire, from Spain to France, Italy, Africa, Britain and Germany (Tchernia, 1986; Remesal Rodríguez & Revilla, 1991). The Narbonne-Bordeaux route seems to have been an important means of distribution to the north-west as suggests the distributions by Laubenheimer (2015).

b. Dressel 2-4

This is a cylindrical amphora with long bifid handles (composed of two rods), with small beaded lip and distinct carinated shoulder (Miró, 1988). It is occasionally stamped near the spike, though only a few examples include painted inscriptions (Pascual, 1991; Comas, 1997). The form is derived from a prototype produced in the eastern Mediterranean, and later copied in the western provinces. A more detailed typological description for the Catalan version is described by López Mullor & Martin (2013, 33-94), who define it as Dressel 2-3, with four variants for the Dressel 3 (A-D).

In terms of dating, it seems that the earliest example of this Tarraconensis version of the Dressel 2-4 appears in the late 1st century BC up to AD 15-20 in places such as Can Feu (Sant Quirze del Vallès). The latest dating appears between AD 120-160 at Ostia (Rizzo, 2014) and late second century AD at Rome (Meta Sudans) and Settefinestre (Panella, 1989).

Tarraconensis Dressel 2-4 carried wine as its main content (Tchernia, 1986); some *tituli picti* refer to *Lauro*, one of high-quality production areas of wine from Tarraconensis province (Martial, XXIII.118). Recent excavations in *Caesaraugusta* (Zaragoza – C/ Reconquista) yielded a complete amphora Dressel 2-4 with a new *titulus* identifying wine from the Lauro area (Carreras, Escudero and Galve, forthcoming).

The amphora type was produced in the coastal workshops of Hispania *Tarraconensis* (NE Spain), from Tarragona to Girona (Revilla, 1995), though there were also some late workshops on the coast of Valencia, from Sagunto to Denia. This amphora type was widely produced in more than 60 workshops from Aumedina in the Ebro valley

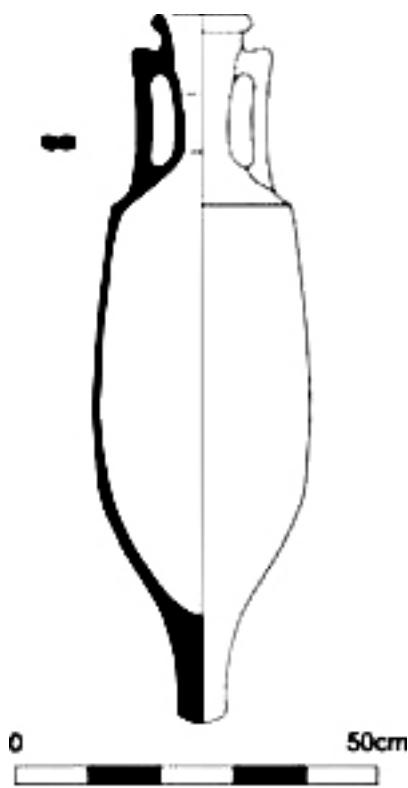


FIG. 4. EXAMPLE OF COMPLETE DRESSEL 2-4 AMPHORA.

(Revilla, 1993) to Llafranc in the modern province of Girona, together with other amphora types, coarse wares and construction materials. However, most workshops were concentrated around the Roman cities of *Barcino*, *Baetulo* and *Iluro* (Revilla, 1995), and their production seems to end by the late 1st and early 2nd century AD, which contradicts some dating of the consumption areas such as Ostia or Rome. The discussion about how long the production lasted it is still undecided, due to the lack of good dating in the production area and their main distribution ports. Some Dressel 2-4 with squared rims are dated in early 3rd century contexts in Catalonia (Járrega & Otiña, 2008), which are the final stages of this type's production. With regards to the consumption area, examples of this late Dressel 2-4 from Tarraconensis are recorded in 3rd century contexts in the Terme Nuotatore (Ostia) (Rizzo, 2014, 200).

With regards to the diffusion, Tarraconensis Dressel 2-4 were distributed in the mainly to Western Roman provinces, such as *Hispania*, *Gallia*, *Germania*, *Raetia*, *Italia*, *Britannia* or *Africa Proconsularis*. Nevertheless, the quantity of imports of Dressel 2-4 are relatively low in Northern provinces, while the main consumption focus was concentrated in the city of Rome (Rizzo, 2014; Contino *et alii* 2013). For a long time, the presence of many amphora stamps in the German limes in the Augustean period, lead to believe that *Tarraconensis*

products were consumed in high quantities (Remesal & Revilla, 1991). Evidence from Kops Plateau and other sites in this region contradicts the idea of such large imports in the province of *Germania Inferior*.

c. Oberaden 74

The Oberaden 74 is a flat-bottom amphora, with ovoid body and short double-groove handles. It is easily identified by its short neck, with a thick, double moulded rim (Miró, 1981; López Mullor & Martín, 2007, 33-94; Carreras & González, 2011). It was first recognised by Loeschke (1942, 78-80, pl. 34) in the Oberaden, who gave it the number 74 in his amphora catalogue.

