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POTS FOR FOOD
Some regional instances in Italy

Si presenta un gruppo di vasi (urcei ed olle) prodotti lungo le coste tirreniche dalla Campania alla Liguria, utilizzati per contenere ed anche, in alcuni casi, trasportare pesci e prodotti ittici. Mentre gli urcei erano specializzati per garum, con circolazione circoscritta all'ambito campano e in particolare all'area vesuviana, l'uso delle olle appare più ampio e generalizzato, una sorta di koinè tirrenica nella produzione, consumo e redistribuzione di pesce di piccole dimensioni e di non pregiata qualità, in una ben definita fase cronologica: dall'età augustea al II sec.d.C. per quanto riguarda le produzioni laziali ed alto-tirreniche, mentre le olle campane presentano una cronologia ristretta entro il I sec.d.C., probabilmente a seguito dell'eruzione del Vesuvio.

Queste olle hanno caratteristiche morfologiche costanti: sono biansate con ampia apertura e orlo svasato, spesso con scanalature interne per favorire l'inserimento del coperchio. Si articolano fondamentalmente in due forme, quella ovoide/piriforme con orlo alto e anse verticali e quella globulare, con orlo breve e anse arrotondate. Questi contenitori risultano avere un uso locale/regionale, le olle laziali invece ebbero una circolazione più ampia, essendo utilizzate anche per il commercio di pesce fresco per i marinai impegnati lungo la rotta da Ostia alle coste galliche.

Recent integrated studies (by archaeologists, archaeometrists, zooarchaeologists, chemistry specialists, epigraphists) have pointed out that in Roman times apart from amphorae[1], also pots, *urcei*, *cadi* and non-ceramic containers (goat-skins, wooden barrels) could be used for containing and trading foodstuffs[2], and in particular for solid products such as fish, fruits, honey, pitch, olives[3].

The aim of this paper is to study some regional contexts in Italy, in order to try to identify specialized ceramic forms which could have been used for these purposes. We will be concentrating on a particular foodstuff, fish and its derivatives, and on a specific geographical area, Tyrrhenian Italy from Campania to Liguria. (**fig. 1**).

Literary sources provide evidence that, generally, in Italy starting from the 2nd century BC the demand and consumption of fish increased significantly in all social classes[4], and moreover fishing, fish-breeding and fish-processing were documented in numerous sites along the Tyrrhenian coasts[5], consistent with current fish-related activities and gastronomic traditions.

Nevertheless, only one type of fish amphora appears to have been produced in these areas: the Dressel 21–22/Botte 3 form, dated between the mid 1st century BC and the 1st century AD, manufactured in Campania and in particular in Cuma, as we can see from the archaeological, epigraphic and archaeometric data[6]. Moreover, the minero-petrographic analyses carried out on Dressel 21–22 amphorae indicate a compatibility with clays most likely from the area comprising Southern Tuscany, Latium and Campania[7], but these probable workshops still have to be identified. Perhaps another form, the Dressel 1C produced in Etruria, was also used for fish, but this is subject to debate[8].

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1 Regarding the amphorae see the general systematic overview by D. Bernal Casasola/M. Bonifay/A.Pecci (eds.), Roman Amphora Contents. Reflecting on Maritime Trade of Foodstuffs in Antiquity, Cadiz Conference (Cadiz in print).

2 See for example: E. De Sena, An Assessment of Wine and Oil Production in Rome's Hinterland: Ceramic, Literary, Art Historical and Modern Evidence. In: B. Santillo Frizell/A. Klynne (eds.), Roman Villas around the Urbs. Interaction with Landscape and Environment. Proceedings of a Conference Held at the Swedish Institute in Rome 2 (Rome 2014) 1–14; J. T Peña. The Mobilization of State Olive Oil in Roman Africa: the Evidence of Late Fourth Century Ostraca from Carthage. In J. T. Peña et al., Carthage papers. Journal Roman Arch. Suppl. 28 (Portsmouth 1998) 116–238.

3 For the pitch see L. Cavassa, Les *kadoi* à poix du Bruttium. Mél. École Française Rome 120/1, 2008, 99–107. – For the pots containing olives: G. Paci, *Oliva Picena*. Picus 25, 2005, 201–211; Long/Piton/Djaoui 2009 fig. 17,78–79 and 588 with a bibliography. – *Uvae ollares* are mentioned by Cato, De Agr. 7,2; Columella 12,45; Martialis 7,20,9; Statius, Silv. 4,9,42. – For honey see the Corsican one-handled pots: G. De Tommaso/A. Romualdi, La ceramica corsa di Populonia. In A. Romualdi (ed.), Le rotte nel mar Tirreno: Populonia e l'emporio di Aleria in Corsica (Suvereto 2001) 25 form Jehasse 60C1. – In general regarding this topic see also S. Menchelli/G. Picchi, Distorsioni interpretative e concretezza epistemologica nello studio delle anfore romane: l'esempio dell'*ager Firmanus* (Marche meridionali, Italia). FOLD&R 304, 2014, 1–26.

4 Marzano 2013.

5 See Curtis 1991, 85–101; Botte 2009b, 42–48, Marzano 2007; Marzano 2013.

6 Botte 2009a, 146–159.

7 C. Capelli/R. Cabella/M. Piazza M., Appendice. Analisi in sezione sottile di Anfore Dressel 21–22. In: S. Pesavento Mattioli/M. B.Carre (eds.), Olio e Pesce in epoca romana: produzione e commercio nelle regioni dell'alto Adriatico (Roma 2009) 164–168.

8 See Menchelli forthcoming.

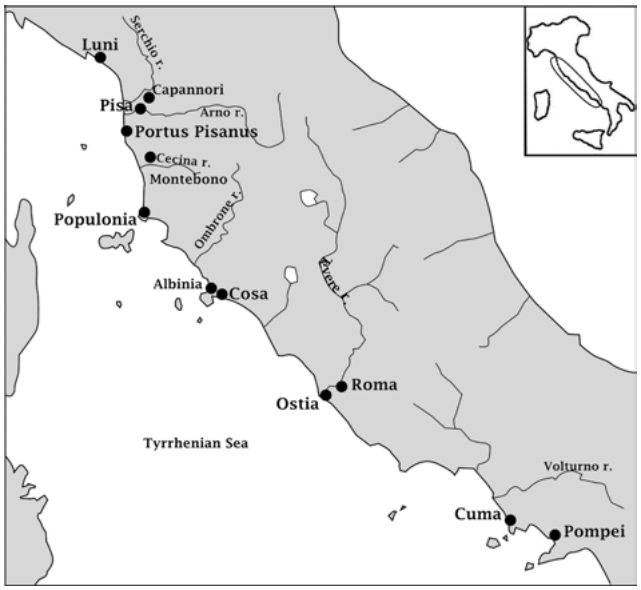

Fig. 1. The sites mentioned in the text.

As the production of the Botte 3 form was chronologically limited, and in general the presence of Dressel 21–22 amphorae is rare along the Tyrrhenian coast north of Campania[9], it is evident that the fish products were contained, and sometimes even traded, in other kinds of containers.

In this paper we will deal with the ceramic ones: *urcei* and pots.

Campania

The above-mentioned Botte 3 amphora provides the archaeological evidence for the alieutic activities in the region, certainly in Cuma as its name is indicated by the *titulus pictus* CVM, and the foodstuffs mentioned by other tituli – *Cet(us)* = big tuna and *Mal(ακοι)* = seafood – can easily be linked to the town[10].

