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CATCHING THE BIG FISH – FISH-SAUCE CONTAINERS FROM THE REPUBLICAN ERA TO LATE ANTIQUITY IN NEA PAPHOS (CYPRUS)

Garum production sites of the Republican Period, as well as multiple kiln workshops of transport amphorae used for carrying fish-sauce, are well attested in Sicily and on the North African coast. New ceramic evidence provided by numerous fragments of transport vessels collected from Late Hellenistic layers of the Agora in Nea Paphos, Cyprus, offers a unique opportunity to elucidate the still understudied period of economic exchange between the two of most important islands of the Mediterranean Sea. Late Hellenistic Tubular Amphorae, one of the most numerous types of central Mediterranean transport vessel imports within the assemblage gathered in Nea Paphos, enable us to trace mutual contact between the heart of the Republican world and Cyprus under Ptolemaic rule at the dawn of Roman economic, political and military dominance in the Eastern Mediterranean. A detailed consideration of the vessels and therefore of the origins of garum, based on comprehensive macro-observation of the gathered material, will be complemented by a typological and chronological discussion.

Nea Paphos – African amphorae – Republican trade – Fish-sauce – Hellenistic Cyprus

1. Introduction

As part of the Polish National Science Centre's project 'MA-P Maloutena and Agora in the layout of Paphos: modelling the city scape of the Hellenistic and Roman capital of Cyprus', excavations were carried out in Nea Paphos, on the south-western coast of Cyprus, between 2018 and 2021. Over the last four fieldwork seasons, as part of a collaborative project involving the Polish Center of Mediterranean Archaeology at the University of Warsaw, the Jagiellonian University, the Warsaw University of Technology, and the Wrocław University of Science and Technology, excavations yielded a unique collection of transport ceramics. The chronology of these ceramics spans from the Early Hellenistic to the Byzantine period, covering the period from the 3rd century BC to the 7th century AD. This timespan reflects the dating of the best archaeologically best attested occupational layers of the Agora district of the ancient city (Papuci-Władyka 2020: 516-519). The aim of this paper is to focus on the collection of 221 diagnostic and non-diagnostic fragments of amphorae imported to Cyprus from northern African and Sicilian production areas. This quantitatively largest group of exotic (Romanowska et al. 2022: 33-34) transport vessel imports within the whole amphorae assemblage shows the long history of economic exchange between the oldest provinces of the Roman Republic and one of the most vibrant centers of trade in the Eastern Mediterranean.

The material discussed below comes from multiple sondages opened in the Agora of Nea Paphos: a space and complex of buildings whose function is still debated (Miszczak 2020: 156) (**fig. 1**). A primary study of the amphorae assemblage from this urban space has been published by Dobosz (2020: 323-362), alongside a more focused consideration of its eco-

nomic significance in the Hellenistic period (Dobosz 2013; 2016: 189-202). However, no studies concerned specifically with the western and central Mediterranean transport vessel imports have been carried out to date.

2. Methodology and material preservation

A brief note on the methodology adopted in this study is necessary to present a substantive basis of the author's analysis of the pottery assemblage. After standard preparation (cleaning, sorting), the ceramic material was counted and recorded. The quantification method adopted in the project was limited to counting diagnostic and non-diagnostic sherds. While the results of the full pottery analysis are forthcoming, only numerical data on the transport pottery relevant to this study are given below, without referencing the broader ceramic horizon (which includes other vessel categories as well).

Based on ware characteristics, morphological parallels, and ware and fabric databases available online (such as facem.at, archaeologydataservice.ac.uk or www.levantineceramics.org) an assemblage of 221 amphorae fragments was selected. This comprises a little more than 1% of the whole amphorae material that equals 21071 fragments collected in mentioned timespan in total, and represents a full collection of the products originating from various kiln sites in the Roman provinces of Africa Proconsularis, Byzacena, Tripolitania and Sicily. This material has been studied by means of macroscopic observation, using simple optical tools such as hand lense, binocular, and a portable Dino Lite Edge microscope, which allowed to distinguish 13 different macroscopic groups. Subsequently, each macroscopic group was matched with a firm stratigraphic context (i.e., homogenous



Fig. 1. Location of sondages opened in the Agora.

layers well dated by other categories of pottery and artefacts), which allowed to establish of chronological patterns of the occurrence of different macroscopic groups.

