

## WINES FROM CYPRUS AND CILICIA IN ANTIQUITY: TASTE AND TRADE

Paulina Komar

Jagiellonian University in Kraków

**Abstract:** This paper explores the subject of wines from Cyprus and Cilicia during Antiquity, on the basis of literary and archaeological (amphoras) evidence. It focuses upon organoleptic characteristics of these wines as well as their exportation in the Mediterranean. The author attempts to estimate the scale of their consumption in three important centres in the Mediterranean (Alexandria, Ephesus and Rome) during the late Hellenistic and Roman Age.

**Key words:** wine, amphoras, Cyprus, Cilicia, consumption, trade, Alexandria, Ephesus, Rome.

According to Guinness World Records, Cypriot dessert wine, Commandaria, is recognised as the oldest manufactured wine in the world. It seems that it was very famous and appreciated at European courts in the Middle Ages. King Richard the Lionheart called it “the wine of kings and the king of wines,” and the French monarch Philip Augustus awarded it with the supreme title “the Apostle of wines,” during the famous wine tasting described in *The Battle of Wines* by Henry d’Andeli.<sup>1</sup> There is also a famous anecdote regarding wine from Cyprus which states that the island was conquered by Selim II, the Ottoman ruler, who wanted to secure the supply of sweet Commandaria, of which he was particularly fond. These stories suggests that between the 12<sup>th</sup> and 16<sup>th</sup> centuries AD wine from Cyprus enjoyed a very good reputation and was exported to different parts of Europe and Asia. Nowadays it is also well known among wine lovers.

At the same time, Anatolia, the eastern part of which is regarded as the cradle of viticulture and winemaking, almost disappeared from the maps of important world vineyards. Even though Turkey is one of the world biggest producers of grapes and raisins, its wine production develops mostly in Thracia.<sup>2</sup> Western and southern parts of Asia Minor, though favourable in oenological terms, seem to be less important. The aim of

---

<sup>1</sup> Unwin 1991, 157; <http://www.guinnessworldrecords.com/world-records/oldest-manufactured-wine> [accessed 5.11.2015].

<sup>2</sup> Robinson 2006, 715.

this paper is to show what place Cyprus and Cilicia held on the wine map in Antiquity. Were the wines from the island also famous for their good taste and widely exported, or were they rather unknown and produced only for local consumption? Was Cilicia always excluded from famous winemaking regions? This article will provide answers to these questions by analysing written as well as archaeological sources regarding production and distribution of wine from Cyprus and Cilicia in the Mediterranean during classical Antiquity.

The production and exportation of wine and other goods from these regions have long been studied separately. This was mostly due to the fact that transport containers produced in this area were usually attributed to Cyprus only or exclusively to Cilicia. It seems, however, that both regions, at least during the Archaic, Classical and Roman periods, manufactured the same amphora types. Moreover, it is often impossible to distinguish their origin without applying expensive physicochemical analyses. Therefore, to avoid distortions it seems better to consider exportations from Cyprus and Cilicia together. This approach will be adopted in this paper.

Furthermore, it seems that most scholars concentrated upon certain amphora forms (their typology, content, dating, distribution), leaving aside the *longue durée* approach. This article aims to fill this gap by showing Cypriot and Cilician wine production and trade relations from a broader perspective.

## 1. Sources and methodology

Two main categories of evidence should be considered when studying the issue of the production and export of wine from Cyprus and Cilicia. The first one includes the texts of Greek and Roman writers, dated between the 5<sup>th</sup>/4<sup>th</sup> century BC and the 4<sup>th</sup> century AD, with particular emphasis being placed on 1<sup>st</sup>- and 2<sup>nd</sup>-century works, which are in the majority. The testimonies regarding wines from these regions have survived to our times in Strabo's *Geography*, Pliny's *Natural History* and (in the case of Cilician production) in the medical works of Galen, as well as in Xenophon's *Anabasis*. In addition, wine from Cyprus was mentioned by Athenaeus in *The Deipnosophists*, but the source of the quotation is unknown, and by Palladas. These sources provide us with information regarding the organoleptic characteristics of wines (such as colour, taste, age etc.), as well as their medical properties. They may also be helpful in establishing the chronology of their production and consumption.

Archaeological material is another category. This material consists mostly of amphoras, which means ceramic containers in which wine (and other commodities) were transported and stored. However, landscape archaeology and archaeobotanical evidence may also provide important information regarding this matter. These sources inform us about the production and distribution of Cypriot and Cilician wines. Moreover, quantifications of amphoras allow us to estimate the scale of consumption of these wines in different centres of the Mediterranean.

Archaeological sources, specifically amphoras, are the most problematic.<sup>3</sup> The so-called “basket-handle” amphoras dated between the 7<sup>th</sup> and 3<sup>rd</sup> century BC are the earliest containers that were produced on Cyprus.<sup>4</sup> Their content is not certain, but it seems that they might have carried both olive oil and wine.<sup>5</sup> They originated in Cyprus and for a long time were considered simply as Cypriot amphoras.<sup>6</sup> However, the island was not the only place of their production. It seems that they were also manufactured in Rough Cilicia (the area of Kelendris),<sup>7</sup> and maybe other centres, such as Phoenicia, the southern coast of Israel and Alexandria.<sup>8</sup> “Basket-handle” containers produced in Egypt are easily recognised by their fabric; however, other fabrics are very difficult to distinguish.<sup>9</sup> Therefore, it should be accepted that wine or olive oil transported in these containers were produced in the Cypro-Cilician area, which seems reasonable considering that there is only around 40 miles’ distance between the south Cypriot and north Cilician coast.

During the Hellenistic period, meaning from the 4<sup>th</sup> century BC, the island of Cyprus produced typical Greek-type amphoras, often stamped, that were described by V. Grace and H. Meyza.<sup>10</sup> The change in the form of containers may be associated with the end of Cypriot realms and incorporation of the island to the Ptolemaic Kingdom. These new transport jars were often stamped, which, together with clay analyses, suggest that they were produced in Paphos, Kourion, Salamina and Kition<sup>11</sup> (fragments of them were also attested in Panayia Ematousa<sup>12</sup>). For example, amphoras from Kourion had a very distinguishable fabric, rough and porous with macroscopic impurities of limestone and molluscs. These containers have a characteristic rim: hollow inside with rounded triangular torus outside, and an elongated toe with a mushroom knob hollow underneath. Specimens with a knobbed rim or rounded toe have also been attested.<sup>13</sup> There has so far been no evidence regarding the manufacture of similar containers in Cilicia. However, a recent study by M. Lawall indicates that Cypriot workshops probably imitated south and north Aegean amphora forms between the late 6<sup>th</sup> and 4<sup>th</sup> century BC. It is also possible that five containers from the Anamur museum’s collection were Cypriot or Cilician imitations of south Aegean jars.<sup>14</sup> Therefore, it cannot be excluded

---

<sup>3</sup> Only wine containers will be described here. The so-called “carrot amphoras” that might also have been produced on Cyprus will not be considered; see Reynolds 2005, 569.

<sup>4</sup> Zoroğlu 2013, 36; Marangou/Marchand 2009, 242; Göransson 2013, 48. However, Calvet (1986, 506) states that in the earlier periods the island copied containers that were produced in the Levant.

<sup>5</sup> Jacobsen 2002, 173–175; Marangou 2009, 242.

<sup>6</sup> Calvet (1986, 507) claimed that they were probably not produced beyond Cyprus.

<sup>7</sup> Zoroğlu 2013, 43. This refers in particular to Type 2, dated probably to the 6<sup>th</sup> and 5<sup>th</sup> c. BC.

<sup>8</sup> Wolff 2011, 15. However, he did not present any evidence for such production. This issue was probably developed in Wolff 2009 (in Hebrew).

<sup>9</sup> Cankardeş-Şenol/Şenol 2013, 62. This concerns in particular the recognition between eastern Cypriot products and northern Syrian ones: Reynolds 2005, 563.

<sup>10</sup> Grace 1979. The fabric of a group of Coan Hellenistic containers found in Panayia Ematousa suggests that they might have been produced on Cyprus, but it has not so far been confirmed by petrographic analyses, see Jacobsen 2006, 303, 309.

<sup>11</sup> See e.g. Grace 1979, pl. XXVIII–XXX; Calvet 1986, 509–510; Meyza 2004; Marangou/Marchand 2009, 244, Dobosz 2013, 105.

<sup>12</sup> Jacobsen 2006, 308.

<sup>13</sup> Meyza 2004, 275–276, fig. 5–10.

<sup>14</sup> Lawall 2013, 52–56, 59–60, and note 67.

that products from these regions were exported in the same types of containers, which so far have not been distinguished from Aegean amphoras. It remains an open question whether these imitations served for long-distance transport or whether their distribution was limited to the nearest neighbourhood. A.K. Şenol mentions a recent discovery of Cilician containers dated to the 3<sup>rd</sup> century BC in Egypt. According to this author, the Greek population growth in the East caused an increase in wine demand, which resulted in the development of, above all, the Rhodian, Coan and Cnidian wine trade. Cilicia also participated in this commerce, though to a lesser degree.<sup>15</sup>

Our data regarding the Roman age is much more abundant. There are many types of wine containers that were produced in Cilicia, and at least one of them that was manufactured in Cypriot workshops. During the Roman period Cilicia produced amphoras called Agora G198/Schoene-Mau XIII, Agora M54, Schoene-Mau V and Agora G199/Schoene-Mau XXVII-XXVIII.<sup>16</sup> All have been classified as wine containers, though the possibility that they carried other products, for example fruits, cannot be excluded.

The first type, classified as Agora G198 in Athenian deposit, whilst Schoene-Mau XIII in Pompeii was attributed by C. Panella to “area grecofona” upon the basis of *tituli picti*.<sup>17</sup> Later, P. Reynolds suggested Cilicia as a possible origin.<sup>18</sup> This form is dated between the late 1<sup>st</sup> and 2<sup>nd</sup> century AD.<sup>19</sup> The form Agora M54 (known also as Knossos 47, Nea Paphos 8 or Psuedo-Cos en cloche) is similar to the former and has been identified as the same type by A. Marangou and C. Autret.<sup>20</sup> It was produced between the second half of the 1<sup>st</sup> and the 2<sup>nd</sup> century AD, but some examples have also been attested in early 3<sup>rd</sup>-century contexts.<sup>21</sup> These containers were manufactured in Cilicia Pedias, and kilns have been identified near Yumurtalik,<sup>22</sup> around Elaiussa Sebaste and at Aigetai.<sup>23</sup> They might also have been produced at Tarsus and in Seleucia on the Orontes, as well as on Cyprus, where they were very commonly attested (e.g. at Amathous, Paphos, Kourion,

<sup>15</sup> Şenol 2008, 110.

<sup>16</sup> It should be noted that Cyprus and Cilicia (e.g. Yumurtalik) also produced amphoras of Coan tradition called Dressel 2–4, which were very popular forms, imitated all over the Mediterranean during the Roman age, see Rauh/Slane 2000, 328; Autret 2012, 258–259. Moreover, a few specimens of Pamphylian amphora types were found in a kiln in Syedra, which suggests that Cilicia also produced “Pamphylian” amphoras of unknown content, see Rauh/Slane 2000, 327; Autret/Rauh 2010, 113; Autret 2012, 260. For more about Cilician imitations, see Rauh 2004.

<sup>17</sup> Panella 1986, 618, notes 14–15. The same attribution was supposed for Agora M54.

<sup>18</sup> Reynolds 2005, 564.

<sup>19</sup> Panella 1986, 618, note 14; Reynolds 2005, 564; Bezczky 2013, 82.

<sup>20</sup> Autret/Marangou 2011, 360–361; Autret 2012, 256–257. Panella (1986, 618), Bezczky (2013, 80–81), and the catalogue of the Southampton amphora project distinguish two types, suggesting that Agora M54 is only “superficially similar to Pompeii XIII,” see [http://archaeologydataservice.ac.uk/archives/view/amphora\\_ahrb\\_2005/details.cfm?id=10&CFID=963857&CFTOKEN=C24C263F-AF38-46CF-A266DE783C369BC1](http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=10&CFID=963857&CFTOKEN=C24C263F-AF38-46CF-A266DE783C369BC1) [accessed 22.11.2015].

<sup>21</sup> Panella 1986, 618, note 15; Reynolds 2005, 564.

<sup>22</sup> Empereur/Picon 1989, 231–2.

<sup>23</sup> Autret 2012, 257.

Kition-Kathari and Ayia Napa).<sup>24</sup> Most scholars accept that they contained wine,<sup>25</sup> but according to Opait their shape indicates fish products as their main content.<sup>26</sup>

The small (approximately 50 cm tall) container classified as Schoene-Mau V or Pompei V was very common in Beirut and Kition. The specimens attested on these sites suggest a wide range of fabrics and typological variants, which indicate that they must have been produced in at least five workshops.<sup>27</sup> However, only one of them has so far been attested at Aigeai in Cilicia.<sup>28</sup> Its chronological use is rather short, from the first half of the 1<sup>st</sup> to the mid-2<sup>nd</sup> century AD.<sup>29</sup> Wine as its content was suggested above all by a resin-coating present inside a specimen that was found in Egypt.<sup>30</sup>

Finally, amphoras classified as Schoene-Mau XXVII–XXVIII in the typology that was made for the Vesuvian cities, but also called Zemer 41, Kuzmanov V or “pinched-handle,” were produced between the 1<sup>st</sup> and the 4<sup>th</sup> century AD. They existed in two variants: the larger, dated from the 1<sup>st</sup> and 2<sup>nd</sup> century AD, identified at the excavations on the Athenian agora as Agora G199, and the smaller, dated to the 3<sup>rd</sup> and 4<sup>th</sup> century AD and classified as Agora L11 and M139.<sup>31</sup> Their volume was usually estimated at 36 litres during the 1<sup>st</sup> century AD, but specimens of 45.8 litres were attested in Tomi and of 53 litres in Pompeii.<sup>32</sup> Kilns that produced these containers were discovered in four sites in Rough Cilicia (in Anemurium, Biçkici, Antiochia ad Cragum and Syedra).<sup>33</sup> Even though no kilns have so far been confirmed, it seems that these vessels were also produced in western Cyprus, where they were very popular.<sup>34</sup> Moreover, one of the two fabrics of this amphora type that were registered in the House of Dionysus in Nea Paphos closely resembled local kitchen wares. Also, amphoras from Asia Minor contained a plentiful amount of mica, whereas this mineral is not usually present to a great extent in the Schoene-Mau XXVII–XXVIII examples that were found in Cyprus.<sup>35</sup> An x-ray diffraction of 14 specimens from Nea Paphos showed that six groups could be distinguished, “not all of the same provenance.” One of these groups could be tentatively related to a local workshop; however, no attribution was proposed for the others.<sup>36</sup> A recent study of the handles of Schoene-Mau XXVII–XXVIII from the Akamas Peninsula in western Cyprus

---

<sup>24</sup> Empereur 1998, 395; Autret 2012, 257.

