

# Chrysomallos

## Polish Archaeologists in the Black Sea Region

*eds Marcin Matera, Radosław Karasiewicz-Szczypiorski*



ŚWIATOWIT Supplement Series C:  
Pontica et Caucasica, vol. IV

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Warsaw 2024



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## Contents

### 7 Preface

## I. Caucasus

- 17 **Darchidze Tamaz** *The crucial episode of Lazic War (541-562) – Petra's third besiegement and Its Fall (An Overview of the Recent Archaeological Evidence)*
- 35 **Jakubiak Krzysztof, Piliposyan Ashot** *A Boundary Stone Discovered from the Sevan Lake Basin*
- 39 **Jaworska Maria** *The So-Called "Sunburst Lamps" Found in Apsaros*
- 49 **Khakhutaishvili Nana, Mamuladze Shota** *Ancient Metal Production Site in Chorokhi Basin in the Vicinity of Apsaros Fortress*
- 71 **Komar Paulina, Rogava Andria, Motskobili Tatuli** *Transport Containers from the Apsaros Fortress (Modern Gonio), Georgia (1st–7th century AD). A Preliminary Overview of Forms and Fabrics*
- 93 **Lockley Natalia** *Architecture of the Residential Complex in Dzalisi (Georgia)*
- 107 **Łukaszewicz Adam** *From the Pontic Area and Caucasus to the Nile Valley: Evidence of Graffiti on the Walls of a Pharaoh's Tombs*
- 117 **Sulkhanishvili Davit, Koberidze Koba, Chaduneli Nikoloz** *Ancient City Zalissa (1st–4th centuries), Confrontation of Empires and Christianization of Iberia*

## II. Scythia et Sarmatia

- 129 **Daszkiewicz Malgorzata, Schultze Erdmudte** *Pottery from the Cherniakhiv Culture Site of Voitenki and Other Sites in the Surrounding Region (Ukraine)*
- 145 **Deptuła Aleksandra** *The Ethnic Identity of Handmade Pottery from Sites Located on the Northern Shores of the Black Sea*
- 149 **Gavrylyuk Nadezhda** *Archaic Handmade Pottery Complex of Borysthenes (from V.V. Lapin's Excavations)*
- 171 **Gizińska Adrianna** *Epigraphic Map of Tropaeum Traiani During the Principate. Town and its Rural Territory Before 317 AD*
- 191 **Karasiewicz-Szczypiorski Radosław, Misiewicz Krzysztof, Saveliev Oleg** *Building with an Apse Behind the Walls of the Citadel at Tyras. A Further Step Towards Explaining its Function*
- 199 **Misiewicz Krzysztof, Matera Marcin** *The Fortifications of Western Tanais in the Light of Archaeology and Geophysics. Results of Electrical Resistivity Measurements in 2018 and 2019*
- 221 **Twardecki Alfred** *Olbia and Borysthenes in Old Polish Literature. Preliminary Report*



# Dear Readers,

we place in your hands the fourth volume in the *Pontica et Caucasia* series constituting a supplement to the *Światowit* journal. The participation of a large number of authors from several countries in this endeavour proves that international cooperation in Pontic archaeology is growing all the time. This fact needs to be emphasised especially in view of Russia's ongoing aggression against Ukraine and Moscow's destabilisation of other independent states in the region.

The publication of another book by our editorial team also coincides with an important anniversary for Pontic archaeology. The joint Polish-Georgian excavations of the Roman fort of Apsaros (Gonio, Georgia) have been going on for 10 years. The expedition led by Radosław Karasiewicz-Szczypiorski (Institute of Archaeology/Centre for Mediterranean Archaeology, University of Warsaw) and Shota Mamuladze (Gonio-Apsaros Archaeological and Architectural Site/Batumi Shota Rustaveli State University) continues to make new discoveries and expand our knowledge of the Roman military presence on the Colchid coast.

Unfortunately, while we were completing the present volume, Professor Shota Mamuladze passed away. His unexpected passing plunged everyone into deep sorrow and grief. We will never forget the kindness and care with which you surrounded your Polish colleagues. You were someone special to us, safeguarding our work and welcoming us as the warm host of the museum, where we found hospitality

on many occasions. We trust that you will continue to watch over the joint Polish-Georgian excavations in Gonio.

The excellent cooperation would not be possible without the participation and comprehensive support provided to the joint expedition by the Cultural Heritage Protection Agency of Ajara led by Director Zaur Akhvlediani. The interest and assistance of the Polish Embassy and the Polish Institute in Tbilisi are also of great importance for building Polish-Georgian cooperation in the scientific field. Special thanks are due to Ambassador Mariusz Maszkiewicz, Director Lech Kończak and Director Magdalena Wojdasiewicz.

We will also always remember the great kindness bestowed on us by the recently passed professor Amiran Kakhidze, long-time director of the Batumi Archaeological Museum.

To all those involved in the fieldwork and in supporting the research of the Apsaros Fort, the editors extend their sincere thanks. We hope that there are more anniversaries and many discoveries ahead for the Polish-Georgian expedition.

Returning to the contents of the volume we are presenting, we would like to express our particular joy at the fact that among the authors and contributors there are young people who are just beginning their research in the field of Pontic archaeology. Thanks to you, the study of the past of Pontus and the Caucasus has a future.

Radosław Karasiewicz-Szczypiorski, Marcin Matera



# Drogi Czytelniku,

oddajemy w Twoje ręce czwarty tom z serii *Pontica et Caucasica* stanowiącej suplement do rocznika „Światowit”. Udział w tym przedsięwzięciu liczного grona autorów z kilku krajów dowodzi, że międzynarodowa współpraca w zakresie archeologii pontyjskiej cały czas się rozwija. Fakt ten wymaga podkreślenia szczególnie wobec trwającej agresji Rosji na Ukrainę oraz destabilizacji przez Moskwę innych niepodległych państw w regionie.

Wydanie przez nasz zespół redakcyjny kolejnej książki zbiega się także w czasie z ważnym dla archeologii pontyjskiej jubileuszem. Wspólne polsko-gruzińskie wykopaliska rzymskiego fortu Apsaros (Gonio, Gruzja) trwają już 10 lat. Ekspedycja kierowana przez Radosława Karasiewicz-Szczypiorskiego (Instytut Archeologii/Centrum Archeologii Śródziemnomorskiej Uniwersytetu Warszawskiego) oraz Shotę Mamuladze (Gonio-Apsaros Archaeological and Architectural Site/Batumi Shota Rustaveli State University) wciąż dokonuje nowych odkryć i poszerza naszą wiedzę na temat rzymskiej obecności wojskowej na wybrzeżu Kolchidy.

Niestety w czasie gdy kończyliśmy pracę nad niniejszym tomem odszedł od nas Profesor Shota Mamuladze. Jego niespodziewana śmierć pogrążyła wszystkich w głębokim smutku i żalu. Nigdy nie zapomnimy życzliwości i opieki jaką otaczałeś kolegów z Polski. Byłeś dla nas kimś wyjątkowym, kto patronował naszej pracy a także serdecznym gospodarzem muzeum, w którym wielokrotnie znajdowa-

liśmy gościnę. Wierzimy że nadal będziesz czuwał nad wspólnymi polsko-gruzińskimi wykopaliskami w Gonio.

Wzorowa współpraca nie byłaby oczywiście możliwa bez udziału i wszechstronnego wsparcia jakiego udziela wspólnej ekspedycji Cultural Heritage Protection Agency of Ajara kierowana przez Dyrektora Zaur Akhvlediani. Wielkie znaczenie dla budowania współpracy polsko-gruzińskiej na polu naukowym ma także zainteresowanie i pomoc ze strony Ambasady RP oraz Instytutu Polskiego w Tbilisi. Na szczególne podziękowania zasługuje Pan Ambasador Mariusz Maszkiewicz oraz Pan Dyrektor Lech Kończak i Pani Dyrektor Magdalena Wojdasiewicz.

Zawsze będziemy także pamiętać wielką życzliwość jaką nas obdarzał zmarły niedawno Profesor Amiran Kakhidze, wieloletni dyrektor Muzeum Archeologicznego w Batumi.

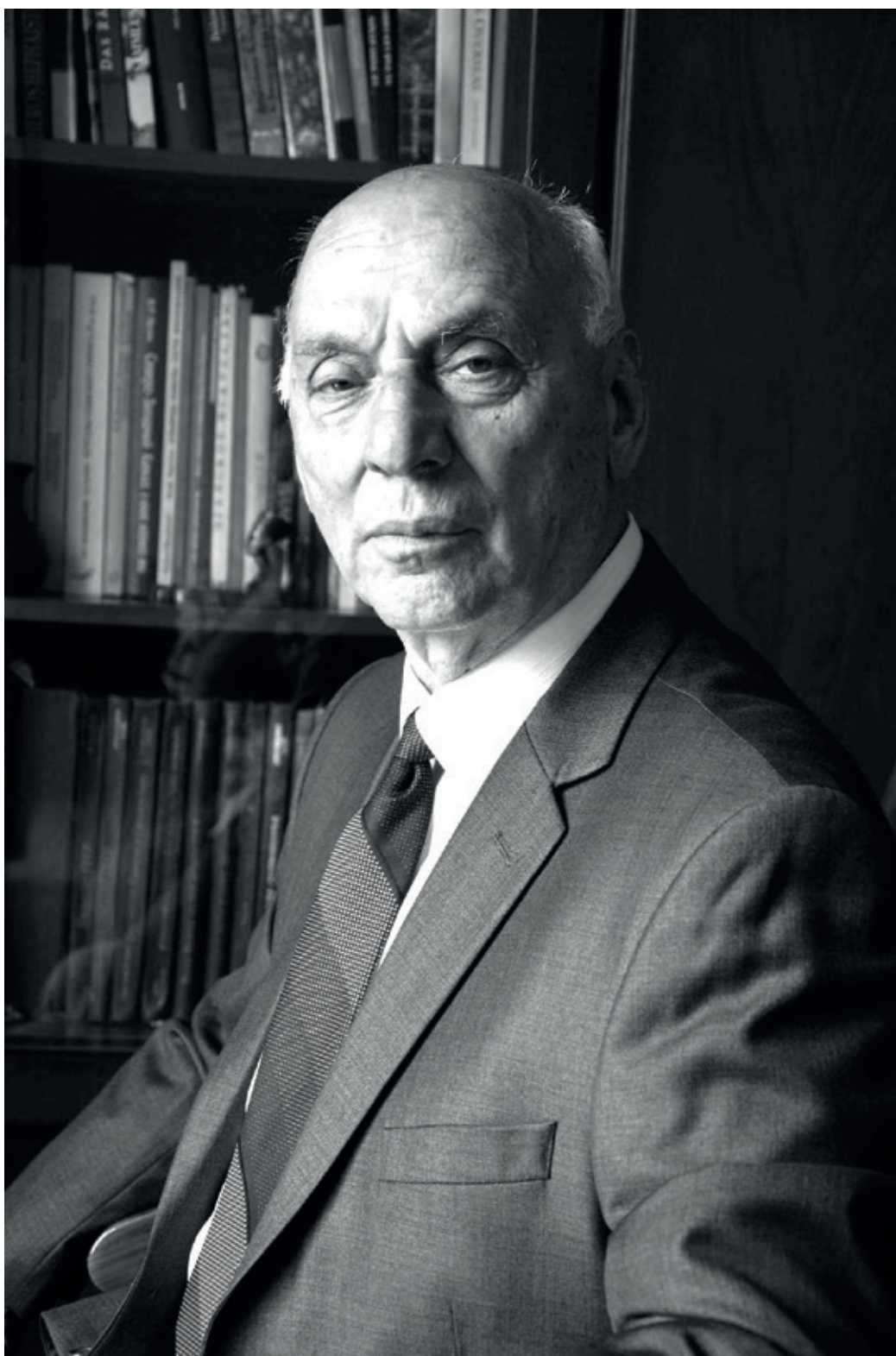
Wszystkim zaangażowanym w prace terenowe oraz we wsparcie badań fortu Apsaros redakcja serdecznie dziękuje. Mamy nadzieję, że przed ekspedycją polsko-gruzińską kolejne jubileusze i wiele odkryć.

Wracając do zawartości tomu, który prezentujemy chcielibyśmy wyrazić szczególną radość z faktu, że wśród autorów i autorek znajdują się osoby młode, które dopiero rozpoczynają badania w zakresie archeologii pontyjskiej. Dzięki Wam studia nad przeszłością Pontu i Kaukazu mają przyszłość.

Radosław Karasiewicz-Szczypiorski, Marcin Matera



## **In memory of Prof. Amiran Kakhidze**







## **In memory of Prof. Shota Mamuladze**





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# **I. Caucasus**



# The Crucial Episode of Lazic War (541–562) – Petra’s Third Besiegement and Its Fall. (An Overview of the Recent Archaeological Evidence)

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## Abstract

*In the present article we discuss one of the key and final episodes of the military confrontation between the Byzantine Empire and Sassanid Iran which took place in the Lazica Kingdom, in particular, liberation in 551 by the Byzantines of the last foothold – the Petra fortress. This is examined on the basis of analysis of material obtained as a result of archaeological excavations in Petra-Tsikhisdziri (south western Georgia) carried out at different times and mostly in 2016–2020. Recent archaeological discoveries have produced more knowledge about the besiegement of Petra. This includes information on who was defending the fortress, what the garrison looked like, how it was equipped and supplied, how the siege was developed and finalized, etc. The significance of the findings and their consideration together with the written sources are very important to finally identify the city-fortress Petra, reinforced by the Byzantines, with modern Tsikhisdziri – an issue which is still debatable among the scholars.*

## Keywords

*Late Antiquity, Byzantium, Sassanian Empire, Lazic War, Southwestern Georgia, Tsikhisdziri, Petra*

## The Great Lazic War – a brief overview

Since the beginning of the 6th century, the Kingdom of Lazica at the eastern end of the Black Sea had completely fallen under the strategic focus of the Byzantine Empire. Persia, which had been trying to obtain a new foothold against the Byzantine Empire in western Georgia as a base for marine and terrestrial operations, also had claims on the region. The Persians saw well the strategic significance of the coastal kingdom. In particular, in the case of conquest of Lazica, Persia would have been able to strengthen its influence on Iberia (eastern Georgia), to get control over the passages of the western Caucasus and gain access to the sea. By the latter it would create a threat

to Constantinople via the marine route. The conquest of Lazica would have opened new ways for Persia to invade into the depths of the Byzantine Empire.<sup>1</sup>

This time, the interests of the Byzantine Empire and Persia crossed in Lazica. The traditional attempts of Lazica’s rulers to retain autonomy and peace by manoeuvring between the two powerful empires, turned out to be unsuccessful. To support the military operation in Lazica, Persia strengthened its rear in the Kingdom of Iberia, which had already been abolished by that time. Against the face of the coming military conflict, the Byzantine Empire had also undertaken some preparations – the Byzantine garrisons occupied the border fortifications of Lazica, the coastal

<sup>1</sup> Letodiani 2006, 137–138.

cities of the Black Sea and even the capital city of Lazica – the Archaeopolis.<sup>2</sup>

The Byzantines reinforced and even rebuilt the fort of Petra, located near the border between the Byzantine Empire and Lazica.<sup>3</sup> This had been the last southern foothold of the Kingdom of Lazica in the 6th century.<sup>4</sup> Here, the Byzantines allocated the main garrison and the military forces, having subordinated the forces located in Lazica to its commander-in-chief. It is clear that Lazica, which was formally subordinated to the Byzantine Empire, by this time had become fully obedient to its military and economic governance.<sup>5</sup>

The obligation to supply the border garrisons with foodstuffs, and also the fact that the Byzantines had taken full control over the trade hubs, where statesmen of precarious reputation fully monopolized the trade,<sup>6</sup> caused dissatisfaction among the people of Lazica. These circumstances pushed the Lazi to seek allies among the Persians. Secretly from the Byzantines, the king Gubazes sent his ambassadors to the king Chosroes I. They explained to Chosroes the benefits of being allied to Lazi and asked him to send Persian troops into the country.<sup>7</sup> The door was thus opened for the Persians to begin actions in Lazica (Fig. 1).

The Persian Shah came to Lazica in 541 and met with the king Gubazes. After that, a joint force of the troops of the Lazi and Persians first came to the town of Petra. It is not surprising that their aim was to block the land route connecting Lazica with Byzantine Empire and to hold the strategic position in the coming war. After a series of short, but bloody fights, the Persians took the city.<sup>8</sup> After that the Persian king did not stay long in Lazica. He was informed that the Byzantine commander in chief – Belisarius had invaded Persia and so Chosroes quickly returned to his country. This was the beginning of a long war between Sassanid Iran and the Byzantine Empire.<sup>9</sup>

In 545–549 a temporary, imaginary truce was concluded.<sup>10</sup> In this way Chosroes gained time to mobilize his forces for the war. The Persians tried to build a fleet, but failed to do so.<sup>11</sup> Getting into a relationship with Persia turned out to be fatal for Lazica. The Persians put the local population into a religious and economic bondage. The existing picture was even harder than the Byzantine domination. In order not to turn the people's dissatisfaction into an uprising, Chosroes preferred to get ahead and he decided to kill Gubazes. The king of Lazica immediately learned about it. In 548, Gubazes turned away from the Persians and asked the Byzantines for help. The Byzantine Emperor sent 7000 Byzantines and 1000 Tzani soldiers to Lazica.<sup>12</sup> The troops entering Lazica marched on Petra, and thus the temporarily suspended war with Sassanid Iran resumed.<sup>13</sup>

The Byzantines laid siege around Petra, but were unable to capture it. The siege was gradually prolonged, the Persian warriors tried to drag out the time and offered to negotiate with the Byzantine commander. At that time, the Roman military commander Dagisthaeus did nothing to protect the Likhi passage.<sup>14</sup> The auxiliary forces of the Persians also appeared soon, and Commander Mihr-Mihroe, after he had broken through the passes of the Likhi range, marched directly towards Petra. Upon learning of this fact, Dagisthaeus lifted the siege and with all his forces fled to Phasis.<sup>15</sup>

Mihr-Mihroe reached Petra's garrison in a difficult situation, with the nearly destroyed fort being guarded by only 150 battleworthy men. The commander placed an additional 3000 cavalry in the fortress and ordered the walls of Petra to be reinforced.<sup>16</sup> Mihr-Mihroe's left five thousand men to plunder the villages and supply the fortress of Petra, while he himself moved to Armenia with all his units. This savage army of the Persians was soon destroyed in 549. The Lazi and the Byzantines suddenly took the camp of the enemy and demolished it.<sup>17</sup>

2 Letodiani 2006, 139; Bogveradze 1973, 251.

3 The issue of the localization of Petra will be discussed in more detail below.

4 Proc., *Bell.* 2.15.10, 2.17.3.

5 Letodiani 2006, 140.

6 Proc., *Bell.* 2.15.1–8, 2.15.11.

7 Proc., *Bell.* 2.15.13.

8 Proc., *Bell.* 2.17.

9 Proc., *Bell.* 2.19.47; Letodiani 2006, 140.

10 Gregory 2010, 189.

11 Proc., *Bell.* 2.29.1; Bogveradze 1973, 254.

12 Local inhabitants of eastern Pontus, ethnically close to Lazi.

13 Proc., *Bell.* 2.29.2–11.

14 Proc., *Bell.* 2.29.34.

15 Proc., *Bell.* 2.30.11.

16 Proc., *Bell.* 2.30.15–20.

17 Proc., *Bell.* 2.30.32–48.





Fig. 1. Plan of the major military actions of the Lazic war (541–562)  
(map: T. Darchidze, N. Iremashvili, I. Ugulava with the assistance of N. Khoperia)



In 550, Chosroes sent to Lazica a new military force led by Chorianes. The Persians set up camp on the banks of the Hippis River, while the Lazi and Byzantines fortified themselves on the other side of the river. The Lazi decided to attack the enemy camp independently of the Byzantines, and then the fate of the battle was essentially determined by the death of Chorianes.<sup>18</sup>

The commander of the Byzantines Dagisthaeus, because of his awkward manoeuvres and actions, was replaced by the commander Bessas. There was still unrest in Lazica, complicated by the fact that the Svans (*Suani*) revolted and asked the Persians for protection. Abazgians outraged by the abolition of their autonomy also revolted. In addition to this, the Persians under the command of Nabedes besieged Archaeopolis. After Nabede's attempt to take the city failed, he fortified himself in Mukhuri (Kutaisi region) and northeastern Lazica ended up in his hands.<sup>19</sup> Though the allies managed to repel the Persians from Apsilia and Abazgiya. In 551, the Byzantines and Lazi transferred all military forces to Petra to capture it. Bessas was well aware that it would be difficult to fight the Persians in Lazica without taking over the town of Petra, as the contact with the Byzantine bases, located south of Petra was disrupted.<sup>20</sup> Petra was more or less prepared to meet the allies. The Byzantines were unable to make use of siege engines, but took the fortress at the cost of great losses. They razed Petra's walls to the ground so that the enemy would not interfere with them again in the future.<sup>21</sup>

With a large army, Mihr-Mihroe again marched towards Lazica. On the way, he learned about the fall of Petra, so he changed the direction of his march and headed for the capital Archaeopolis, where the military forces of the Huns joined the Persians. Archaeopolis was defended by 3000 men, while the rest of the army was in a fortified place at the confluence of the Phasis. They managed to pass to the other side of the river, and thus Mihr-Mihroe was unable to fight them. On the way back, the Persians were attacked by the Byzantines who suddenly left Archaeopolis. In an uncompromising battle, the Persians suffered a severe

defeat. Mihr-Mihroe retreated to Mukhuri (Kutaisi) and dug in for the winter.<sup>22</sup>

By a temporary truce concluded in 552, the Byzantine Empire recognized the sovereignty of the Persians on the territory of Lazica occupied by Mihr-Mihroe. The whole eastern part of the kingdom of Lazica was subordinated to Persian control.<sup>23</sup> By the end of the year, the Persians took the Ukimerioni fortress from the relaxed Byzantines by means of a sudden assault, that meant that the kingdom of Lazica partly lost control over its central territory.<sup>24</sup> Outraged by the inactivity of the Byzantine commanders, king Gubazes demanded that Justinian punish the commander Bessas and other high-ranking military officials. Bessas was recalled from Lazica by the Emperor. In 554 the Byzantine commanders, who remained in Lazica, treacherously killed Gubazes near the Khobistskali river, where he had presumably arrived for a negotiation.<sup>25</sup>

Indignant at the murder of their king, the people of Lazica refused to continue the fight together with the Byzantines, however the idea of renunciation from the Byzantine Empire did not find support in the society. The people of Lazica demanded that the Emperor punish the assassins of the king Gubazes. In response to this, Emperor Justinian sent to Lazica the senator Athanasius, whose mission was to settle the existing problem.<sup>26</sup> The Emperor nominated Tzathes – brother of Gubazes as the king of Lazica. A show trial was also held over the murder of the king Gubazes – two commanders were publicly beheaded.<sup>27</sup>

In 555 the Persians invaded deep into Lazica, but were defeated first near Archaeopolis and then next to the Phasis. After the defeat, the Persian commander Nachoragan fled to Kartli and Chosroes cruelly punished him – he had him skinned alive. Chosroes I was convinced that his policy in Lazica was defeated at this point and therefore first he made a temporary truce with the Byzantines, and then in 562 made a longer, fifty-year truce in the city of Dara, according to which Chosroes recognized the Byzantine sovereignty over Lazica.<sup>28</sup>

18 Proc., *Bell.* 8.8.34–36; Khoperia 2020, 19–23.

19 Proc., *Bell.* 8.9.1–6.

20 Lomouri 2009, 88.

21 Proc., *Bell.* 8.11.12.

22 Proc., *Bell.* 8.13.1–23, 8.14.

23 Proc., *Bell.* 8.15.12–15.

24 Proc., *Bell.* 8.16.13.

25 Agathias, *Hist.* 3.71; Lomouri 2011, 201.

26 Lomouri 2011, 82.

27 Lomouri 2011, 125–127.

28 Despite the truce, the Persians did not completely abandon Lazica. Finally, the Byzantines invaded Svaneti in 575 and the local nobles, on whom the Persians relied, were taken captive. After that, the Persians finally left western Georgia. Moreover, Iberia and Armenia were engulfed in revolts, prompting Byzantium to use these events to their advantage.



Fig. 2. General view of the Petra Acropolis (photo: credit by Cultural Heritage Preservation Agency of Ajara)

The kingdom of Lazica was abolished by the Treaty of Dara. In 570, when Tzathes II died, the actual power over Lazica passed into the hands of Patricius. The kingdom of Lazica became an ordinary province of Byzantium. In such a condition, the individual principalities of the kingdom no longer recognized the unified authority of Lazica. An era of feudal fragmentation began in western Georgia.<sup>29</sup>

Such is the brief history of the Byzantine-Persian confrontation in Lazica in 541–562.

### Archaeological evidence of the siege and fall of Petra

We have to reconstruct the vicissitudes of the Lazica War through the writings by Procopius of Caesarea. His works should be considered mainly as a reliable source. It is important that information provided by the written source is comprehended along with the archaeological artefacts. We can say that through the new archaeological finds at Petra-Tsikhisdziri fortress, the various episodes of the Lazica War, indeed dramatically described by Procopius, have been revived.

Archaeological research in the area of Tsikhisdziri has a long history. Initially the attention of researchers was attracted by the remains of antiquities situated on the elevated hill near the sea shore (Fig. 2). Later random discoveries were made, followed by archaeological reconnaissance

and small-scale excavations. It should be mentioned that the site has been significantly damaged in recent times, this began during the process of the construction of a railway at the end of the 19th century, when its western part fell down and the stone was extracted from it. Damage to the monument continued further in the 1930s when the southern part of the fortress was demolished as a result of deliberate explosions, while the limonarium was constructed immediately east of the monument.<sup>30</sup> A full scale archaeological study of the Tsikhisdziri fortress began in 1962 and with more or less intensity lasted until 1988. Exactly in this period, the castle acropolis, fortification systems, baths, auxiliary buildings, churches, etc. were investigated and important conclusions were made on the purpose of the monument, its stratigraphy and the discovered archaeological objects. The traces of an urban settlement were unearthed in the northern low-lying area of the fortress where the remains of church buildings, baths and public structures were examined and also a contemporary burial ground was found.

It seems that settling of this area and its development are related to the early epochs. A settlement of the Late Bronze-Early Iron Age has been discovered and investigated in Tsikhisdziri, as well as the dwellings of the 8th–6th centuries BC. Archaeological monuments of the Tsikhisdziri plain are evidence that active life here dates back more to the ancient era. Cultural strata of the Hellenistic and Late Antiquity-Early Middle Ages have been

<sup>29</sup> Letodiani 2006, 147.

<sup>30</sup> Inaishvili N. 1993, 6.





**Fig. 3. 1 – General view of the wall connecting the two hills of the acropolis of Petra;  
2 – Tower no. 5 (photo: credit by Cultural Heritage Preservation Agency of Ajara)**

studied. Archaeological studies held here for the years have proved, however, that Tsikhisdziri is mainly a very important monument of the early Middle Ages period.<sup>31</sup>

Archaeological work in Petra-Tsikhisdziri has been resumed in recent years.<sup>32</sup> David Mindorashvili has already published several interesting papers on the results of research conducted here, where important conclusions have been made.<sup>33</sup> Under preparation is also a publication on the results of the second phase of work (2020–2021).

In 2016, excavations were carried out in the extreme southern section of the so-called corridor, connecting the southern and northern hills of the castle acropolis and also in the northern section of the eastern wall of the double wall there (Fig. 3.1).<sup>34</sup> It should be mentioned that archaeological work on the western side of the so-called corridor was already underway in 1962–1966, when the doorway and a quite large rectangular tower, attached to the wall on the west (Tower number 4) were studied.<sup>35</sup> In 2017, the corridor, connecting two towers of the acropolis was completely cleaned out. This revealed one more Early Medieval tower (Tower number 5), attached on the east to

the western double wall of the ‘corridor’.<sup>36</sup> The tower has a square plan and massive walls, the maximum width of which basically reaches 1.4 metres and is built of stones of different sizes using mortar. It seems that the structure had several storeys.<sup>37</sup> The tower has a 1 m wide arched entrance on the west side.<sup>38</sup> During the excavations of the Tower number 5, partially preserved hearths, fragments of various types of pottery and building ceramics were discovered (Fig. 3.2). The military items and numismatic artefacts found in the tower which enable key conclusions to be drawn are of particular importance. Below we will review them in the context of events that unfolded in Petra.

### **The Persian garrison of Petra**

As follows from the written sources, Petra was conquered by the Persians already at the first siege, during the second assault. Neither the castle, nor the buildings of the acropolis were destroyed significantly as a result of military actions. The fall of the fortress was mostly caused by the collapse of one of its walls and the death of the Byzantine commander.<sup>39</sup> It can be supposed that, since they held the castle firmly for a long time, the Persians used

31 Inaishvili A. 1974, 102–153; Inaishvili N. 1993, 5–14.

32 Archaeological study of Petra-Tsikhisdziri is carried out by the Cultural Heritage Preservation Agency of Ajara. Archaeological work carried out in 2016–2017 were directed by D. Mindorashvili, and in 2020–2021 by G. Tavamaishvili.

33 Mindorashvili 2020, 214–234.

34 Mindorashvili 2016, 1–2; Mindorashvili 2021, 7–8.

35 Inaishvili A. 1974, 102–153.

36 There is an assumption that the eastern wall of the boundary, consisting of the fortifying walls, parallel to the so-called corridor, may be a construction of a later period than the western fortifying wall, on which the Tower number 5 is attached. In my opinion, building of this wall was not planned from the beginning of the construction of the fortress. The connection of this wall with the acropolis, another part of the defensive structure, located on the southern hill, has not yet been identified. The appearance of this wall is also different – on the western side it has vaulted “arches”, the purpose of which is also unclear.

37 Mindorashvili 2017, 2–3.

38 Mindorashvili 2021, 9.

39 Khoperia 2019, 170–176. The Persians dug a tunnel under one of the towers, at the level of the foundation, brought timber there and set fire to the walls, which soon caused the tower to collapse. It seems that the Persians were quite experienced in the methods of besiegement. They used various means to enter the fort in the same battle: smashing the gate with a battering ram, attacking the battlements with arrows and using scaling ladders.

the castle infrastructure to a maximum degree, including the reserves that remained there and the fort's inventory, etc. It seems that the garrison, stationed here in 541–551 was periodically supplied with food, obtained as a result of the raids of the surrounding countryside, which was naturally insufficient, so the main supply for the garrison was received from Iberia.<sup>40</sup>

Material, found in the Tower number 5 of Petra shows that the wheat was ground by the Persian garrison on the spot. Remains of wheat (*Triticum aestivum* L.)<sup>41</sup> were found together with a piece of chainmail as well as being represented by other discovered samples of carbonized cereals. The fact that the wheat was ground on the spot is confirmed by the stones of querns – only in this single tower, five stones were found.<sup>42</sup> Similar querns were found in Tsikhisdziri in the other part of the acropolis during the excavations carried out in the 1960s.<sup>43</sup> It seems that the Persian garrison of Petra had fairly good reserves of wheat and flour. This fact is confirmed by the abundance of kitchenware (earthenware vessels – pithoi, clay pots, jars, louterions) and dining vessels (jars), also the grinding stones. Especially impressive is a great number of amphorae, in which the wheat was supplied to the garrison and was also stored.

Part of the garrison was comprised by the cavalry – this is proved by a bridle found in the tower. It is noteworthy that along with wheat samples, the remains of barley (*Hordeum vulgare* L.) are found as well, which would have been used to feed the horses. Sickles, found in the tower along with combat equipment are thought to have been used for cutting the grass for feeding the horses.<sup>44</sup> Barley could not be the main and sufficient food for horses during the long stay in the castle. Considering this it is therefore quite probable that the warriors fed the horses primarily with harvested grass. In the absence of a sufficient stock of grass during the siege, barley was naturally added to the horse's ration.

It is interesting to note the harness and the equipment of the Persian besieged at Petra. The discoveries in the Tower number 5 show that the Persians made good use of the local Byzantine or Laz trophy weapons, or those left in the local or fortress warehouses, which they seized af-

ter the capture of Petra. The discoveries made here allow us to better imagine a soldier's ammunition and combat equipment (Fig. 4).

We have examined a damaged metal helmet (25 cm in diameter), that had been forged from one piece of metal, and had a bronze strip attached to the edges, with the traces of decoration of bosses and rings on it. It is seen that the chainmail found nearby was fixed to the helmet around the neck area (Fig. 4.2).<sup>45</sup> The damaged remains of other helmets have previously appeared during the excavation of the Acropolis of Petra along with chainmail elements. It is noteworthy that the chain shirts were also found in three different places.<sup>46</sup> It is interesting that numerous iron plates of armour were found at different places in the tower, in some places they were also observed in the form of a big pile. The warriors' equipment naturally included a shield as well. Among the materials from Tsikhisdziri there are three examples of shield umbos (Fig. 4.1). These are hemispherical in shape and have an iron grip in the centre, a flat flange is attached to the bottom, in which there are rivet holes. It seems the shield was made of wood, covered with leather, but these parts are not preserved.<sup>47</sup>

There were various types of combat weapons used by the warriors, fortified in Petra. They included daggers, swords, spears, bows and arrows, battle axes and knives.

A dagger found here is short (13.5 cm), with oval edge and less pointed tip, it does not have a ridge or the furrow. There was a single-edged sword (80.5 cm long) and a double edged one (90.5 cm long) (Fig. 4.3). Researchers point to the East, mostly Iran, as the distribution area of such kind of swords.<sup>48</sup> There is a great diversity of spearheads (Fig. 4.10). Among the finds, five types of spearheads may be singled out – they differ from each other in their size, shape of the ridge and blades and the type of socket.<sup>49</sup> The longest spearhead (32.5 cm long) of the third type is not new for the Tsikhisdziri artefacts. Similar spearheads are known from the Early Medieval burial grounds of Tsikhisdziri.<sup>50</sup> Interestingly, in southwest Georgia, in two Early Medieval burials at Pichvnari, the spear butt was also found with the spear-

40 Janashia 1949, 92.

41 Grains were identified by the palaeobotanist N. Rusishvili: Mindorashvili 2021, 35.

42 Mindorashvili 2021, 33.

43 Inaishvili A. 1974, tab. XII.2.

44 Mindorashvili 2021, 29.

45 Mindorashvili 2021, 20.

46 Inaishvili A. 1974, 145.

47 Mindorashvili 2021, 19.

48 Gabuev 2014, 45; Kubik 2017, 195–210.

49 Mindorashvili 2021, 22–23.

50 Inaishvili N. 1993, 83.

head, which help us to determine the presumable length of the spear – 1.75 m and 2.1 m.<sup>51</sup> Numerous iron arrow heads are found among the materials of the Tower number 5 of the acropolis of Petra. They are distinguished by the shape of their edges, one prolonged, rectangular in cross section and three-bladed barbed arrow heads are distinguished. Presumably also a small rectangular item with an attached oblong hook is related to the equipment of an archer. Excavations carried out in the Tower number 5 have revealed six battle axes – the hafting holes of all of them have a round cross section. The axes are grouped into four types according to the handle slot, edge, shape and size of the axe body (Fig. 4.4–9).<sup>52</sup> The length of an axe edge fluctuates from 12 to 17 cm, and the height – from 12 to 21 cm). One comparatively solid axe of a particular type, with a high hammer like back and a curving body, was earlier reported from Georgia from the site of the early Byzantine era.<sup>53</sup> It should also be said that another form of axe, one with a flattened, quadrangular shafting hole, a narrow neck and a short blade is known from Tsikhisdziri. It has been identified among the early medieval burial inventories found in Tsikhisdziri.<sup>54</sup>

The two completely preserved iron knives, with the rivet holes, for firm attachment to the wooden haft, should also belong to the warrior's equipment. Both are single edged, one is 22 cm long and the other 13 cm long. An artefact of an oval shape, obtained in excavation of a tower allows us to suppose that it could have been a warrior's hand band or a shin guard. Here were also found several items, the purpose of which is not clear at the moment and they require further study. Such is a brief overview of equipment of the warriors based in the fort at Petra.

The commander of the garrison needed a certain amount of money to cover different expenses, like salaries for the soldiers, urgent purchases, necessary for the fortress, or the expenses, related to the military and intelligence activities. A well-preserved hoard of Sassanid coins, unearthed in the Tower number 5 of the acropolis of Petra consists of 94 silver coins. Four more coins were found in different parts of a tower. Interestingly, the latest among the coins is one, minted in the name of Chosroes I (531–579) which helps

us to precisely determine the date of the accompanying materials found in the tower.<sup>55</sup> Sassanid drachmas were randomly found in the area of Tsikhisdziri even in the first half of the last century.<sup>56</sup> A drachm of Chosroes I was found in the same period in Kobuleti (7 km north of Tsikhisdziri).<sup>57</sup> One more drachm of Chosroes I is preserved in the Archaeological Museum of Batumi.<sup>58</sup> The circulation of these coins in south western Georgia was not occasional and their discovery here can be related to the military actions that took place here or, to be more precise, this is related to the prolonged presence of the Persians in Petra (Fig. 5).

The presence of the Persian garrison in Petra can be divided into two periods: the period from the conquest of Petra till the uprising of the Lazi, before the second besiegement of Petra (549) was more or less peaceful. In the given period, there were no signs of confrontation between the Persians and the local population. On the contrary, the holders of the Petra fortress should have had certain contacts with the locals. The Persian garrison still maintained caution given that a significant threat in the form of the Byzantines was still very close. It is probable that the Byzantines had a certain part of their army based in Apsaros. It was said in an overview of the Great Lazic War that the people of Lazica revolted against the Persians in 549 and again asked the Byzantines for the help.<sup>59</sup> Interestingly, the request of the Lazi people was met relatively soon. Most likely the forces that were based in Apsaros along with the bordering Tzanika, undertook an instant assault on the Petra fortress, which ended in the defeat of the Byzantines.<sup>60</sup> The second period of Petra's Persian garrison began with this unsuccessful attack of the commander Dagisthaeus. Since this time, the garrison had moved into a mode of a defence and the fort's gates remained mostly locked. It is true that the siege of Petra no longer continued, but a joint assault of the Byzantines and the Lazi was easily predictable.

Despite the repulse of the Byzantine assault and maintaining the fortress, Petra's Persian, garrison suffered heavy losses. According to Procopius only 150 people remained in the Petra garrison. With the arrival of auxiliary forces to the fortress, this shortage was replenished and the number of castle defenders increased by 3000 warriors.<sup>61</sup>

51 Kakhidze, Vickers, Mamuladze 2000, 72.

52 Mindorashvili 2021, 24–25.

53 Kakhidze, Vickers 2004, 128–129.

54 Inaishvili N. 1993, 83.

55 Mindorashvili 2021, 31.

56 Janashia 1949, 43–44.

57 Varshalomidze, Dzneldze 2021, 302. This is interesting in the sense that we can better date the artifacts and be able to connect them to the vicissitudes of the Great Lazic War.

58 Varshalomidze 2016, 29.

59 Lomouri 2011, 199.

60 Proc., *Bell.* 2.29.10–11.

61 Proc., *Bell.* 2.30.15–30.





Fig. 4. Armour and equipment (after: Mindorashvili 2021, 110–112)



Fig. 5. Drachmas of Chosroes (observe, reverse) (photo: credit by Batumi Archaeological Museum)

The Persian commander instructed the garrison to restore the damaged sections of the fortress. It seems that before the next Byzantine attack, the defenders of the castle were busy fortifying the fortress, filling in the tunnels that had been dug by the Byzantines during the second siege, and reconstructing the damaged towers.

In Batumi Archaeological Museum, we have examined the materials obtained through the archaeological excavations of the Tower number 5 of the acropolis of Petra. Our attention was drawn by the diversity of building ceramics, collected in the 30 sq. m area of the tower. In the materials of only this section we identified no less than four types of flat-bottomed tiles with curled edges.<sup>62</sup> Tiles of two more different shapes were identified on the site, adjacent to the tower. This indicates that a variety of available covering materials were used for the roofing of the sections, essential for the defence of the Acropolis. The defenders of the castle did not have access to enough ceramic materials and other resources necessary for the roofing of towers. Because of this they apparently did not follow the unified arrangement of tiles or any principle of roofing. They made use of the materials that were available in the area

of the fortress or its closest surroundings. Examining this issue further is one of directions of our future research and here we will not continue discussing it further.

#### **The final besiegement of Petra, the main sections of the military operations and the final destruction of the fortress**

As known, the Persian forces, led by Chorianes, entered Lazica in 550. Their aim was to restore a certain military balance and take care of the defence of Petra and its enforcement, but they were unexpectedly defeated.<sup>63</sup> The second invasion of Persians, also under the commandment of Chorianes, was unsuccessful as well. In my opinion, the mistake of the Persian military campaign of the year of 550 lies in the fact that strengthening of the garrison of Petra and improvement of its condition practically was not achieved. This mistake predetermined the future outcomes of the Lazica War. At a certain point, the Persians comprehended their mistakes and made attempts to turn back the situation. They made a third attempt to send new forces to Lazica, this time to defend Petra, but it was too late. Upon entry to Lazica, the Persians learned that Petra had fallen.

<sup>62</sup> Darchidze 2022, 118–121.

<sup>63</sup> Heather 2018, 230.

The Byzantines and Lazians, after having destroyed Nabe-de's forces, lost no more time and directed all their forces towards Petra. They managed to concentrate twice as many soldiers at Petra than before. Petra was more or less ready to face the allies. The Persians were able and managed to restore that part of the fortress that was destroyed or damaged during the previous siege. Of course, the allies thought that the Persians would try to save Petra, and they hurried, intensifying their assault on the fort.

During the besiegement of Petra, the allies applied the modernized version of the battering ram – called *crio*, which was mastered at the spot by the Huns fighting on the Byzantine side. Using the instrument, the Byzantines tried to ram the defensive curtain walls of the castle.<sup>64</sup> Presumably the assault was directed towards the eastern part of the castle. The latest archaeological excavations made it more clear that the entry to the castle was located on the low plain situated between the two hills of the acropolis of the castle.<sup>65</sup> It is true that this area seems to be heavily fortified with towers, but apparently it was still a relatively vulnerable place. Only here was it possible to use a ram or build a battle tower. It was here that a fierce battle took place between the Byzantines and the Persian garrison of the fortress.

Attempts to ram the gate and the boundary were repulsed by the Persians by throwing fire pots from the wooden towers.<sup>66</sup> At this battlefield, or the boundary, connecting the two hills of the castle acropolis, the Tower number 5 was found attached exactly to the east side of the fortified wall,<sup>67</sup> indicating that its purpose was to guard and control the gate and the eastern perimeter of the fortress in general. At this stage of the battle, the tower brilliantly served this purpose.

Breaking down of the strong defensive walls of a fort situated on two high hills and engulfing it in fire is a difficult task, especially without proper equipment and powerful siege engines, for the use of which the terrain around Petra is unsuitable. So, under the leadership of the commander Bessas, the Byzantines attempted to penetrate Petra using scaling ladders, making it difficult for the Persians to repel the crowded assaults. The situation was aggravated by the collapse of the wall, which put the garrison in a desperate situation. They tried to launch negotiations to gain time, but without any success.<sup>68</sup>

Procopius states that the Byzantines set the lower part of the castle on fire.<sup>69</sup> While attacking the fortress they had such an opportunity only at a single place – the gate and the corridor, situated in a comparatively small depression between the two hills. A fiery attack (possibly by the archers too) would have been carried out from a high hill, directed towards the gate. The materials obtained on this site allow us to fully restore this dramatic picture. The traces of fire are detectable on the ceramic tiles; tableware was burnt as well as other pottery kitchenware, which was apparently stored here. It seems that after ignition of the castle roof, the fire caused burning and collapse of the roof supports. Even the chain mail, which has survived was transformed into a uniform mass as a result of the fire.<sup>70</sup> It seems the main part of the Persian warriors were concentrated in this section of the castle during the Byzantine assault. Here was discovered a hoard of Sassanid coins. It can be supposed that the commander of the garrison watched the battle from this tower – he was occupying a defensive position in the tower with several warriors and together with his personal equipment held the money that was at his disposal. In the same tower at the level of the earthen floor of the first storey, there was found a hearth made of an inverted clay pithos-like vessel (*dergi*) and bricks. Apparently, the warriors did not leave the perimeter of this part of the fortress even for food.

