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BYZANTINE AMPHORAS FROM THE ROMAN FORT OF APSAROS (MODERN GONIO, GEORGIA)

This paper presents the first study of Byzantine amphoras that were discovered by the Gonio–Apsaros Polish–Georgian Expedition at the Roman fort of Apsaros (modern Gonio, Georgia). Seasons 2018, 2019 and 2020 were particularly rich in Byzantine material as they provided 315 diagnostic fragments of both locally produced and imported transport containers, dated to the late 6th and 7th centuries AD, which form the basis of this study.

Pontic imitations of LRA1 (Antonova 5) were the most common amphoras in Apsaros, with Colchian Ch ID form holding the second post. Containers from Sinope and Heracleia Pontica also reached the fortress in significant numbers; contrary, products from the northern or western Black Sea region were hardly attested. Imports outside of the Pontic area appeared in very low quantities, which points to a regionalization of trade and predominance of the local supply of Apsaros during this period.

Amphoras – Gonio – Apsaros – Colchis – Black Sea region

The aim of this paper is to present the variety of Byzantine transport containers that were discovered during the excavations conducted by the Gonio–Apsaros Polish–Georgian Expedition at the Roman fort of Apsaros (modern Gonio, Georgia) in 2018, 2019 and 2020.¹

Apsaros was situated at the crossroad of the sea and land routes connecting Trapezus and Sebastopolis, thanks to which it was an important political and economic centre in the Black Sea region during the early and mid-Roman imperial period (Kamadadze 2019: 91). During the first three centuries AD it was one of the principal Roman forts situated at the Pontus-Caucasian frontier; however, it was abandoned in the second half of the 4th century AD. Subsequently, around the mid-6th century AD, the fort was restored, and it continued to be used throughout the Byzantine and Ottoman periods (Kakhidze 2003: 303-323; Mamuladze et al. 2016).

The Byzantine (ca. mid-6th – end of the 6th century AD) amphorological material analysed amounts to 427 fragments, including 315 (74%) diagnostic sherds which can be certainly identified and 80 (19%) that are labeled as uncertain. Additionally, 32 (7%) fragments could not be matched with any known form because of their lack of diagnostic features and / or unique morphological / fabric characteristics. A number of amphora fragments were found in pits from the Ottoman period, in which the earlier material is mixed and out of context, so the dating of the material is not always clear. Nevertheless, there are certain zones inside the fortress untouched by the Turks which yielded layers containing clearly Byzantine amphora types and additional archeological findings, which helped with the identification of Byzantine material. Fragments from every identifiable amphora type

discussed within this article could be found within these reliably-dated contexts (the total number of fragments attested in these layers is 104). They include types that are common in the Black Sea region, such as: Pontic Antonova 5, variant D of “Colchian”/“Brown-clay” amphoras (Ch ID), Sinopean containers of the so-called D group (D Snp) and LRA1 of unknown origin. Together with these widely known forms we distinguished another type - Type IV (as classified by M. Khalvashi) that appears statistically important for Gonio (see below).² Besides the already classified forms we managed to identify a few new morphological entities which are characterised by their distinctive fabrics: Type III.1, III.2 and III.3 (in some ways related to Antonova 5, but made of different fabrics). Figure 1 presents the quantities of different certainly

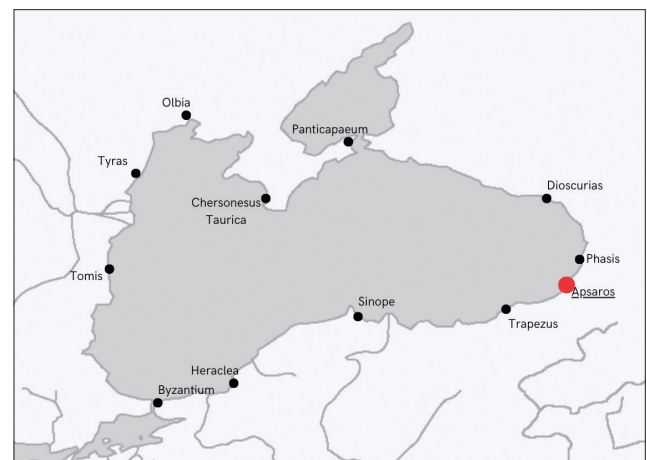


Fig. 1. Map of the Black Sea region with Apsaros.

¹ The research on which this article is based was made possible thanks to the financial support from The National Science Centre in Poland UMO-2021/41/B/HS3/01155.

² A local classification name is used since exact parallels for this type (in terms of form and fabric) are unknown from the literature.

identifiable amphora types attested in Apsaros during the archaeological campaigns of 2018-2020.

The following part of this paper will discuss general information about the date, origin and distribution of each of the types and analyse their macroscopic, fabric and metric characteristics. The types are ordered according to their statistical significance within the assemblage. Fabrics or fabric groups identified within our collection were marked with the letter “B” (Byzantine) and a unique numeral. Their descriptions are summarised in Table 1 and the measurements of identifiable pieces in Table 2 at the end of the text.

Antonova 5 / Antonova 5 *similis*

The form Antonova 5 was most likely produced in the Pontic area, however its exact place of production remains unclear (Smokotina 2016: 716). According to Smokotina, it might have originated in northern Asia Minor (Smokotina 2016: 716), which seems possible, since its fabric is orange and resembles the fabric of Sinopean group C amphoras. Antonova 5 containers were probably produced from the end of the 2nd until the 7th century AD; however, their typology has not so far been sufficiently developed. Nevertheless, thanks to the discoveries from Bosphorus and Tyritake it was possible to establish that the rim diameter of these vessels decreases from the 4th century AD and oscillates around 6-8 cm during the second half of the 6th century AD (Smokotina 2016: 716, fig. 7.7-8).

Fragments that most probably belonged to the form Antonova 5 or Antonova 5 *similis* are the most dominant in

Gonio (fig. 2). They were represented by the upper part of the neck with the rim, handles and shoulders, in total 103 identifiable sherds. The fabric is orange, sometimes orange-reddish / pinkish with small to large sized red-brown, grey and small to medium sized white inclusions. When the vessel is fired in a higher temperature than the usual, the colour of the fabric goes into pinkish and reddish (Fabric B4). The range of the general metric variation of this type suggests that the form was made in various volumes, while the rim diameter range indicates that the vessels in question should typologically belong to the second half of the 6th century (table 2).

