

THE ‘SOS’ AMPHORA: AN UPDATE

by Catherine E. Pratt

Department of Classical Studies, University of Western Ontario

Research conducted and published over the last 35 years has brought to light much new information concerning the so-called ‘SOS’ amphora, produced primarily in Attica and Euboea in the Archaic period. However, little focused work has been undertaken in the study of these vessels since Johnston and Jones’ seminal work in 1978. This paper therefore provides a critical update on the production and distribution of SOS amphorae using the current data available. Included in this update is a discussion of recent research on Early Iron Age amphorae that may help situate the SOS amphora within a broader ceramic milieu. A new distribution of SOS amphorae also necessitates a reappraisal of some previously held ideas concerning their chronological patterns and the specific actors involved in their shipment. Taking into consideration the multiple spatial and temporal varieties of SOS amphorae, it can be shown that these vessels were relatively evenly deposited across the Mediterranean, from Iberia to the Levant, very early in the Archaic period. In combination with other factors, this widespread distribution may support the hypothesis that non-Greek seafarers were involved with transporting Athenian and Euboean SOS amphorae. Ultimately, it is hoped that a fresh look at this ceramic shape, however brief, might contribute to existing scholarly debates on cultural interactions and mobility within the Mediterranean basin during the Archaic period.

INTRODUCTION

In comparison with Panathenaic amphorae (for which see, among others, Valavanis 1986; Descat 1993; Bentz 1998; Tiverios 2007; Johnston 2007), initially produced in the sixth century BC, little ink has been spilt over their predecessor and sole Athenian trade amphora, the so-called ‘SOS’ amphora; yet their study has much to contribute to understanding commerce in the Greek Archaic period, and in particular Athenian (and other) participation in overseas trade and colonisation. The seminal work by Johnston and Jones (1978) demonstrated that these vessels are capable of contributing rich information, if a concerted effort is undertaken to study them. Although a number of scholars have addressed SOS amphorae over the past 35 years, it has generally been in the context of excavation publications or as part of broader research questions (e.g. Shefton 1982; Jones 1986; Kotsonas 2012; Birzescu 2012). An updated reappraisal of the SOS amphora on its own has yet to be produced. Indeed a great amount of information has been published since 1978, including many excavation reports from Sicily, the Italian peninsula, Iberia, northern Greece, and the Black Sea region. Consequently, the number of sites that have yielded SOS amphorae has almost tripled. Additionally, recent research on Early Iron Age amphorae may help situate the SOS amphora within a broader ceramic milieu. This article therefore aims to provide an update on our knowledge of the SOS amphora with a focus on its creation and distribution. In doing so, I hope to demonstrate how a fresh look at this ceramic shape, however brief, might contribute to existing scholarly debates on cultural interactions and mobility within the Mediterranean basin during the Archaic period.

PRODUCTION: A BRIEF SUMMARY

A short section on the production of SOS amphorae is provided here as a summary of what has already been discussed elsewhere. Johnston and Jones (1978, 122–128) published the results of research including a thorough analytical project that chemically tested many SOS amphorae. That examination was followed up a short time later by Jones (1986, 706–712), who added to

the number and breadth of samples.¹ The results of both projects were, at the same time, conclusive and complementary: SOS amphorae were produced in Attica, on Euboea (perhaps Chalcis), and within a number of western colonial settings. Specifically, two distinct chemical signatures determined without a doubt that SOS amphorae were not exclusively Athenian in origin. Although the majority of samples belonged to an Athenian group, a separate chemical signature pointed to an origin on the island of Euboea.² More research on Euboean SOS amphorae might allow for further classification of these vessels by site, including the location of specific workshops. Indeed, the 1969 excavations at Chalcis on Gyphtika hill uncovered a pottery deposit associated with a local workshop (as indicated by the presence of wasters) that contained hundreds of SOS amphora fragments (Johnston and Jones 1978, 111; Descoedres 2006/7, 4–5, n. 10; see also Choremis 1971, 252 pl. 227a–b).³

Understanding the details of Euboean production of SOS amphorae is also complicated by the similarities in the chemical signature of clay originating from the well-known settlement at Pithekoussai, located on the island of Ischia off the western coast of Italy. It is uncertain, therefore, whether the SOS samples taken from jars found at Pithekoussai were imported from Euboea or produced locally (Jones 1986, 711). The possibility of local production of SOS amphorae on Ischia seems to be corroborated by a few examples that are morphologically different from both Athenian and Euboean types (Johnston and Jones 1978, 114; Di Sandro 1986, 15). These differences include a thicker vessel wall, red-brown glaze, and slightly concave neck profile (e.g. Buchner and Ridgway 1993, 478, no. 476.1). Other possible production locations for SOS amphorae include Metapontion, Sybaris, and Megara Hyblaea (Johnston and Jones 1978, 117, 127 n. 24, 118 n. 12; Jones 1986, 711). All of these locations, however, have only produced a handful of vessels that could be characterised as local products, suggesting a very limited enterprise.

Stylistic classifications of SOS amphorae seem to match their chemical divisions very well – so well, in fact, that it does not seem necessary to initiate a reconsideration of the stylistic classifications discussed thoroughly by Johnston and Jones (1978, 132–5). Only a brief summary will be necessary for the purposes of this paper. Over the course of 150 years, the SOS amphora varied in height between 58 and 75 cm, with an average of 68 cm for most of its existence. Maximum diameter was more stable over time and ranged between 43 and 49 cm. The height of the foot remained 3 or 4 cm, but neck plus lip height varied between 9 and 16 cm – though most stayed within the 11 to 14 cm range (Johnston and Jones 1978, 133). Because of the variety in size, capacity was not consistent. However, Johnston postulated a loose standardisation by potters based on simple dimensions including maximum diameter (44 cm/22 Attic fingers), height (64 cm/2 Attic feet), and neck diameter (14 cm/7 Attic fingers), with body and neck diameters related by the factor π (Johnston and Jones 1978, 134 n. 50, 135 n. 53; Jones 1986, 706–7). This gives a capacity of 144.4 Attic *kotylai* or just over one Attic *metretes* (Johnston and Jones 1978, 135).

Athenian SOS amphorae have a number of defining characteristics that distinguish them from variants. Their handles are circular in section and, in later examples, their necks are flaring. The characteristic neck profile for early examples incorporates a sharp moulding under a simple vertical lip (Fig. 1a). Over time, however, the neck became more concave with a taller and more

¹ Although chemical analyses, like atomic absorption spectrometry, have some problematic aspects (see Whitbread, Jones and Papadopoulos 1997; Papadopoulos 2013), this particular division between Athenian and Euboean clays seems relatively straightforward. Future use of petrography, however, may shed more light on the number of workshops producing SOS amphorae and distinctions between Euboean and Pithekoussian clays.

² Most publications use the designation ‘Chalcidean’ for SOS amphorae that are believed to originate from Euboea. It is also possible, however, that SOS amphorae were produced at Eretria (Verdan, Kenzelmann Pfyffer and Lederrey 2008, 101). Because the exact production locations on Euboea are still uncertain, here I will generally use ‘Euboean’ instead of ‘Chalcidean,’ unless discussing amphorae known to be specifically from Chalcis. The possibility of another production centre on Euboea, outside of Chalcis and Eretria, cannot be overlooked.

³ The Glyptika hill deposit is currently being studied by Samuel Verdan and Xenia Charalambidou. The future publication of these Chalcidean SOS amphorae should help refine our stylistic and chronological knowledge of this version.

flaring lip, which eventually became echinus- or calyx-mouthed on the latest vases (Fig. 1c; Fig. 2b). Other morphological characteristics include a tendency to a higher, broader greatest diameter and a flatter shoulder (Fig. 2a). These changing morphological characteristics serve as chronological markers during the lifespan of Athenian SOS amphorae, making it relatively easy to distinguish between early and later examples.

Regarding the distinct morphology of Chalcidian SOS amphorae, this version differed from the Athenian type in a number of ways (Fig. 3). The foot is lower and more flared, the body has a higher centre of gravity, the handles are ovoid, the lip is thicker, and the neck is slightly convex (Johnston and Jones 1978, 133). Additionally, the lip is low, at most 4 cm high, and of varying profile with a notch rather than a ridge separating the lip from the neck (Johnston and Jones 1978, 111). The feet tend to be more flaring with a rounded inner contour and vary from 14.3 to 18.7 cm in diameter, though usually under 17, and range from 2.5 to 3.75 cm in height (Johnston and Jones 1978, 111). Chalcidian examples can also be distinguished by certain features of their decoration, including a glazed neck interior and a few distinctive neck motifs. A common Chalcidian motif consists of long double zigzags framing a circle with a large triple set of rings around two very small central rings (Fig. 3a). Others include a spoked wheel (Fig. 3c) and a wheel with 'hub' and 'tyre' (Fig. 3b).

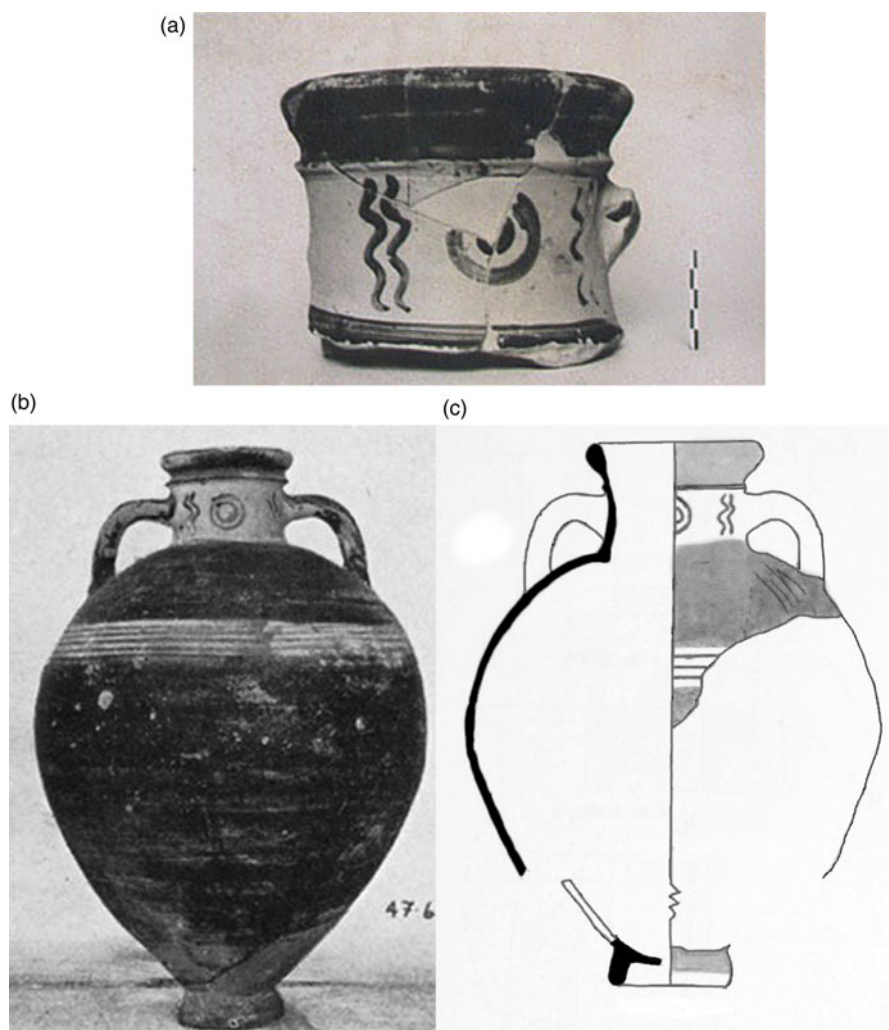


Fig. 1. Early Athenian SOS amphorae: (a) from Athenian Agora. After Brann 1961, no. P3 pl. 13. Reproduction courtesy of the Trustees of the American School of Classical Studies at Athens; (b) from Phaleron, tomb 47. After Young 1942, 26; (c) from Incononata. After Pozzetti 1986, 138 pl. 37:1.