Fish-sauces were also produced in the region. Pliny's quotation concerning the high quality of the Pompei' *garum*[11] has been confirmed by archaeological data: recent excavations have identified several small fish-salting workshops[12], which can be added to those already known that is the Bottega del *Garum* (I, 12, 8) and the Atelier Regio VI (I, 14–18 and 20–21). Moreover, in this context the *domus* of Aulus Umbicius Scaurus (VII, 16, *Ins. Occ*. 12–15)[13] is particularly important because, as is known, the floor mosaic of one of its two *atria* is characterized by an *urceus* represented at each of the four corners of the *impluvium*, and these containers bear *tituli picti* identifying the different contents (*Liquamen Flos;Liquamen Optimum; Garum Flos Scombri*) and the name of the producer, Umbricio Scauro[14].

The *Umbricio Scauro urcei* correspond with the Schöne Mau VI form characterized by a narrow mouth and a high neck, with a single handle, an ovoid body with a ring base [15].

A detailed classification of this form has recently been carried out[16] (**fig. 2,1–4**) focusing on the dimensional aspects: the capacity ranges from 1.9 to 7.4 litres, mostly from 1.9 to 3.4, in particular from 2.6–3 litres and 3–3.4 litres.

As regards the contents, a painstaking analysis of the *tituli picti* was conducted by Etienne and Mayet[17], and more recently E. Botte, in examining a statistical sample of about 150 *tituli picti* on the *urceus* Schöne Mau VI form, found that *garum* was mentioned 85 times (= 56.7 %); *liquamen* 42 times (= 28 %); *muria* 17 (11.3 %) and *hallex* 5 (= 3.3 %)[18].

The rare presence of *hallex* in these *urcei* is understandable because, being a fish paste, a container with a narrow mouth and a long neck would have been inconvenient.

These *urcei* were very common in the Vesuvian area in the 1st century AD[19], while their presence outside Campania is extremely rare: to-date they have only been found in Roma[20] and at Fos-sur-Mer[21].

Undoubtedly Umbricio Scauro' s entrepreneurial activities also including the import of *garum* are well documented[22], but as has rightly pointed out[23], the *urcei* could not have been involved in long-distance trade. Their small size and the fact that they could not be piled up, made them more suitable for local/regional trade, as has been shown by the present state of archaeological evidence.

Besides the *urcei*, pots were also used for fish-products, as documented by the *tituli picti*.

For example, a *parva olla fictilis*, found in Pompei in 1941, also described as a «pignattino biansato alto 11 cm, contenente sul fondo lische di pesce», bore the inscription: *ha(llex) (op)tima (coen?)a*[24].

Of even greater interest is the *olla globosa duobus manubriis instructa* , found in Pompei in 1933, «un pignattino di terracotta sferico, biansato, a largo orlo, alto 15 cm»,

9 Botte 2009b fig. 4-09. In Etruria besides Luni (Luni II tav.147,8) this form is documented in the *ager Pisanus* (S. Menchelli, Anfore, in Terre e Paduli. In: R. Mazzanti et al. [eds.], Reperti Documenti immagini per la Storia di Coltano [Pontedera 1986] fig. 30,12) and at *Vada Volaterrana* (amphorae being studied by A. Del Rio e L. Cherubini).

10 Per the tuna-processing see Strabon 5, 4, 4. In the 5th c. BC mussels were represented on Cuman coins (Botte 2009a, 161)

11 Plinius, Nat. hist. 31, 94.

12 Near the Porta Stabia: S. J. R. Ellis, The Rise and Re-organization of the Pompeian Salted Fish Industry. In: S. J. R. Ellis (ed.), The Making of Pompei. Studies in the History and Urban development of an Ancient Town (Portsmouth/Rhode Island 2011) 59–88.

13 Curtis 1991, 92.

14 R. I. Curtis, A Personalized Floor Mosaic from Pompeii. Am. Journal Arch. 88/4, 1984, 557–566.

15 Schöne Mau, CIL IV, 2594.

16 Cappelletto et al. 2013, 276.

17 R. Etienne/F. Mayet, Le garum à la mode de Scaurus, dans Alimenta. Estudios en homenaje al Dr. Michel Ponsich. Anejos 3 (Madrid 1991) 187–194.

18 Botte 2009b, 163.

19 It is thought that the eruption of Vesuvius in 79 AD could have caused the crisis in the production of fish sauces and their containers (Botte 2009b, 166).

20 M.-F. Meylan Krause, Domus tiberiana: analyses stratigraphiques et céramologiques. BAR Internat. Ser. 1058 (Oxford 2002) 124; Rizzo 2003, 161; 167.

21 Liou/Marichal 1978, 165–167 fig. 27.

22 D. Manacorda, Anfore spagnole da Pompei. In: M. Annecchino (ed.), L'Instrumentum domesticum di Ercolano e Pompei nella prima età imperiale (Rome 1977) 130–131.