The assault of the Byzantines on the eastern defensive wall of the fortress was quite powerful. The whole area of the building was full of pieces of the collapsed walls, and the tower collapsed as a result of fire and destruction. David Mindorashvili specifies that the south wall of the tower has been repositioned and deviated by 0.40–0.45 m. The eastern wall of the perimeter was heavily damaged, which was also dislodged from its foundation and split into two parts. The north wall of the tower is damaged as well. As a result of the leaning back of the walls, a quite wide free space appeared between the ground and the walls, which was filled with items burnt by the fire. The thickness of the fire layer here is 1.90 m.<sup>71</sup> This proves that the tower had collapsed during the fire and not after it. Naturally, the military actions would not have been ended by the operations happening in this part of the fortress.

After occupying the gates of the fortress and the low-lying area, the Byzantines assaulted the main position, located on the upper, northern hill of the acropolis. During ex-

64 Proc., *Bell.* 8.11.27–35; Khoperia 2019, 186–187.

65 Inaishvili A. 1971, 75–90; Mindorashvili 2021, 39–40.

66 Proc., *Bell.* 8.11.36.

67 Mindorashvili 2021, 43.

68 Proc., *Bell.* 8.11.39–54.

69 Proc., *Bell.* 8.11.60–62.

70 Mindorashvili 2021, 17.

71 Mindorashvili 2021, 11.



cavations carried out here in the 1960s the layers of the torched remains of the 6th century and parts of a helmet and a chainmail shirt were discovered.<sup>72</sup> The last defenders of Petra (up to 500 soldiers) were defending themselves on the northern hill of the acropolis, inside the fortress, and besieged by the Byzantines. The Persian warriors were offered the chance to surrender, but they did not agree, continued to fight and were killed there.<sup>73</sup> The Byzantines levelled the defensive boundary of Petra to the ground to prevent it from being again a powerful weapon in the hands of the enemy.<sup>74</sup>

The statement of Procopius that the Byzantines mainly destroyed the walls of the fortress seems quite plausible. Archaeological excavations and their analysis confirm that the fortress had been destroyed purposefully. In the process of works carried out in 1962–1965, it became clear that the southern towers of the castle and the walls of the corridor connecting them were broken off at the foundation level, and the chronological framework of the artefacts excavated here dates back to the 4th–6th centuries. One of the distinguished researchers of Tsikhisdziri, A. Inaishvili noted that the walls of the southern part of Petra fortress seem to have been demolished simultaneously and thoroughly.<sup>75</sup> The demolition of walls and buildings also affected the main acropolis of Petra. It seems that after the Great Lazic War, the functioning of the Petra fortress as a military base had finally been terminated.<sup>76</sup>

After the deterioration of Petra's fortification systems, the fortress lost its military significance and it was no longer involved in military actions. By capturing Petra, the Byzantines had eliminated a key point for the Persians. This eventually led to their expulsion from the eastern Black Sea.

Only later (since the 10th century AD), did restoration of the walls of the northern hill of the acropolis at Petra begin. It should be mentioned that a new defensive wall emerged in the acropolis, which bordered a comparatively small part of a fortress.<sup>77</sup> Even later, a comparatively small hall church and buildings of various purposes were restored on

the site of a former three-nave basilica. The upgrade did not affect the southern part of the castle, which had already become a part of history.

### **The issue of identification of Petra with Tsikhisdziri**

Recently the concept of the identity of the Tsikhisdziri site with Petra has become more and more reliable and convincing. This was essentially promoted by the collation of the written sources with the recent archaeological discoveries obtained in Tsikhisdziri and the results of studies of the architectural complexes.

The search for the military-strategic fortress Petra, which was built by the Byzantines and its identification with this or that monument of the south-eastern Black Sea coast has a long history. After the early archaeological reconnoitring works in Tsikhisdziri, the idea emerged that it was the Tsikhisdziri fortress that was Petra, and this remains the main opinion today.<sup>78</sup> Nevertheless, other alternatives to the localization of Petra have been proposed,<sup>79</sup> and some of them remain popular in academic circles. This especially refers to the well-known theory by G. Grigolia on the possible identity of Petra with a site situated near the contemporary city of Hopa (Republic of Turkey).<sup>80</sup>

My point of view coincides with the traditional view on the localization of Petra and I would like to provide some additional arguments. Rethinking individual episodes of the Great Lazic War, together with considering the recent archaeological discoveries, allows us to do this. I will compare this with the concept of identifying the fortress Petra with Hopa.<sup>81</sup>

The river Boas-Phasis, mentioned by Procopius in his writings about the site is matched to the contemporary Ch'orokhi (Georgian).<sup>82</sup> There is a hint in the source that this is used as the main finding indicating that the localization of Petra coincides with the territory adjacent to Hopa. However, the fact is provided as proof that the fortress lo-

72 Inaishvili A. 1974, 145.

73 *Proc., Bell.* 8.11.63, 8.12.1–3.

74 *Proc., Bell.* 8.12.28.

75 Inaishvili A. 1974, 126.

76 The study of the matter is complicated by the unfortunate circumstance that in the early Soviet years the buildings of the southern hill of the acropolis were blown up and the crushed stones were removed from the site. Moreover, cultural strata were cut at the southern hill of the acropolis and a restaurant was built there.

77 Tavamaishvili 2021, 4.

78 Janashia 1949, 42; Khoshtaria 1953, 17; Sikharulidze 1959, 98; Inaishvili A. 1971; Inaishvili A. 1974; Muskhelishvili 1977, 102–108; Melitauri 1971, 16–20; Lekvinadze 1973; Khoperia 2017, 16; Mindorashvili 2020.

79 Kaukhchishvili 1965, 33–35; Svanidze 1998, 21–30.

80 Grigolia 1994.

81 Grigolia 1994, 63.

82 Grigolia 1994, 38.

cated south of the contemporary city of Hopa is similar to the description of the city provided by Procopius. In addition, the hydronym Petro-Ghali is identified near Hopa, which means the rock ravine.<sup>83</sup> As to Tsikhisdziri itself, G. Grigolia identifies it with the Second Sebastopolis, mentioned in his *Geography* by Ptolemy and verifies this by referring to the archaeological material of the Roman epoch, discovered in Tsikhisdziri.<sup>84</sup>

My view on the identity of Petra and Hopa is the following:

Let us recall one of the important episodes of the Great Lazic War. By the request of people of Lazica and on behalf of the Byzantine Emperor Justinian, Daghistheus, together with the people of Tzanika besieged Petra in 549. It seems that the strategic task of Daghistheus was to capture Petra, to reinforce the positions here, then to attack the central part of Lazica, fortify Phasis and support the rebellious Lazi people. In parallel to Petra's siege, Chosroes's military units were to break through the Likhi passes and continued their way towards Petra. Instead of capturing the fortress, Daghistheus lifted the siege and ran towards the Phasis fortress. If we consider Petra as lying in the territory of Hopa, then under such circumstances, why would Daghistheus have run towards Phasis, as Hopa is quite remote from Phasis? If Petra was indeed in Hopa, then it follows that for the reasons of defence, Daghistheus should have retreated towards the south, as the rearguard, the border with the Byzantine Empire should have been south of Hopa. If we suppose that Daghistheus indeed ran from Hopa to Phasis, then he should have met the enemies before reaching Phasis, he would not get to the city ahead of Chosroes's army. But at this stage Daghistheus did not intend to fight the units of the enemy. As the first part of his strategic task was not accomplished (he had failed to capture Petra), he rushed to Phasis in order to get rid of the Persian army and to launch a new attack together with the Lazi, which eventually is what happened.

In my opinion, the localization of Petra should be supposed to have been close to Phasis for the reason that Daghistheus should have entered Phasis and waited there for Goubaz. Before Chosroes's military units, which

crossed over the Likhi passes would have reached Petra-Tsikhisdziri, Daghistheus could go ahead and fortify his positions in Phasis. Then the Persians, fearing that Petra would fall, would have bypassed Phasis and moved on to Petra, whose garrison was in dire need of auxiliary forces.

In relation to the above episode of the Lazic war, we can additionally say that in 549 Daghistheus instantly appeared at Petra together with the people of Tzanika. In my opinion, along with the conflict with Persians, which started in Lazica, the Byzantines would have partly reconstructed the abandoned Roman castellum and used it to support the military operations in Lazica. The extensive assemblage of the Early Medieval ceramics, discovered in Apsaros, especially amphoras and their diversity,<sup>85</sup> allows us to think that the fortress became a strong point on the frontier of the Byzantine Empire. This was a kind of a rearguard and the supply hub, first for the military garrison of Petra, and later, for the units, involved in military operations ongoing in different directions in Lazica. In 541, after the fall of Petra, the Byzantines located their main border units in Apsaros. Procopius, describing the news of Lazica, notes that the once beautiful city of Apsaros has been reduced to ruins, but he still considered it as a functioning city.<sup>86</sup> For example, he mentioned that it was a day's journey from the town of Apsarunt to the city of Petra and the border with of Lazica.<sup>87</sup> In addition, Agathias points out that the killers of the Laz king Gubazes were imprisoned in the jail of the city of Apsarunt.<sup>88</sup>

It is clear that the fortress of Apsaros gained a new functional significance in a very short, limited interval of time. Proof of this is the fact that the discoveries of this era in Gonio-Apsaros appear directly with the coins of the Emperor Justinian and no material from the previous period was found.<sup>89</sup> The fact is that Apsaros provided supplies of food to the garrison of Petra and other military units, as it seems that the long-term stocks of the foodstuff were created here.<sup>90</sup>

In my opinion, the factor of Apsaros turns upside down the hypothesis about the localization of Petra in Hopa. Written sources directly indicate that the traveller, heading

83 Grigolia 1994, 77.

84 The author refers to both – accidental finds related to Tsikhisdziri (Roman stamped bricks, as well as a treasure consisting of gold valuables) as well as late antique buildings and numismatic material unearthed as a result of archaeological excavations: Grigolia 1994, 95–96.

85 Fragments of pots, jars, as well as red slip bowls and trays, studied as a result of archaeological excavations in layers of the 6th century, are implied. A clay oil lamp, fragments of a glass mug, coins of Emperor Justinian the Great (527–565), one shoulder of a bronze cross, etc. were also found. There are also many tiles from this period. A large number of seven different types of amphorae dated by 4th–7th centuries have also been studied at Apsaros: Mamuladze, Khalvashi, Kakhidze 2009, 407–410.

86 Proc., *Bell.* 8.2.14.

87 Proc., *Bell.* 8.2.21.

88 Agathias, *Hist.* 3.14.

89 Mamuladze, Khalvashi, Kakhidze 2009, 408.

90 Khalvashi 2002, 42–52; Khalvashi, Kakhidze 2005, 34–39; Mamuladze, Khalvashi, Kakhidze 2009, 405–418.

southwards from Petra, met the Roman frontiers where Atina – (Pazar, Greek: Αθήνα), Rize and other localities, like Arqabe (Arhavi, Laz: Arkabi) and Apsarunt were located. The latter, according to Procopius lay three days distance from Rize.<sup>91</sup> Thus, Apsaros fell within the boundaries of the Byzantine Empire. D. Muskhelishvili suggests that the border line run along the river Chorokhi and the borders of the Lazi included the lower reaches of the Chorokhi river.<sup>92</sup> Moreover, there is an opinion that in the 6th century, the Byzantine border reached even the Tsikhisdziri fortress.<sup>93</sup> Thus it is less likely that Petra was located south of Apsaros, as it was said that: “the coastal city, named Petra was built in the country of Lazi”.<sup>94</sup> According to Procopius Apsarunt was in a one-day distance from the borders of Petra and Lazica.<sup>95</sup> Petra in its turn is located a little more than one day’s distance from Phasis. If we consider Petra as being in Hopa, then it is unclear where should be considered Apsarunt, considering the fact that Hopa is away from Phasis by 2–3 days distance. “He (this refers to as Ioannes Tzibos) also persuaded the emperor Justinian to build a city by the sea in Lazike, Petra by name”<sup>96</sup> underlining “Lazike” here. Hopa most likely fell into the area inhabited by the people of Tzanika. According to Procopius, the people of Tzanika left the escaped Daghis-theus, and they “after plundering the Roman camp, proceeded straight for Rizaion”.<sup>97</sup> I think that Hopa belonged to the ethnic and geographic range of this region and the retreat to Rize can be considered as a digression from Tsikhisdziri to the south, towards the same Hopa, Rize, etc. This remark by Procopius points to the possible place of settlement of the people of Tzanika.<sup>98</sup> The historian also adds that “from there (here is considered Rize) they came to Atina and got back home via Trapezunt”.<sup>99</sup> If we suppose that Hopa is a part of the region, populated by the people of Tzanika, then what should it mean that the retreat of the people of Tzanika, meant their “return back, home”? This can only mean that the people of Tzanika fought with Persians not near Hopa, but in a more remote, northern area, closer to Phasis. In this way, we are led to the idea of the identity of Petra and Tsikhisdziri.

It is clear from the historical sources that the city-fortress of Petra could close the road, connecting Lazica and the Byzantine realm. The traveller or, moreover, a military unit, heading from Byzantium to Lazica, would not be able to avoid passing it. It must be said that due to its location it would be more difficult for the fortification point of Hopa, to control this road. This is suggested by the fact that the road, passing along the Black Sea coast had many crossings in the river valleys in eastern Tzanika as evidenced by the rich road infrastructure which survived until now. Because of this it would have not be difficult to get around a Petra sited at Hopa.<sup>100</sup> On the other hand, there is another noteworthy circumstance – the Persians who entered Lazica, bypassed all the cities and manage to besiege Petra.<sup>101</sup>

If we identify Petra with Hopa, then the Persians would inevitably pass Tsikhisdziri and Apsaros, they could not bypass them under any circumstances. One might consider how “strategically important” the fortress of Hopa would be for the Byzantines themselves, if it could not control the strategic route. The Persians could have blocked the military-trade route, connecting with the Byzantine Empire near the Tsikhisdziri fortress and thus exclude it from the military-political processes, ongoing in Lazica. That is why the fortification of the military position near Hopa is strategically unreasonable for the Byzantines.

In relation to the city of Hopa, it should also be noted that it is unclear where the urban settlement is meant. We know that a river flows in nowadays Hopa which divides the city into two parts. If we consider the urban settlement on the territory of contemporary Hopa, then, why does Procopius not mention the river in the city, and why it does not appear in the military events that took place near Petra? In the recent years, Georgian archaeologists have become more familiar with the remains of a fort located south of Hopa. It became clear that its construction characteristics differ from those of Byzantine fortifications.<sup>102</sup> It is true that the fortress is actually difficult to access and its location is quite impressive, but it does not have the character, which Petra, as a trade and military base, should have. We can

91 Proc., *Bell.* 2.28.22, 8.2.11.

92 Muskhelishvili 1977, 95.

93 Letodiani 1997, 59–68.

94 Proc., *Bell.* 2.15.10.

95 Proc., *Bell.* 8.2.21.

96 Proc., *Bell.* 2.15.10.

97 Proc., *Bell.* 2.30.14.

98 Muskhelishvili 1977, 94.

99 Proc., *Bell.* 2.30.14.

100 Mamuladze, Kakhidze 2014, 85–90.

101 Lomouri 2009, 87.

102 Mamuladze, Kakhidze 2014, 85–90.

consider it as the Arqabe, referred by Procopius, which, he says, is located between Atina and Apsarunt.<sup>103</sup> The existing remains of the Hopa fortress as a Khuphati fortress may be related to the process of construction by Georgians of border fortifications in this region which took place later.

Another feature in favour of the identity of Petra with Tsikhisdziri is the rich archaeological material, obtained recently in Tsikhisdziri, which allows us to precisely date the fortress, the military operations, which took place there and also brings them in a full compliance with the written sources. In addition, study and analysis of the episodes of Great Lazic War, as well as the analysis of the routes of military groups, military trade routes, toponymy and, most importantly, of the archaeological material from the Early Byzantine era obtained in southwestern Georgia, convinces us that Petra should indeed be identified with the modern Tsikhisdziri fortress.

### Conclusion

Recent archaeological discoveries allow us to better understand the vast amount of written sources, related to the

Great Lazic War. The archaeological excavations at Tsikhisdziri and their results have shed light on various controversial issues, including the location of Petra, clarified the stratigraphy of the acropolis of the Tsikhisdziri fortress, the purpose of the buildings, etc. It also helps to specify the role and purpose of Apsaros in the 6th century. The excavated archaeological materials enrich our knowledge about the Early Byzantine era in terms of the relations between western Georgia and the Byzantine Empire. Future large-scale archaeological studies of Tsikhisdziri will allow expansion of our understanding of the development of urban life in southwestern Georgia.

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<sup>103</sup> Proc., *Bell.* 8.2.11.

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# A Boundary Stone Discovered in the Sevan Lake Basin

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## Abstract

*The text below is a small contribution to the corpus of the Aramaic inscriptions discovered in Armenia. The inscription was engraved on a so-called boundary stone discovered near the shores of Lake Sevan. The discovery belongs to the group of similar inscriptions recorded in this region and doubtlessly is a reflection of the distribution and spatial organization of arable land and defining of the borders between the land owners.*

## Keywords

*Armenia, Aramaic inscriptions, boundary stones, Orontid dynasty, land distribution*

## Preliminary information concerning the inscription

The most recent epigraphic discoveries in the Sevan Lake basin of Armenia doubtlessly belong among the most significant and very rare objects which may have been recorded during all the archaeological research conducted in the field. Such discoveries certainly are very unique, especially in the territories of the Republic of Armenia. Hence, every single inscription gives us an opportunity to extend our knowledge of the writing (epigraphic) practices and culture of writing applied in Ancient Armenia. The inscription engraved on a boundary stone discovered in the Sevan Lake Basin belongs to a collection of epigraphic documents that should be presented to all students and academics who are researching the ancient sources from the Caucasus zone.

A boundary stone, examined for the first time by the present writers just after its discovery, is stored in the regional

museum of the city of Gavar, in the Gegharkunik region of the Republic of Armenia (Figs. 1–3).<sup>1</sup>

The shape of this artefact is similar to that of other boundary stones discovered in the same area by researchers who were recording archaeological remains during the course of the last hundred years or so. The oldest of such objects were found in 1906 by Yervand Lalayan. So far, we have fifteen recognized boundary stones discovered mainly in the lake Sevan region. The object analyzed below is the most recent of similar discoveries in Armenia.

This particular boundary stone was found by Ashot Philiposian and his team during a survey in the Gegharkunik region, the village of Landjaghbyur, in a place called “Gevo’s field”. The object is hewn out of a dark grey, basalt slab. Similarly to most of the already known boundary markers, three rounded crenulations had been carved into the top of the stone as a finishing adornment of the epigraphic artefact. The central, rectangular area of

<sup>1</sup> Thanks to the financial support of the by National Science Centre of Poland (grant 2018/29/B/HS3/01843) it was possible to extend the research field.



the stone features a five-line, Aramaic inscription. The lower part of the stone is slightly narrower, making it easier to embed in the ground.

### The inscription

The text on the stone was chiselled out in an incompetent way. The letters are not the same in size, as a consequence of which the words do not form horizontal lines. This would suggest that the person responsible for the job either did not have sufficient skill for cutting inscriptions into a hard surface such as stone, or else they were not an experienced writer. Furthermore, the stone carver's amateurish manner is visible in their graphic representation of each individual letter. The difference in the size of the characters varies from 11 cm up to 22 or 23 cm.

The text of the inscription did not survive fully intact, with some letters being almost completely obliterated, especially on the right side of the stela where fragments had been chipped from the edges. While some of the inscription is unfortunately missing, it was still possible to reconstruct the text. The inscription can be read as follows:

1. 'RTHŠS[Y]
2. [M]LK [B]R DY
3. ZRTY 'RWNTW
4. [HLQ] 'RQ
5. [BY]N QRY[']

This translates as:

1. Artashes
2. the king, son of
3. Zarty Orontid
4. divided the territory
5. between the villages

### Comments

The word 'RQ is a "plural emphaticus" form. Most probably this word is originally Greek, from the word *χώρα*.

The word QRY['] has a nominal form QRYH, which means a village.

### Conclusions

Taking into consideration that so far we have at our disposal sixteen similar inscriptions, including the present analysed text, it is possible to make a hypothesis on why such stone blocks were left mainly in the Lake Sevan basin.<sup>2</sup> Only four known inscriptions have been discovered



Fig. 1. A boundary stone, full shape of the object (photo: K. Jakubiak)



Fig. 2. A boundary stone, the inscription text enlarged (photo: K. Jakubiak)

in regions that are far from the lake. Three of them were discovered in the northern part of Armenia, and only one in the southern part of the country. The frequency of occurrences of boundary stones in the Lake Sevan area do not seem to be accidental.

The localization of so many inscriptions along the lake's southern shores is also striking. The answer to the general question of why those texts were found to be relatively numerous at Lake Sevan most probably lies in several aspects of the regional landscape, which possibly influenced the land's importance in ancient times. The first aspect is quite obvious: Lake Sevan is the only large fresh water reservoir within the territory of ancient Armenia. The second factor that also needs to be taken into account, is that the south-

<sup>2</sup> Dupont-Sommer 1946; Hakobyan, Hmayakyan 2008.

ern shores were very good arable and fertile land. Those two factors can shed some light on the boundary stones phenomenon. Most probably during the reign of Artashes I (Artaxias in Greek) as there was a rearrangement and a new definition of the arable land borders between the villages situated in that part of the kingdom. Some reflection of that process can be found in Movses Khorenatsi's testimony.<sup>3</sup> It is characteristic that those inscriptions were engraved in Aramaic rather than in the Greek language. This fact seems to indicate that the Greek language had been purged from the kingdom's administration. Some artefacts inscribed in Aramaic that were discovered in Artashat (Artaxata in Greek) seem partly to confirm that supposition. On some clay bullae, were visible Aramaic inscriptions.<sup>4</sup> A stone plate discovered in the ruins of Artaxata was also inscribed in Aramaic.<sup>5</sup>

We still do not know how deeply the Aramaic language was rooted among the Armenian elite or among the commoners. That question seems to be crucial especially in the Sevan basin. It is highly possible that this language was not so generally used, but the fact that boundary stones were inscribed in Aramaic had a symbolic significance. The independence of Armenia was a fact; so, in the dawn of self-governance in the times of the Orontid dynasty, a new manifestation of that fact was greatly needed that was free of any foreign influences. Most probably the Aramaic language became a feature and visible element of the new administration's face, and played a propaganda role both within the society and for neighbouring powers. The unskilled writing of those Aramaic inscriptions seems to support such a thesis. Most probably there were still no sufficiently skilled stone workers who knew how to engrave monumental inscriptions in any official way. All of the inscriptions discovered in the Lake Sevan basin seemed to have been chiselled into the stone blocks by copying original handwritten (cursive) texts given to the workshops. In our opinion, all the texts were more or less good imitations of the original documents, reproduced



Fig. 3. The inscription in the field, in situ (photo: T. Zakyan)

without any, or with very little, understanding of the tenor. That is why, as it can be assumed, we have here two likely scenarios, which could play an important role in our correct understanding of the purpose of such a density of inscribed boundary stone installations. First of all, most probably during the rule of Artashes, a new cadastral organization of the Sevan basin was needed. We still do not know the reason for that new rearrangement, but in light of the inscriptions discovered in that region, such a rearrangement was a fact. It cannot be excluded, however, that the Aramaic inscriptions on the boundary stones played symbolic and propaganda roles showing a new direction in the internal and external policy of the Orontid dynasty. In other words, the Aramaic inscriptions were manifestations of the independent policy of Armenia in the 2nd century BC.

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<sup>3</sup> Dedeyan 1986, 95–96.

<sup>4</sup> Hačatrân, Neverov 2008, 222–223, fig. 1017b–1028/2.

<sup>5</sup> Arakelân 1982, pl. XLI.



# The So-Called “Sunburst Lamps” Found in Apsaros

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## Abstract

*This article focuses on the analysis of two fragments of clay oil lamps discovered during Polish-Georgian excavations carried out in the Roman fort of Apsaros (modern Gonio, Georgia). These fragments deserve special attention as they lead to considerations about the history of the last phase of the Roman fort's operation - before its destruction in the middle of the 3rd century CE. They differ significantly from the rest of the group of lamps and fragments discovered at the site both in terms of typology and morphology.*

## Keywords

*Black Sea, Apsaros, oil lamps, Roman lamps, sunburst lamps, ribbed lamps*

## Introduction

The Roman fort of Apsaros is located on the coast of Colchis (modern Gonio, Georgia), at the mouth of the Chorokhi river. Its history and role in the defence system of the limes Ponticus have been systematically discovered.<sup>1</sup> The latest research results of the Polish-Georgian<sup>2</sup> archaeological mission have shed light not only on the construction of the fort<sup>3</sup> in the times of Nero, its role in the Parthian wars, but also on the destruction and abandonment associated with the invasion of Boranoi.<sup>4</sup>

Among the archaeological finds, clay lamps constitute a relatively small group – taking into account the standards of Graeco-Roman sites. Among 53 lamps and their fragments discovered between 2014 and 2021,<sup>5</sup> the following main provenance groups can be distinguished:

- local lamps,
- imports from the northern coast of Asia Minor,
- imports from the southern coast of Asia Minor,
- examples attributed to the Pontic region.

The last of the discussed groups include two fragments, for which the morphological structure differs significantly from the others. Their dating should be associated with the last phase of use of the Roman fort.

## The state of research on oil lamps found in Colchis

Lamps discovered in Colchis – especially its coast, have never been the subject of systematic, extensive research. The most important study for lamps from the region is a Georgian publication by Maia Charkviani based on

1 The remains visible on the surface were described by Lekvinadze 1961, 225–242. Systematic excavations have been carried out at the site since 1995.

2 Polish-Georgian archaeological excavations in Apsaros have been carried out since 2014 in the central part of the Roman fort under the supervision of Shota Mamuladze and Radosław Karasiewicz-Szczypiorski, to whom I would like to thank for the opportunity to study the lychnological material.

3 Karasiewicz-Szczypiorski, *in print*.

4 See: Jaworski 2021, 127–134.

5 The research on which this article is based was made possible through financial support from the National Science Centre in Poland UMO-2017/26/M/HS3/00758.

lamps found in Iberia and Colchis (including several examples found in Apsaros).<sup>6</sup> Among the forts located off the coast of Colchis, lamps have been published from Sebastopolis (Dioskurias)<sup>7</sup> and Pityous<sup>8</sup> (Fig. 1). Single examples or assemblies appeared in the publications from Apsaros excavations.<sup>9</sup> Among them, the broadest study was made by Taniel Ebralidze which included 17 of the lamps discovered there.<sup>10</sup>

One of the biggest issues with studying lychnological material from the eastern and southern part of the Black Sea region is the state and access to the research. The problem was raised by John Fossey in his study *Illuminating the Black Sea in Antiquity*.<sup>11</sup>

### “Sunburst” lamps found in Apsaros

The discussion is based on the two fragments of lamps (Fig. 2) discovered in 2018: one top (1) and one bottom

(2) of a clay lamp (not from the same specimen). The first fragment<sup>12</sup> has a wide handle, a small round discus, and the shoulder decorated with rows of grooves (rays). The nozzle did not survive. The lamp has dimensions of max. length 6.0 cm; max. width 4.4 cm; discus diameter is 2.8 cm. The surface of the lamp is heavily eroded, with the reliefs worn away. It has very pale brown clay (10YR 7/4)<sup>13</sup> with the remains of reddish yellow (5YR 6/6) and shiny grey slip (10YR 5/1).

The second fragment<sup>14</sup> is the bottom of the lamp decorated with a relief on a base in a rosette-shape resembling the rays of the sun. Max. length: 5.2 cm, max. width: 5.4 cm. Clay is pink (7.5YR 7/4), with very small fragment of light red slip (2.5YR 6/6) preserved.

The morphological features allowed for assigning both fragments of lamps to the type known in the literature under the name “rubčaty” (rus. рубчатые), “ribbed”



Fig. 1. Selected Roman cities and forts on the coast of the Black Sea  
(M. Jaworska based on the map from [https://d-maps.com/carte.php?num\\_car=4444&lang=en](https://d-maps.com/carte.php?num_car=4444&lang=en) accessed on 20.01.2024)

6 Charkviani 2014, 5–17, nos. 14–17.

7 Gabeliā 2014, 445, fig. 33; Šamba 2005, 191, fig. 47.2; Šervašidze, Solov’ev 1960, 178; Voronov 1969, pl. 30; Voronov 2014, 237–238, 339; Voronov 2016, tab. 5, fig. 81.

8 Apakidze (ed.) 1978, passim, nos. 78–91; Gambashidze 1977, 134, fig. 24.4; Kiguradze 1977, nos. 78–91.

9 Braund 1994, 184; Kakhidze et al. 2002, 259–260; Mamuladze, Khalvashi, Aslanishvili 2002, 36–37; Plontke–Lüning, Fellmuth, Geyer 2002, 112; Fellmuth 2003, 51–52, fig. 57; Seidel 2003, 61; Ebralidze, Mamuladze 2008, 32–39; Kakhidze 2008, fig. 22; Mindorashvili, Mamuladze 2009, 78; Sulava 2009, 78; Gamkrelidze 2014, 70–71; Kakhidze, Mamuladze 2016, 165, pl. 121–122; Khalvashi, Mamuladze 2017, 193; Mamuladze, Kamadadze 2019, 150, fig. 6.3–4; fig. 7.9–1.

10 Ebralidze 2005, 53–66.

11 Fossey 2003.

12 Inv. no. GA18/121.

13 The descriptions of the clay correspond to the revised Munsell Soil Color Book, 2009.

14 Inv. no. GA18/01/1.





Fig. 2. “Sunburst” lamps found in Apsaros: 1 – lamp top (Inv. no. GA18/121); 2 – lamp bottom (Inv. no. GA18/01/1) (M. Jaworska)

or “sunburst”<sup>15</sup>. This corresponds to the typology of Soročan I-II (Chersonesos),<sup>16</sup> Arsen’eva VI (Tanaïs)<sup>17</sup> and Kuzmanov XXVII (Sofia Museum).<sup>18</sup>

This type covers groups of relatively small lamps with pear-shaped or round features. The upper part of the lamp is decorated with ray-like cuts on the arm. It has a round discus, without decorations, a wide loop-shaped handle and rounded nozzle. On the base, there usually is a rosette resembling the rays of the sun. This type was most extensively described by Sergej Soročan based on the material from Chersonesos, where it constituted 30% of all artificial lightning devices found there.<sup>19</sup> Only there were some examples bearing the inscriptions XRY on the discus and

COY on the base found.<sup>20</sup> Soročan distinguished two sub-types: I – pear-shaped and II – round-egg-shaped.<sup>21</sup>

Other examples of the aforementioned type were found along the coast of Colchis in Sebastopolis.<sup>22</sup>

These lamps are found along the shores of the Black Sea:<sup>23</sup> particularly many in Chersonesos,<sup>24</sup> as well as in Tanaïs,<sup>25</sup> Kuban,<sup>26</sup> Myrmekion,<sup>27</sup> Iluraton,<sup>28</sup> Olbia,<sup>29</sup> Tyras,<sup>30</sup> Panticapaeum,<sup>31</sup> Berezan.<sup>32</sup>

Examples have also been found in the western part of the Black Sea: in Callatis,<sup>33</sup> Tomis<sup>34</sup> and Odessos,<sup>35</sup> and even further, at the Danubian legionary camp at Novae.<sup>36</sup>

15 Chrzanowski, Zhuravlev 1998, 133.

16 Soročan 1982, 44.

17 Arsen’eva 1988, 43–49.

18 Kuzmanov 1992, 38.

19 Soročan 1982, 43–50.

20 Zhuravlev 2012, 24.

21 Soročan 1982, 44–45.

22 Gabeliâ 2014, 445, fig. 33.

23 Žuravlev 2007, 225.

24 Chrzanowski, Zhuravlev 1998, 133–140; Zhuravlev 2012, 23–15; Žuravlev, Kostromičev 2017, pl. 3.4.

25 Arsen’eva 1988, 43–45, pl. IX–XXIII.

26 At Krasnodar State Historical Museum of E.D. Felistyn: Hačaturova 2010, 24, fig. 28.

27 Gajdukevič 1987, 137, fig. 161, no. 2.

28 Gajdukevič 1958, 40, fig. 24, no. 1; Gajdukevič 1981, 119, fig. 32, no. 2.

29 Krapivina 1993, 122, fig. 71 no. 1–3, 5–6; Melent’eva 1969, fig. 3, no. 3; Vetšejn 1975, 187, fig. 5, no. 4.

30 Nicorescu 1933, 589–595, fig. 110–112, nos. 85–88; Son, Soročan 1988, 126, fig. 5, nos. 5–6.

31 Levina 1985; Levina 1992, 60–64, nos. 117–141, fig. 19, 20, 22, tab. 7.56–57.

32 Dupont 2020, 57–58, 99, fig. 29, 142, pl. 40, no. B 69.235.

33 Topoleanu, Croitoru 2015, 148–149, no. 42.

34 Panaitescu 1977, 342, fig. 6.2.

35 Topoleanu 2012, 166–167, no. 100.

36 Čičikova 1987, 180, pl. VIII, no. 61.

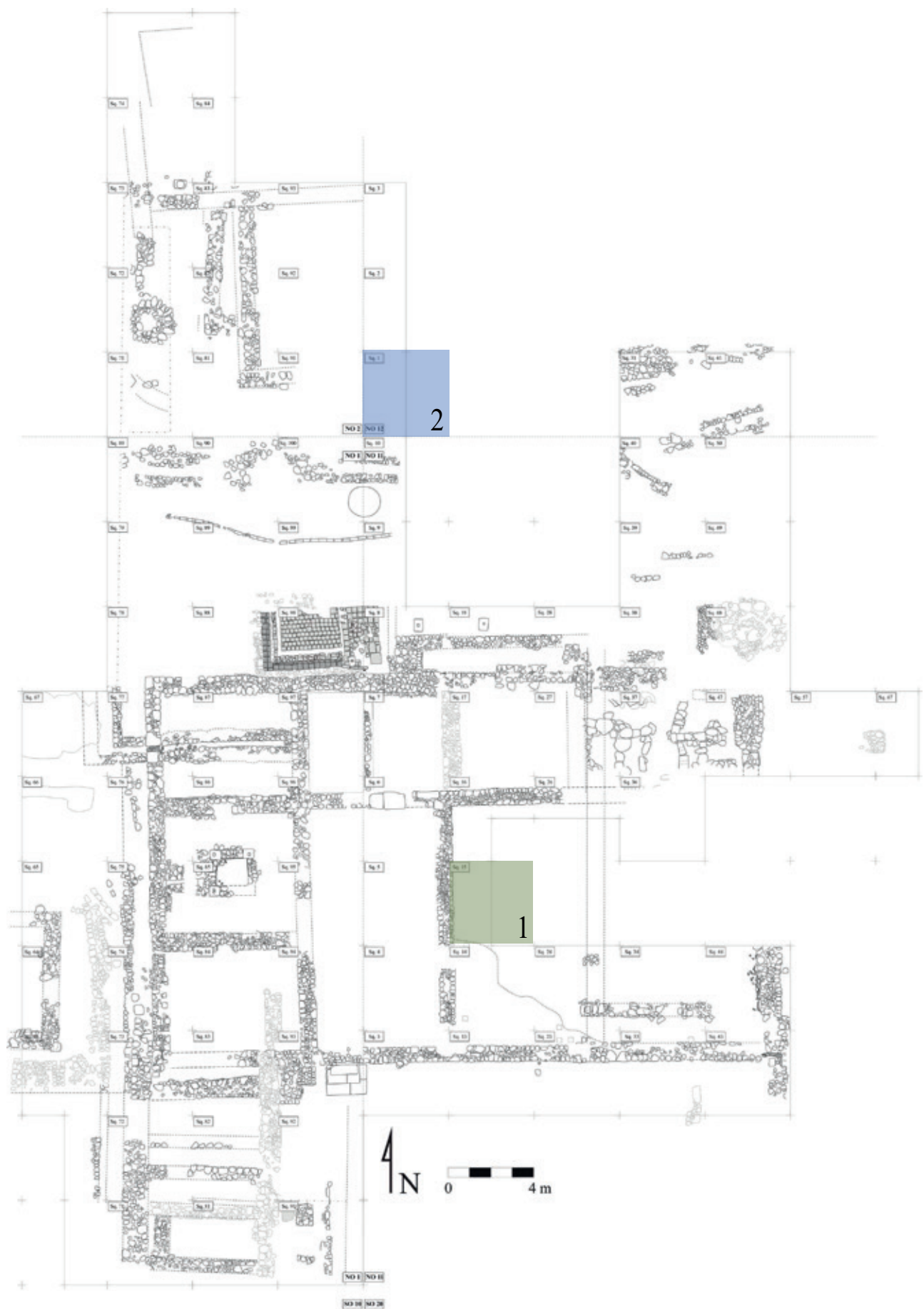


Fig. 3. Polish excavation area in the Roman fort in Apsaros with marked squares for finding spots for lamp top (1) and lamp bottom (2) (M. Jaworska based on the plan drawn by M. Marciniak)

Several lamps of this type are kept in the museums’ collections originating from the Black Sea region, such as Sofia,<sup>37</sup> Varna,<sup>38</sup> Dobrogea,<sup>39</sup> Kyiv,<sup>40</sup> Yalta,<sup>41</sup> Moscow,<sup>42</sup> Warsaw.<sup>43</sup>

While examples of these lamps can be dated back to the 2nd century AD, their production is mainly attributed to the end of the 3rd and the beginning of the 4th century AD. As for the place of manufacture, researchers usually propose local ones for the centre where lamps were found, although there have been attempts to attribute them as imitations of products from Asia Minor.<sup>44</sup>

### Discussion on the archaeological and the historical context

The fragment of the lamp top (1) was found in the mixed layer under the humus together with Turkish-ottoman and modern fragments of ceramics, fibulae and nails. The bottom part (2) was excavated not far away but found in the baulk (Fig. 3).

Unfortunately, the context of the finding spots cannot help with the precise dating of the discussed fragments. Thus, the *per analogiam* dating should be implemented.

There are a few issues that are open to question. The first one is the role of the fragments in the discussion on the “sunburst” type’s connections with Asia Minor. As Denis Žuravlev mentions, some scholars suggested that “sunburst” lamps have influences from Anatolia and Palestine.<sup>45</sup> So far, the lamps found in Apsaros are the southernmost examples found in the Black Sea region. So the question is: are they examples that came from Asia Minor (via trade or as the army’s supply) around the 2nd century AD to be later reproduced in the local workshops? Or are they examples of later 3rd century Black Sea market? Massive findings of this type in Chersonesos and other sites located on the northern and western coast of the Black Sea<sup>46</sup> suggest the second option. Moreover, ribbed lamps found in Palestine differ in shape from those found in Apsaros.

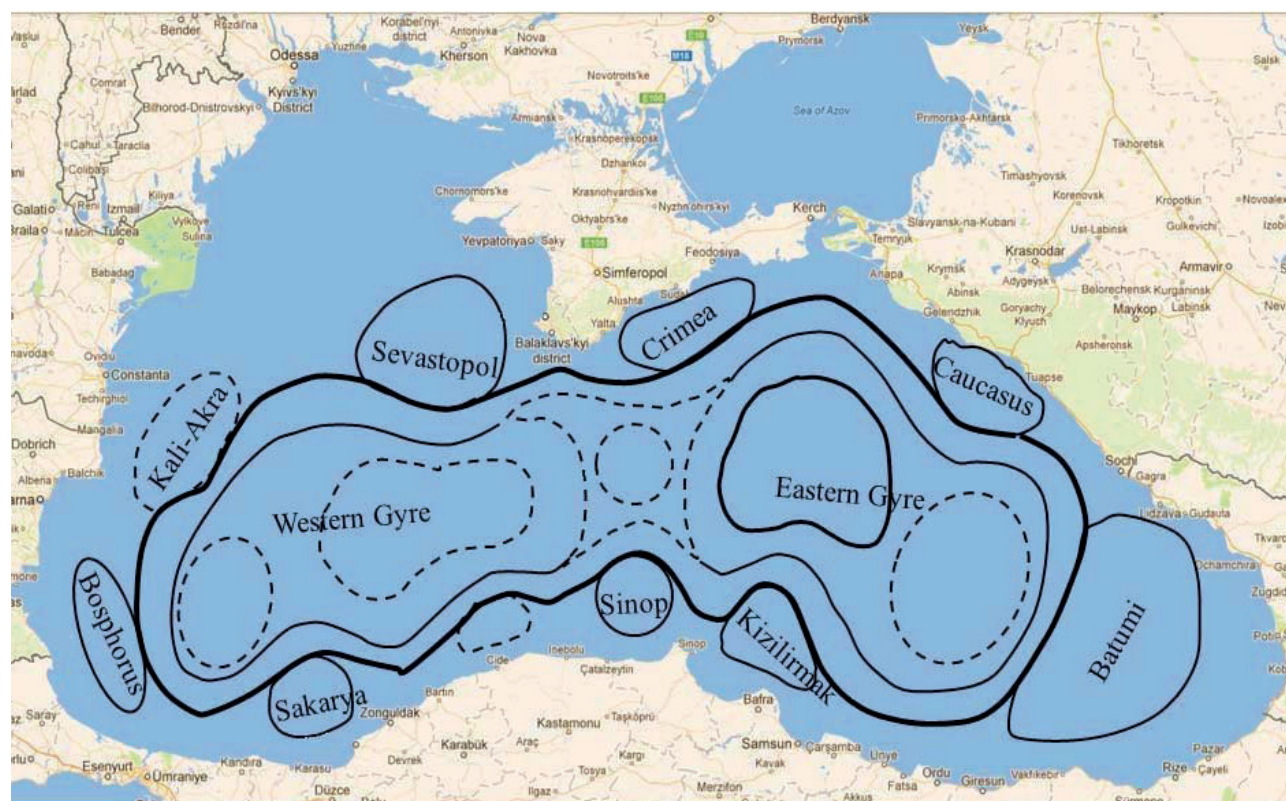


Fig. 4. Schematic map of currents in the Black Sea (Toderascu, Rusu 2013, 1010, fig. 1)

37 Kuzmanov 1992, 38, nos. 277–279.

38 Kuzmanov, Minčev 2018, nos. 397–484, tab. XXIX–XXXIV.

39 Culică 1969, 358, fig. 1.1; Iconomu 1967, 25–26, fig. 155, nos. 670–685.

40 Sheiko, Puklina 2019, 79, fig. 5, nos. 26–33.

41 Žuravlev, Turova 2012, 375–379, pl. 14, nos. 83–87.

42 Chrzanowski, Zhuravlev 1998.

43 Bernhard 1955, 331–333, pl. XCIII.

44 Chrzanowski, Žuravlev 1988, 134.

45 Zhuravlev 2012, 24.

46 The state of research on the lamps found on the eastern coast of the Black Sea is unsatisfactory.

The fabric of the “sunburst” lamps found in Apsaros is similar to the few examples of the local provenance which were confirmed by the results of archaeometric analyses.<sup>47</sup> However, neither the use of shiny grey nor light red slip is a usual feature for the local products. Thus, the *supra* regional provenance is more probable.