<sup>25</sup> Sciallano/Sibella 1991; Empereur 1998, 395; Autret/Marangou 2011, 361 and Fig. 5 state that a miniature terracotta portrayal of this container decorated with vine leaves and grapes suggests wine as its content.

<sup>26</sup> Opait 2007, 104 and Fig. 6.

<sup>27</sup> Reynolds 2005, 565.

<sup>28</sup> Empereur/Picon 1989, 237, note 31.

<sup>29</sup> Autret 2012, 258.

<sup>30</sup> Marchand 2007, 181–182. Resinated amphoras are usually classified as wine containers. However, a study by Romanus (2009) suggests that a resin or pitch coating would serve better for olive oil containers, since wine polyphenols can intrude on the ceramic fabric despite the pitch layer. However, this may be due to a specific fabric or type of pitch, which is why most scholars continue with the traditional approach, which is linking resin coating with wine containers. I also follow this approach.

<sup>31</sup> Autret 2012, 255. They were also referred to as “Type III” amphoras by Hayes 1991, 91.

<sup>32</sup> Dyczek 1999, 126.

<sup>33</sup> Williams 1989, 90–95; Rauh/Slane 2000, 321, 325; Autret/Rauh 2010, 112–114.

<sup>34</sup> Marangou/Marchand 2009, 247.

<sup>35</sup> Lund 2000, 569–570; Williams/Lund 2013, 158.

<sup>36</sup> Daszkiewicz/Meyza/Schneider 1997.

shows that the majority – 75% – were produced in Rough Cilicia (15 fragments). Around 15% (3 fragments) had a non-Cypriot source, whereas only 10% (2 fragments) might have been produced on the island.<sup>37</sup> These containers are commonly regarded as wine amphoras, given that a couple of specimens contained a resin lining.<sup>38</sup> N.K. Rauh and E.L. Will argue that they were used precisely for the transport of *passum*, which means raisin wine.<sup>39</sup> Epigraphy is not useful in recognising their content given that they were rarely inscribed – only a few Greek *tituli picti* were noted in the 4<sup>th</sup> volume of *CIL*, but they do not concern the content of amphoras.<sup>40</sup>

The last container, called Late Roman Amphora 1, was created and initially produced in Cilicia at the end of the 3<sup>rd</sup> and during the first half of the 4<sup>th</sup> century AD. Subsequently, up to the 7<sup>th</sup> century AD, its production spread out over other regions that had a long winemaking tradition, such as Cyprus, Cos,<sup>41</sup> and Rhodes. According to Pieri, Cypriot workshops producing these containers in later periods sustained Cilician ones.<sup>42</sup> The manufacture of these amphoras along the coast of Lycia, Pamphylia, north Syria, Cilicia (Elaiussa-Sebaste, Soli-Pompeipolis) and on Rhodes and Cyprus (Paphos, Amathous, Zygi-Petrii, production suggested also in Kourion) is confirmed by the discoveries of amphora workshops using surface survey.<sup>43</sup> However, Reynolds does not mention any kilns apart from Cyprus and Cilicia, arguing that non-Cypriot production was limited to the Cilician coast, since in other cases the manufacture of these containers was not certainly proved, due to the ambiguity of data.<sup>44</sup> Nevertheless, Riley's analyses also suggest Lesbos and Euboea as places for LRA1 production, while a *titulus pictus* on a container from Milan mentions Chios.<sup>45</sup> In addition, Cretan or Pontic imitations cannot be excluded.<sup>46</sup> Unfortunately, it is often difficult to recognise the exact production place, and distinguish between Cypriot/Cilician and other LRA1 upon the basis of the discovered fragments,<sup>47</sup> mostly due to the fact that there were many chronological variants that evolved between the late 4<sup>th</sup> and the 7<sup>th</sup> century AD.<sup>48</sup> According to Reynolds, an amphora named Schoene-Mau V was the predecessor of LRA1.<sup>49</sup> At the same time,

<sup>37</sup> Williams/Lund 2013, 161.

<sup>38</sup> Roman Amphorae: a digital resource. University of Southampton, 2005 (updated 2014). Agora G199.

<sup>39</sup> Rauh/Will 2002, <http://members.bib-arch.org/publication.asp?PubID=BSAO&Volume=5&Issue=5&ArticleID=12>; [accessed 30.11.2015]. This was first suggested by Williams (1989, 91).

<sup>40</sup> *CIL* IV 6288–90, 6386–88. Dyczek 1999, 127 claims erroneously that no inscribed containers of this type were attested.

<sup>41</sup> A workshop has been uncovered near Halasarna, see Bezczky 2013, 159, and in Aghia Theotis (Cardamaina) in Mastichari and Kephalos, see Didoumi 2014, 170–171

<sup>42</sup> Pieri 2007, 613–614.

<sup>43</sup> Empereur/Picon 1989, 237, 241–242; Demesticha/Michaelides 2001; Jacobsen 2006, 310; Opait 2010, 1015–1017; Autret/Yağcı/Rauh 2010, 5; Demesticha 2013, 171. Two more fabrics of Cypriot LRA1 were identified among the vessels that were found in Kourion and Amathous.

<sup>44</sup> Empereur/Picon 1989, 237–239; Reynolds 2005, 566.

<sup>45</sup> Riley 1981, 116; Auriemma 2007, 148, note 1391.

<sup>46</sup> Arthur 1998, 170; Auriemma 2007, 149.

<sup>47</sup> Jacobsen 2006, 304.

<sup>48</sup> Bezczky 2013, 158–159.

<sup>49</sup> Reynolds 2005, 564–565; 2008, 63–72. He calls this form “Pompei V”.



Pieri suggested Agora G197 (AC1) as its prototype,<sup>50</sup> whereas Opait noted the strong influence of Dr 30/Gauloise 4 amphora.<sup>51</sup>

Most of the examples of LRA1 that have been analysed had a resin or pitch-lining, which is typical of wine amphoras.<sup>52</sup> This leads most scholars to the conclusion that these containers transported mostly Cilician and Cypriot wines. However, T. Waliszewski argues that, considering the lack of evidence for wine presses in Cilicia and the fact that pitch may not restrain wine permeability, LRA1 should rather be linked with olive oil.<sup>53</sup> Moreover, *tituli picti* that were found on the containers of this type that were discovered in Ballana in Egypt as well as in the Lower Danube mention only olives or oil.<sup>54</sup> The analysis of the residues found in LRA1 that were discovered in Florence proved that certain vessels might have contained wine, whereas others transported vegetable oil and animal fats.<sup>55</sup> Due to the fact that certain inscriptions on LRA1 seem to refer to *artabae*, Emery and Kirwan proposed a hypothesis that it might have carried grain. According to Riley, however, this is unlikely, due to their wide distribution in the primary grain producing areas, such as Cyrenaica and Carthage.<sup>56</sup> A similar argument may be used against olive oil as a content of LRA1, considering that many of them were found in North Africa, a main olive oil production region during the late Roman period. Moreover, religious inscriptions on some examples of LRA1 containers would rather suggest that they carried wine.<sup>57</sup>

Due to the fact that Riley noticed two variants (larger and smaller) of this type of vessel, he proposed a hypothesis according to which the larger vessels contained olive oil, whilst the smaller containers were used to transport wine.<sup>58</sup> Considering that it is difficult to distinguish between the two variants while dealing only with fragments of the vessels, this hypothesis has not yet been verified.<sup>59</sup>

The discovery of the LRA1 in the Yassi Ada shipwreck showed that the majority of the vessels had traces of pitch, which is associated with wine, and one of them contained a grape seed. However, one graffito deciphered as EAE might indicate that at least one container carried olive oil,<sup>60</sup> but it could also be evidence for the reuse of this jar.<sup>61</sup> The measurements of the amphora capacities offered no definitive conclusions as to the com-

---

<sup>50</sup> Pieri 2005, 70.

<sup>51</sup> Opait 2010, 1015.

<sup>52</sup> Peña 2007, 69.

<sup>53</sup> Waliszewski 2014, 258. He refers to the study regarding wine and oil permeability by Romanus (2009) and the research on wine and oil presses by Brun 2004. However, arguments presented in the second part of this paper show clearly that Cilicia produced wines, whereas the study by Aydınoğlu and Alkaç (2008) proved that wine presses existed on its territory, which makes Waliszewski's statement rather weak.

<sup>54</sup> Williams 2005b, 616–617. It should be noted that, according to Peña, *tituli picti* are often evidence for the reuse of amphoras to transport or store other commodities, different from their primary content, see Peña 2007, 70, 75 and *passim*.

<sup>55</sup> Pecci/Salvini/Cantini 2010, 367, Tab. 2.

<sup>56</sup> Riley 1979, 215.

<sup>57</sup> Williams 2005b, 617.

<sup>58</sup> Riley 1979, 213–216.

<sup>59</sup> Bonifay/Villedieu 1989, 25; Pacetti 1995, 274.

<sup>60</sup> Van Alfen 1996, 202–203.

<sup>61</sup> Pieri 2005, 84.

modity for which they had been made and suggest that they might have been general-purpose containers.<sup>62</sup>

In summary, it is impossible to specify the exact origin or content of LRA1 amphoras. Considering that they were produced for over 400 years in such a vast area, it would be surprising if all of them always contained the same product. Nonetheless, it is almost certain that some of them, especially those that were produced in winemaking areas, contained wine. This concerns Cyprus in particular, considering that these amphoras were produced mostly in the southern part of the island, which according to other sources<sup>63</sup> produced wine.

As we have seen, during Antiquity Cyprus and Cilicia produced the same types of containers, which suggests strong links between both regions. The economic interdependency between these areas dating from the beginnings of the Roman age has already been noticed by Autret. According to this author, the commercial integration between Cyprus and Cilicia lasted for hundreds of years and started at least during the Roman age.<sup>64</sup> The links between the two territories should not come as a surprise, considering the close distance between them – 40 miles approximately. Analysis of amphora production suggests that these areas were related not only during the Roman period but also earlier. This relation might have been due to the similar political history of Cyprus and Cilicia. When the production of “basket-handle” amphoras started they were both parts of the Assyrian Empire and later on became integrated into a Persian Kingdom. During the Hellenistic period both areas, a bone of contention for the Ptolemies and Seleucids, copied Greek amphoras. Another integration in terms of containers may be observed when administrative unity was imposed by the Romans. Pompeii Magnus consolidated Cilicia Aspera and Cilicia Pedias in 67 BC, adding to this entity Pamphylia, southern parts of Phrygia and Lycaonia and Cyprus, which was sanctioned in 58 BC. Even though Cesar restored the island to the Ptolemaic Kingdom in 47 BC, the efforts to consolidate this territory as an eastern Mediterranean kingdom continued under Mark Antony.<sup>65</sup> Under Augustus, Cyprus became a senatorial province, whereas Cilicia was subjected to the management of Syria, but later on it was separated as an imperial province. Finally, in the 3<sup>rd</sup> century AD they became part of *Diocesis Orientis*. It is worth mentioning that not only amphoras, but also other pottery forms such as fine wares suggest a certain integration between the two regions.<sup>66</sup> Considering that in many cases it is impossible to distinguish between the forms produced on the island from the Cilician ones, it seems that any estimations regarding the export of wine will often refer to wine from the Cypriot/Cilician circle.

---

<sup>62</sup> Van Alfen 1996, 208–210.

<sup>63</sup> See Part 2 of this paper.

<sup>64</sup> Autret 2012, 264.

<sup>65</sup> Autret 2012, 251. Cilicia was declared a Roman province even earlier, in 102 BC.

<sup>66</sup> Autret 2012, 251.