The Oberaden 74 is similar in shape to other flat-bottomed amphorae, such as Dressel 28 or Gauloise 8, but with a distinctive pulley-wheel rim and, of course the characteristic Tarraconensis fabric. This amphora type was produced in at least 14 workshops along the NE coast of the Iberian Peninsula from Catarroja to Girona, with a special concentration in the coast near Tarraco (Carreras & González, 2011). Most of those workshops share a similar fabric, with little differences that are archaeometrically distinguished (Carreras & González, 2011; Martínez, 2014). Recently, two more production centres have been found in inland sites of the Peninsula Iberia. One of them was around Segobriga (Cuenca) (De Almeida & Morín, 2011) and another at *Caesaraugusta* (Hernández Pardos, *forth.*) Both of them present distinctive local fabrics and they were probably distributed only locally.

The initial production date of the amphorae Oberaden 74 coincided with military campaigns in NW of the Iberian Peninsula, during the Augustean-Cantabrian wars (29-19 BC). It appears that the Oberaden 74 vessel was a suitable container for river-transport along the Ebro and land transport through the Meseta. Therefore, Oberaden

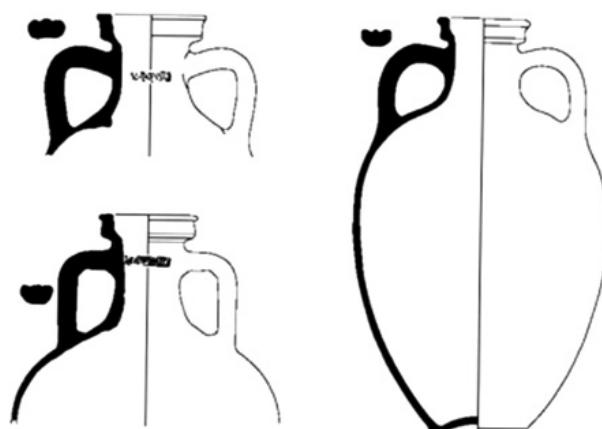


FIG. 5. EXAMPLE OF COMPLETE OBERADEN 74 AMPHORA.

74 amphorae turn up around 30 BC. This is confirmed by the dating of the only shipwreck that carried this vessel: the Sud-Caveaux-1 (Long, 1998, 341-343). Likewise, the same dating appears in contexts at Carthage (40/20 BC), as well as one of its workshops at Llafranc (30/25 BC). The dates of Oberaden 74 imports along the two main distribution rivers are recorded a bit later: Rhone (Lyon: 20 BC) and Ebro (Casa del Pardo – Zaragoza: 25/23-13/12 BC). Finally, Oberaden 74s reached the German frontier a few years later, according to earliest dating at Neuss (Lager 1: 16-12 BC) (Carreras & Berni, 2015) and Dangstetten (15-9 a.C.), though the form is as of yet absent at Nijmegen-Hunerberg (19/16-12 a.C. in den Berg, González & Niemeijer, in this volume).

Probably, the end of Oberaden 74 imports coincided with the development of the Gauloise 4, which around AD 60 controlled the main markets in the western provinces. The final dating appears to be in Claudian-Neronian contexts in places such as Billingsgate (London, AD 43-60) (Green, 1980) or the Ebro valley at Celsa (AD 41-45/48) or El Palao (AD 54-60). In the recent publication of Ostia contexts, the Oberaden 74 is documented as residual in contexts of the Flavian and Antonine period (Rizzo, 2014, 198). Although the Oberaden 74 amphorae was produced during a fairly long period, from 30 BC up to AD 60, most imports date to around 20 BC – AD 20. A general distribution of this form can be overseen from the following map (figure 5).

d. Dressel 7-11

The Dressel 7-11 amphorae from Tarragonense is the least known type from this province. In fact, it is known as an imitation of the Southern Spanish Dressel 7-11, but with the distinctive local fabric (López&Martin, 2007), in which a version of Dressel 8 from Empuries is singled out. It is documented in the shipwreck of La Chrétienne (Saint Raphael, Var) (Corsi-Sciallano & Liou, 1985, fig. 73) dated around 20 BC.

It was produced in a series of workshops in the NE of the Iberian Peninsula, with a special concentration in the area of Girona (Llafranc and Platjad'Aro), as well as Tarraco and Lower Ebro valley (i.e. Mas Gomandí, L'Aumedina, Mas Catxorro...) in the late 1st century BC up to early 1st century AD. With regards to its content, the form is related to fish-sauces and most workshops are located in a coastal area, where *salsamenta* was probably produced. However, there is no clear evidence of the content and even other proposal, such as wine, has been put forward (López Mullor & Martin, 2007, p. 77).