Despite the heavy fragmentation of the material (with an average fragmentation rate of 7.6 grams per fragment), the general condition of the individual pottery sherds was quite good, with the fragments not being heavily affected by post-depositional processes. This is particularly noteworthy considering that materials from other areas or contexts in Nea Paphos are often heavily eroded by the salt-rich soil in which they are deposited. Since this research relies on the optical recognition of wares, the color and texture of the studied material were not influenced by decay in layers rich in limestone mortar (which covers pottery sherds and makes the entire fabric much paler and more brittle), nor in the damp cistern or well contexts (which can affect the natural color of the fired clay).

3. Presentation of the material

Hellenistic period – Forms and fabrics dated to the Middle and Late Hellenistic period (2nd century BC - first half of the 1st century AD) appear in three different macroscopic groups: AF.1, AF.2, and AF.3 (**Table 1, 1-3**). These chronological groups are represented by a wide typological repertoire. Among the most popular types are wide-diameter, flaring-rim amphorae of Punic types, such as Mañá C1/Rámon Torres 7.3.1.1. (**fig. 2 a**), Van der Werff 3/Ramon-Torres 7.2.1.1. (**fig. 2 b**) (Van der Werff 1978), and Mañá C1b/Rámon Torres 7.2.1.1. (**fig. 2 c-d**) (Guerrero-Ayuso 1986: 156-158) that have

been recorded in Nea Paphos in earlier years of excavations. However, in this chronological range, the most common types are the so-called Tubular Amphorae – hitherto rarely-published containers of supposed Sicilian origin (Botte 2012: 599-600). The last seasons of fieldwork in the Agora produced one of the most numerous assemblages of diagnostic fragments of Tubular Amphorae ever found. In Botte's paper (2012: 579-580), this type was considered as a typological descendant of the classical Punic amphora form Ramón Torres C amphora, and as a predecessor of the Early Roman form Dressel 21. The Tubular Amphora type is characterized by a long, delicately flaring neck, loop handles, a thickened, delicately flaring rim (**fig. 3 a-c**) or straight rounded rim (**fig. 3 d-f**), and a cylindrical, hollow inside foot. Based on petrographic analysis, Botte and Capelli suggested that amphorae of this type were produced either in northern-west Sicily or at the production site on the island of Levanzo (2012: 587). However, the actual production site of this type has not been found yet; furthermore, as stated by Capelli, the petrographic composition of the clay of the Tubular Amphorae clay is very generic, which makes it almost impossible to precisely indicate their place of origin (Capelli 2012: 606; Botte 2012).

In the Eastern Mediterranean, single examples of this form were found in Euesperides in Cyrenaica (Göransson 2007: 174-176), Corinth (Botte 2018: 380-387), Athens, Delos (Wolff 2004: 454-455), Palestine (Finkielsztein 2000: 141), and in Cyprus. Two rims were published by J. Hayes in the pottery monograph of the House of Dionysus in Nea Paphos (1991: 105-106), and three bases, clearly associated with this type, were illustrated in Dobosz's unpublished PhD, based on excavations on the Nea Paphos Agora (2013: 490).