## 2. Wine production on Cyprus and in Cilicia

Geographic conditions on Cyprus and in Cilicia are favourable for vine as well as olive cultivation. Nowadays both regions produce these commodities, which indubitably formed a basis for their subsistence economy even in Antiquity. The earliest archaeological evidence for vines in Cyprus is dated to the 5<sup>th</sup> millennium BC.<sup>67</sup> Wine production, however, has not been confirmed before the early Chalcolithic period (3900–2500 BC), whereas the earliest evidence for the extraction of olive oil dates to 2000 BC. Throughout the Early and Middle Bronze Age everyday life scenes on various Cypriot vases represent wine production. Nevertheless, the role of vines and olives probably became important during the Late Bronze Age. The earliest evidence for the use of the lever press in wine production is also dated to this period.<sup>68</sup> An amphora with traces of tartarate dated to around 900 BC, and a 6<sup>th</sup>-century BC wine cellar discovered at the Vouni Palace, confirm that wine was common during the 1<sup>st</sup> millennium BC.<sup>69</sup> A fragment of the 7<sup>th</sup>-century BC Cypriot poet Stasinus, describing three daughters of Anios – Oino, Spermo, Elaiis<sup>70</sup> – probably referred to Cypriot fertility and may be further evidence for wine production on the island during the Archaic age. Finally, there are many installations that served for wine and olive oil production dated to the Hellenistic period, but it is often difficult to distinguish whether they were used for manufacture of olives or grape juice.<sup>71</sup> Nonetheless, it seems that the western and northern part of the island produced olive oil, whereas the southern area concentrated rather upon wine.<sup>72</sup> Modern vineyards also develop in the southern foothills and in the Troodos Mountains.<sup>73</sup>

There is less evidence regarding wine production in Cilicia. However, eastern Anatolia together with Georgia and Armenia are regarded as homelands of wild *vitis vinifera*. The area that was occupied by this plant reached the southern slopes of Taurus and its presence was confirmed by botanical remains dated to the 9<sup>th</sup> millennium BC found in Çayönü, in modern Turkey. Archaeological evidence from Early Bronze Age Anatolia has a form of grape pips with transitional characteristics (between wild and domesticated), as well as new pottery forms such as flasks and chalices apparently associated with liquids. The 3<sup>rd</sup> millennium BC was probably the time when viticulture and wine production took place, but it seems that still in the 2<sup>nd</sup> millennium this drink was consumed almost exclusively by the elites of the Hittite Kingdom. Curiously, it seems that the Hittites might have produced raisin wine,<sup>74</sup> a beverage for which Cilicia was famous during the Roman age. In the 6<sup>th</sup> century BC this area produced high-quality wine, which is indicated by a Phoenician inscription discovered in Cilicia. Moreover, its mountainous part has special geographic and climatic conditions which allow very sweet grapes to be grown: limestone soil, plenty of rain in spring, as well as a hot and sunny end of summer

---

<sup>67</sup> Hadjisavvas/Chaniotis 2012, 157.

<sup>68</sup> Hadjisavvas/Chaniotis 2012, 157–159.

<sup>69</sup> Psaras/Zambartas 1981, 241–242.

<sup>70</sup> *Cypria* 26.

<sup>71</sup> Hadjisavvas 2003, 90; Hadjisavvas/Chaniotis 2012, 157–159.

<sup>72</sup> Demesticha 2013, 170.

<sup>73</sup> Robinson 2006, 219.

<sup>74</sup> Gorny 1995, 136–137, 147–158.

result in fruits with high sugar and tannin content that give strong, sweet wine.<sup>75</sup> Other epigraphic data confirm the exportation of wine from Cilicia and its significance for the economy of the region during the late imperial period. For example, in an epigraphic corpus from Korykos (a city near Elaiussa/Sebaste), 17 wine traders were mentioned, which represents 3.7% of the corpus. Moreover, in the so-called “Tariff of Abydos” dated to the end of the 5<sup>th</sup> century AD, Cilician wine merchants were mentioned. They were privileged by an obligation to pay a lower levy than other *naukleroi*,<sup>76</sup> which may be due to the fact that they played an essential part in the transport of the *annona militaris* to the Danubian provinces.<sup>77</sup> Finally, numerous wine and olive presses have been attested in Rough Cilicia during archaeological surveys. The most popular were rock-cut lever or weights presses, which were found in the regions of agricultural production, near fields.<sup>78</sup> Even though their exact dating and destination has not so far been recognised, they should be seen as further evidence confirming that wine production took place in Cilicia during Antiquity.

In summary, it is probable that wine production and consumption in Cilicia developed similarly as on Cyprus, which means during the Bronze Age. It seems that in both areas this process was intensified and surplus of agricultural production started to be exported in the Archaic period, which is indicated by the production of the earliest amphora forms. Even though archaic and classical “basket-handle” containers might have been used for transportation of olive oil as well as wine,<sup>79</sup> it seems that most of later forms are commonly accepted as wine containers, with the exception of LRA1, which probably transported both commodities of Cypriot and Cilician, but also other origins. It also seems significant that literary evidence provides us with information regarding Cypriot and Cilician wine rather than olive oil. However, it should be noted that wine was a more “interesting” product than other goods, and thus might appear more frequently in written sources.<sup>80</sup>

### 3. Cypriot and Cilician wine through the eyes of ancient writers

It seems that wines from Cyprus and Cilicia were not very famous in Antiquity, since they do not appear frequently in literature. Strabo says only that Cyprus was a very fertile island which produced good wine and olive oil.<sup>81</sup> It also seems that Pliny had a good opinion of Cypriot beverages – in his list of foreign wines he placed it after North Aegean and Chian drinks as well as Tmolian and Clazomenian ones, but before many others,

---

<sup>75</sup> Rauh/Will 2002, <http://members.bib-arch.org/publication.asp?PubID=BSAO&Volume=5&Issue=5&ArticleID=12>; [accessed 30.11.2015].

<sup>76</sup> Decker 2005, 54–55.

<sup>77</sup> Karagiorgou 2001, 155.

<sup>78</sup> Aydınoglu/Alkaç 2008, 279.

<sup>79</sup> Their content has not so far been identified but they were often discovered in the contexts of olive oil production installations; see Hadjisavvas/Chaniotis 2012, 160.

<sup>80</sup> Lawall 2011, 26.

<sup>81</sup> Strab. XIV 6, 5.

such as Egyptian, Syrian, Mysian, Cnidian, Ephesian and Myconian drinks.<sup>82</sup> Moreover, this author provides us with information regarding the size of Cypriot vines, which, according to him, often grew very big. This, however, may be simply one of numerous curiosities that were typical of the *Natural History* and should not be seen as firm evidence.

It appears significant that wine from Cyprus was neither mentioned in the *Deipnosophists* nor present in the medical writings of Dioscorides or Galen, which means that it was not a popular drink. It is true that the former mentioned a Cypriot beverage called τροχίτης οἶνος; this was not made of grapes, however, but of figs.<sup>83</sup> The association between Cypriot wines with figs may also be found in a poem of Palladius.<sup>84</sup>

Xenophon in his *Anabasis* provides us with information that many sorts of vines grew in Cilicia and that Cilician plains enjoyed very good agricultural conditions.<sup>85</sup> However, no author mentions winemaking in this region before Pliny the Elder. According to him, the area produced *passum*, which means raisin wine, a beverage that distinguished itself by its sweetness. Cilician *passum* was in second position, since it was the next wine of this type after the Cretan variety, which was the most famous and popular in Rome, but before African beverages made of sun-dried grapes. The Greeks probably knew this type of wine in the Archaic age, since drying grapes for ten days in the sun and then another six in the shade before pressing is mentioned by Hesiod.<sup>86</sup> It seems possible that the Phoenicians were also familiar with this custom, given that a recipe for a raisin wine was mentioned by Mago, the Carthaginian, and then copied by Columella.<sup>87</sup> *Passum* distinguished itself by its sweetness, which could rival the sweetness of *mulsum* (honey wine).<sup>88</sup> The high sugar content is usually associated with the high content of alcohol. However, too high sugar concentration may inhibit fermentation, which means that wines made of sun-dried grapes might have been low or even non-alcoholic beverages.<sup>89</sup> The Greek oenologist S. Kourakou-Dragona analysed a few recipes for the production of *passum* that were given by Columella. According to her, the recipe provided by Mago was for making alcohol-free beverages. This recipe recommended pouring must over raisins and pressing them after they had absorbed it. The content of sugar in the beverage obtained in this way would be so high that it would make its fermentation into alcohol impossible. Other recipes for *passum* allowed people in classical Antiquity to make sweet and strong wine. The first one recommended keeping the grapes in the sun for three days, which would not be enough to dry them completely. The second suggested that dry wine instead of must should be poured upon raisins. This recipe was used for sweetening dry wines.<sup>90</sup> Unfortunately, there is no text informing us about the exact process of production of *passum* in Cilicia, which means that we do not know whether it was a non-alcoholic or an alcoholic drink. The recipes provided by Pliny resemble the

---

<sup>82</sup> Plin., *HN* XIV 75.

<sup>83</sup> *Mat. Med.* V 32.

<sup>84</sup> *Anth. Gr.* IX 487.

<sup>85</sup> Xen., *Anab.* I 2,22.

<sup>86</sup> *WD* 609-615.

<sup>87</sup> Col. *R.R.* XII 31,1.

<sup>88</sup> Mart. XIII 106.

<sup>89</sup> Kourakou-Dragona 2013, 5–8.

<sup>90</sup> Kourakou-Dragona 2013, 52–53, 56.

second and the third way of making *passum* given by Columella, but they do not refer to Cilician, but to a general method of making raisin wine. Nevertheless, it seems that this type of wine was somehow special, maybe due to its sweetness, because Pliny mentioned it (as well as other raisin wines) in a separate chapter, not in the one devoted generally to *vina transmarina*.

There is no other author who mentions *passum* from Cilicia. Galen and Athenaeus describe a Cilician beverage called “Abates.” According to the former, this wine was black (μέλας) as well as sweet (γλυκύς) and dry, bitter (αὔστηρός) at the same time. Similar wines were not commonly used in medicine, at least in cases of problems with lungs and other internal organs. They were not held in high esteem and hence they were not popular and willingly traded.<sup>91</sup> We may therefore suppose that Cilician Abates was not commonly exported in the Mediterranean. In *De sanitate tuenda*, Galen mentions that black and thick wines, such as Abates, were not easily digested,<sup>92</sup> whereas Athenaeus says that this type of Cilician wine was merely a laxative.<sup>93</sup>

M. Decker claims that Cilician wine was red, recalling one of Galen’s works, in which the adjective μέλας was used. This adjective is very often interpreted as referring to modern red wine, but in fact this interpretation may be misleading. According to M. Bouvier, μέλας wine was either very old or made of raisins of red grapes.<sup>94</sup> A. Dalby states that this term may be attributed both to the red wine and to the beverage that was originally white, but became darker through the maturation process.<sup>95</sup> However, it was A. Tchernia who first identified black wine as a very old beverage that was made as modern white wines, which means without maceration. He noted that Falernian wine, which was often described as white or yellow, became brown or even black with time. This darkening process, which is due to oxidation of various components of white wine, may also be observed in the case of modern white wines.<sup>96</sup> On the contrary, red wines become lighter with time, taking on brick and amber hues. This is due to the fact that pigmented tannins precipitate as sediments with time, depleting the wine of pigment.<sup>97</sup> Therefore, old red wine cannot be called “black,” which means that Cilician Abates might have been a very old white or young red wine. We may by no means accept that it was certainly red.

Furthermore, Decker identifies Cilician *passum* with Abates and suggests that this wine had a high alcohol content, which was responsible for its rough taste. He recalls a passage from Pliny, according to which sweet wines gain a bitter/harsh taste with time.<sup>98</sup> However, in this passage Pliny does not refer to raisin-wines, but to beverages made of grapes of the *apianis* vine variety, identified as modern muscatel. It is true that this variety, called *psinthia* in Greece, was often used in Italy (particularly in Etruria)

<sup>91</sup> Gal., *VA* 99; *BM* VI 800–801; *Hipp. Vict. Acut.* XV 645. Also, Gal., *MM* X 833–834 and *SF* XI 648 mentions Ἀλβάτης, which was an example of wine that was thick as well as sweet and dry/bitter at the same time. This beverage was not recommended. This probably also refers to Cilician “Abates.”

<sup>92</sup> *ST* VI 337.

<sup>93</sup> Ath., *Deipn.* 33b.

<sup>94</sup> Bouvier 2000, 119.

<sup>95</sup> Dalby 2003, 353.

<sup>96</sup> Tchernia 1986, 343; Tchernia/Brun 1999, 132, Fig. 173, and 133; Tchernia 2001, 128–129.

<sup>97</sup> Robinson 2006, 189.

<sup>98</sup> Plin., *HN* XIV 24: “vina primo dulcia austeritatem annis accipiunt;” Decker 2005, 53.

and in neighbouring provinces to produce *vino passito*,<sup>99</sup> but there is no evidence that it was indeed used in Cilicia. Thus, identifying Abates with Cilician *passum* seems rather dubious, especially if we consider that Cilician *passum* was held in high esteem, whereas Abates obviously did not enjoy a positive opinion. Moreover, there is nothing to suggest that this wine had a high alcohol content, considering the study of *passum* made by the oenologist, Kourakou-Dragona. In my opinion, Cilicia exported mainly *passum*, which was a very popular type of wine during the Roman age. Abates was rather a local beverage, which was not appreciated and hence not commonly exported.<sup>100</sup>

We may wonder whether the wine made on Cyprus may be identified with Cilician *passum*. There are certain leads that may suggest such a connection. First of all, Cyprus was included in the Roman province Cilicia in 58 BC, which means that for several years the region formed an administrative entity. Secondly, during the Roman period the same amphora forms, namely Schoene-Mau XXVII–XXVIII/Agora G 199, were produced in Cilicia and on the island of Cyprus. Finally, modern Cypriot wine, Commandaria, is made of sun-dried grapes and its production may be traced back to around 1000 AD. After picking, the grapes are left in the sun for at least seven days, which increases the density of their sugars. After this time they are pressed, and the wine is fortified and then left for two years in oak barrels for maturation.<sup>101</sup> It is true that there is no evidence to confirm that this winemaking method was used on Cyprus in Antiquity, but at the same time there has so far been no evidence to exclude such a possibility. We may only ask why Pliny mentioned wine from Cyprus in the chapter regarding *vina transmarina*, and referred to Cilician *passum* in a separate part devoted to raisin wines.