Apart from the La Chrétienne shipwreck, little is known about the distribution of Tarragonense Dressel 7-11 amphorae. Probably, some forms classified as Dressel 7-11 belong to this class, but fabric was not identified as Tarragonense. As far as we know, most examples of Tarragonense Dressel 7-11 come from sites in Germania



FIG. 6. DISTRIBUTION OF STAMPS AND SHERDS OF OBERADEN 74.

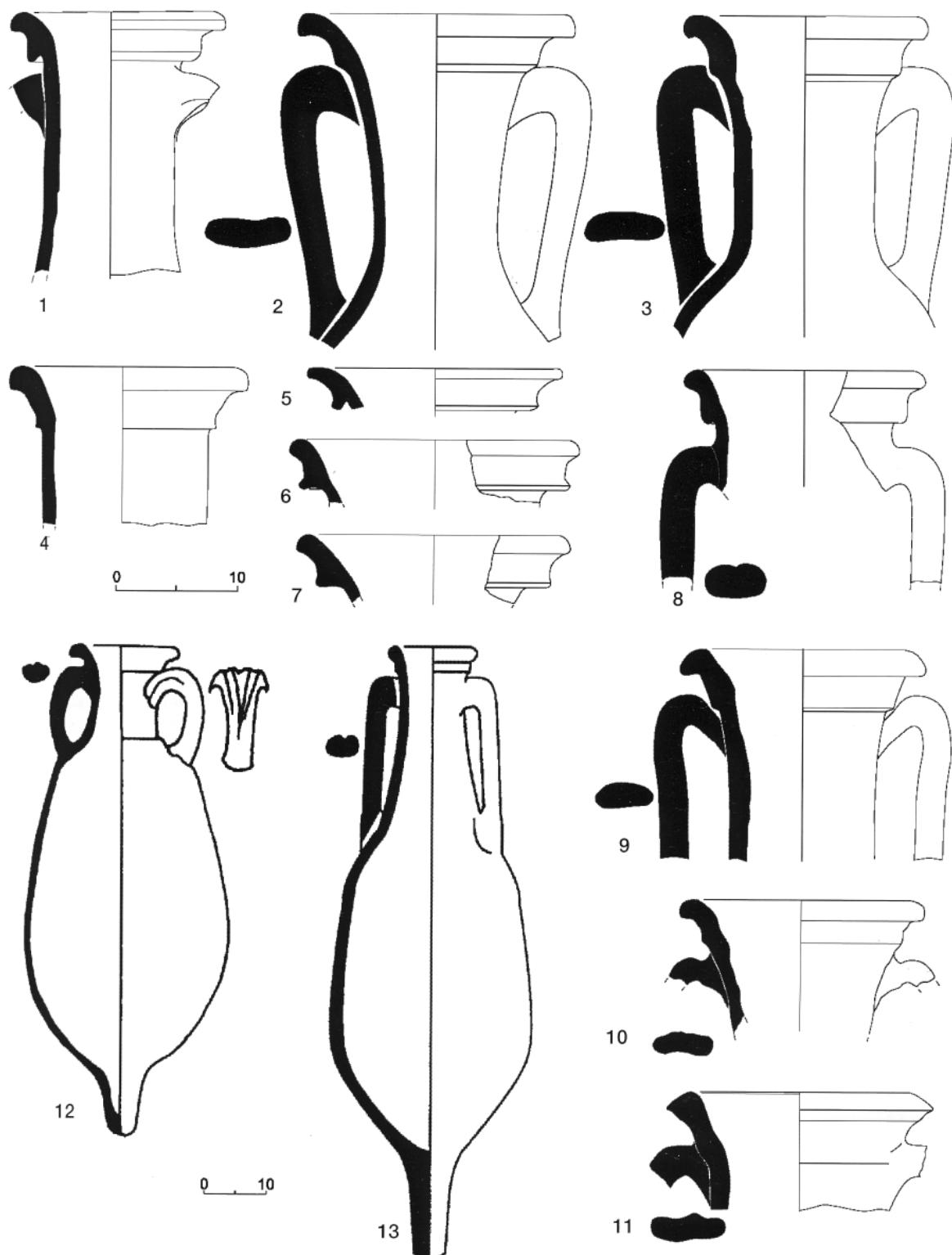


FIG. 7. EXAMPLES OF COMPLETE TARRACONENSE DRESSEL 7-11 AMPHORAE
(LÓPEZ MULLOR & MARTÍN, 2007, FIG. 16, P. 77).

such as Dangstetten or Xanten. The site of *Coriovallum* (Heerlen, NL) also yielded a stamped amphora from Empurias, this may indeed be an example of a Tarracanensis fish-sauce amphorae (Van den Berg 2013).