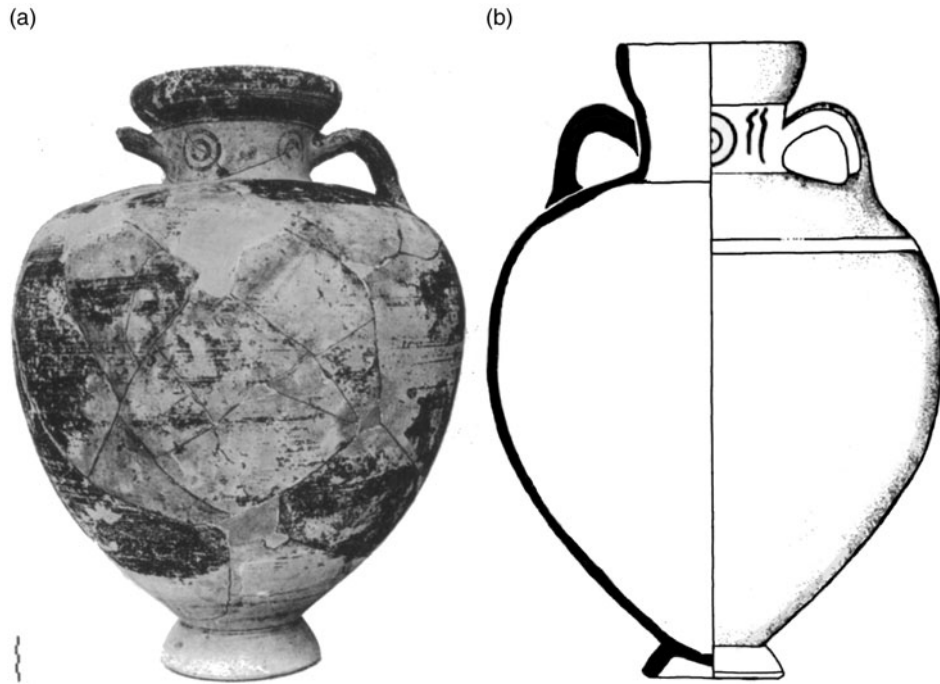


Fig. 2. Late Athenian SOS amphorae: (a) from Athenian Agora. After Brann 1961, no. F40 pl. 80. Reproduction courtesy of the Trustees of the American School of Classical Studies at Athens; (b) from Himera. After Vassallo 2003, 340 fig. 5:19.

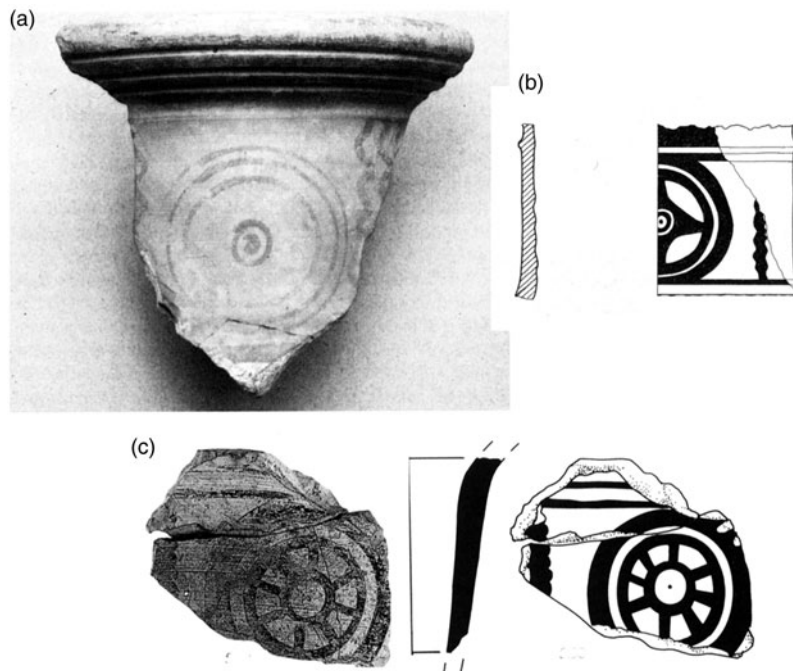


Fig. 3. Euboean SOS amphorae fragments with distinctive characteristics: (a) neck fragment with five-ring Chalcidian variety of 'O' framed by long double zigzags, from Morgantina, Sicily. Antonaccio 2004, 67 fig. 3 (formerly identified as Attic, probably Euboean). Image reproduction courtesy of C. Antonaccio; (b) neck fragment with wheel with 'hub and 'tire' Chalcidian variety, from Scarico Gosetti, Pithekoussai. After Di Sandro 1986, Pl. 2 no. SG 7; (c) neck fragment with eight-spoked wheel, from Torone. Paspalas 2001, no. 5.30. Image reproduction courtesy of Prof. A. Cambitoglou.

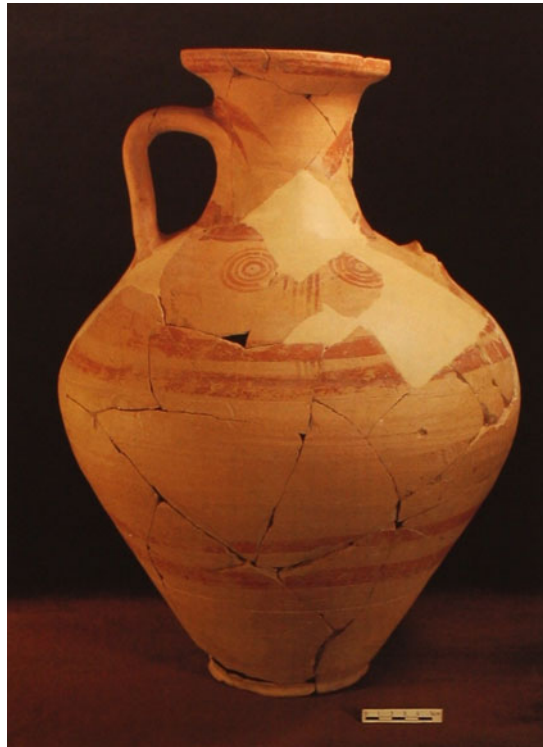


Fig. 4. North Aegean amphora: Type I, from Troy. Catling 1998, pl. 1:3. Image reproduction courtesy of E. Pernicka.

THE FEATURES OF SOS AMPHORAE

The origins of the SOS amphora and its decoration are uncertain. In 1978, Johnston and Jones (1978, 133) suggested, 'it would be difficult at present to point to the origin of these details of shape, severally or as a group, or to discuss the relationship of Attic and Chalcidian shapes'. Recent developments in the study of Early Iron Age amphorae, however, may shed some light on the derivation of a number of perplexing elements of early SOS amphorae. Specifically, stylistic and morphological details of the North Aegean amphora, in use from the Protogeometric to the Late Geometric period, display some similarities to SOS amphorae (Figs. 4 and 5; for the North Aegean amphora see Catling 1998; Lenz *et al.* 1998; Gimatzidis 2010, 252–69; Kotsonas 2012, 154–62: 'Thermaic' amphorae: Pratt 2014). The initial manifestation (Type I) of North Aegean amphorae dates to the Early and Middle Protogeometric periods and has been found at a few sites on Euboea (including Lefkandi) and in central Greece (Kalapodi, Elateia, Mitrou; Fig. 4). After a short gap in time when these vessels do not seem to be present in central Greece, North Aegean amphorae then became standardised in both shape and decoration (Type II; c.850 BC), and seem to be used once again at sites on Euboea and in central Greece (Fig. 5).

Given the presence of North Aegean amphorae in these regions, it is perhaps possible that Euboean SOS amphorae were influenced by a number of North Aegean amphora features, not solely from neighbouring Athenian SOS amphorae.⁴ These characteristics include morphological traits, like a prominent convex bulge in the neck, as well as decorative motifs. The bulge on the

⁴ Indeed, this early connection with Euboea would agree with recent ideas that the Euboean version SOS amphora was actually earlier than the Attic version. For example, Gras (1988, 293) states: 'Malgré la prudence des collègues anglais, je pense que c'est Chalcis qui a créé le type "SOS", lequel a été rapidement imité par Athènes.' However, more work is needed to understand this chronology.



Fig. 5. North Aegean amphora: Type II, from Sindos. After Gimatzidis 2010, pl. 43 no. 361. Reproduction courtesy of Dr S. Gimatzidis.

neck is distinctive of ‘Type II’ North Aegean amphorae.⁵ By the end of the ninth century, they were produced at multiple locations around the Thermaic Gulf and shipped throughout the Aegean (Kotsonas 2012, 154–62). In terms of decoration, the characteristic ‘O’ motif on SOS amphorae also has parallels on North Aegean amphorae. Johnston and Jones (1978, 136) posited that Chalcis might have adopted the circular motif on the neck before Athens. In its early manifestation, the Athenian SOS amphora more commonly used a triangular central motif, which, significantly, is also found as the central motif on smaller versions of North Aegean amphorae. When used, the type of circle motif on Athenian SOS amphorae was less complex than Euboean versions and seems to be derivative of Athenian Late Geometric motifs. Alternatively, circular motifs, and in particular concentric circle motifs, had also been used on North Aegean amphorae since their inception two hundred years before. Always located on the shoulder, these concentric circles were very often mechanically drawn, and it has been speculated that North Aegean amphorae were some of the first shapes to receive this distinctive technique (Jacob-Felsch 1988; Catling 1996; for the multiple-brush technique in general see Papadopoulos *et al.* 1998). Although concentric circles were used throughout Greece in the Geometric and Archaic periods, the parallel between these two amphora shapes is nevertheless interesting, especially when viewed in combination with other features, discussed below.

Similarities in motifs between early SOS amphorae and North Aegean amphorae continue with the vertical ‘wavy line.’ Early SOS amphorae, both Athenian and Euboean, tend to have very long vertical wavy lines on the neck (forms Sc or Sd in Johnston and Jones’ typology). The long vertical wavy line seems to have been very rare on Attic vases prior to Late Geometric Ib, about the same time the SOS first appeared (Coldstream 1968, 36, 180, pl. 37b–c). This same motif, however, had been present on North Aegean amphorae since the Protogeometric period, generally placed between two concentric circles (Fig. 6). The vertical wavy line motif found on SOS amphorae may indeed imitate a dribble of oil, as suggested by Johnston and Jones (1978, 139), but its pedigree may derive from a contemporary transport container, such as the North Aegean

⁵ Regarding the bulge in the neck of SOS amphorae, Johnston and Jones (1978, 133 n. 46) had pointed to a possible connection with the Cypro-Archaic I oinochoai.

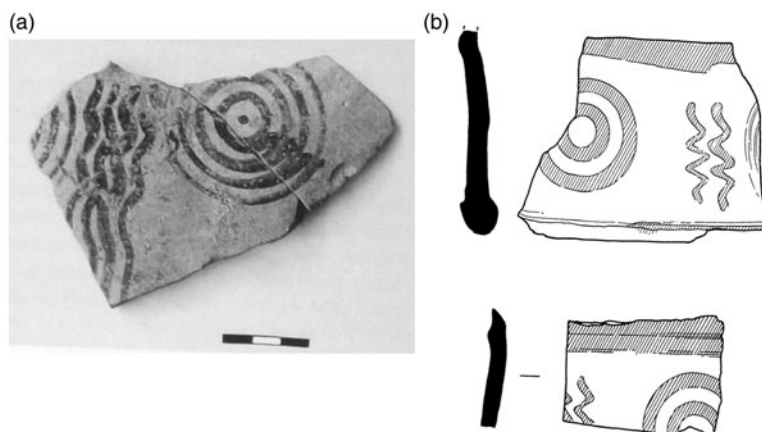


Fig. 6. Comparison of the vertical wavy line motif found on the early versions of SOS amphorae with those found on North Aegean amphorae: (a) North Aegean amphora fragment from Xeropolis, Lefkandi. After Catling 1998, 158, fig. 2. Image reproduction courtesy of E. Pernicka; (b) SOS fragment. After Johnston and Jones 1978, 106, fig. 2c,d.

amphora, rather than smaller liquid-carrying shapes, such as lekythoi (for possible contents of North Aegean amphorae see Kotsonas 2012, 162; Tiverios 1998, 250).

A final decorative motif that early SOS amphorae and North Aegean amphorae share is striped handles. Early SOS amphorae can have two or three stripes running down the length of each handle. Although not exclusive to North Aegean amphorae, this same painted design, generally accompanied by two depressed grooves, is commonly applied throughout the production of this shape. Not all early SOS amphorae have striped handles, but there are enough examples to suggest that they were not uncommon (Johnston and Jones 1978, 139 n. 72). It has also been observed that Euboean amphorae, more so than other versions, have striped handles if they have decorated necks (Johnston and Jones 1978, 138).

It is impossible to say with any certainty why these similarities exist between the North Aegean amphora and the SOS amphora. Speculatively, there could be three possibilities: a direct relation, an indirect relation, or pure coincidence. If the SOS design is directly related to the North Aegean amphora design, it necessarily would have been transmitted through direct contact between agents, such as potters or marketers, and the vessels themselves. One argument for this direct connection is that painters tend to produce designs that are in keeping with a cultural repertoire. If, therefore, a new element is introduced (in this case the vertical wavy line), then it might have come from elsewhere. North Aegean amphorae have a much longer tradition of using this motif and have been found in Attica and Euboea. This geographical and temporal overlap, when combined with the similarity in amphora shape, might suggest that the North Aegean amphora was the closest possible connection to, and inspiration for, SOS amphorae. Alternatively, the SOS design could be indirectly related to the North Aegean amphora design. In this case, both shapes would have conveyed the same meaning to consumers (quality or contents), or the potters producing these shapes were following stylistic trends of that particular koine (similar to the widespread production of 'Euboean' style skyphoi; see *e.g.* Papadopoulos 1997, 2011). It is also possible that the SOS design is unrelated to the North Aegean amphora design, and that the two vessels are highly similar because they were both technological innovations that fulfilled the same need (transporting bulk liquids). This idea follows Schiffer's (2011) non-adoption model for why specific technologies are used by different people in different geographical regions. In this case, the similarities between the two vessel types would be a function of their designated purpose.