## WINE FROM CYPRUS

### Strabo, *Geography* XIV 6, 5.

κατ' ἀρετὴν δ' οὐδεμιᾶς τῶν νήσων λείπεται: καὶ γὰρ εὖονός ἐστι καὶ εὐέλαιος σίτω τε ἀτάρκει χρῆται

“In fertility Cyprus is not inferior to any one of the islands, for it produces both good wine and good oil, and also a sufficient supply of grain for its own use.”<sup>102</sup>

### Pliny the Elder, *Natural History* XIV 9

... etiam nunc scalis tectum Ephesiae Dianae scanditur una e vite Cypria, ut ferunt, quoniam ibi ad praecipuam amplitudinem exeunt.

“...and even at the present day we ascend to the roof of the temple of Diana at Ephesus, by stairs constructed, it is said, of the trunk of a single vine, that was brought from Cyprus; the vines of that island often attaining a most remarkable size.”

<sup>99</sup> Plin., *HN* XIV 81.

<sup>100</sup> Autret/Marangou 2011, 364 interpret Galen's work in a similar manner, suggesting that Cilician Abates was a white and watery wine, unsuitable for transportation.

<sup>101</sup> Robinson 2006, 190.

<sup>102</sup> All the translations are from the Loeb Classical Library unless otherwise indicated.

### Pliny the Elder, *Natural History* XIV 74

*ab his dignatio est Sicyonio, Cyprio, Telmesico, Tripolitico, Berytio, Tyrio, Sebennytico. in Aegypto hoc nascitur tribus generibus uvarum ibi nobilibus, Thasio, aethalo, peuce. post haec auctoritas Hippodamantio, Mystico, cantharitae, protropo Cnidio, Catacecaumenitae, Petritae, Myconio.*

“Next after these in esteem are the wines of Sicyon, Cyprus, Telmesus, Tripoli, Beyrout, Tyre and Sebennys. This last is grown in Egypt, being made from three famous kinds of grapes that grow there, the Thasian, the soot-grape and the pine-tree grape. Ranking after these are the wines of Hippodamas, of Mystus and of the canthareos vine, the protropum of Cnidos, and the wines of the volcanic region in Mysia, of Petra and of Myconos.”

### Palladas in *Greek Anthology* IX 487 – 4th century AD

Βρώματά μοι χοίρων συκιζομένων προέθηκας,  
ξηρῶν, διψαλέων, Κυπρόθεν ἐρχομένων.  
ἀλλ’ ἐμὲ συκωθέντα μαθὼν ἢ σφάζον ἐτοίμως  
ἢ σβέσον ἐκ δίψης νόματι τῷ Κυπρίῳ.

You served me the food of fig-fattened pigs  
from Cyprus, dry and thirst-provoking.  
But when you find me sufficiently fig-fattened, either kill me at once  
or quench my thirst with Cyprian wine.

### WINE FROM CILICIA

#### Xenophon, *Anabasis*, I 2, 22

Κῦρος δ’ οὐκ ἀνέβη ἐπὶ τὰ ὄρη οὐδενὸς κωλύοντος, καὶ εἶδε τὰς σκιηὰς οἷοι Κίλικες ἐφύλαττον. ἐντεῦθεν δὲ κατέβαινε εἰς πεδίον μέγα καὶ καλόν, ἐπίρρυτον, καὶ δένδρων παντοδαπῶν σύμπλεων καὶ ἀμπέλων...

“...Cyrus climbed the mountains without meeting any opposition, and saw the camp where the Cilicians had been keeping guard. Thence he descended to a large and beautiful plain, well-watered and full of trees of all sorts and vines...”

#### Pliny the Elder, *Natural History* XIV 81–82

*Passum a Cretico Cilicium probatur et Africum. Id in Italia finitimisque provinciis fieri certum est ex uva quam Graeci psithiam vocant, nos apianam, item scripulam, diutius uvis in vite sole adustis aut ferventi oleo. Quidam ex quacumque dulci, dum praecocta, alba, faciunt siccantes sole donec paulo amphus dimidium pondus supersit, tunsasque leniter exprimunt. dein quantum expressere adiciunt vinaceis aquae puteanae, ut et secundarium passum faciant. Diligentiores eodem modo siccatis acinos eximunt ac sine sarmentis madefactos vino excellenti donec intumescant premunt— et hoc genus ante cetera laudant; ac simili modo aqua addita secundarium faciunt.*

“Next after the raisin-wine of Crete those of Cilicia and of Africa are held in esteem. Raisin-wine is known to be made in Italy and in the neighbouring provinces from the grape called by the Greeks psithia and by us muscatel, and also scripula, the grapes being left on the vine longer than usual to ripen in the sun, or else being ripened in boiling oil. Some people make this wine from any sweet

white grape that ripens early, drying them in the sun till little more than half their weight remains, and then they beat them and gently press out the juice. Afterwards they add to the skins the same quantity of well-water as they have pressed out juice, so as also to make raisin-wine of second quality. The more careful makers, after drying the bunches in the same manner, pick off the berries and soak them without their stalks in wine of good quality till they swell, and then press them—and this kind of wine is the most highly praised of any, and then they repeat the process, adding more water, and make a wine of second quality.”

### Pliny the Elder, *Natural History* XIV 109

Similiter hyssopites e Cihcio hyssopo unciis tribus in duos congios musti coiectis aut tuisis in unum (vinum?).

“Similarly hyssopswine is made of Cilician hyssop by throwing three ounces of hyssop into a gallon and a half of wine, or, if the hyssop is first pounded, into three-quarters of a gallon.”

### Galen, *De victu attenuante* 99

μέλανος δ' οἴνου γλυκέος ἅμα καὶ αὐστηροῦ παραδειγμα τὸν ἐκ τῆς Κιλικίας οἶνον ἔχεις ἄν, ὃν Ἄβήτην ὀνομάζουσιν· ἄχρηστος δ' οὗτος ἅπασιν ἐστὶ τοῖς κατὰ θώρακα καὶ πνεύμονα πάθεισιν ὑπὲρ ὧν ὁ λόγος ἐνέστηκε καὶ ἔτι μᾶλλον ὅσοι στρυφνοὶ μὲν ἐπιφανῶς εἰσι, γλυκύτητος δὲ ἢ οὐδόλως ἢ παντάπασιν ἀμυδρῶς μετέχουσιν. ἄδοξοι δ' οἱ τοιοῦτοι πάντες εἰσὶ καὶ διὰ τοῦτο λανθάνουσι τοὺς πολλοὺς καίτοι πολλαχῶθι γεννώμενοι τῷ μῆτι τοῖς ἐμπόροις λυσιτελεῖν αὐτοὺς ὠνεῖσθαι μῆθ' ὑπὸ τῶν κεκτημένων σπουδάζεσθαι·

### Galen, *De sanitate tuenda* VI 337

ἀλλ' οὗτοι μὲν πάντες λευκοί, μέλανες δὲ ἄλλοι καὶ παχεῖς, ὅσοι στύφουσιν, ἐν τῇ γαστρὶ μένουσι χρόνῳ πολλῷ καὶ κλύδωνας ἐργάζονται κατ' αὐτήν, ὥσπερ ὁ ἐν Κιλικίᾳ μὲν Ἄβήτης, ἐν Ἀσίᾳ δὲ Αἰγεάτης τε καὶ Περπερίνος.

But these are all white; but others are thick and dark and astringent and remain in the abdomen a long time and produce peristaltic waves in it, like Sybatian in Cilicia and Aegeatic and Perperine in Asia.<sup>103</sup>

### Galen, *De rebus boni malique* VI 800–801

αὐστηρὸς δὲ ἅμα καὶ γλυκὺς ὁ Κιλικίος ὁ Ἄβήτης ἀπὸ χωρίου τὴν προσηγορίαν ἔχων, ὁ δ' ἐν Αἰγαῖς καὶ Περπερηνῇ μέσοι τούτων εἰσίν, οὔτε γλυκεῖς ὄντες ἀκριβῶς οὔτε στύψιν ἔχοντες ἀξιόλογον ὁμοίως τῷ Κιλικίῳ.

### Galen, *De metodo medendi* X 833–834

ἔμπαλιν δὲ παχεῖς οἶνοι, καθάπερ τὸ σίραιον, ὃ παρ' ἡμῶν ὀνομάζουσιν ἔψημα, ὁ Σκυβελλίτης καὶ ὁ Θηραῖος καὶ Ἄλβήτης· ἐπὶ δὲ τῆς Ἀσίας Αἰγεάτης τε καὶ Περπερίνος. ἐφ' ὧν οὖν διὰ πλῆθος ὠμῶν χυμῶν ἢ συγκοπή γίγνεται, τοὺς ἐν παχεῖς φευκτέον ὡς βλάπτοντας, τοὺς δὲ ὑδατώδεις ὡς ἀπράκτους·

Conversely, thick wines, like new wine boiled down – which our folk call hepsema - are the Scybel-line, the Theraean and the Albate. In the province of Asia there are the Aegeate and the Perperine. In those [patients] in whom syncope occurs due to an abundance of crude humors, you must avoid the thick wines as harmful and the watery wines as ineffectual.<sup>104</sup>

<sup>103</sup> Transl. by Green 1951: 205.

<sup>104</sup> Transl. by Johnston, Horsley 2011.



**Galen, *De simplicium medicamentorum temperamentis ac facultatibus* XI 648**

αύστηρός δὲ ἅμα καὶ γλυκὺς ὁ τῆς φοίνικος καρπὸς καὶ τῶν οἴνων ὁ Σουρρέντινος καὶ ὁ Σαβίνος καὶ ὁ Ἀλβάτης ὀνομαζόμενος, ὅσοι τε ἄλλοι τοιοῦτοι.

**Galen, *In Hippocrates de victu acutorum* XV 645**

Ὁ μὲν γλυκὺς οἶνος εὐθὺς καὶ μέλας ἐστίν, οὐ μὴν ὃ γε μέλας εὐθέως ἅπας καὶ γλυκὺς, ἀλλ' αὐστηροὶ τινες ἐξ αὐτῶν ὑπάρχουσιν, οἷσι παρ' ἡμῖν ἐν Ἀσίᾳ πλησίον Περγάμου καὶ κατὰ Περπερίαν τε καὶ Αἰγᾶς. ὁ δὲ κατὰ τὴν Κιλικίαν Ἀβάτης αὐστηρὸς τε ἅμα καὶ γλυκὺς ἐστὶν ἐξ ἐναντίων ποιοτήτων συγκείμενος· διὸ καὶ μοχθηρὸς ὑπάρχει μῆτ' ἀναδιδόμενος μῆθ' ὑπερχόμενος, ἀλλ' ἐπὶ πλέον τε παραμένων τῇ ἄνω γαστρὶ καὶ πνευματῶν αὐτῆν.

**Athenaeus, *Deipnosophistai* 33b**

ὁ δ' ἀπὸ Κιλικίας Ἀβάτης καλούμενος κοιλίας μόνον ἐστὶ 'μαλακτικός.

"The Cilician wine called 'Abates' is merely a laxative."

#### 4. Wine exportations

The distribution of amphoras is the best available evidence for exportations of Cypriot and Cilician agricultural production. Archaic and classical "basket-handle" amphoras were exported in limited quantities above all to the Eastern Mediterranean. Apart from Cyprus and Cilicia they were found on Rhodes, in south-western Anatolia, along the Syro-Palestinian coast, on inland sites in Israel, as well as in Egypt (Delta, Sakkara and Sinai).<sup>105</sup> A few fragments were attested in Athens, Abdera (Thrace), on Crete and in the Black Sea area.<sup>106</sup> Recently, fragments of two basket-handle containers dated to the 3<sup>rd</sup> century BC have also been attested in Euesperides (modern Benghazi) in Cyrenaica, which is their westernmost distribution point.<sup>107</sup> This means that the exportation of Cypro-Cilician wine (and maybe oil) was rather widespread, even if it was not always direct. For example, it seems that the "basket-handle" amphoras found in Cyrenaica do not indicate commercial relations between Cyprus or Cilicia with this area. On the contrary, they should be seen as evidence for Egyptian contacts with modern Libya, which for most of the time formed a part of the Ptolemaic Kingdom. The amphoras probably reached Benghazi via Egyptian merchants.<sup>108</sup> According to Calvet, exportations of Cypriot wine on a larger scale started in the 4<sup>th</sup> and 3<sup>rd</sup> century BC.<sup>109</sup> Fragments of Hellenistic Cypriot amphoras (mostly handles with stamps) were found in Phoenicia,

<sup>105</sup> Jacobsen 2002, 176, Fig. 3; Gantès 2007, 149; Marangou/Marchand 2009, 242–243 and Fig. 23.1; Göransson 2013, 48. Containers found in Tell Keisan were identified as produced around Salamis, in the south-eastern part of Cyprus, by petrographic and neutron activation analyses; see Jacobsen 2006, 307.

<sup>106</sup> Wolff 2009, 138, Fig. 1; 2011, 16.

<sup>107</sup> Göransson 2013, 48.

<sup>108</sup> Göransson 2013, 50.

<sup>109</sup> Calvet 1986, 505.

Syria, Palestine and Egypt (Delta and Fayyum Oasis).<sup>110</sup> This shows that the distribution pattern did not change much compared with earlier times. With one exception. No links between Cyprus and Cilicia in terms of amphora production can be observed in this period, which may indicate that commercial relations were determined by political bonds. Cypriot products were destined to different areas of the Ptolemaic Kingdom, whereas for most of the time Cilicia belonged to the Seleucid Empire.