2. Tarracanense amphorae at Kops Plateau

The presence of Tarracanense amphorae at Kops Plateau is a good sample of the general distribution of these

Typologies	Sherds	Weight	EVE	Handles	Spikes	NMI
Pascual 1 (Tar.)	69	8296	254	16		8
Oberaden 74 (Tar.)	60	3512	88	2	2	2
Dr.2-4 (Tar.)	12	3490		5	3	3
Tarragonense	312	42445			11	
Total	453	57743	342	23	16	12

FIG. 8. QUANTIFICATION OF TARRACONENSE AMPHORAE PRESENT
AT KOPS PLATEAU.

amphorae types in Northern Europe. In the present assemblage of 690 vessels according to NMI, only 12 examples can be considered Tarragonense forms, which represents only 1.74% in the total percentage. This is a general trend in most German sites with a presence of Tarragonense amphorae.

They may be probably more since at least 453 sherds (42445 grams) have been documented in Kops Plateau in the period 12/10 BC – AD 69/70. The most common Tarragonense amphora is the Pascual 1, which is normal on Gaulish and German sites, whereas Dressel 2-4 and Oberaden 74 are hardly present. With regards to Tarragonense Dressel 7-11, there is no sign of any of them in the site.

The figure 7 illustrates quantities and proportions of the different Tarragonense amphora types; where Pascual 1 and Oberaden 74 are also documented from rims, Oberaden 74 and Dressel 2-4 from flat-bottoms and spikes, and the three of them from handles. In terms of fabrics, most of the sample identifies fabrics from the Laietanian and Lauro areas, present province of Barcelona. Some fabrics look closer to the ones from places such as Mataró or Caldes de Montbui (Martínez, 2014).

The following figures 9 and 10 show most of the well preserved forms of Tarragonense amphorae documented in the Kops Plateau excavations.

The same Tarragonense amphora types are reported on the stamps (Berni, see chapter xxxx), with an unreadable stamp on Pascual 1, a MCN on Dressel 2-4 and 2 stamps on Oberaden 74 (SEXDOMITI and ...IAV). As can be seen, proportions on stamps for typology do not match represented quantities (see figure 7), which reveals how misleading stamps can be in amphora distribution as a unique indicator. Comparing Kops Plateau proportions of Tarragonense amphorae to other Northern European sites, it seems that it fits quite well in the general pattern. The figure 10 shows a table of percentages of amphorae types from total assemblages obtained from different quantifying methods (NMI, weights, sherds).

The table shows clearly, that Tarragonense amphorae normally between 1-7% in large sites with a good number of excavations and the most popular vessel are the Pascual 1. The only exceptions are small sites such as Fleury, Touffré-ville or places in Northern Gaul such as Amiens or Arras, with higher percentages of Pascual 1. In *Germania Inferior*, the highest percentages of Pascual 1 are found at Neussand in the comparatively small assemblages studied at Venlo and Velsen.

With regards to Dressel 2-4 amphorae, they are less represented reaching only less than 3% in sites like Neuss and other Romano-British sites. In this case, the dating of the Dressel 2-4 amphora production affects those percentages. Although, the Tarragonense Dressel 2-4 started its production in the last decades of the 1st BC, as also the evidence from Dangstetten (15-9 BC) confirms (Ehmig, 2010).¹ Nevertheless, the highest point in its exports was from Tiberian period onwards, as the dating from the different military camps from Neuss demonstrates (Carreras & Berni, 2015), where Dressel 2-4 are only recorded in the Lager 6 dated AD 16-28 and 7 dated AD 28-43. Furthermore, they are also present at *limes-castella* build during the Claudian period, such as *Praetorium Agrippinae* (Valkenburg), Kesteren (pers. comm. J. van den Berg) and Wijk bij Duurstede (Van der Werff 1987, 158-159, nr. 16).

It is also relevant that Tarragonense products are hardly recorded in the middle Rhône valley (Lyon, Saint Romain-en-Gal) after AD 20, whereas they are present in Britain after the Claudian conquest (AD 43). With regards to the other amphora types, there is no clear pattern due to the lack of examples. In the case of Oberaden 74, so far it is only recorded at Oberaden, Neuss (16 BC – AD 16), Dangstetten (15-9 BC) and Kops Plateau. Moreover, Dressel 7-11 is not even recorded at Kops Plateau, but at Dangstetten and Xanten.

Since the Pascual 1 is the most common amphora Tarragonense recorded at *Germania Inferior* and Gaul,

¹ Though Dangstetten was abandoned in 9 BC, some authors wonder whether there were later temporary occupations when Roman frontier moved towards the East.