In whatever manner these similar traits occurred on both shapes, it nevertheless seems possible that SOS amphorae from Chalcis shared more North Aegean amphora traits than Athenian versions. The bulgy neck, long wavy lines, 'O' motif and striped handles on Euboean SOS amphorae all point to a

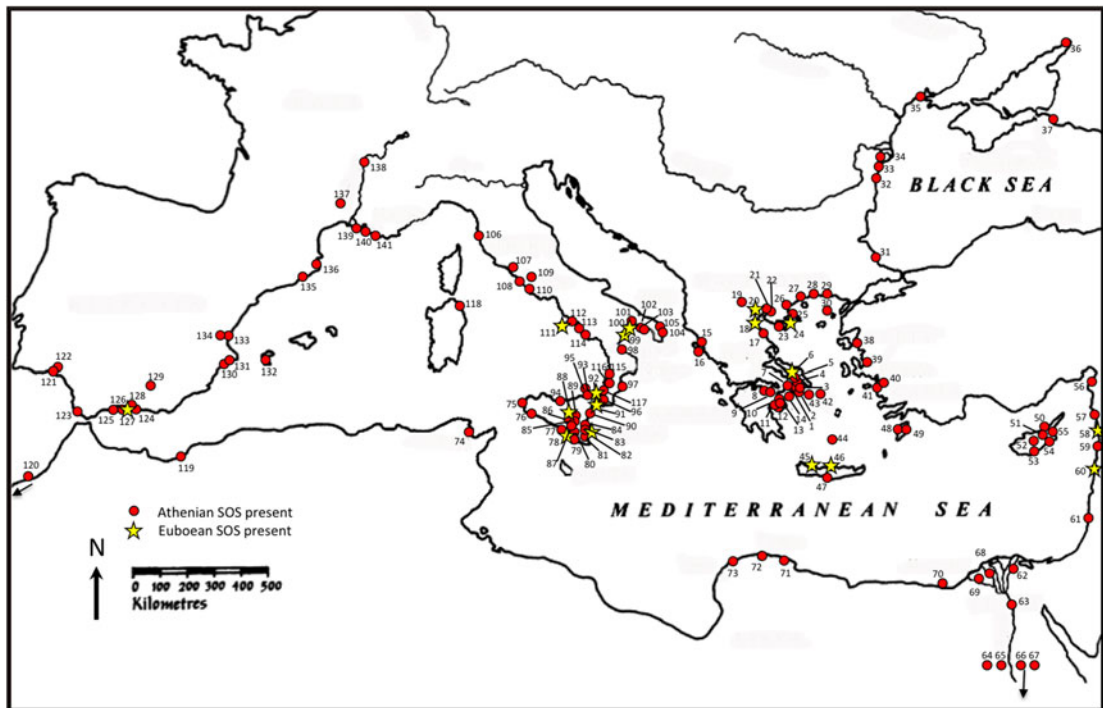


Fig. 7. Distribution map of SOS amphorae within the Mediterranean, with provenance distinguished.

stronger connection than do the characteristics of early Athenian versions. These traits do not necessarily mean that Chalcis (or some other Euboean workshop) initially created the SOS amphora, as suggested by Gras (1988, 293). Instead, these similarities may suggest that producers of the SOS amphora on Euboea had stronger connections to northern Greece, or more contact with North Aegean amphorae, and integrated some of these traits into their own products.

AN UPDATED DISTRIBUTION

By providing an update of their distribution throughout the Mediterranean, I aim to contribute to what is known of SOS amphorae. In 1978, Johnston and Jones reported about 51 sites with at least one SOS amphora, although they noted others yet unpublished (1978, 103 n. 1). In 1982, that number had remained relatively consistent (Shefton 1982, 340 fig. 1). Since then, however, over 140 sites have published or reported at least one SOS amphora, and that number continues to increase (Table A1 in the Appendix, Fig. 7). The repercussions of this new and greatly expanded distribution will be discussed below. In the following section I outline the number of sites represented and the volume of SOS amphorae recorded within most geographical regions around the Mediterranean (central Greece, northern Greece, Sicily, Italy, the western Mediterranean, Asia Minor/Black Sea region, eastern Mediterranean islands, and the Levant/Egypt). Where possible, care has been taken to distinguish between SOS amphorae and early examples of their successors, the so-called ‘à la brosse’ or ‘1501’ amphorae (Johnston and Jones 1978, 121–2; Lawall 2011a, 297). This task, however, is not always possible since body sherds from both vessels are very similar.⁶ Because these data are mainly based on published reports,

⁶ The related ‘à la brosse’ amphora is not treated in full as it is out of the scope of this study (see Johnston and Jones 1978, 121; Lawall 2011a). However, when appropriate, the existence of such amphorae at a site is noted, since there is some overlap between them and late SOS amphorae.

which do not always provide full contextual, chronological, or stylistic details, we may consider this distribution a minimal figure and use it as a starting point for future discussions and analyses.

Attic SOS amphora distribution

Attic SOS amphorae are found throughout the Mediterranean and can be dated from the second half of the eighth century BC to the beginning of the sixth century BC. The distribution presented here is divided chronologically between 'early' and 'late'. Here, 'early' is defined as mid-eighth century BC to mid-seventh century BC, and 'late' is defined as mid-seventh century BC and later. This division is admittedly a step back from the four groupings initiated by Rizzo (1990, 16–17) but is nevertheless necessary since many published examples are too fragmentary for precise dating or are only labelled as 'early' or 'late' in the text. This brief summary of Attic SOS amphora distribution begins with their place of origin, Greece, then moves west to address first the central Mediterranean, then the western Mediterranean, followed by a discussion of their presence in the eastern Mediterranean. The summary presented here is complemented by Table AI in the Appendix, which lists all of the sites where SOS amphorae have been found, their quantities, and associated citations.

In central Greece and the Peloponnese, SOS amphorae are found at a total of 16 sites (Fig. 8); of these, nine sites have produced examples of the early version. As perhaps could be expected, the largest group of early and late Attic SOS amphorae come from areas in and around Athens, including the Athenian Agora (44+) and the Kerameikos (13). Closer to the port, at Phaleron, 17 examples, some of which are early, have been published. Additionally, nine Attic SOS amphorae have been found on the island of Aegina in the Saronic Gulf.

Our information for the northern Aegean region, including ancient Macedonia and the Chalkidike, has increased dramatically in the last 30 years due to the publication of many sites with Archaic occupations. As a result, the number of sites that have yielded Attic SOS amphorae has also increased. At least one SOS amphora has been discovered at 14 sites (Fig. 9). Early

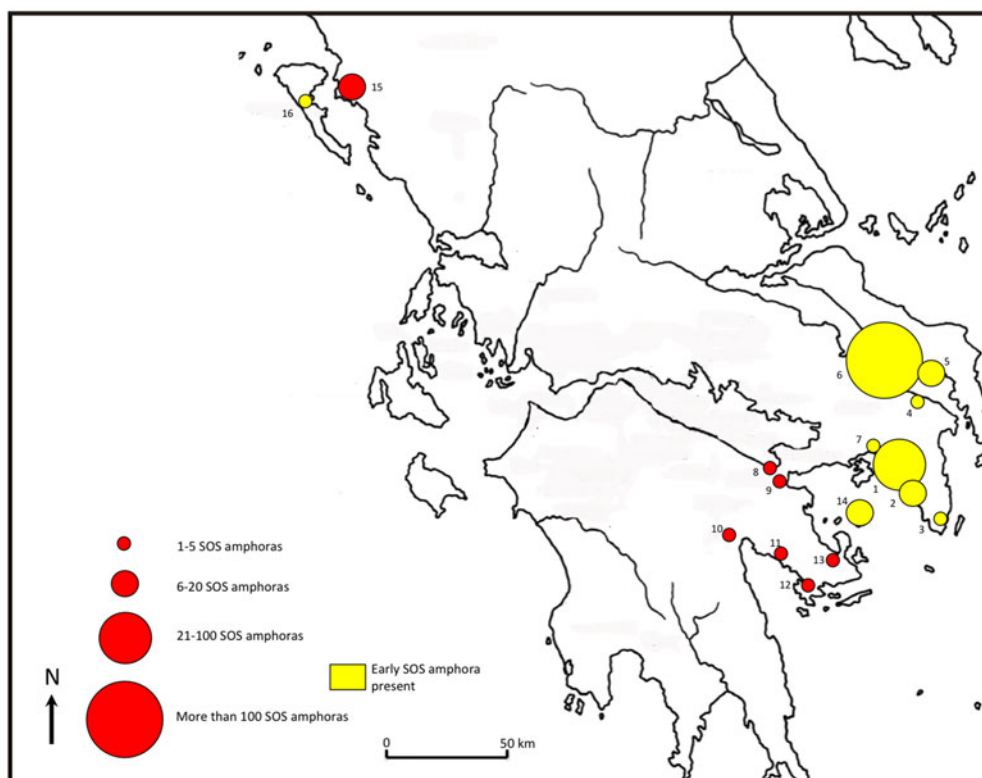


Fig. 8. Distribution map of SOS amphorae in central Greece and the Peloponnese, with volumes accounted for and colour-coded for chronology.

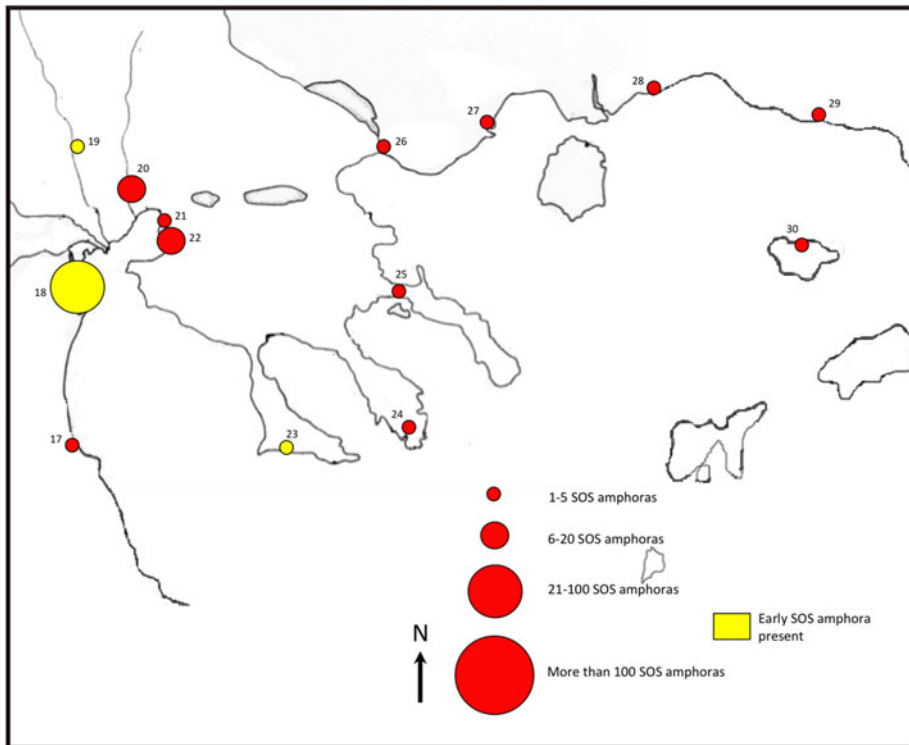


Fig. 9. Distribution map of SOS amphorae in the North Aegean, with volumes accounted for and colour-coded for chronology.

versions have been discovered at three of these sites (21%). Some sites have produced relatively high concentrations of these vessels, including Methone (around 30 examples) and Karabournaki (over 10 examples, though probably many more when fully published). Most other sites have produced only a few SOS amphorae, many of which are relatively late.

The number of Attic SOS amphorae in Asia Minor and the Black Sea region remains relatively low. A total of 11 sites have produced evidence for the presence of SOS amphorae, none of which are early versions (Fig. 10). Miletos has produced the greatest number of SOS amphorae (12), followed by Old Smyrna (Bayraklı; 6). The remaining sites have produced only one example. However, there is some question as to whether the sherds belong to early 'à la brosse' amphorae instead, since the body sherds for both types of pots are virtually identical.