As mentioned before, the popularity of the “sunburst” lamps in Chersonesos, as well as the fact that they occur there with the inscriptions suggest the genesis of the type in the northern Black Sea. Thus, it is worth considering, how did the lamps – or their copies, or craftsmen who made them, come to the Apsaros site?

We can read those reflections in the context of the pan-Pontic market including factors such as natural conditions affecting the navigation in the Black Sea like winds and currents (Fig. 4), traditions of contacts, and the army’s supply-chain.<sup>48</sup>

Trapezus must have played a vital role in supplying both army and civilians living in Apsaros. It was the naval base of the Roman fleet (*classis Pontica*),<sup>49</sup> this fact must have played a role in the transfer of goods to the Colchian fort. Moreover, soldiers stationed in Apsaros were paid in coins minted there.<sup>50</sup> Although lamps were never the main cargo

in the ships, they were included as a ‘filler’ of the space left. That is why their place of manufacture does not reflect the direct transfer to the finding spot. They could also be a personal item.

The chronology of the use of the Roman fort and its abandonment in the middle of the 3rd century imposes the *ante quem* dating for the discussed lamps.<sup>51</sup> This assumption indicates that they must have been used in the last of the distinguished phases of the fort’s use, that is during the reign of Hadrian (3rd or 4th phase) until the fall in 255–257 AD.<sup>52</sup>

## Conclusions

The so-called “sunburst” lamps characteristic for the local lamp production in the Black Sea region confirm the pan-Pontic exchange of ideas and goods as evidenced by the lamp finds from Apsaros. Although the type was rooted in the Northern Black Sea region it was produced along the coasts of the Black Sea. The discussed lamps found in Apsaros do not seem to be local. They must have travelled to the fort most probably from the *poleis* in northern Anatolia, such as Sinope, although it is more probable that they came as a transfer from Trapezus, which was an important city for the army’s supply chain.

47 The analyses were conducted by Małgorzata Daszkiewicz in the Archea Laboratorium. The research was funded by the Centre for Research on Ancient Civilizations (CRAC) 6th edition Grant Provenance studies on oil lamps discovered in the Roman fort Apsaros (Gonio, Georgia). The final results will be published in the forthcoming publication.

48 A full picture of the role of Apsaros on the pan-Pontic trade map will be possible only after a complete study of all categories of finds discovered at the site (planned as a separate monograph).

49 Wheeler 2011, 129 and 142–143.

50 Jaworski 2021, 130 and 132–133.

51 Apparently the Roman fort was totally destroyed.

52 The proposed conclusions are based on the monetary finds from Apsaros – cf. Jaworski 2021, tab. 1.



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# Ancient Metal Production Site in the Chorokhi Basin in the Vicinity of the Apsaros Fortress

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## Abstract

*In this work we tried to show the material connected to the ancient iron metallurgy which was revealed and studied on the territory of historic Colchis, in the vicinity of Gonio-Apsaros site in the Chorokhi gorge. Studies on the ancient centre of iron metallurgy in the Chorokhi basin began as early as 1960s. On the left bank of the river Chorokhi, in the territory of Charnali and Gonio farms, several iron-smelting workshops sector were revealed which were conventionally labelled “Charnali I”, “Charnali II” and “Charnali III”. Simultaneously, the archaeological excavations began at Gonio-Apsaros site on the new Black Sea terrace, on the territory of a dune settlement.*

*In 2001–2002 on the archaeological study of the iron production centres in the Chorokhi gorge was renewed. The excavations have revealed an iron-smelting workshop conventionally named as “Avgia I” with two furnaces (“Avgia I-1” and “Avgia I-2”). One kilometre away from this site, in 2002 – another two iron smelting workshops were studied “Khopcho I” with two furnaces (“Khopcho I-1”, “Khopcho I-2”) and “Khopcho II” (furnace “Khopcho II”). All components necessary for metallurgical production are present in this region: at a distance of some kilometres from the centre of this manufacturing area are copious deposits of magnetitic sands on the Eastern Black Sea littoral, the local forest massifs provided for the production of any kind of charcoal required for bloomery furnaces and in the same region there are abundant deposits of refractory clay. This area thus offered all the conditions for starting large scale metallurgical production.*

## Keywords

*Colchis, Chorokhi iron, slag, smelting*

A lot of suggestions and theories have been expressed on the topic of the initial cradle of iron production. Nonetheless, the questions of how, where, when and who first mastered and became acquainted with iron is still the subject of debates. The problem will not be solved until the relevant archaeological sites are identified and appropriately investigated. Georgian researchers have achieved reasonable success in the matter. During the last 60 years, Georgian archeologists discovered one of the most impor-

tant areas of iron mining and smelting in western Georgia at the eastern coast of the Black Sea, in the territory of historical Colchis, reaching from the vicinity of Gonio up to the Great Caucasus Ridge.<sup>1</sup> As a result of archaeological research, iron smelting workshops of different capacity and different ages have been identified. This key centre united six iron production areas and contained a few hundred sites. It should be noted that no metallurgical centre of such intensive production has been found in the entire

<sup>1</sup> Gzelišvili 1964; Khakhutaishvili D.A. 1964; Hahutajšvili (Khakhutaishvili) D.A. 1987; Khakhutaishvili D.A. 2009; Khakhutaishvili N.D., Tavamaishvili 2001.

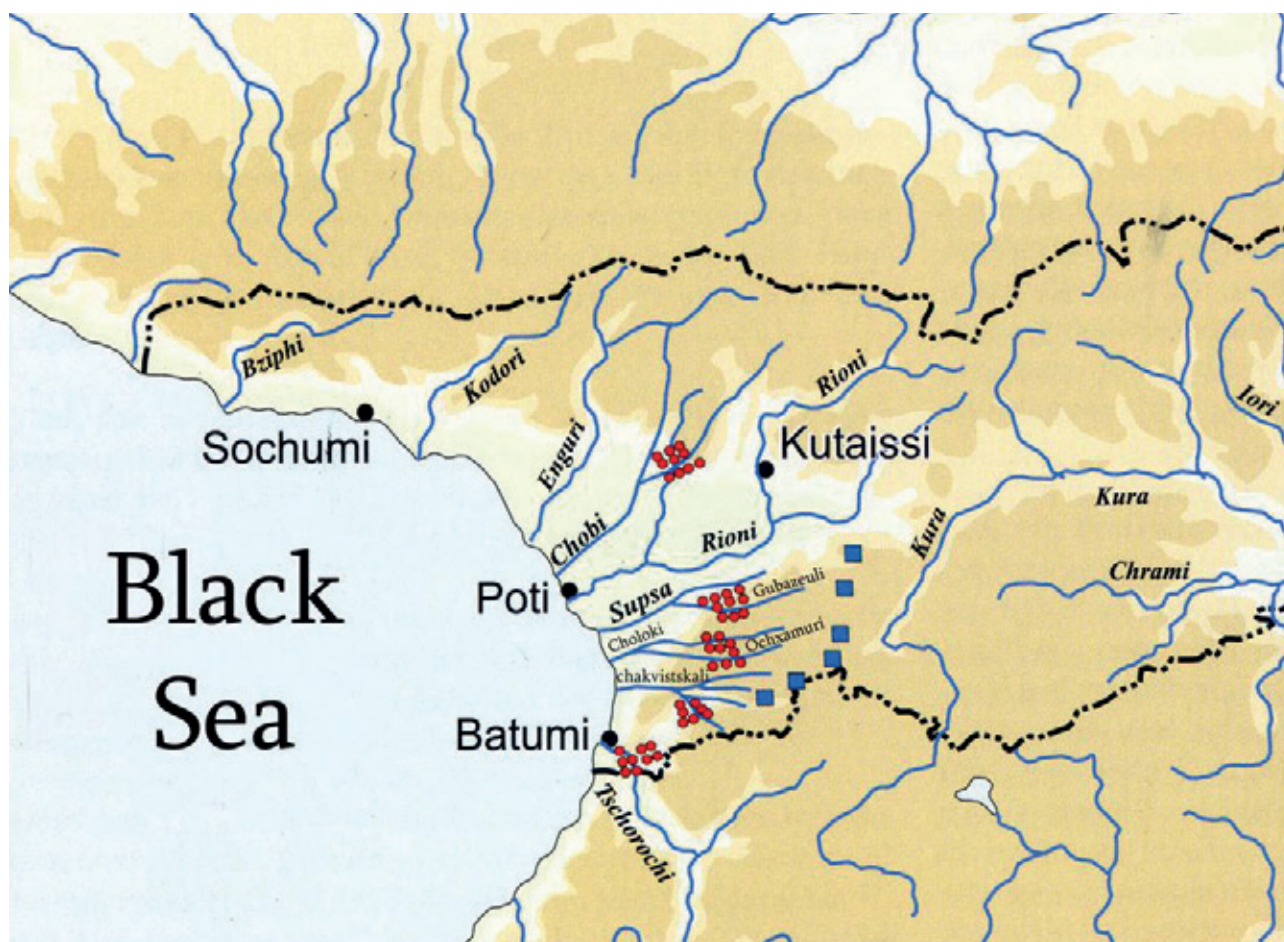


Fig. 1. Location of iron-manufacturing centres in ancient Colchis (after: Khakhutaishvili N.D. 2001, 182, fig. 1.)

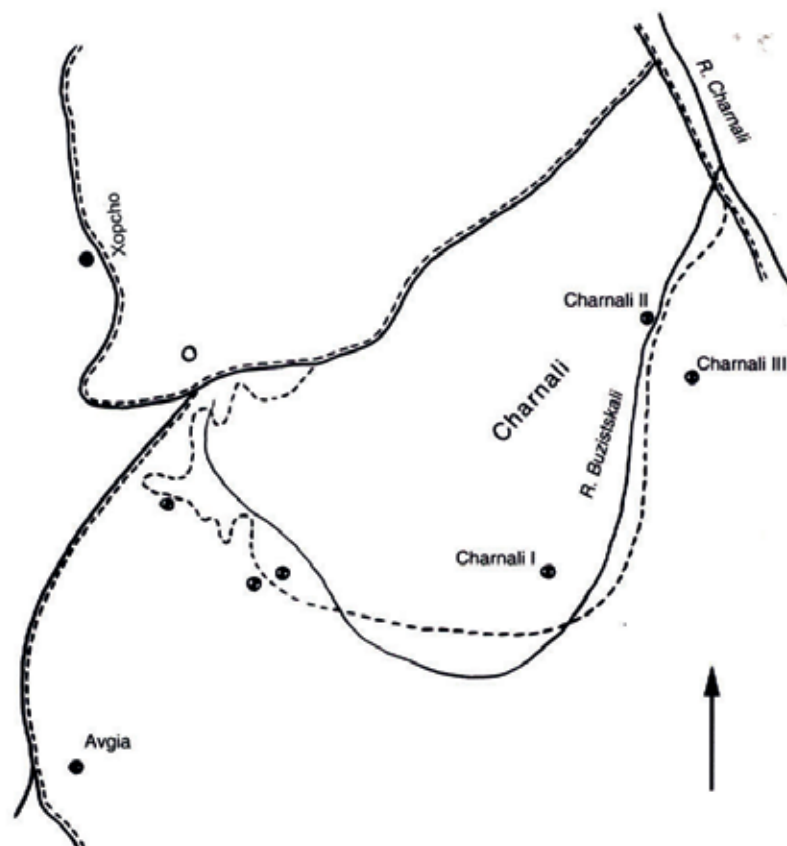


Fig. 2. Location of separate groups of iron-smelting workshops of the Chorokhi Production Centre in the vicinity of Apsaros fortress (after: Hahutajšvili (Khakhutaishvili) D.A. 1987, 44, fig. 1a; Khakhutaishvili D.A. 2009, 20, fig. 1a).



Ancient Near East so far. The sites concerned are mostly located in the valleys of the rivers Chorokhi, Chakvist-skali, Cholokhi-Ochkhamura, Supsa-Gubazeuli and Khobi Ochkhamuri (Fig. 1). The obtained materials indicate that the Eastern and Southeastern Black Sea region (historically Colchis) represented an important region, where local inhabitants, at the end of the 2nd millennium BC and the beginning of the 1st millennium BC were familiar with iron smelting technology.<sup>2</sup> Professor David Kakhutaishvili believed that at the beginning iron was mostly the subject of export.<sup>3</sup>

It is noteworthy that the authors of antiquity were also interested in the production of ancient iron in their time. Ancient Eastern and ancient Greek sources suggested that the ancient iron producers were the Chalybes and the Tubals (Tabal-Tiberians) living in northern Anatolia (southern Black Sea coast). In the Urartian epigraphy, iron is mentioned only once, in connection with the Culkha (a tribal union of southwestern Georgia). According to the source, King Sardur II of Urartu invaded the country of Culkha, its royal city of Ildamusha, and made an iron ring there.<sup>4</sup> In the Bible is mention of “Tubal-Cain, who forged all kinds of tools out of bronze and iron”;<sup>5</sup> Xenophon in *Anabasis* mentions that the Chalybes were earning their living by smelting iron under the hegemony of Mossinicos.<sup>6</sup> Euripides in his tragedy *Alcestis* refers to the “iron in the land of Chalybes” and his scholiast explains that “the Chalybes are the people of Pontus, where there are iron mines”.<sup>7</sup> Apollonius of Rhodes in his *Argonautica* paints the hard work of Chalyb-metallurgists in rather dark colours:

*“there (at the confluence of the Thermodont River) is the Dionata Plain, and there are three Amazonian cities near it; and then the most unfortunate, brave Chalybes, who follow iron processing, live on rocky and gloomy land [...] They neither cultivate the land with oxen, nor produce any sweet fruit, nor do their herds graze on wet pastures. They dig up the heavy soil containing iron, they change it (iron) for food [...] In black soot and smoke they do their hard work”.*<sup>8</sup>

The first concrete information about the Chalybe mastery of iron-steel production is found in Pseudo-Aristotle. He points out that the production of Chalybe and Amiss iron is special and it is obtained from the sand brought by rivers. Only this iron does not oxidize, but its extraction takes place in insignificant quantities.<sup>9</sup> Thus, according to Pseudo-Aristotle, the Chalybes long ago possessed the secret of making high-quality iron.

According to Georgian scholars, the Chalybes belonged to the Chan (Western-Georgian) branch of the ethnic Kartvelian tribes and inhabited the southeastern Black Sea coast.<sup>10</sup> However, there are other considerations as well.<sup>11</sup> In this connection, it is not without interest to mention that in Old Georgian, as well as in the languages of several Caucasian peoples, steel was denoted by the term “Çanari”, i.e., Chanian.<sup>12</sup> The Chans were one of the groups of Colchian (Kartvelian) tribes to which the so-called Chalybes also belonged. It is noteworthy that iron production in the Chalybe settlement area did not stop even in the late period. During his voyage in 1869 to Lazistan (historic Chaneti, present-day Turkey), near the river Shershiut-Chai (Tripoli-Chai) gorge, on the territory of Karasuk, many inactive mines were shown to Th. Deyroller. In them, he found fragments of iron ore and tools, and while exploring the nearby mountains, he collected excellent specimens of iron ore on the surface of the earth.<sup>13</sup> Other authors also cite the existence of iron production residues in this area.

A group of specialists believe that establishing the Iron Age began with smelting meteoric iron. However, a vast majority of the researchers believe that the earliest use of iron was supported by long-term empirical knowledge and experience of smelting copper and bronze which led to the discovery of the secret of iron-steel smelting. This opinion is shared by European,<sup>14</sup> as well as Georgian scientists, who believe that meteoric iron smelting could not lead to the mastering of such a thorough technical or technological process as the extraction of bloom iron from ore, since

2 Papuashvili, Khakhutaishvili N.D., Kakhidze 2021, 127–132.

3 Hahutajšvili (Khakhutaishvili) D.A. 1987, 118–124.

4 Melikišvili 1959, 199; Melikišvili 1960, 304–305; Giorgadze 1988, 238–261.

5 *Gen.* 4.22.

6 Xen., *Anab.* 5.5.1; Mikeladze 1967.

7 Eur., *Alc.* 980; Latyšev 1947, 280, 292.

8 Apoll. Rhod. 2.174.

9 Ps.-Arist., *Mir. Ausc.* 48; Kakhchishvili 1969, 66–68; Kakhchishvili 1976, 68.

10 Melikišvili 1959, 199–200; Mikeladze 1974, 114–149.

11 Bittarello 2016, 497–534.

12 Rekhviashvili 1953, 30–40; Rekhviashvili 1964, 193, 199, 202, 206.

13 Dejrol' 1871, 18–26; Hahutajšvili (Khakhutaishvili) D.A. 1964, 49.

14 Zimmer 1917; Wright 1939; Rickard 1941; Wertime, Muhly (eds) 1980; Pigott 1982; Wertime 1983; Muhly et al. 1985; Tylecote 1987; Waldbaum 1999; Pleiner 2000; Muhly 2003; Erb-Satullo, Gilmour, Khakhutaishvili 2017; Erb-Satullo, Gilmour, Khakhutaishvili 2018; Erb-Satullo, Gilmour, Khakhutaishvili 2020.

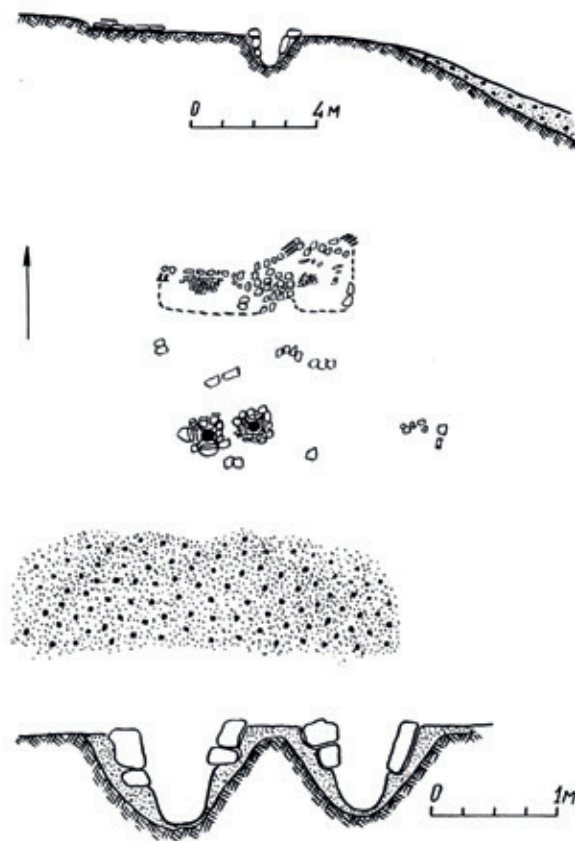


Fig. 3. Iron-smelting workshop "Charnali I". General ground plan and sections (after: Hahutajšvili (Khakhutaishvili) D.A. 1987, 46, fig. 2; Khakhutaishvili D.A. 2009, 22, fig. 2)

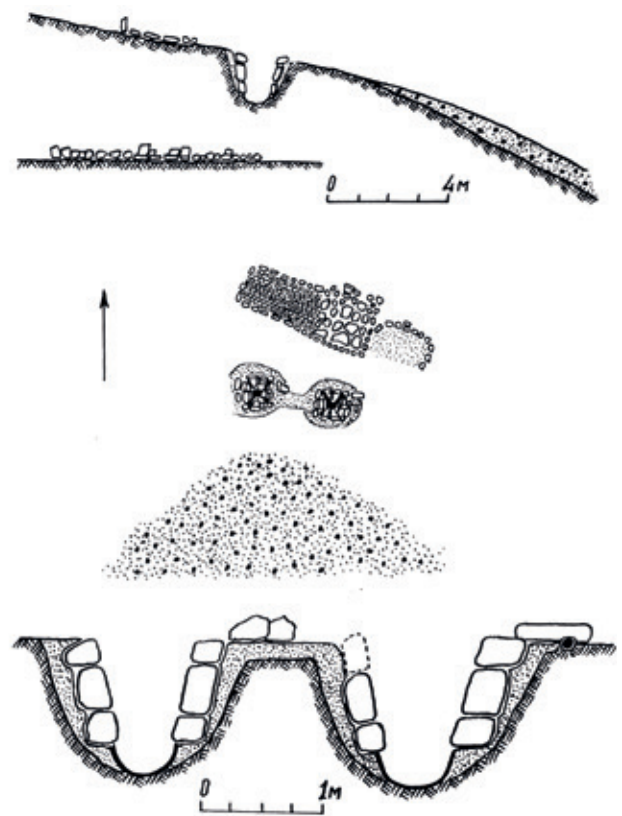


Fig. 4. Iron-smelting workshop "Charnali II". General ground plan and sections (after: Hahutajšvili (Khakhutaishvili) D.A. 1987, 50, fig. 3; Khakhutaishvili D.A. 2009, 24, fig. 3)

it is an easily forgeable metal due to an excess composition of nickel.<sup>15</sup>

Today, the territory of historical Colchis is confirmed to have a large-scale industrial metal works centres which are present in the coastal zone, as well as in the foothills and mountain range.<sup>16</sup>

It needs to be mentioned that the iron metallurgical hubs that were located relatively close to the coastal area used magnetic sand as ore.<sup>17</sup> Its enrichment and flotation took place in dune settlements on the coast. Therefore, the iron smelting workshops have to be sought in the vicinity of dune settlements.<sup>18</sup> The use of hematite as an ore in metallurgical production is evidenced in the iron extraction

hubs, which are located far from the coastal zone, in the ore-rich mountain and foothill areas.<sup>19</sup>

The study of the ancient iron metallurgy sites in the Chorokhi basin began in the late 1960s (Fig. 2). Here, on the left bank of the river Chorokhi, in the area of the Charnali and Gonio farms and the nearby area of the Gonio-Apsaros site, Georgian scientists<sup>20</sup> have discovered and studied several workshops related to iron production, which were named as "Charnali I" (Fig. 3), "Charnali II" (Fig. 4) and "Charnali III" (Fig. 5). "Charnali I" was excavated in 1961, "Charnali II" and "Charnali III" in 1979. The study of these sites revealed that at the beginning of the 1st century BC, there was a local centre of iron smelting with all its characteristic attributes and elements in

15 Mikeladze 1974, 40–58; Hahutajšvili (Khakhutaishvili) D.A. 1987, 41–59; Khakhutaishvili D.A. 1995, 66–74; Lortkipanidze 2002, 140–153; Japaridze 2003, 193–218; Lortkipanidze 2010, 296.

16 Gzelišvili 1964; Khakhutaishvili D.A. 1964; Khakhutaishvili D.A. 1974; Khakhutaishvili D.A. 1982; Hahutajšvili (Khakhutaishvili) D.A. 1987; Khakhutaishvili N.D. 2005; Khakhutaishvili N.D. 2006; Khakhutaishvili N.D. 2008; Khakhutaishvili D.A. 2009; Erb-Satullo, Gilmour, Khakhutaishvili N. 2014; Erb-Satullo, Gilmour, Khakhutaishvili N. 2015; Erb-Satullo, Gilmour, Khakhutaishvili N. 2017; Erb-Satullo, Gilmour, Khakhutaishvili N. 2020.

17 Tylecote 1981, 137–149; Wertime 1980, 18–19.

18 Ramišvili 1975, 36–44; Tavamaishvili 1999, PHD thesis; Tavamaishvili 2012.

19 Gabuniā 1933; *Mineral'nye resursy...* 1937, 244–257; *Prirodnye resursy...* 1958, 83.

20 Gzelišvili 1964, 29–44; Khakhutaishvili D.A. 1964, 45–58; Gzelišvili, Khakhutaishvili 1964, 59–96; Khakhutaishvili 1982, 10–14.

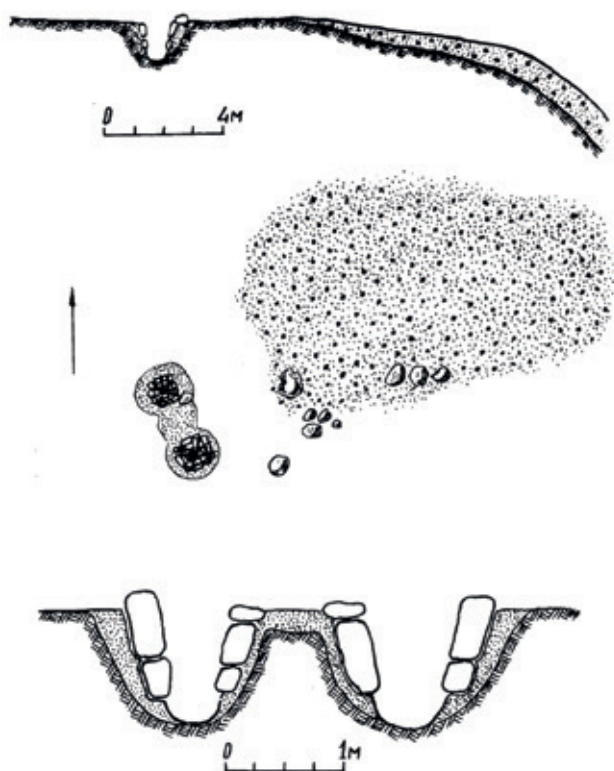


Fig. 5. Iron-smelting workshop "Charnali III". General ground plan and sections (after: Hahutajšvili (Khakhutaishvili) D.A. 1987, 54, fig. 4; Khakhutaishvili D.A. 2009, 26, fig. 4)

the lower part of the Chorokhi basin (Tab. 1).<sup>21</sup> It needs to be mentioned that archaeological excavations have begun and are still ongoing in the Gonio-Apsaros site. It is confirmed that the city originated on the "New Black Sea terrace" in the territory of the dune settlement.<sup>22</sup> Some researcher relate these settlements with the extraction of iron raw materials (iron ore).<sup>23</sup>

We need to emphasize that all workshops related to the iron smelting in the Chorokhi Basin are about 3.5 km away from the territory of the dune settlement on top of which the Gonio-Apsaros site is located. Thus, the raw material utilized for iron smelting in the Chorokhi workshops obviously was magnetite sand.<sup>24</sup> Such deposits are called "placers" in geology and occur along the coastal strips of the Black Sea.<sup>25</sup> They were mined on the Dune Coast

settlements that originated all over the sea coast of Georgia, including the territory of the Gonio-Apsaros site to the south of the Chorokhi river. It was found out that the Black Sea coast from Gonio to Gagra contains sufficient quantity of magnetite (10–60%) to be a source of metal.<sup>26</sup> This sand is a mineral blend, which includes magnetite, titanomagnetite, ilmenite (both iron-titanium-oxides), and various minerals with calcium, magnesium, manganese and other elements.<sup>27</sup> The same has been observed in almost all furnace-workshop gathering areas of iron metallurgy which are located in the vicinity of dune settlements. This underlines the connection of iron smelting facilities (workshops) with the raw material base (dune settlements) and reinforces the concept that the magnetic sand was obtained for iron smelting workshops (enriched by floatation) located near dune settlements at the seaside.<sup>28</sup>

In 2001–2002, the study of the iron metallurgical centre of the Chorokhi basin was renewed. In 2001, one of the teams (headed by Prof. A. Kakhidze) of the permanent archaeological expedition of the Gonio-Apsaros Museum-Reserve (Director Prof. S. Mamuladze), resumed the archaeological study of the Chorokhi Basin Iron Production Centres near the Gonio-Apsaros site (Team led by Prof. N. Khakhutaishvili, Consultant – Prof. G. Grigolia, Members of the Expedition, Candidate of History S. Gogitidze, Professor G. Inanishvili). It should be noted that Prof. D. Khakhutaishvili, defined several workshops in the region and subjected them to study. His unexpected death prevented the intention to be carried out.

The area explored is located on the left side of Chorokhi river in the vicinity of the Apsaros fortress, near the village Akhalsopeli, referred by locals as "Avgia I" (Fig. 6, Fig. 8). According to them, Akhalsopeli and the surrounding area were called Kizil-Topragh by the Turks when they were in power. The word means red land; indeed, the soil here has a red colour because of red clays.<sup>29</sup>

The site is about 3–3.5 km from the coast and is located on a hill with northeastern exposure, 100–150 metres from the village road. An unnamed creek falls from the northeast side of the hill and joins the river Chorokhi. A large number of pieces of slag were observed across and around the creek. We see a forest on the northeast side of the hill, where lo-

21 Burchuladze, Togonidze 1987, 239–262; Čelidze 1977, 142–145; Hahutajšvili (Khakhutaishvili) D.A. 1987, 179–181; Khakhutaishvili D.A. 2009, 19–28.

22 Hahutajšvili (Khakhutaishvili) D.A. 1987, 41–59, 184; Khakhutaishvili 2009, 19–28, 107–111.

23 Khakhutaishvili 2009, 19–28, 107–111; Ramishvili 1975, 36–44.

24 Khakhutaishvili D.A. 1974; Ramišvili 1975; Inanišvili, Sakvarelidze 1987, 225–232; Hahutajšvili (Khakhutaishvili) D.A. 1987, 41–59; Tavamaishvili 1999; Khakhutaishvili 2009, 19–28; Tavamaishvili 2012, 57–70.

25 Wertime 1980.

26 Inanišvili, Sakvarelidze 1987, 225–232.

27 Sigua, Litovka, Kekelidze 1975, 22–24.

28 Ramišvili 1975, 36–44; Tavamaishvili 1999.

29 Khakhutaishvili N.D. 2006, 222–236.



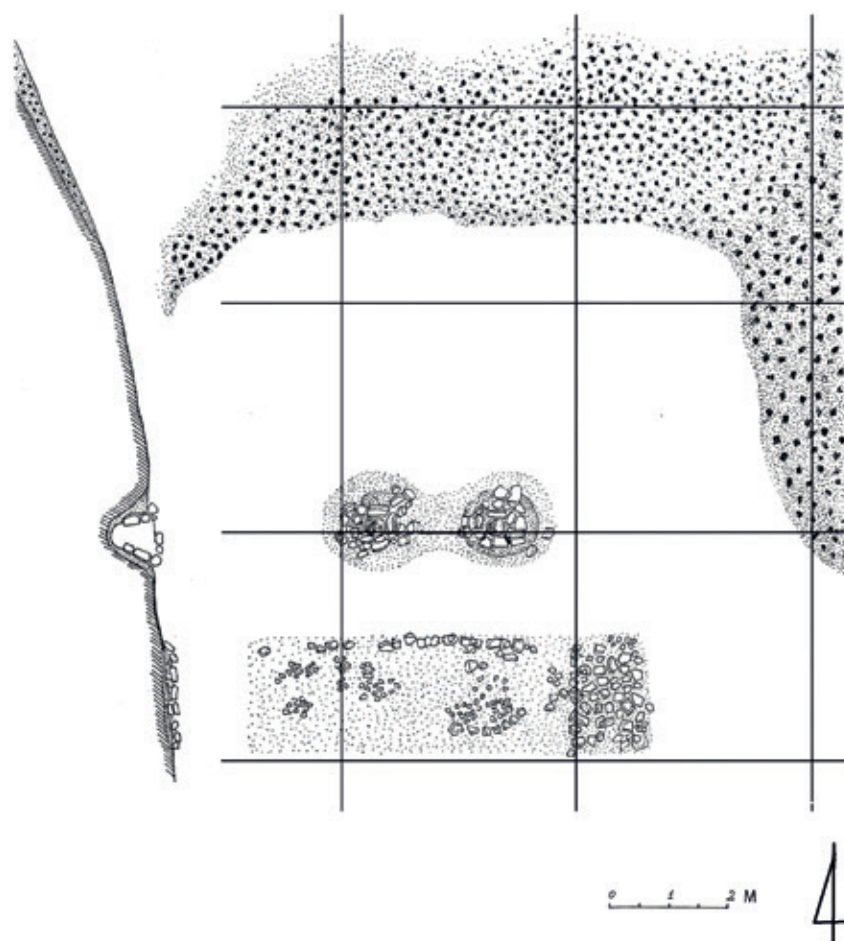


Fig. 6. Iron-smelting workshop "Avgia I". General ground plan and sections

cals saw a lot of pieces of slag and iron rocks while gathering firewood. The forest contains a variety of trees, notably alder, walnut, cherry laurel and beech. In the forests of Colchis there was an abundance of trees of every kind, both coniferous and deciduous. The foothill zone of the Eastern and Southeastern Black Sea littoral was overgrown with forests of such trees as boxwood, beech, cherry laurel, rhododendron, alder, pine, hornbeam, chestnut, cornel-tree, oak and ash. Judging by ethnographic data, a specific part of a tree was used to get the required assortment of charcoal.<sup>30</sup> Judging by ethnographic materials collected in Western Georgia, charcoal burning for metal smelting required special knowledge and was done by charcoal burners ("*nakhshiris mokhele*" / charcoal craftsman) who selected the required firewood, the required parts of a tree, of the trunk and branches, prepared them for burning, then sorted the results and sent them to their destination.<sup>31</sup>

A large number of pieces of iron slag were scattered over the site. The presence of the slag reduces the efforts of the

searching process of iron workshops. The slag on the site was distributed over the entire perimeter from northwest to the northeast. Based on the quantity of slag, the furnace-workshops productivity would have been of a medium capacity.

The material in the study area was mainly spread on the slopes, thus being eroded over time. Relatively flat areas were covered by waste dumps. Heavier items stayed on top (mostly slag) and reasonably light ones (furnace fragments, ceramics) were accumulated lower down.

The area of the excavation site is 320 square metres (Fig. 8). The soil here is represented by yellowish-reddish loam, and in some places, we observe fire and refractory di-luvial clays (their melting point is 1450 degrees Celsius). It is important to mention that the refractory clays lay through the entire length of the subtropical foothills of the Greater and Lesser Caucasus.<sup>32</sup> The same clay source is also confirmed in the territory of Akhalsopeli-

-Avgia. It is known that the existence of fire and refractory clay, and ores is one of the defining conditions for managing metal processing production in a specific region. A necessary condition for metal production is to have a so-called solid type of fuel. The region under study is favoured by the existence of such natural products. The studied iron smelting workshop was provisionally called "Avgia" (Fig. 6, Fig. 9). Therefore, the iron smelting furnaces identified here will be included in the scientific literature under the name of "Avgia I-1" and "Avgia I-2" (Fig. 7, Figs. 10–11).

As a rule, the study of the workshop remains began with the excavations of the waste dump. We witnessed relatively large waste dumps in the square no. 1 of the SO sector, with a depth going as deep as 40 to 50 centimetres. Fragments of slag and furnace daubing were excavated along with the tuyeres of the bellows and scraps of the pottery which are characteristic of the pre-Classical period of the Colchian culture.<sup>33</sup> The pieces of slag were covered with a thick grey patina, which, according to

30 Rekhviashvili 1953, 33–34.

31 Rekhviashvili 1953, 33–34; Rekhviashvili 1964, 70, 72.

32 Rokva 1959, 127–138.

33 Mikeladze, Hahutajšvili (Khakhutaishvili) D.A. 1985, 14–16.

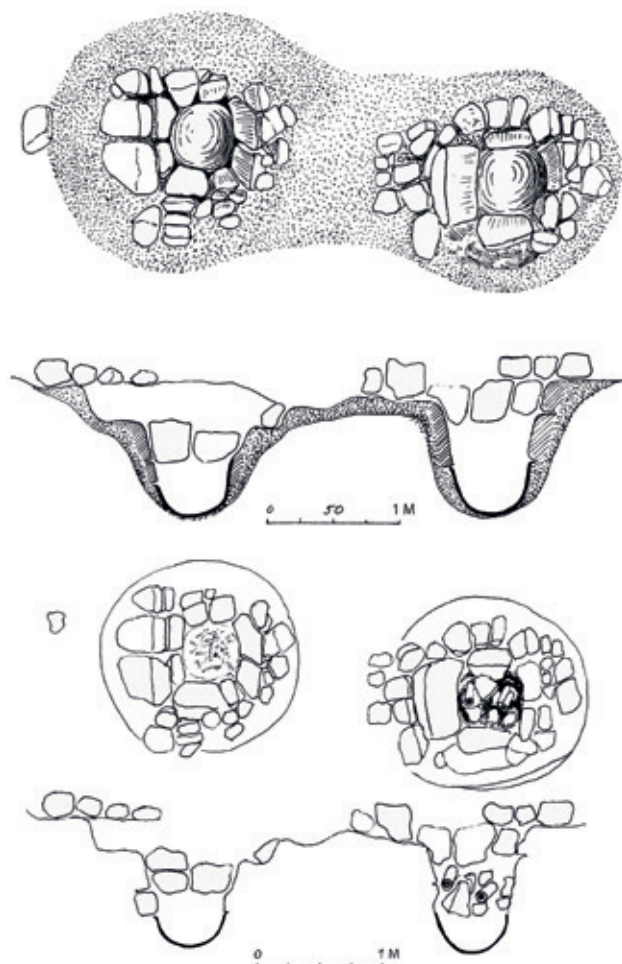


Fig. 7. Iron-smelting furnaces "Avgia I-1" and "Avgia I-2"

the observation of I. Gdzelišvili and D. Khakhutaishvili, is an indicator of their antiquity.<sup>34</sup>

After exploring the areas nos 12, 22 and 32 of the SO sector, a segment of a low platform covered with stone and clay was found in the section. Such platforms have been found on other smelting sites, usually positioned next to the furnace and was used for processing the spongy iron or the bloom after removing it from the furnace. Namely, the hot bloom was transferred onto the anvil and was beaten by wooden hammers so that the slag was released from the spongy metal mass. The bloom would thereby be turned into iron.

The revealed processing platform turned out to be quite large and consisted of two parts. Its relatively small, western part was composed of wide slabs of stone (dimensions: 2.1×1.4 m), while the second, relatively large, eastern part was paved with clay tiles (dimensions: 4.3×1.5 m). Total dimensions are length – 5.7 m, width – 1.5–2.1 m. (Fig. 6, Fig. 8). On the northern side of the processing platform we see a large number of burnt stones (we believe they were used to line inside the furnace). They seem to have been

retracted from the inner part of the furnace. We also discovered large number of clay fragments of furnace daubing, tuyeres for bellows and pieces of slag. Some of the furnace daubing and tuyeres were covered with slag.

On the northern part of the bloom processing platform, about 1.6–1.0 m away, we see two iron smelting furnaces which are placed parallel to each other and standing about 0.9 m further (Fig. 9).

The furnace "Avgia I-1" (Fig. 10) was standing in a triangular-sectioned ditch. Two-thirds of it was paved with basalt slabs and cobblestones, which, under the influence of high temperatures, had turned red and, in some places, purple. The lower part of the furnace was plastered with a thick layer of refractory clay. The same clay had been used for plastering the cobblestones. The soil around the furnace is baked in a zone 0.15–0.2 m wide due to high-temperature impact. The same has been observed during the excavations of almost all similar workshops.

The furnace exploration revealed the following: the internal part of the furnace was filled with burnt stones from its construction, with a thick layer of charcoal and fragments of slag and fired clay from its walls. Also, we observed two well maintained, thick tuyere fragments, one a tuyere with a hole (Fig. 12.1–2). Based on the data, both of them are external parts of the furnace. We have also recovered the fragments of a slagged tuyere (Fig. 13.1–3) and a small piece of a ceramic vessel (Fig. 20.1). There is a wide shelf on the northern side of the furnace interior. It seems that this type of shelf was used for inserting a furnace facing stone to avoid it from sliding (Fig. 10).

The dimensions of the surviving part of the metal furnace "Avgia I-1" are: height – 1.08 m, width at the upper level – 1.4–1.6 m, middle level – 0.58 m, lower level – 0.5 m.

The iron-smelting furnace "Avgia I-2" (Fig. 7, Fig. 11) was discovered standing to the west of the first furnace. It is structurally similar to the first furnace and has the shape of an inverted cut pyramid. We see three rows of stone piles. The second and the third rows are better preserved. The walls are built from basalt slabs and cobblestones, and the base is daubed with a thick layer of clay. The inner part of the furnace was filled with a mix of coal and soil. It seems like this furnace had stopped being operational earlier than the first one and later was used as a storage pit.

The dimensions of the surviving part of the "Avgia I-2" furnace are: height – 1.08 m, width in the upper level – 1.2–1.5 m, 0.58 m in the middle level, 0.50 m in the lower level.

34 Gzelišvili 1964, 38–44; Hahutajšvili (Khakhutaishvili) D.A. 1987, 66–69; Khakhutaishvili D.A. 2009, 33–34.





Fig. 8. Iron-smelting workshop “Avgia I” with two furnaces and platform (anvil) for processing bloom (general view)

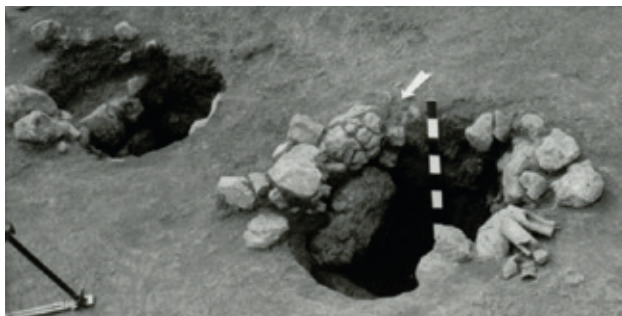


Fig. 9. Iron-smelting furnaces “Avgia I-1” and “Avgia I-2” which are located parallel to each other

The industrial residues were located to the north as well as to the northwest and northeast of the furnaces. The details of slagged tuyeres (Fig. 13.3, Fig. 21.4–6), small pieces of pottery (Fig. 20.2–4), large amount of slag (Fig. 21.9) and furnace daubing fragments were collected as a result of excavations and sorting of the residues; based on this we can assume, that the workshop would have been of an average efficiency and productivity.

Excavations of the workshop also revealed a small number of pot sherds that definitely belong to a pre-antique era but the exact date cannot be identified.

Charcoal samples from the bottom of the furnaces were sent to our German colleagues for radiocarbon dating. According to the answer, the furnace “Avgia I-1” is dated to the 10th–8th centuries BC and the furnace “Avgia I-2” to the 9th–7th centuries BC. Therefore, the workshop was functional some time in the 10th–7th centuries BC.

One kilometre away from this site, another two furnace iron smelting workshops were studied, which depending on the place of discovery, conditionally we named “Khopcho I” and “Khopcho II”. Therefore, the iron smelting furnaces identified here will be included in the scientific literature under the name of “Khopcho I-1”, “Khopcho I-2”, and “Khopcho II” (Fig. 14.1–2).

The sites are situated on the left bank in the lower reaches of the Chorokhi, near the road connecting village of Gonio and village of Akhalsopeli, which the locals called

Khopcho. The studied object lies 6–8 metres west of this road. It is located on a hill about 150 metres above sea level. There are two ways to reach the site: one through Akhalsopli and Avgia, and the other – through the village of Gonio. Both roads lead to the highland and join the “Khopcho” road.

The hill selected for the workshop has a western exposure. It has an unnamed stream coming from two sides, where, also, a rather large number of slag fragments have been confirmed. The slag fragments were scattered on the entire perimeter from northwest to northeast. The workshop was arranged on a flattened hill. The slope of the hill allowed the craftsmen to easily get rid of the production waste (Fig. 14.1–2).

The site was about 3–3.5 kilometres from the coastline. The excavated area covered 600 square metres. The soil here is a yellowish-reddish loam. These soils are usually represented in places with refractory and hard-melting deluvial clays. It is noteworthy that the strip rich in refractory clay runs along the entire length of the subtropical foothills of the Greater and Lesser Caucasus. A fairly strong layer of such clays (0.5–0.7 m) is confirmed on the mentioned site. The melting temperature of such clays is up to 1450°C, and in some places – 1750°C. The refractory property of available clay deposits is one of the defining conditions for organizing metal processing production in a given region.<sup>35</sup>

The study of the remains of the workshop usually began with the excavation of the waste dumps, where the depth of the cultural layer reached about 0.4–0.5 m. Fragments of slag and furnace clay lining, tuyere of the bellows were removed to the waste dumps. The scale of the waste dumps testified that a rather intensive process of iron production would have taken place in the investigated area. Two iron smelting workshops were discovered near the waste dumps. Unfortunately, in the workshop – “Khopcho II” – both furnaces were completely destroyed during the road construction, and the bloom processing platform of the other workshop – “Khopcho I” – was partially destroyed.