23 Cappelletto et Al. 2013, 276.

24 CIL IV Suppl. 9409; M. Della Corte, Pompei. Scoperte epigrafiche. Not. Scavi Ant. 7, 1946, 109 nr. 224

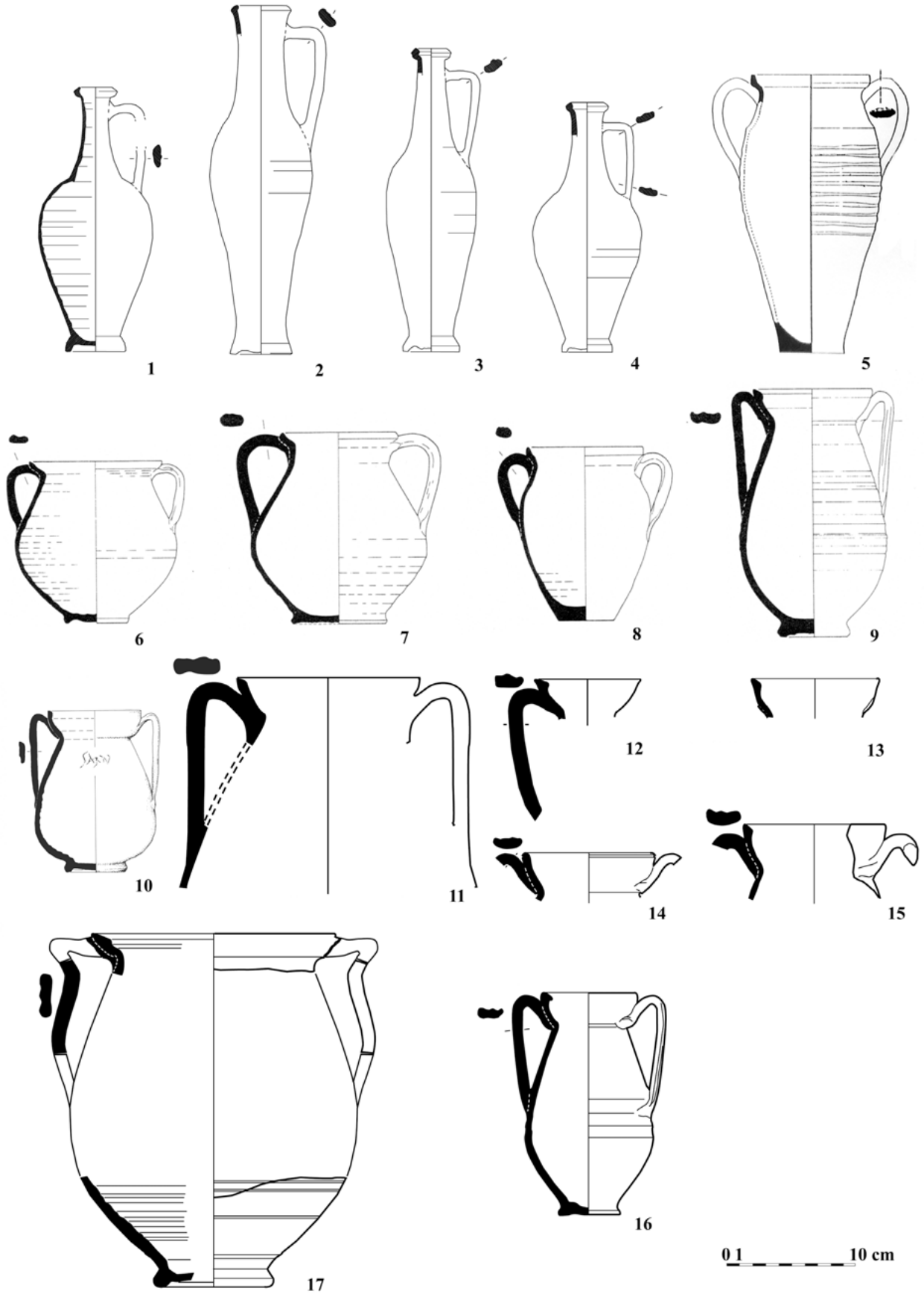

Fig. 2. 1–4 Cappelletto et Al. 2013 fig. 10; **5** S. De Caro, Villa rustica in località Petraro (Stabiae). Riv. Ist. Naz. Arch. 10/3, 1987, 5–89 fig. 48,72; **6–9** Gasperetti 1996 fig. 2,15–18; **10** Djaoui/Piquès/Botte 2014 fig. 2; **11** Olcese 2003 tav. 27,9; **12** Ostia II, 401; **13** Ostia II, 404; **14** Ostia II, 405; **15** Ostia III, 695; **16** Pavolini 2000 fig. 50,100; **17** Pavolini 2000 fig. 50 above.

bearing the inscription: *hallex optima Cotia(n)a ab Scauro*[25], confirming that for the more solid fish products, pots were preferred to the *urcei.*

According to the archaeological data, the most common forms of fish- pots in Campania were:

Pots Schöne Mau 1 form[26] (**fig. 2,5**): a wide-rimmed, double handled pot, with an ovoid, flat-bottomed body.

Pots Gasperetti 1213a, b, c, d forms (**fig. 2,6–9**): characterized by a large mouth with everted rim, a short neck, a globular or pear-shaped body and double handles. Only the form c is flat-bottomed, the others present a ring base.

Their capacities were the following:

Form a: 1–4 litres

Form b: 1.3 litres

Form c: 0.65–5.2 litres

Form d: 1 litre

Concerning the function of these pots, it is thought that they were utilized for the local trade of fish and its derivatives. The finding of a Gasperetti 1213d form in Pompei, containing fish-bones, confirms this specific function[27] .

Obviously, wide-rimmed pots could be multifunctional, that is they were used to contain various products, both solid and liquid, for example honey and fruits as documented by the frescoes in the *Iulia Felix Praedia*[28].

In general, the Schone Mau 1 and Gasperetti 1213 pots dating from the late 1st century BC [29] were particularly widespread during the 1st century AD[30].

Latium

The recent paper by D. Djaoui, G. Piquès, E. Botte [31] has strongly highlighted the Latial production of fish pots. In fact these vessels have been found in numerous Gallic port areas (Arles, Narbonne, Antibes and Frejus) and in some shipwrecks, such as the Dramont D[32], but because of their limited presence it had been thought that they were used as ship-board pots from time to time. Instead, thanks to the very marked presence of these vessels in the Gisement A in Arles, these Authors arrived at the very reasonable conclusion that they were part of a well-organized trade system.

Due to their limited capacity (from 0.30–0.45 litres to a maximum of 1.70–2.25 litres) they were not used for large-scale export activities, but were more appropriate for a redistribution trade of fresh small fish intended for the sailors working on the route from Ostia to the Gallic coasts.

In any case, the Latial fish pots were also used for local trade, as has been documented by archaeological findings and literary sources. For example, Athenaios [33]tells us that tiny fish from *Antium, Tarracina* and the Pontian islands opposite, and also from Pyrgi in Etruria were traded in Rome. The numerous villas equipped with fish-ponds along the Latial coast[34] constitute archaeological evidence of fish-breeding, whose products, apart from satisfying the owners' own needs, could also be sent to the local/regional markets, and in particular the Urban ones.

The Latial production of *garum* is much more hypothetical because it is only based on the *titulus pictus garum Ostiense* on an amphora found in Magdalensberg[35].

In the Latial fish pots we can see a clear chronological gradation, as the shortest, pear-shaped form appears to be the oldest[36], dating from the Augustan Age (**fig. 2,10**); the other pots were manufactured side by side with it and the overall production continued until the Late-Antonine Age.

S. M.

Latial forms

Ostia II, 401 form (**fig. 2,10**): characterized by a wide everted mouth with a vertical rim, a pear-shaped body with a ring base and vertical handles[37]. It was manufactured at Sutri (**fig. 2,11**) in a workshop dated 40–70 AD[38], but, as mentioned above, the production started in the Augustan Age[39], as confirmed by the pot found in an Ostia context (Domus dei Bucrani, prior to the Schola del Traiano), dating from 30–20 BC[40] and by the findings in *Albintimilium*[41] and *Pisae*[42].

Ostia II, 401, 403, 404, 405/Ostia III, 23, 695; Pavolini 100 forms. (**fig. 2,12–16**). They were characterized by a high everted rim with an incurved triangular lip and an ovoid body with a ring base.

The pots were produced in the La Celsa workshop[43] and in the one on the slopes of the Gianicolo[44], both dated 1st–2nd century AD. General chronology: mid-1st century AD – late Hadrianic Age[45].

It is significant that the Pavolini 100 form matches the Gasperetti 1213d form.

Ostia II, 402/Ostia III, 340 forms (= Pavolini 2000 fig. 50 above) (**fig. 2,17**). Globular pot with an everted rim, a short neck, a ring base and bowed handles. Chronology: from the Neronian to Late Antonine Age [46] .

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25 CIL IV Suppl. 9410; M. Della Corte, Pompei. Studi e ricerche intorno alla Casa del Criptoportico sulla via dell'Abbondanza. Not. Scavi Ant. 10, 1933. 316 nr. 328.

26 Annecchino 1977, 111–112 fig. 4,28.

27 It was found in the domus of C. Iulius Polibius: Gasperetti 1996, 32.

28 See Annecchino 1977 tav. LII, 10. See the bibliography mentioned in note 3.

29 In particular, the 1213d form would appear to have been the most ancient: Gasperetti 1996, 31.

30 Stratigraphic evidence from a *domus* in Capua, in a context not later than the mid-1st c. AD. (Gasperetti 1996, 52–55 fig. 11,59–60). 1213a and 1213c forms are commonly documented in Campanian contexts dating from the 1st c. AD. (Gasperetti 1996, 30–31).