Attic SOS amphorae have been reported on only five Aegean islands: Delos, Crete, Rhodes, Keos and Thera (Fig. 11). Most of these examples, however, are rather late. On the large island of Cyprus SOS amphorae have been reported on six sites, of which two have early examples (Fig. 11). Cypriot Salamis has produced at least 20 examples, some of which can be identified as early versions. Amathus too has produced 15 fragments, though it is uncertain whether they are of Attic derivation, and they could be later examples (Thalman 1977, 73–4).

Sites in the Levant, Egypt, and the north-central coast of Africa have also produced examples of Attic SOS amphorae (Fig. 11). A total of 19 sites have produced at least one vessel, four of which are identified as early versions (21%). The most examples that have been recorded are at Cyrene (35), Carthage (16), and Al Mina (14). Many sites in Egypt have only produced one or two SOS amphorae, all of which are later than the middle of the seventh century BC.

Interestingly, the highest concentrations of Attic SOS amphorae are not found in Greece, but in Sicily. A total of 21 sites have produced evidence for at least one Attic SOS amphora (Fig. 12). Of these 21 sites, six have produced early versions of the shape (29%). Sites with the highest concentrations of these vessels include Megara Hyblaea (over 160), Kamarina (35, late), and Syracuse (over 10), although most sites have more than a single example.

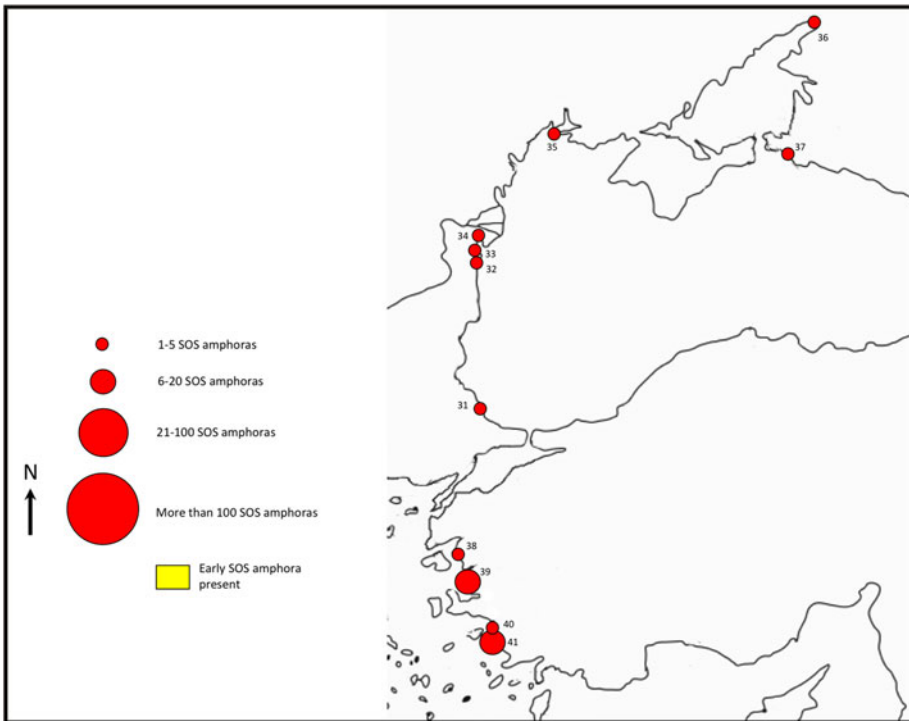


Fig. 10. Distribution map of SOS amphorae in Asia Minor and the Black Sea, with volumes accounted for and colour-coded for chronology.

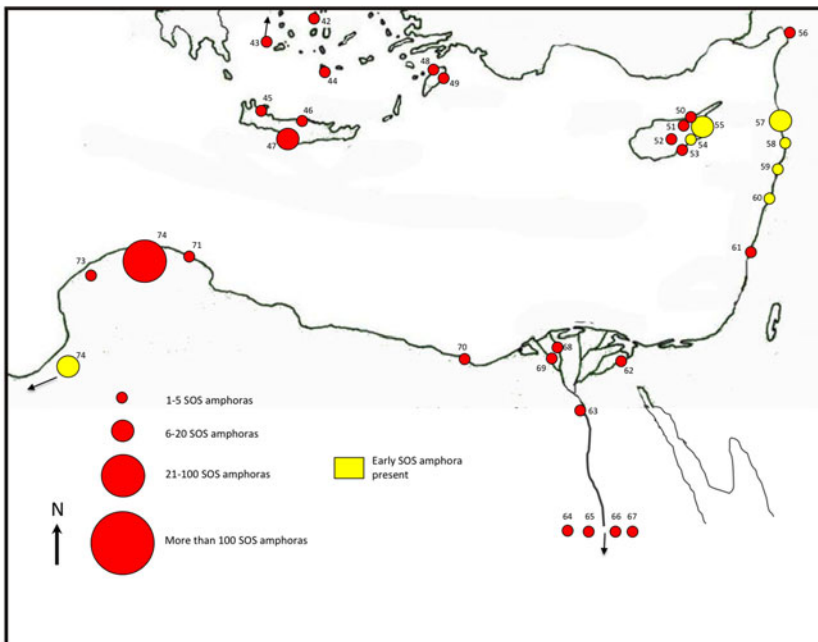


Fig. 11. Distribution map of SOS amphorae in the Aegean islands, Levant, Cyprus and North Coast Africa, with volumes accounted for and colour-coded for chronology.

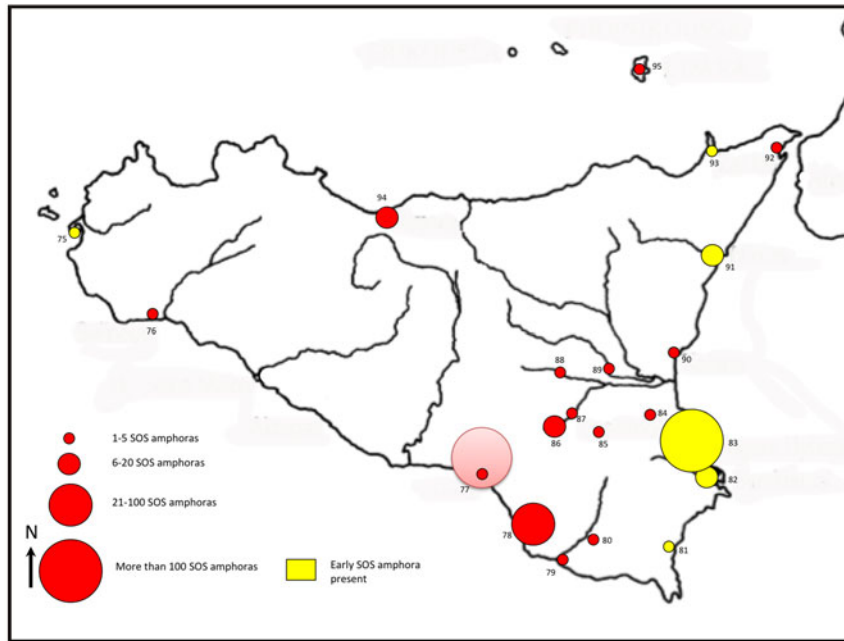


Fig. 12. Distribution map of SOS amphorae in Sicily, with volumes accounted for and colour-coded for chronology.

Similarly, 22 sites in Italy have produced at least one example of an Attic SOS amphora, seven of which have produced early versions (32%; Fig. 13). However, unlike Sicily, there are two sites that stand out as having high concentrations of these vessels. Pithekoussai has produced over 55 examples of SOS amphorae, 15 of which are certainly identified as Attic, with many others unidentified (Di Sandro 1986). Additionally, 36 SOS amphorae have been found at Cerveteri, providing one of the most complete chronological typologies outside of Athens. In most of the other published sites in Italy the presence of only one or two examples has been reported, although there is the possibility of more discoveries.

The distribution of Attic SOS amphorae in the far west, including Iberia and the north-west coast of Africa, is similar to that in Italy, in that a total of 23 sites have produced Attic SOS amphorae, although most have very few, and early examples have been reported at only five sites (22%; Fig. 14). Two sites stand out as having relatively high concentrations for the region: Toscanos (over 11) and Mogador (over 12).

Euboean SOS amphora distribution

Although it is clear that regions of Euboea were producing their own versions of SOS amphorae, as discussed above, it is unclear where or in what quantity they were shipped abroad. Based on the evidence currently available, it seems that Euboean SOS amphorae remained primarily on the island but did have a limited distribution to most of the same regions where Attic versions travelled (Fig. 7). The discrepancy between the quantities of locally produced SOS amphorae found on Euboea and Euboean SOS amphorae found abroad is quite significant. At Chalcis on Euboea over 200 SOS amphorae have been found in a potter's dump, providing direct evidence for their relatively large-scale local production (Johnston and Jones 1978, 111). In comparison, a maximum of two Euboean SOS amphorae per site have been securely identified or published from sites in the central, western or eastern Mediterranean. This seems to suggest that Euboean SOS amphorae were not as widely exported as Athenian versions. However, since no Attic potter's dump with SOS amphorae has yet been discovered, it is impossible to state statistically that this discrepancy was limited to the Euboean version.

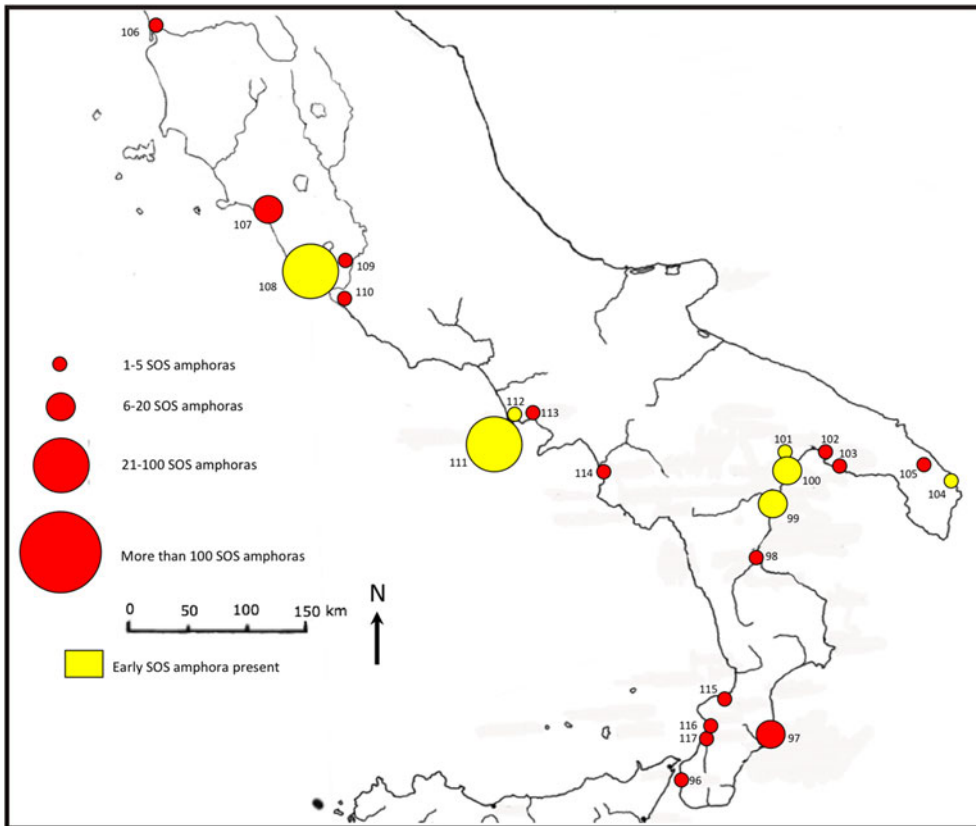


Fig. 13. Distribution map of SOS amphorae in Italy, with volumes accounted for and colour-coded for chronology.

Because of the difficulties surrounding the identification of Euboean SOS amphorae through chemical or petrographic means, only a handful of vessels in the Mediterranean have been identified, mainly through stylistic analysis, as specifically Euboean (Fig. 7). In northern Greece Euboean SOS amphorae have been identified stylistically and by their fabric at three sites: Sindos, Methone, and Torone (Fig. 7). The Aegean islands, while they do produce evidence for Archaic Euboean pottery of other types (Descoedres 2006/7), have yet to produce a securely identified SOS amphora. The only possibility is an SOS from Knossos, which does not seem to fit the typical Athenian standard, nor does it appear to be local (Coldstream, Macdonald and Catling 1997, 220 no. H38). In the Levant and Egypt, a few SOS amphorae have been labelled as Euboean at Ras Al Bassit, Tyre, and perhaps one at Marsa Matruh, although this example has been reinterpreted as a Lakonian amphora (see Johnston 2006a, 27–8).