35 Rokva 1959, 127–138; Gzelišvili 1964; Hahutajšvili (Khakhutaishvili) D.A. 1987, 192–194; Khakhutaishvili D.A. 2009, 113–114.

In the area of the iron smelting workshop – “Khopcho I” – in square no. 42 of the SO sector, a bloom processing platform was found, as usual it was near the furnace. One part of the platform was covered with large stones, and the other part was surfaced with clay. Unfortunately, it is impossible to determine its exact dimensions due to partial damage (damaged during road construction). To the south of the platform a large number of burnt stones, fragments of clay lining of the furnace and the tuyere of the bellows were found (Fig. 16, Fig. 19).

To the south of the platform, at a distance of about 1.0 m, in squares nos 32 and 33 of the SO sector, two iron smelting furnaces were detected, which were located parallel to each other. The distance between them was 1.3 m (Fig. 16, Fig. 19).

The iron smelting furnace – “Khopcho I-1” – was erected in a pit that had a typical shape. Two-thirds of the furnace were paved with rather large basalt slabs (0.54–0.52 m) and cobblestones, while the lower part of the furnace was plastered with a thick layer of refractory clay. The floor is made of the same clay. The ground around the furnace was tinted red to a radius of 0.15–0.2 m as a result of exposure to high temperatures. Such a situation is confirmed during the excavation of almost all workshops. As a result of the furnace preparation, it was confirmed that its inner space was filled with burnt stones of the furnace construction, wood charcoal powder, fragments of slag and furnace lining. We also removed several fragments of the tuyere of the bellows from the interior, including the tuyeres for bellows with slagging. The dimensions of the surviving part of the iron smelting furnace “Khopcho I-1” are: height – 1.1 m, width at the upper level – 1.04 m, in the middle level – 0.75 m, in the lower level – 0.45 m (Fig. 15, Fig. 17).

The iron smelting furnace “Khopcho I-2” was discovered west of the first furnace. Structurally it is similar to the first furnace and has the shape of an inverted truncated pyramid. Unfortunately, the inner wall of the furnace turned out to be almost completely collapsed. There is only one facing stone left, the dimensions of which are 0.42–0.48 m. The rest of the stones of the wall were fallen into the furnace. At the foot of the furnace, a rather large flat stone was observed, the dimensions of which are: height – 0.2 m, width – 0.40–0.52 m (Fig. 16, Fig. 18).

The dimensions of the surviving part of the iron smelting furnace “Khopcho I-2” are: height – 1.05 m, width – 1.25 m in the upper level, – 0.82 m in the middle level, – 0.75 m at the bottom.

The industrial waste dumps were present in a fairly large area adjacent to the furnaces. Supposedly, only part of the slag survived, as a large part was removed during the

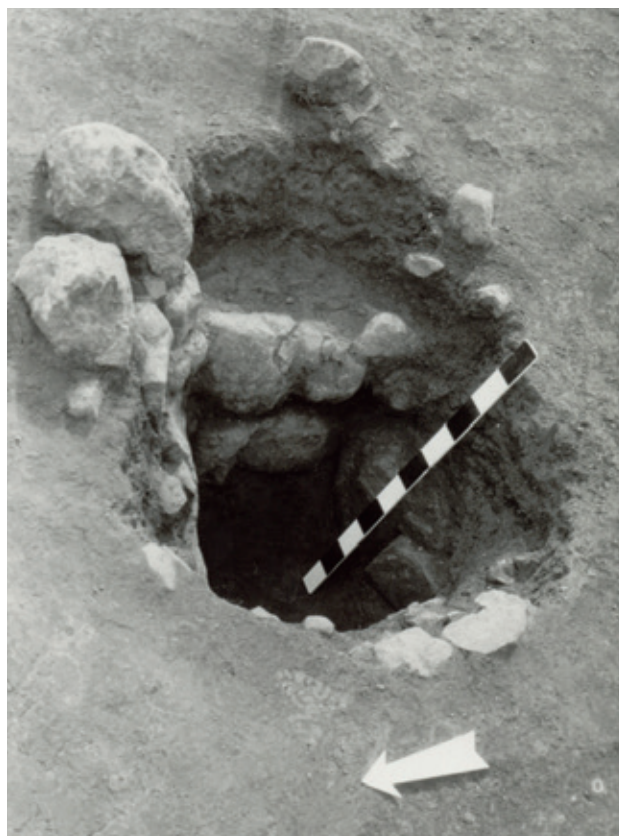


Fig. 10. Iron-smelting furnace “Avgia I-1”



Fig. 11. Iron-smelting furnace “Avgia I-2”

construction of the terraces. Nevertheless, a large amount of slag (Fig. 21.7–8), tuyeres for bellows with slagging (Fig. 21.1–6) and furnace lining fragments were collected as a result of the excavation of the waste dumps, according to which the workshop have been quite productive. The small number of pottery fragments found in the workshop dates back to pre-classical times (Fig. 20.5–7).

Charcoal samples from the bottoms of the furnaces were sent to our German colleagues for radiocarbon dating. According to the obtained answer, the furnace “Khopcho I-1” is dated to 11th–9th centuries BC and the furnace “Khopcho I-2” to 10th–8th centuries BC. Therefore, the workshop was functional some time in the 11th–8th centuries BC.





Fig. 12. 1–2. “Avgia I”, fragments of clay tuyeres for bellows (one tuyere with a hole)

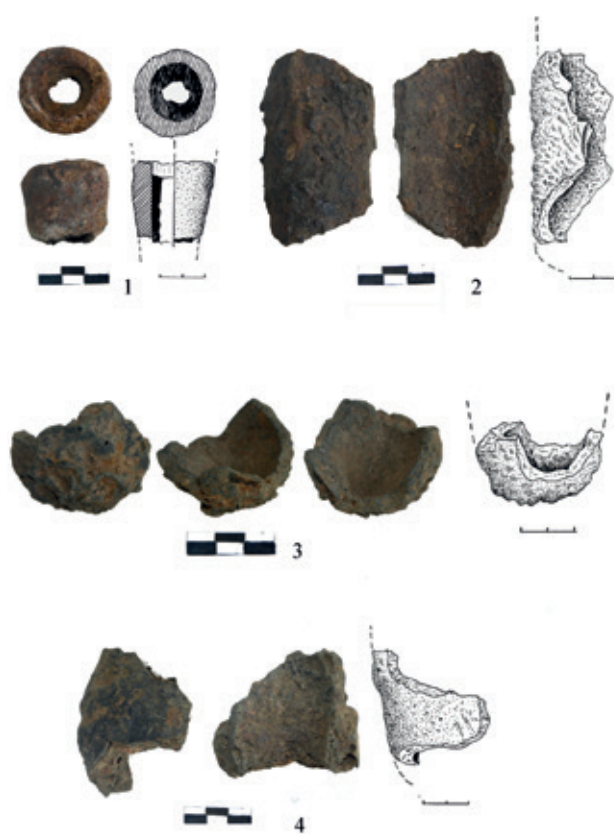


Fig. 13. 1–4. Iron-smelting workshop “Avgia I”, fragments of tuyeres for bellows with slag

The second workshop, which we called “Khopcho II”, is represented only with by a rather large well-preserved platform constructed of stone, where the bloom removed from the furnace was processed or freed from excess slag inclusions. Its dimensions are: width – 1.3 m, length – 4.8 m. The workshop was discovered on the other side of the road cut into the hill, in squares nos 55 and 56 of the SO sector. It seems that the furnaces of this workshop were completely destroyed during the road construction. Only traces of strongly burnt earth were observed at the site of the furnaces. Unfortunately, it was not possible to collect material for radiocarbon dating from this workshop (Fig. 22.1–2).

The small amount of ceramic material found in the area of this workshop belongs to the pre-classical period, but it is so plain that it does not allow to say more.

As a rule, all the ancient workshops were arranged near brooks and streams on a slightly sloping relief. The workshops (Fig. 23) consisted of:

1) an iron-smelting furnace which was operated by artificial air supply with bellows and without a slag escape.<sup>36</sup> The bottom of the furnace formed a hemispheric hollow, where the liquid slag flowed down. After each smelting operation, the damaged furnace wall was renewed. The height of the bowl furnace ranged from 0.7 to 1.5 m, and the width from 0.6 to 1.4 m. The part of the furnace located above the earth’s surface was formed with stones and was coated with a thick layer of fire-clay. Such furnaces allow the temperatures to rise to 1450°C but, basically, the maximum temperature in these furnaces fluctuated from 1100 to 1250°C. The research done by Inanishvili, Tavadze and Sakvarelidze has shown that the temperature during the reduction process in cold blast furnaces was rising gradually:<sup>37</sup> the burning process was completed at 1100°C;

– the slag was formed and the reduction processes were developed at 1150–1250°C;

36 Gzelišvili 1964, 21–22; Kolčín, Krug 1965, 208–209, 214; Hahutajšvili (Khakhutaishvili) D.A. 1987, 206–212; Khakhutaishvili 2009, 117–123; Tylecote 1981, 211–212.

37 Inanišvili et al. 2001, 18–24; Inanishvili 2007, 17–29; Inanishvili 2014, 90–102.

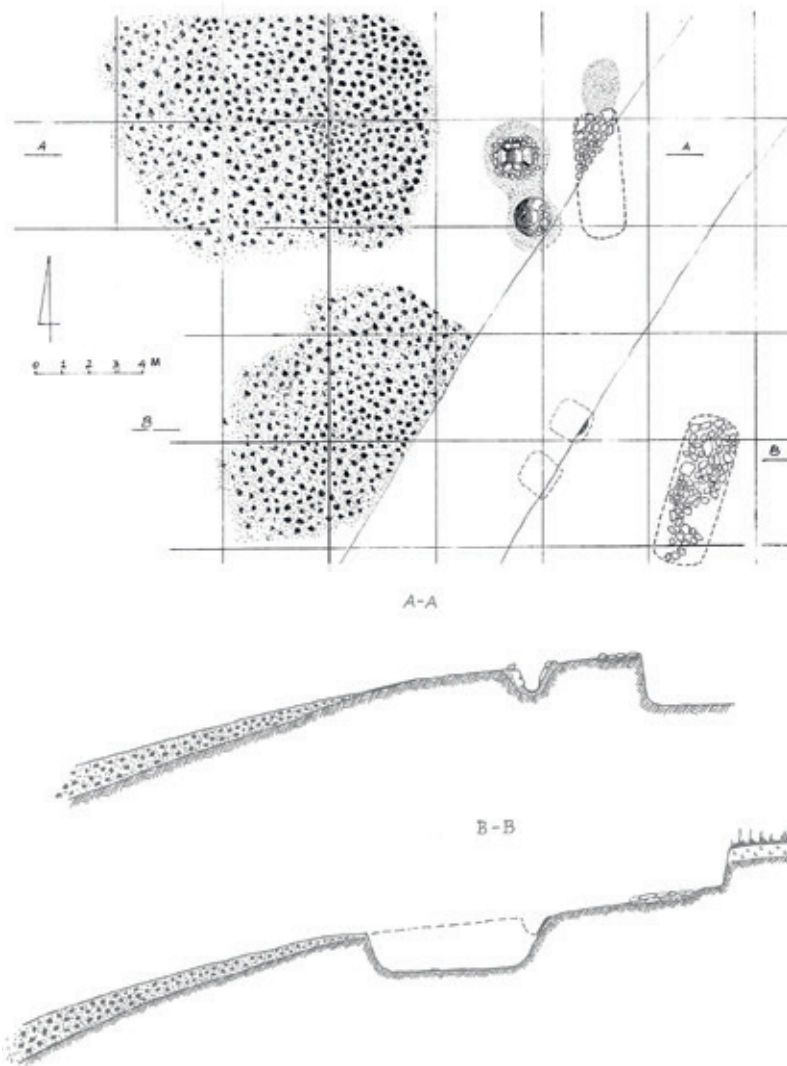


Fig. 14.1-2. Iron-smelting workshop "Khopcho I" (A-A) and "Khopcho II" (B-B). General ground plan and sections

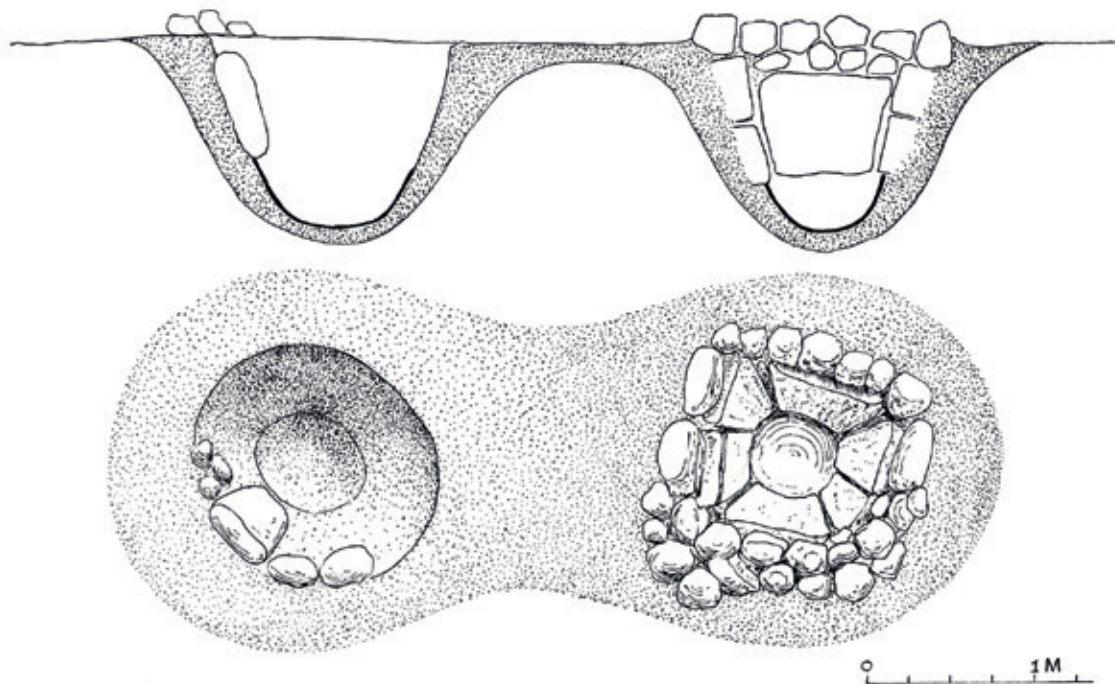


Fig. 15. Iron-smelting furnaces "Khopcho I-1" and "Khopcho I-2"





Fig. 16. Iron-smelting workshop “Khopcho I” with two furnaces and platform (anvil) for processing bloom (general view)



Fig. 17. Iron-smelting furnace “Khopcho I-1”

– the bloom and liquid slag were formed at 1250–1350°C. Under such smelting conditions, a good forge iron was obtained.<sup>38</sup>

2) A composite stone platform was used for further processing of the spongy mass which evidently was carried out by wooden hammers, producing slag and other materials.

3) An open-sided wooden shed, the remains of which are represented by the pits that held wooden posts.

4) Pits for storage of fire-resistant clays and coal.

Based on the discussed material, it is assumed that Georgia especially its southwestern part, was one of the main iron manufacture regions in this region.

<sup>38</sup> Tavadze et al. 1977, 14–18; Tavadze et al. 1984, 21–28.





Fig. 18. Iron-smelting furnace “Khopcho I-2”



Fig. 19. Iron-smelting workshop “Khopcho I” with two furnaces and platform (anvil) for processing bloom (general view). The Black Sea coast is visible, from which sand was removed for further flotation

The geographic area that limits the ancient iron production centres is part of a subtropical zone with a wide spread layer of red soil. This has been formed by weathering of various tufogenic formations of the middle Eocene. The nature of this area met all the requirements necessary for a development of iron production:

1. there was an old tradition in non-ferrous metallurgy that provided the technology for iron smelting;

2. Iron ores were available in large quantities at Ajara-Trialeti, Guria-Samegrelo, Racha-Svaneti, Imereti and Apkhazia.<sup>39</sup> A large number of deposits of magnetitic sand are present in the coastal zone. In the territory of ancient Colchis, magnetitic sand extended along the Eastern Black Sea littoral, from Gonio as far as Gagra. According to G. Tvalchrelidze, the mean proportion of magnetite along the Supsa-Natanebi Beaches, at the depth of 5–6 metres, is up to 2%, while the proportion of metal in concentrated magnetitic sands is about 55%.<sup>40</sup> In some places the proportion of magnetite is still higher.<sup>41</sup>
3. In addition, fire-resistant clays<sup>42</sup> occurred nearby, especially the Tsetskhlauri clays which show melting points between 1200 to 1660°C.<sup>43</sup>

4. Rich vegetation with dense forests was the basis for producing charcoal necessary to obtain high temperatures and reducing conditions during the smelting operations.<sup>44</sup> These preconditions favoured a long term iron production over many centuries.

Thus, deposits of refractory clays, an abundance of various fuel, magnetitic sands as iron ores created the basis for initiating the ancient bloomery technique of iron production. More ancient traditions of metal making in the area also promoted it. The opinion is not unfounded that the Chorokhi basin was one of the main centres of ancient non-ferrous metallurgy, while the South-West littoral of Georgia is regarded as the region

where the universally known Colchian Late Bronze Age culture took shape.

Excavations of iron smelting workshops in the Chorokhi Basin have expanded our knowledge of the area of activity of the Iron Age Colchians employed in iron metallurgy. It seems that the speedy development of iron production in Colchis was due to the increasing need for iron in the local economy and its steady demand.

<sup>39</sup> *Mineral'nye resursy...* 1937, 250–257; Gabuniâ 1933, 213–268.

<sup>40</sup> Tvalchrelidze A. 1933, 160–171.

<sup>41</sup> *Mineral'nye resursy...* 1937, 244–257; *Prirodnye resursy...* 1958, 83; Kuparadze, Pataridze, Kerestedijan 2008, 248–252; Kuparadze, Pataridze 2009, 277–294; Tylecote 1981, 137–149.

<sup>42</sup> Rokva 1959, 127–138.

<sup>43</sup> *Mineral'nye resursy...* 1933, 160–166; *Prirodnye resursy...* 1958, 130–138.

<sup>44</sup> Rekhviashvili 1953, 32–38; Rekhviashvili 1964, 92–96.

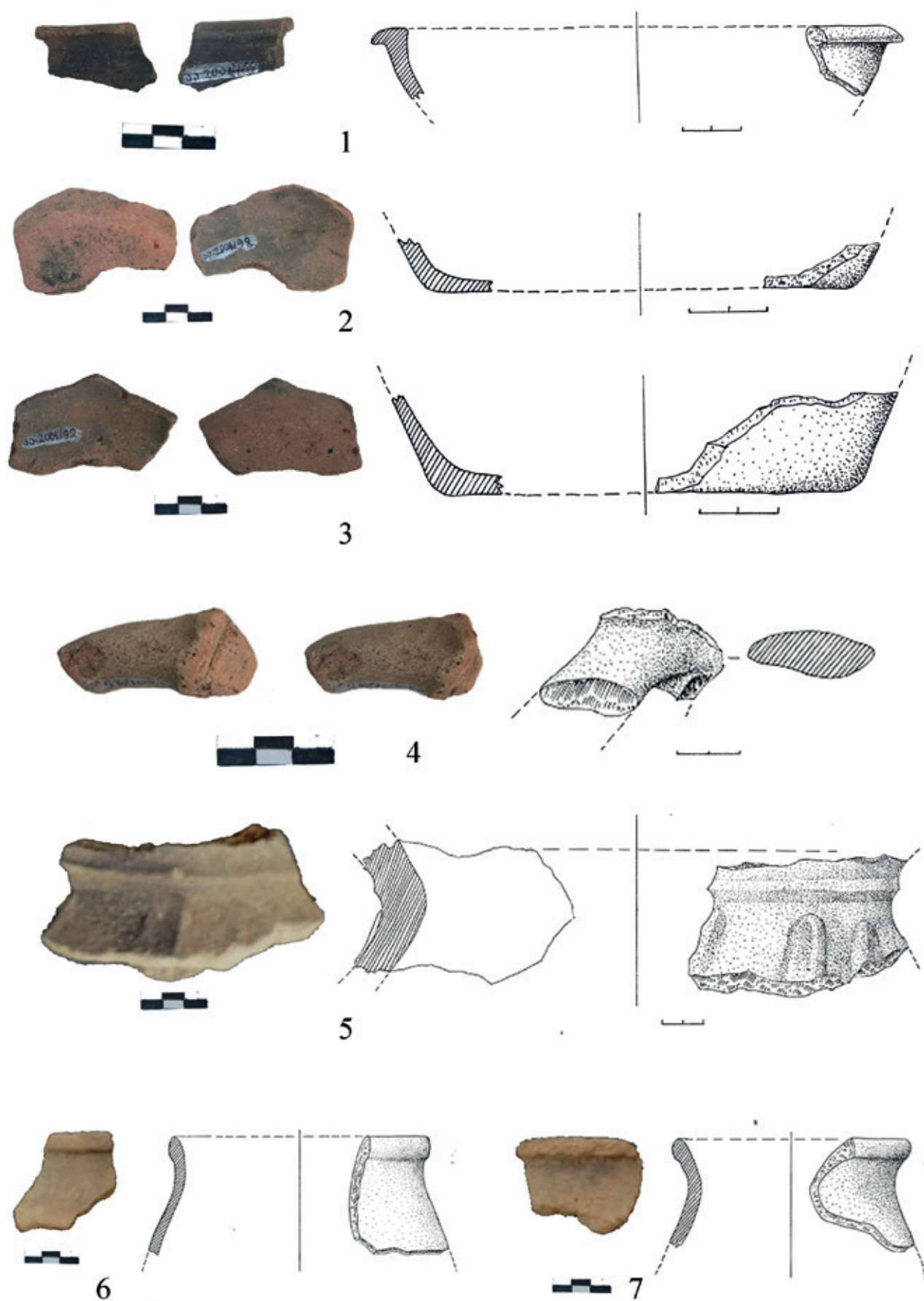


Fig. 20. 1–4. Iron-smelting workshop “Avgia I”, fragments of pottery; 5–7. Iron-smelting workshop “Khopcho I”, fragments of pottery



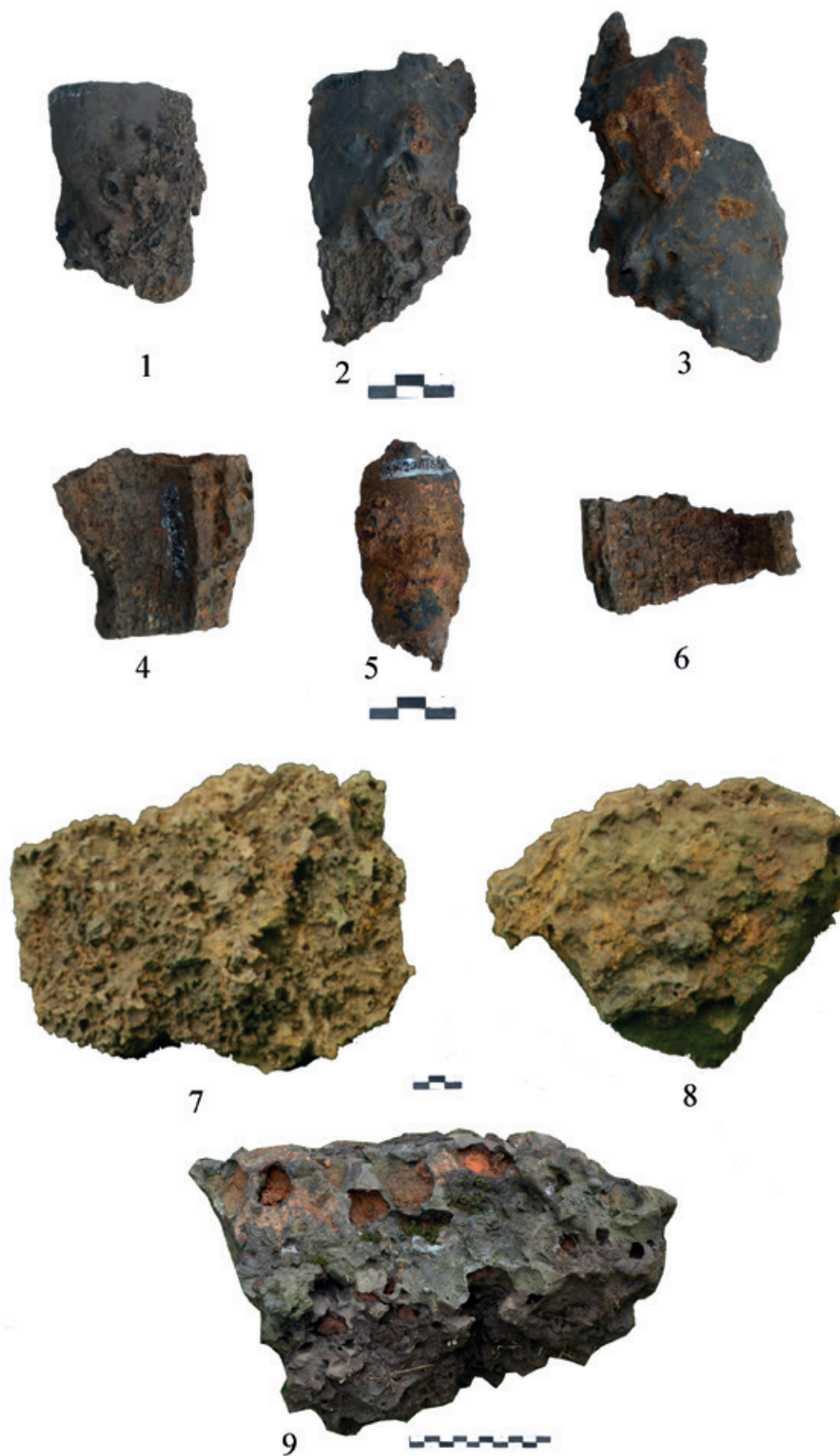


Fig. 21. 1–6. Iron-smelting workshop “Khopcho I”. fragments of tuyeres for bellows, some with slag; 7–8. Iron-smelting workshop “Khopcho I”. fragment of slag; 9. Iron-smelting workshop “Avgia I”, fragment of slag





Fig. 22. 1. Iron-smelting workshop “Khopcho II” (general view);  
2. Iron-smelting workshop “Khopcho II”. Platform (anvil) for processing bloom



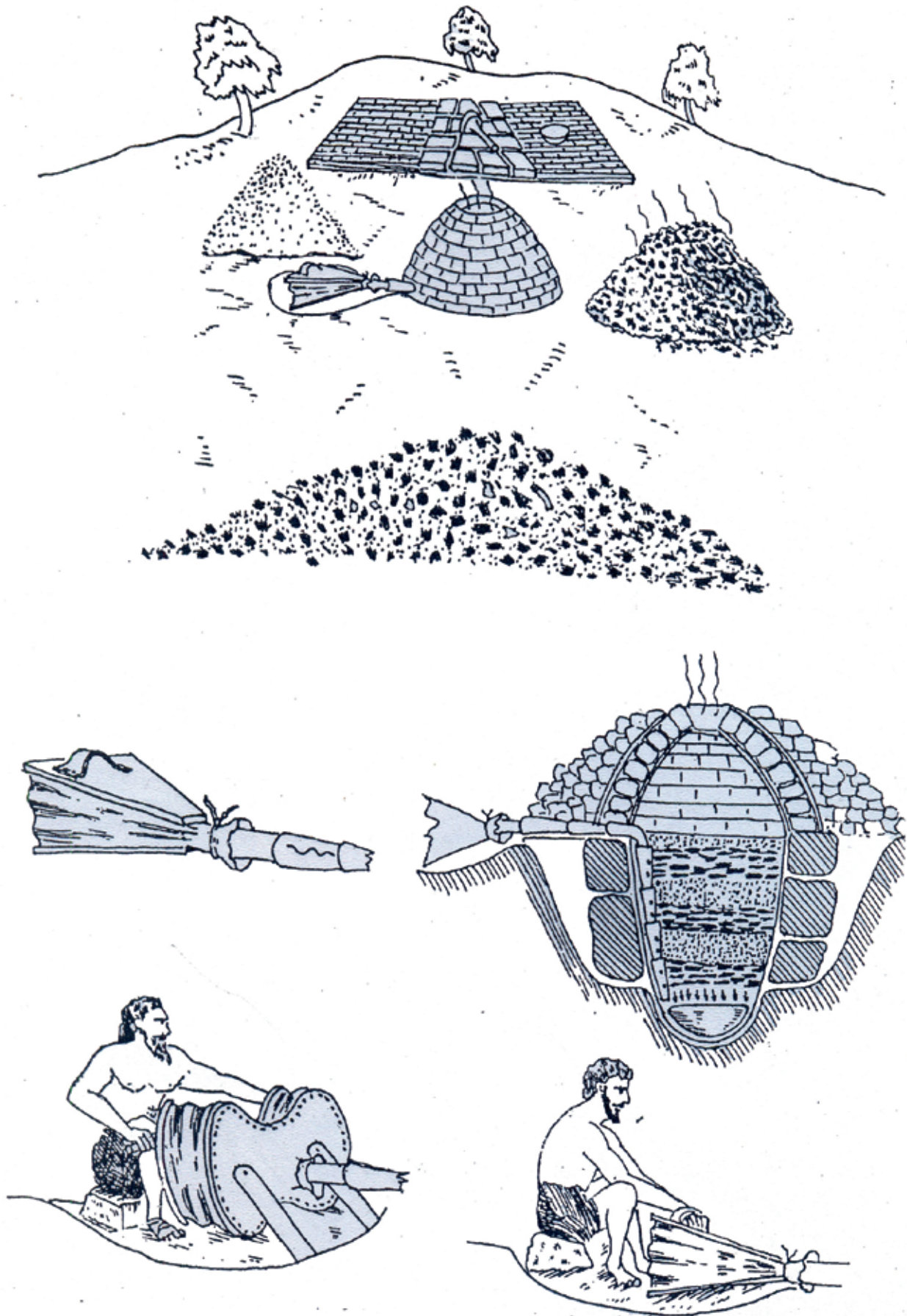


Fig. 23. Reconstruction of the iron-smelting workshop of ancient Colchis (by J. Mikeladze)  
(after: Hahutajšvili (Khakhutaishvili) D.A. 1987, 202, fig. 68; Khakhutaishvili D.A. 2009, 116, fig. 68)



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# Transport Containers from the Apsaros Fortress (Modern Gonio), Georgia (1st–7th century AD). A Preliminary Overview of Forms and Fabrics

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## Abstract

*This overview of transport containers from the Roman fort of Apsaros (modern Gonio) in Georgia, excavated by a Polish–Georgian expedition since 2014, presents the most common forms and fabrics based on a database that includes 1243 diagnostic fragments from both the Roman and Byzantine periods. These preliminary results (the excavations are still ongoing) show that the supply of amphora-born commodities came predominantly from the eastern and southern Black Sea region, making it thus a local or regional network. Interestingly, in the 1st–3rd centuries AD, Aegean imports, probably in the form of better quality wine and olive oil for the camp command elite, were much more popular than those from the northern Black Sea region, the latter occurring only sporadically. Moreover, the West Pontic area apparently played no part in supplying Apsaros because containers produced in the territories of modern Bulgaria or Romania have not been identified so far in any of the assemblages from the site. The pattern of supply did not change considerably from the Roman to the Byzantine period, but regionalization evidently increased as indicated by the statistically insignificant number of imports from outside the Black Sea region during Late Antiquity.*

## Keywords

*amphorae, production, transport, imports, Gonio, Apsaros, Colchis, Black Sea region, Roman period, Byzantine period*

Roman Apsaros (modern Gonio) is situated in western Georgia, ancient Colchis, in the Black Sea littoral, some 10 km south of Batumi in the modern district of Adjara. In antiquity, both sea and land routes connecting Trapezus and Sebastopolis crossed the area, which made

it an important political and economic centre in the Black Sea region.<sup>1</sup> During the early and mid-Roman period (1st–3rd century AD) it was one of the principal Roman fortresses on the Pontus–Caucasian frontier, and, apart from a short period of abandonment between the second

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<sup>1</sup> Kamadadze 2019, 91.

half of the 3rd and the mid-6th century AD, it continued in use throughout the Byzantine and Ottoman periods.<sup>2</sup> Excavations started in 1995 by a Georgian team have continued until the present. The most important studies of pottery concerned amphorae,<sup>3</sup> terra sigillata<sup>4</sup> and plain wares,<sup>5</sup> but considering that these were published almost 20 years ago, it is time to present updated results, especially given the appearance of new material even as research methods have developed.

The Gonio–Apsaros Polish–Georgian Expedition, which has been excavating the site of Apsaros since 2014, uncovered a considerable number of pottery fragments, including tableware, transport containers, and building ceramics. By 2021, 1243 diagnostic fragments of amphorae dated from the 1st to the 7th centuries AD had been recorded. The origin of 970 (78.04%) of these fragments was identified by macroscopic analyses. They represent the following provenance groups: East-Pontic/Colchian ('brown-clay' amphorae), South-Pontic (Sinopean and Heracleian), North-Pontic, unidentified Pontic, Aegean and Eastern Mediterranean/Pontic LRA 1 (the remaining sherds were not identified) (Table 1 and Fig. 1).

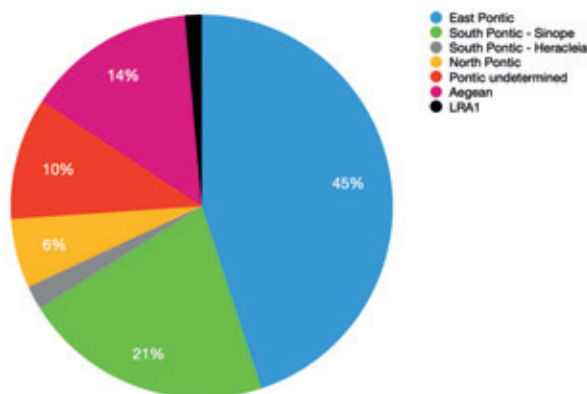


Fig. 1. Origin of amphorae discovered in Gonio-Apsaros

### East-Pontic/Colchian ('brown-clay' amphorae)

Amphorae produced in Roman and Byzantine times in the eastern part of the Black Sea region (often called 'Colchian') are distinguished by the brown colour of the clay, which varies from container to container: usually orange through strong brown (Munsell 2.5YR 5/8), red (Munsell

7.5YR 4/6 and 10R 5/6) or dark reddish-brown (Munsell 10R 4/6 or 10R 4/8). The fabric is in general hydromicaeous, hence easily distinguishable; it is characterized by a high iron content, plus pyroxene, quartz, plagioclase, and plutonic, basaltic and other sedimentary rocks and minerals of varying amount. For the Roman-period amphorae, Vnukov has distinguished two types of the fabric: Fabric 1 – similar to Sinopean pottery, with a high content of pyroxene and basaltic sand;<sup>6</sup> and Fabric 2 – typical of Adjara and Abkhazia, and similar to the fabric of Colchian *pithoi*, more variegated because apart from plutonic rock, it also contains basaltic and sedimentary rocks and minerals.<sup>7</sup> At Gonio-Apsaros, the first fabric ('local recipe') strongly dominates the second one ('Sinopean recipe'). The colour of the clay is usually reddish brown, red or light red (Munsell 2.5YR 4/4, 4/6, 4/8, 5/4, 5/6, 5/8; 10R 4/6, 5/6, 5/8, 6/8 and 7/8). As for the Byzantine amphora finds from Gonio-Apsaros, the fabrics are much coarser and they contain more quartz but less pyroxene. The following fabrics have been distinguished:

Fabric 1 – light brown in colour, with occasional pinkish/orange hues and variable amounts of quartz, pyroxene and grey-to-reddish rock fragments;<sup>8</sup>

Fabric 2 – reddish-brown, with small and middle-sized white temper and occasional rock fragments;

Fabric 3 – coarse orange fabric containing abundant white inclusions and some pyroxene and other indefinite inclusions.

The morphological features suggest that all East-Pontic/Colchian amphorae belong to one container type, Ch 1, which can be divided into four chronological variants: Ch1A (Hellenistic), Ch1B (Hellenistic and early Roman), Ch1C (1st and 2nd centuries AD) and Ch1D (Byzantine). All four variants are egg-shaped or elongated, with a short, cylindrical neck and oval handles; their volume varies between 15 and 20 liters.<sup>9</sup> The main characteristic of early and middle Roman 'brown-clay' containers (Ch1B and Ch1C) is a 'waist' that appears in the lower third of the body, which is due to the upper and lower parts of the vessels being shaped separately and then joined. Variant Ch1C is larger than Ch1B, and is additionally distinguished by a sharp rib under the rim, level with the upper handle attachment. An indenta-

<sup>2</sup> Kakhidze 2003; Karasiewicz-Szczypiorski et al. 2016; Mamuladze et al. 2016.

<sup>3</sup> Khalvashi 2002.

<sup>4</sup> Ebralidze 2005.

<sup>5</sup> Rogava 2016.

<sup>6</sup> Tsatskhladze, Vnukov 1992, 359 and 378; Tsatskhladze, Vnukov 1993, 91; Vnukov 2010a, 30, pl. 6.1–6.2; Vnukov 2011, 271–272; Kassab Tezgör 2013, 155; Vnukov 2013, 33; Kassab Tezgör 2020, 50–61.

<sup>7</sup> Tsatskhladze, Vnukov 1992, 359; Tsatskhladze, Vnukov 1993, 91; Vnukov 2009, 30, pl. 6.1–6.2; Vnukov 2011, 271–272. Vnukov claims that the Abkhazian type contains very little pyroxene: Vnukov 2013, 33.

<sup>8</sup> This matches the Colchian amphora fabric repertoire published by Opař: Opař 2015, 290–291, figs. 19–25.

<sup>9</sup> Vnukov 2003, 160–164 and 191–192.

	East Pontic	South Pontic - Sinope	South Pontic - Heracleia	North Pontic	Pontic undetermined	Aegean	LRA1	Total
Number	445	209	20	38	102	142	14	970
Percentage	45,88	21,55	2,06	5,98	10,52	14,64	1,44	100

Table 1. Origin of amphorae discovered in Gonio

Type	Ch1B	Ch1B/C	Ch1C	Ch1C/D	Ch1D	Total
Number	55	231	48	7	104	445
Percentage	12,36	51,91	10,77	1,57	23,37	100

Table 2. East Pontic amphorae discovered in Gonio

	Snp B 'thick-walled'	Sin II 'thin walled'	Sin IVb	Snp D	Sinopean B undetermined	Shelov	Total
Numbers	12	16	8	10	163	20	229
Percentage	5,24	6,99	3,49	4,37	71,18	8,73	100

Table 3. Sinopean and Heracleian amphorae discovered in Gonio

	Ps-Rhodian	Dr 24/Dr 24 sim	Aegean unidentified	Pseudo-Koan	Total
Number	37	41	63	1	142
Percentage	26,06	28,87	44,37	0,7	100

Table 4. Aegean amphorae discovered in Gonio

	Zeest 72	Zeest 75 similis	MR5	Total
Numbers	20	15	3	38
Percentage	52,63	39,47	7,89	100

Table 5. North Pontic amphora fragments discovered in Gonio

	Antonova 5	Type IV	Type III	Total
Numbers	75	17	10	102
Percentage	84,27	4,49	11,24	100

Table 6. Undetermined Pontic amphorae discovered in Gonio

tion corresponding to the rib—in some examples an actual groove—may be observed on the inside of the neck.<sup>10</sup> The Late Roman and Byzantine 'brown-clay' amphorae (Ch1D), which appeared around the mid-4th century AD and continued to be produced until the 7th century AD, are smaller than Ch1C2 and have a characteristic rib right under the rim in the form of a finger-made groove; the rim is usually triangular, while handles are always flat.<sup>11</sup>

No complete example of an East-Pontic/Colchian amphorae has been found at Gonio-Apsaros, only handles, rims and bases, occasionally entire necks with rims, handles and parts of shoulders. They belong to Roman and Byzantine variants, namely Ch1B (most probably Ch1B2), Ch1C and Ch1D.

Finds of East-Pontic/Colchian amphorae (?) are concentrated in the Black Sea region; outside Colchis, they have

<sup>10</sup> Tsatskheladze 1992, 91–104; Tsatskheladze, Vnukov 1993, 83–88; Tsatskheladze 1999, 109–113; Vnukov 2003, 166 and 170; Vnukov 2009, 30.

<sup>11</sup> Vnukov 2011, 276–277, fig. 7; Inaishvili, Khalvashi 2011, 265–266, fig. 1. For a detailed typological study of this type see: Opař 2015, 285–288.



Fig. 2. East Pontic/Colchian amphora types: a – Ch1B, b – Ch1C, c – Ch1D (photo and drawings: P. Komar, A. Rogava)

been discovered in the Eastern and Northern Pontic.<sup>12</sup> They seldom appear beyond the Black Sea, for example in Syria (although they might have been produced also outside of the Pontic region).<sup>13</sup> As for their content, wax, honey, linseed oil and wine have all been proposed.<sup>14</sup> Organic residue analyses may yet shed some light on this issue.

### South-Pontic amphorae (Sinopean and Heracleian)

Sinope and Heraclea Pontica are two south-Pontic pottery production centres represented in the material from Gonio-Apsaros.

#### Sinopean production

Sinopean amphorae of the Roman and Byzantine period can generally be divided into three groups: B, C and D, all of which were produced, among others, in the Demirci workshop between the 2nd/3rd and the 6th centuries AD. The groups differ in clay colour, which may be red (C Snp)<sup>15</sup>, pink (B Snp) or creamy/white (D Snp), depending on the firing temperature. The main fabric components include pyroxene (large amounts), calcite, quartz and feldspar, rarely mica.<sup>16</sup> The content of Sinopean amphorae is uncertain. Both wine and olive oil are possibilities, and fish sauces, too, cannot be excluded,<sup>17</sup> hence in the absence of archaeometric analyses, it is reasonable to assume that they were multi-purpose containers.

In Gonio/Apsaros, amphorae belonging to groups B Snp and D Snp were clearly present, even if the form was not always recognizable due to the poor state of preservation of the material. Containers belonging to group Snp C have not been confirmed so far, probably because the Apsaros fortress was abandoned for most of the period during which these containers were produced (4th–6th century AD).

**Group B Snp** – pink, yellowish or light orange in colour, sometimes tinged mauve on the inside; the fabric contains

high amounts of pyroxene, quartz, calcite and plagioclase. Amphorae belonging to this group (B Snp I–III/Knossos 26/27) are large (height about 100 cm, diameter approximately 42–48 cm, rim diameter about 12 cm), thick-walled and have massive handles that are oval in section, as well as a rounded rim. They have a convex belly and pointed base, and can be divided into three subgroups depending on the shape of the neck.<sup>18</sup>

Thin-walled and more slender Sinopean amphorae with conical bottoms (Sin II type), dating from the beginning of the 2nd to the first half of the 3rd century AD, have a cylindrical or slightly swollen neck, and a rounded rim with an occasional groove under it, whilst their handles might be cylindrical in section or bifid.<sup>19</sup> Moreover, a flat-based container with a narrow neck, known as Sin IV, was produced in Sinope between the late 1st century BC and the early 4th century AD and its variant Sin IVb is attested in Gonio-Apsaros.<sup>20</sup> All these forms are present at the site, but Sin II and B Snp I–III are much more common than Sin IVb containers. The fabric is similar and the colour is light reddish brown and light red according to the Munsell Charts (2.5YR 7/4, 7/6) or light red (10R 7/6).