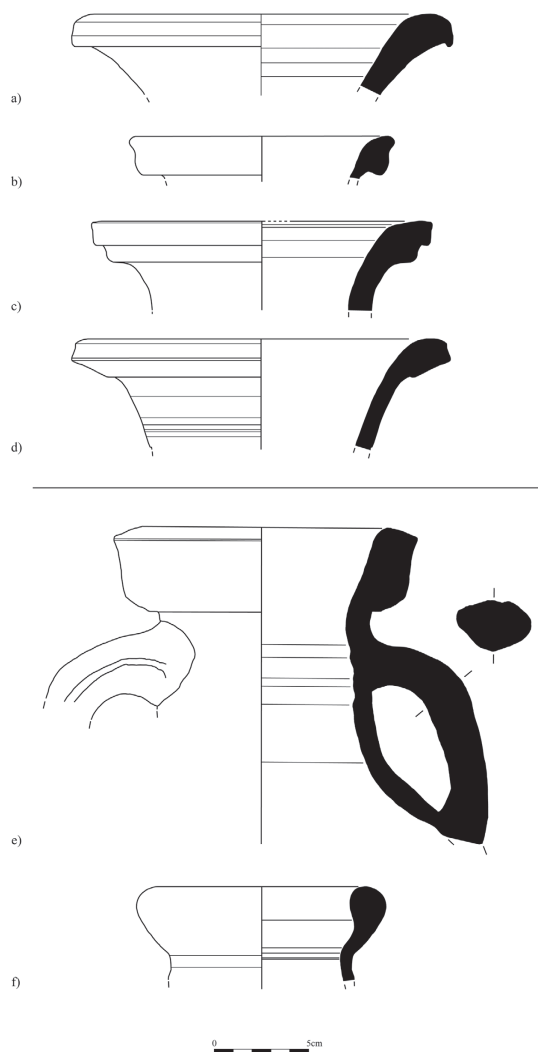


Fig. 2. Diagnostic fragments of Hellenistic and Early Roman amphorae.

This type of amphora is dated to the 2nd century BC and the first half of the 1st century BC. As presented in **Table 1 (AF. 1-3)**, the Tubular Amphora type shares a macroscopic group with the Van der Werff outturned and flaring rim forms, which indicates the same region of origin. This, however, contradicts the existing literature, which indicates central Tunisia as the place of origin of the Van der Werff types. It is worth noting that the macroscopic group AF.1 is the best-represented group in this period, accounting for over 30% of all the amphorae material coming from the central Mediterranean.

Early Roman period - Forms and fabrics dated to the Early Roman period (second half of the 1st century BC - 2 century AD) are represented by two different macroscopic groups: AF.4 and AF.5 (**Table 1, AF. 4-5**). Only three types occur during this chronological horizon: Tripolitania 1 (**fig. 2 e**), Tripolitania 2 and earlier subtypes of Africana Piccolo (**fig. 2 f**) (Bonifay 2004: 106). The very different fabrics of these examples are certainly indicative of new production sites involved in the exchange with Nea Paphos at the time. The distribution dynamics of northern African and Sicilian products in the Early Roman period are worth examining. In the