The central and western Mediterranean regions have also produced a few examples. Two Euboean SOS amphorae have been identified at Pithekoussai, one from Metapontion, and a late version from Policoro, all on the basis of their decorative peculiarities. On Sicily, five sites have published at least one Euboean SOS amphora including Naxos, Syracuse, Kamarina, Morgantina and Zancle. Only one site in Iberia, Guadalhorce, has thus far produced positive evidence for Euboean SOS amphorae in the far west, again based on stylistic details.

On the basis of this limited distribution, it seems likely that Euboean SOS amphorae were never intended to transport goods off the island in large quantities, but perhaps were caught up in the export of Attic SOS amphorae abroad. The fact that all the sites where Euboean SOS amphorae are found have also produced many Attic versions, both early and late, supports this idea. The reasons for Euboean production of SOS amphorae, without their exportation in greater numbers, remain elusive.

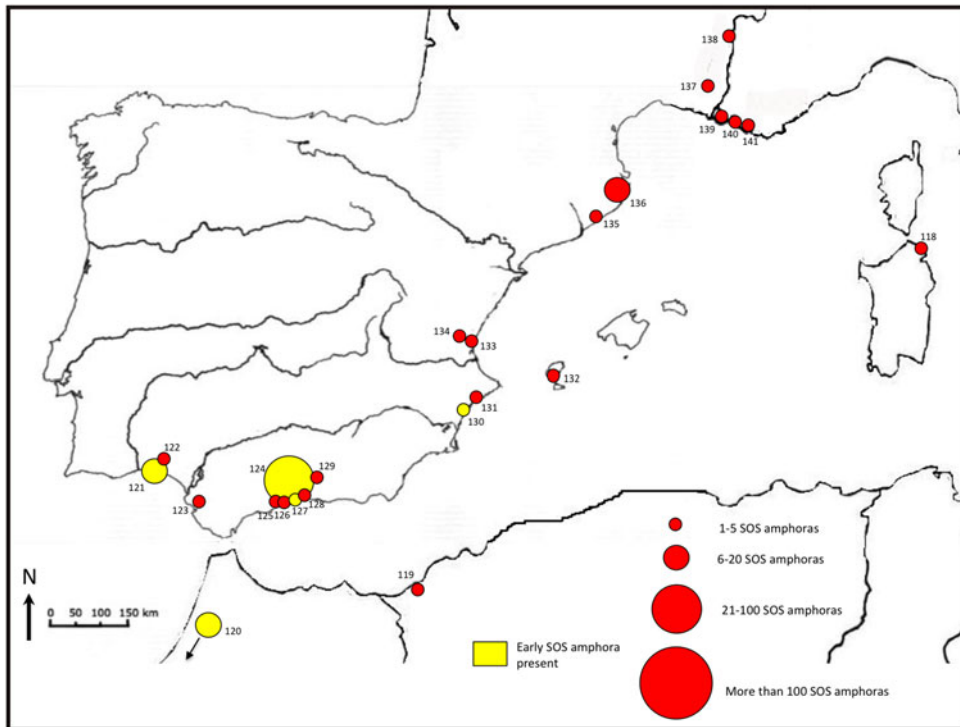


Fig. 14. Distribution map of SOS amphorae in the western Mediterranean, with volumes accounted for and colour-coded for chronology.

INSCRIPTIONS AND GRAFFITI

The number of SOS amphorae found with inscriptions or graffiti has risen steadily over the last 30 years. Indeed, Johnston (2004, 737) mentions 115 inscribed SOS amphorae in his database (see Johnston 2004, tables B, C, and nos. 175, 221 for 43 examples). A discussion of every example, however, is beyond the scope of this paper. Instead, I highlight a number of discoveries that may further our knowledge of the purpose of these graffiti during the production, distribution and consumption of SOS amphorae and their contents. Marks on SOS amphorae can be divided into three categories: owners' names in the genitive scratched post-firing, single letters that may convey content or capacity, and letters (single or longer abbreviations) or marks, which may stand for abbreviated names. The types of graffiti inscriptions found on recently discovered SOS amphorae are consistent with the analyses of Johnston and Jones (1978, 128–132). The language of the graffiti, the type of script, whether one or two 'hands' has written it, where it is placed on the pot, whether it is scratched post-firing or pre-firing, and if there are parallels on other pots (SOS or otherwise), all contribute to how we interpret these graffiti.

SOS amphorae stand out from other contemporary amphorae in that they have by far the longest inscriptions on the largest percentage of inscribed pots (30% of SOS with inscriptions have four or more letters or signs; Johnston 2004, 738). Most of these long inscriptions are names. Names inscribed on SOS amphorae have the most potential for telling us which groups of people came into contact with these vases and at what point in the life cycle of the vases. So-called 'owners' names' are often written in the genitive and accompanied by the verb εἰμί, directly implying that the pot belonged to a specific person. These names introduce two problems: What role does the named person have in the trade process and who is the person writing the name on the pot? The name could be written by the producer of the pot, the filler of the pot, or a nearby middleman to 'reserve it' for a trader. Alternatively, the name could be written by the trader himself, thereby labelling it as his own (within a cargo-load perhaps?) or written by any 'owner' or consumer(s)

of the pot. Although any of these options could be possible for a given name, certain characteristics concerning the graffito (language, script, hand) and its placement favour some of these options over others. Additionally, non-Greek or non-Attic Greek names written on pots can help interpret the purpose of the graffito.

An indication that these names were not necessarily written by the eventual buyer/owner or the trader comes from a long graffito written on an SOS from Kamarina on Sicily. It has an inscription around the shoulder of the vessel, one word slightly higher than the other two: ΣΜΟΡΔΑΝΟΣ/ΣΜΟΡΔΑΝΟ ΕΙΜΙ, the first being a name in the genitive (ΣΜΟΡΔΑΝ in the nominative), the second translated as 'I am Smordon's', although here the genitive name lost its final sigma (Cordano 2004, 783). Both of these graffiti were written by the same hand and in Attic script, supported by the use of εἰμι rather than ἐμί.⁷ However, the name is extremely rare and is not typically Greek. Johnston and Jones (1978, 129) interpret the name as deriving possibly from the northern Aegean. Why the inscriber felt the need to write the name twice is unclear, although this is not a unique example. Two other cases of name repetition on SOS amphorae are known, one from Vulci with the name ΑΡΧΟΝΟΣ (Johnston and Jones 1978, 104 no. 2; Johnston 2004, 747 table C no. 48) and one from Incononata with the abbreviated name(?) ΓΛΑΥ, possibly written in non-Attic script (Johnston 2004, 747 table C no. 27; Stea 2004, 801). The name ΣΜΟΡΔΑΝΟΣ written in Attic script could be an indication of an Athenian writing a foreign name, thereby 'reserving' the pot for the buyer or trader, or perhaps an Attic metic writing his own name. Whether this Athenian was the potter himself or perhaps a middleman in Attica is impossible to say.

There is also some indication that these names can be written by the trader. For example, an Attic SOS amphora found at Mende in the northern Aegean was inscribed with a Cypriot graffito. This graffito is identical to an inscription on an amphora from a Policoro cemetery in Basilicata (Vokotopoulou and Christidis 1995, 9). In both cases the graffito consists of a name followed by an abbreviated patronymic (*te-mi*) and an abbreviated ethnic (*Se* = Salamis). In addition, it has been suggested that three incised horizontal lines on one handle form a common Cypriot capacity potmark accounting for 10 units (Masson 1983, 80). Salamis has the highest concentration (*c.*20 examples) of SOS amphorae on Cyprus, one of which was inscribed (Karageorghis and Masson 1965, 146). Whether there is a connection between the concentration of SOS amphorae at Salamis and the trader's/owner's ethnic designation on the pot found at Mende is impossible to say with certainty. It does seem, however, that a Cypriot either was an owner of the SOS, which he then resold, or was the trader responsible for its consumption in northern Greece.

An inscribed SOS amphora from Gela on Sicily provides an instance where the graffito may indicate an owner's desire to write his name on the pot after purchasing it. This particular SOS amphora was found within a room of the Archaic Temple B, dedicated to Athena, and built within a few decades of the foundation of Gela as a Greek colony (Panvini 2012, 73). On the pot was inscribed a boustrophedon graffito consisting of the name ΕΥΘΥΜΕΟ followed by ΕΙΜΙ, the verb spelling again suggesting Attic. However, the nominative form of this name is problematic: the dialect is Ionic, but the closest parallel to its spelling is Doric (*cf. Supplementum Epigraphicum Graecum* XLII.868).⁸ While this graffito has a very similar formula to the ΣΜΟΡΔΑΝΟ ΕΙΜΙ above, it is important to take into account the context of the pot. Within a cultic setting, it may have been desirable to put one's own name on the pot to acquire the symbolic capital of having provided the imported Attic oil/wine to the temple. If this is the case, then perhaps this man was a member of the newly established colony, or a transient trader who wanted to participate in the activities of the temple (see Pelagatti 2000, 185 for a similar suggestion). Alternatively, this graffito could be a remnant of the trade process and therefore unrelated to its depositional context.

⁷ This fact was brought to my attention by an anonymous reviewer of this article.

⁸ I thank the anonymous reviewer for this observation. See also *Supplementum Epigraphicum Graecum* XLII.868 for this name inscribed on a skyphos from Lipara: ΕΥΘΥΜΑ ΕΜΙ τῷ [ἑρῶνος?].

These three cases suggest that names on SOS amphorae can be written at different stages in the life cycle of the pot and that the inscribing of a name does not necessarily belong to a single designated stage in the trade process. Additionally, these names hint at a complicated network of both Greek and non-Greek agents moving these vessels and their contents to both sides of the Mediterranean. While the vast majority of these longer marks on SOS amphorae can be or are written in Attic Greek, many more are found outside than inside Attica (Johnston 2004, 740). However, the presence of graffiti on SOS amphorae within Attica seems to support the idea that some engraving happened before the amphorae were shipped abroad, especially since other contemporary Greek amphorae rarely show this practice, displaying, *inter alia*, pre-firing marks (e.g. Samian; Johnston 2004, 746 table A). Complicating any identification of the group(s) of people whose names are written on SOS amphorae is the diverse range of names: from 'elite' (Archon, Eukles) to 'servile' names (Thorax, Myrmex, Klopotion; Johnston and Jones 1978, 129; Cordano 2004, 783–5). It can also be observed that names (or name abbreviations) range from very common Greek nomenclature (Glau, Aiscron, Eukles, Smikron), to very or relatively rare names (Smordon, Lasargades, Euthuma; see the *Lexicon of Greek Personal Names s.vv.*). It is tempting to speculate that this diversity in names is a consequence of the occupation within which these people participated, an occupation that perhaps allowed for social mobility or was open to a wider range of the population.

Single letters and marks inscribed on pots can also be useful tools for viewing commercial connections, either in the production or the distribution spheres. Generally, letters and marks scratched post-firing are interpreted as merchant, owner, or reuse symbols, as opposed to pre-firing or painted marks applied by the potter (Papadopoulos 1994; Vanhove 2006, 74). Unfortunately, the nature of the letters and marks makes it even more difficult to determine the identity of the inscriber. Since the range of marks found on amphorae is extremely wide, the rarity of repetition requires our careful observation when it does occur. In addition, the occasional letter written in non-Attic script on an Attic pot can be instructive.

A few marks on SOS amphorae can be labelled as 'commercial' with some certainty. An SOS amphora from the cemetery at Kamarina has two inscribed graffiti on its shoulder written by the same hand. The first is a typical Archaic alpha, the second is a symbol that can be described as an arrow with a perpendicular line through the shaft. Although Manni Piraino (1987, inv. 5498, pl. XII:5) indicates that this symbol is unique, there is an exact match on an oinochoe from Vulci, dated to 510–500 BC (Johnston 1979, fig. 7e, no. 2E, 6; Munich 1806, not published). That this mark occurs on both an SOS amphora and an oinochoe seems to indicate that the mark refers to commercial transactions and not to production of amphorae or their contents.

A few graffiti on SOS amphorae provide examples of non-Attic letters inscribed by, presumably, non-Attic merchants (Johnston 2004, 747 table C nos. 24, 27a, 28; Manni Piraino 1987, inv. 8452). First, at Kamarina, an Attic SOS amphora was inscribed with two letters on the neck: gamma and upsilon (Manni Piraino 1987, 93 pl. XII:1–2 inv. 3487). Although the upsilon is non-diagnostic, the gamma is non-Attic, and may instead be Ionic (Johnston and Jones 1978, no. 25). Interestingly, there is another graffito under the attachment of the right handle in a different hand: a cross with an additional mark off the bottom extending to the left. This mark is similar to known merchant marks of a later period (Johnston 1979, 85 type 32A iii [higher perpendicular line], 87 type 36A [additional line off to right]). The association of a non-Attic letter with a known merchant mark written in a different hand may indicate at least two separate transactions. Perhaps the Attic pot was sold to a non-Athenian (Ionian?) who then resold it to a merchant involved with the shipment of other products.