**Group D Snp** – typical of the Byzantine period, is characterized by a light-coloured clay (light pink or light beige, sometimes with yellowish or greenish hues),<sup>21</sup> which is a consequence of firing in a very high temperature (higher than C Snp) and a reducing atmosphere.<sup>22</sup> The fabric composition does not differ from previous Sinopean containers, but the form is completely different: D Snp amphorae have a straight neck ending in a rounded and irregular rim, a conical body and grooved handles, and their shape resembles LRA1 amphorae to some extent.<sup>23</sup> They were produced in the 6th and 7th centuries AD, and considering that they are frequently found in the northern Black Sea region, it is possible that they were manufactured not only in Sinope, but also in other Pontic centres.<sup>24</sup> They are not as frequent at Gonio-Apsaros as the Roman Sinopean amphorae belonging to the B Snp group.

12 Inaishvili, Khalvashi 2013, 351; Smokotina 2016, 715; Fedoseev et al. 2010, 79–81, figs. 22–23.

13 Kassab Tezgör, Akkaya 2000, 133; Kassab Tezgör, Touma 2001, 113–114, figs. 13–14.

14 Kvirkevelia 2010, 129; Opaiț 2015, 284 and 288; Kassab Tezgör 2020, 56.

15 The so-called ‘Carrot amphorae’ (C Snp II and C Snp III) belong to this group: Kassab Tezgör 2010, 169; Vnukov 2010b, 368; Opaiț 2010b, 379–398; Kassab Tezgör 2011, 198–199; Dobrev 2017, 266; Kassab Tezgör 2020, 21–34.

16 Vnukov 2006, 64–77; Kassab Tezgör 2010, 167, pl. 3; Vnukov 2017, 107–108.

17 Kassab Tezgör 2010, 172–173; Dobrev 2017, 260; Kassab Tezgör 2020, 61; see also: Strabo 2.1.15 and 12.3.12; Xen. *Anab.* 6.1.15.

18 Kassab Tezgör 2010, 167; Dobrev 2017, 260–262.

19 Vnukov 2003, 22, fig. 2.2a and 96–101; Inaishvili, Khalvashi 2010, 499; Khalvashi 2010, 34.

20 Vnukov 2003, 147–156; Vnukov 2010b, 364; Inaishvili, Khalvashi 2010, 499.

21 The colour of the fragments from Gonio is pink according to the Munsell Soil Charts (5YR 8/3 and 8/4).

22 Kassab Tezgör 2020, 34. But note that certain examples of group D amphorae were orange/red, similar to group C.

23 Kassab Tezgör 2020, 41 and 93.

24 Kassab Tezgör 2010, 171; Kassab Tezgör 2011, 200; Dobrev 2017, 260.



Amphorae produced in Heraclea Pontica are often described as ‘light-clay containers’ due to the colour of the fabric, which is a very pale red or brown (Munsell 2.5Y 8/2–8/3, 7.5YR 6/6, 8/3–8/4). It contains pyroxene and sand, as well as brown, probably volcanic inclusions and yellow opaque fragments of quartz.<sup>25</sup> These amphorae are often called ‘narrow-neck containers’ and have been classified as Shelov A, B, C, D, E and F types, which differ mostly by the shape of the necks and bodies.<sup>26</sup> ‘Light-clay’ containers were produced between the 1st and 4th centuries AD in Alaplı (modern Ereğli), situated 12 km south of Heraclea Pontica.<sup>27</sup> Two fabrics have been distinguished for amphorae produced in Heraclea Pontica, both having a calcareous clay matrix with rare ferruginous inclusions: Fabric 1 – contains grains of plagioclase and quartz; and Fabric 2 – tempered with local sea sand, containing andesite, basalt, pyroxene, hornblende and magnetite.<sup>28</sup>

It has been assumed that Heracleian amphorae were used for wine transport.<sup>29</sup> As archaeometric analyses of organic residues are still pending, there are no scientific premises for this supposition. ‘Light clay narrow-neck’ containers, probably belonging to Shelov B and D types, have been attested at Gonio-Apsaros, but were considerably less common there than Sinopean imports. It merits note that amphorae apparently similar to Shelov types were also produced in Demirci between the 2nd and 4th centuries AD; however, Heracleian products are brighter in colour than the Sinopean ones and have no pinkish hue. Moreover, Heracleian vessels contain less pyroxene and have not one, but two grooves on the handles.<sup>30</sup> The fragments from Gonio-Apsaros are puzzling, because they have two grooves on the handles and a very small amount of pyroxene, but their colour is light red according to the Munsell Soil Chart (2.5YR 7/8), which means that their Heracleian origin is not entirely certain. Nevertheless, until proved to the contrary by the results of archaeometric analyses, they will be classified as such in order to distinguish them from the typical Sinopean production.

## Aegean

The variety of Aegean amphorae discovered in Gonio-Apsaros is not particularly broad, because it includes only Central Aegean containers of the type Dr 24 and Dr 24 *similis* (41 fragments) as well as the so-called Pseudo-Rhodian vessels (37 fragments), which were most likely produced in the south-eastern part of the region. Moreover, one handle fragment that could be classified as Pseudo-Koan (166M/18/1) was attested; it is double-barreled, light red (Munsell 2.5YR 6/6) and contains a considerable amount of mica and some quartz inclusions. The remaining 63 fragments of handles were not identified. Their fabric resembles Dr 24/24 *similis*, but their dimensions are much bigger than the handles of these amphorae (up to 20 cm).

### Aegean amphorae – Pseudo-Rhodian

Several fragments discovered in Gonio-Apsaros belong to the so-called Pseudo-Rhodian type 1 amphora (sometimes called Pseudo-Cretan),<sup>31</sup> which was first recognized and classified by T.L. Samojlova in Tyras.<sup>32</sup> This type with its characteristic peaked handles resembles containers manufactured on both Crete (Dressel 43/AC4)<sup>33</sup> and Rhodes (Camulodunum 184).<sup>34</sup> The examples found in Tyras are made of well-fired, red or pink clay with a considerable amount of gold mica and a beige or creamy slip, but some of them contained also sand and brown inclusions. Their production place(s) have not been identified as yet, but the fabric rich in mica points to the eastern Aegean, probably western Asia Minor. Morphological features suggest both Rhodes and Crete as possible places of the origin of this type, but the former is more probable.<sup>35</sup> Borislavova suggests that they originated in the north-eastern Aegean or western Asia Minor.<sup>36</sup>

Pseudo-Rhodian amphorae appear in the material from Dobruja and the Lower Danubian region dated to the 2nd and first half of the 3rd centuries AD, but have not so far been

25 Biernacki, Klenina 2010, 984; Dobрева 2017, 247.

26 Šelov 1978.

27 Dobрева 2017, 246.

28 Vnukov 2006, 48–57; Vnukov 2017, 107.

29 Arsen'eva, Kassab Tezgör, Naumenko 1997, 187.

30 Dobрева 2017, 246–247.

31 Opaît, Ionescu 2016, 60.

32 Samojlova 1978, 255, fig. 1.1.

33 Marangou-Lerat 1995.

34 Roman Amphorae: a digital resource University of Southampton, 2005. (updated 2014) <https://doi.org/10.5284/1028192>, [https://archaeologydataservice.ac.uk/archives/view/amphora\\_ahrb\\_2005/details.cfm?id=74&CFID=9f70591c-170c-4112-86e4-eabe2a989cac&CFTOKEN=0](https://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=74&CFID=9f70591c-170c-4112-86e4-eabe2a989cac&CFTOKEN=0).

35 Masûta 2019, 101–104.

36 Borislavova 2020, 468–469.

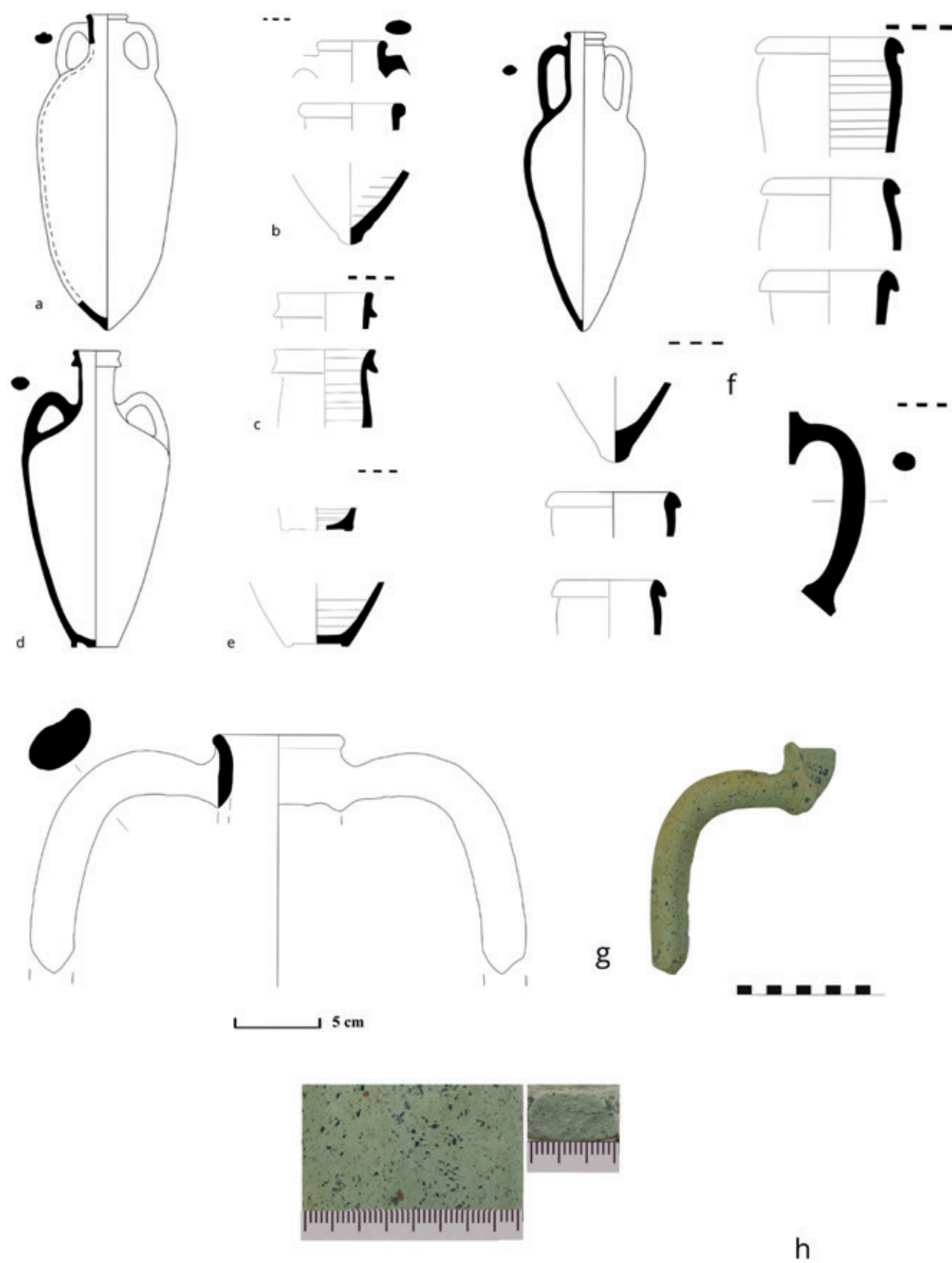


Fig. 3. Sinopean amphora types: a, b – Sin B II, c, d, e – Sin IVb, f – Sin II, g, h – Snp D (photo and drawings: P. Komar, A. Rogava)

attested in the Mediterranean. Their distribution is generally limited to the Danubian region (Pannonia, Upper and Lower Moesia, Roman Dacia) and they are often associated with military settlements, which suggests their role in the food supply for the Roman army.<sup>37</sup> Assuming their Rhodian origin and their wine content are proved by archaeometric analyses, they will provide evidence for good-quality Aegean wine that was very popular in Rome being imported on demand for the Roman army, probably the military elites that would not be easily satisfied with locally produced, lower quality beverages that formed a part of an ordinary soldiers' menu.

In Gonio-Apsaros, fragments of these amphorae were attested earlier, often in association with 2nd century material.<sup>38</sup> The current excavation has provided several fragments of bases, necks and handles, including one handle discovered on the surface of a floor mosaic in the Roman baths situated in the centre of the fortress. These sherds are characterized by a very fine creamy fabric (Munsell 10R 7/8) complete with tiny voids and mica or small, white inclusions, as well as a paler slip on the outer surface (Munsell 2.5 YR 8/4). Two fabric variants are in evidence: Fabric 1 – containing more silver mica and no other inclusions visible to the naked eye; and Fabric 2 – with only occasional mica and small white inclusions (possibly limestone), which resembles Rhodian Fabric 2 according to Peacock and Williams,<sup>39</sup> or Fabric 3 according to Bezeczky.<sup>40</sup>

Meriting note are two bases and one handle resembling the Pseudo-Rhodian form, but made of a completely different fabrics 1 – coarse, with no mica, but large amounts of sand (G2016/nn18, GA375/18/22); 2 (G2017/616) – coarse, light red (Munsell 10R 6/8), with considerable amounts of mica, variable-sized pyroxene grains and large white and grey inclusions.

### Central Aegean – Dr 24 and Dr 24 *similis*

This group includes the so called 'amphora with funnel-shaped rim' produced on Chios, in Argos, Erythrai and around Ephesus. The content of these vessels continues to be debated. Both wine and olive oil can be considered, based on container shape, its place of production and the content of the *dipinti*.<sup>41</sup> The fabric is very characteristic,

fine and hard-fired, with silver or gold mica. Dr 24 is usually pinkish white or pink (Munsell 2.5YR 8/2–8/4), yellow (Munsell 10YR 7/6), reddish yellow (Munsell 7.5YR 6/6) or brownish yellow (Munsell 10YR 6/6–6/8) and contains small amounts of quartz, calcite, as well as probably iron oxides, which are grayish-black.<sup>42</sup> Dr 24 *similis*, produced in Erythrai, appears in two fabrics: 1. beige or pinkish beige, fine and compact with calcareous inclusions and little mica; 2. brownish or purplish-brown with more calcareous inclusions.<sup>43</sup> 'Amphorae with funnel-shaped rim' produced on Chios are abundant with mica, contrary to those originating from Erythrai.<sup>44</sup>

This type is represented in Gonio-Apsaros mostly by small fragments of bases and handles, as well as a few rims; here, too, no complete vessel has been attested. Two fabrics have been distinguished:

Fabric 1 – fine and compact, light red or pink (Munsell 10R 6/6, 7/6, 7/8; 2.5YR 7/6, 5YR 7/3), often with remains of a paler slip (Munsell 2.5YR 7/4, 7/6, 8/4; 5YR 8/3; 7.5YR 8/3) and a considerable amount of silver mica (sometimes, but rarely also golden) and very small, round voids, hardly visible macroscopically (resembles fabrics g and j identified by Opaît and Tsaravopoulos).<sup>45</sup> The considerable amount of mica suggests that these fragments might have originated on Chios, but this hypothesis needs confirmation by further petrological studies.

Fabric 2 – orange-reddish with a considerable amount of small, rounded (0.1 mm) and bigger, elongated (up to 1 mm) voids and large amounts of irregular white inclusions of varied dimensions (0.1–1 mm). This fabric is represented by one vessel only (GA4/201/19).

If organic analyses confirm olive oil as the content of the Dr 24 and Dr 24 *similis* vessels found in Gonio-Apsaros, it will provide evidence that not only Aegean wine, but also olive oil from this region were imported to the Roman forts in the eastern Black Sea region. However, considering that Aegean imports were not as common as imports from the southern Black Sea region (Sinope and Heraclea

37 Type V by Opaît: Opaît 1980, 301, pls V.5 and XII, 3; Type 36 by Paraschiv: Paraschiv 2006, 81, 82 and 108–109, pl. 17.10–15; Masùta 2019, 106–107.

38 Khalvashi 2010, 33.

39 Peacock, Williams 1986, 104.

40 Bezeczky 2013, 41.

41 Karagiorgou 2001, 146–149; Opaît 2007, 629 and 633; Opaît, Tsaravopoulos 2011, 280 and 317–318.

42 Opaît 2007, 628–629; Bezeczky 2013, 73.

43 Lungu 2010, 48.

44 Opaît, Tsaravopoulos 2011, 317–318.

45 Opaît, Tsaravopoulos 2011, 302.

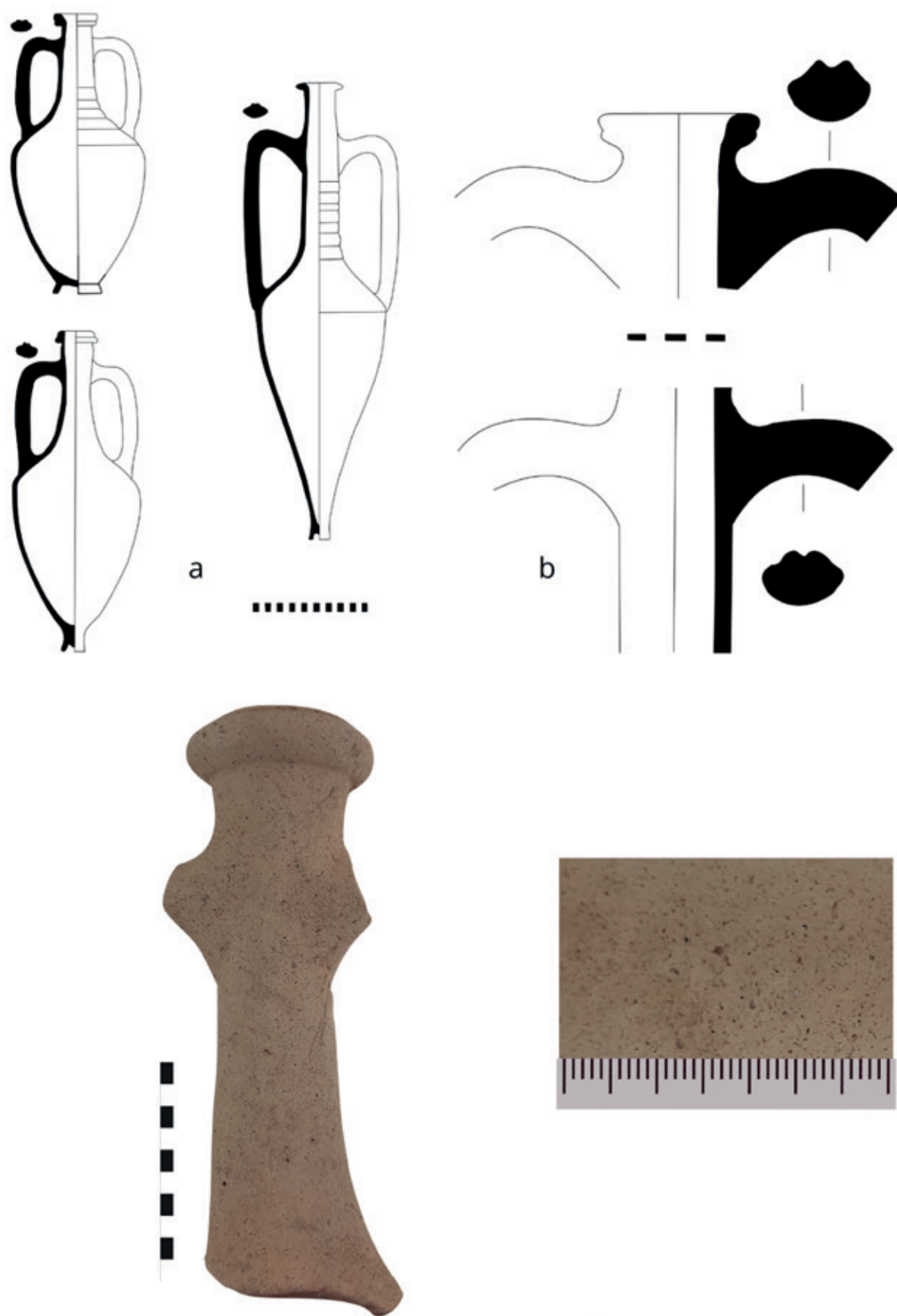


Fig. 4. Heracleian amphorae: a – complete Heracleian amphorae type Shelov A, B and C, b – fragments of Heracleian containers from Gonio-Apsaros, c – fragment of a Heracleian container from Gonio-Apsaros and the fabric (photo and drawings: P. Komar)

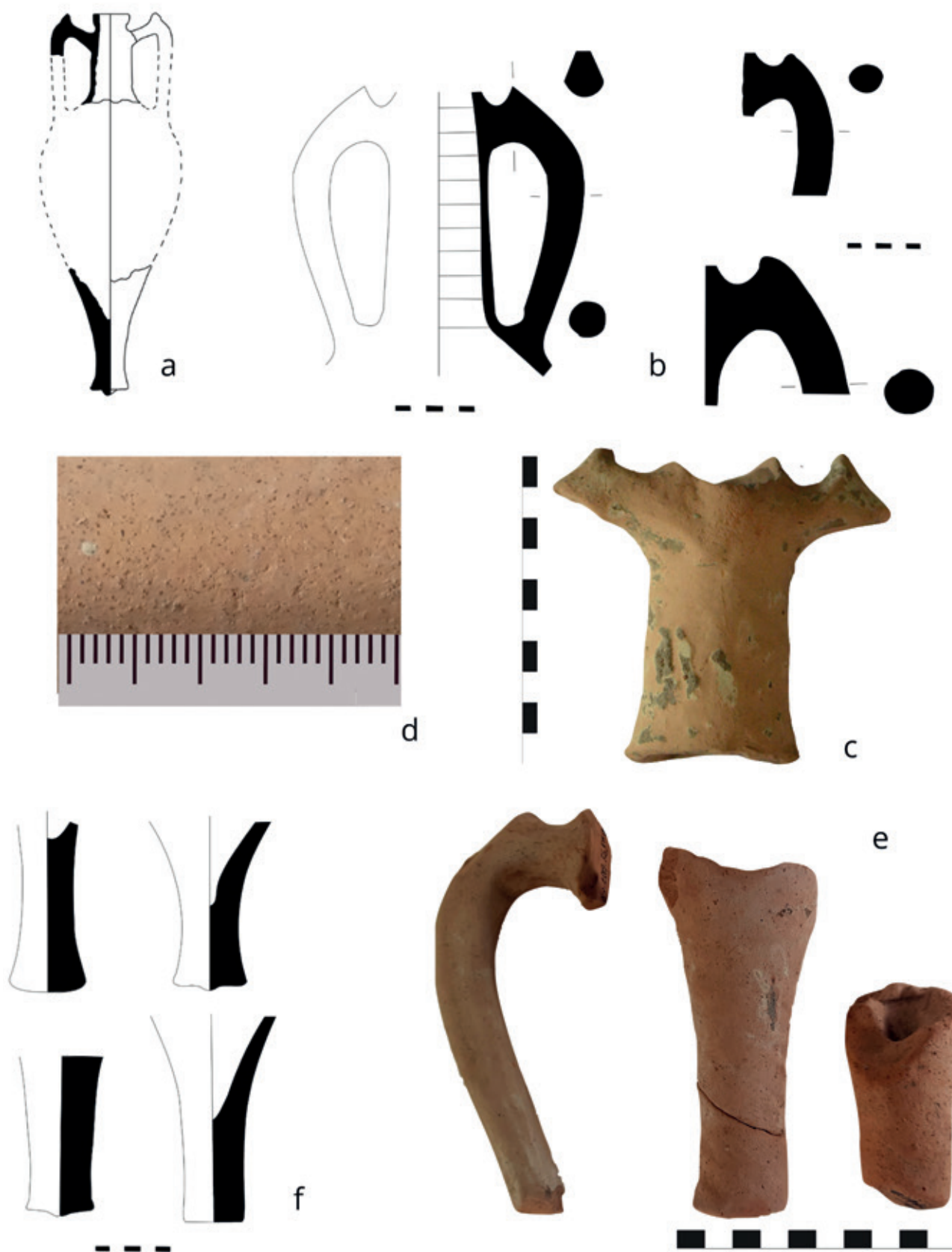


Fig. 5. Aegean amphorae – Pseudo-Rhodian type: a – a complete Pseudo-Rhodian container, b, c, e, f – fragments from Gonio-Apsaros, d – an unusual fabric with quartz inclusions (photo and drawings: P. Komar)



Pontica), it is possible that they came with a food supply for the officers and other members of the army elite

### North-Pontic

North-Pontic amphorae may generally be distinguished by their hydromicaceous fabric, which also contains moderate or large amounts of ferruginous minerals (often in the form of red iron oxides), as well as quartz, limestone (or voids resulting from its burning) and pyroxene.<sup>46</sup> The group includes the forms Zeest 72 (called also ‘Myrmekion Type’ or Bottger I.5, or sometimes combined as Zeest 72–73),<sup>47</sup> Mid-Roman 5/Agora K119 and Zeest 75 (usually classified as North-Pontic, but in the case of Gonio/Apsaros, it might have been produced in the northern Aegean).

**Zeest 72–73** (two variants of the same type) were probably produced around Myrmekion or Panticapaeum in the Crimea between the 2nd and the mid-3rd centuries AD and during the 4th and 5th centuries AD in other Black Sea centres. An Aegean origin of certain variants cannot be excluded. These amphorae are very large, about 110 cm high, with a maximum diameter oscillating between 33 and 40 cm and the rim measuring 12 cm, however, they were produced also in smaller sizes. Their handles are massive and have four regular grooves on their outside, while the inside part is concave. The fabric of Zeest 72–73 is orange or light red (Munsell 10R 6/8) and becomes more beige/yellow on the outside, which is sometimes covered with a light slip. Fine red inclusions (probably iron derivatives <0.5 mm) as well as bigger calcite or limestone particles (0.5–1 mm)<sup>48</sup> can be distinguished. Interestingly, this amphora form was not registered in Khalvashi’s publication,<sup>49</sup> while in the material discovered by the Polish-Georgian expedition they are rare and represented only by small fragments from 15 handles and five rims. Their colour is in most cases described as light red or red (Munsell 2.5YR 5/8, 6/8 and 7/6; 10R 6/8).

**Mid-Roman 5/Agora K 119** amphorae are included in the North Pontic production group for two reasons: because they were discovered mostly in the northern and western Black Sea region and because the results of archaeometric studies suggested their north Pontic provenance. They were produced for a very long period of time (from the 1st to the 6th centuries AD).

Mid-Roman 5/Agora K 119 are large (100 cm high), ovoid (65 cm in diameter) containers with a triangular rim and circular or ovoid ribbed handles and a capacity estimated at 60–80 liters. The fabric is usually orange or brown and contains quartz, iron oxides and inclusions of golden mica, while the clay is similar to that used in local pottery produced in the Dardanelles and Marmara Sea area.<sup>50</sup> Only two handle fragments and one base that may be attributed to MR 5 amphorae have so far been discovered in Gonio-Apsaros. Their fabric is light red (Munsell 10R 6/8 or 2.5YR 6/8) with large amounts of small black and white inclusions, as well as occasional big (up to 3 mm) brown inclusions. **Zeest 75** is another high (125 cm) and ovoid (body diameter 60 cm) amphora, with a triangular rim and almost bifid handles, that probably originated in the northern Black Sea region and was produced between the 2nd and mid-4th centuries AD. Archaeometric analyses of certain fragments (including finds from Tanais) point to the Crimea, either Chersonesos or Panticapaeum, as well as Phanagoria.<sup>51</sup> The southern Black Sea region,<sup>52</sup> even the Aegean islands (Cos or Samos) have also been proposed as possible production centres.<sup>53</sup> The fabric of Zeest 75 is similar to other North Pontic containers, being hard, compact and dark orange or reddish-orange in colour, varying between light red (2.5YR 6/8) to reddish yellow (5YR 6/8). A few small, white sand and clay particles are visible among the inclusions, along with small grains of pyroxene (under 0.3 mm). The fragments discovered in Gonio-Apsaros (two rims, five bases, seven handles and one entire neck with rims and handles) demonstrate morphological similarities with Zeest 75, but the fabric is different, because it contains a considerable amount of golden mica and big fireclay fragments apart from smaller white, grey and black inclusions. The colour is generally bright orange, or according to the Munsell Soil Charts terminology pink or light red (2.5YR 6/8, 7/6; 5YR 6/8; 7.5YR 7/4; 10R 6/8, 7/8).

### Undetermined Pontic

The form **Antonova 5** most likely originated in the Pontic area, however its exact production place remains undetermined. The southern coast was proposed based on its orange fabric resembling Sinopean group C amphorae.<sup>54</sup> Antonova 5 containers were probably produced from the end of the 2nd until the 7th century AD; however, their typol-

46 Vnukov 2006, 61.

47 Opaît, Ionescu 2016, 58.

48 Zeest 1960; Dyczek 1999, 195–197; Opaît, Ionescu 2016, 58; Dobрева 2017, 275–277; Opaît 2021, 363.

49 Khalvashi 2002.

50 Dobрева 2017, 281.

51 Opaît, Paraschiv 2013, 320; Opaît, Ionescu 2016, 69; Dobрева 2017, 278–279.

52 Zeest 1960, 130.

53 Dobрева 2017, 278–279.

54 Inaishvili, Khalvashi 2011, 267; Smokotina 2016, 716.

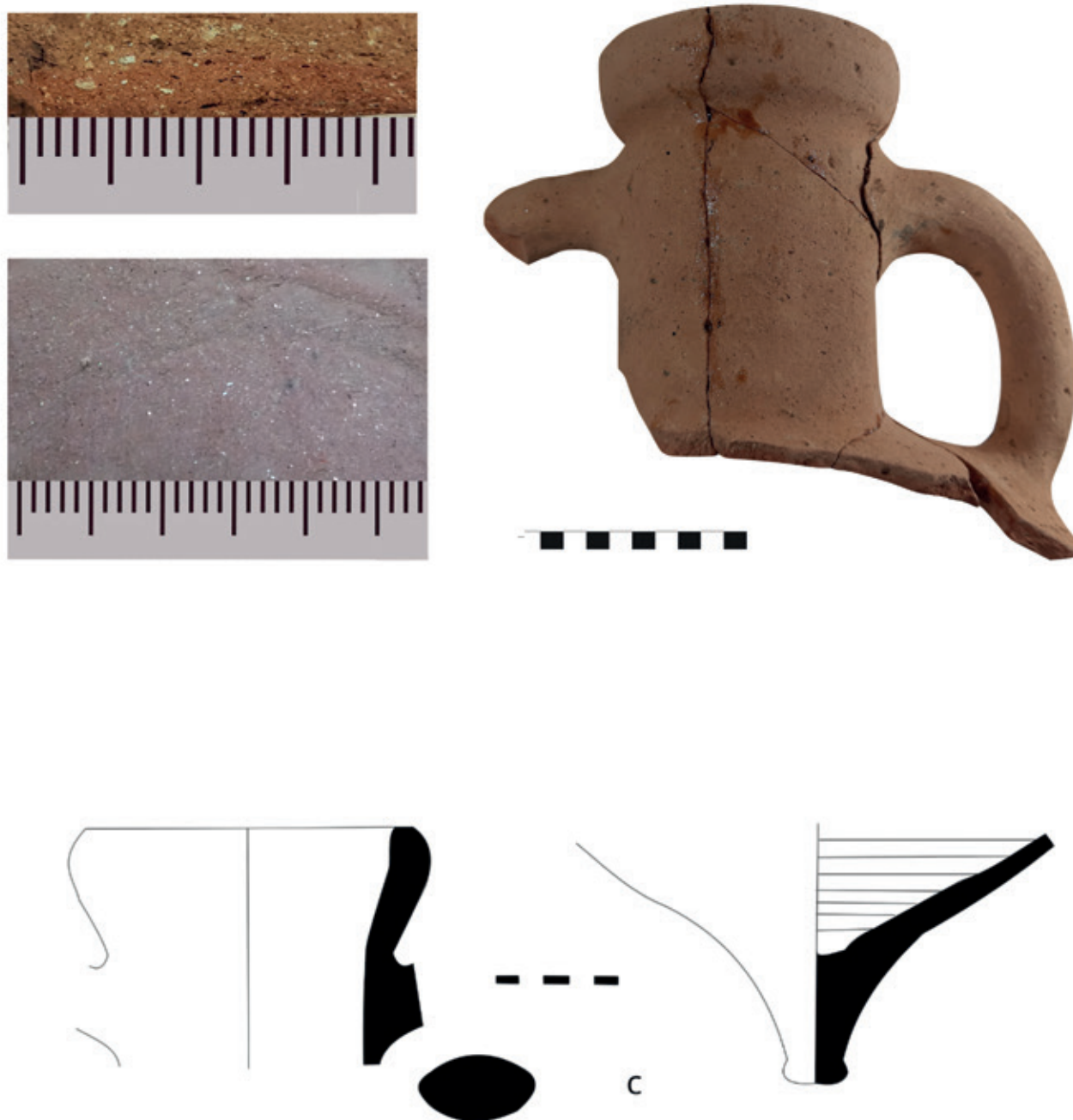


Fig. 6. South Aegean amphora types: a – Dr 24, c – Dr 24 similis (photo and drawings: P. Komar)



Fig. 7. North Pontic amphora types: a – Zeest 75?, b – Zeest 72 (photo and drawings: P. Komar)

ogy is not sufficiently developed. Based on morphological (ovoid ridged body, rounded rim, low, cylindrical neck and oval handles with irregular ridges) and fabric characteristics (fine clay with brown and white inclusions), this form can be identified with the so-called ‘orange-clay’ amphorae classified by Inaishvili and Khalvashi in Gonio-Apsaros and Tsikhizdziri.<sup>55</sup> Fragments belonging to Antonova 5 or Antonova 5 *similis* forms (upper part of the neck with rim, handles and shoulders) predominate in Byzantine layers in Gonio-Apsaros. The fabric is orange or orange-reddish/pinkish (when fired in a higher temperature)<sup>56</sup> and contains small-to-large red-brown, grey and small-to-medium white inclusions. No complete vessel has been discovered so far, but based on the morphological features listed above resembling those of LRA 1 amphora, it is impossible to convincingly deduce the contents of these containers (see below, LRA 1).

Moreover, a number of fragments generally resembling Antonova 5 (Khalvashi’s Type III) were found in Gonio-Apsaros. While the complete form is not known, the morphological features of the preserved upper parts of these containers show three different types: **III.1, III.2 and III.3**, in two different fabrics: Fabric 1 – coarse light brown to light brown-orange/pinkish paste with a considerable amount of brown and red brown inclusions, sometimes white rock fragments and occasionally black inclusions; and Fabric 2 – coarse reddish-brown paste with a variable amount of small-to- large red-brown rock fragments, small-to-medium white inclusions, and some white porous particles (microorganisms?), together with other occasional indefinite inclusions. This recipe is similar to the Antonova 5 fabric but significantly coarser.

The colour of Type III.1–3 fragments takes on various shades of orange: Munsell 2.5YR 5/8, 6/6, 6/7, 6/8, 10R6/8 (red, light red) and 5YR5/8, 6/6 (yellowish red or reddish yellow).

The **Type IV** amphora in Khalvashi’s typology is another vessel the full form of which still cannot be reconstructed.<sup>57</sup> However, the available data (upper parts of containers exclusively) shows that this group includes thin-walled vessels that have symmetrically arched and slightly grooved handles, which are carefully attached to the body. The rim is triangular or rounded. As for the fabric, it is made of

levigated, fine-grained clay, which contains light-brown to pinkish or greyish inclusions as well as varying amounts of small-to-medium white, brown and grey inclusions. Its colour can be described as light red (Munsell 2.5YR 6/8). Given the fabric’s resemblance to the paste of Antonova 5, the form could have been made in one of the unknown Pontic workshops. Without knowing what the vessel actually looked like, speculating about its contents becomes very difficult.

### Undetermined – LRA 1

LRA 1 is practically a pan-Roman container, having been produced during Late Antiquity in many areas of the Eastern Mediterranean, such as Cilicia, Cyprus, the south-eastern Aegean, the coasts of Lycia, Pamphylia and north Syria, as well as probably on Chios, Crete and in the Pontic area.<sup>58</sup> Therefore, it is difficult to determine the provenance of the fragments discovered in Gonio-Apsaros without archaeometric analyses. Moreover, the content of LRA 1 has been widely discussed,<sup>59</sup> but without reaching a consensus. Residual analyses of vessels discovered in Florence have proved that some carried wine, whereas others transported vegetable oil or even animal fats,<sup>60</sup> which means that for the time being LRA 1 should be considered as a multipurpose container. The number of pitch-lined specimens among the LRA 1 finds from the Black Sea region points to wine,<sup>61</sup> at least in the case of the supposed Pontic production.

Fragments of LRA 1 were discovered by both the Georgian<sup>62</sup> and the Polish-Georgian expeditions in Gonio-Apsaros. They are characterized by a cylindrical neck, a flared, at times irregular rim and handles that bear double grooves on the upper side. In the case of many fragments, a macroscopic description of the fabrics was hindered by the abundance of pores and the small size of the majority of the inclusions. The clay texture was used to distinguish two fabrics: Fabric 1 – light beige and hard fired, and Fabric 2 – light beige and more porous fabric, easily broken by hand. Both fabrics are composed of mainly small-sized, light-coloured and small-to-large brown to black coloured inclusions, while some fragments made in Fabric 2 bear traces of white paint. The colour of both fabrics varies from pink to reddish yellow (2.5YR 8/4; 5YR 7/4, 8/3; 7.5YR 6/6, 7/4) according to the Munsell Soil Charts. For

55 Type III in Inaishvili, Khalvashi 2011, 267, fig. 3.

56 Red, reddish yellow and light red according to the Munsell Soil Charts (2.5YR 6/8, 5YR 6/8, 7/6, 7.5 YR 6/6, 10R 6/8).

57 Khalvashi 2002, 47–48, fig. 39.

58 Riley 1981, 116; Empereur, Picon 1989, 237 and 241–242; Arthur 1998, 170; Auriemma 2007, 148, n. 1391 and 149; Opaît 2010a, 1015–1017; Bezeczky 2013, 159; Didioumi 2014, 170–171.

59 Riley 1979, 215; van Alfen 1996, 202–203; Williams 2005, 616–617; Peña 2007, 69; Pieri 2007, 613.

60 Pecci, Salvini, Cantini 2010, 367, tab. 2.

61 Kassab Tezgör 2020, 41.

62 Khalvashi 2002, fig. 34.1, 35.



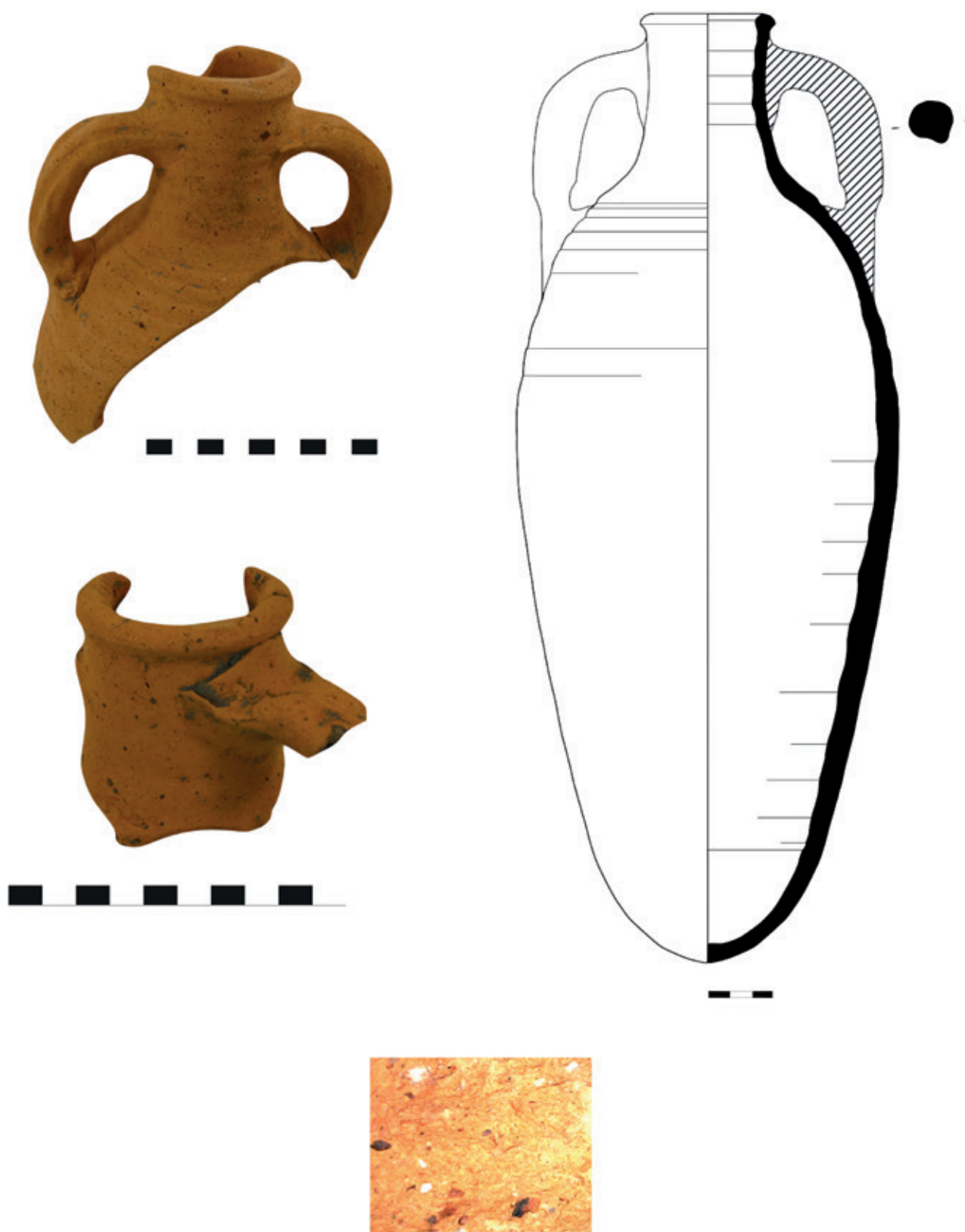


Fig. 8. Antonova 5 amphora types: a – fragments from Gonio-Apsaros, b – fabric (photos and drawings: A. Rogava)

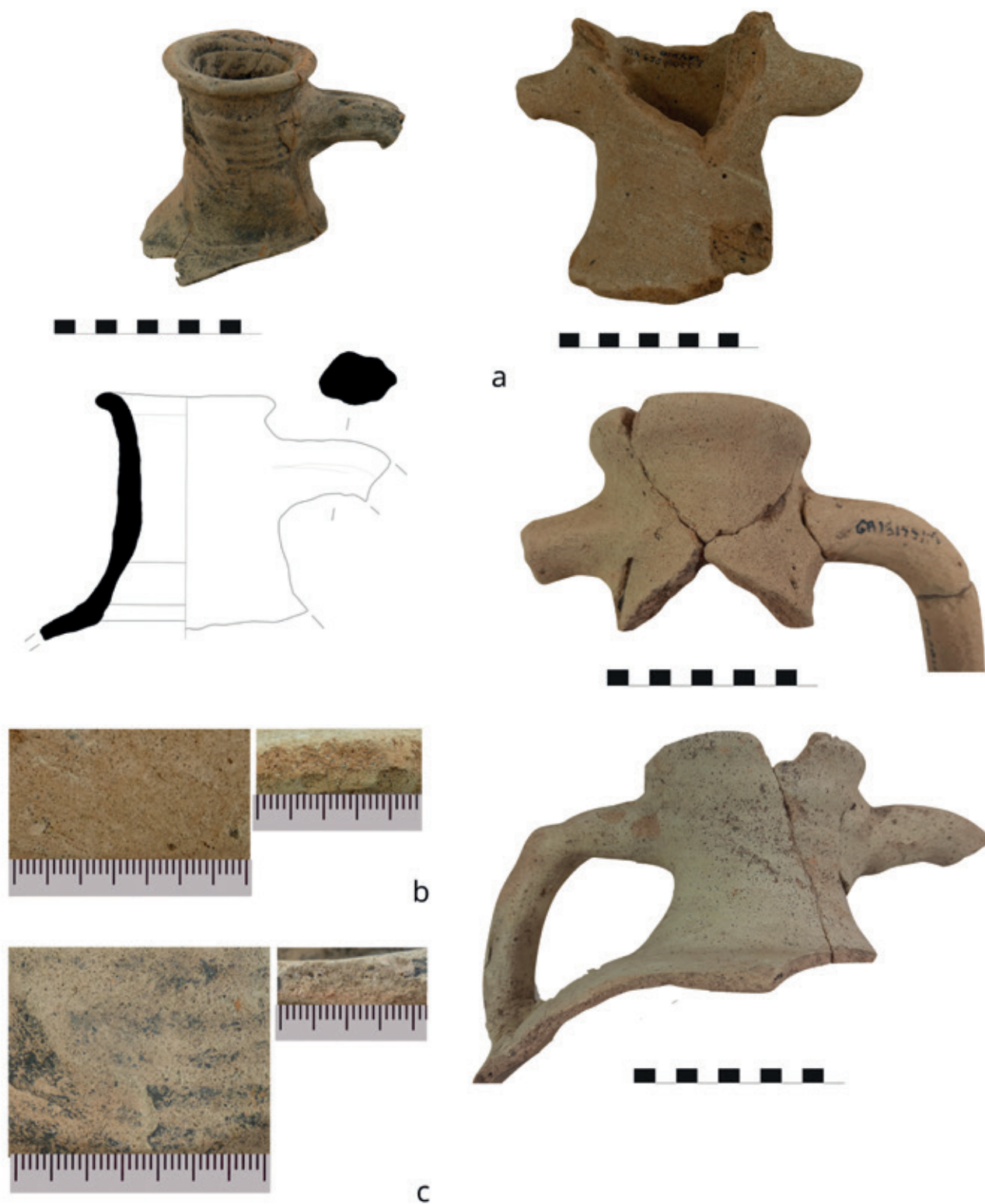


Fig. 9. LRA 1 amphorae: a – fragments from Gonio-Apsaros, b – LRA 1 Fabric 1, c – LRA 1 Fabric B10 (photos and drawings: P. Komar, A. Rogava)

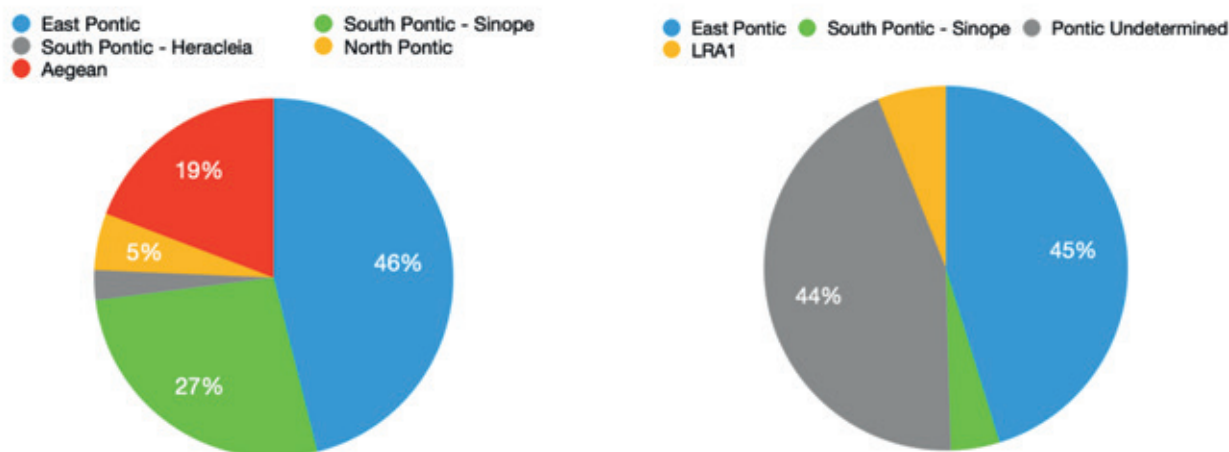


Fig. 10. Provenance of amphorae found in Gonio-Apsaros: right: 1st–3rd centuries AD, left: 6th–7th centuries AD

the time being it is impossible to verify whether the LRA 1 fragments discovered in Gonio-Apsaros were produced within or outside of the Black Sea region.