This form may be identified with the so-called ‘orange-clay’ amphoras classified by Inaishvili and Khalvashi in Apsaros and Tsikhisdziri (*Petra Justiniana*) (Type III in Inaishvili and Khalvashi 2011: 267; fig. 3; Khalvashi 2002: 46-47; fig. 38, fig. XV.1-2.), since both types share the same morphological and fabric characteristics, such as: an egg-shaped ridged body, a rounded rim, a low, cylindrical neck and rather oval handles with irregular ridges, and a fine clay with brown and white inclusions.

Similarly to A. Smokotina, the Georgian authors suppose that these amphoras originated in the southern Black Sea littoral (Inaishvili and Khalvashi 2011: 267). however this hypothesis still needs to be confirmed by an archaeometric study.

As for the distribution of this form, taking into account the lack of data concerning the discovered forms and fabrics from different settlements of the Black Sea region, we can currently only identify the above-mentioned three sites (Tyritake, Gonio and Petra Justiniana) as places where amphoras belonging to this form were certainly encountered.



Fig. 2. Antonova 5 / Antonova 5 *similis* amphoras from Apsaros, a - GA.2020.NWXII.6 and b - GA.2019.NOI.296 (right) with their respective fabric photos (photos & drawings: A. Rogava)

Brown-clay, or the so called ‘Colchian’ amphoras (Ch ID)

Late Roman and Byzantine ‘brown-clay’ amphoras, known as type Ch ID, classified also as Kuzmanov IX (Kuzmanov 1985), Zeest 103 (Zeest 1960), and East Pontic containers - EP II-III (Opait 2015) appeared around the mid-4th century AD and continued to be produced until the 7th century AD. They were produced using a fabric which was partly similar to the one used for the Ch IC amphoras during the 1st-3rd centuries (typically a brown fabric containing admixtures of pyroxene, as well as other small white, grey and sometimes red inclusions (fabric 2 by Vnukov). However, the ChID fabric was coarser, had less pyroxene and more quartz. The ChID amphoras are smaller than ChIC2 and they have a characteristic rib directly under the rim in the form of a finger-made groove. Their capacity oscillated around 20 litres. They were all wheel-made, and usually had triangular rims, while their handles were always flat. These containers appeared in Sebastopolis around the second half of the 4th century AD and continued to be produced thorough the 5th century AD. At least a part of examples discovered in Abkhazia was manufactured in the district of Sebastopolis; however, based on the fabric analysis conducted by Vnukov we can suppose that similar vessels should also have been produced in other parts of Colchis, as well as outside of this region, for example in Heracleia Pontica (Vnukov 2011: 276-277; Erol and Tamer 2020: 536). It is supposed that late Roman and Byzantine Colchian containers were used for transporting wine, like their early Roman predecessors (Vnukov 2011: 276-277, fig. 7; Inaishvili and Khalvashi 2011: 265-266, fig. 1). However, olive oil might have been an alternative cargo. According to Kassab Tezgör (2020), late Colchian amphoras (the so-called Group Y) were manufactured in the northern part of Colchis as well as in the north-western part of this region, where two kilns producing this type of containers were attested in the Byzantine fortress Archaeopolis (also known as Nokalakevi or Tsikhgoji). Moreover, it cannot be excluded that production continued in Trapezus, where Roman Colchian amphoras were manufactured, and most probably also in the Çoruh Valley (ancient Akampsis). Olive trees were present on the southern coast of the Black Sea region, as well as in the Akampsis Valley. With regards to the contents of ChID amphoras one should mention the insides of this container type were often covered with a dark substance, probably petroleum an example being the fully intact ChID amphora discovered in Tyritake (Kassab Tezgör 2020: 56; for petroleum see also Opait 2015: 284-288).

Colchian amphoras of the ChID variant were probably the containers classified as ‘pseudo-colchidiennes’ by Kassab Tezgör and Touma in 2001. According to them, the fabric of Pseudo-Colchian amphoras contained predominantly pyroxene and quartz, as well as smaller quantities of grey, gold and red inclusions, which makes them similar to Sino-pean products. At the same time, their morphology and the colour of the clay resemble early Roman Colchian containers (Kassab Tezgör and Touma 2001: 113-114).

The distribution of ChID is concentrated in the Black Sea region (Inaishvili and Khalvashi 2013: 351), outside of Colchis they were discovered in Romania, Bulgaria, and the

Bosporan Kingdom. For example, Colchian ChID2 amphoras (probably of Abkhazian production) were found in Tyritake (Smokotina 2016: 715) and in Panticapeum, (Fedoseev et. al. 2010: 79-81, fig. 22-23) but they were absent in Novae, a Roman legionary camp situated in the western Pontic region (Biernacki and Klenina 2015: 99-116). Several examples of ChID appear in collections held by Samsun and Antakya museums in modern Turkey, but they were also discovered during excavations in a cistern in Ras Ibn Hani in Syria. It is supposed that examples from Syria might have been produced in a workshop in Seleucia Pieria (Kassab Tezgör and Akkaya 2000: 133; Kassab Tezgör and Touma 2001: 113-114, fig. 13-14). Containers of analogous shape found in the sea and kept in the Samsun Museum were published by D. Kassab Tezgör and M. Akkaya. Pseudo-Colchian amphoras from the Samsun Museum were divided into five types: A, B, C, D, E, where the first two are represented by smaller containers, while the remaining three types include large transport jars. They all have a triangular or rounded rim, a flared or conical neck, flat handles, and an elongated body with a clearly visible waist and pointed toe that sometimes ends with a small protuberance. It is, however, uncertain whether they originated in Colchis, since they might have also been produced in Sinope or in Heracleia Pontica (Kassab Tezgör and Akkaya 2000: 127-141).

The most detailed description of typological variants of Byzantine Colchian amphoras has been presented by Opait (2015), who classifies them as East-Pontic II and III containers (EP II and III). Variant EP II-A (type A and B by Kassab Tezgör and Akkaya) can be distinguished by its cup-shaped rim, a ‘waist’ in the middle part of the body and a sharp, conical base which has no flourish inside. The body of these amphoras is sometimes covered with grooves, but a number of examples also contain longitudinal traces of smoothing. Their dimensions vary between 59-62 cm or 68,5-72 cm (height) and the maximum diameter of the body oscillates between 18,7 and 19,8 cm. Variant EP II-B (type C-E) by Kassab Tezgör and Akkaya) has a chalice-shaped rim with its lower part thickened and triangular in section, whilst the base has the form of a small, cylindrical foot or knob. The handles are flattened and rectangular in section and are less carefully attached to the neck than in the subtype EP II-A. These containers are also bigger than the previous variant, as their height varies between 78 and 90 cm, while the maximum diameter of the body oscillates between 22 and 32 cm.