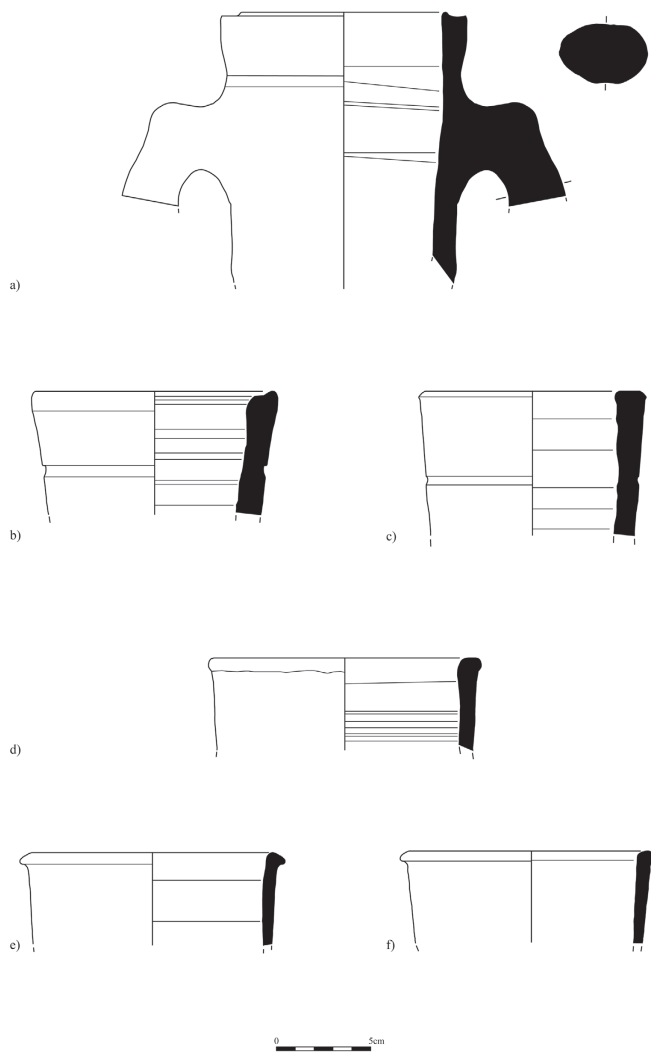


Fig. 3. Diagnostic fragments of Tubular Amphorae type.

full amphorae assemblage and also beyond the category of transport vessels, one can observe a pattern of much broader connections with the rest of the Roman Empire, including imports from Italy, the Iberian Peninsula, Egypt, the Levant, and Cilicia. This is a much wider geographic range than the African and Sicilian imports of the Late Hellenistic period.

Late Roman and Byzantine periods – Forms and fabrics dated to the Late Roman and Byzantine periods (3rd-7th century AD) appear in two different macroscopic groups: AF.6 and AF.7 (**Table 1, AF 6-7**). Over 88% of the diagnostic material in this chronological span was attributed to macroscopic group AF.6, and mainly comprises Africana Grande types (Africana 3B (**fig. 4 a-d**), Africana 3A (**fig. 4 e-f**), and Africana 2B (**fig. 4 g**)) (Bonifay 2004: 110, 118, 120). The later Byzantine horizon is dominated by Spatheion forms (**fig. 4 h-i**), which represent macroscopic groups AF.7. A peculiar diagnostic fragment (**fig. 4 j**) of macroscopic group AF.7 resembles form Keay 50 (1984: 263-264) or LRA 2 of subtype 2b (Pieri 2005: 87). Similarly to the Early Roman era, during the final period of exchange, the typological horizon narrows to only a few forms.

4. Summary and discussion

Economic exchange between Cyprus and production sites located on the northern African coast and in Sicily was continuous for almost a millennium (Stone 2009: 130-136; Botte 2012; Meyza and Bagińska 2013: 149; Reynolds 2016: 169). Majority of the amphorae discussed, from the Hellenistic to the Byzantine period with exception of Spatheion forms which original content is yet uncertain (Bonifay 2004: 129), are strongly connected with the production of *garum*, fish-sauce manufactured in many dedicated production sites on the African and Sicilian coasts (Botte 2012: 579). The amphorae evidence from the Agora in Nea Paphos suggests a considerable intensification of *garum* trade with the central Mediterranean at the end of the 3rd century BC.

From all of the northern African and Sicilian amphorae fragments, 54,7% date to the Hellenistic period, what begets a question about the economic exchange between Cyprus and Republican Rome's new possessions in the central Mediterranean. This indicates intensive contact between the two regions during the 2nd and 1st century BC, as demonstrated by the chronology of the presented forms. This timespan aligns with fish-sauce production by new facilities owners in Sicily and Africa Proconsularis, such as the Roman equities, who after the 2nd and 3rd Punic Wars took over production centers of *garum*, and sustained the continued production of amphorae in the Punic typological tradition (Botte 2012: 601, after Mazza 1982). Within the assemblage of Hellenistic imports, there is no type that can be dated earlier than to the end of the 3rd century BC. The earliest forms of Van der Werff 2 and 3, attributed to macroscopic group AF.1, indicate a possible Sicilian origin. These premises lead us to consider that in this period, Republican Rome began a new chapter of larger scale economic exchange between their newly acquired provinces of Sicily and Africa Proconsularis, and Ptolemaic Cyprus. Well-known Republican connections between Sicily and the Island of Delos (Wolff 2004: 452-455) fit well into this narrative. Against the backdrop of the export of goods heading to the Aegean, Late Hellenistic Nea Paphos appeared as a new, more eastern actor in this long-distance exchange. The presence of north African imports other than amphorae, namely plain ware vessels and braziers (Nocoń 2022: 273-277), is another reflection of its significance. The relevant quantities of fish-sauce containers which arrived in the Late Hellenistic period mark an observable change in the consumption pattern as compared to the Early and Middle Hellenistic periods, when the ceramic record is dominated by the import of Aegean wine containers, and the Early Roman period, when the Cypriot market opened to central and western Mediterranean products in the 1st century AD.