### Conclusions

The overview of transport containers discovered at Gonio-Apsaros by the Polish-Georgian expedition shows that the supply of the fortress in amphora-born commodities came predominantly from the eastern and southern Black Sea region, which means that it had a local or regional character. It is interesting that Aegean imports, probably in the form of better quality wine and olive oil for the camp commanders, were much more popular than those of presumed northern Black Sea origin, which are only occasional. Moreover, the western Pontic area played no part in supplying Apsaros. According to Opař, the Lower Danube and western Pontic area did not produce “vintage wine” – the flat-based amphorae (table amphorae) manufactured there suggest a specialization in cheap wines for local use instead. However, one should consider the use of barrels for long distance transport in this region; absent from the archaeological record, they do appear in the iconography.<sup>63</sup> This would explain the lack of evidence of western Pontic imports in Apsaros. Overall, the supply patterns in the Roman and Byzantine periods are similar, but it should be emphasized that during Late Antiquity regionalization increased as imports from outside of the Black Sea became much less common or almost non-existent.

It should be noted that there are many gaps in what is known about the supply of Apsaros and other Roman settlements in the Black Sea region. First of all, the exact origin of most of

the forms should be confirmed by petrographic and chemical analyses. This regards mostly the presumed Aegean (Dr 24, Dr 24 *similis*, Pseudo-Rhodian) and North Pontic forms (Zeest 72, Zeest 75?, MR 5), as well as LRA 1, Antonova 5, Type III and Type IV. Secondly, an attempt should be made to identify the content of all the attested amphora types. Based on the shape Opař classifies East Pontic, B Snp I–II, Sin II, IV, Heracleian and Zeest 72–73 as wine amphoras, and treats Zeest 75 and B Snp III as fish containers,<sup>64</sup> but this needs to be confirmed by archaeometric studies. So far, no organic residue analyses focusing on Roman amphorae discovered in the Black Sea region have been undertaken, which makes it difficult to properly understand the supply chains of both civil and military settlements within the area. Although the content of Pseudo-Rhodian, Dressel 24/24 *similis*, as well as some Pontic containers can be guessed based on their shape and possible provenance, hypotheses based only on morphology cannot be accepted when tools exist that can provide the necessary information. To sum up, studies of morphological features as well as macroscopic analyses of fabrics of the amphorae from Gonio-Apsaros have already provided important information regarding the supply of this fortress, but much more needs to be done in order to verify hypotheses by archaeometric analyses.

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<sup>63</sup> Opař 2021, 363.

<sup>64</sup> Opař 2021, 359–368.

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# Architecture of the Residential Complex in Dzalisi (Georgia)

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## Abstract

*During excavations carried out by the Georgian Archaeological Mission of the Archaeological Research Centre of the Academy of Sciences of Georgia in the village of Dzalisi (Georgia) in the 1970s, the remains of a residential complex were uncovered. Georgian archaeologists, expected to discover the archaeological remains of ancient Zalissa, which was mentioned along with other urban centres of Caucasian Iberia by the Alexandrian scholar Claudius Ptolemy, who lived in the 2nd century AD (Ptol., Geog. 5.10.3). Over several seasons of research, impressive architectural remains were uncovered along with richly decorated mosaics. The site was interpreted by Georgian researchers as a palace.*

*This article discusses the residential complex discovered at Dzalisi in the context of the cultural accounts and connections of the Iberian elite with Roman culture and its complex cultural connotations, taking into account the transformations occurring in successive construction phases. A better understanding of the architecture of this intriguing and highly complex site, as well as its infrastructure and artistic programme, may bring us closer to answering the question of the cultural identity of its builders and subsequent generations of users in the context of the dynamically changing geopolitical situation in Iberia and the South Caucasus as a whole during the 2nd–4th centuries AD.*

## Keywords

*architecture, Dzalisi, Iberia Kingdom, Georgia*

In the 1st and 2nd centuries AD, the Kingdom of Caucasian Iberia played a significant role in Rome's foreign policy, emerging as their ally in the Middle East. The Roman historian Tacitus states this in his work *Historiae*.<sup>1</sup> At this time, the South Caucasian tribes came under the influence of Iberia. The kingdom's authorities controlled the main trade routes and strategic places. Iberia reached its years of splendour during the reign of King Pharasmanes II (2nd century AD), through whom the state grew significantly.<sup>2</sup> According to accounts, the Roman Empire wanted to support the Caucasian kingdom as its ally. However, it should be remembered that

the Kingdom of Iberia was not an easy ally for the Roman Empire during this period. One significant event, was the refusal of King Pharasmanes II to accept Emperor Hadrian's invitation. A short-lived deterioration in relations occurred in 129. Shortly thereafter, the Emperor himself sent diplomatic gifts to the King of Iberia.<sup>3</sup> In 135, there was an invasion by the Alans, who remained with Iberia, and also invaded Albania and Parthia. Hadrian at this time maintained garrisons with numerous troops in Colchis, the neighbour of Iberia. During the Alan invasion, the army was improved by the governor of Cappadocia, Flavius Arian.<sup>4</sup>

<sup>1</sup> Tac., *Ann.* 6.32.

<sup>2</sup> Braund 1994, 224.

<sup>3</sup> Braund 1994, 232, *SHA* 17.9, 21.13.

<sup>4</sup> Arr., *Ectaxis* 11.4; Speidel 2009, 602–603.



Fig. 1. Map of archaeological sites in the Caucasian Kingdom of Iberia (after: Braund 1994, 160, map 5, prepared by: N. Lockley)

The Roman Emperor Antoninus Pius invited Pharasmanes II to the capital, bestowing honours on him.<sup>5</sup> The event is described on an inscription found in Ostia.<sup>6</sup> The power of the Kingdom of Iberia in the first centuries AD is also evident in the material culture. Within the ancient state, archaeological excavations have uncovered rich burials of the Iberian elite, the royal family, as well as centres of advanced and diversified craft production and advanced economic and trade relations.<sup>7</sup> One example of such sites is the residential complex of the kings of the Caucasus state, which is located at Armazi (hill next to Mccheta/ancient Harmozika). The architectural relics date from the 2nd to 3rd centuries AD.<sup>8</sup> Structures identified as a palace, baths, outbuildings, water channels and cult buildings have been discovered. An unusual group of artefacts were also discovered during archaeological investigations around the Iberian capital (Armaziskhevi, Baginati, Machabeli). These included silver plates with Antinous, a gold medallion with Marcus Aurelius and aureus coins, which may also bear witness to diplomatic gifts or the exchange of messages between Iberia and the Empire.<sup>9</sup>

The residence of the Iberian kings was located on the right bank of the Mtkvari (Kura), in Armazitshevi. Excavations here have revealed a palace complex and necropolises. Capitals, reliefs and cornices were discovered

on the palace site. A typical Roman bathhouse was located there also.

The baths of Armazitshevi may provide the closest analogy to the residential complex at Dzalisi. There is a similar layout of baths with an elaborate hypocaust system, which at first glance resembles the aforementioned complex. The royal palace as well as the baths were also built in the Roman style. The complex from Armazi has been dated to around the 2nd century AD, which coincides with the functioning of the Villa of Zalissa. Similarities between the monuments include the similar layout of the rooms, architectural style, size of the buildings and the fact that both complexes probably belonged to the Iberian upper class.<sup>10</sup>

The necropolis of the Iberian elite was adjacent to the palace. The tombs were richly furnished. They are mainly silver and gold objects decorated with precious stones.<sup>11</sup> Among the tomb goods, gold insignias, daggers, diadems, silver vessels and weapons should be singled out. Most of the objects mentioned have characteristics of the craftsmanship of the Roman empire or are imitations of it.<sup>12</sup> It is worth mentioning at this point that richly furnished burials of Iberian elites have also been discovered at Bori, Zhgudheri and in the Aragvi valley (Fig. 1).<sup>13</sup>

5 Cass. Dio 69.15.2; Braund 1994, 224.

6 Vidman 1982, 124.

7 Gemkralidze 2014, 6.

8 Apakidze et al. 2004, 128.

9 Braund 1994, 235.

10 Apakidze et al. 1958, 79–81.

11 Braund 1994, 234–237.

12 Gemkralidze 2004, 8.

13 Braund, Javakhishvili, Nemsadze 2009.



Fig. 2. Orthophotomap of Dzalisi taken in spring 2016 (prepared by: M. Antos, O. Bagi, W. Malkowski)

One of the more interesting and noteworthy centres located in Iberia is the town of Zalissa. The name Zalissa appears in the geographical work of the Alexandrian scholar Claudius Ptolemy.<sup>14</sup> It is identified with the modern village of Dzalisi,<sup>15</sup> located in the Mukhrani Valley, some 20 km north-west of the historical cradle of Georgia – Mcheta (ancient Harmozica) and some 50 km from the present-day capital Tbilisi (Fig. 2). The name of this settlement has been mentioned several times in the pages of historical and archaeological works on ancient Georgia, as a locality with ancient roots. Efforts have been made to prove by excavations that it is one of the oldest centres of the Kingdom of Iberia.

At the Dzalisi site, the first excavations were carried out in 1971–1974 by the Mcheta branch of the Archaeological Research Centre of the Academy of Sciences of Georgia, under the direction of A.V. Bokhochadze (Nastakissi

Expedition). Undertaking the research, the Georgian archaeologists expected to discover archaeological remains of ancient Zalissa,<sup>16</sup> which was listed along with other centres of the Kingdom of Iberia by Claudius Ptolemy.<sup>17</sup> The work resulted in the discovery of the remains of an opulent Roman-type villa, with baths and floor mosaics (Fig. 3). This impressive residential complex included both residential and outbuildings. In addition, a developed sewage and pipelines system, cistern, cobbled streets and courtyards, and a large swimming pool (*piscina*) were found within the complex (Fig. 4). The discovery of the baths decorated with mosaics, which are located in the main residence complex, was accompanied by a rich set of finds.<sup>18</sup> The mosaics from the Dzalisi residential complex (dating to the Severian period) are the only floor decorations with figural representations known in Georgia today, unique for their stylistic and iconographic uniqueness and artistic value.

14 Ptol., *Geog.* 5.10.3.

15 Bohočadze 1977.

16 Odišeli 1995, 11.

17 Ptol., *Geog.* 5.10.3.

18 Bohočadze 1977, 93–100; Jaworski 2018, 29–31.



The scale and level of the building's decoration suggest that the complex belonged to representatives of the elite of the Kingdom of Iberia. One of the mosaics discovered bore a Greek inscription with a name that may have belonged to one of the owners of the villa (ΜΝΗCΘΗΠΕΙΚΚΟC / ΟΤΑΤΤΑΠΟΙΗCΑC). The mentioned owner bore the name Preiskos (Priskos, Preskos), which in the Roman form is Priscus. A character with the same name appears among the Iberian elite in the 2nd century AD (Fig. 5).<sup>19</sup>

According to the researchers, who have partly discussed the object on the basis of the workshop similarities of the mosaics, the Priscus House dates to the late 3rd century, as indicated by the workshop similarities of the floor mosaics discovered at Dzalisi to those known from Syrian Antioch.<sup>20</sup> The most impressive of these decorated the *triclinium* room and depicts Dionysus and Ariadne lying on a wedge in the centre, each holding a *thyrsos*. Above the pair is an identifying inscription (ΑΡΙΑΔΝΗ – ΔΙΟΝΥCΟC). On either side of the bed stand a lord and a satyr; below is a crater and a seated panther. Above and below the Dionysian-themed frieze, charites (graces) are depicted, as evidenced by a fragmentary surviving inscription identifying Aglaia. The entire figural composition is complemented by depictions of personifications of the seasons, decorative floral and geometric ornaments.

The entrance, located in the eastern wall of the room with the Dionysian mosaic, leads to the private bath, consisting successively of the *apodyterium*, *frigidarium*, *tepidarium* and *caldarium*. The floors of the bath rooms were also decorated with mosaics, but they are only fragmentarily preserved in the *apodyterium* (geometrical compositions), *frigidarium* (marine representations) and *tepidarium* (representation of a peacock with an inscription containing again the name Priscus and geometrical motifs). At the same time, they are considered to be among the most important ancient monuments found in ancient Iberia. One can risk saying that the structure is the best executed, in terms of workshop and artistic value, monument of this class in the entire region.



Fig. 3. Photo of the 3D model of the mosaics from Dzalisi (prepared by: O. Kubrak, N. Lockley)

<sup>19</sup> CIL 13.8213.

<sup>20</sup> Odišeli 1995, 11–12.



It is worth mentioning that this is an unusual monument in the entire South Caucasus region. The one close parallel we can find is in Garni (Armenia).<sup>21</sup> Garni is a Roman settlement in Armenia located 32 km southeast of Yerevan (the modern capital). The site includes a temple to the god Mithras and Roman private baths. The whole is relatively well preserved and reconstructed. The mosaic is located in the baths in the cold water room (*frigidarium*). The floor depicts mythological figures: the goddess Tethys and the god Oceanos.<sup>22</sup> The pair were placed in the centre of the mosaic. We can identify them on the basis of the inscription describing them. On the mosaic we can also see Eros, Nereides and Triton, whose images are found on the side panels. The floor dates from the second half of the 3rd century AD.<sup>23</sup>

The architectural relics discovered by A.V. Bokhochadze were interpreted as a palace; the residence of either a king or one of the representatives of the Iberian aristocracy.<sup>24</sup> As a result, over the course of several seasons of intensive archaeological research, an architectural complex was uncovered, together with its appurtenances, covering an area of approximately 70 ha.<sup>25</sup> In the southern part of the village of Dzalisi, on the other side of the Narekvavi River, in the area of the modern cemetery, an impressive mausoleum, built of carefully worked limestone blocks, was also discovered, which may mark the site of the ancient necropolis. Unfortunately, apart from sketchily published data on the architecture, mosaics and general information about the monuments, there is no wider description of the material that accompanied the discovery of this impressive residential complex. The only summary of the excavations is a short report published in 1977.<sup>26</sup> Neither the site nor the excavations have yet received the monographic study they undoubtedly deserve. The lack of any published research results and the ability to access them, hinders any further work on the site and makes it impossible to attempt to answer questions about the function of the site or the social status of the site's inhabitants. There is also a lack of compilation of archaeological material from other parts of the site. Georgian research has only been carried out at one site, which does not provide any certainty as to whether the discovered relics of residential architecture can be linked to ancient Zalissa. In order to obtain more conclusive findings, selected areas around the main archaeological site would have had to be surveyed. On the other hand, how-

ever, it can be emphasised that the research team has left the possibility of advanced research to future generations of archaeologists.

The complex has both Roman and Persian features (Persian bases and a Persian-style peristyle have been discovered on the site),<sup>27</sup> which indicates contact with both cultures.<sup>28</sup> Traces of two other baths (located in another part of the building) and a large number of rooms of unspecified purpose have been observed throughout the complex.<sup>29</sup> Knowing the basic principles of ancient architecture, it can be concluded that all private baths functions could not have been functioning at the same time. Archaeologists from the Mccheta branch of the Archaeological Research Centre of the Academy of Sciences of Georgia have uncovered the entire complex from the 1st century AD to the 4th century AD. The northern part, where the preserved mosaics are found, may have been functioning in the 2nd to 3rd centuries AD. We can assume so on the basis of the well-executed floors and inscriptions. There is no information on the separate phases of use, the makeup of the walls. There is a lack of any data on the stratigraphy of the site. To date there is also no access to the artefacts that came from the excavations. The lack of documentation poses problems in correctly interpreting the site, in separating the phases of use and the function of the various unexplained rooms.

In 2016, researchers from the University of Warsaw took topographic measurements of the protected area of the Dzalisi archaeological reserve. The research included the area of the residential complex, where work was previously carried out in the 1970s. According to the geodetic measurements taken, the differences in the elevation of the area are negligible. The reserve with the complex is not located on any elevation, which makes it possible to analyse and try to stratify the architectural phases of the buildings with the help of the orthophotomap and architectural plans made by the Polish-Georgian mission. When analysing the site and the area around it, it seems interesting that no other architectural relics were encountered apart from this complex and the mausoleum, which is located on the other side of the Narekvavi River. The interpretation and separation of the phases of the architectural development at Dzalisi cannot be properly done without a renewed archaeological excavation. Fieldwork

21 Can 2015, 84.

22 Vostchinina 1965, 319–321.

23 Can 2015, 84–85.

24 Bohočadze 1977, 93–100.

25 Jaworski 2018, 29.

26 Bohočadze 1977, 93–100.

27 Bohočadze 1977, 93–100.

28 Khimshiashvili 2001, 1–2.

29 Jaworski 2018, 30.



Fig. 4. Mosaic inscription from Dzalisi (photo: N. Lockley)



Fig. 5. Uncovered pool (piscina) in Dzalisi (photo: P. Jaworski)

and new documentation are necessary for this site. The lack of reports hinders further work on interpreting and untangling the various phases of construction. The architectural plans and projections made by Georgian and Polish archaeologists make it certain that we are dealing with an opulent villa of the upper social class of the Iberian kingdom, or perhaps even a suburban villa of the Iberian aristocracy.<sup>30</sup> The data presented still needs to be verified in the future in the field of the residential complex erected in the village of Dzalisi. It can be assumed that it could have been a suburban villa or a summer palace of the middle class or even the aristocracy of the Iberian kingdom. The entire complex of buildings was executed in the Roman style. In the case of the Iberian elite who were influenced by the political and Roman culture, this is a typical situation, although buildings from Iberia with Persian features and architectural details are also known.

In Vitruvius' *On the Architecture of Books Ten*, information is recorded on the proper arrangement of rooms in a building. The paragraph referring to the direction in which the *triclinium* should be turned seems interesting. In the case of the Dzalisi dining rooms, we must take into account the description of the summer *triclinium*: "*The summer triclinium should be turned to the north, because during the summer equinox of day and night the side of the world is not heated like the others due to the heat, and as it is turned away from the sun it is constantly cool, healthy and pleasant for the time of use*".<sup>31</sup> The ancient author's description of the summer *triclinium* fits perfectly with the location of this room in the residence discovered in the 1970s. We also read in the same author about the social status that results in the size and layout of the house. Among the remarks mentioned is information about the houses of illustrious people. The passage mentions elab-

<sup>30</sup> Jaworski 2018, 29–33.

<sup>31</sup> Vitr., *De arch.* 6.4.2.



orate *atria* and a spacious peristyle. The buildings are grand, splendid and comfortable. This information also applies to suburban houses: “the same principles apply not only to urban buildings, but also in the countryside, with the exception that in the city the *atria* are usually near the entrance, while in the countryside, in houses built on the model of urban ones, there are peristyle directly at the entrance, and only farther away *atria* surrounded all around by porticoes lined with floors and open towards *palestras* and *promenades*”.<sup>32</sup>

The complex of buildings in Dzalisi is an example of a monumental building of a residential character, as mentioned above. The architectural layout of the building in question is quite difficult to interpret due to the complex arrangement of rooms with different functions. In the entire layout, the easiest to identify are the baths, of which there are as many as three in the complex, which may come as a bit of a surprise. We are familiar with such cases from the history of architecture, but usually these are the baths of the emperor or the aristocracy. In the case of the complex in question, it seems that we may have two or more phases of use.<sup>33</sup> It should be assumed that the presence of more than one bath complex may be the result of different processes: a succession of phases in the building in question, or the coalescence of several buildings. Examples of Roman villas from Britain also show that there may have

been more than one bathing establishment (separate bathroom for the host and separate bathing facilities).<sup>34</sup>

### Building phases (Fig. 6)

In the case of the present work, an attempt was made to stratify the architectural phases on the basis of the available plans, which is only a prelude to continuing further research in this direction. The stratification of the phases consisted of comparing and linking together masonry and room surveys of presumably the same building. Initially, the survey measurements (taken in 2016) for the whole site and the area around it were checked. After verifying the data, it can be concluded that the relief of the site surface is almost flat. The orthophotomap taken by the Polish-Georgian mission and the available architectural plan were then analysed in further work. On the plan, the inter-connecting walls and rooms matching a separate phase or part of the complex were marked in colour. This was done on the basis of available knowledge, knowledge of Roman architecture and analogies. In some cases, it was not possible to fully assign all of the walls to a specific part of the building. Due to the incomplete documentation of the site, it was not possible to observe and describe the building and utility levels and to describe them (except for the part with mosaic floors). Knowing the history and architecture of ancient Rome, the question arises as to whether, with its

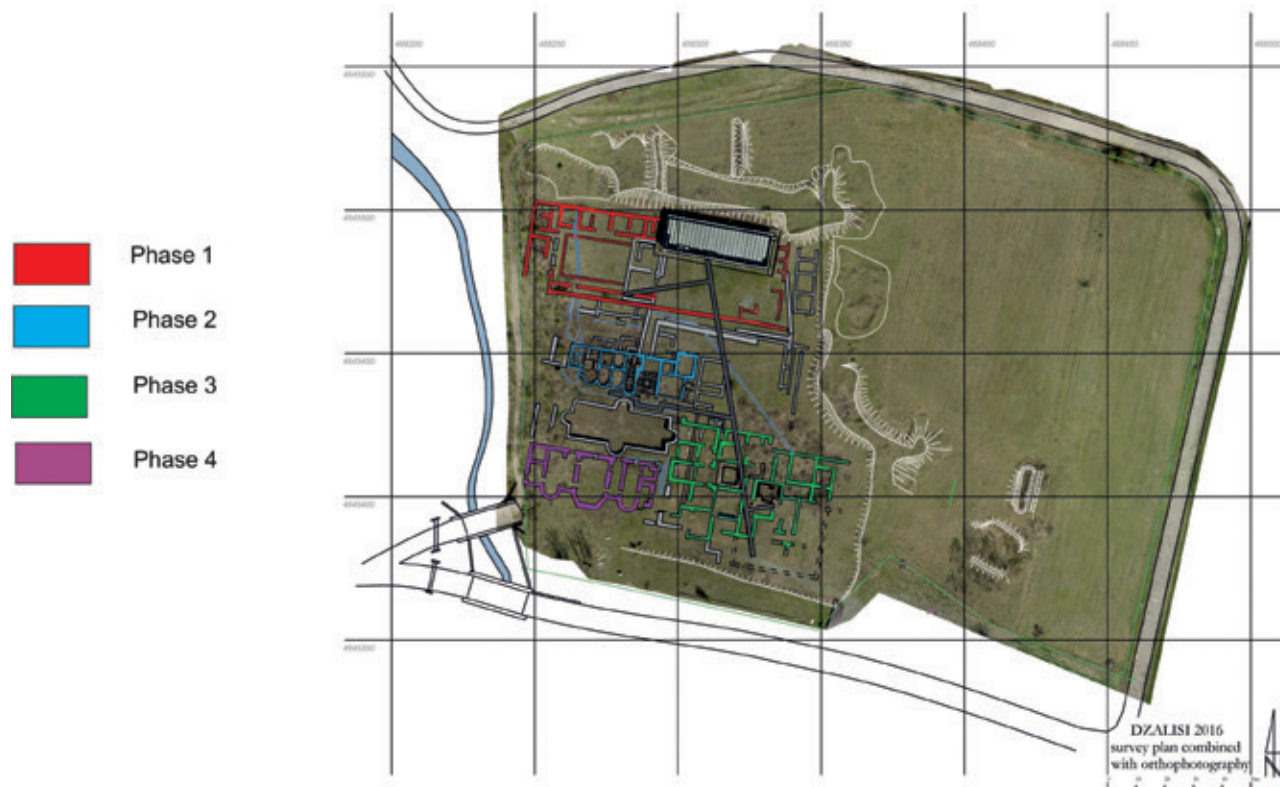


Fig. 6. Orthophotomap with building phases (prepared by: N. Lockley)

<sup>32</sup> Vitruvius, *De arch.* 6.4.3.

<sup>33</sup> Nielsen 1993, 601–603.

<sup>34</sup> Gross 1996, 329–349.

complexity, the complex at Dzalisi did not have the same function as the equally elaborate and complex country villas (*villa rustica*), summer residences, which provided exorbitant living comfort: hypocaustic heating, glass windows, *thermae*.<sup>35</sup> The upper class may thus have modelled themselves on the great Roman empire or owned a Roman workshop in the immediate vicinity. The assumptions described above shed some light on the residential complex at Dzalisi. If the thesis posited is correct, the closest analo-

gies should be sought between the residential complex from ancient Zalissa and royal palaces or suburban villas in the Kingdom of Iberia, and above in the capital – Harmozica and the surroundings.

#### Phase 1 (Figs. 7–8)

The building of this phase (Fig. 7) was built on a rectangular plan. Around the courtyard on the right side of the residence was probably an adjoining private room. The

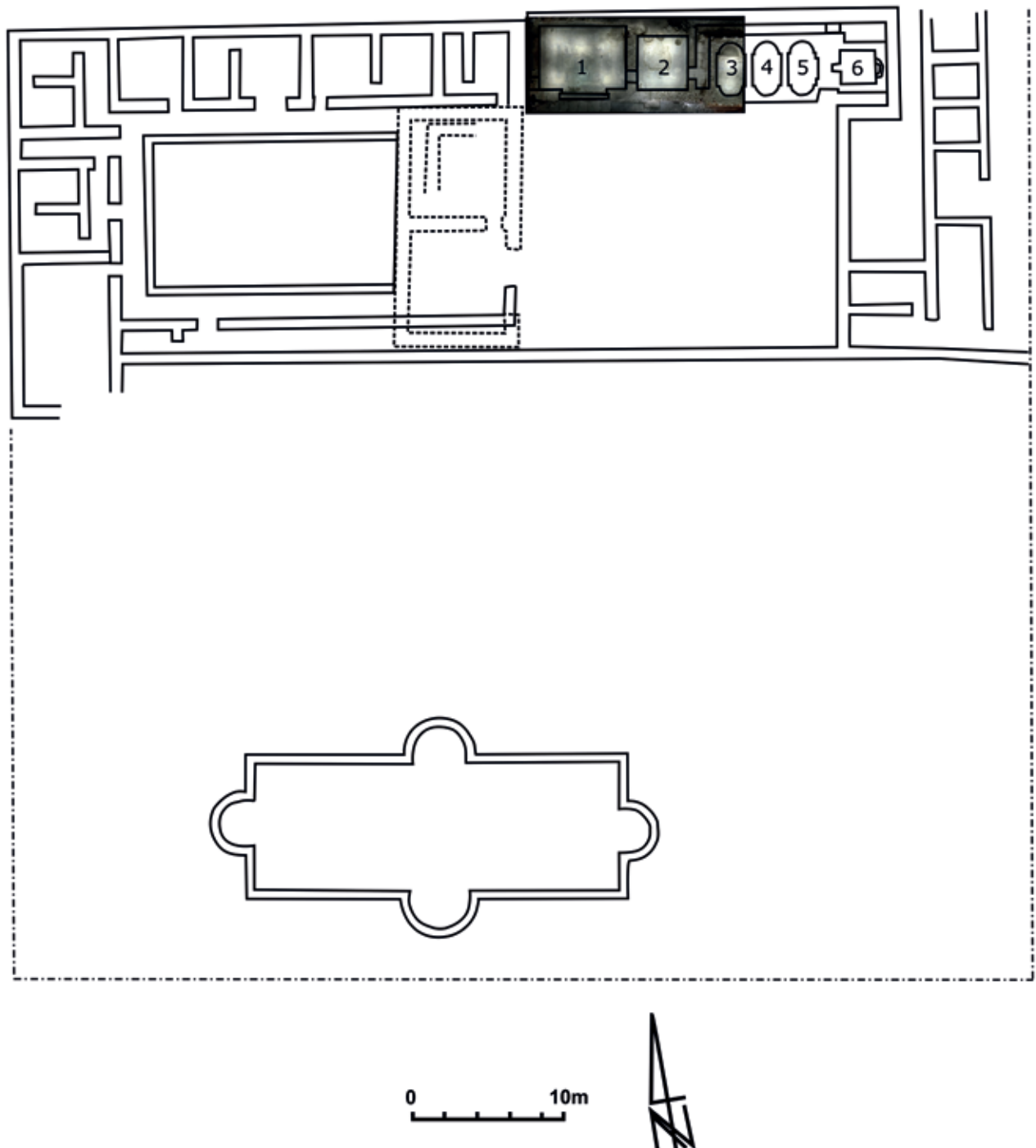


Fig. 7. Phase 1, (after: Bohočadze 1977, 94, fig. 1, prepared by: N. Lockley).

<sup>35</sup> Koch 1996, 292–293.



west side of the house, on the other hand, had a guest character. The researchers managed to identify rooms such as, *triclinium* (room 1), *apodyterium* (room 2), *frigidarium* (room 3), *tepidarium* (room 4), *caldarium* (room 5), *praefurnium* (room 6) (Fig. 7). The floor of the *triclinium* (room 1), *apodyterium* (room 2), *frigidarium* (room 3) and *tepidarium* (room 4) rooms was paved with mosaics (Fig. 3). The baths also contain well-preserved hypocausts, where the supports (*pilae*) were made of round and square bricks (Fig. 8). The use of the latter material as support may indicate a renovation during which the round *pilae* were replaced by square bricks. Thus, the cellar was heated by means of a *praefurnium* hearth (room 6). This is a typical bathhouse plan, also known from late phases at Novae (Moesia Inferior),<sup>36</sup> from Chersonesos Taurica<sup>37</sup> and also from Armazikshevi (Iberia) some 20 km away. The entire heating system of the baths was interconnected. All bath rooms are also interconnected. The *piscina* located in the grounds of the complex may have been built in phase 1. This can be assumed on the basis of the symmetry and the positioning of both buildings at the same angle and the same thickness of the walls. It is also worth noting that water pipes made of terracotta

are routed from this part of the residence to parts of other phases of the extension of the complex. The original building erected in phase 1 may have been much larger than the contemporary remains. Its shape is reminiscent of typical Roman villas and even palaces for example villas from Northfield,<sup>38</sup> Woodchester,<sup>39</sup> Chedworth<sup>40</sup> and Keynsham<sup>41</sup> (Britain). Based on these analogies, it can be assumed that the phase 1 *piscina* was surrounded by a large peristyle (Fig. 7, dashed line). The architectural ensemble would have been completed and enclosed by the peristyle. However, at this stage of research this is only a suggestion, to be verified by future archaeological methods. The building existed between the 1st and 3rd centuries AD. This is confirmed by the mosaics found, the presumed renovations and their dating.

Phase 1 was also renovated several times, but everything took place within it. Only the individual partition walls were changed.

### Phase 2 (Fig. 9)

Compared to the previous building, the structure was not only significantly reduced in size, but also built on a rec-



Fig. 8. The hypocaust system in the baths in the northern part of the complex (photo: N. Lockley)

<sup>36</sup> Biernacki 2002.

<sup>37</sup> Biernacki, Klenina, 40–55.

<sup>38</sup> Cosh, Neale 2005, 204–207.

<sup>39</sup> Smith 1973.

<sup>40</sup> Cleary 2013.

<sup>41</sup> Fry 1957.

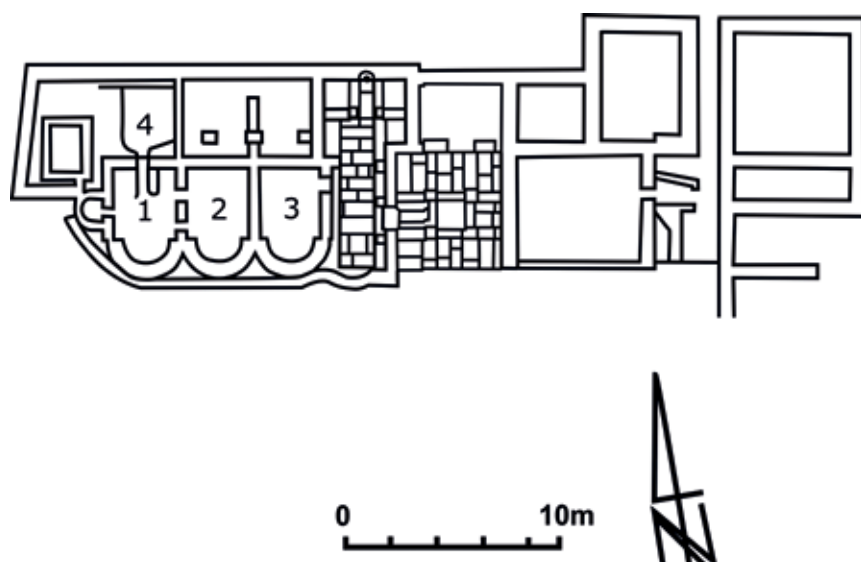


Fig. 9. Phase 2 (after: Bohořadze 1977, 94, fig. 1, prepared by: N. Lockley)

tangular plan. As we can assume, it served as a bath. They were built of a different material (river pebbles (?) and erratic stone) than in phase 1. We were able to identify some rooms: *prae-furnium* (room 4), *frigidarium* (room 3), *tepidarium* (room 2), *caldarium* (room 1). According to Georgian researchers, there was supposed to be an altar in the western room of the baths. The baths also contain the remains of a hypocaust with supports made of square bricks. An *atrium* (tiled) with adjoining rooms is also preserved in this part of the complex. Water to the baths was piped through terracotta pipes. The building may have been added later in the garden area as part of the redesign of the complex. The building has been dated to the 2nd to 3rd century AD.

#### Phase 3 (Figs. 10–11)

The building from the phase in question is located in the eastern part of the complex. The remains encountered during the excavations indicate that it was a large building. The layout of the rooms (as well as the plan) is chaotic. Originally, the building may have been rectangular in shape. There is no apparent subdivision. From the north, water was supplied to the building through a pipeline constructed of terracotta pipes. A hypocaust was identified in the central part of the building. The supports in this phase were made differently to those in phases 1 and 2. This time, posts made of terracotta pipes were used. The pipes were supplemented with square brick pads for height. The basement was probably heated with a hearth operated

from the *prae-furnium*. The floor of the room was paved with square tiles (Fig. 11). The occurrence of these rooms in the phase 3 development indicates that we are dealing with further baths throughout the complex. Unfortunately, the preserved relics do not allow us to assign a function to all the uncovered rooms in this facility. The facility may have functioned at the turn of the 3rd–4th centuries AD.

#### Phase 4 (Fig. 12)

The building in phase 4 was much smaller than the buildings described above. It is located on the southern edge of the complex. It lies at a completely different slope to the phase 1 and 2 buildings. This indicates that it was constructed later and may have been incorporated into an already built-up area or into the remains of earlier buildings. It was designed on a rectangular plan. It consists of nine rooms. In the central part of the building in one line are the three largest rooms ending in apses on the south side. The building is symmetrical. The western and eastern parts are mirror images of each other. The largest room (ending in a polygonal apse) forms the centre of

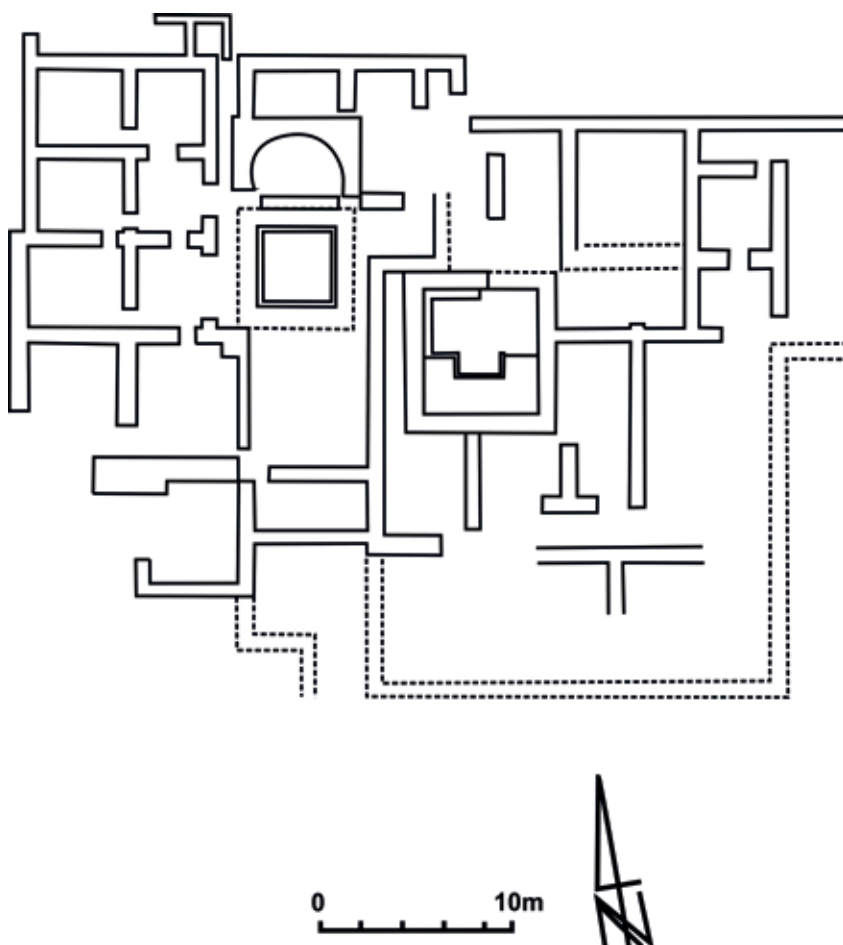


Fig. 10. Phase 3 (after: Bohořadze 1977, 94, fig. 1, prepared by: N. Lockley)





Fig. 11. The hypocaust system in the baths during Phase 3 (photo: N. Lockley)

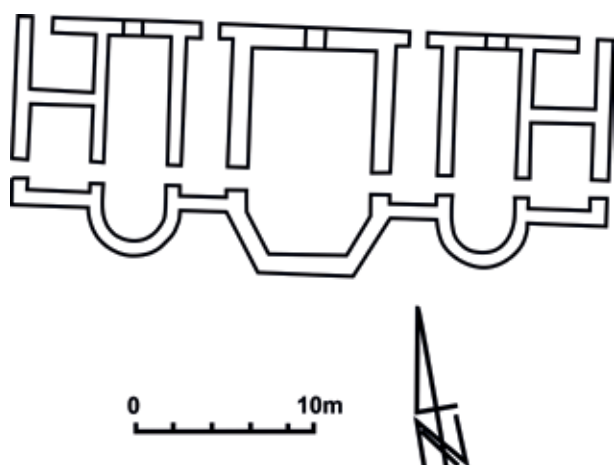


Fig. 12. Phase 4 (after: Bohočadze 1977, 94, fig.1, prepared by: N. Lockley)

the whole building. Phase 4 can probably be linked to the last reconstruction of the complex. Based on architectural knowledge and only the available plan of the residence, phase 4 can probably be dated to the 4th century AD.

### Summary

In summary, it can be said that there are four main phases of reconstruction and redesign in the case of this residential complex, which can be related to the tastes of the inhabitants of the building or damage caused by the elements, for example.