31 Djaoui/Piquès/Botte 2014.

32 J. P. Joncheray, Étude de l'épave Dramont D dite "des pelvis". Cahiers Arch. Subaquatique 3, 1974, 21–48 pl. 5,a.

33 Athenaios 6.224b–c.

34 Marzano 2007, 307–310.

35 Curtis 1991, 90.

36 Bertoldi 2012, 82–83.

37 Pavolini 2000, 199–200 e note 23; Djaoui/Piquès/Botte 2014, 175.

38 Olcese 2012, 240 tav. 2,53.43

39 Pavolini 2000, 200 e note 23; Olcese 2003, 94. For this topic see also Djaoui/Piquès/Botte 2014, 175–176.

40 Deru et al. 2016 fig. 1,16.123.

41 G. Olcese, Le ceramiche comuni di Albintimilium. Indagine archeologica e archeometrica sui materiali dell'area del Cardine (Firenze 1993) 288 fig. 74,322.

42 See below, **fig. 3,9–12.**

43 A. Carbonara/G. Messineo, La Celsa (circ. XX). Bull. Comm. Arch. Comunale Roma 94, 1991–1992, 179–190; Olcese 2003 tav. 27,7–8.

44 Olcese 2003 tav. 27,4.

45 Pavolini 2000, 201.

46 Pavolini 2000, 200; Bertoldi 2012, 82–83.

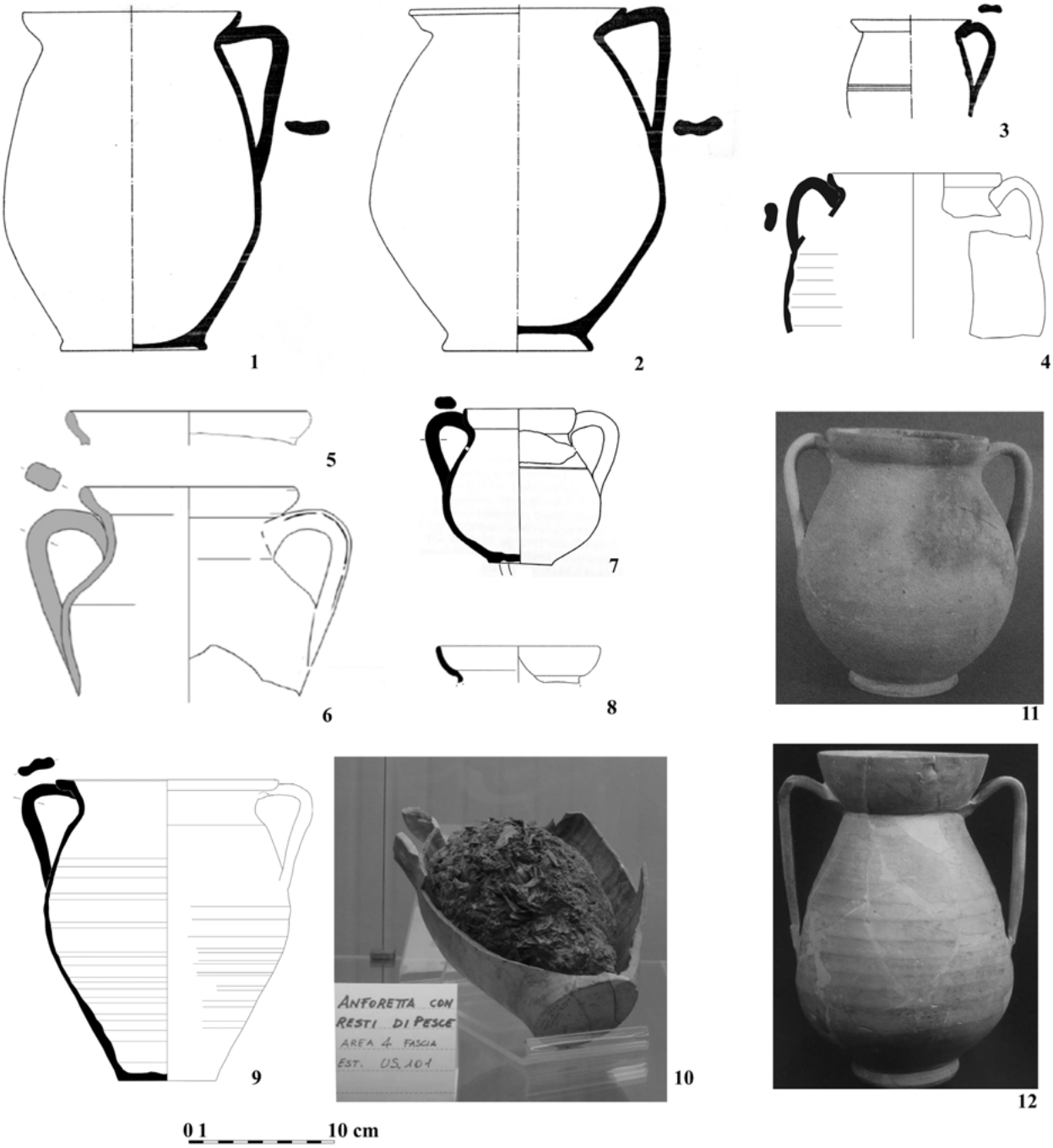

Fig. 3. 1–3 Dyson 1976 fig. 51,22II-111.22II-109; fig. 63,LS112; **4** Ciampoltrini 1997 fig. 13,15; **5–6** Genovesi/Megale 2016 fig. 15,8–9; **7** Copedè 2006 fig. 13,e; **8** Botarelli 2006 fig. 6,10; **9–10** Pot from Pisa, San Rossore (courtesy of Dr. A. Camilli, Soprintendenza Archeologia, Belle Arti e Paesaggio per le Province di Pisa e Livorno); **11** Camilli/Remotti/Barreca 2005, 158 n. 268; **12** Camilli/Remotti/Barreca 2005, 92 fig. 7.

The local production of these vessels is confirmed by the numerous findings in the Terme del Nuotatore layers and in many other sites in Ostia (Casa delle Pareti Gialle and Piazzale delle Corporazioni) and Rome, all manufactured using local clay[47].

Southern Etruria

Ager Cosanus coasts are well known for their fish production: Strabon referred to a *thynnoskopeion* (tunny watch[48]) and since the 1980s fisheries have been identified in the area: in the Cosa Harbour[49], in the Feniglia tombolo between Cosa

[47] Pavolini 2000, 203.

[48] Strabon V, 2, 8.

[49] M. McCann, The Roman port and the fishery of Cosa (Princeton 1987).

and Monte Argentario[50], at Porto Santo Stefano[51] and in the islands of Giglio and Giannutri[52].

In searching for the containers of the Cosan fish-products, F. Laubenheimer identified, among the Albinia amphorae, a production of the Dressel 1C amphorae which were characterized by 3-letter stamps on the lip and distributed differently from the wine Dressel 1. She hypothesized that these amphorae might have transported fish products[53], but we will not be discussing this aspect because it has already been dealt with at the Cadiz Conference[54].