The examples representing subtype EP III were discovered in the late 6th and early 7th century AD layers in Chersonesus and they can be divided into three variants. EP III-A has a cup-shaped rim, a narrow, cylindrical neck and an elongated body with a conical base. The handles are flattened and rather rectangular in section (similar to the EP II variant), but they are always carefully attached to the neck and shoulders. Variant III-A is considerably smaller than its predecessor, as its height varies between 57-58 cm, while the maximum body diameter does not exceed 19 cm. The EP III-B amphoras have a chalice-shaped rim that bends towards the interior of the vessel, while the neck is sometimes slightly wider at its lower part. The handles fall almost perpendicularly on the shoulders, while the conical base ends with a small cylindrical foot. This

variant is slightly larger than its EP-III-A predecessor, as its height oscillates between 68,5 and 74 cm and the maximum body width varies between 20 and 20,6 cm. The EP III-C variant has a swollen neck, a rim that is triangular in section, a small, cylindrical foot and crooked and carelessly made handles. This variant is mostly known from the 5th-century AD layers in Chersonesus (Opait 2015: 285-288).

Late Colchian amphoras discovered in Gonio during the years 2018 – 2020 are represented mostly by rims, neck and handles, but no complete example has so far been discovered. Therefore, it is impossible to give the exact measurements of these containers. Nonetheless, it was often possible to measure rim diameters, which varied between 5.7 and 8 centimetres (**table 2**) (This form is classified as Type VII by M. Khalvashi (Khalvashi 2002: 20-21).

ChID containers discovered by the Gonio–Apsaros Polish–Georgian Expedition in Gonio during 2018 – 2020 were represented by three different rim forms (**fig. 3**) and were made using at least 3 different fabrics (**table 1**):

Fabric B1 – a fabric group that has hues ranging from a light brown, light brown pinkish / orange clay containing variable quantities of pyroxene, quartz and grey to reddish rock fragments (65 certain and 4 uncertain fragments). Examples with cup-shaped as well as chalice-shaped rims were attested within this fabric group.

Fabric B2 – a reddish-brown fabric with small and medium sized white inclusions and sporadic rock fragments (11 certain and 3 uncertain fragments). Examples with only chalice-shaped rims were attested within this fabric group.

Fabric B3 – a coarse orange fabric with abundant white inclusions followed by some pyroxene and other indefinite inclusions (2 fragments).

Containers made in Fabric B1 are the only examples that match the Colchian amphora fabric repertoire published by Opait (Opait 2015: 290-291, fig. 19-25). Fabric B1 has the most similarities with the recipe used for EP IIIA and B variants that are dated to the end of the 6th and beginning of the 7th centuries AD in Chersonesus. The identification of



Fig. 3. Ch ID amphoras from Apsaros: a – Ch ID amphoras made in Fabric B1 (GA.2018.NOXI.7, GA.2020.NWXII.23 and GA.2020.NWXII.8 (from left to right)); b – Ch ID amphora sub-variants: GA.2018.NOXI.7, GA.2018.NOI.239 and GA.NOI.230 (from left to right); c – Ch ID amphora fragment in Fabric B2 (GA.2019.NOI.239); d – Ch ID amphora fragment in Fabric B3 (GA.2018.NOI.7) (photos & drawings: A. Rogava and G. Dumbadze).

ChID's made in Fabric B1 with the EP III subtype is further supported by two arguments: the presence of both cup-shaped and chalice-shaped rims (**fig. 3**) and a match between the chronological ranges of our amphoras (6th – 7th century) and the ones classified as EP III (end of the 6th and the beginning of the 7th century), which renders this identification most probable (Opait 2015: 286).

The absence of Fabrics B2 and B3 in Opait's repertoire most probably suggests that the actual variety of fabrics (and maybe even the morphological variants) and therefore the number of production centres is even greater than we might assume based on the existing publications.

Type IV

Type IV, as named by M. Khalvashi, forms the third most frequently occurring Byzantine amphora type in Gonio (Khalvashi 2002: 47–48, fig. 39, fig. XV.3–4). These vessels are thin-walled and have typically slightly grooved handles which are always symmetrically arched and carefully attached to the body. The lip is triangular in section, or rounded (**fig. 4**). The fabric is fine-grained, light-brown to greyish or pinkish and is filled with varying amounts of small to medium sized white, grey and brown inclusions (Fabric B14) (**table 1, fig. 4**). Khalvashi compares these amphoras to the examples discovered on a couple of settlements on the eastern and northern Black Sea littoral (Khalvashi 2002: 47), however only three of them, Pityus (Berdenishvili and Puturidze 1975: 273, fig. 59.1), Tsibilium in the Abkhazia region (Voronov and Bgzhba 1985: 72–73, pls. 33.2–3, 7, 25) and Archaeopolis in the Colchian hinterland (Lekvinadze and Khvedelidze 1981: 134, fig. XLIII.3) seem to have yielded

fragments similar to Type IV in terms of form and fabric. Based on this type's fabric resemblance to Antonova 5 it is possible that these vessels were made in one of the unknown Pontic workshops.

Judging from the variation of the vessel dimensions (especially the rim diameter) in Gonio it becomes clear that there are different volumetric entities within this type (**table 2**).

'Sinopean' amphoras (D Snp)

During the early Byzantine period Sinope was a very important harbour for the Roman army and fleet in the Black Sea. As a consequence, Sinopean pottery was frequently attested at a number of excavated sites situated on the eastern shores of the Black Sea. (Inaishvili and Khalvashi 2010: 507). Byzantine Sinopean amphoras may be divided into two groups, classified by Kassab Tezgör (2009; 2020) as C and D, which may be easily distinguished due to the colour of their fabric.

Group C containers have a light red or dark orange paste and an elongated form that led to them being classified as 'Carrot amphoras' (II and III C Snp) (Kassab Tezgör 2009: 169; 2011: 198–199; 2020: 21–34; Vnukov 2010: 368; Opait 2010b: 379–398; Dobrev 2017: 266). They are attested in south-western Georgia, for example in Tsikhizdziri, (Inaishvili and Khalvashi 2010: 499); however, their presence in Gonio has not so far been confirmed neither during Georgian excavations (Khalvashi 2002; Inaishvili and Khalvashi 2010: 487–559) nor by the Polish-Georgian Archaeological Expedition. This may be due to the fact that the Apsaros fortress was abandoned for most of the period during which these containers were produced (4th–6th century AD).