It seems that during the Roman period Cilician and Cypriot amphoras started to be exported to the western part of the Mediterranean. The distribution of the form Agora G199/Schoene-Mau XVII–XVIII was the widest, since examples of this type were attested in many places in the Eastern Mediterranean, such as Athens, Corinth, Benghazi, Egypt, Caesarea, Crete, as well as in Italy (Rome, Ostia, Pompeii, Luni, Brindisi and in the Adriatic region), Gaul, Pannonia, Moesia Inferior, Thracia and the Black Sea area.<sup>111</sup> They were popular in Egypt, given that they were found even in distant places, such as Coptos (near Luxor)<sup>112</sup> or Mons Claudianus (Red Sea).<sup>113</sup> Amphoras Agora G199/Schoene-Mau XVII–XVIII, mostly of Cypriot fabric, are the most numerous imported containers attested in Marina el-Alamein, whereas they are surprisingly not so frequent in Alexandria.<sup>114</sup> It is worth mentioning that containers with non-micaceous, meaning probably Cypriot (according to Lund 2000) fabric, had wider distribution than micaceous ones, associated with the production workshops in Asia Minor.<sup>115</sup> It seems that Cypriot amphoras were more popular in the Tyrrhenian part of central Italy than in the east, whereas specimens of Cilician production were common near Beirut, which, according to Reynolds, indicates separate distribution mechanisms.<sup>116</sup>

Amphoras Agora M54 were found in Greece (Athens, Corinth, Delos), on Cyprus, in Beirut, Egypt (Alexandria, Mons Claudianus, Karanis), Turkey (Bodrum and Mersin), as well as in the western parts of the Mediterranean, in Carthage, Marseilles, Rome, Ostia, Gallia and Lusitania.<sup>117</sup> The distribution of Agora G198/Schoene-Mau XIII was similar – they were quite common in the eastern Mediterranean including Greece (Athens), as well as in the West: Ostia, Rome, Pompeii, the Adriatic area, Gaul, Germany.<sup>118</sup> On the contrary, Schoene-Mau V was distributed mostly within the eastern provinces (attested, for example, in Beirut, Kition, Alexandria), but also in Ostia, Rome and Pompeii.<sup>119</sup> Finally, LRA1 was exported all over the Mediterranean and beyond. It was discovered as

---

<sup>110</sup> Calvet 1986, 509–513; Gantès 2007, 149; Marangou/Marchand 2009, 244 and 246, Fig. 23.3. For a list of Cypriot Hellenistic amphora stamps from Israel, see Finkielsztejn 2013.

<sup>111</sup> Panella 1986, 612–613, 618; Dyczek 1999, 126–127 (they were attested, inter alia, in Novae and Tanais); Lemaître 2000, 473; Rizzo 2003, 147, Tab. 26a; 164, Tab 27c; 175, Tab. 29; 180, Tab. 30b; Bezeczky 2013, 84; De Filippo 2014, 336, Fig. 1; Panella/Rizzo 2014, 412, Tab. 8b.

<sup>112</sup> Lawall 2003, 187, no. 88.

<sup>113</sup> Tomber 1996, 45.

<sup>114</sup> Majcherek 2007, 21–22.

<sup>115</sup> Rauh/Slane 2000, 258, note 27.

<sup>116</sup> Reynolds 2005, 564.

<sup>117</sup> Panella 1986, 612–613, 618; Tomber 1996, 44, Fig. 3 and 45; Rizzo 2003, 147, Tab. 26a; 164, Tab 27c; 180, Tab. 30b; Bezeczky 2013, 81; Panella/Rizzo 2014, 412, Tab. 8b.

<sup>118</sup> Panella 1986, 612–613, 618; Rizzo 2003, 147, Tab. 26a; 164, Tab 27c; 180, Tab. 30b; Bezeczky 2013, 82; Panella/Rizzo 2014, 412, Tab. 8b.

<sup>119</sup> Rizzo 2003, 147, Tab. 26a; 164, Tab 27c; Reynolds 2005, 565; Panella/Rizzo 2014, 412, Tab. 8b.

far east as Euphrates frontier, in the Black Sea region, on the Danubian limes (together with LRA2 they dominate in 5th-century layers in Dichin<sup>120</sup>), in south Britain and as far west as Tarragona.<sup>121</sup> They are again very popular in Egypt, being attested, for instance, in Old Cairo,<sup>122</sup> Abou Roah,<sup>123</sup> Oxyrhynchos,<sup>124</sup> Bawit,<sup>125</sup> Buto,<sup>126</sup> and Kellia.<sup>127</sup> Most of the examples from the last two sites were of Cypriot origin.

These distribution patterns, however, do not provide us with information regarding the numbers of containers that were found in different centres. Therefore, it seems impossible to claim that Cilician wine was exported to Lusitania, upon the basis of, for example, one piece of Agora M54 container only. Furthermore, this data does not elucidate the scale of the consumption of wines from Cyprus and Cilicia in different centres of the Mediterranean. The scale of the consumption may be estimated upon the basis of quantitative data, which, unfortunately, is not available for many archaeological contexts. Amphora statistics that show numbers of various amphora types have been published for many contexts in Rome, and a few in Ephesus and Alexandria.<sup>128</sup> These cities were indubitably important consumption centres during the Hellenistic and the Roman period, which is why the following pages of this paper present a closer look at consumption of Cypriot and Cilician wines in these centres.

#### 4.1. Alexandria

Written sources inform us that Alexandria was one of the most important harbours in Antiquity. According to Strabo, it was “the greatest emporium in the inhabited world,” well situated in terms of both sea and land commerce, importing and exporting numerous goods.<sup>129</sup> Dio Chrysostom adds that its location was favourable, “at the cross-roads of the whole world.”<sup>130</sup> It grew in Hellenistic times, finally becoming “the first city in the civilised world.”<sup>131</sup> Even though these sources certainly exaggerate, they leave no doubt that Alexandria became an important centre of the Mediterranean in the Hellenistic period, and that during the Roman era its significance did not diminish, given that Egypt became a major Roman grain supplier. Alexandria, its major port, profited from this trade, welcoming numerous ships, not only from Rome, but all over the Mediterranean.

---

<sup>120</sup> Swan 2004, 372.

<sup>121</sup> Demesticha/Michaelides 2001, 291; Reynolds 2005, 565.

<sup>122</sup> Gascoigne 2007, 164.

<sup>123</sup> Marchand 2007, 183. Six specimens of LRA1 dated to the 6<sup>th</sup>–7<sup>th</sup> c. AD had red *dipinti*, which have so far not been published.

<sup>124</sup> Subías Pasqual 2007, 299–300, a few examples of this form dated to the 5<sup>th</sup> and 6<sup>th</sup> c. AD.

<sup>125</sup> Marchand/Dixneuf 2007, 311, Tab. 2, 40 containers from the 7<sup>th</sup> c. AD.

<sup>126</sup> Bourriau/French 2007, 126–127.

<sup>127</sup> Ballet/Picon 1987, 19, 24.

<sup>128</sup> There are also statistics available for Ostia and Pompeii, but they may be misleading, given that Ostia mostly received goods from the western Mediterranean, whereas the Campanian port, Puteoli, specialised in products from the eastern provinces.

<sup>129</sup> Strab. XII 1, 7 and 13 (trans. by H. L. Jones).

<sup>130</sup> Dio Chrys. XXXII 36.

<sup>131</sup> Diod. XVII 52, 4–5.

According to G. Majcherek, it was a place of exchange between East and West starting from the Hellenistic age and until Late Antiquity.<sup>132</sup>

Importations of mainly Cypriot, but also Cilician products to Egypt started as early as in the Archaic age, as indicated by the discoveries of “basket-handle” amphoras. The scale of these importations is, unfortunately, difficult to estimate. Quantitative data for Alexandria is available starting from the Hellenistic period. Amphora statistics, published by A. K. Şenol,<sup>133</sup> come from the salvage excavations in the Old Diana Theatre, the Fouad Street, the Garden of Ex Britannia Consulate and the Necropolis of Gabbari. For the late Roman age there are also statistics from Kom-el-Dikka, elaborated by Majcherek.<sup>134</sup> Unfortunately, these authors did not publish absolute numbers of amphoras, but their percentages in the total amount of containers (not only wine jars). Therefore, it was impossible to present here a synthesis of the share of Cypriot and Cilician amphoras in the context of other wine containers only, as was the case of Ephesus and Rome. I had to rely on the estimations of other authors, who published them with a different purpose. According to Şenol, Cypriot containers constituted 4% of all amphoras that were found in the Old Diana Theatre in the layers dated to the Hellenistic age. This percentage should be slightly higher, if we considered only wine amphoras,<sup>135</sup> but even in this case it seems that Cypriot vineyards did not satisfy a considerable proportion of the Egyptian wine demand. Amphoras from this island were far outnumbered by south Aegean wine jars (Rhodian, Coan and Cnidian). No containers from Cilicia were identified by Şenol for this period.<sup>136</sup> According to this author, the boom in exportations of Cilician wine started in the 1<sup>st</sup> century AD, which is indicated by the finds of Agora M54, Zemer 41 and Pompei V containers in the Necropolis of Gabbari.<sup>137</sup> The sum of the ratios of Agora M54 (2.99%) and Pompei V (6.30%) amphoras from the Necropolis excavation gives 9.29% of the total containers imported to Alexandria in the 1<sup>st</sup> century AD, whilst the total numbers from all the contexts suggest that 6.9% of imported amphoras in Alexandria were from Cilicia.<sup>138</sup> Agora G199/Schoene-Mau XXVII–XXVIII containers in the Necropolis in the layers dated to the 3<sup>rd</sup> and 4<sup>th</sup> century AD were accounted at 1.8%. Surprisingly, it seems that neither Cypriot nor Cilician containers were attested in early and mid-imperial layers in the Old Diana Theatre.<sup>139</sup>

It appears that during the late Roman age the importations of Cypriot and Cilician goods increased. The percentages of LRA1 in the Necropolis of Gabbari were estimated at 13.73%,<sup>140</sup> whereas in Kom el-Dikka between the 5<sup>th</sup> and 7<sup>th</sup> century AD they vary between almost 10 and around 25% depending on the context.<sup>141</sup> During this time, however, Palestine was the most important foreign wine supply for Alexandria, since the

---

<sup>132</sup> Majcherek 2004, 229.

<sup>133</sup> Şenol 2007; 2008; 2013.

<sup>134</sup> Majcherek 2004.

<sup>135</sup> Wine amphoras predominated among the vessels that were found in these contexts. Only “ovoid containers” from Brindisi should be excluded, given that they probably transported olive oil.

<sup>136</sup> Şenol 2013, 404–405, Figs. 9–13.

<sup>137</sup> Şenol 2007, 64.

<sup>138</sup> Şenol 2008, 112.

<sup>139</sup> Şenol 2007, 66, Diagram 3 and 69, Diagram 5.

<sup>140</sup> Şenol 2007, 67.

<sup>141</sup> Majcherek 2004, 231 Fig. 2; 233 Fig. 3; 234 Fig. 4; 235, Fig. 5.

percentage of Gazan (LRA4) amphoras was 44.54% in the Necropolis in the layers dated to the 3<sup>rd</sup> and 4<sup>th</sup> century AD,<sup>142</sup> whereas in Kom el-Dikka during the 5<sup>th</sup>–7<sup>th</sup> centuries AD it varied between 30 and 75%.<sup>143</sup> The shift from Aegean to Cypriot/Cilician and Gazan wines seems noticeable.

According to Majcherek, distance is not a key factor in maritime trade, which means that high quantities of eastern amphoras in Alexandria were probably influenced by political and economic factors. One of them should be related with a shift of *annona* trade, which in the 4<sup>th</sup> century started to be directed to Constantinople instead of Rome. This increase in eastern imports not only in Alexandria, but also in other centres, such as Carthage and Rome, may also be associated with the drop in African containers that can be observed for the same period and that was a result of loosening ties between Rome and new state organisms, such as the Kingdom of Vandals. Trade with the West where there was no central authority and tax control became more profitable for the East.<sup>144</sup>

## 4.2. Ephesus

According to a story provided by Strabo,<sup>145</sup> Ephesus was founded by the Athenians and soon developed into an important urban centre in western Asia Minor due to its favourable location at the mouth of the River Cayster. The city was most famous due to the Temple of Artemis during Greek and Roman times, but it also flourished as an important harbour and a capital of Asia starting from the Augustan age.<sup>146</sup> Amphoras discovered in Ephesus, which came mostly from the Tetragonos Agora and the Terrace House 2, were studied by T. Bezczky. The statistics presented in this paper are based upon the numbers given by this scholar.<sup>147</sup> The material was divided into three chronological periods, namely: late Hellenistic (2nd c.–30 BC), early Roman (30 BC–193 AD), mid-Roman (193–284 AD) and late Roman (284–7th AD). Fragments for which the precise dating was impossible were labelled “Unclassified.” Tab. 1 shows absolute numbers as well as percentages (except for the mid-Roman age) of different types of wine containers, whereas Fig. 1 presents only their percentages.<sup>148</sup>

Tab. 1 and Fig. 1 show that the inhabitants of Ephesus could buy a lot of Aegean wines, as well as those produced in the western parts of Asia Minor (c. 30–60%). The share of the latter in the Ephesian consumption might have been even higher considering that local wines were often transported not in amphoras, but in perishable containers, such as wineskins. Also, the Ephesian market in the late Hellenistic and early imperial period offered quite a number of wines from Italy, both Tyrrhenian (25–47%) and Adriatic (10–22%). The share of Cypriot and Cilician wines seems insignificant. No amphoras

<sup>142</sup> Şenol 2007, 66, Diagram 3.

<sup>143</sup> Majcherek 2004, 231 Fig. 2; 233 Fig. 3; 234 Fig. 4; 235, Fig. 5.

<sup>144</sup> Majcherek 2004, 232.

<sup>145</sup> *Geog.* XIV 1, 3 and 21.

<sup>146</sup> Strab XIV 1, 24; Bezczky 2013, 1-3.

<sup>147</sup> Bezczky 2013, *passim*.