It is very significant that vessels which could have been fish pots have been found in the Cosa excavations.

Dyson 1976, 132 fig. 51, 22II-111 form (**fig. 3,1**). Similar to the Gasperetti 1213c form, even if it is different in having a base with a ring instead of a flat bottom. – Chronology: first half of the 1st century AD.

Dyson 1976, 132 fig. 51, 22II-109 form (**fig. 3,2**). Similar to the Gasperetti 1213 a form. Globular pot with a large mouth and a short everted rim. – Chronology: first half of the 1st century AD

Dyson 1976 fig. 63,LS112 form (**fig. 3,3**). Similar to **fig. 1,3**, but smaller. – Chronology: late 1st–early 3rd century AD.

We have no evidence to establish whether these pots were locally produced or imported from *Latium* or *Campania*. Dyson[55] has considered, in general terms, whether the Cosa vessels derived from the local tradition or from Roman models and therefore we leave the question open. In any case also in this area there was the need to transport fish products and similar pots were most probably used for this purpose.

In the Cosan territory, in what was probably a *mansio* near the river Albegna, the following pot was found:

Albinia (**fig. 3,4**). Pots with a large mouth, a short everted rim, a short neck and a globular body. – Chronology: Tiberian-Claudian Ages. Local-regional production[56].

Northern Etruria

Populonia and its territory

Fishing and processing in this area are indicated by literary sources and archaeological evidence. Strabo (V, 2, 6) referred to a *thynnoskopeion*; Rutilius Namatianus (379-380) mentioned *vivaria* at Falesia, directly East-South-East of Populonia. Tunny fishing works (consisting of anchor stocks on the seabed in order to hold the nets) have been identified some years ago near Punta delle Tonnarelle, a meaningful place-name [57].

More recently, at Poggio del Molino, directly North of Populonia, a *cetaria* has been brought to light, which was built between the mid-1st century BC and the early Imperial period, consisting of five salting vats[58]. In this *cetaria* some pots which can be considered fish pots have been found. They appear locally/regionally produced.

Populonia, Poggio del Molino[59] (**fig. 3,5–6**). Globular pot with a short everted rim, and a high neck, similar to the Gasperetti 1213c form and to an item from Capua[60]. Dating from the beginning of the Imperial Age to the late 1st century AD.

In Populonia and its territory other likely fish pots have been found.

Populonia, Acropolis[61] (**fig. 3,7**). Pot characterized by a high rim, a short neck, a globular body with a ring base. The dating is indeterminable; the fabric appears to be Campanian.

Populonia, villa di Cafaggio (**fig. 3,8**). Pot with a high, everted rim, found in a context dating from the end of the 1st century BC to the early 2nd century AD[62]. The origin is uncertain.

Territories belonging to Pisae, Volaterrae and Luca

Although we have no literary sources about the fish production in these areas, fishing and the gastronomic tradition based on fish are deeply rooted here, mainly in the Leghorn district where *Portus Pisanus* was located.

Moreover we have a few archaeological data, for example in the *Portus Pisanus* hinterland in the Vallinbuio workshop, which produced Dressel 1 amphorae, one of these was found to have been filled with whole or sliced fish of the *Centrocanthus cirrus* and *Spicara smaris* species, of the *Centracanthidae* family[63]. These species were very common in the Mediterranean Sea, and particularly along the Tyrrhenian coast: for example they were also abundantly found in the Bottega del *Garum* in Pompei[64].

The pot found in the Pisan Urban port of call (Pisa, San Rossore) (**fig. 3,9–10**), in an Augustan context[65], provides evidence that pots were used to contain fish-derived products in Northern Etruria.

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50 D. Cavallo/G. Ciampoltrini/E. J. Shepherd, La pesca nell'agro di cosa in età romana: prospettive di ricerca e nuove acquisizioni. I Rassegna Arch. Subacquea, Giardini di Naxos 1990 (Messina 1992) 103–114.

51 M. Pasquinucci, Contributo allo studio dell'ager Cosanus: la villa dei Muracci, in Studi Classici e Orientali, 32, 1982, 141–155.

52 P. Rendini, Impianti per la lavorazione di pesce conservato al Giglio e Giannutri. In: A. Benini/M. Giacobelli (eds.), Atti II Convegno Nazionale di Archeologia subacquea, Castiglioncello 2001 (Bari 2003) 175–188.

53 F. Laubenheimer, A propos de timbres d'amphores de l'Atelier d'Albinia (prov. di Grosseto, Italie). Vin et poisson. In: D. Vitali (ed.), Le Fornaci e le anfore di Albinia (Bologna 2007) 67–80.

54 Menchelli forthcoming.

55 Dyson 1976.

56 Ciampoltrini 1997, 280 fig. 13,15.

57 E. J. Shepherd, La tonnara di Baratti. In: Materiali per Populonia 2 (Firenze 2003) 271–280. – E. J. Shepherd/L. Dallai, Attività di pesca al promontorio di Piombino (I sec.a.C.–XI sec.d.C.). In: A. Benini/M. Giacobelli (eds.), Atti II Convegno Nazionale di Archeologia subacquea, Castiglioncello 2001 (Bari 2003) 189–207.

58 S. Genovesi, Una cetaria a Poggio del Molino. Nuove evidenze per la lavorazione del pesce nel territorio di Populonia. In: Materiali per Populonia (Firenze 2013) 253–265; Genovesi/Megale 2016.

59 Genovesi/Megale 2016, 11 and note 35 fig. 15,8–9

60 Gasperetti 1996, 53 fig. 11,60.

61 Copedè 2006, 131 fig. 13,e.

62 Botarelli 2006, 499 fig. 6,10.

63 F. Bulzomi, Vallin Buio. In: M.Pasquinucci (ed.), Guida archeologica delle coste livornesi (Firenze 2013) 101.

64 A. Carannante, L'ultimo *garum* di Pompei.Analisi archeozoologiche sui resti di pesce dalla cosiddetta "Officina del *garum*". AUTOMATA. Journal Nature, Science and Technics Ancient World 3–4/1, 2008–2009, 43–53.