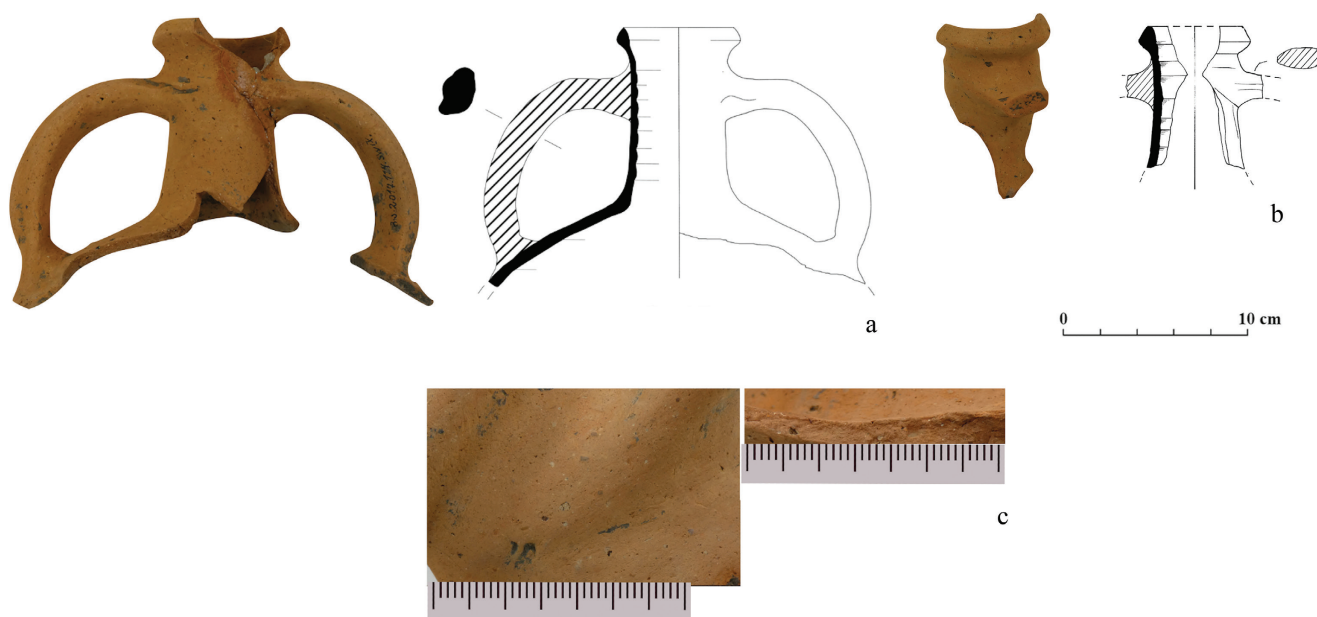


Fig. 4. Type IV amphoras from Apsaros: a – GA.2017.SWIX.114; b – GA.2018.NOI.201; c – fabric of Type IV amphoras (drawings: G. Dumbadze and P. Komar; photos: A. Rogava).

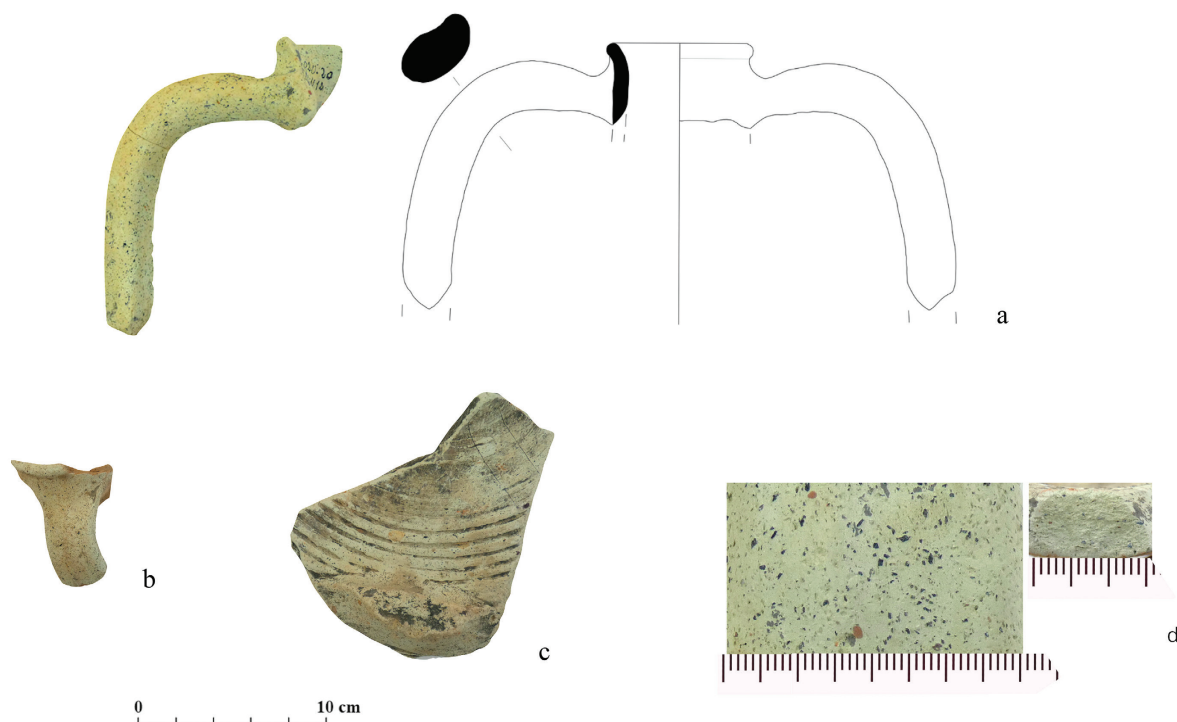


Fig. 5. D Snp amphorae from Apsaros: a – GA.2020.NWXII.20; b – GA.2019.NOI.72; c – GA.2018.NOI.70; d – fabric of D Snp amphorae from Apsaros (drawings & photos: P. Komar and A. Rogava).