In the case of phases 1, 2, 3, we are dealing with both baths, whose supports with hypocausts were in each case made of completely different building materials, and so were the walls. It is possible to see differences in the building materials and mortars used only from the architectural plan and examining the remains. The masonry in all phases differs

in thickness which rules out in advance the construction in one building phase. Significant variations in architectural plans and finishes can also be seen. Only in phase 1 are there traces of the rich finish of the villa, which probably indicates the property status of the inhabitants. The complex itself may have changed hands a number of times, as can be guessed from the numerous alterations at different times. If we assume that the complex is located in the ancient centre of Zalissa, we can conclude that it must have already existed and functioned well at the time of the work of Claudius Ptolemy, i.e., in the 2nd century AD. Certainly, the complex was rebuilt and renovated at least three times. Probably the end of its functioning can be dated to the 4th century. It should be mentioned that these are only hypotheses. The architectural relics were not stratified into phases during the excavations and there are no reports on this subject that would allow a more detailed study of the above-mentioned complex.

The palace was probably built in the 1st century AD. The original structure (phase 1) was a *villa rustica* with a *piscina* and probably a large peristyle surrounding the complex (Fig. 7, dashed line). The northern part contained private rooms, a courtyard and baths decorated with mosaics. The structure was probably destroyed and then rebuilt. Around the 2nd–3rd century AD, a new bath (phase 2) with heated floors and adjoining rooms was built in the garden area to the north of the pool. It was much more modestly constructed than phase 1. Further reconstruction took place in the southeast wing of the complex (phase 3). A much larger building was added than in phase 2 (also with a bath). It is not known for what reason these changes took place. Phase 4 was probably the last phase of the Dzalisi complex, which can be linked to the end of the use of the residence in question.

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**Abbreviations:**

*CIL* – *Corpus Inscriptionum Latinarum*, Berolini – Paris 1863–2006.







# From the Pontic Area and Caucasus to the Nile Valley: Evidence of Graffiti on the Walls of a Pharaoh's Tomb

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## Abstract

*This paper concerns written evidence of visits to Egypt of inhabitants of the Pontic area in wall inscriptions found in the tomb of the pharaoh Ramesses VI in the Theban Valley of the Kings. These graffiti belong to the Hellenistic and Roman period and are written in Greek, the international language of the time..*

## Keywords

*Egypt, Tomb of Ramesses VI, visitors, Greek graffiti, Pontus, Caucasus*

In this paper not only Caucasus, but the entire Pontic area will be considered. In antiquity, collective migrations and individual journeys were a common occurrence. A particular aspect of these travels were diplomatic contacts of the Pontic states with the Mediterranean world. A papyrus from Egypt contains evidence of the sojourn of a Bosporan embassy in Ptolemaic Egypt in 254 BC.<sup>1</sup> Migrations and official journeys left more evidence than individual travels. Therefore, even isolated traces of the passage of those travelling individually are useful evidence.

In Egypt there are numerous graffiti of ancient travellers. In the Valley of the Kings in Upper Egypt thousands of ancient visitors left their improvised inscriptions on the walls of the pharaohs' tombs. In antiquity, these monumental *hypogaea* were often visited by tourists from the whole Mediterranean area.

The Valley of the Kings is a part of Western Thebes. The Nile Valley in this area is limited by the rocky fringe of

the Western Desert of Egypt. The paramount accent of the rocky chain is the peak in the shape of a pyramid, called El-Qurn. The neighbouring valley was chosen by the kings of the Eighteenth dynasty for a royal cemetery.<sup>2</sup> The tombs were cut deeply in the rock and contained a series of twisty corridors and shafts leading to a burial chamber. In the later phase of the New Kingdom the shape of the *hypogaea* changed. The sloping straight corridor descended into the rock and opened in the sarcophagus hall. These tombs of the Nineteenth and Twentieth dynasties were not hidden: their entrances were visible and accessible, only the gates were sealed by the administration of the necropolis. At the end of the New Kingdom, the tombs were pillaged by robbers and by rebellious soldiers during a civil war which broke out at the end of the Twentieth dynasty. The tomb of Ramesses VI was robbed some time after the burial, and the trial of thieves was held under Ramesses IX.<sup>3</sup> We have a detailed report about the theft in the minutes of the judicial proceedings (Papyrus Mayer B).<sup>4</sup> Subsequently, the devastated royal cemetery

<sup>1</sup> *P. Lond.* VII 1937 = *SB* III 7363. See: Lukašević 2008; Łukaszewicz 2021.

<sup>2</sup> Reeves, Wilkinson 1996, 15.

<sup>3</sup> Reeves, Wilkinson 1996, 192.

<sup>4</sup> cf. Barwick 2011, 27.

was abandoned and the mummies of the pharaohs were transferred to a *cache* in a tomb in the Theban cliffs at Deir el-Bahari (DB320), where they waited for their discovery by modern archaeology in 1881.<sup>5</sup>

In the Ptolemaic period, the empty tombs became an attraction for visitors whose number increased in the course of time and culminated in the Late Roman period.

Most inscriptions are in Greek, the international language of the time.

Greek graffiti of Ptolemaic and Roman times can be found in the tombs of the Nineteenth and Twentieth dynasty. The visits to the Ramesside tombs, situated near the bottom of the Valley, were particularly frequent. Their gates were the reason for the Arabic name of the Valley: *Biban el-Muluk*, “Gates of the Kings”, now usually replaced by *Wadi el-Muluk*, copied from the European “Valley of the Kings”.

According to Diodorus of Sicily who visited Egypt in the years 60–56 BC, there were 47 royal tombs in Valley, of which 17 were well preserved.<sup>6</sup> Strabo of Amaseia in Pontus travelled in Egypt in the years 26–24 BC as a companion of the Roman prefect Aelius Gallus. He mentions c. 40 tombs in the Valley.<sup>7</sup> Ammianus Marcellinus in the fourth century wrote that these tombs, called *syringes* or pipes, were among the main curiosities of Egypt.<sup>8</sup> The visit took place by the light of torches or oil lamps.<sup>9</sup>

Graffiti can be found on the walls of 10 tombs among the 64 royal sepulchres known today in the Valley.

The tomb of king Ramesses VI contains most of the wall inscriptions in the Valley. The construction of that rock tomb was begun under Ramesses V (1147–1143 BC), son of king Ramesses IV. Ramesses VI (1143–1136 BC), son of Ramesses III and brother of Ramesses IV, was the paternal uncle of Ramesses V. He finished the tomb and apparently



Fig. 1. A fragment of the southern wall of the corridor in KV 9, covered with graffiti, including those of visitors from the Pontic area (photo: A. Łukaszewicz)

<sup>5</sup> Reeves, Wilkinson 1996, 194–197.

<sup>6</sup> Diod. Sic. 1.46.7.

<sup>7</sup> Strabo 17.1.46.

<sup>8</sup> Amm. Marcell. 22.15.30.

<sup>9</sup> Baillet 1926, no. 1402 contains a mention of a torch. Numbers of graffiti in this paper refer to the work of Jules Baillet. Improved readings and new interpretations will appear in a forthcoming publication by the present writer.





Fig. 2. Wall inscription of Claudius Bassus behind the throne of Osiris (1247)  
(photo: A. Łukaszewicz)

interred Ramesses V elsewhere.<sup>10</sup> Later, Ramesses VI was buried in the subterranean hall. The corridor descending into the cliff is over 100 metres long and over 4 metres high. The burial chamber is *c.* 7 metres high.<sup>11</sup> This royal tomb was in the Greco-Roman world interpreted as the tomb of Memnon, the legendary king of the Ethiopians and hero of the Trojan war.<sup>12</sup> According to the contemporaneous opin-

ion, that tomb was connected with the colossal statues of Amenhotep III commonly interpreted as statues of Memnon. The northern colossus of Memnon which at dawn produced a mysterious and striking sound, was also covered with Greek and Latin graffiti.<sup>13</sup>

The inscriptions in the “tomb of Memnon” have often the character of *proskynemata* or homages paid to a divinity, mentioning the name of the writer, of his companions and relatives who remained at home but should share the blessing of the holy place.<sup>14</sup> There are some mentions of Plato, who in the 4th century BC visited the Valley of the Kings.<sup>15</sup>

Most inscriptions contain no date. There are only a few inscriptions of the Ptolemaic period. Among the oldest dated texts are the graffiti from the reign of Augustus. Many come from the first and second centuries AD. Even more numerous items belong to the later period (3rd to 6th centuries AD). Some were written by members of Roman aristocracy, like Antonia Agrippina.<sup>16</sup> Signatures of various members of the social élite are frequent. We read the names of high officials of the province of Egypt, various civil servants, military officers, physicians, lawyers, philosophers. In the 4th century AD Heracles, *comes* of the Thebaid added with his own hand the word “I admired” under

his name and titles, which had been written by his attendant.<sup>17</sup> Only exceptionally can we find some Christian elements in inscriptions from the Late Roman or Byzantine period. In the Late Roman Period, officials referring to Memnon avoid the use of the epithet “divine”, but this adjective can be found in other graffiti. There are some unusual inscriptions: one Dioscorammon states

<sup>10</sup> Shaw (ed.) 2002, 307.

<sup>11</sup> see: Reeves, Wilkinson 1996, 37 and 164; cf. Piankoff, Rambova 1954; Abitz 1989.

<sup>12</sup> Lukašević 2013, 127–133.

<sup>13</sup> Bernand, Bernand 1960; Rosenmeyer 2018.

<sup>14</sup> Łukaszewicz 2015.

<sup>15</sup> Psellos, *Chrysop.* 5; see: Bidez 1928, 32, 13; cf. Bidez 1945, 161, n. 4.

<sup>16</sup> Baillet 1926, no. 1724.

<sup>17</sup> Baillet 1926, no. 1282.





Fig. 3. Wall inscription of Hermogenes from Amaseia, extolling the admirable tomb of Memnon (1283) (photo: A. Łukaszewicz)

that he admired the “folly”.<sup>18</sup> He most probably means the magnificent decoration of the interior of the tomb. A visitor named Epiphanius wrote that he did not admire anything except the “stone”.<sup>19</sup> The “stone” was the enormous outer sarcophagus which had been broken many centuries before Epiphanius’ visit, and indeed looks like a large rock. The last datable visitor who left an inscription was the Arab conqueror of Egypt, Amr ibn Al-As, who in the mid-7th century signed his name as “Amros” on the wall of the hypostyle hall in big Greek letters.

The writers represented the whole Mediterranean world, including also the Pontic area. The whole Greece, Rome, Italy, Syria, Palestine, Phoenicia and Mesopotamia were represented. There were Persians and Armenians and probably one Slav writer – if the name Dabreas<sup>20</sup> can be interpreted as Dobrosz. Obviously, there were many Egyptian visitors including the inhabitants of the neighbouring area. Asia Minor was represented by people from

Lydia, Galatia, Pisidia, Cilicia and Cappadocia and the cities of Nicomedia, Sardes, Prusa, Ancyra, Amaseia, Halicarnassus, Tarsus etc.

A special place occupies the Pontic area: Bithynia, Paphlagonia and Pontus (Fig. 1).

A native of Bithynia, Claudius Bassus *alias* Himerius travelled with his wife and a secretary, also named Claudius (Fig. 2). Bassus, a διασημότητος, served as head of the financial administration of Egypt.<sup>21</sup>

One Hermogenes of Amaseia in Pontus visited also other royal tombs in the Valley but he considered the tomb of Memnon as the most wonderful (Fig. 3).<sup>22</sup>

Apart from Thracians, one Melanippos came from Tomis. Also Sarmatians came to visit Memnon. People from Pontus were close neighbours of Colchis. One Helenos from

18 Baillet 1926, no. 1550.

19 Baillet 1926, no. 1613.

20 Baillet 1926, no. 1173; cf. Łukaszewicz 2007.

21 Baillet 1926, nos. 1247 and 1248.

22 Baillet 1926, no. 1283.





Fig. 4. Graffito of Helenos from Amastris, with a visible attempt to keep within the frame provided by the original decoration (1681)  
(photo: A. Łukaszewicz)

Amastris came from a small harbour in Paphlagonia on the Black Sea (today: Amasra) (Fig. 4).<sup>23</sup> The name of that city derives from the appellation of the founder, Amastris, daughter of the Persian great king Darius III, who married Dionysius the tyrant of Heraclea in Pontus. She ruled there after the death of her husband until she was drowned in the sea by her own sons Clearchus and Oxyathres in 284 BC. Lysimachus, Amastris' second husband, had revenge on them.

In the wall inscriptions from the tomb of Ramesses VI appear also some names connected with the myth of the Argonauts, like Aetos = Aietes ("Eagle"). According to that story Aietes was the king of Colchis.<sup>24</sup> A graffito in KV 9 reads:

*Aetos of Pontus, I have visited and admired together  
with my relatives Paregoria and Rhodocles,  
and I remembered my friend Proclus.*<sup>25</sup>

Also the name of Jason occurs. In the Hellenistic and Roman times, that name was an obvious allusion to the myth of the Argonauts. There is even more – that Jason of unknown origin is a son of Aigyptos,<sup>26</sup> while a man from Prusa is son of a Jason.<sup>27</sup>

Another writer was Asterios, a physician from Pontus (Fig. 5).<sup>28</sup>

Also one Aktios came from Pontus.<sup>29</sup> Apollonius of Rhodes quotes this adjective as an epithet of Apollo.<sup>30</sup>

<sup>23</sup> Baillet 1926, no. 1681.

<sup>24</sup> Łukaszewicz 2021, 364 and 366.

<sup>25</sup> Baillet 1926, no. 1059.

<sup>26</sup> Baillet 1926, no. 1252.

<sup>27</sup> Baillet 1926, no. 1972.

<sup>28</sup> Baillet 1926, no. 1256.

<sup>29</sup> Baillet 1926, no. 1426.

<sup>30</sup> Apoll. Rhod. 1.402.





Fig. 5. Graffito of Asterios, a physician from Pontus (1256) (photo: A. Łukaszewicz)

Armenia is represented, although one Armenios son of Armenios came from the neighbouring country of Cappadocia. Armenios states:

*I, Armenios son of Armenios, of the Orestiad, governor of the province, visited and admired the syringes.*<sup>31</sup>

In his person we meet a scion of the royal dynasty of the Orestiad of Cappadocia, also high priests at Comana in Cappadocia. Armenios was a prefect (*hegemon*) of a province (*eparchia*), undoubtedly of Egypt. According to Coptic tradition, he had to put into effect Diocletian's order to destroy churches in Egypt and restore the temples in whole Egypt as far as Aswan. We may perhaps interpret his presence at Thebes as a part of his inspection journey.

Another visitor from Armenia bears the royal Persian name of Chosroes and was probably a member of the Armenian royalties or highest aristocracy. In the 3rd century AD, Chosroes was a name of Armenian kings and also of Persian monarchs of the 6th century AD.<sup>32</sup>

A real "jewel" in this collection of visitors' records is one Lamis, a Caucasian:

*I came, Lamis, a Caucasian*  
(Λάμις ἦκα Κ[α]υκασίω...)<sup>33</sup>

That inscription is situated near the entrance gate of the tomb, very high on the southern wall close to the ceiling of the corridor, above the composite crown of the king standing in front of the god (Fig. 6). The writer certainly did not bring with him a ladder. The concentration and entanglement of graffiti in this part of the wall indicates that the initial part of the corridor was in the Hellenistic and Roman period filled with sand and that the visitors crept into a hole under the ceiling.

In year 19 of Trajan's reign, at the end of this emperor's life, a graffito of one Eutyches from Babylon was written at a similar height.<sup>34</sup> Babylon mentioned in this inscription is undoubtedly the Roman fortress on the territory of today's Old Cairo. Probably soon after, under Hadrian, the

31 Baillet 1926, no. 1253.

32 Baillet 1926, nos. 1659, 1707 and 1968.

33 Baillet 1926, no. 1066. The final letters are not legible. A possible reading is Λάμις ἦκα Κ[α]υκασίωτις.

34 Baillet 1926, no. 1105.



interior of the tomb was cleared, and afterwards the graffiti were written by visitors who walked at nearly the same level as today. It seems that Lamis was among the relatively early visitors. We only know that he was a person

from Caucasus. His itinerary led probably on sea, along the Pontic coasts, and then via the Aegean and further towards Egypt. His wall inscription is a valuable evidence of contacts of the Caucasus area with Egypt.

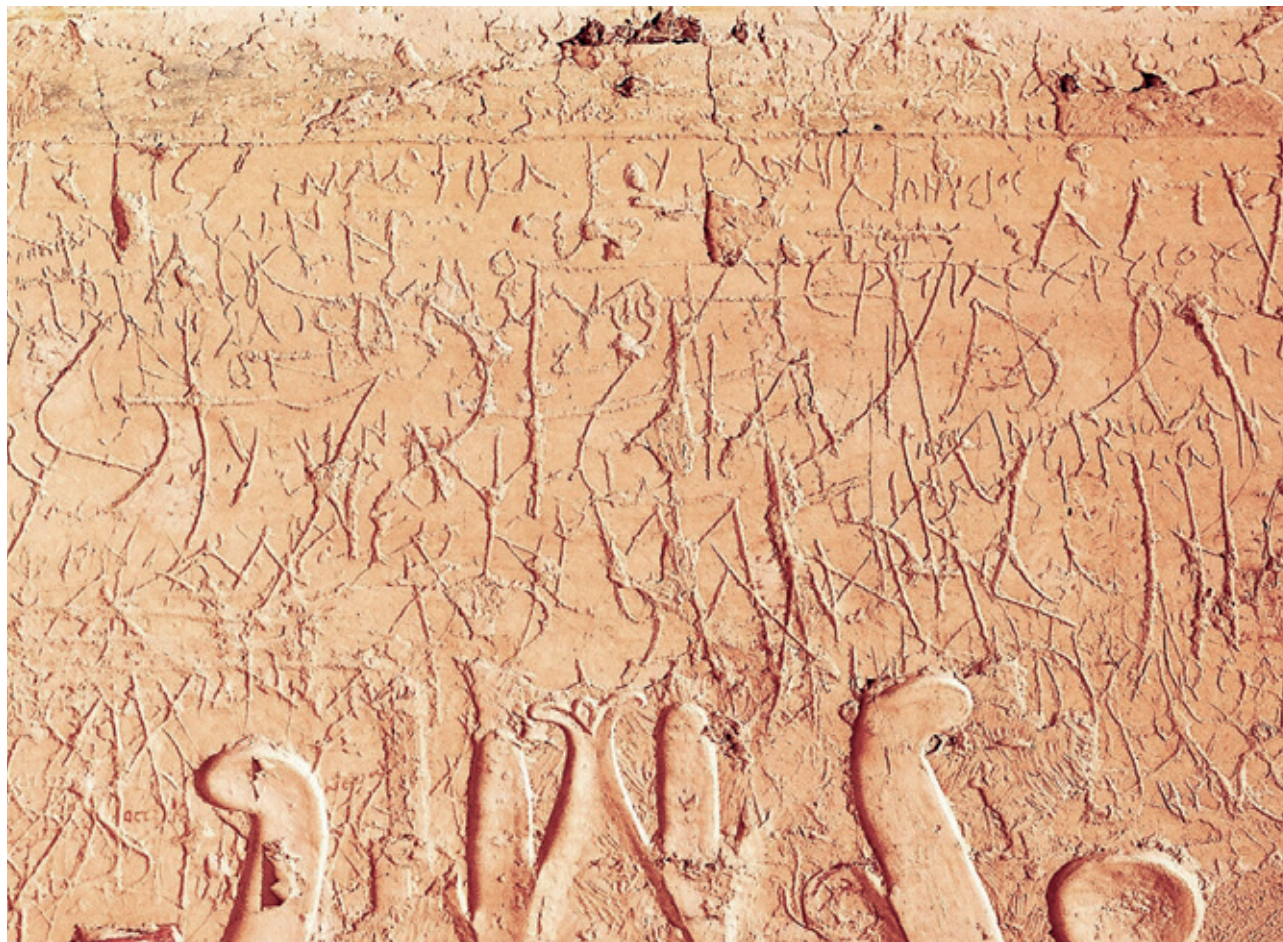


Fig. 6. A portion of the southern wall covered with wall inscriptions, with the graffito of Lamis of Caucasus visible at the upper level (1066) (photo: A. Łukaszewicz)

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# The Ancient City of Zalissa (1st–4th Centuries): the Confrontation of Empires and the Christianization of Iberia

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## Abstract

*A complex of opulent late classical period archaeological remains was excavated in the early 1970s in the vicinity of the modern village Dzalisi (East Georgia). This can be interpreted as the remains of the site of ancient Zalissa one of the important political-administrative centres of the Kingdom of Iberia mentioned by Claudius Ptolemy in his Geography. From 1st century AD beginnings, this site reached the highest level of development in the 2nd–3rd centuries before ending its life in the 4th century. This paper explores some issues concerning how the functioning of the site was affected by changing political alignments between the empires of classical civilization and the Iranian sphere. It seems that the ancient city was affected by the social and political events that developed after declaring Christianity as the state religion in the Kingdom of Kartli (Iberia). It is argued that this led to internal conflict, and that this was the cause of the destruction of the Zalissa and Harmastica/Harmozika complexes in the middle of the 4th century AD.*

## Keywords

*Iberia, Kartli, Rome, Iran, Christianisation, Dzalisi, Zalissa, Harmastica/Harmozika*

At the beginning of the 1970s, a late classical period archaeological complex was discovered in the vicinity of the modern village Dzalisi (East Georgia). The finds at the archaeological site of Dzalisi<sup>1</sup> were spectacular, and have been interpreted as the remains of ancient Zalissa, mentioned by the Greek geographer Claudius Ptolemy in

his *Geography*.<sup>2</sup> The site produced remains of palaces, mosaic floors, baths, remains of residential buildings, water systems (probably, a technical water system made with lead and clay pipes, drawn through a closed channel); sewage systems with collectors, a pool with draining sluice, brick-paved plazas, intersecting streets, baths, mosaic-

<sup>1</sup> Dzalisi is only the name of a modern village – an archaeological site. Zalissa is the name of one of the towns in Iberia mentioned by Claudius Ptolemy. The coincidence of these names in space is uncertain.

<sup>2</sup> Ptol., *Geog.* 5.10.

floored banquet hall (*triclinium*) with Greek mythological scenes, architectural details, pottery, and glassware. Cobble stone, tuff, and sandstone quarries, bricks, ceramic tiles, flat and grooved tiles were used as the building materials. The interior of one part of the buildings was faced with plaster and limestone, and the walls were painted. It was a typical Roman city in terms of planning and design.

Zalissa began to exist from the 1st century AD,<sup>3</sup> it reached the highest level of development in the 2nd–3rd centuries AD, but was destroyed in the 4th century. It seems that it was one of the important political-administrative centres of the Kingdom of Iberia. We assume that the ancient city was destroyed after Christianity was declared as the state religion in the Kingdom of Kartli.<sup>4</sup> The site became inhabited again the 7th century AD, although at that time it was just an ordinary settlement. In the 8th century it eventually ceased to exist.

The Greek geographer Claudius Ptolemy, after describing the borders of Iberia, writes, giving the location of Zarissa:

*The following are the towns and villages in this country:*

<i>LUBIUM VILLAGE</i>	75 40	46 50
<i>AGINNA</i>	75	46 30
<i>VASAEDA</i>	76	46 20
<i>VARICA</i>	75 20	46
<i>SURA</i>	75	45 20
<i>ARTANISSA</i>	75 40	46
<i>MESTLETA</i>	74 40	45
<i>ZALISSA</i>	76	44 40
<i>HARMASTICA</i>	75	44 30. <sup>5</sup>

This place is not mentioned in Georgian written sources at all.

Various opinions have been expressed about the Dzalisi archaeological complex. According to A. Bokhochadze, the archaeologist who excavated this site, Zalissa was seat of a *Spaspet*,<sup>6</sup> a nobleman of the Kingdom of Iberia during the 1st–4th centuries AD.<sup>7</sup> Unfortunately, since the end of the 1980s, large-scale archaeological works have not continued here. Today's data does not provide a complete picture regarding several issues. It is unclear what was the political-administrative purpose of the city, who governed it at different stages of existence, whether the function or meaning changed in the 1st–4th centuries AD, what was the role of Zalissa and its rulers in the political life of the Kingdom of Iberia. Both the rise and the fall of the famous city coincided with the glory of the Roman Empire. There are few scientific theoretical studies about it. This article is our modest attempt to answer at least one of the above-mentioned questions.

The discussion on the mentioned issues will not be complete if we do not consider the archaeological data of the Near East in a wider context and its political processes during the 1st–4th centuries. In particular, the political relations between Kingdom of Iberia, the Roman Empire and Parthia, and after the destruction of the Parthian Empire (from 226 AD) with Sassanian Iran. This will help us to answer the above-mentioned scientific questions, which are still unclear.

The relationship between the Kingdom of Iberia and the Roman Empire begins from the year 65 BC.<sup>8</sup> When the famous Roman general Pompey marched to Iberia, its capital city Harmastica/Harmozika, and defeated the king Artagi.<sup>9</sup> The political rapprochement of the Kingdom of Iberia and Rome accelerated from the 70s of the 1st century AD. Between 72–74 AD the Alans, with the support of the Iberian king Mithridates, organized a campaign of destruction in the countries of the Middle East and conquered Media, Armenia and reached the provinces of Rome.<sup>10</sup> After that, there was a perceived need to ally Iberia with Rome, and this becomes a priority for the empire.<sup>11</sup> It seems the Romans felt that it would be much more profitable to establish control over the strategic crossings of the Caucasus, which were controlled by Iberia, with a friendly relationship. The Kingdom of Iberia would become one of the allies of Rome against Parthia. All these circumstances meant financial and military support from the Roman Em-

3 Bokhochadze 1981, 36–81; Bokhochadze 1977, 5–27.

4 An independent Christian kingdom formed on the territory of the former Kingdom of Iberia.

5 Ptol., *Geog.* 5.10.

6 Spaspet (Georgian: სპასპეტო) was a feudal office in Georgia that originated in ancient Iberia.

7 Bokhochadze 1981, 82–83; Bokhochadze 1977, 25–26.

8 Braund 1994, 153.

9 Cass. Dio 37.1–2.

10 Gagoshidze, Margishvili 2013, 40–41; Braund 1994, 153.

11 Braund 1994, 152–159.

pire. An inscription of Vespasian found not far from modern Mtskheta is evidence of this, in it mention is made of Vespasian's reinforcement of the walls of the capital for Mithridates.<sup>12</sup> The inscription is dated to 75 AD.<sup>13</sup>

In the so called "inscription of Pitiakhsh (satrap) Sharagasi" (found in the pitiakhsh cemetery of Armaziskhevi) there is a talk about the campaign and victories of the Kingdom of Iberia on the territory of neighbouring countries: Armenia and Albania in the second half of the 1st century AD.<sup>14</sup>

In the 1940s, in Azerbaijan, vicinity of Baku, a Roman inscription of a centurion of the XII Legion was found, which dates to the end of the 1st century AD. The opinion is expressed in Georgian historiography that the units of the XII Legion were the auxiliary military force of the Iberian king in his campaign against the Albanians.<sup>15</sup>

We can assume, however, that many war campaigns carried out by Roman Empire in the 1st–3rd centuries against Caucasian Albania, Armenia, and Parthia, had to be supported by Iberia. This situation is described by Tacitus. During Corbulo's campaign in Armenia, the Roman commander gave part of Armenia to those neighbours who were his allies, including the Kingdom of Iberia.<sup>16</sup> It seems that Iberia also participated in the Roman–Parthian conflict. Otherwise, the success of Iberia in the battles against Parthia, even on the territory of Armenia, would be very doubtful. The Roman army also had to help Iberia in the defensive battles.

The crossings of the Caucasus did not lose their importance even in the later period, during the Byzantine Empire. Consequently, Kartli and Lazica (western Georgia) remained important strategic regions for the Empire. Controlling the passes of the Caucasus and the eastern coasts of the Black Sea was important for the Byzantine state to protect its own territory. The ambassadorial mission of Lazica at Khosrow's court in Iran, described by Procopius of Caesarea, is one of the best examples of the importance South Caucasus had for the Empire.<sup>17</sup>

The foreign political situation of Iberia worsened in the first half of the 3rd century. Sassanian Iran was formed

in 226 AD on the ruins of the Parthian Kingdom, it was a more centralized and powerful state, than Arshakid Parthia. The Sassanid kings from the beginning started wars of conquest and occupied almost all the districts that had previously been occupied by Parthia. They had had important victories against Rome, after which Armenia came under the possession of Iran. It seems that in 3rd century, the Kingdom of Iberia remained an ally of Rome and its influence was still strong.

Evidence of this may be seen in the mosaic of Dzalisi, dated to the 2nd–3rd centuries with Greek mythological representations and bearing the inscription *let Priscos be remembered, maker of it*.<sup>18</sup> The Greco-Roman name of the mosaic's maker is interesting. According to the archaeologist A. Bokhochadze, who excavated the monument, Priscos was an invited craftsman who left a self-portrait on the mosaic arch and immortalized his name. According to this archaeologist, this is an inscription expressing gratitude. We believe that Priscos is not a mosaic craftsman, but a ruler of Zalissa. We consider it possible that Priscos may have been an Iberian nobleman, probably a pitiakhsh (satrap). Based on the existing political situation and the tradition spread in the peripheries of Roman Empire, he was given a Roman name – Priscos.<sup>19</sup>

Several examples can be cited to support this assumption. Roman naming was popular and accepted in the northern Black Sea region, as well as in the Bosphorus and Armenian Kingdoms. Such names were spread, mainly, in the socially advanced class. The spread of Greco-Roman names would have been caused by the influence of Rome and expressed a good attitude towards the centre.<sup>20</sup>

This phenomenon also occurred in the Kingdom of Iberia, which had close contacts to the Empire during the 1st–4th centuries AD. Epigraphic material found in Mtskheta confirm this trend. One of the Iberian pitiakhshs (satraps), mentioned in Seraphita's inscription, has the classical Roman name of Publicius Agrippa,<sup>21</sup> also, there is known the name of a head-painter of Harmastica/Harmozika – Aurelius Acholis. The Roman name Flavius was used by the king of Iberia, Mithridates, in the second half of the 1st century, which is con-

<sup>12</sup> Gagoshidze, Margishvili 2013, 41.

<sup>13</sup> Tsereteli 1958, 16; *AE* 1968, 145; *SEG* 20, 120; *IGRR* 1.192.

<sup>14</sup> Cereteli (Tsereteli) 1948, 52.

<sup>15</sup> Melikišvili 1959, 351; Speidel 2009; *AE* 1951, 263

<sup>16</sup> Tac., *Ann.* 14.26.

<sup>17</sup> Procop., *Bell.* 2.2.13, 2.15.1 and 2.15.12–35; *CIL* 13.8213.

<sup>18</sup> Kaukhchishvili 2000, 215.

<sup>19</sup> Bokhochadze 1981, 77; Mizandari 1987, 125–126; Odisheli 1986, 150–151.

<sup>20</sup> Gagoshidze, Margishvili 2013, 27–30.

<sup>21</sup> Kaukhchishvili 1971.

firmed by the inscription of a silver dish found in the Armaziskhevi cemetery of pitiaxshes.<sup>22</sup>

Roman influences were still strong here in the 3rd century AD. Local nobles lived according to the Roman standards, they were depicting Greco-Roman mythological scenes in their houses (there are depictions of Dionysus, Ariadne, Pans, and others on the mosaic of Dzalisi) and they had Roman names. These facts indicate the political direction of Kingdom of Iberia.

According to the treaty that was signed between the Roman Empire and Sassanian Iran, the Kingdom of Iberia remained subordinated to Rome. The treaty was not broken until 338 AD.

The Christianization of Iberia/Kartli in the first half of the 4th century AD and its spread in Iberia, was the occasion of quite complex concomitant economic and social processes. The new religion left significant trace on the foreign politics of Kartli, it brought Kartli closer to Rome, and afterward to the Byzantine world, but the Sassanian Iran's religious and political attack on the region became stronger for that.<sup>23</sup>

The Christianisation of Kartli and Lazika was a part of the general religious politics, carried out by the Empire to protect its borders, and this fact proves that the Caucasus region had political-strategic importance for Rome and afterward for the Byzantine Empire.

The adoption of the new ideology caused important changes in the country, especially in the political and cultural-religious life of the nobles. One major effect was that the declaration of Christianity as the state religion, significantly affected the existing caste of high priests, who practically became outlawed after these epochal changes.

According to the Strabo, the high priests were representatives of one of the most authoritative classes and they represented the second class, after the king, in the Kingdom of Iberia. Strabo described the structure of the Iberian society as following:

*The inhabitants of this country are also divided into four classes; the first and chief is that from which the kings are appointed. The king is the oldest and the nearest of his predecessor's relations. The second administers justice, and is commander of the army. The second class consists of*

*priests, whose business it is to settle the respective rights of their own and the bordering people.*<sup>24</sup>

The high priests ruled the pre-Christian period temples, owned the temples' economy – the territories subordinated to the pagan temples and the servants inhabiting these territories. Accordingly, they represented one of the richest and most authoritative class in the Kingdom of Iberia. According to Strabo, they also took part in state governance. Presumably, the high priests must have armed troops, which would be responsible for the protection of the temples' property. So, they possessed military and material resources, had significant leverage for the ideological-religious rule of a large part of the population of the Kingdom of Iberia, consequently, they would become dangerous for the Iberian king if Iran would use them in the battle against the Christian religion. The danger coming from the high priests, must have been real, since after the declaration of Christianity as the state religion, their powerful institution automatically became outlawed, which, of course, meant the confiscation of all their property. This created circumstance that would be an important reason for the development of a confrontation between the king and the high priests. According to the political situation and personal interests, after the declaration of Christianity as the state religion by the king of Kartli, the latter would become the supporters of Iran's interests.

The religious-mythological beliefs of the Iberian high priests, which was strongly connected to the Iranian world, allow us to suggest above-mentioned hypothesis. The pagan deities and religious beliefs that were widespread in Iran, were well known, even traditional, for the Iberian high priests (a significant part of the population of eastern Georgia were fire worshippers. It is also suggested that pagan idol Gaim, which was erected in Iberia, was derived from the Mithras cult; the idol of Anina was derived from cult of Anahit; the supreme Iberian idol and god Armazi could be related to Ahura Mazda etc. It can be suggested that Iranian deities formed the main triad of the Georgian pagan pantheon).<sup>25</sup>

Archaeological and historical sources prove that the issue of the spreading of religion, both inside and outside of the empires, had great political importance. Both Rome and Sassanid Iran needed a unified religion, because in the vast territories over which these countries were spread, inhabited by the people with various traditions, and therefore, completely different religious beliefs existed in those em-

22 Gagoshidze, Margishvili 2013, 50, Braund 1994, 234–237.

23 Avdaliani 2016.

24 Strabo 11.3.6.

25 Dundua, Silagadze 2010, 77.



pires. The rulers of the empires were aware of the power of religion, as the ideological basis for their Empires.<sup>26</sup> For them religion was one of the important instruments for spreading control over regions. First, their target was those territories that played an important role in the international political, strategic, and economic life. The Kingdom of Iberia (Kartli) and in a later period Lazika were important strategic and economic regions for both empires. This was the reason why Rome and Iran did their best to spread their religions in these territories, which would become an important starting point for increasing political-administrative control (the same political methods were used in Near East, in Europe, in Africa).<sup>27</sup>

Sassanian Iran chose Zoroastrianism against the Christianity (because the religious syncretism that came from Parthia was not suitable for creating a new, stronger empire. After a series of religious reforms, Zoroastrianism became the only religion in Iran.

The Sassanians realized that Constantinople was using Christianity in foreign politics, as an additional way to increase its influence over its neighbours. Iran fell into a disadvantageous position when Christianity was declared as the state religion in the South Caucasian Kingdoms to its north – in Iberia and in Armenia in the 30s of the 4th century AD.<sup>28</sup>

In the middle of the third century large-scaled persecution of Christians had begun, and it seems, the cult of the sun-Mithra had been declared as the main deity in Rome in 274 AD, against the Christianity. Nevertheless a few decades after that, Christianity became the main instrument of ideology in Rome and was increasingly collecting supporters by the beginning of the 4th century. At the first Council of Nicaea (325 AD), Christianity strengthened its position.<sup>29</sup> The new religion strengthened its position during the reign of Constantine, after his victory over Licinius in 324.<sup>30</sup> Neither the Edict of Milan nor the Council of Nicaea is considered, however, as an unconditional fact of the Christianization of the Empire.

The Roman and later Byzantine emperors considering the spread of Christianity as a way for protecting the borders. The rulers of the empire purposefully spread the new religion among the neighbours at the beginning of the 4th cen-

tury when the victory of Christianity was not guaranteed at all. At the same time, the new religion was mainly spread in the territories that were important locations for the Roman/Byzantine Empire from a strategic, military, or economic point of view. For instance – Ethiopia, known as the kingdom of Aksum, and the kingdom of Himyar (Yemen) in south Arabia, which were supported by a military force, under the pretext of protecting Christianity.<sup>31</sup>

After the victories over the Goths in 332 AD and the Sarmatians in 334 AD, separate chapters on Christianity and the inviolability of its followers were presented in the treaties.<sup>32</sup>

The Byzantine Empire had diplomatic, and in some cases strategic relations with “non-orthodox” Christian countries. It was important for them to Christianize the periphery of the Empire in any form because it was possible to gain indirect political influence on the territorial units.<sup>33</sup>

Constantine considered himself not only the defender of Christianity, but also the spreader of the new religion among the pagan peoples living outside the Empire. His ambitions are indicated by the above-mentioned agreements with barbarians and the letter written to Shapur II the Sassanian Shah.<sup>34</sup> In the message, the emperor indirectly declares himself to be the defender of Christians not only inside the empire, but also outside it.

After a brief description of the political-religious reforms carried out by Rome/Byzantine and Sassanian Iran, we can return to the Kingdom of Iberia, whose political future was significantly determined by the above-mentioned events. In Iberia, along with the high priests, maybe, at least some of the *pitiakhshes* were against this decision of the King. In their case, the reason for this should have been, first, the foreign political situation. Sassanian Iran was getting stronger, while the weakening of the Roman Empire was already evident in the first half of the 4th century. Iran had defeated the Romans several times in the second half of the 3rd century AD. It is also likely, that the Sassanid rulers used all their efforts to turn the *pitiakhshes* against the king of Iberia, in exchange for important promises. In case of staying with the weakened Rome, the *pitiakhshes* were threatened with the loss of power and property if Iran conquered Kartli. They were therefore in a position where they had to choose between two powers. Naturally,

26 Mshvildadze 2008, 87.

27 Mshvildadze 2008, 89–90.

28 Haas 2008, 123.

29 Mshvildadze 2008, 88.

30 Barnes 1985, 126–130.

31 Avdaliani 2016.

32 Heather 2009, 81–90.

33 Pigulevskaa 1964, 56–161.

34 Barnes 1985, 126–130.

they acted in accordance with foreign political changes. Despite the truce of Nisibini, it was clear, that the opponent was becoming stronger against the weakening of Rome, and the pitiakhshes, accordingly, at the instigation of Iran, would have had to confront the king of Iberia.

This assumption is supported by recent archaeological discoveries. In particular, part of the large complex was excavated (two rooms) in the new area of Dzalisi in 2017–2018. During the excavations, two clay *bullae* with depictions of Sassanian shahs and Aramaic inscriptions were discovered. They are dated to the 3rd–4th centuries AD. According to T. Dariai, one of the *bullae* belongs to Shapur III (383–388 AD).<sup>35</sup>

These findings confirm that in the 4th century AD, the Sassanian shahs had some contacts with the rulers of Zalissa. It is likely that the pitiakhsh of Zalissa and the Sassanid shah were united against a Roman ally, in this case against the king of Iberia. The discovered *bullae* suggest that at the end of the 3rd and beginning of the 4th century AD, the ruler of Zalissa had changed his political vector towards Iran.

A similar situation is reflected in the prose of ancient Georgian hagiographic genre of the 5th century AD – *The martyrdom of Saint Queen Shushanik* (written by Jacob Tsurtaveli). According to this source, Varsken, the pitiakhsh of Lower Kartli, visited Peroz I the Shah of Sassanian Iran and converted to Zoroastrism.<sup>36</sup> As we can see, the prose attests one of the historical facts when the pitiakhshes of Kartli became allied to Sassanian Iran against the Iberian king. According to Z. Bragvadze the pitiakhshes of Iberia, who were loyal to Rome in the 1st–3rd centuries AD, were obedient to Iran in the Early Middle Ages.<sup>37</sup>

The Nisibini truce was broken, and a 25-year war began between Rome and Iran in 338 AD. The Kingdom of Iberia was not directly involved in this war, thus no large-scale hostilities are attested in the written sources, nor in the archaeological data. However, during this war, some military conflicts were observed here. Archaeological data prove that by the middle of the 4th century AD, the important political-administrative centres related to the nobles (pitiakhshes) of the Kingdom of Iberia were destroyed almost at the same time: the Armaztsikhe – Bagineti site (the acropolis of the capital of the Kingdom of Iberia); the Harmastica/Harmozika complex and Zalissa. It is not

coincidence that at the same period Christianity becomes the state religion in the Kingdom of Kartli. In our opinion, the destruction of the above-mentioned places is not connected to the invasion of Kartli by the Iranian army. The relatively small-scale hostilities in Harmastica/Harmozika and Zalissa indicates to the internal conflict. The Georgian written sources accord with the archaeological data, the following information is preserved in the written source *Kartli's Tskhovreba* (*Life of Kartli*):

*[...] and the King sent also one eristavi (army commander) to accompany them. They arrived at Tsobeni and summoning the mountaineers – people resembling dumb creatures like the Chargalians, Pkhovians, Ts'ilk'anians and Gudamaqarians preached the faith of Christ, the true faith, which leads to eternal life. At that time, the eristavi (army commander) lightly directed his sword against them, and by force destroyed their idol.*<sup>38</sup>

In our opinion, the Ts'ilk'anians, mentioned in the source refer the people, which were living in Zalissa, and the rest are the residents of the provinces, which were governed by the pitiakhsh of Zalissa. In the first half of the 4th century AD (the period to which *Kartli's Tskhovreba* refers), there are no other large settlements near the modern territory of Dzalisi and Tsilkani or in their neighbourhood, where the king could *direct his sword*. Archaeological data confirms the above-mentioned information from *Kartli's Tskhovreba*.

The question arises: why *Kartli's Tskhovreba* refers to the ancient city of Zalissa as Tsilkani, when already in the 2nd century AD the name of Zalissa was known to the Greek geographer Claudius Ptolemy.<sup>39</sup> It seems two factors should be taken into account. Firstly, it is clear that the Georgian sources are not familiar with the account of Claudius Ptolemy and provide no information regarding the toponym Zalissa. Secondly, it can be seen from the story of *Kartli's Tskhovreba* that, after the king *directed his sword* against Zalissa, it forever loses its political significance and its name is deliberately forgotten. Accordingly, Georgian sources no longer knew such a city.

It is logical to connect the hostilities developed in Iberia to the political situation abroad. The Kingdom of Iberia played a significant role in the Roman-Iranian war. According to the *Res gestae* of the 4th century historian Ammianus Marcellinus:

35 Narimanishvili 2018, 59; Narimanishvili 2019, 93; Narimanishvili, Shanshashvili, Kvachadze 2020, 189–190.

36 Gabidzashvili 1990, 6.

37 Bragvadze 2021, 96.

38 Kaukhchishvili 1955, 48.

39 Ptol., *Geog.* 5.10.

*[...] the kings of Armenia and of Hiberia, were bribed with splendidly adorned garments and gifts of many kinds, since they would be likely to cause damage to Roman interests, if when affairs were already dubious, they should revolt to the Persians.*<sup>40</sup>

The declaration of Christianity as a state religion was caused by the political orientation towards the West. Simultaneously, the king intended to neutralize the allies of Iran, the powerful high priests and the Pitiakhshes of Iberia, which had financial resources and owned military troops.