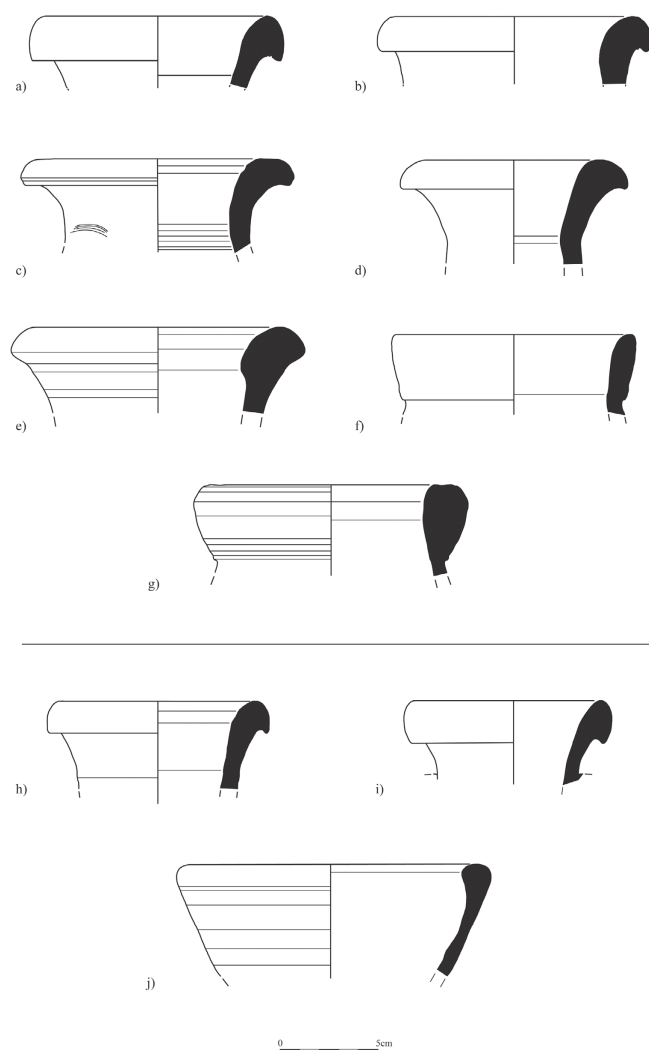


Fig. 4. Diagnostic fragments of Late Roman and Byzantine amphorae

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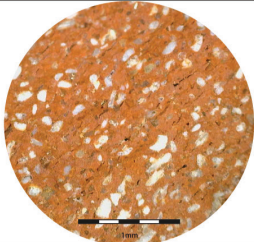
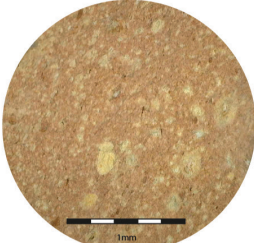
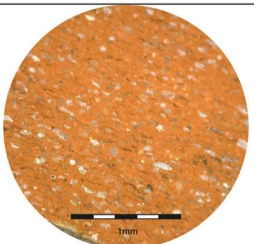
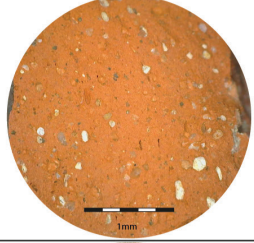
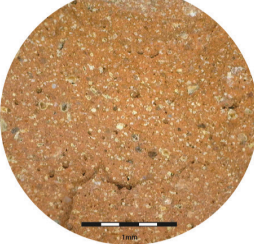
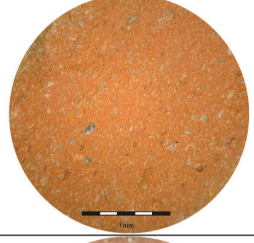
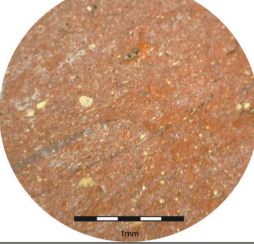
AF. #	Clay Description	Macro Photo
1.	Inclusions: Frequent very fine quartz particles; abundant fine to medium limestone particles; very rare red rounded inclusions. Ext. surface: Wash: Pale Brown (5Y 8/2). Int. surface: Same as ext. or Reddish Brown (2.5YR 5/4). Section: Red (2.5YR 4/8). Rarely visible Brown (7.5YR 5/2) core. Description: Rather well-sorted clay, visible pores. Harsh surface, wash with tendency to rub away. Hardness: 3 very hard. Forms: Van der Werff 3, Tubular Amphora, Mañá C1, Mañá C1b.	
2.	Inclusions: Frequent fine to medium limestone particles; frequent fine crystals of quartz, infrequent red round particles. Ext. surface: Wash: Pale Brown (5Y 8/2) or Pinkish Gray (7.5YR 6/2) to Pink (7.5YR 7/3). Int. surface: Same as ext. if without wash: from Reddish Brown (5YR 5/3) to Reddish Brown (2.5YR 5/4). Section: Red (2.5YR 5/6) with slightly lighter fringes. Description: Well-sorted clay. Smooth surface if slipped. Wash brushed with straw or other organic tool. Hardness: 3 very hard. Forms: Tubular Amphora (thickened rim variant).	
3.	Inclusions: Frequent fine rounded crystals of quartz; frequent very fine limestone particles; frequent gray inclusions; rare very fine sand. Ext. surface: Light Red (2.5YR 6/8). Section: Light Red (2.5YR 6/8). Description: Well-sorted clay, harsh (sandy) surface. Hardness: 3 very hard. Forms: Tubular Amphora (straight, rounded rim variant).	