On the other hand, examples belonging to group D are well documented in Gonio (31 fragments from 2018-2020) and represent the fourth most numerous form on this site (**fig. 1**). The fabric of this amphora group is characterised by a light-coloured clay (light pink or light beige, sometimes with yellowish or greenish hues), the colour being a consequence of firing the clay at a very high temperature (higher than C Snp) and in a reducing atmosphere (**fig. 5**), however, certain examples of group D amphorae were orange/red, similar to group C. Interestingly the composition of their fabric does not differ from previous Sinopean containers (Kassab Tezgör 2020: 34). D Snp amphorae have a straight neck ending with a rounded and irregular rim, a conical body and grooved handles, and their shape sometimes resembles LRA1 amphorae. According to Kassab Tezgör, types D Snp I and I *similis* have strong links (both morphological and technological) with the LRA1B variant from which they most probably derive, given that they cannot be directly associated with previous Sinopean forms (Kassab Tezgör 2020: 41-93). They are frequently found in the northern Black Sea region, which might suggest that they were produced not only in Sinope, but also in other Black Sea centres. The production of group D containers blossomed during the 6th and 7th centuries AD, which is suggested *inter alia* by coins dated to the reigns of Justin I (527-565 AD) as well as Justin II and Sophie (565-578 AD), which were found together with certain examples. Even though it seems that amphorae belonging to group D were the least popular Sinopean export in the Black Sea region (Kassab Tezgör 2009: 171; 2011: 200; Dobрева 2017: 260), they appeared in south-western Georgia, for example in Petra-Tsikhizdziri and Gonio in deposits that included

Justinian coins dated between 527-565 AD (Inaishvili and Khalvashi 2010: 500). M. Khalvashi classifies them as Type VI in Gonio (Khalvashi 2002: 51-51, fig. 43). The 31 fragments identified between 2018 and 2020 in Gonio belong to D Snp I-III, with typical light beige –white fabric (Fabric B9) (**table 1-2**).

The content carried by Sinopean amphorae is uncertain, as wine, olive oil and even fish sauce are possibilities (Kassab Tezgör 2009: 172-173, see also Strab. 2.1.15 and 12.3.12; Xen. Anab. 6.1.15). The remains of pitch found in certain specimens suggest that the containers carried wine or fish products, as resin dissolves in olive oil and does not leave traces (Dobрева 2017: 260). However, there are examples without the resin coating, which could indicate that they carried olive-oil, therefore it cannot be excluded that they were simply multi-purpose containers (Kassab Tezgör 2020: 61).

Type III.1, III.2 and III.3 (group of amphorae resembling Antonova 5 (Type III))

A number of fragments generally resembling Antonova 5 (Type III according to M. Khalvashi) but having smaller or larger dimensions and different fabrics have been regularly attested in our collection. Upon closer inspection three different interrelated types can be identified: Type III.1, III.2 and III.3. These are characterised by two different fabrics, the first being a coarse light brown to light brown – orange / pinkish and containing large amount of brown and red brown rock fragments, and some white (including quartz) and occasional black coloured inclusions (Fabric B5 used for Type III.1),

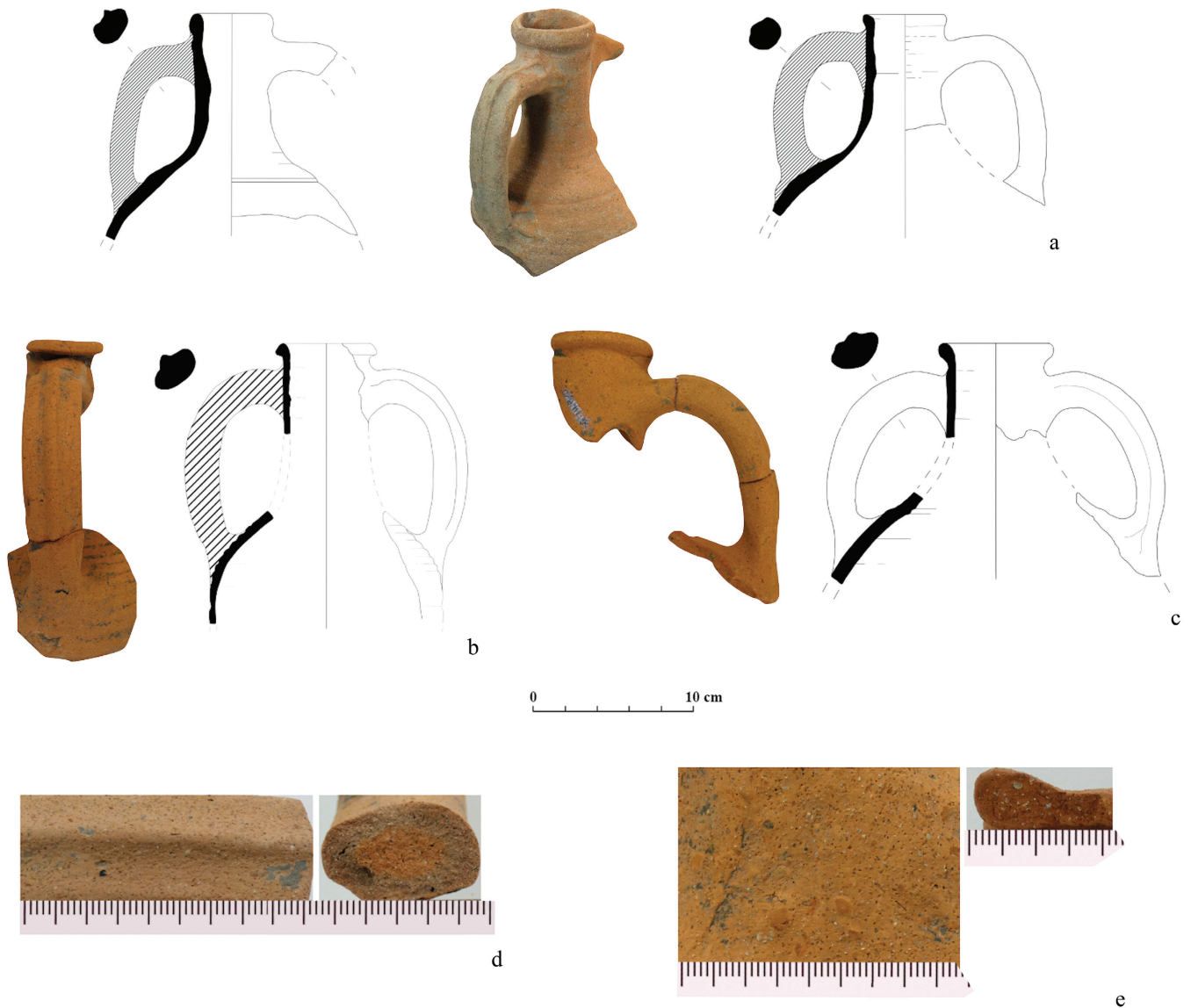


Fig. 6. Type III.1-3 amphoras from Apsaros: a – Type III.1 amphoras (GA.2017.SWIX.20 and GA.2018.NOI.180); b – Type III.2 amphora (GA.2018.NOI.192-223); c – Type III.3 amphora (1,6,7/11/19), d – Fabric B5 used for Type III.1; e – Fabric B6 used for Type III.1-3 (drawings & photos: P. Komar and A. Rogava).