65 Camilli/Remotti/Barreca 2005, 158 n. 272.

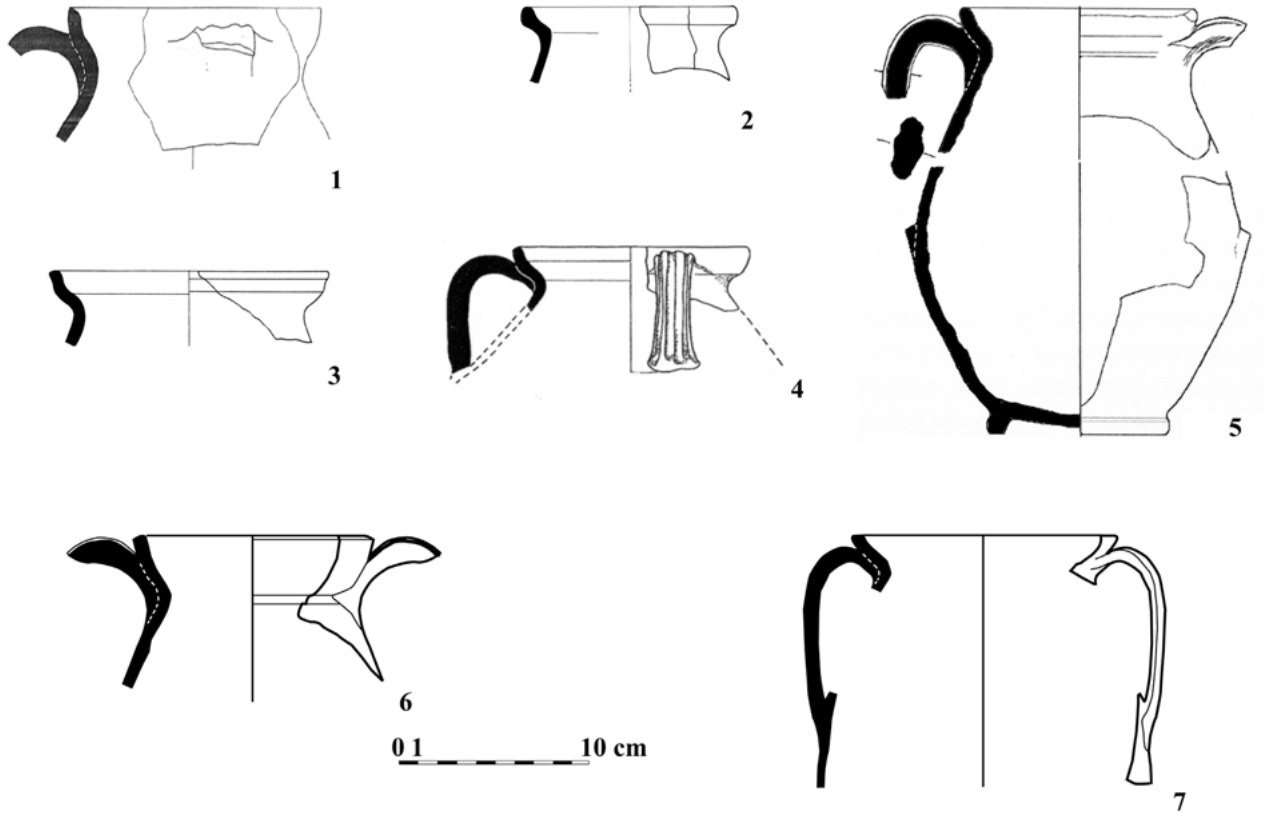

Fig. 4. 1 Pasquinucci et Al. 2009/2010 fig. 8,6; **2** Picchi 2010 fig. 7,72; **3** Pasquinucci/Storti 1989 tav. 22,20; **4** Maccari 2010, fig. 4,35; **5** Giannoni 2005, 127 BR2c; **6** Luni I tav. 73,26; **7** Luni II tav. 129,1 (graphic elaborations by G. Picchi).

It is a globular pot with an everted rim, a short neck, bowed handles and a flat bottom. The item is very similar to a pot found in the Villa di Livia[66], but it was locally produced, as it presents typological and technical (in particular the carbonatic fabric) peculiarities typical of the Northern-Etruscan coated wares[67].

Once again in Pisa-San Rossore, the Urban port of call, in Augustan stratigraphies, two fish-pots were found, one similar to the Gasperetti 1213a[68] form (**fig. 3,11**), the other to the Ostia II, 401 with a pear-shaped body[69] (**fig. 3,12**).

In the territories of *Volaterrae*, *Pisae* and *Luca* there is evidence of vessels which because of their morphological characteristics could have been fish pots. Generally they have a large mouth, a short everted rim, a globular or ovoid body.

Montebono (Guardistallo, Pisa). From a rural site near the Cecina river bank[70] (**fig. 4,1**). Two pots generically similar to the Gasperetti 1213b form were found, one locally produced and the other perhaps imported from the central Tyrrhenian area.

Portus Pisanus excavations[71] (**fig. 4,2**). From a context which included materials dating in the 2nd half of the 1st cent BC. The origin is uncertain.

Pisae. From a *domus* near the Archbishop's Garden[72] (**fig. 4,3**). The dating is indeterminable; the fabric is local.

Pisae. From a *domus* near the Arena Garibaldi[73] (**fig. 4,4**). It is similar to the Gasperetti 1213a form. – Chronology: 1st–2nd century AD. It was locally produced.

Chiarone di Capannori, *Ager Lucensis*[74] (**fig. 4,5**). – Chronology: 1st–3 rd centuries AD. Local/regional production.

The finding of similar vessels in the Luca territory could be linked with river fishing: we know that it was documented in the *Arnus* and *Auser* rivers up to the Theodoric period: in 523–526 AD the King ordered the removal of the weirs put in these rivers for the purpose of fishing[75]. We also have archaeological evidence of these activities, that is numerous lead fishing weights found along the Serchio river in the plain to the East of Lucca[76].

66 M. Carrara, Ceramica comune da mensa e da dispensa. In: G. Messineo (ed.), Ad Gallinas Albas. Villa di Livia. Bull. Comm. Arch. Comunale Roma Suppl. 8 (Rome 2001) 183–189 fig. 217.

67 S. Menchelli/M. Pasquinucci, Ceramiche con rivestimento rosso nella Tuscia settentrionale. Acta RCRF 42, 2012, 229–237.

68 Camilli/Remotti/Barreca 2005, 158 n. 268; cfr. anche Long/Piton/Djaoui 2009, 588 fig. 17,80–82.

69 Camilli/Remotti/Barreca 2005, 92 fig. 7 e 157 n. 263. It was not possible to have sight of the items in order to determine their provenance.

70 Pasquinucci et Al. 2009/2010 fig. 8,6.

71 Picchi 2010, 63 fig. 7,72.

72 Pasquinucci/Storti 1989 tav. 22,20.

73 Maccari 2010, 83 fig. 4,35.

74 Giannoni 2005, 127–128; 138, BR2c.

75 Cassiodorus, Var. 5,17 and 20.

76 G. Ciampoltrini/A. Andreotti, Pesca e navigazione fluviale lungo l'Auser/Serchio in età romana. I materiali dalla piana di Lucca. In: A. Benini/M. Giacobelli (eds.), Atti II Convegno Nazionale di Archeologia subacquea, Castiglioncello 2001 (Bari 2003) 209–224.

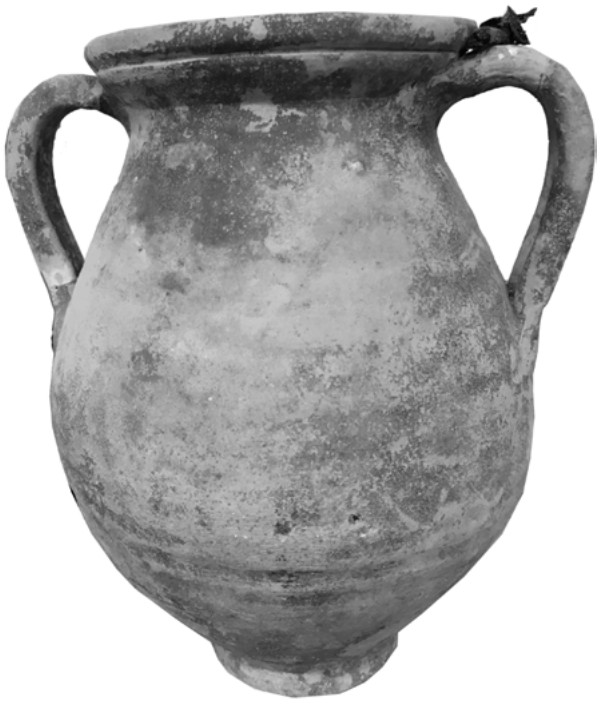

Fig. 5. Olla found in the Navi di Pisa context (by courtesy of Dr. A. Camilli). Total height: 23 cm. It is very similar to pots **fig. 4,4–5**.