AMPHORAE FROM THE KOPS PLATEAU (NIJMEGEN)

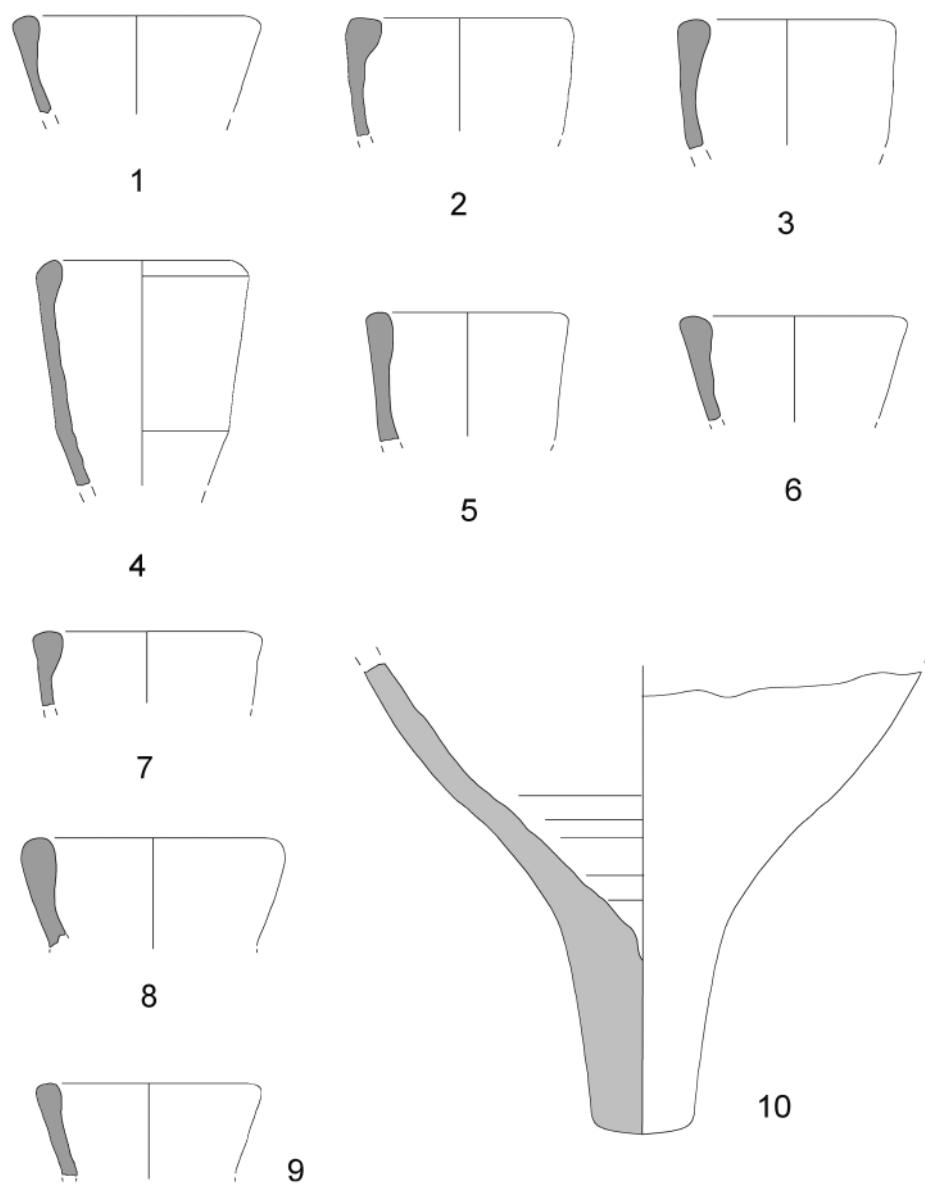


FIG. 9. PASCUAL 1 AMPHORAE
FROM KOPS PLATEAU (1: L4-3;
2: L-30-1; 3: L-31-6; 4: L-32-
3; 5: L-43-2; 6: L-90-1;
7: L-125-7; 8: L-71-8;
9: L-94-5; 10: L-95-1).