whilst the second comprises of a coarse reddish – brown fabric with variable amount of small to medium sized white inclusions, small to large sized red-brown rock fragments and some white porous particles (microorganisms?) together with other occasional indefinite inclusions. (Fabric B6, used for Type III.1, III.2 and III.3). The latter fabric is similar to Antonova 5 fabric but it is much coarser (**table 1; fig. 6**).

Type III.1 amphora (22 fragments) has a simple bulge-shaped or sometimes cup-shaped rim. The handles typically have a central sharp or narrow ridge on the outer surface, while examples with a few slightly profiled ridges are also encountered. Based on rim and handle dimensions (**table 2**) we can assume that this type was one of the smallest amphora forms used in Byzantine Gonio.

Type III.2 amphora (3 fragments) has a more prominently shaped lip than Type III.1. But the single central ridge on the handle differentiates this form from the similar Type III.1,

III.2 as well as from Antonova 5 amphora. Judging from the dimensions the vessels belonging to this type were slightly more voluminous than the Type III.1 (**table 2**). Type III.2 is only attested in Fabric B6.

Type III.3 amphora shape (3 fragments) is similar to that of the Type III.1, but the dimensions are clearly larger (**table 1**). The distinctive element of the type are two parallel ridges on a thick handle with an oval section. In terms of volume this type is similar to Type III.2.

LRA1

The so called LRA 1 amphora was initially produced in Cilicia at the end of the 3rd and during the first half of the 4th century AD. Subsequently, its production spread to other regions that had long wine making tradition, such as Cyprus,

Rhodes and Cos - where workshops have been discovered near Halasarna (Diamanti 2010; Bezczky 2013: 159), in Aghia Theotis near Cardamaina, in Mastichari and Kephalos (Didiomi 2014: 170-171), as well as on Paros (Diamanti 2015; 2016). The manufacture of this form along the coasts of Lycia, Pamphylia, north Syria, Cilicia and on Rhodes and Cyprus is confirmed by the discoveries of amphora workshops (Opait 2010a: 1015-1017; Empereur and Picon 1989: 237, 241-242). Moreover, Riley's analyses also suggest Lesbos and Euboea as places of production, while a *titulus pictus* on a container from Milan mentions Chios (Riley 1981: 116; Auriemma 2007: 148, Note 1391). Cretan and Pontic imitations of this type of vessel were also produced (Auriemma 2007: 149; Arthur 1998: 170).

LRA1 has several chronological variants that developed between the late 4th and the 7th centuries AD (Bezczky 2013: 158-159). According to Reynolds, it evolved from the amphora type Schoene-Mau V (Reynolds 2008: 63-72; he calls this form 'Pompeii V'); however Pieri suggests its prototype was the Agora G197 (AC1) container (Pieri 2005: 70), whilst Opait noted that LRA1 were strongly influenced by Dr 30/Gauloise 4 amphoras (Opait 2010a: 1015). Pieri argues that LRA1 might have been used for transporting Rhodian wine

(Pieri 2007: 613). However, it is equally probable that it transported other beverages, including Coan, Cypriot and Cilician varieties. Most of the examples of LRA1 that have been analysed had a resin or pitch-lining, which is typical for wine amphoras (Peña 2007: 69). However, *tituli picti* that were found on containers of this type that were discovered in Ballana in Egypt mention only olives or oil (Williams 2005: 616-617). On the other hand, Peña argues that *tituli picti* often concern the secondary content of transport jars (Peña 2007: 70, 75 and *passim*). The analysis of the residues found in LRA1 amphoras that were discovered in Florence proved that certain vessels might have contained wine, whereas others transported vegetable oil and animal fats (Pecci et al. 2010: 367, tab. 2). Since certain inscriptions attested on LRA1 containers seem to refer to *artabae*, it cannot be excluded that they might have carried grain; however, this is unlikely according to Riley, due to their wide distribution in primary grain producing areas, such as Cyrenaica and Carthage (Riley 1979: 215).

Riley noticed two variants (large and small) of LRA1 and proposed a hypothesis, according to which the large vessels contained olive oil, whilst the small containers were used to transport wine (Riley 1979: 213-216). Unfortunately,