<sup>148</sup> The mid-Roman period has been excluded from Fig. 1, because of the very low number of containers and the fact that all of them came from the Aegean region.

from these regions dated to the late Hellenistic period have been attested, whereas in the early and middle Roman period they did not exceed 6%, including material that could not be dated precisely. Nevertheless, the absolute numbers give only four fragments, 1 Agora G199 (with mica), 2 Agora G198 and 1 Agora M54. The situation for the late Roman period seems different. The share of LRA1 in total wine amphoras is above 24%, which gives 7 out of 29 fragments. Their fabric is hard and sandy, with limestone and quartz particles, grey and black inclusions. No mica has been observed, which allows us to identify them as Cypriot production.<sup>149</sup> Therefore, we may tentatively suggest that the importations of Cypriot wine in Ephesus grew between the middle and late Roman age. This trend is similar to what has been observed in Alexandria.

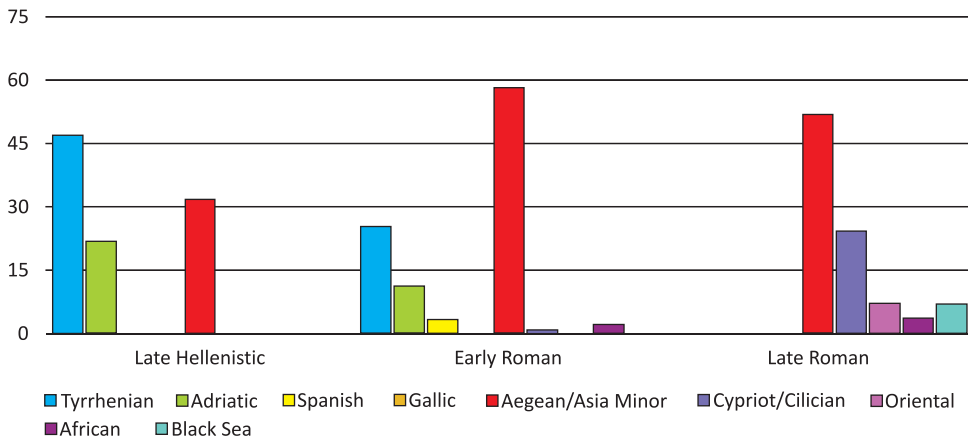
Tab. 1: Wine amphoras from Ephesus according to their provenance

	Late Hellenistic		Early Roman		Mid-Roman	Late Roman		Unclassified	
Tyrrhenian	28	46,67%	39	25,16%	0	0	0%	5	9,43%
Adriatic	13	21,67%	17	10,97%	0	0	0%	5	9,43%
Spanish	0	0%	5	3,23%	0	0	0%	0	0%
Gallic	0	0%	0	0%	0	0	0%	1	1,89%
Aegean/ Asia Minor	19	31,67%	90	58,06%	8	15	51,72%	33	62,26%
Cypriot/ Cilician	0	0%	1	0,65%	0	7	24,14%	3	5,66%
Oriental	0	0%	3	1,94%	0	2	6,9%	2	3,77%
African	0	0%	0	0%	0	1	3,45%	1	1,89%
Black Sea	0	0%	0	0%	0	2	6,9%	1	1,89%
Unknown	0	0%	0	0%	0	2	6,9%	2	3,77%
Total	60	100,01%	155	100,01%	8	29	199,01%	53	99,99%

### 4.3. Rome

It is by no means necessary to explain the importance of Rome as a major centre of the Mediterranean trade and consumption during the Roman Empire. A great variety of goods from all over the Mediterranean reached the Eternal City directly or via Ostia and Puteoli. The remains of thousands of containers, wine amphoras being among them, have been attested in many archaeological sites in the city and its neighbourhood. A synthesis presented in this paper comprises the proportions of amphoras that were discovered in 14 archaeological contexts in Rome, dated between the late republican period

<sup>149</sup> This is Kourion fabric published by Williams 2005a, 166, according to Bezczky 2013, 160.



and the late imperial period. Among these contexts are: the Forum of Caesar (late republican age),<sup>150</sup> *Via Sacchi*, *Gianicolo* (Augustan, Flavian and late Antonine period),<sup>151</sup> *Aqua Marcia* (1<sup>st</sup> and the beginning of the 2<sup>nd</sup> century AD),<sup>152</sup> *Via Nova* (after 64 and 70–96 AD), *Meta Sudans* (64–68, 70–80/90, 138–161 AD), the north part of the Palatine Hill (64–68, 70–90 AD and the Trajan period), *Crypta Balbi* (80–96 AD and the Trajan period), *Vigna Barberini* (81–96 AD),<sup>153</sup> the Forum of Nerva (*Forum Transitorium*) (second half of the 1<sup>st</sup> century AD and the 2<sup>nd</sup> century AD),<sup>154</sup> *Boccone del Povero* (first half of the 2<sup>nd</sup> century AD),<sup>155</sup> Trajan's Markets (second half of the 2<sup>nd</sup> century AD),<sup>156</sup> *Via Marmorata* (2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup>–7<sup>th</sup> century AD)<sup>157</sup> and the House of Tiberius (54–235 AD).<sup>158</sup> The material from all the above mentioned contexts was divided into five chronological units: the late republican period (one context), the Augustan age (one context), the 1<sup>st</sup> century AD (nine contexts), the 2<sup>nd</sup> century AD (ten contexts), the 3<sup>rd</sup> century AD (two contexts) and finally the late Roman period (4<sup>th</sup>–7<sup>th</sup> century AD, one context). The particular character of each context is not taken into consideration in order to get the most general view. Statistics that are presented in this paper are based upon material that has already been published, mostly as archaeological reports providing data regarding amphora quantities from individual archaeological sites.<sup>159</sup>

<sup>150</sup> For a detailed description of this context, see Zampini 2010, 321–322. This article is a preliminary report, published when part of the study was still unfinished. A complete publication is planned.

<sup>151</sup> Ferrandes 2008, 247–249, 257–259.

<sup>152</sup> Volpe 1996, 15; Panetta 1996. It is worth mentioning that amphoras from the republican age were also attested at this site, but the lack of diagnostic fragments does not allow their identification.

<sup>153</sup> Rizzo 2003, 7–17, 146–147, Tab. 26b; 163–165, Tab 27b and 27c; 175, Tab. 29; 180, Tab. 30b.

<sup>154</sup> Rizzo 2003; Marucci 2006, 57, 85; Nocera 2013, 78–79; Rinaldi 2013, 61–63, 67–68.

<sup>155</sup> Bertoldi 2011b, 44–45, 51–54.

<sup>156</sup> Ceci 2006, 25.

<sup>157</sup> Capodiferro/Quaranta 2011, 51; Bertoldi 2011a, 148.

<sup>158</sup> Meylan-Krause 2002, 1–3; 122, note 45.

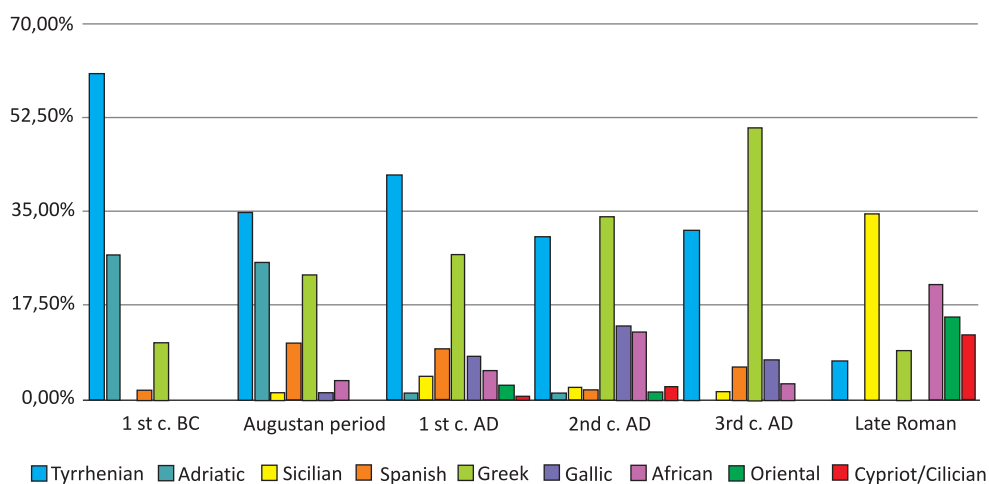
<sup>159</sup> G. Rizzo's work published in 2003 is the exception, because it shows the statistics of amphoras from six contexts in Rome dated between the mid-1<sup>st</sup> c. AD and the late 2<sup>nd</sup> c. AD.



Table 2: Wine amphoras from Rome according to their provenance

	1st century BC		Augustan age		1st century AD		2nd century AD		3rd century AD		Late Roman	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Tyrrhenian	34	60,71%	30%	34,88%	1524	41,86%	531	30,31%	21	31,34%	19	7,17%
Adriatic	15	26,79%	22	26%	38	1,04%	21	1,20%	0	0%	0	0%
Sicilian	0	0%	1	1,16%	154	4,23%	42	2,40%	1	1,49%	92	34,72%
Spanish	1	1,79%	9	10,46%	346	9,50%	30	1,71%	4	5,97%	0	0,00%
Greek	6	10,71%	20	23,26%	976	26,80%	598	34,13%	34	50,75%	24	9,06%
Gallic	0	0%	1	1,16%	288	7,91%	242	13,81%	5	7,46%	0	0,00%
African	0	0%	3	3,49%	201	5,52%	221	12,61%	2	2,99%	57	21,51%
Oriental	0	0%	0	0%	92	3%	27	1,54%	0	0%	41	15%
Cyprus/ Cilicial	0	0%	0	0%	22	0,60%	40	2,28%	0	0%	32	12,08%
Total	56	100,00%	86	99,999%	3641	99,99%	1752	100%	67	100,00%	265	100,01%

Figure 2: Wine amphoras from Rome according to their provenance (%)



Tab. 2 and Fig. 2 show that until the 2<sup>nd</sup> century AD, the Romans drank mostly Italian wines (Tyrrhenian and Adriatic amphoras accounted at 42–61% and 1–26% respectively). Moreover, they consumed high quantities of Greek wines, given that containers from the Aegean and Asia Minor are the most numerous (between 11 and 51%). Other wines, such as Gallic, Spanish and African ones, also had a major share on the Roman market. Surprisingly, Oriental, as well as Cypriot and Cilician amphoras are represented in very low percentages (1–2%), during the early and middle imperial age. It also seems that

they were not imported to the Western Mediterranean before the 1<sup>st</sup> century AD. During the late Roman age the percentages of Cypriot/Cilician and Oriental wine amphoras increased considerably (up to 12% and 15% respectively). This again shows that exportation from these areas became more significant, not only for eastern, but also for western markets. However, we should bear in mind that in the late Roman period no containers represent the Adriatic area, as well as Spain and Gaul. Therefore, we may suppose that the increase in percentages of eastern Mediterranean amphoras was due to the fact that barrels were widespread in the West. In this case, the high percentage of Cypriot/Cilician wine jars cannot be interpreted only as the increase in consumption of wines from these areas. Moreover, it is important to remember that not all LRA1 amphoras that were found in Rome should be attributed to Cyprus or Cilicia, given that their production area might have been much wider. In addition, it is possible that not all of these containers transported wine. Nevertheless, the increase in Cypriot/Cilician importations seems to be at the expense of Aegean ones, which were very popular in the earlier periods. In summary, even considering all the necessary precautions it is possible to say that wines from Cypriot and Cilicia became more important on the Roman market during Late Antiquity, which fits with the trends that were observed in other centres.

## Conclusions

According to the picture painted by literary as well as archaeological evidence, Cyprus and Cilicia were important wine production areas during Antiquity. Both Cypriot and Cilician wines enjoyed a good opinion and were appreciated by the Greeks and the Romans. Nevertheless, they never became high-end luxury goods, like north Aegean beverages during the Hellenistic period, or Italian crus that held the highest position during the Roman age. Neither were they very popular, given that the percentages of Cypriot and Cilician wine jars are rather low in all the important centres of the Mediterranean. Until the late imperial age, these amphoras are always far outnumbered by south Aegean containers, such as Cretan, Coan, Cnidian and Rhodian.

It seems, that until the Roman era, Cypriot and Cilician wine production and export were destined for local and eastern, mostly Egyptian markets. The rise of the Roman Empire and Rome's transformation into the main consumer centre of the Mediterranean changed this situation. Not only wines from Cyprus appeared on western markets, but also Cilicia developed its wine exportations. According to Şenol, the first boom in Cilician wine production started in the early Roman age, when "the Roman authority decided to organise the region as one of the primary vineyard zone in East Mediterranean because of her convenient climate conditions."<sup>160</sup> However, it seems more probable that the development in Cilician wine production and export was not necessarily due to the "central planning" of the Romans. When this region became a Roman province it had to pay taxes to Rome. The use of natural resources, the development and intensification of production, as well as exporting manufactured goods provided income that could be

---

<sup>160</sup> Şenol 2008, 111.

sent as taxes to Rome.<sup>161</sup> Reynolds noted that Cilician production, unlike its Phoenician counterpart, during the Roman age was focused on Campania and Alexandria, which is suggested by the findings of amphoras (Agora M54, G198 and 199, Schoene-Mau V, LRA1) in these regions.<sup>162</sup> This remark needs revision and clarification. Statistical data proves that Cilician exports in the western part of the Mediterranean were insignificant, since amphoras reached Rome in very low quantities and never became an important part of consumption. On the contrary, they were quite significant in Alexandria, but even for the Eastern Mediterranean Cilicia, similarly to Cyprus, did not become a major wine supplier.