The second example of a possible non-Attic letter again comes from Kamarina, where an SOS was found inscribed at the base of one handle. This graffito has been interpreted by Manni Piraino (1987, 97, pl. XIII:5) as three letters: OYΣ. The supposed upsilon, however, may in fact be a stray mark, since it is located off to the right and has a distinctive 'v' shape. The sigma appears to have been written with five bars, an Archaic Euboean type dated to the second half of the seventh century BC (Manni Piraino 1987, inv. 8452, pl. XIII:5). That both this SOS amphora and the one above, each bearing different non-Attic letters, were reused as burial containers within the same

cemetery is indicative of the variable use of these vessels and their status as viable commercial objects over multiple transactions.

A few other examples of probable non-Attic letters inscribed on Attic SOS amphorae are presented by Johnston (2004, table C nos. 21–30), and briefly summarised here for convenience. These include an hourglass sign from Halieis, perhaps signalling Knidian script (Johnston 2004, 740, 747 no. 30) and an inscription (Φεργα) on a jar from Metauros that includes a digamma and is probably written in Euboean script (Johnston 2004, 740, 747 no. 28). Additionally, an SOS from Cypriot Salamis has an inscription (ΓΛΑ) that is neither Attic, nor in the local syllabic script (Johnston 2004, 740, no. 27a). Similarly, a later SOS found at Histria in the Black Sea region was inscribed with a Corinthian beta on its neck, another example where presumably neither the producer of the pot nor the (final) recipient wrote the graffito (Johnston 2004, 740, 747 no. 24). The non-Attic names and letters highlighted here act as markers for non-Greek participation in the distribution of SOS amphorae. They are, however, relatively rare compared to the number of SOS amphorae inscribed with Attic script. This aspect of SOS graffiti, that a large percentage is written in the script of the producing area, stands out among amphora types of the Archaic period. Who are the Athenians responsible for writing these names and marks on Attic amphorae, and why are some of these examples found within Athens itself? The relatively large number of SOS amphorae with long 'owners' inscriptions' makes these pots stand out from their contemporaries, perhaps suggesting that SOS amphorae were regarded somewhat differently. Indeed, 'owners' inscriptions' are far more common on fine ware vessels and dedicatory objects than on storage and transport containers. Perhaps writing a person's name on an SOS amphora was an attempted to increase the (perceived) value of the pot and its contents. These different attributes of SOS graffiti suggest that one must consider critically the status of SOS amphorae and their interactions with non-Greeks alongside Athenian producers, merchants, and owners.

Finally, it may be useful to discuss briefly the graffiti evidence that has been variously interpreted as indicating contents of SOS amphorae. Graffiti scratched post-firing onto a visible area of an amphora could be interpreted as a sign of reuse, perhaps pointing to a new content different from the original (Vanhove 2006, 74). Alternatively, the application of a graffito indicating the specific content of the vessel may be an initial action (and not reuse) to separate the vessel from others that might have carried the 'normal' or 'usual' commodity. It is also possible, though not regularly attested, that a graffito might indicate normal content. In the case of SOS amphorae, it is generally assumed that they carried Attic olive oil (Gras 1987; Baccarin 1990; Descat 1993; Brun 2003). There is some evidence, however, that SOS amphorae might have also (or exclusively? See Lund 2004, 213–14) contained wine (Docter 1991; see Moore 2011, 5 for a summary of arguments). The argument for wine is based primarily on iconographic evidence, most notably the François krater, which depicts Dionysos carrying an amphora with 'SOS' marked on its neck. Johnston (2006a, 28) rightly points out that while this evidence is important, one must not overlook the Corinthian A amphora, a popular contemporary of SOS amphorae. The view that Corinthian A amphorae held oil is based on the porosity of their fabric, and its similarity to that of contemporary lekythoi and lamps, which suggests, at least, that oil was a product in high demand (Koehler 1981, 452; Whitbread 1995, 257).

If the following interpretations of them are accepted, graffiti on three SOS amphorae from Pithecussae might indicate that these vessels could carry, or were redeployed for, other commodities. One was inscribed with the word λεία, perhaps interpreted as 'sweet wine' (Bartonek and Buchner 1995, 170 no. 2; although see Johnston 2006b, 164 no. 8 for a different interpretation of this word). Another graffito, λι[-], was interpreted as perhaps λι[πος], the word for 'fat' (Bartonek and Buchner 1995, 170 no. 29), although this reconstruction is highly speculative. A third SOS amphora was inscribed with ἄλ, interpreted as ἄ(λς), 'salt' (Bartonek and Buchner 1995, 171 no. 30; Kotsonas 2012, 194). In addition, an SOS amphora was found at the south necropolis of Megara Hyblaea with ΟΕΑ inscribed on its neck, perhaps for ὄξος, translated as 'vinegar' (Gras 1987, 47–9; De Angelis 2003, 97 n. 155; Kotsonas 2012, 194). All of these interpretations of content, however, are based on reconstructed words with few parallels on contemporary or later amphorae (Papadopoulos and Paspalas 1999, 171–2; Lawall 2011b). Indeed, future research using residue analysis might help to elucidate this question of SOS amphora contents.

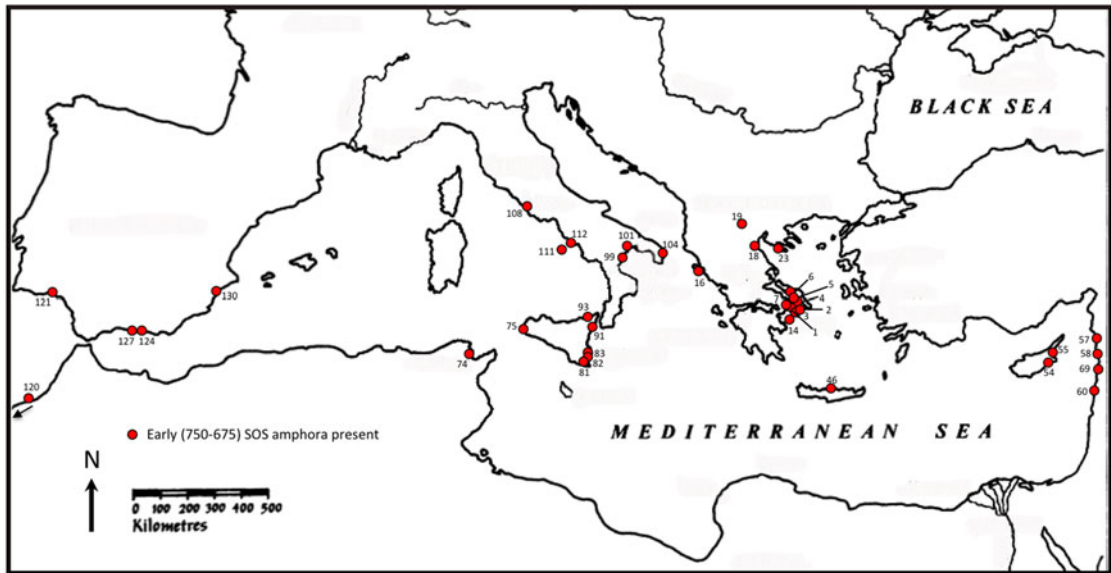


Fig. 15. Distribution map of early SOS amphorae within the Mediterranean

OBSERVATIONS

Regarding the distribution of these vessels, and by proxy the commodities within, it is now possible to reinvestigate some earlier theories that addressed chronological trends of SOS amphorae and the specific actors involved with their transport.

Based on data available at the time, it had been proposed (*e.g.* Shefton 1982) that chronological trends were visible in the distribution of SOS amphorae. In this scenario, earlier SOS amphorae were confined to specific regions, namely the Near East, the central Mediterranean (specifically Pithecoussai and Cerveteri) and (in very small numbers) the western Mediterranean (*e.g.* Mogador; C beillac-Gervasoni 1982, 204; Shefton 1982, 341). Only later versions were distributed widely in Iberia, Sicily and the North Aegean. Current evidence, however, suggests that this chronological division is not clearly demarcated (Fig. 15). The only regions that have failed to produce early Attic SOS amphorae are Asia Minor and the Black Sea, as well as the non-Saronic Peloponnese. Instead, the presence and quantity of early SOS amphorae in the west, at least, seems to coincide with the distance of the site from their production location (Attica and Euboea). For example, the regions of the western Mediterranean, Sicily, and Italy have around the same number of sites producing SOS amphorae (23, 21, 22 respectively). However, the number of sites with *early* SOS amphorae appears to decrease as we move west, at least based on the evidence currently available. Seven sites on the Italian peninsula (32%), six sites on Sicily (29%), and five sites in the western Mediterranean (22%) have early SOS amphorae. The Levant and the North Coast of Africa follow a similar pattern, with four out of nineteen sites (21%) producing early versions of SOS amphorae. Interestingly, this pattern does not seem to depend upon the presence of many Greek colonies in the region (*i.e.* Iberia, Levant, Egypt).

In addition, it seems that quite a few sites imported SOS amphorae and their contents over a relatively long period of time. Although the absolute numbers of vessels recorded at many sites in the Mediterranean are not large (*e.g.* one to five), it is significant that many sites have different versions. In other words, even if only three SOS amphorae were found at a site, but they span a century (based on morphological traits or context), then it is possible this site had been receiving commodities by way of SOS amphorae for a long period of time. Of course, it is also necessary to take into consideration reuse when SOS amphorae from a broad time span are found in the same context. This, however, is not always the case. Instead, the pattern might suggest that the presence of multiple SOS amphorae at a particular site does not represent a

single importation event. Rather, these amphorae may have accumulated over time in a series of interactions, most likely incorporated into different economic networks, and maintained by various actors.

Megara Hyblaea is a unique example, since the site has produced one of the highest volumes of SOS amphorae.⁹ Indeed, SOS amphorae comprise about 90% (159 out of 166) of the imported amphorae down until 580 BC, when the SOS stopped being produced. The Attic amphorae imported after this time (*sc.* the *à la brosse*) are both less numerous and more varied in types (85 total including one Panathenaic; De Angelis 2003, 93). This large quantity provides an opportunity to see patterns of SOS amphora importation over time. Rather than all amphorae appearing during a single moment in time, the distribution of SOS amphorae at the site takes place over almost 150 years. Within that 150-year period, however, there is certainly an era of increased volume. Specifically, there were five SOS amphorae imported during 750–700 BC, none during 700–650, 154 during 650–600 BC, and only two during 600–575 BC (De Angelis 2003, 93 fig. 33). This example demonstrates not only the long duration of SOS amphora distribution from its place(s) of origin, but also the wave-like pattern of the quantity of SOS amphorae during this time period. It is also important to recognise that SOS amphorae did not necessarily represent a minority of the imported amphorae at a given site, especially in the Early Archaic period.¹⁰ Indeed, the volume and distribution of SOS amphorae abroad is particularly intriguing because Athens did not have any colonies.

The updated distribution of SOS amphorae provided here also presents an opportunity to re-examine previous suggestions for possible groups or actors involved with the transport of these vessels. Specifically, in his evaluation of SOS amphora distribution, Brian Shefton (1982) had posited that Phoenicians might have been heavily involved with the distribution of these Greek vessels throughout the Mediterranean.¹¹ Aside from the fact that many sites in Iberia received Greek SOS amphorae before any direct Greek presence, Shefton convincingly demonstrated a connection between the find-spots of early Attic SOS amphorae, early Corinthian aryballoi, and Phoenician enterprise, particularly in Iberia. Based on these distributions, he suggested that in the early part of the Archaic period Phoenicians were the primary movers of Attic SOS amphorae, along with most other Greek goods (for Phoenician distribution of Corinthian pottery see Morris and Papadopoulos 1998). He went on to suggest that perhaps Pithekoussai, as a settlement with both Greek and Phoenician actors, served as a trans-shipment point (Shefton 1982, 342).

The expanded SOS distribution provided here continues to support this idea of Phoenician involvement. First, a number of additional Phoenician colonies have produced SOS amphorae, including the well-known sites of Carthage and Motya, as well as many Phoenician colonies in Iberia, such as Toscanos, Guadalhorce, Aljaraque, Gadir, Malaga, Algarroba and Cerro del Villar. Second, a greater number of indigenous Iberian sites, which seem to have had mainly Phoenician contacts in the Early Archaic period, have also produced SOS amphorae (Fig. 12; Gonzales de Canales, Serrano and Llompart 2006, 15). Third, SOS amphorae are found at more sites that show connections to Phoenician trading ventures, including Cerveteri, Veii, Vulci in Etruria, and Methone in northern Greece (see Turfa 1977; Boardman 2001, 38–40; Brody 2002, 77; Kasseris 2012). Finally, new research on the distribution of eighth-century Phoenician 'torpedo' amphorae provides an interesting parallel to early SOS amphora distribution (Kasseris

⁹ However, most of the SOS amphorae from Megara Hyblaea remain unpublished.