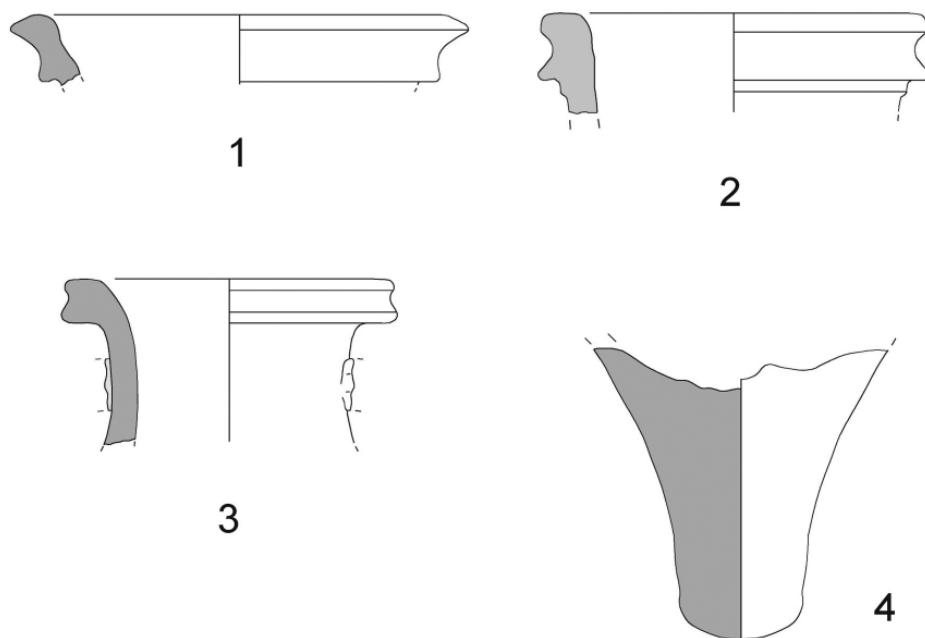


FIG. 10. TARRACONENSE
OBERADEN 74 AND DRESSEL
2-4 AMPHORAE FROM KOPS
PLATEAU (1: L-18-9; 2: L-94-
6; 3: L-135-1; 4: L-6-3).

	Pascual 1 %	Dressel 2-4 %	Oberaden 74 %	Dressel 7-11 %
Vechten	0,00	0,00	0,00	0,00
Velsen	6,66	0,00	0,00	0,00
Venlo	6,66	0,00	0,00	0,00
Oberaden	1,00	0,00	4,6	0,00
Xanten	0,47	0,05	0,05	0,05
KopsPlateau	1,16	0,29	0,15	0,00
Neuss	5,55	3,33	2,22	0,00
Dangstetten	0,63	2,3	2,8	0,86
Actiparc	0,00	0,00	0,00	0,00
Fleury	16,66	16,66	0,00	0,00
Amiens	13,04	4,34	0,00	0,00
Arras	13,33	0,00	0,00	0,00
Touffré-ville	46,15	0,00	0,00	0,00
Actiparc	0,17	0,00	0,00	0,00
Achichourt	0,00	0,00	0,00	0,00
Anzin	0,00	0,00	0,00	0,00
Les Bonnettes	3,44	0,00	0,00	0,00
Dainville	0,00	0,00	0,00	0,00
Etrun	0,00	0,00	0,00	0,00
Hulluch	0,00	0,00	0,00	0,00
Roclinclourt	0,00	0,00	0,00	0,00
Bavay	0,00	0,00	0,00	0,00
Soissons	1,00	0,00	0,00	0,00
Seclin	0,00	0,00	0,00	0,00
Beauvais	0,18	0,00	0,00	0,00
Amiens	0,55	0,00	0,00	0,00
London	0,00	0,05	0,00	0,00
Colchester	0,00	2,13	0,00	0,00
Silchester	0,42	0,00	0,00	0,00
Canterbury	0,00	0,00	0,00	0,00
Exeter	0,00	1,74	0,00	0,00
Chester	0,00	1,07	0,00	0,00
Chichester	0,00	0,00	0,00	0,00
York	0,00	0,00	0,00	0,00

FIG. 11. PROPORTION OF TARRACONENSE AMPHORAE
IN NORTHERN EUROPE.

it is the only suitable to study distributions based on quantifications (cg/m^2). The data was obtained from 22 sites thanks to the work of Laubenheimer & Marlière (2010), other varied sources and our own personal quantifications. Thereby, figure 12 illustrates distribution of two Northern provinces with higher values in the main urban centres in Gaul than *Germania Inferior*. It suggests at first sight that the Atlantic route was the most suitable itinerary for the distribution of this wine amphora.

The same distribution of Pascual 1 amphorae can be analysed at larger scale including sites – a total of 187 – from other Roman Western provinces such as *Britannia*, *Narbonense* and *Hispania*. The figure 13 shows the scarce importance of Eastern Gaul and *Germania Inferior* as markets of Pascual 1 amphorae.

The distribution map of the Western Roman Empire reveals that the main markets of the Pascual 1 amphora



AMPHORAE FROM THE KOPS PLATEAU (NIJMEGEN)