Liguria

Pots which can be included in this group have also been found in the port town of *Luna*:

Luni I, 240–241 tav. 73,26[77] form (**fig. 4,6**). Pot characterized by an everted rim, a short neck and an ovoid body. – Chronology: 2nd century BC – late 1st century AD.

Luni II, gruppo 21 a, 196–197 tav. 128,14 and tav. 129,1 forms (**fig. 4,7**). Pot with a short, everted rim. – Chronology: mid-1st century AD–early 3rd century AD.

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Concluding remarks

Therefore, the morphological characteristics of the studied pots appear to have been constant: they are double handled, with an always extremely wide mouth, and an everted rim, often having internal grooves, obviously appropriate for inserting a lid to protect the contents. Two main groups can be identified: the ovoid or pear-shaped form with a high rim and vertical handles (Ostia II, 401 and Pavolini 100/ Gasperetti 1213d), and the globular one, having a short rim and rounded handles.

The fish pots were mainly with ring bases, but some (Schöne Mau 1 and Gasperetti 1213c forms, Pisa pots **fig. 3,9**) were flat-bottomed and others (Pavolini 2000 fig. 50 above, the Cosan pot **fig. 3,2**) had a base with a real foot ring.

Capacities range from a minimum of 0.30–0.45 litres (Ostia II, 401) to a maximum of 5. 2 litres (Gasperetti 1213c), the most common capacity was about 1–2 litres.

These pots had to be closed with lids of various typologies and different materials: pottery, wood and cork such the Schöne I pot found in Herculaneum, sealed with a cork lid[78]. Moreover, the lids could be kept in place by means of strings tied around their knob and the handles of the pots, as shown by iconographic representations[79]. A pot found in the Navi di Pisa context, keeping a part of the leather string around the handle, constitutes archaeological evidence for this procedure (**fig. 5**).

The use of everted-rim pots as fish containers has also been confirmed in other geographical contexts, for example in the Breton *cetariae* of Ploumarc' h en Douarnenez, active between the first half of the 2nd century AD and the late 3rd century[80] . Baetican pots for fish-derived products (*allec* or *salsamenta*) have also been identified[81] evidently this must have been a widespread practice along the Western Mediterranean and Atlantic coasts.

As regards the chronology, reliable data come from the Urban contexts, where Latial pots appear to have been widespread as early as the Augustan Age, data confirmed moreover also by findings in various extra-regional sites, and along the Gallic coasts.

In fact, C. Pavolini[82] maintains that the pear-shaped pots and subsequently the ovoid ones could have derived from the traditional Southern-Etruscan common pottery of the Late Republican period, produced uninterruptedly from the 2nd–1st century BC to the early Imperial Age.

It is certain that the morphological characteristics of these pots were common to both Campanian and Latial workshops, as is evident in the identical Pavolini 100b = Gasperetti 1213d forms. Unfortunately we do not have any reliable chronological data to establish which of the two was produced first.

If this case could be interpreted as the actual transmission of models, in other cases, pots produced in the Cosan and other Etruscan areas, sharing only basic peculiarities, should be interpreted as regional independent responses to the same need, containers for food, and in particular fish.

Really, all these vessels constitute a well-defined morphological group which came into being precisely in order to satisfy the need to contain solid foodstuffs of different consistencies. In fact, as shown by an ongoing important project[83], these pots could have contained:

– Small fish (mainly sardines) and part of other fish.
– Fish mash *(allec)*.
– Potted fish *(salsamenta)*.

[77] Luni I.

[78] E. De Carolis, Ceramica comune da mensa e da dispensa di Ercolano. In: M. Bats (dir.), Les céramiques communes de Campanie et de Narbonnaise (Ier s. av. J.-C.–IIe s. ap. J.-C.). La vaisselle de cuisine et de table. Actes des Journees d'Étude, Naples 1994. Collect. Centre Jean Bérard 14 (Naples 1996)121–128 fig. 1,3.

[79] See note 28.

[80] J.-Y Eveillard/J.-P. Bardel, Le site des Plomarc'H en Douarnenez (Finistère, France): Un modèle pour le functionnement des usines de salaisons sur la Façade Nord-Ouest Atlantique? In: L. Lagostena/D. Bernal/A. Arévalo (eds.), Cetariae 2005. Salsas y salazones de pescado en Occidente durante la Antigüedad. BAR Internat. Ser. 1686 (Oxford 1987) 151–156; 153 fig. 7.

[81] Piquès et al. forthcoming.

[82] Pavolini 2000, 200 note 23.

[83] Piquès et al. forthcoming.

As regards Italy, it is not by chance that the *urceus* Schöne Mau 6, decidedly different because of its narrow mouth and high neck, suitable for *garum*, but not for more consistent foodstuffs, was only used in Campania. This form did not cross the regional borders, as has been seen, and it is significant that it was not even reproduced in other Italian regions in connection with fish products.

The fish contained in these pots was usually tiny and not of the most sought-after species, therefore these vessels were specifically meant to be used for domestic storage and or local/regional trade. Only the Latial pots were more widely distributed due to their satisfying a specific requirement for the sailors along the route from Ostia to the Gallic coasts and this could have promoted their use also in other Tyrrhenian ports, as the fish pots found in Pisa-San Rossore would seem to indicate

In conclusion we can consider these pots as evidence of a Tyrrhenian koinè in fish production, consumption and redistribution, in a well-defined chronological period: from the Augustan Age to the 2nd century AD for the Latial and Roman-Etruscan productions, while the Campanian ones seem to have to have been adversely affected by the eruption of Vesuvius.

Undoubtedly the Italian alieutic production did not have a strong export impact on the Mediterranean economy, but the production and consumption of fish in Tyrrhenian Italy was greater than it would appear to have been if our estimates only took into account the production of specifically designed fish amphorae. Fish processing and consumption were very widespread throughout Italy, as can be seen in the literary sources and as the archaeological research is beginning to demonstrate and these fish pots can be an important tool in understanding these economic and social processes.

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Bibliography

Annecchino 1977 — M. Annecchino (ed.), L'Instrumentum domesticum di Ercolano e Pompei nella prima età imperiale (Roma 1977).

Bernal/Bonifay/Pecci forthcoming — D. Bernal Casasola/M. Bonifay/A. Pecci (eds.), Roman Amphora Contents. Reflecting on Maritime Trade of Foodstuffs in Antiquity. Cadiz Conference 2015 (Cadiz forthcoming)

Bertoldi 2012 — T. Bertoldi, Ceramiche comuni dal suburbio di Roma. Stud. Arch. 1 (Rome 2012).

Botarelli 2006 — L. Botarelli, La ricognizione in Val di Cornia. Rapporto preliminare (campagna 2004). In: M. Aprosio/C. Mascione (eds.), Materiali per Populonia 5 (Pisa 2006) 481–507.