¹⁰ It is generally assumed that, of the imported amphorae at a central Mediterranean site, Corinthian examples represent the majority. Based on a growing body of information, including the distribution presented here, SOS amphorae frequently outnumber Corinthian amphorae at colonial and indigenous sites, especially in the earlier Archaic period (*e.g.* Megara Hyblaea, Pithekoussai; Di Sandro 1986, 130).

¹¹ Modern scholars use the term 'Phoenician' to refer to individuals of Canaanite heritage and language originating from coastal Lebanon and northern Palestine. However, these 'Phoenicians' seemed to have defined themselves not as a single group, but by their individual city-states, such as Byblos, Sidon and Tyre (Aubet 2006). Ancient Greeks complicated this terminology by employing 'Phoenicians' to encompass people of Canaanite heritage along with peoples of Aramaic and other Syro-Palestinian origins (López-Ruiz 2010, 25). Despite the problematic nature of the ethnonym, here I will retain 'Phoenician' in keeping with Shefton's (1982) terminology.

2012, 307 fig. 3). The distribution of these early Phoenician containers corresponds very closely to the locations of early SOS amphorae. Specifically, eighth-century torpedo amphorae have been found at 14 sites, 7 of which have also produced early SOS amphorae (Doña Blanca, Morro de Mezquitilla, Toscanos, Methone, Pithekoussai, Cypriot Salamis, and Carthage; Kasser 2012, 307 fig. 3; Adam-Veleni and Stefani 2012, 161–2, nos. 109–11). Of the remaining seven sites with torpedo amphorae, five are located on the Levantine coast. The lack of SOS amphorae at these sites is not surprising, and in fact supports Phoenician involvement, since traders would have travelled from these places towards Greece, where they would then acquire SOS amphorae.

Additionally, Phoenician presence on Ischia and at Pithekoussai has been further elaborated upon since Shefton's publication. Evidence now suggests that the island was populated by both Greeks and Phoenicians. Particularly striking evidence is a Greek amphora with both Aramaic and Greek graffiti (Garbini 1978; Ridgway 1992, 112–14; Bartonek and Buchner 1995, 187) found reused for an *enchytrismos* burial (although the total number of Aramaic or Phoenician inscriptions is not large; Bartonek and Buchner 1995, 187–89). While this site seems to be neither a Phoenician nor a Greek 'colony', there is little doubt that both groups interacted with each other and with local populations (Papadopoulos 2001, 443; Kelley 2012, 246 with relevant references). That so many SOS amphorae have been recovered from both the settlements and necropoleis on Ischia attests to a vigorous trade, use, and reuse of these vessels. With this confluence of actors and practices in mind, it is quite possible that Pithekoussai functioned as some sort of trans-shipment point, as Shefton argued, to sites both near and far.

CONCLUSION

The observations discussed here pave the way for further research on Athenian/Phoenician involvement with overseas trade, traders and colonisation. Continued elaboration of the chronological and geographical patterns associated with SOS amphorae might elucidate specific connections between Attica and colonial enterprises westward.¹² Other insights into the complex web of trade networks in the Early Archaic period may also be generated through comparisons between the distribution of SOS amphorae provided here and distributions of other key commodities, such as metals or amphorae from other regions. Recent emphasis on North Aegean amphorae has already brought to light interesting parallels with SOS amphorae, discussed above, perhaps alluding to some deeper connection that could potentially be clarified with future research. Hence, the many questions introduced by this updated synthesis of the production and distribution of SOS amphorae provide an intriguing glimpse into the intricacies of commercial interconnections at the very outset of the Archaic period.

ACKNOWLEDGEMENTS

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cpratt25@uwo.ca

¹² The chronological divisions of SOS amphorae, as devised by Johnston and Jones (1978), were simplified in this article to accommodate many examples labelled in excavation reports as simply 'early' or 'late'. However, the actual chronology of SOS amphorae has been refined even further by M.A. Rizzo (1990, 16–17), who provides a distinction between 'Late I' and 'Late II' amphorae.

APPENDIX

Table A1. SOS amphora distribution by site (X = SOS amphora mentioned, but not identified in detail).

Num.	SITE	Attic SOS	Euboean SOS	Local SOS	Unknown origin	Total	Citations
<i>Central Greece</i>							
1	Athens (Early)	60 +			1	61 +	Johnston and Jones 1978, 107–10; Lawall 2011a, 297; Camp 1999, 261 no. 3 fig. 8; Catling 1979–80, 10; Lawall <i>et al.</i> 2002, 424 fig. 5; Brann 1961, 338 under F40; Burr 1933, 570 no. 126–28, figs. 29–30; Young and Angel 1939, 29 fig. 16; Thompson 1937, 123 fig. 66. Personal examination of recent excavations (2014), at least 10 present.
2	Phaleron (Early)	17				17	Johnston and Jones 1978, 110; Young 1942.
3	Thorikos (Early)	1				1	Johnston and Jones 1978, 110; Bingen 1984, 89–90 no. TC71.1432.
4	Oropos (Early)				1	1	Vlachou 2007, 219.
5	Eretria (Early)	6		X?	4	10 +	Johnston and Jones 1978, 112; Descœudres 1976, 38; Mazarakis Ainian 1987, 6; Verdan, Kenzelmann Pfyffer and Lederrey 2008, 101 n. 678; Kenzelmann Pfyffer, Theurillat and Verdan 2005, 73 no. 57.
6	Chalcis (Early)	1	~200	4		200 +	Andreïomenou 1996, 120 nos. 92–4, 99; Johnston and Jones 1978, 111.
7	Eleusis (Early)	3				3	Johnston and Jones 1978, 110.
8	Corinth	2				2	Johnston and Jones 1978, 110.
9	Isthmia (Poseidon sanctuary)	X				X	Alexandridou 2011, 92; Arafat 1999, 56.
10	Dhroukoulina	2				2	Runnels, Pullen and Langdon 1995, 62, 218 no. 1163 (plus one uncatalogued).
11	Asine	4				4	Frodin and Persson 1938, 326 nos. 10–13.
12	Halieis (Porto Cheli)	5				5	Johnston and Jones 1978, 111; Rudolph 1984, 164 no. D2; Foley 1988, 222, tomb 154.
13	Kalaureia				1	1	Wells, Penttinen and Billot 2003, 71 no. 89.
14	Aigina: Kolonna (Early)	9				9	Jarosch-Reinholdt 2009, 108–9 nos. 162–70.
15	Bouthroton (Ionian Coast)				16	16	Birzescu 2012, n. 1382; Docter 2003 nos. 1409–1506.

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Table A1. Continued

Num.	SITE	Attic SOS	Euboean SOS	Local SOS	Unknown origin	Total	Citations
16	Kerkyra (Ionian Coast) (Early)				2	2	Johnston and Jones 1978, 115; Shefton 1982, 341.
<i>North Aegean (N. Greece, N. Aegean Islands)</i>							
17	Krania				1	1	Poulaki-Pantermali 2007, 633.
18	Methone (Early)	30 +	1			31 +	Kotsonas 2012, 231, fig. 1, 188, 191, 447 no. 110 (Euboean); Kotsonas pers. comm. Personal examination.
19	Archontiko (Early)	1				1	Chrisostomou and Chrisostomou 1993, no. AK93/700.
20	Sindos	6	1			7	Gimatzidis 2010, 288 n. 1789, no. 661; Descoedres 2006/7, table 4 (Euboean).
21	Toumba Thessaloniki				X	X	Chavela 2006, 194–5.
22	Karabournaki	6				6	Filis 2012, 316; Alexandridou 2011, 94; Tsiafakis 2000; Manakidou 2003; 2013, 180.
23	Mende (Early)	3				3	Moschonissioti 2004, 279; 2012; Moschonissioti <i>et al.</i> 2005, 256.
24	Torone		1			1	Paspalas 2001, 320.
25	Akanthos	1				1	Filis 2013, 71.
26	Amphipolis				1	1	Johnston and Jones 1978, 113.
27	Oisymne				1 +	1 +	Johnston and Jones 1978, 112; Koukouli-Chrisanthaki and Marangou 2012.
28	Abdera				X ‘small number’	X	Skarlatidou 2004, 256.
29	Thrace: Palaiopolis N. Cemetery				1	1	Blackman 1996–7, 91.
30	Samothrace	1				1	Graham 2002, 245.
<i>Black Sea</i>							
31	Sozopol				1	1	Dupont 1995–6, 91.
32	Istria	1 +			2	3 +	Dupont 1995–6, 88; Lambrino 1938, 134–7 fig. 94; Bîrzescu 2012, 175–77.
33	Orgame				1	1	Mănucu-Adameşteanu 2008, 145–51 no. 215.
34	Posta/Tulcea	1				1	Simion and Lazurca 2004, 249.
35	Berezan	2				2	Hind 1983–4; Dupont 1995–6, 89.
36	Taganrog				4	4	Kopylov 2007, 67 fig. 2:1–4.

37	Gorgippa		I		I	Dupont 1995–6, 91.
<i>Asia Minor</i>						
38	Pitane			X	X	Johnston and Jones 1978, 112–13.
39	Smyrna			6	6	Johnston and Jones 1978, 113.
40	Assesos		2		2	Kalaitzoglou 2008, 232–4, 424, nos. 613, 614.
41	Miletus		12		12	Naso 2005, 76.
<i>South Aegean Islands</i>						
42	Delos			6 +	6 +	Descœudres 2006/7, table 4; Shefton 1982.
43	Keos: Koressos			I	I	Sutton <i>et al.</i> 1991, 79 no. 9–3 (?); Birzescu 2012, 178 n. 1384.
44	Thera		3		3	Johnston and Jones 1978, 113; Johnston 2006b, 3.
45	Crete Chania			I	I	Andreadaki-Vlasaki 1997, 236 no. 70-P0216, 237 no. 71-P1318.
46	Knossos (Early)			I	I	Coldstream, Macdonald and Catling 1997, 220 no. H38 (Euboean).
47	Kommos		15–17	3	18–20	Johnston 2005, nos. 192–6, no. 197 (imitation); Shaw and Shaw 2000, 244–5 nos. 330, 335, nos. 329, 344 (imitations), 122 no. 56; Johnston 1993, 357–8 nos. 71–80.
48	Rhodes Ialysos		I		I	Birzescu 2012, 220 fig. 94.
49	Rhodes Kamiros		I		I	Johnston and Jones 1978, 113; Birzescu 2012, 220 fig. 94.
<i>Cyprus</i>						
50	Marmari		I		I	Johnston and Jones 1978, 113.
51	Idalion		I		I	Hadjicosti 1997, 54.
52	Deneia			2	2	Georgiou 2005, 131 fig. 6; Karageorghis 1960, 278–9 no. 3 fig. 57.
53	Amathus		I	14	15	Thalman 1977, 73–4.
54	Kition (Early)		4		4	Johnston and Jones 1978, 113–14; Karageorghis 1977, 61, 62 no. 6; Johnston 1981, 38 nos. 1–4.
55	Salamis (Early)		20		20	Karageorghis 1970, 3 tomb 4, 11 tomb 7 no. 17, 18 tomb 10 no. 15, 63 tomb 33 no. 11, 66 tomb 36, 101 tomb 62 no. 6, 234; Calvet and Yon 1977, 10, tombs 10, 4, 33, 36, 62, 84, 14, 114; Gjerstad 1977, 52–3.
<i>Levant</i>						
56	Kinet Hoyuk/Issos		2 +		2 +	Gates 2006, 369; Hodos 2000, 148.
57	Al Mina (Early)			14	14	Johnston and Jones 1978, 113; Shefton 1982, 341.
58	Ras al Bassit (Early)		5		5	Descœudres 2006/7, 11 table 1; Courbin 1993, 105.
59	Beirut		I		I	Badre 1998, 83, fig. 9,3.
60	Tyre (Early)		5		5	Descœudres 2006/7, 11 table 1; Coldstream and Bikai 1988, 40 nos. 69–71, 76.