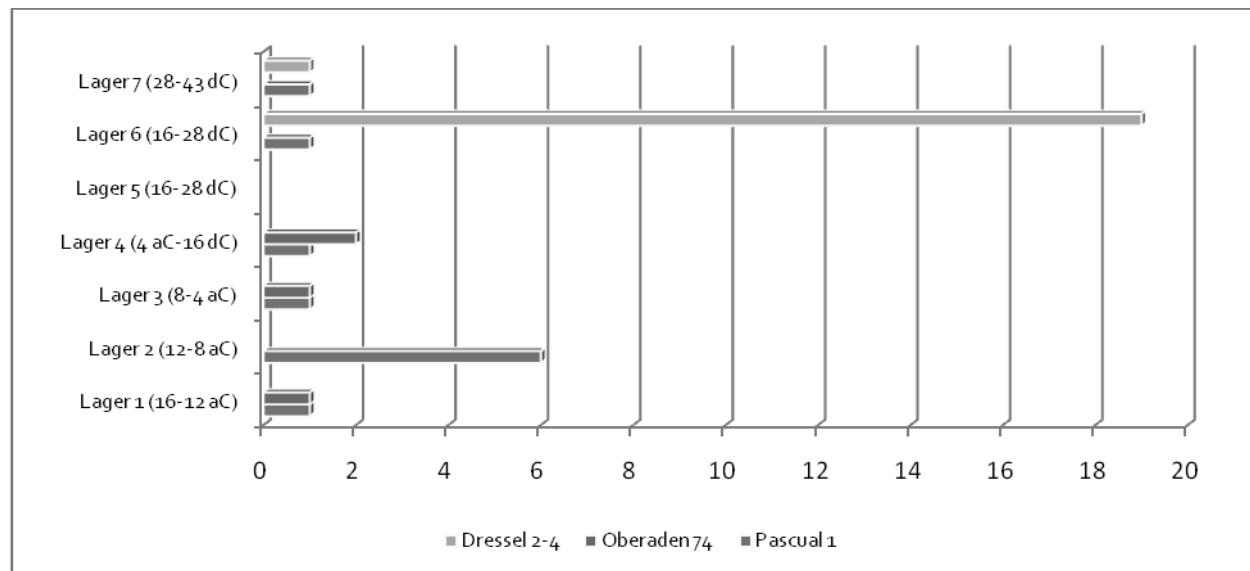


FIG. 12. DENSITIES (CG/M²) OF TARRACONENSE AMPHORAE IN THE EARLY CAMPS OF NEUSS
(CARRERAS & BERNI, 2015).

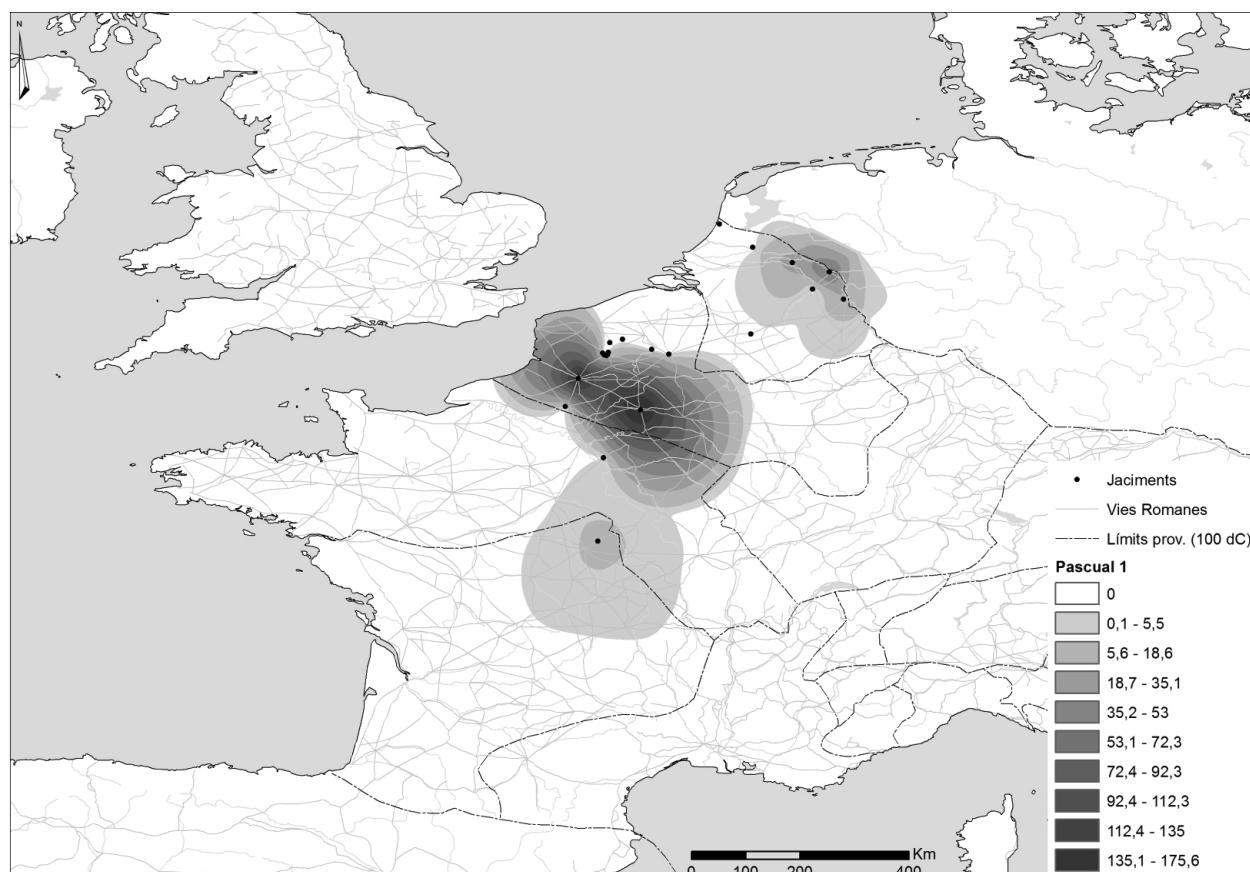


FIG. 13. DENSITIES (CG/M²) OF PASCUAL 1 AMPHORAE FROM 22 SITES
OF GAUL AND GERMANIA INFERIOR.