Cyprus and Cilicia flourished during the late Roman age, which is suggested by the high percentages of LRA1 amphoras in Alexandria, Ephesus and Rome. It is worth mentioning that LRA1 represented around 15–20% of 6<sup>th</sup>- and 7<sup>th</sup>-century AD deposits in Constantinople and that they were the most numerous of all container types.<sup>163</sup> Cypriot prosperity in this period is also indicated by other sources, such as underwater findings, which show that trade in goods by sea around the southern part of the island grew considerably between the middle and late Roman age, starting probably around the 4<sup>th</sup> century AD. At the same time, intensification of settlement in the Cypriot countryside was observed, which also suggests economic prosperity. However, it should be noted that mostly wrecks of small ships were attested, indicating local and regional trade.<sup>164</sup> Deep water surveys have not so far been conducted, but higher percentages of Cypriot and Cilician wine amphoras in Ephesus and Rome during this period suggest that long-distance, interregional trade also intensified.

Of course we should bear in mind that all conclusions regarding amphora findings, especially amphora statistics for the late Roman period, will always favour eastern areas. This is due to the fact that from the 3<sup>rd</sup> century AD the role of wooden barrels increased in the West and they probably became the main containers. They do not preserve well, which means that they are not visible in the archaeological record. Nonetheless, if we compare percentages of amphoras in Ephesus and Rome from the eastern Mediterranean only, we may also observe an increase in percentages of Cypriot and Cilician containers and the decrease in importations from the Aegean and Asia Minor. It cannot be excluded that these two phenomena were related.

V. Swan argued that Justinian's actions influenced the popularity of Cypriot production. The creation of *quaestura exercitus* in 537 AD united the provinces of Lower Moesia and Scythia with Caria, the Cyclades and Cyprus. This union was designed to facilitate the supply of the *annona militaris* to the Lower Danube frontier garrisons, which inspired closer links between Cyprus and Lower Danube. Importations of LRA1 amphoras in the 5<sup>th</sup> and 6<sup>th</sup> century AD in Dichin and other military sites suggest that they depended on Cypriot production. Therefore, LRA1 was tied to the *annona* supply system.<sup>165</sup> Is it then possible that the commercial success of Cypriot and Cilician wines was related to the links between these areas and the *annona*? It has already been

---

<sup>161</sup> For more about the “tax and trade” model, see Hopkins 1980.

<sup>162</sup> Reynolds 2005, 575–576.

<sup>163</sup> Karagiorgou 2001, 132.

<sup>164</sup> Leidwanger 2013, 188–189.

<sup>165</sup> Swan 2004, 381–382; Reynolds 2005, 577.

mentioned that Cilician merchants in the 5<sup>th</sup> century AD paid a lower levy than other *naukleroi*.<sup>166</sup> Considering that their taxes were lower, they might have sold their wines at a lower price, which might have had an influence on the popularity of these products. It has been proposed by Tchernia that mass importations of wines from Crete to Rome during the early imperial period might have been related to their transport on the ships that belonged to *annona*, which reduced freight charges.<sup>167</sup> Therefore, the case of Cypriot and Cilician wines during Late Antiquity could be similar. Furthermore, the growth in the significance of Constantinople on the expense of Rome changed the major trade routes. Ships that transported grain from Alexandria did not travel towards the West via Crete, but to the East, passing Palestine, Syria, Cyprus and Cilicia and transporting products from these areas to Ephesus and further north and west. On their way back they could carry Cypriot, Cilician and Gazan wines, supplying Alexandria. Considering the unstable situation in many western provinces during the late Roman age, it seems that western centres such as Rome also needed more eastern supply to satisfy their wine demand. These factors must have had an impact on the development of Cypriot and Cilician wine exportations.

## ABBREVIATIONS

LRCW – *Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean*.

## BIBLIOGRAPHY

- Anatolia during antiquity: symposium proceedings 06–08 November 2008, Mersin, Turkey*), Istanbul: 109–122.
- Arthur, P. (1998), Eastern Mediterranean amphorae between 500 and 700: a view from Italy, in: L. agui (ed.), *Ceramica in Italia: 6–7 secolo* (Atti del Convegno in onore di John W. Hayes, Roma, 11–13 maggio 1995), Firenze: 157–183.
- Auriemma, R. (2007), Anfore. Produzioni orientali, in: C. Morselli (ed.), *Trieste antica. Lo scavo di Crosada*, Trieste: 136–154.
- Autret, C. (2012), Cyprus and Cilicia: Amphora Production, Trade and Relations in the Early Roman Era, in: A. Georgiou (ed.), *Cyprus: An Island Culture. Society and Social Relations from the Bronze Age to the Venetian Period*, Oxford: 251–267.

<sup>166</sup> Decker 2005, 54–55.

<sup>167</sup> Tchernia 2011, 345–348.

- Autret, C., Marangou, A. (2011), L'importation des amphores ciliciennes à Chypre à l'époque impériale, in: A. Demetriou (ed.), *Proceedings of the IV. International Cyprological Congress*, Lefkosia: 357–366.
- Autret, C., Rauh, N.K. (2010), Amphora production in Western Rough Cilicia, in: Ü. Aydınoglu, A.K. Şenol (eds.), *Antik çağda Anadolu'da zeytinyağı ve şarap üretimi: sempozyum bildirileri, 06–08 Kasım 2008, Mersin, Türkiye (Olive oil and wine production in*
- Autret, C., Yağcı, R., Rauh, N.K. (2010), A LRA 1 amphora Kiln Site at Soli/Pompeiiopolis, *ANMED Anadolu Akdenizi Arkeoloji Haberleri 2010–8 (News of Archaeology from Anatolia's Mediterranean Areas)*, 203–207.
- Aydınoglu, Ü., Alkaç, E. (2008), Rock-cut wine presses in the Rough Cilicia, *Olba* 16: 277–290.
- Ballet, P., Picon, M. (1987), Recherches préliminaires sur les origines de la céramique de Kellia (Égypte), *CCE* 1: 17–48.
- Bertoldi, T. (2011a), Le anfore, in: A. Capodiferro, P. Quaranta (eds.), *Alle pendici dell'Aventino. Gli scavi di Via Marmorata* 2, Roma: 148–174.
- Bertoldi, T. (2011b), *Ceramiche comuni dal suburbio di Roma*, Roma.
- Bezczeky, T. (2013), *The amphorae of Roman Ephesus*, Vienna.
- Bonifay, M., Villedieu, F. (1989), Importations d'amphores orientales en Gaule (V<sup>e</sup>-VII<sup>e</sup> siècle), in: V. Déroche, J. M. Spieser (eds.), *Recherches sur la céramique byzantine (Actes du colloque organisé par l'École française d'Athènes et l'Université de Strasbourg II)*, Athènes: 17–46.
- Bourriau, J., French, P. (2007), Imported Amphorae from Buto Dating from c. 750 BC to the Early 6<sup>th</sup> Century AD, in: S. Marchand, A. Marangou (eds.), *Amphores d'Égypte de la Basse Époque à l'époque arabe*, *CCE* 8: 115–134.
- Bouvier, M. (2000), Recherches sur les goûts des vins antiques, in: P. François (ed.), *Le vin de Rome (Rencontres de Carcassonne 27 Juin 1998, 19 Juin 1999)*, Toulouse-Le Mirail: 115–133.
- Brun, J.-P. (2004), *Archéologie du vin et de l'huile dans l'empire romain*, Paris.
- Calvet, Y. (1986), Les amphores chypriotes et leur diffusion en Méditerranée Orientale, in: J.-Y. Empeur, Y. Garlan (eds.), *Recherches sur les Amphores Grecques* (BCH, Suppl. 13), Athènes: 505–514.
- Cankardeş-Şenol, G., Şenol, A.K. (2013), Preliminary remarks on Cypriot Amphorae and Stamps from Alexandria, in: M. Lawall, J. Lund (eds.), *The transport amphorae and trade of Cyprus*, Aarhus: 61–83.
- Capodiferro, A., Quaranta, P. (2011), Via Marmorata: un esempio di scavo urbano di emergenza, in: A. Capodiferro, P. Quaranta (eds.), *Alle pendici dell'Aventino. Gli scavi di Via Marmorata* 2, Roma: 51–53.
- Ceci, M. (2006), Un contesto medio imperiale dall'area dei Mercati di Traiano, in: R. Meneghini, R. Santangeli Valenzani (eds.), *Roma: Lo scavo dei fori imperiali 1995–2000: i contesti ceramici*, Roma: 25–56.
- Dalby, A. (2003), *Food in the ancient world from A to Z*, London/New York.
- Daszkiewicz, M., Meyza, H., Schneider, G. (1997), Nea Paphos: preliminary study of amphorae of the Mau XXVII/XXVIII type, *PAM* 8, *Reports 1996*, Warszawa: 132–138.
- Decker, M. (2005), The wine trade of Cilicia in Late Antiquity, *ARAM Periodical* 17: 51–59.
- De Filippo, M. (2014), Anfore dal Rione Terra, Pozzuoli (Napoli), *RCRF Acta* 43: 335–343.
- Demesticha, S. (2013), Amphora Typologies, Distribution, and Trade Patterns: The Case of the Cypriot LR1 Amphorae, in: M. Lawall, J. Lund (eds.), *The transport amphorae and trade of Cyprus*, Aarhus: 170–178.
- Demesticha, S., Michaelides, D. (2001), The excavation of a Late Roman 1 amphora kiln in Paphos, in: E. Villeneuve, P. Watson (eds.), *La céramique byzantine et proto-islamique en Syrie-Jordanie (IV<sup>e</sup>-VIII<sup>e</sup> siècles après J-C): Actes du colloque tenu à Amman les 3, 4 et 5 décembre 1994*, Beyrouth: 289–296.
- Didiomi, S. (2014), Local pottery production in the Island of Cos, Greece from the Early Byzantine Period A: a preliminary report, in: N. Polou-Papadimitrou, E. Nodarou, V. Kilikoglou (eds.), *LRCW* 4, Oxford: 169–180.

- Dobosz, A. (2013), *Kontakty handlowe Cypru w okresie hellenistycznym w świetle odkryć amfor*, unpublished PhD thesis defended at the Jagiellonian University in Krakow.
- Dyczek, P. (1999), *Amfory rzymskie z obszaru dolnego Dunaju: dystrybucja amfor i transportowanych w nich produktów w I–III w. po Chr.*, Warszawa.
- Empereur, J.-Y. (1998), Les amphores completes du Musée d’Alexandrie: importations et productions locales, in: J.-Y. Empereur (ed.), *Commerce et artisanat dans l’Alexandrie hellénistique et romaine* (Actes du Colloque d’Athènes 1988) *BCH*: 393–399.
- Empereur, J.-Y., Picon, M. (1989), Les régions de production d’amphores impériales, in: *Amphores romaines et histoire économique: dix ans de recherche*, Roma: 223–248.
- Ferrandes, A.F. (2008), I contenitori da trasporto, in F. Filippi (ed.), *Horti et sordes. Uno scavo alle falde del Gianicolo*, Roma: 247–283.
- Finkielsztejn, G. (2013), Cypriot Amphora Stamps of the Hellenistic Period Found in Israel, in: M. Lawall, J. Lund (eds.), *The transport amphorae and trade of Cyprus*, Aarhus: 86–100.
- Gantès, L.-F. (2007), Les amphores commerciales, grecques, levantines et égyptiennes découvertes à Naukratis, in: S. Marchand, A. Marangou (eds.), *Amphores d’Égypte de la Basse Époque à l’époque arabe*, *CCE* 8: 143–155.
- Gascoigne, A.L., (2007), Amphorae from Old Cairo: a Preliminary Note, in: S. Marchand, A. Marangou (eds.), *Amphores d’Égypte de la Basse Époque à l’époque arabe*, *CCE* 8: 161–173.
- Gorny, R. L. (1995), Viticulture and Ancient Anatolia, in S.J. Fleming, S. Katz, *The Origins and Ancient History of Wine*, New York: 133–174.
- Göransson, K. (2013), Cypriot Basket-handle Amphorae in Hellenistic Cyrenaica, in: M. Lawall, J. Lund (eds.), *The transport amphorae and trade of Cyprus*, Aarhus: 48–50.
- Grace, V.R. (1979), *Kourtiaka*, in: V. Karageorghis (ed.), *Studies Presented in Memory of Porphyrios Dikaios*, Nicosia: 178–188.
- Green, R.M. (1951), *A translation of Galen’s Hygiene (De sanitate tuenda)*, Springfield (IL).
- Hadjisavvas, S. (2003), The wine of Cyprus in antiquity, in: F. Kythreotou (ed.), *The Book of Cyprus Wine*, Nicosia: 89–95.
- Hadjisavvas, S., Chaniotis, A. (2012), Wine and olive oil in Crete and Cyprus: socio-economic aspects, in: G. Cadogan, M. Iacovou, K. Kopaka, J. Whitley (eds.), *Parallel Lives: Ancient Island Societies in Crete and Cyprus*, London: 157–173.
- Hayes, J.W. (1991), *Paphos III: The Hellenistic and Roman Pottery*, Nicosia.
- Hopkins, K. (1980), Taxes and Trade in the Roman Empire (200 B.C.–A.D. 400), *JRS* 70: 101–125.
- Jacobsen, K. (2002), Cypriot Transport Amphorae in the Archaic and Classical Period, *Acta Hyperborea* 9: 169–84.
- Jacobsen, K.W. (2006), Transport Amphorae, in: L. Wriedt Sørensen, K. Winther Jacobsen (eds.), *Panayia Ematousa I. A Rural site in south-eastern, Cyprus*, Athens: 303–336.
- Johnston I, Horsley G.H.R. (2011), *Method of medicine / Galen* (editon and translation), Cambridge/London.
- Karagiorgou O. (2001), LR 2: A container for the military *annona* on the Danubian border?, in: S. Kingsley, M. Decker (eds.), *Economy and exchange in the East Mediterranean during Late Antiquity: proceedings of a conference at Somerville College, Oxford, 29th May, 1999*, Oxford: 129–166.
- Kourakou-Dragona, S. (2013), *La vigne et le vin dans le monde grec ancien*, Athens.
- Lawall, M. (2003), Egyptian and Imported Transport Amphoras, in: S. Herbert, A. Berlin (eds.), *Coptos. The University of Michigan-University of Assiut Excavations (1988–1992)*, *JRA Suppl. Series* 53: 157–191.
- Lawall, M. (2011), Socio-Economic Conditions and the Contents of Amphorae, in: C. Tzochew, T. Stoyanov, A. Bozkova (eds.), *PATABS II. Production and Trade of Amphorae in the Black Sea*, Sofia: 23–33.