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Table A1. Continued

Num.	SITE	Attic SOS	Euboean SOS	Local SOS	Unknown origin	Total	Citations
61	Kabri	I				I	Ben-Tor <i>et al.</i> 1993, 259.
<i>Egypt</i>							
62	Tell Defenneh	I			I	2	Johnston and Jones 1978, 115; Johnston 2006a, 26; Smoláriková 2002.
63	Saqqara	I				I	Smoláriková 2002, 34.
64	Karnak	2				2	Johnston 2006a, 28; Smoláriková 2002, 45 no. 339; Marangou-Lerat 2009, 120–1.
65	Thebes	I				I	Schlotzhauer and Weber 2012, Th6, 416.
66	Gurna				I	I	Mysłiwiec and Borkowski 1987, 80 no. 851 (mislabelled).
67	Elephantine				I	I	Aston 2007 440 fig. 14 no. 1914.
68	Fort Migdol (delta)	I +				I +	Smoláriková 2002; Oren 1984, 27.
69	Naukratis	X				X	Johnston 2006a, 26 ‘small number’.
<i>North Coast of Africa</i>							
70	Marsa Matruh, Bates’ Island	I?				I?	Bailey 2002, 127, 12.36; but see Johnston 2006a, 27–8 (Laconian).
71	Cyrenaica: Apollonia	I				I	Johnston 2006a, 27.
72	Cyrenaica: Cyrene	35				35	Johnston 2006a, 27; Ermeti <i>et al.</i> 2006.
73	Cyrenaica: Tocra				I	I	Boardman and Hayes 1966, 137.
74	Carthage (Early)	16				16	Docter 2007, 655–8 nos. 5474–89.
<i>Sicily</i>							
75	Motya (Early) [Phoenician]	3				3	De Angelis 2000, 196; Albanese Procelli 1996, 99–102; Shefton 1982, 341.
76	Selinus	2 +				2 +	Albanese Procelli 1996, 99–102; De Angelis 2003, 190.
77	Gela	5				5	Albanese Procelli 1996, 99–102; Panvini 2012, 73.
	Gela chora:	140 +				140 +	Klug 2012, 224–6.
78	Kamarina	37	I			38	Albanese Procelli 1996, 99–102; Sourisseau 2006, 132.
79	Maestro	I				I	Albanese Procelli 1996, 99–102.
80	Modica	4				4	Albanese Procelli 1996, 99–102; Panvini and Sole 2009, 375 nos. VI/480, VI/482, VI/483, VI/184.
81	Eloro (Early)	2				2	Albanese Procelli 1996, 99–102; Orsi 1966, 236–7 fig. 10b, 12; Cebeillac-Gervasoni 1982, 205.

82	Syracuse (Early)	7 +	I	5	13 +	Johnston and Jones 1978, 118; Albanese Procelli 1996, 99–102; Pelagatti 1982, 136.	
83	Megara Hyblaea (Early)	164 +		2	1	167 +	De Angelis 2003, 93; Albanese Procelli 1996, 99–102; Vallet and Villard 1964, 94; Johnston and Jones 1978, 118; Jones 1986, 711; Jones 1979, 58–9.
84	Leontini	I			2	3	Albanese Procelli 1996, 99–102; Grasso 2008, 125 nos. 607–8, fig. 36 pl. LX.
85	Morgantina	X	I			1 +	Antonaccio 2004, 67 fig. 3 (Euboean); Lyons 1996.
86	Monte S. Mauro	9				9	Albanese Procelli 1996, 99–102.
87	Monte Balchino	2				2	Lamagna 2003, 54–6 no. 29, fig. 41, 42, no. 30 fig. 43.
88	Grammichele-Terravecchia	I				1	Albanese Procelli 1996, 99–102.
89	Ramacca	4				4	Albanese Procelli 2003, 39, 45 n. 20.
90	Catania	I				1	Albanese Procelli 1996, 99–102.
91	Naxos (Early)	9 +	2		5 +	16 +	Blackman and Lentini 2003, 432–44 nos. 1.8, 2.7 (shipsheds); Albanese Procelli 1996, 99–102; Lentini 1987, nos. 418–20; Pelagatti 1980–1, 147, 156; Johnston and Jones 1978, 117; Birzescu 2012, 179 n. 1398 mentions 10 examples.
92	Zancle (Messina)	3	I			4	Martinelli 1999, 84 no. VLF/61, 89 no. VLF/87 fig. 9, 93 no. VLF/106 fig. 9; Descoedres 2006/7, 15 table 4 (Euboean).
93	Mylae/Milazzo (Early)	3				3	Albanese Procelli 1996, 99–102; Shefton 1982, 341.
94	Himera	11			5	16	Albanese Procelli 1996, 99–102; Vassallo 2003, 339 nos. 18, 19, fig. 5; Allegro 2008, 162 no. 566, <i>passim</i> pp. 41, 46, 176, 185.
95	Lipari	X				X	Albanese Procelli 1996, 101.
<hr/>							
<i>Italy</i>							
96	Reggio Calabria	2				2	Agostino 2012, 957.
97	Kaulonia				6 +	6 +	Mersch 1989, 97.
98	Sybaris	3				3	Johnston and Jones 1978, 116 nos. 29, 30; <i>Sibari IV</i> (1974), 123–4 nos. 353 fig. 115, 354 fig. 116.
99	Policoro/Siris (Early)	11	I		I	13	Johnston and Jones 1978; Berlingò 1986, 123 pl. 18; Berlingò 1993, 11–13, tombs 115, 150; Descoedres 2006/7, 16 table 4 (Euboean).
100	Metaponto (Early)	7	I		I	9	Johnston and Jones 1978, 116–17; Carter and Abbott 1998, 740 (Euboean); Swift 2011, 457; Stea 1997, 35–8 nos. 24–7 (early); Carter 2004, 370.

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Table A1. Continued

Num.	SITE	Attic SOS	Euboean SOS	Local SOS	Unknown origin	Total	Citations
101	Incoronata (Early)	8				8	Denti 2013, 82 fig. 11, 111; Domingo and Johnston 2003, 32; Pozzetti 1986, pl. 37, 38; Johnston and Jones 1978, 117.
102	Taranto				I	I	Cinquantaquattro 2012, 503.
103	Satricum				X	X	Kotsonas 2012, n. 1078.
104	Otranto (Early)				X	X	Shefton 1982, 341.
105	Cavallino	I				I	D'Andria 1977, 543 no. 65, fig. 11.
106	Pisa	I		X?		I +	Bruni 2004, 243, 265 fig. 4.1.
107	Vulci	11				11	Johnston and Jones 1978, 119 nos. 58, 59; Boitani 1985, 25.
108	Cerveteri (Early)	28			8	36	Shefton 1982, 341; Johnston and Jones 1978, 119–20; Rizzo 1990; Boitani 1985, 25.
109	Veii	5				5	Descoedres and Kearsley 1983, 36 n. 89; Boitani 1985, 25; Rizzo 1990, figs. 359–61.
110	Ficana				X	X	Brandt, Jarva and Fischer-Hansen 1997, 224: 'considerable amount of fragments' dated to the 8th century.
111	Pithekoussai (Early)	18	2	2	26	48	Buchner and Ridgway 1993, 478 no. 476.1 (local), nos. 398.1, 429.1, 442.1, 642.1, 719.1, S2.2; Di Sandro 1986, 129 nos. SG17–37; Ridgway 1994, 83; Gialanella 1994, 183, A6 fig. 13; D'Agostino 1994–5, 60–1, nos. 84–5, pl. XLI; Johnston and Jones 1978, 115. Johnston and Jones 1978, 116; Pelagatti 1982, 147; Savelli 2006, 107.
112	Cumae (Early)	3				3	Johnston and Jones 1978, 116; Pelagatti 1982, 147; Savelli 2006, 107.
113	Calatia				I	I	Rescigno 2003, 45 no. 24, fig. 29; Di Sandro 1986 fig. SG11.
114	Poseidonia/ Paestum	2				2	Greco and Theodorescu 1987, 139 nos. 655, 788b.
115	Hipponion	I				I	Iannelli and Minniti 2012, 860.
116	Medma/Rosarna	2				2	Iannelli and Minniti 2012, 862.
117	Metauros				2	2	Johnston and Jones 1978, 117.
<i>Sardinia</i>							
118	Olbia	5				5	D'Oriano and Oggiano 2005, 172 no. 6, 191; Zucca 2002, 120.
<i>Western Mediterranean (Iberia, S. France, N. Africa)</i>							
119	Rachgoun				I	I	Shefton 1982, 338 n. 1.
120	Mogador (Early)				12 +	12 +	Shefton 1982, 338 n. 1.
121	Aljaraque (Early) [Phoenician]	2			4	6	Dominguez and Sánchez 2001, 3; Shefton 1982, 338 n. 1, 341 n. 5.
122	Huelva				2	2	Shefton 1982, 338 n. 1, 341; Johnston and Jones 1978; Dominguez and Sánchez 2001, 9.
123	Castillo de Doña Blanca/ Gadir [Phoenician]				X	X	Dominguez and Sánchez 2001, 19.

124	Toscanos (Early) [Phoenician]	50			50	Domínguez and Sánchez 2001, 32; Shefton 1982, 338 n. 1; Docter 1997, 239.
125	Cerro del Villar [Phoenician]	1			1	Rouillard 1991, 177; Domínguez and Sánchez 2001, 23.
126	Málaga [Phoenician]	2 +			2 +	Domínguez and Sánchez 2001, 28–9.
127	Guadalhorce (Early) [Phoenician]	2	2	1	5	Domínguez and Sánchez 2001, 25; Shefton 1982, 338 n. 1.
128	Morro de Mezquitilla/ Algarrobo [Phoenician]	1			1	Domínguez and Sánchez 2001, 29.
129	Cerro de los Infantes/ Pinos Puente	1			1	Domínguez and Sánchez 2001, 34.
130	La Fonteta/ La Rábita (Early)	5 +			5 +	Domínguez and Sánchez 2001, 44.
131	Illeta dels Banyets/ El Campello			1?	(1)	Domínguez and Sánchez 2001, 44 (ALB?)
132	Ibiza (Balearic islands)			1	1	Domínguez and Sánchez 2001, 81 fig. 79, no. 4.
133	Cabanyal-Malvarrosa	1			1	Domínguez and Sánchez 2001, 49 fig. 42, no. 1.
134	Tos Pelat/ Moncada	1			1	Domínguez and Sánchez 2001, 50.
135	Burriac/ Cabrera de Mar			1	1	Domínguez and Sánchez 2001, 57.
136	Ampurias/ Emporion			7 (late?)	7	Domínguez and Sánchez 2001, 64.
137	Villevieille (Gard)			1	1	Py and Py 1974, 154–5, fig. 8 no. 15.
138	Petit Bois			1 +	1 +	Shefton 1982, 338 n. 1.
139	Saint-Blaise			5	5	Bouloumié 1992, 267; Bîrzescu 2012, 180.
140	Tamaris (Martigues)			X	X	Bîrzescu 2012, 220, fig. 94.
141	Massalia			X	X	Sourisseau 1997, 105–6; Bîrzescu 2012, 180.

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Ο αμφορέας 'SOS': μια σύγχρονη προσέγγιση

Τα τελευταία 35 χρόνια, η σύγχρονη έρευνα έφερε στο φως αρκετά νέα στοιχεία σχετικά με τον λεγόμενο αμφορέα SOS, ο οποίος παρήχθη βασικά στην Αττική και στην Εύβοια κατά την Αρχαϊκή περίοδο. Πάραυτα, λίγες μελέτες έχουν ασχοληθεί με το θέμα μετά το σημαντικό έργο των Johnston και Jones το 1978. Αυτό το άρθρο παρουσιάζει μια κριτική αξιολόγηση της συζήτησης για την παραγωγή και διανομή των αμφορέων SOS, χρησιμοποιώντας τα διαθέσιμα δεδομένα. Συμπεριλαμβάνει μια ανάλυση της σύγχρονης έρευνας για τους αμφορείς της Πρώιμης εποχής του Σιδήρου, που πιθανόν να βοηθήσει να τοποθετήσουμε την παραγωγή και διανομή των αμφορέων SOS μέσα σε ένα γενικότερο περιβάλλον κεραμικής παραγωγής και διανομής. Το νέο μοντέλο διανομής των αμφορέων SOS που προτείνουμε απαιτεί μια συνολική επανεξέταση των καθιερωμένων ερμηνειών όσον αφορά την χρονολόγηση τους και το ανθρώπινο δυναμικό που συμμετείχε στην διακίνησή τους. Δεδομένων των διαφόρων ειδών αμφορέων SOS, προτείνουμε ότι αυτά τα αγγεία είχαν γενικά ισότιμη παρουσία στην Μεσόγεια, από την Ιβηρία μέχρι την Εγγύ Ανατολή, ήδη από την πρώτη Αρχαϊκή περίοδο. Σε συνδυασμό με άλλους παράγοντες, αυτή η εκτενής διανομή ίσως να υποστηρίζει την υπόθεση ότι μη-Έλληνες ναυτικοί ήταν οι πρωτεργάτες της μεταφοράς των Αθηναϊκών και Ευβοϊκών αμφορέων. Σε τελευταία ανάλυση, ελπίζουμε ότι μια καινούργια ματιά σε αυτή την κεραμική, αν και σύντομη, μπορεί να συνεισφέρει στην υπάρχουσα ακαδημαϊκή συζήτηση για τις πολιτισμικές συναλλαγές και την κινητικότητα στη Μεσόγεια κατά την Αρχαϊκή περίοδο.