4.	Inclusions: Abundant fine quartz crystals (overheated?); abundant fine to medium limestone particles; very rare red rounded inclusions. Ext. surface: Wash: Pale Brown (5Y 8/2), if without wash: Gray (5YR 5/1). Section: core Dark Brown (7.5YR 3/2), fringes Reddish Brown (5YR 4/4). Description: Very well-sorted clay. Very fine in section. Hardness: 3 very hard. Forms: Tripolitania 1, Tripolitania 2.	
5.	Inclusions: Abundant fine elongated limestone particles; infrequent fine rounded red particles; frequent fine sand grains. Ext. surface: Wash: White (2.5Y 8/1) to Pale Brown (2.5Y 8/2). Int. surface: as ext., if without wash: Reddish Yellow (7.5YR 7/6). Section: From Light Red (2.5 7/6) to Brown (10YR 5/3) with slightly lighter fringes. Description: Well-sorted clay. Smooth surface: 3 very hard. Forms: Africana Piccolo	
6.	Inclusions: Abundant fine to medium limestone inclusions; frequent very fine rounded sand inclusions; frequent dark gray inclusions. Ext. surface: Light Red (2.5YR 6/6) to Light Red (2.5YR 7/6). No slip. Section: Red (2.5YR 5/8). Description: Semi well-sorted clay, visible pores. Medium limestone particles appearing at the ext. and int. surfaces of the vessels. Hardness: 3 very hard. Forms: Africana 2B, Africana 3A, Africana 3B.	
7.	Inclusions: Frequent fine to large limestone inclusions (chunky texture); frequent very fine quartz grains; infrequent fine to medium sparse red rounded inclusions. Ext. surface: Slip Gray (2.5Y 5/1). Int. surface: from Dark Gray (5Y 4/1) to Light Brown (7.5YR 6/3). Section: Reddish Brown (2.5YR 5/8). Description: Well-sorted clay, however with infrequent pores. Smooth surface. Metallic feel of the surface. Hardness: 3 very hard. Forms: Spatheion 1, Spatheion 2, Spatheion 3, Keay 50.	

Table 1. Macroscopic groups of northern African and Sicilian import to Cyprus.

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