- Lawall, M.L. (2013), Two Amphorae from the Swedish Cyprus Expedition in the National Museum of Denmark: Late Archaic through Late Classical Cypriot Trade, in: M. Lawall, J. Lund (eds.), *The transport amphorae and trade of Cyprus*, Aarhus: 52–60.
- Leidwanger, J. (2013), Amphorae and Underwater Survey: Making Sense of Late Roman Trade from Scattered Sherds and Shipwrecks, in: M. Lawall, J. Lund (eds.), *The transport amphorae and trade of Cyprus*, Aarhus: 180–190.
- Lemaître, S. (2000), Les importations d'amphores de Méditerranée orientale à Lyon au III<sup>e</sup> s. ap. J.-C., *RCRF Acta* 36: 467–476.
- Lund, J. (2000), The 'Pinched-handle' Transport Amphorae as Evidence of the Wine Trade of Roman Cyprus, in: *Praktika tou Tritou Diethnous Kyprologikou Synedriou (Lefkosia, 16–20 April, 1996)*, vol. 1: *Archaion Tmema*, Lefkosia: 565–578.
- Majcherek, G. (2004), Alexandria's Long-Distance Trade in Late Antiquity – the Amphora Evidence, in: J. Eiring, J. Lund (eds.), *Transport Amphorae and Trade in the Eastern Mediterranean*, Athens: 229–237.
- Majcherek, G. (2007), Aegean and Asia Minor Amphorae from Marina el-Alamein, in: S. Marchand, A. Marangou (eds.), *Amphores d'Égypte de la Basse Époque à l'époque arabe*, CCE 8: 9–31.
- Marangou, A., Marchand, S. (2009), La contribution des conteneurs commerciaux à l'histoire des échanges entre Chypre et l'Égypte de l'époque archaïque à l'époque romaine tardive, in: D. Michaelides, V. Kassianidou, S. Merrillees (eds.), *Egypt and Cyprus in Antiquity*, Oxford: 242–251.
- Marchand, S. (2007), Les amphores égyptiennes et importées de la Basse Époque à l'époque arabe. Abou Rawash (1995–2004), in: S. Marchand, A. Marangou (eds.), *Amphores d'Égypte de la Basse Époque à l'époque arabe*, CCE 8: 175–188.
- Marchand, S., Dixneuf, D. (2007), Amphores et conteneurs égyptiens et importés du viii siècle apr. J.-C. Sondages récents de Baouït (2003–2004), in: S. Marchand, A. Marangou (eds.), *Amphores d'Égypte de la Basse Époque à l'époque arabe*, CCE 8: 309–343.
- Marucci, A. (2006), Foro Transitorio. Sistema di smaltimento delle acque del portico nord-occidentale: stratigrafia e materiali dei livelli di abbandono (fasi II e III), in: R. Meneghini, R. Santangeli Valenzani (eds.), *Roma. Lo scavo dei fori imperiali 1995–2000: i contesti ceramici*, Roma: 57–92.
- Meylan Krause, M.-F. (2002), *Domus tiberiana. Analyses stratigraphiques et céramologiques*, Oxford.
- Meyza, H. (2004), Kouriaaka again: amphora stamps from the Kourion Acropolis excavations, in: J. Eiring, J. Lund (eds.), *Transport Amphorae and Trade in the Eastern Mediterranean*, Athens: 273–284.
- Nocera, D. (2013), Un contesto ceramico dall'ambiente 3 del Foro di Nerva, in: M. Ceci (ed.), *Contesti ceramici dai Fori Imperiali*, Oxford: 75–85.
- Opait, A. (2007), A Weighty Matter: Pontic Fish Amphorae, in: V. Gabrielsen, J. Lund (eds.), *The Black Sea in Antiquity: Regional and Interregional Economic Exchanges*, Aarhus: 101–121.
- Opait, A. (2010), On the origin of Carthage LR Amphora 1, in: S. Menchelli *et al.* (eds.), *LRCW 3*, Oxford: 1015–1022.
- Pacetti, F. (1995), Appunti su alcuni tipi di anfore orientali della prima eta bizantina. Centri di produzione, contenuti, cronologia e distribuzione, in: L. Quilici, S. Quilici Gigli (eds.), *Agricoltura e commerci nell'Italia antica*, Roma: 273–294.
- Panella, C. (1986), Oriente et Occidente: considerazioni su alcune anfore 'egee' di età imperiale a Ostia, in: J.-Y. Empereur, Y. Garlan (eds.), *Recherches sur les amphores grecques (Actes du colloque international organisé par le Centre national de la recherche scientifique, l'Université de Rennes II et l'École française d'Athènes, Athènes, 10–12 septembre 1984)*, BCH Suppl. 13, Athens: 609–636.
- Panella, C. Rizzo, G. (2014), *Ostia VI. Le terme del Nuotatore (Studi miscellanei 38)*, Roma.
- Panetta, V. (1996), Le anfore, in: R. Volpe (ed.), *Aqua Marcia: Lo scavo di un tratto urbano*, Firenze: 159–180.
- Pecci, A., Salvini, L., Cantini, F. (2010), Residue analysis of some late roman amphora coming from the excavations of the historical centre of Florence, in: S. Menchelli *et al.* (ed.), *LRCW 3*, Oxford: 363–367.



- Peña, J. T. (2007), *Roman Pottery in the Archaeological Record*, Cambridge.
- Pieri, D. (2005), *Le commerce du vin oriental: à l'époque byzantine, Ve–VIIe siècles: le témoignage des amphores en Gaule*, Beyrouth.
- Pieri, D. (2007), Les centres de production d'amphores en Méditerranée orientale durant l'Antiquité tardive: quelques remarques, in: M. Bonifay, J.-Ch. Tréglia (eds.), *LRCW 2*, Oxford: 611–625.
- Pсарas, P.G., Zambartas, A.M. (1981), The wines in Cyprus, in: G. Charalambous, G.E. Inglett, *The Quality of foods and beverages: chemistry and technology*, New York: 241–256.
- Rauh, N.K., Slane, K.W. (2000), Possible Amphora Kiln Sites, in: W. Rough Cilicia, *JRA* 13: 319–330.
- Rauh, N.K., Will, E.L. (2002), My Blood of the Covenant, *Archaeology Odyssey* 5.5: 46–51, 62–63, <http://members.bib-arch.org/publication.asp?PubID=BSAO&Volume=5&Issue=5&ArticleID=12> [accessed 30.11.2015].
- Rauh, N. (2004), Pirated Knock-offs: Cilician Imitations of Internationally Traded Amphoras, in: J.Eiring, J. Lund (eds.), *Transport Amphorae and Trade in the Eastern Mediterranean*, Athens: 329–336.
- Reynolds, P. (2005), Levantine amphorae from Cilicia to Gaza: a typology and analysis of regional production trends from the 1<sup>st</sup> to 7<sup>th</sup> centuries, in: J. M<sup>a</sup>. Gurt i Esparraguera, J. Buxeda i Garrigós, M. A. Cau Ontiveros (eds.), *LRCW 1*, Oxford: 563–611.
- Reynolds, P. (2008), Linear typologies and ceramic evolution, *FACTA: A Journal of Roman Material Culture Studies* 2: 63–72.
- Riley, J.A. (1979), The coarse pottery from Berenice, in: J.A. Lloyed (ed.), *Excavations at Sidi Khrebish Benghazi (Berenice)* 2, Tripoli: 91–467.
- Riley, J.A. (1981), The pottery from Cisterns 1977.1, 1977.2 and 1977.3, in: *Excavations at Carthage 1977 conducted by the University of Michigan* 6, Ann Arbor: 8–122.
- Rinaldi, A. (2013), Contesti ceramici del Foro di Nerva dagli ambienti 1 e 2. I vasi decorate a matrice in terra sigilata italic e le anfore, in: M. Ceci (ed.), *Contesti ceramici dai Fori Imperiali*, Oxford: 61–73.
- Rizzo, G. (2003), *Instrumenta urbis I: ceramiche fini da mensa, lucerne ed anfore a Roma nei primi due secoli dell'impero*, Roma.
- Robinson, H. S. (1959), *Pottery of the Roman period*, Princeton.
- Robinson, J. (2006), *The Oxford Companion to Wine*, 3<sup>rd</sup> ed., Oxford.
- Romanus, K. et al. (2009), Wine and olive oil permeation in pitched and non-pitched ceramics: relation with results from archaeological amphorae from Sagalassos, Turkey, *JASc* 36: 900–909.
- Sciallano, M., Sibella, P. (1991), *Amphores: Comment les identifier?*, Aix-en-Provence.
- Şenol, A.K. (2007), A Statistical Essay on the Importation of Alexandria between the Early Hellenistic and the Arabic Periods through the Amphorae, Found in the Salvage Excavations of CEA, in: S. Marchand, A. Marangou (eds.), *Amphores d'Égypte de la Basse Époque à l'époque arabe*, *CCE* 8: 57–75.
- Şenol, A.K. (2008), Cilician commercial relations with Egypt due to the new evidence of amphora finds, *Olba* 16: 109–131.
- Şenol, A.K. (2013), Amphorae from Italian Peninsula Found in Alexandria, in: G. Olcese (ed.), *Immensa aequora workshop: ricerche archeologiche, archeometriche e informatiche per la ricostruzione dell'economia e dei commerci nel bacino occidentale del Mediterraneo, metà IV sec. a. C. – I sec. d. C.* (Atti del convegno, Roma 24–26 gennaio 2011), Roma: 403–408.
- Subías Pascual, E. (2007), Notice sur les amphores tardives d'Oxyrhynchos, in: S. Marchand, A. Marangou (eds.), *Amphores d'Égypte de la Basse Époque à l'époque arabe*, *CCE* 8: 297–308.
- Swan, V. (2004), Dichin (Bulgaria) and the Supply of Amphorae to the Lower Danube in the Late Roman – Early Byzantine period, in: J. Eiring, J. Lund (eds.), *Transport Amphorae and Trade in the Eastern Mediterranean*, Athens: 371–382.
- Tchernia, A. (1986), *Le vin de l'Italie romaine. Essai d'histoire économique d'après les amphores*, Rome.

- Tchernia, A. (1998), Archéologie expérimentale et goût du vin romain, in: *El vi a l'Antiguitat, economia, producció i comerç Mediterrani occidental, II col. loqui internacional d'arqueologia romana* (Monografies Badalonines 14), Badalona: 503–509.
- Tchernia, A. (2001), Acre falernum: JUVÉNAL, XIII, 213-216, RPh 1, LXXV: 125-130.
- Tchernia, A. (2011), *Les Romains et le commerce*, Naples.
- Tchernia, A., Brun, J.-P. (1999), *Le vin romain antique*, Grenoble.
- Tomber, R.S. (1996), Provisioning the Desert: Pottery Supply to Mons Claudianus, in: D.M. Bailey (ed.), *Archaeological Research in Roman Egypt*, Ann Arbor: 39–49.
- Unwin, T. (1991), *Wine and the vine*, London and New York.
- Van Alfen, P. G. (1996), New light on the 7th-c. Yassi Ada shipwreck: capacities and standard sizes of LRA1 amphoras, *JRA* 9: 189–213.
- Volpe, R. (1996), L'area dello scavo, in: R. Volpe (ed.), *Aqua Marcia: Lo scavo di un tratto urbano*, Firenze: 15–18.
- Waliszewski, T. (2014), *Elaion. Olive Oil Production in Roman and Byzantine Syria–Palestine (PAM Monographs 6)*, Warsaw.
- Williams, C. (1989), *Anemurium: Roman and Early Byzantine Pottery*, Toronto.
- Williams, D.F. (2005a), Late Roman amphora 1. A study of diversification, in: M. Berg Briese, L.E. Vaag (eds.) *Trade Relations in the Eastern Mediterranean from Late Hellenistic Period to Late Antiquity: The Ceramic Evidence. Acts from a Ph.D. – seminar for young Odense, Denmark, University of Southern Denmark, (Halicarnassian Studies III)*: 157–168.
- Williams, D.F. (2005b), An integrated archeometric approach to ceramic fabric recognition. A study case on LRA1, in: J.M<sup>a</sup>. Gurt i Esparraguera, J. Buxeda i Garrigós, M.A. Cau Ontiveros (eds.), *LRCW 1*, Oxford: 613–624.
- Williams, D.F., Lund, J. (2013), Petrological Analyses of “Pinched-handle” Amphorae from the Akamas Peninsula, Western Cyprus, in: M. Lawall, J. Lund (eds.), *The transport amphorae and trade of Cyprus*, Aarhus: 155–164.
- Wolff, S.R. (2009), Some Notes on Basket-Handled Amphoras, *Eretz-Israel* 29 (Ephraim Stern volume): 137–146.
- Wolff, S.R. (2011), Basket-Handled Amphoras in the Hecht Museum, *Michmanim* 23: 15–20.
- Zampini, S. (2010), Lo scavo della cisterna del Foro di Cesare: lo studio del materiale ceramico, *Scienze dell'antichità: storia, archeologia, antropologia* 16: 321–333.
- Zoroğlu, K.L. (2013), Cypriot Basket-handle Amphorae from Kelenderis and its Vicinity, in: M. Lawall, J. Lund (eds.), *The transport amphorae and trade of Cyprus*, Aarhus: 36–45.