Botte 2009 — E. Botte, Le Dressel 21–22: anfore da pesce tirreniche dell'alto impero. In: S. Pesavento Mattioli/M. B. Carre (eds.), Olio e Pesce in epoca romana: produzione e commercio nelle regioni dell'alto Adriatico (Roma 2009) 149–171.

Botte 2009b — E. Botte, Salaisons et sauces de poissons en Italie du Sud et en Sicile durant l'Antiquité (Napoli 2009).

Camilli/Remotti/Barreca 2005 — A. Camilli/E. Remotti/D. Barreca, Cibi, derrate alimentari e commerci dal contesto delle navi antiche di Pisa. In: G. C. Cianferoni (ed.), Cibi e sapori nel mondo antico (Livorno 2005) 92–97.

Cappelletto et Al. 2013 — E. Cappelletto/D. Bernal Casasola et Al., Urcei per salse di pesce da Pompei-Ercolano: una prima analisi. In: D. Bernal et al. (eds.), Hornos, talleres y focos de producción alfarera en Hispania. I Congreso Internacional de la SECAH. Ex officina hispana, Cadiz 2011 (Cadiz 2013) 271–280.

Ciampoltrini 1997 — G. Ciampoltrini, Albinia, fluvius habet positionem. Scavi 1983–1988 nell'approdo alla foce dell'Albegna (Orbetello, GR). Rassegna Arch. 14, 1997, 253–295.

Copedè 2006 — E. Copedè, Ceramica comune da mensa e dispensa dal saggio IX. In M. Aprosio/C. Mascione (eds.), Materiali per Populonia 5 (Pisa 2006) 113–114.

Curtis 1991 — R. I. Curtis, Garum and Salsamenta. Production and Commerce in Materia Medica (Leiden, New York, Køpenhaven, Cologne 1991).

Deru et al. 2016 — X. Deru/A. Desbat/G. Mainet/L. Motta, Deux ensembles augustéens, fouillés sous la Schola du Trajan à Ostie. Acta RCRF 44, 2016, 115–125.

Djaoui/Piquès/Botte 2014 — D. Djaoui/G. Piquès/E. Botte, Nouvelles données sur les pots dits «à garum» du Latium, d'après les découvertes subaquatiques du Rhône (Arles). In: E. Botte/V. Leicht (eds,), Fish and Ship. Production et commerce des salsamenta durant l'Antiquité (Aix-en-Provence 2014) 175–197.

Dyson 1976 — S. L. Dyson, Cosa: the utilitarian pottery. Mem. Am. Acad. Rome 33, 1976.

Gasperetti 1996 — G. Gasperetti, Produzione e consumo della ceramica comune da mensa e da dispensa nella Campania romana. In: M. Bats (ed.), Les céramiques communes de Campanie et de Narbonnaise (Ier s. av J.-C.–IIe s. ap. J.-C). La vaisselle de cuisine et de table. Actes des Journees d'Étude, Naples 1994. Collect. Centre Jean Bérard 14 (Naples 1996) 19–63.

Genovesi/Megale 2016 — S. Genovesi/C. Megale, The Roman settlement of Poggio del Molino: the Late Republican fort and the Early Imperial farm. FOLD&R 2016, 347. http://www.fastionline.org/docs/FOLDER-it-2016-347.pdf

Giannoni 2005	A. Giannoni, Proposta per una cronotipologia della ceramica comune di età imperiale dall'insediamento in località Chiarone (Capannori). In: G. Ciampoltrini/M. Zecchini (eds.), Le dimore dell'Auser. Archeologia, architettura, ambiente dell'antico lago di Sesto (Lucca 2005) 119–140.
Liou/Marichal 1978	B. Liou/R. Marichal, Les inscriptions peintes sur amphores de l'anse Saint- Gervais à Fos-sur-mer. Archaeonautica, 2, 1978, 109–181.
Long, Piton, Djaoui 2009	L. Long/J. Piton/D. Djaoui, Les céramiques communes des gisements du Rhône à Arles. Le faciès portuaire d'époque imperial. In: M. Pasqualini (dir.), Les céramiques communes antiques d'Italie et de Narbonnaise: structures de production, typologies et contextes inédits, IIe s. av. J.-C.–IIIe s. apr. J.-C. Actes de la table ronde de Naples 2006. Collect. Centre Jean Bérard 30 (Naples 2009)569–614.
Luni I	A. Frova (ed.), Scavi di Luni. Relazione preliminare della campagna di scavo 1970–71 (Roma 1973).
Luni II	A.Frova (ed.), Scavi di Luni II. Relazione delle campagne di scavo 1972–1974 (Roma 1977).
Maccari 2010	A. Maccari, Vasi comuni dal suburbio settentrionale di Pisa (III secolo a.C.–III secolo d.C.). Rassegna Arch. 23B, 2007–2008, 2010, 73–93.
Marzano 2007	A.Marzano, Fish Salting versus Fish Breeding: the case of Roman Italy. In: L. Lagostena/D. Bernal/A. Arévalo (eds.), Cetariae 2005. Salsas y salazones de pescado en Occidente durante la Antigüedad. BAR Internat. Ser. 1686 (Oxford 2007) 301–313.
Marzano 2013	A.Marzano, Harvesting the Sea: The Exploitation of Marine Resources in the Roman Mediterranean (Oxford 2013).
Menchelli forthcoming	S. Menchelli, Italian and Sicilian Amphorae and their contents: a general overview. In: D. Bernal Casasola/M. Bonifay/A. Pecci (eds.), Roman Amphora Contents. Reflecting on Maritime Trade of Foodstuffs in Antiquity, Cadiz Conference 2015 (Cadiz forthcoming).
Olcese 2003	G. Olcese, Ceramiche comuni a Roma e in area romana. Produzione, circolazione e tecnologia. Tarda età repubblicana – prima età imperiale. Doc. Arch. 28 (Mantova 2003).
Ostia II	F. Berti et al., Le Terme del Nuotatore. Scavo nell'ambiente 1. Stud. Miscellanei 16 (Roma 1970).
Ostia III	A. Carandini et al., Le Terme del Nuotatore. Scavo nell'ambiente 1. Stud. Miscellanei 21 (Roma 1973).
Pasquinucci et Al. 2009/2010	M. Pasquinucci et Al., Monte Bono (Guardistallo, Pi). La Campagna 2010. Laboratorio Univ. Volterrano Quad. 14, 2009–2010, 106–114.
Pasquinucci/Storti 1989	M. Pasquinucci/S. Storti, Pisa antica. Scavi nel giardino dell'Arcivescovado (Pontedera 1989).
Pavolini 2000	C. Pavolini, Scavi di Ostia XIII. La ceramica comune. Le forma in argilla depurata dell'Antiquarium (Rome 2000).
Picchi 2010	G. Picchi, Nuovi dati sul Portus Pisanus (Livorno): la ceramica in impasto a scisti microclastici, «grigia» e comune romana dalla campagna di scavo 2004. Rassegna Arch. 23B, 2007–2008 (2010), 43–71.1.
Piquès et al. forthcoming	Piquès et al., New Data about Sauces and Salted-fish from the Analysis of the Paleocontent of Roman Jars and Amphorae. In: D. Bernal Casasola/M. Bonifay/A. Pecci (eds.), Roman Amphora Contents. Reflecting on Maritime Trade of Foodstuffs in Antiquity, Cadiz Conference 2015 (Cadiz forthcoming).