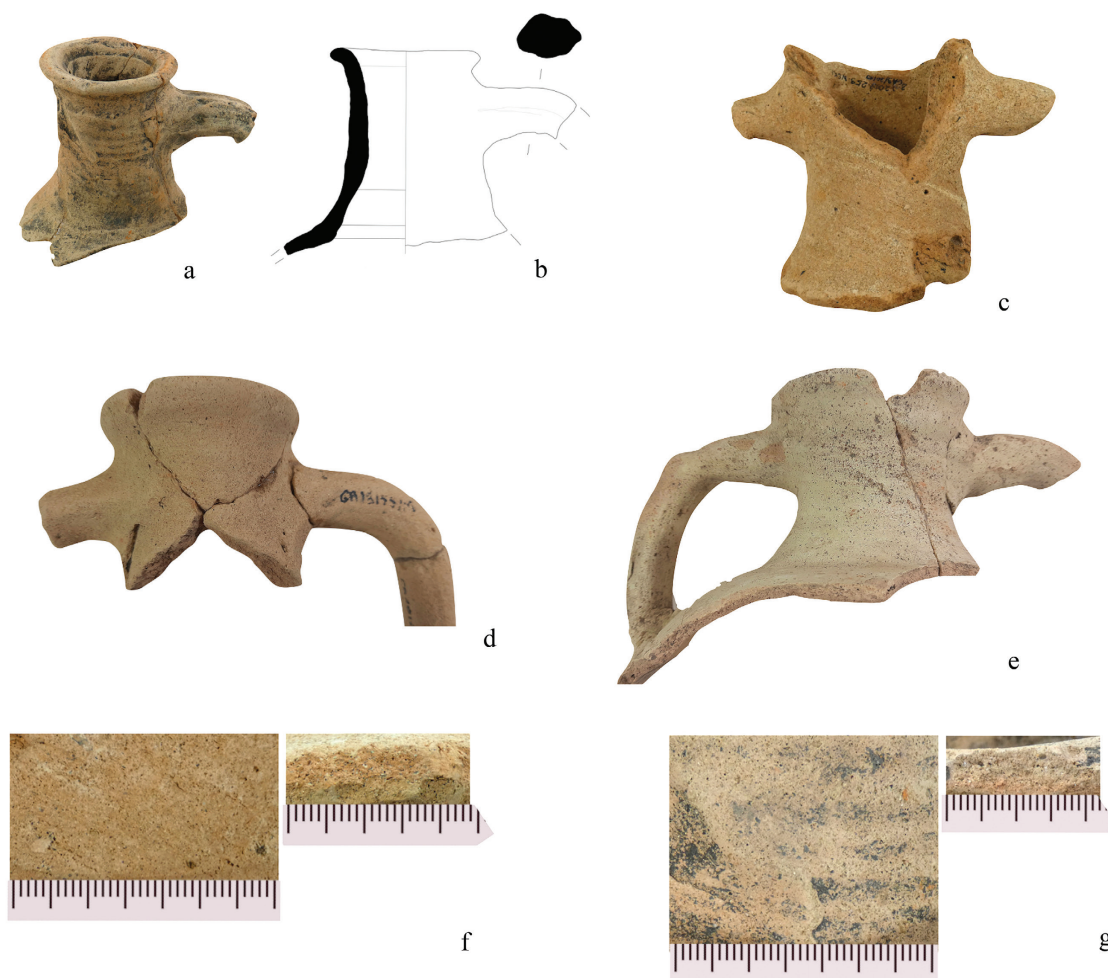


Fig. 7. LRA1 amphoras from Apsaros: a, b – GA.2018.51, c – GA.2019.NOXI.259, d – GA.2019.NOXI.223; e – GA.2019.NOXI.103; f – LRA1 fabric B11; g – LRA1 fabric B10 (drawings & photos: A. Rogava and P. Komar).

since it is difficult to distinguish between the two variants when dealing only with fragments, this hypothesis is unverifiable (Pacetti 1995: 274; Bonifay and Villedieu 1989: 25). However, if olive oil was the main product carried by these vessels, one would not expect to find so many of them in North Africa, a major olive oil producing region during the late Roman period. Moreover, religious inscriptions found on some LRA1 containers would rather suggest wine as their content (Williams 2005: 617). If this was the case, Rhodian, Coan, Cypriot and Cilician wines could be taken into consideration. Although the Cilician wine called ‘Abates’ was, according to Athenaeus, merely a laxative (Ath. *Deipn.* I 33b), a different Cilician variety was held in high esteem by Pliny (Plin. *HN* XIV 81), in whose opinion, Cilician *passum*, a raisin wine, was only bettered by Cretan. Pliny also mentions that ‘hyssop wine’ was produced in this region (Plin. *HN* XIV 109).

In the context of the study of amphora contents the discovery of LRA1 containers in the Yassi Ada shipwreck seems important. Most of the amphoras contained traces of pitch, which is associated with wine, whilst one of them contained a grape seed. However, a graffito deciphered as EAE might indicate that at least one container carried olive oil (Van Alfen 1996: 202-203). This, however, could also be evidence for the reuse of this jar (Pieri 2005: 84). On the other hand, pitch lining was also attested in a number of LRA1 examples from the Black Sea region (Kassab Tezgör 2020: 41). Besides the above-mentioned case studies it also becomes apparent that the measured capacities of these amphoras offer no definitive conclusions with regards to the commodity that they were intended to carry, which suggests that they might have been general-purpose containers (Van Alfen 1996: 208-210).

Fragments of this amphora form were discovered by both the Georgian (Khalvashi 2002, fig. 34.1; 35, fig. XIII.1-3) and the Gonio–Apsaros Polish–Georgian Expedition (13 fragments from 2018-2020). M. Khalvashi classifies this form as Type I (Khalvashi 2002: 43). They are all characterised by a cylindrical neck and a flared, at times irregular rim and the handles bear double grooves on the upper side. Providing a detailed description of the fabric used in most of the sherds was difficult due to the abundance of pores and the small size of the majority of the inclusions. However, based on the texture of the paste the fragments could be divided into two fabric groups: Fabric B10 belongs to a hard fired variant, while the clay of Fabric B11 is more porous and can be easily chipped off by hand. Both fabrics contain mainly

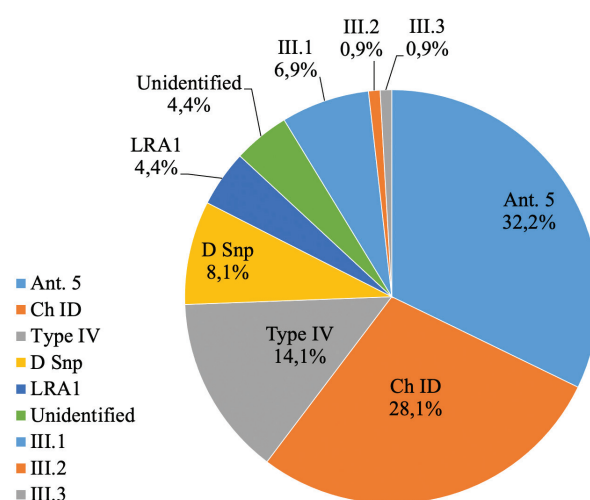


Fig. 8. Overview of amphoras from Apsaros.