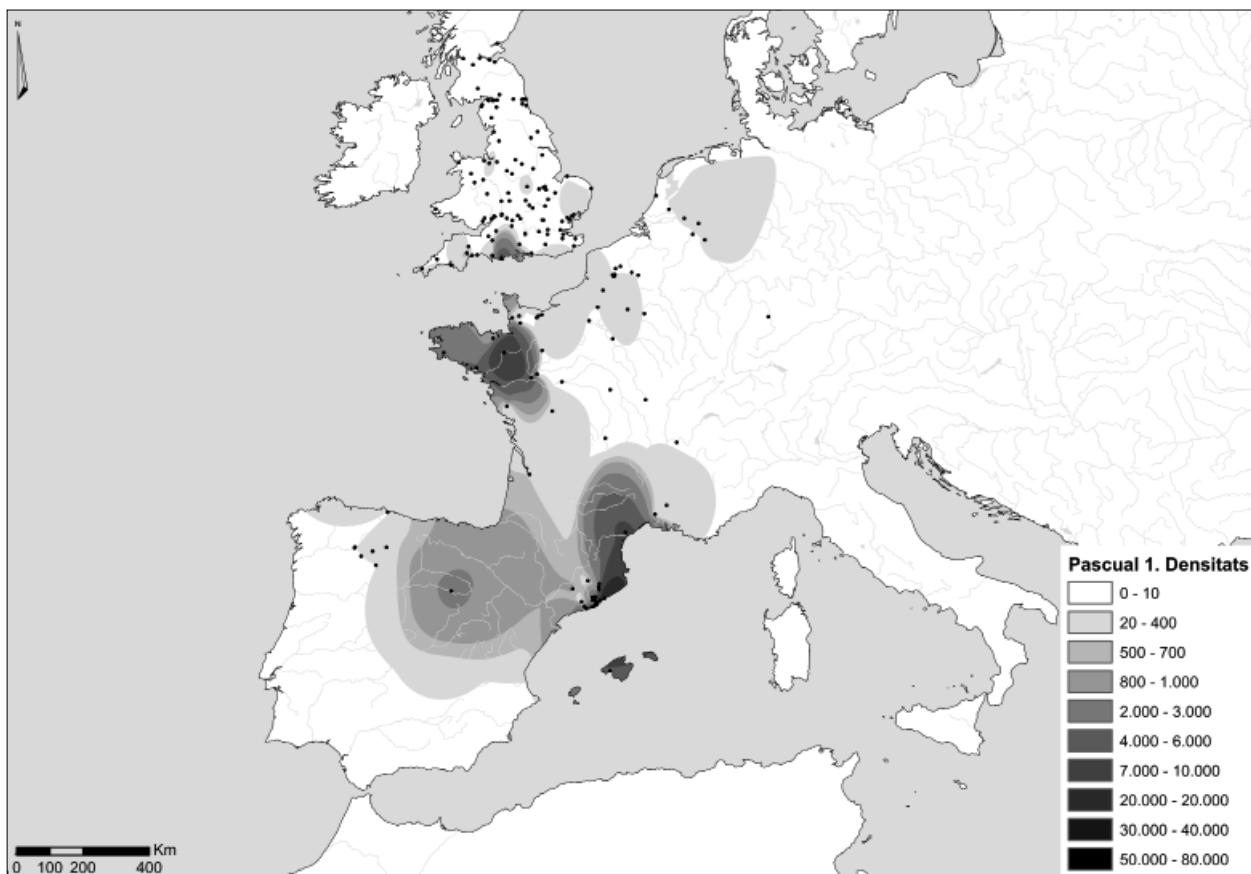


FIG. 14. DENSITIES (CG/M²) OF PASCUAL 1 AMPHORAE FROM 187 SITES
FROM THE WESTERN ROMAN EMPIRE.

were concentrated in the Southern Gaul – around Narbonne – as well as Britanny. Probably, vessels travelled through the *Isthme Gaulois* (rivers Aude-Garonne) to reach the Atlantic waters, and continue its distribution in the Exterior Sea towards Britain, eastern Gaul and Germania Inferior. The distribution map of

Pascual 1 complements with more sites and alternative data the one generated for Gaul (Laubenheimer, 2015, fig. 6, 186) based on percentages. Despite differences, both maps identify the Atlantic distribution of Tarraconense wines in the late 1st century BC and early decades of the 1st century AD.