Form / Type	Fabric	Fabric description
Antonova 5	B4	Orange, sometimes orange – reddish / pinkish with small to large sized red-brown, grey and small to medium sized white inclusions.
ChID	B1	Coarse light brown to light brown pinkish / orange with variable amounts of pyroxene, quartz and grey to reddish rock fragments.
	B2	Reddish-brown fabric with small and medium sized white inclusions and sporadic small to large sized rock fragments.
	B3	Coarse orange fabric with abundant small to large sized white inclusions followed by some pyroxene and other indefinite inclusions.
Type IV	B14	Fine grained light-brown to greyish or pinkish fabric with varying amounts of small to medium sized white, grey and brown inclusions.
D Snp	B9	Light beige – white fabric with abundant pyroxene and some grey and brown inclusions.
Type III.1	B5	Coarse light brown to light brown – orange fabric with big amount of brown to red brown rock fragments, some white (incl. quartz) and occasional black coloured admixtures.
	B6	Coarse reddish – brown fabric with big but variable amount of small to medium sized white inclusions, small to large sized red-brown rock fragments and some white porous particles (microorganisms?) together with other occasional indefinite inclusions.
Type III.2	B6	Coarse reddish – brown fabric with big and variable amount of small to medium sized white inclusions, small to large sized red-brown rock fragments and some white porous particles (microorganisms?) together with other occasional indefinite inclusions.
Type III.3		
LRA1	B10	Light beige fabric mainly containing small sized light coloured inclusions and small to large sized brown to black coloured admixtures.
	B11	Light beige to pink fabric which contains similar inclusions as Fabric N10, but is more porous and crumbly.

Tab. 1. Byzantine amphora types / groups discovered during 2018-2020 and their respective fabrics identified at Apsaros (Gonio).

Type	Rim Diam. (cm)	Handle width (cm)	Handle thickness (cm)
Antonova 5	5 – 8	2,2 – 3,2	1,5 – 2,6
Ch1D	5,7 – 8	3 – 4,4	1,1 – 1,9
Type IV	5,8 – 9,8	2,2 – 3,5	1,1 – 2,4
D Snp	7 – 8,5	2,9 – 4,5	1,8 – 3,2
Type III.1	5 – 6	2,2 – 2,9	1,6 – 2
Type III.2	6 – 6,8	3 – 3,3	2 – 2,3
Type III.3	7,8	3,2 – 4	2,2 – 2,7
LRA1	8,5 – 11	3 – 4,4	2,1 – 3,1

Tab. 2. Measurements of the identified Byzantine amphoras discovered at Apsaros (Gonio) in 2018-2020.

small sized light coloured and small to large sized brown to black coloured inclusions (fig. 7). Four fragments using Fabric B11 bear clear traces of white paint. Unfortunately, it is impossible to give their exact production place. Nevertheless, their colour and clay in certain aspects resembles D Snp containers. According to Kassab Tezgör, this characterises LRA1 amphoras produced in Sinope, however, the kilns where Sinopean LRA1 might have been produced have so far not been identified. All examples of LRA1 found in Demirci had a different fabric which suggests that they were imported, while the kiln in Ciflik has not so far been thoroughly investigated (Kassab Tezgör 2020: 41).

Conclusions

Based on our analysis we can state that Antonova 5/Antonova 5 *similis* and Colchian containers (Ch1D) predominated in Byzantine Apsaros, which suggests that the fortress was supplied mostly with local goods. Ch1D was a local product that together with the eastern coast of the Black Sea could also have been produced on the southern littoral, whereas Antonova 5/Antonova 5 *similis* vessels were probably made in the southern Pontic littoral. This seems possible considering that containers from Sinope (D Snp) were common in the Apsaros fortress during the 6th century AD. Interestingly, imports from the northern or western part of the Black Sea region are absent. Also, no examples of containers produced in the Mediterranean have been attested, even though they were imported in significant quantities to Apsaros during the early Roman age. This suggests a considerable regionalisation of the supply chain in the Byzantine period. Considering the uncertainties regarding the content, it becomes quite difficult to estimate the importance of specific products (wine vs. olive oil vs. other) in Byzantine Apsaros. The only thing we can state with certainty is that wine (including local Colchian wine) seems to have been one of the most important products for the inhabitants of the fort in this period. We hope that future residue analyses that we plan to carry out will shed more light on this matter.

As mentioned above, containers that originated in the northern Pontic area as well as Scythian, Moesian, Bosporan amphoras (Zeest 96-97) or Kuzmanov XV (Opait B-Ic) and

XVI (Opait B-Id) amphoras, which were attested in other Pontic centres (e.g. in Dobrudja), as well as in the Danube area (Dobrev 2017: 278-284) have not so far been discovered in Byzantine Gonio. One possible explanation for this pattern is that most of the above-mentioned containers were produced between the mid-4th and the beginning of the 7th centuries AD - the period during which Apsaros remained uninhabited for the most part. Another factor is the absence of favourable sea currents which would easily bring ships from the north littoral to Apsaros. To sum up, we can state that similar to the early Roman period the northern and western Pontic regions seem to play an insignificant role with regards to supplying Apsaros during the Byzantine period (for early Roman amphoras from Gonio see Komar 2024).

Apart from the lack of north and west-Pontic containers, the variety of imports in Gonio does not differ considerably from other Pontic centres, though it seems that the variety of goods that reached this fortress was narrower than in many other areas. For example, in Tyritake Sinopean, Heracleian, Aegean (LRA2, LRA1), Anatolian (LRA3), Gazan (LRA4) and African amphoras were attested (Smokotina 2016: 715-717), which stands in a sharp contrast against a couple of LRA1 fragments with unknown provenance in Gonio. It seems especially significant that western Anatolian and Levantine imports that became frequent in the Mediterranean during Late Antiquity and also reached the Black Sea region (Opait 2017, 603; Opait 2018: 702, 706, fig. 19-22; Sazanov 2014: 413; Sazanov 2017: 655), have so far not been attested by the Polish-Georgian Archaeological Expedition. However, forms resembling LRA3 and LRA4 were encountered in the 1990s during Georgian excavations (Khalvashi 2002: fig. 34; Inaishvili and Khalvashi 2011: 268-269, fig. 5 and 6), albeit in small quantities.

Finally, it should be mentioned that as of yet no amphoras dated later than the 7th century AD have been discovered in Gonio. This includes both northern Pontic containers of the 8th-10th centuries (Sukhanov 2018) and the Günsenin I-IV types produced between the 10th and 14th centuries AD that are known from other centres of the Black Sea region, for example from Paphlagonia, Dobrudja and modern Bulgaria (Stănică 2012; Paraschiv-Talmăţchi 2016; Todorova 2015; Opait 2018). This suggests that there was a break in the continuity of supplies to Apsaros during the 7th/8th century AD, which may be a consequence of the gradual fall of the control of the Byzantine Empire over the eastern Black Sea region.

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