The political situation caused an inevitable internal conflict between the king of Iberia on the one hand, and the pitiakhshes and the high-priests on the other. In the middle of the 4th century AD, both the city of Zalissa and Harmastica/Harmozika (Armaziskhevi) complex were destroyed, presumably after the pitiakhshes lost the battle against the king. In the case of the Armaziskhevi archaeological complex, we know from the different sources (written sources, archaeological materials), that this place belonged to the pitiakhshes, unlike the Zalissa complex, where we have not certain information. However, if we consider that Zalissa shared the fate of the Harmastica/Harmozika complex in the same period, it may prove their political and functional proximity. In particular, we can suppose an alliance of the Zalissa and Harmastica/Harmozika rulers with the high priests against the king of Iberia. The burning of these centres indicates the defeat of the above mentioned alliance.

The ancient city of Harmastica/Harmozika (Armaziskhevi), which is the residence of the kings of Iberia, shared the fate of Zalissa and Harmastica/Harmozika, as it was burnt down since the middle of the 4th century AD. A question arises: if the king of Iberia defeated the alliance of the pitiakhshes and high priests and became winner in the battle, then who burned down Harmastica/Harmozika (royal residence)? Probably, from the end of the 3rd to the beginning of the 4th century AD, Harmastica/Harmozika changed its function and became the residence of high priests.

At that time, the king's residence moved from Harmastica/Harmozika to the modern-day Svetitskhovli district of Mtskheta. The unfinished six-apsed temple of Harmastica/Harmozika, which was a victim of the battles of the middle of the 4th century, may indicate the high priests' dominant position here at that time.

According to the written source *St. Nino's life*, King Mirian and Queen Nana constructed the Samtavro church and later, they were buried in it.<sup>41</sup> A few years before their death, Prince Revi was buried near the church.<sup>42</sup> Several luxurious crypts were also excavated in the Samtavro cemetery. The materials unearthed during the excavations, possibly belonged to the representatives of the noble class. In this regard, the place of their discovery should also be considered, as it is located near the northern gates of Mtskheta, on the left side of the so-called "Dry Ravine" (defensive trench).<sup>43</sup> If we take into consideration the example of the residence of Harmastica/Harmozika, we can suggest that, as usual, the royal crypts presumably were built near the residency.

The recent archaeological data strengthens our assumptions. As we mentioned, the archaeological research lead by archaeologist G. Narimanishvili in a new area of the Dzalisi site, revealed the contemporary district of the aristocracy. Recently we carried out archaeological excavations near the aristocratic district on the Saglakhao archaeological site, in the place called Chalistavi, Mtskheta Municipality.<sup>44</sup> According to N. Berdzenishvili, the toponym Saglakhao Ru (Saglakhao water channel), was the oldest irrigation canal, which was irrigated the Mukhran Valley, and he dates it to the Hellenistic period.<sup>45</sup> The new archaeological sites, which are quite distant from each other, belong to the 2nd–3rd centuries AD. These discoveries further expand the geography of the city of Zalissa. We suppose that the new excavations and research of the Roman period city will reveal several important objects and artefacts, which presumably will prove our suggestions.

40 Amm. Marc. 21.6.8.

41 Abuladze 1963, 91.

42 Kaukhchishvili 1955, 129; Metreveli 2008, 143.

43 Kalandadze 1980, 51.

44 Sulxanishvili, Chaduneli 2021.

45 Kikvidze 1963, 80.

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#### Abbreviations:

*CIL* – *Corpus Inscriptionum Latinarum*, Berolini – Paris 1863–2006.

*AE* – *L'Année épigraphique*

*SEG* – *Supplementum Epigraphicum Graecum*, Leiden 1923.

*IGRR* – *Inscriptiones graecae ad res romanas pertinentes*, Cagnat R. (eds), Paris, 1906–1927.



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## II. Scythia et Sarmatia





# Pottery from the Cherniakhiv Culture Site of Voitenki and Other Sites in the Surrounding Region (Ukraine)

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## Abstract

*Pottery from the Cherniakhiv culture site of Voitenki and ten other sites in the surrounding region was the subject of laboratory analysis. This work was done to test the hypothesis that ceramic vessels were made in Voitenki and from there distributed to neighbouring settlements. In addition, pottery fragments recovered respectively from the settlement and cemetery at Voitenki were compared to assess whether the suite of ceramic vessels found in graves was made from different raw materials and based on a different technology to the pottery produced for use at settlements. The following analyses were performed: MGR-analysis, chemical analysis by WD-XRF, and thin-section studies. The physical ceramic properties and functional properties of the pottery were also determined and an estimation was made of forming technique and original firing temperature using K-H analysis. In addition to potsherds, samples of local clay raw materials were also analysed.*

## Keywords

*Cherniakhiv culture, pottery, archaeoceramology, MGR-groups, chemical analysis, thin-section studies, K-H analysis*

## Introduction

The Voitenki settlement lies some 50 km west of Kharkiv, in the north-east part of the Cherniakhiv culture distribution area. An archaeological team from the University of Kharkiv, led by M. Liubichev, has been excavating the site since 2004.<sup>1</sup> At the height of its development in the 4th century AD, this large settlement occupied several terraces on the west bank of a small stream. Excavations at Voitenki also revealed a burial ground located on one of the site's upper terraces. A total of 270 graves,

representing both cremations and inhumations typical of the Cherniakhiv culture, have been discovered to date. Most of these graves contained either an urn or ceramic burial goods. Virtually all of the pottery recovered from both the cemetery and the settlement is wheel-made.<sup>2</sup> The available evidence suggests that Voitenki was an economic centre, and possibly also a political one.

The primary aim of laboratory analysis carried out on pottery from Voitenki and adjacent sites was to test the hypothesis that ceramic vessels were made in Voitenki and from

<sup>1</sup> Ljubičev 2006.

<sup>2</sup> Schultze, Ljubičev 2007.

there distributed to neighbouring settlements. To investigate this issue, pottery from six other nearby Cherniakhiv culture settlements was also examined. Nine of these sites lie within a 5–12 km radius of Voitenki (Baranovo, Khalimonovka, Khvorostovo, Gvozdevo, Ogul'tsy, Shlyakh 2, Shlyakhove, Trofimovka, Vysokopol'e), with only the settlement at Lozovaya, in the north of the Kharkiv region, located further away. The analysed sherds represent vessels whose shapes and profiles are reminiscent of those found at Voitenki, and in some instances even the colour, fabric and visible inclusions are similar.



Fig. 1. Examples of wheelmade pottery found at Voitenki: 1 and 4 – jugs; 2 – bowl form 2; 3 – bowl form 1

Analysis of pottery fragments recovered from the settlement and cemetery at Voitenki also hoped to verify the hypothesis that the suite of ceramic vessels found in graves was made from different raw materials and based on a different technology to the pottery produced for use at settlements.<sup>3</sup>

Analysis was performed using a system that combines three methods (MGR-analysis, chemical analysis by WD-XRF, and thin-section studies). The physical ceramic properties and functional properties of the pottery were also determined and an estimation was made of forming technique and original firing temperature using K-H analysis. In addition to potsherds, samples of local clay raw materials were also analysed. This research was carried out during 2009–2018 as part of a DAI (Deutsches Archäologisches Institut, Eurasien-Abteilung) project and as part of two projects conducted at the Excellence Cluster TOPOI FU Berlin (Approaching Economic Spaces and Settlements & Cemeteries). Laboratory analysis was performed on 353 ceramic fragments (280 sherds found at Voitenki, 73 sherds found at neighbouring settlements) and 14 samples of clay (Tab. 1). All of the vessels presented in this paper are typical of those found at Cherniakhiv culture sites dated to the 4th century AD (examples are given in Fig. 1).

### Methodological approach

There are two aspects that have to be taken into consideration when assessing whether pottery was distributed across a wider region from one production centre:

- know-how (the type of ceramic technology used);
- and raw materials, hence geological factors (the same/different clays and the same/different non-plastic raw materials may have been used to make ceramic bodies by potters working at different production centres/workshops).

If we want to assess the differences/similarities between pottery recovered from the settlement and the cemetery, we also need to know what technology and raw materials were used. This means that we have to apply analytical methods that will enable us to:

- identify the chemical composition of the potsherds. This in turn allows us to establish the geochemical characteristics of both the plastic and non-plastic materials used to make the ceramic body and to estimate the concentration of major and trace elements in the pottery fabric. However, the phases in which individual elements oc-

<sup>3</sup> This analysis was conducted as part of the Siedlung & Graberfeld project carried out at the Free University Berlin Excellence Cluster 264 TOPOI (Research group A-6, led by Prof. M. Meyer).

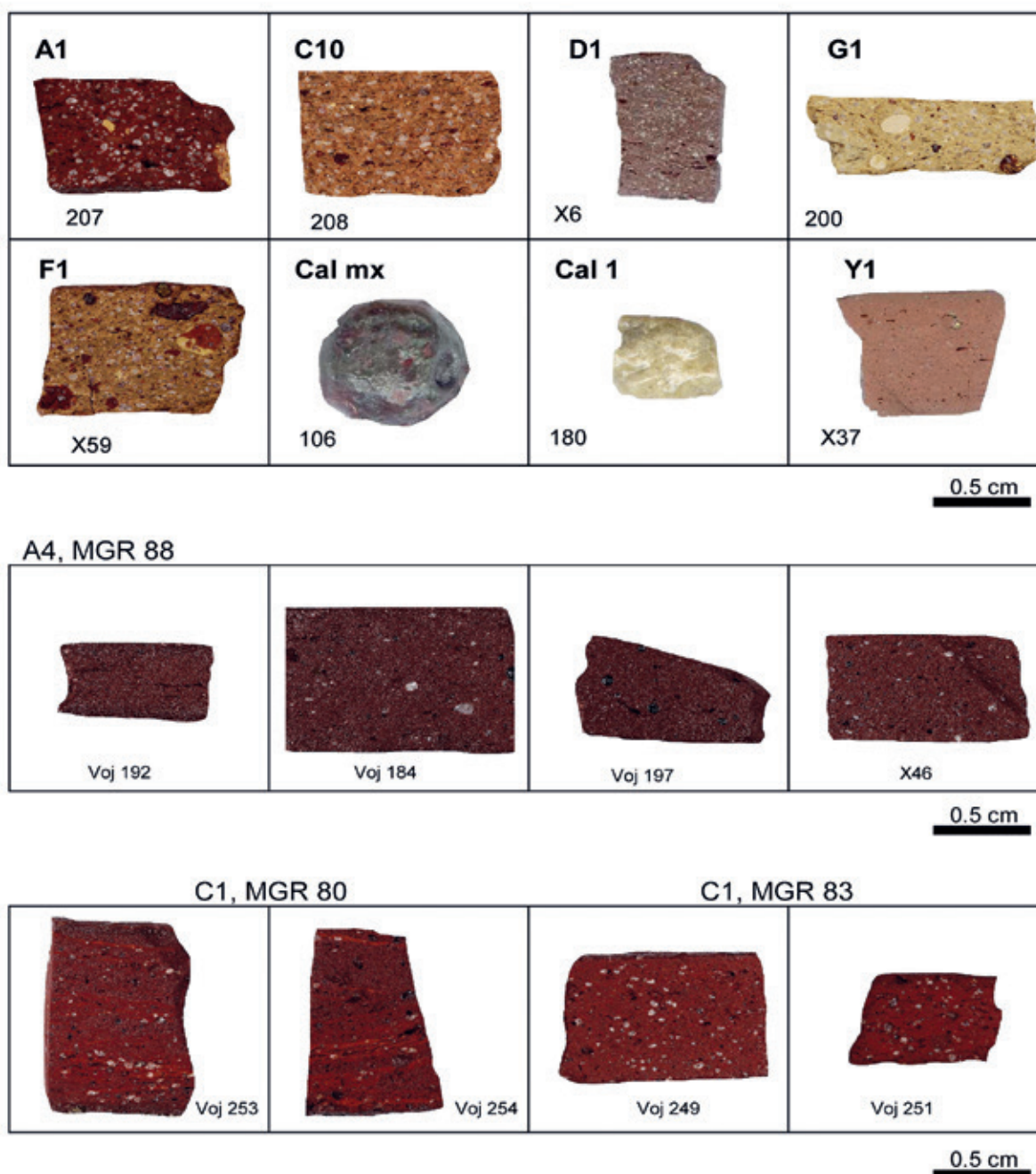


Fig. 2. Examples of clay types. For two of the clay types, examples are shown of sherds representing various MGR-groups. Results of MGR-analysis, samples refired at 1200°C, in a Carbolite electric laboratory resistance furnace using the standard procedure. Firing was carried out in static air (i.e., without airflow), at a heating rate of 200°C/h and a soaking time of 1h at the peak temperature, and cooled at a cooling rate of 5°C/min to 500°C, followed by cooling with the kiln to 400°C (macro photographs: M. Baranowski; image compilation: H. Baranowska)

cur cannot be determined<sup>4</sup> (giving the major elements as oxides is standard procedure in geochemistry when reporting the results of chemical analysis). This article presents the results of chemical composition analysis by WD-XRF;

- determine the matrix composition. For the purposes of this study, the matrix type was identified using MGR-analysis

(Matrix Group by Refiring), based on the fact that when fired the colour and thermal behaviour of plastic particles is dictated by their chemical and phase composition;

- identify non-plastic inclusions in the pottery fabric. Thin sections of the sherds were prepared and examined under a polarising microscope to achieve this aim. This made it possible to identify the mineralogical-petrographic

<sup>4</sup> For example, Ca content identified by chemical analysis may be attributable to intentional or natural temper of various-sized inclusions of calcite, or could derive from inclusions of dolomite or anorthite, or else carbonates may occur exclusively in clay fraction in the matrix.



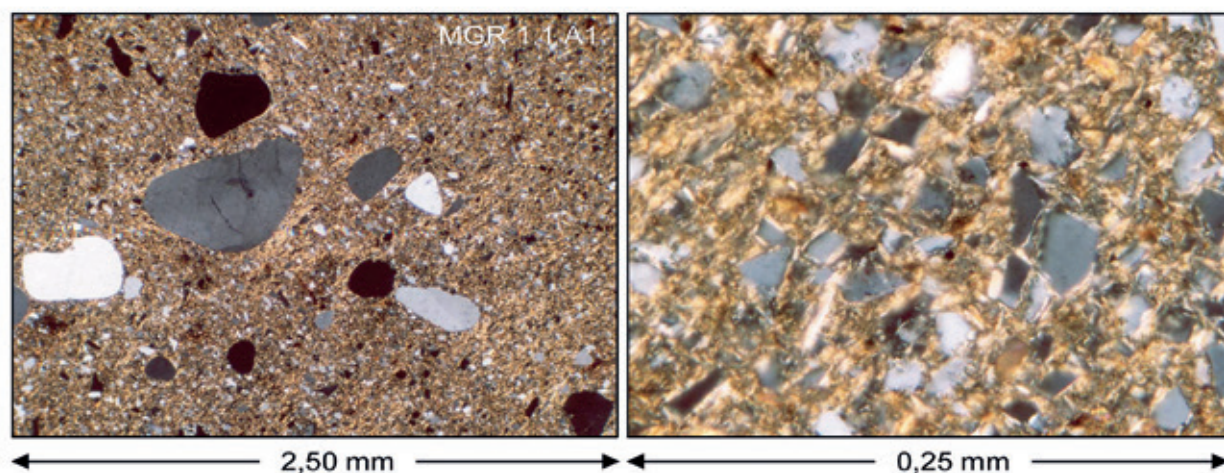


Fig. 3. Typical view under a polarising microscope of sample representing MGR 1.1 and clay type A1. Silty clay; non-plastic particles are predominantly quartz grains. Thin sections, microphotographs, XPL (microphotographs: G. Schneider; image compilation: H. Baranowska)

content and grain-size distribution of non-plastic particles in the ceramic body. However, thin-section analysis has certain limitations and can only provide general information about the ceramic matrix due to factors such as the resolution of the microscope, the size of the clay minerals that make up the plastic part of the body and the fact that they undergo various changes when fired.

- determine the technological process. To this end the physical ceramic properties (apparent density, open porosity and water absorption) of the sherds were estimated. This was achieved by hydrostatic weighing of a solitary fragment of each analysed sherd before and after refiring. The results of this analysis provided insights into the preparation of the ceramic body and the temperature at which the pottery had originally been fired. The original firing temperature ( $T_{eq}$ ) was determined based on apparent density, open porosity and water absorption during refiring, and the forming technique was determined from the analysis of pore patterns.

### Results of analyses

The first to be performed was MGR-analysis, which was done on 305 ceramic sherds and a sample taken from the wall of a pottery kiln. A firing test was conducted on 14 samples of clay raw material (in the form of briquettes made from a plastic mass fired in porcelain moulds). Refiring (and firing in the firing test of clay samples) was carried out using the same procedure.<sup>5</sup> When using MGR-analysis results to classify samples by the type of

plastic raw material used in the ceramic body,<sup>6</sup> we identify different groups by looking at the thermal behaviour of the sample refired at three temperatures (1100°C, 1150°C and 1200°C). Definitive classification of MGR-groups is based on the thermal behaviour of the sample when fired at 1200°C.

MGR-analysis results allowed six matrix types to be identified based on the sample's appearance after refiring at 1200°C. All in all, 115 MGR-groups were defined based on the colour when fired of samples within each matrix type. Of these, 105 MGR-groups are represented by samples that turn various shades of brown and red when fired at 1200°C, and seven groups consist of samples that take on various shades of yellowish-beige or whitish-greenish-beige (these seven groups comprise only 23 samples). One sample has a bichrome matrix (part brown and part green) after refiring, which points to a mixture of two clays.

Forty-five MGR-groups consist of two or more sherds (77% of samples), whilst 70 MGR-groups are each represented by only one sherd (23% of all analysed vessel fragments). With the exception of seven MGR-groups, samples from Voitenki are represented by different MGR-groups than those noted at ten settlements in the Voitenki region.

The results of MGR-analysis reveal that most of the pottery was made from various non-calcareous clays coloured to varying degrees by iron compounds. The sample taken

<sup>5</sup> Firing was carried out in a Carbolite electric laboratory resistance furnace using the standard procedure at the following temperatures: 1100, 1150 and 1200°C in static air (i.e., without airflow), at a heating rate of 200°C/h and a soaking time of 1h at the peak temperature, and cooled at a cooling rate of 5°C/min to 500°C, followed by cooling with the kiln to 400°C. The samples were subsequently removed from the kiln and left to continue cooling until they reached room temperature.

<sup>6</sup> MGR-analysis (Matrix Groups by Refiring) enables the matrix type to be identified based on the fact that during firing the thermal behaviour of the body's plastic components is governed by their chemical and phase composition: Daszkiewicz 2014; Daszkiewicz, Maritan 2017.



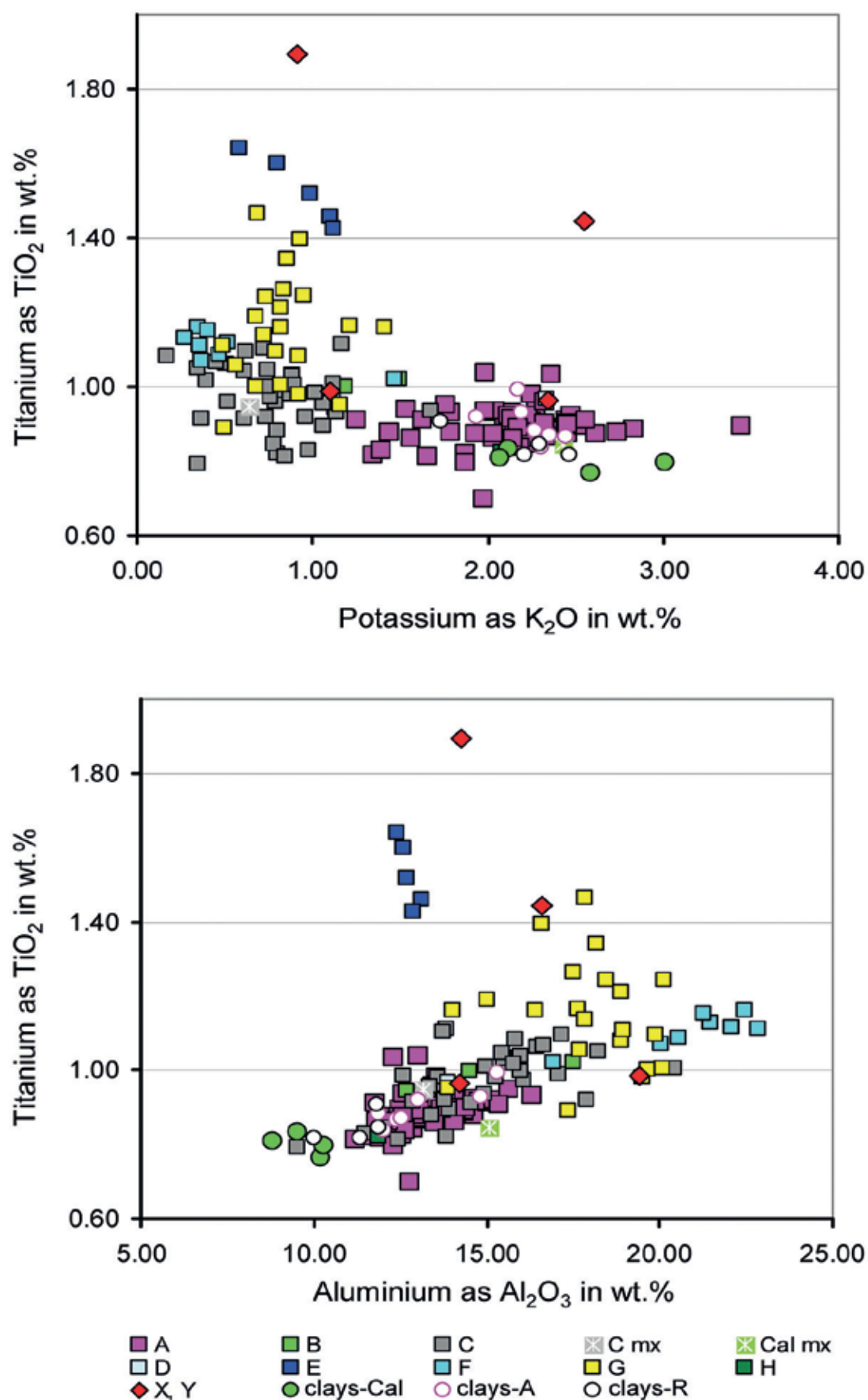


Fig. 4. Biplot of titanium versus potassium content (upper diagram) and biplot of titanium versus aluminium content (lower diagram), based on chemical analysis by WD-XRF of all samples, with clay type of each sample indicated (graphic preparation: M. Daszkiewicz)

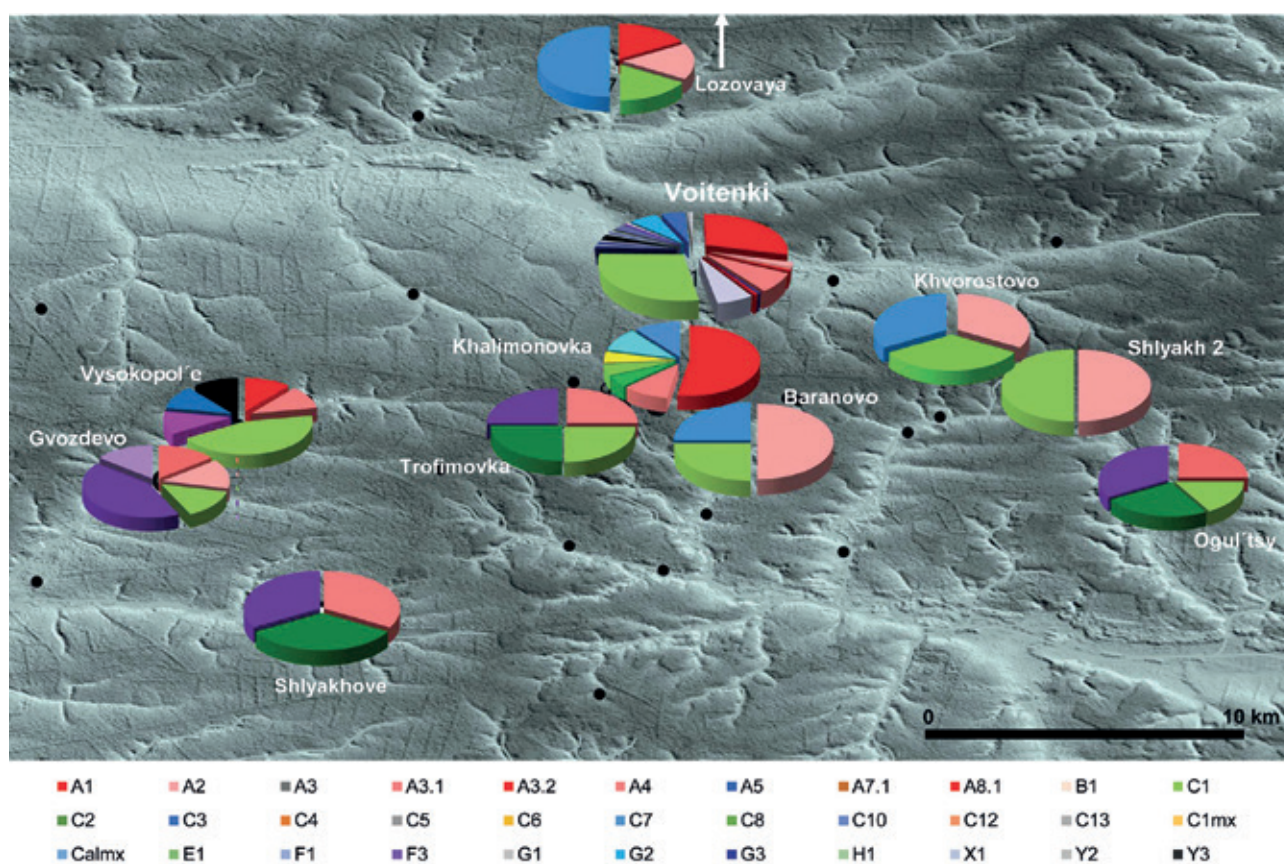


Fig. 5. Locations of sites from which pottery fragments presented in this article were sampled.

Pie charts show frequency (by percentage) of individual clay types at each site (image compilation: H. Baranowska, M. Daszkiewicz)

from the kiln wall was made of calcareous clay that fired olive green at 1200°C. None of the analysed potsherds was made of such a clay.

MGR-groups, which represent ceramic sherds of greatest similarity (indicating use of the same clay), can be grouped into clay types and then clay categories (or major clay types). Ultimately, 37 clay types were identified, and after chemical analysis by WD-XRF, these were in turn classified according to their chemical composition and combined into ten major types: A to H, as well as X and Y. Table 2 shows the division into clay types and major clay types taking into account chemical characteristics, thermal behaviour and all MGR-groups by settlement, cemetery and site. Examples of various clay types and MGR-groups within one clay type are shown in Figure 2.

Clastic material was described macroscopically for all sherds, and after having been classified into MGR-groups and clastic material groups, samples were selected for further analyses.

Thin sections were prepared from 15 ceramic fragments and examined using a polarising microscope. An example of the structure and texture of a sherd made from type

A1 clay (the raw material most commonly used by potters in Voitenki) observed in the polarising microscope z can be seen in Figure 3. This sample has a very silty matrix and the clastic material<sup>7</sup> features a predominance of rounded grains of quartz of up to fine sand size.

Chemical analysis by WD-XRF was performed on 147 ceramic fragments (including 47 that were too small for MGR-analysis). A sample taken from a kiln wall, a lump of clay found at the Voitenki settlement and 14 samples of clay were also subjected to chemical analysis.

All of the major clay groups are represented by iron rich non-calcareous clays, but these groups differ significantly from one another in terms of their chemical composition (Tab. 3). Clay types belonging to major group A are distinguished by having the highest concentrations of magnesium (in the form of MgO), sodium (as Na<sub>2</sub>O), potassium (as K<sub>2</sub>O), rubidium (Rb), zirconium (Zr) and cerium (Ce). These clays differ distinctly from all other clay groups, in particular due to their higher potassium content (Fig. 4a). The remaining clay groups have a low potassium content of less than 1.2 wt.% K<sub>2</sub>O, and most also have a low iron content (Fe<sub>2</sub>O<sub>3</sub>), with higher concentrations of titanium (as TiO<sub>2</sub>) and aluminium (as Al<sub>2</sub>O<sub>3</sub>), which points to

<sup>7</sup> Grain fraction > 0.01 mm. For grain classification, see, for example, Daszkiewicz, Schneider 2019.

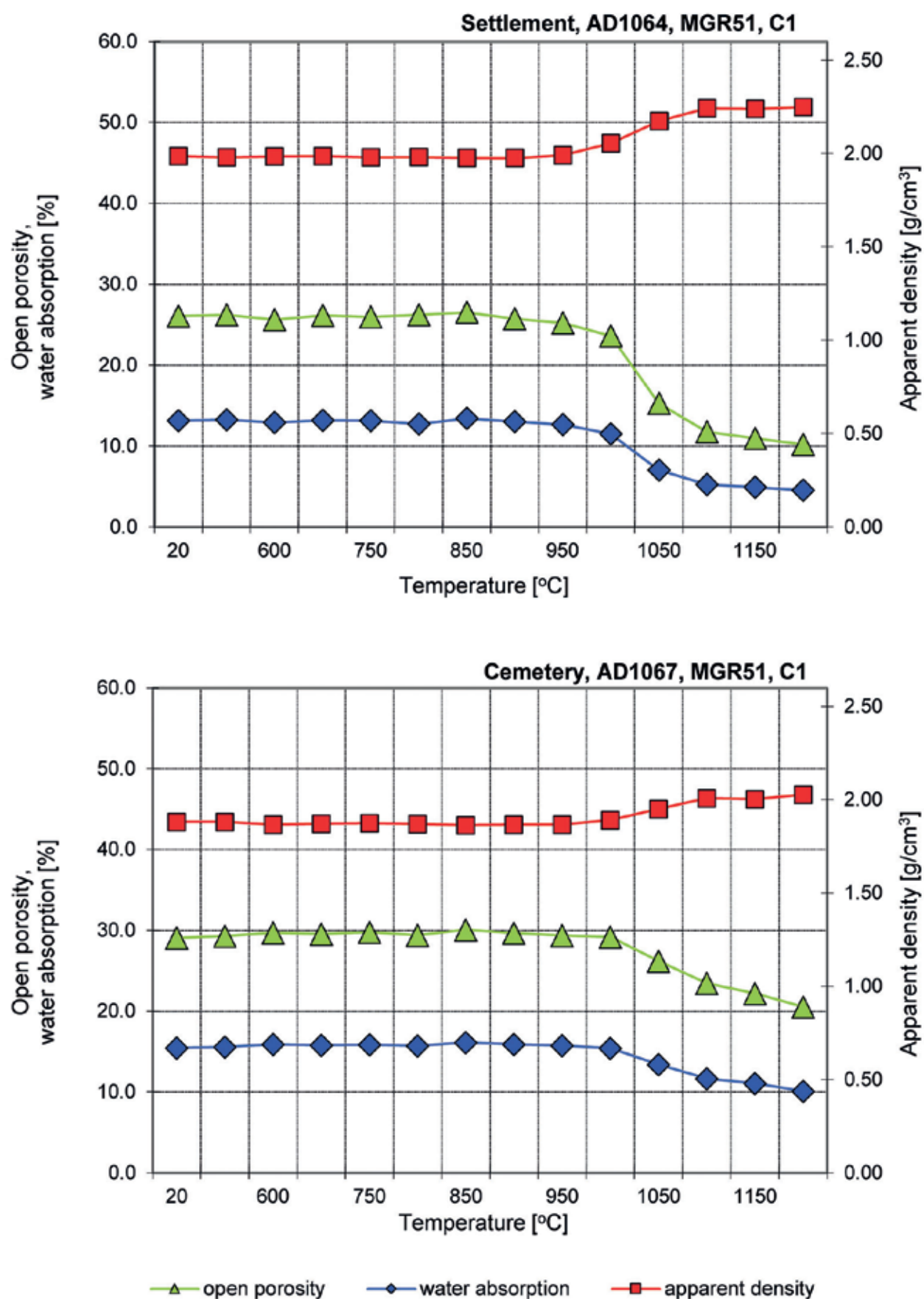


Fig. 6. Results of K-H analysis: examples of samples representing MGR 51 and clay type C1. Sample from settlement, Teq 850–900°C; sample from cemetery, Teq 900–950°C. Refiring was done in accordance with the same procedure used in MGR-analysis. Apparent density, open porosity and water absorption values were determined by hydrostatic weighing (graphic preparation: H. Baranowska)



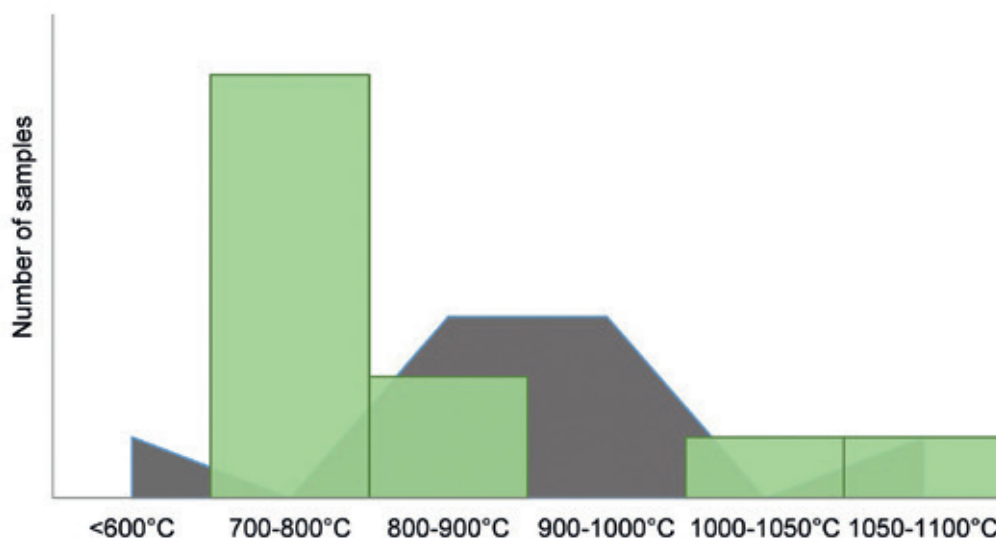


Fig. 7. Distribution of number of samples originally fired at individual Teq ranges divided into settlement samples (gray) and cemetery samples (green) (graphic preparation: H. Baranowska)

a greater content of the clay mineral kaolinite in the raw material. Levels of silica (as  $\text{SiO}_2$ ) and  $\text{Al}_2\text{O}_3$ , as well as  $\text{TiO}_2$ ,  $\text{Fe}_2\text{O}_3$  and chrome (Cr) are important in differentiating between groups C, E, F and G. In particular, samples belonging to group E are distinguished by their elevated  $\text{TiO}_2$  content (Fig. 4b). Group F is characterised by low levels of  $\text{SiO}_2$  and high levels of  $\text{Al}_2\text{O}_3$  (Fig. 4b), and also stands out from all other groups in having the highest iron content. In contrast, samples in group G have the lowest  $\text{Fe}_2\text{O}_3$  content and tend to have high concentrations of  $\text{TiO}_2$  (>1 wt.%  $\text{TiO}_2$  in most samples).

The chemical composition (and thermal behaviour) of most of the analysed clay raw materials is consistent with major clay group A (Figs 4a and b). One sherd representing a clay from group X1 is distinctive due to its high content of vanadium (V) and chrome (Cr), and this sample undoubtedly came from a non-regional imported ware. Pottery made from clays in group Y probably represents regional wares. The percentage share of individual types of clay at particular sites is shown in Figure 5.

Investigations into the pottery production technique were carried out primarily to try and establish whether pottery found at the cemetery site was made differently to that found at the settlement. One of the ways in which we approached this question was by determining the original firing temperature using K-H analysis.<sup>8</sup> Figure 6 shows the results of K-H analysis for samples taken from vessels of the same form (a pot) made using the same clay and the same ceramic recipe (clay type A1, MGR-group 51).

One of these pots was recovered from the settlement and the other from the cemetery. Open porosity and water absorption values in vol. % are plotted on the Y axis, and the additional Y axis (the one on the right) shows apparent density values in  $\text{g/cm}^3$ . The refiring temperature at which an increase in apparent density and a drop in open porosity and water absorption are observed marks the beginning of the temperature range that contains the original firing temperature (Teq). This is the highest refiring temperature at which the first changes are noted ( $\text{Trmax} \leq \text{Teq} \leq \text{Trmin}$ ). The results of this analysis point to a higher Teq for the pot found at the cemetery site. Figure 7 shows the distribution of number of samples in the Teq ranges estimated for pottery found at settlements and at cemeteries.

The range of values of physical ceramic properties determined for pottery discovered at the Voitenki settlement is very different to the range determined for pottery found at the Voitenki cemetery. Open porosity values for the first group of vessels fall within a narrow range of 24.1–26.7 vol.%. Conversely, there is a much greater diversity among pottery from the cemetery, its open porosity values ranging from 21.9 vol.% to 45.9 vol.%. The worst parameters were noted in a vase that had originally been fired at a temperature > 450° but < 600°C.

Pore analysis (FTPT<sup>9</sup>) was undertaken to determine what forming technique was used. This involved recording the shape, alignment, size and distribution of pores in two cross-sections of the wall of a vessel: one cross-

<sup>8</sup> For a description of analysis of physical ceramic properties determined after refiring, see, for example, Daszkiewicz, Schneider 2021.

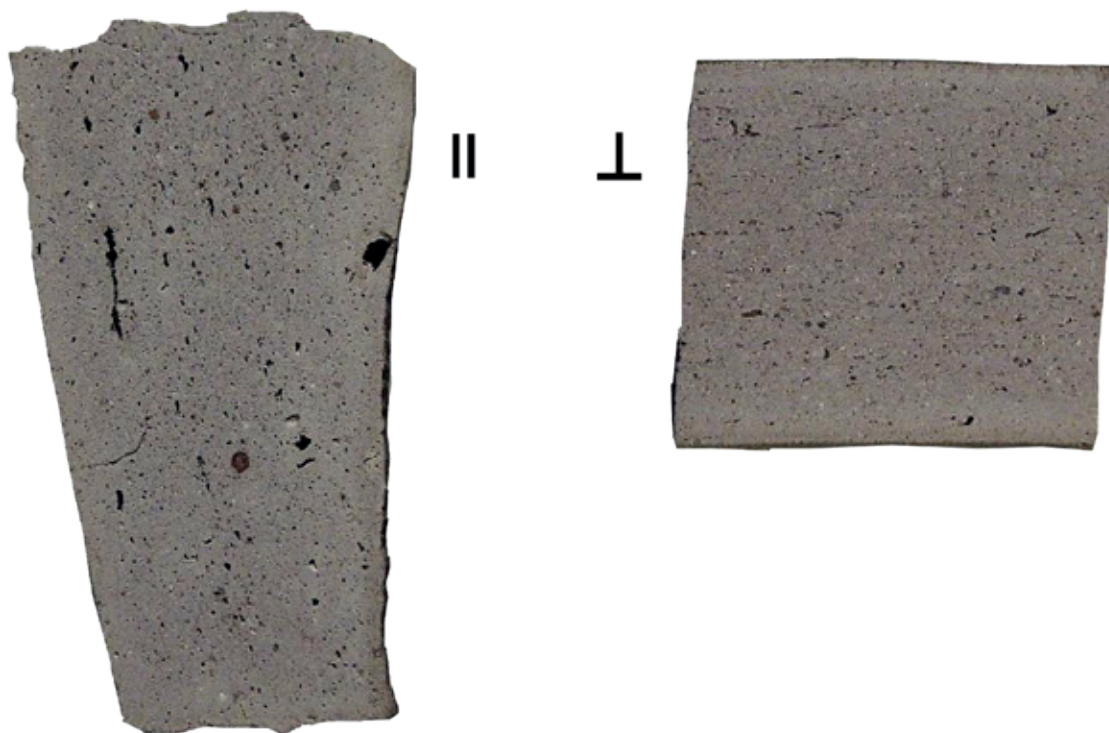
<sup>9</sup> For descriptions of various methods used to determine forming techniques, see Daszkiewicz, Wetendorf, Bobryk 2019.



-section perpendicular to the vessel's main axis and the other parallel to this axis. The sample shown in Figure 8a was removed from a vessel from the Voitenki settlement, whilst Figure 8b shows a sample removed from a pot discovered in a grave at the Voitenki cemetery. As ex-

pected, the textures/structures visible in the cross-section of the vase are typical of a wheel-thrown vessel made on a fast wheel. The pot was handmade (in contrast to the vase, the pot was made with the intentional addition of non-plastic particles).

### Voitenki 217, settlement



### Voitenki 281, cemetery

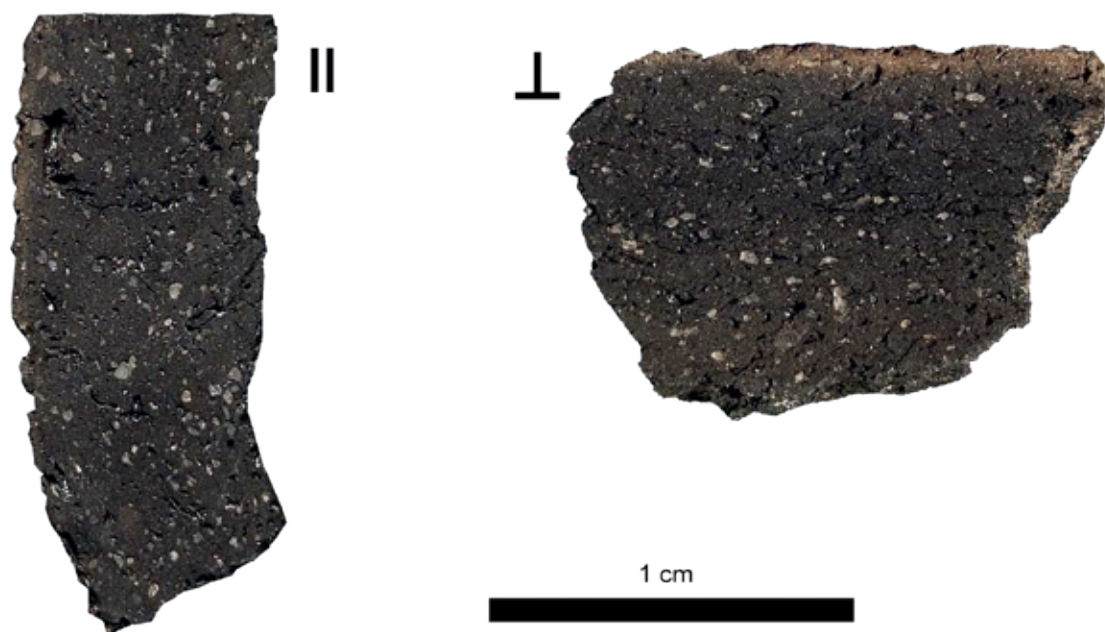


Fig. 8. Pore distribution in a wheelmade vessel recovered from a settlement and a handmade vessel recovered from a cemetery. Cross-section through vessel wall in a plane parallel to the vessel's main axis ( || ) and in a plane perpendicular to the vessel axis ( ⊥ ) (macro photographs: M. Baranowski; image compilation: H. Baranowska)

## Conclusions

Pottery was made at Voitenki primarily to meet local demand.

Voitenki's potters predominantly used non-calcareous clays coloured to greatly varying degrees by iron compounds. They included clays in which the dominant clay mineral is illite as well as clays in which kaolinite is prevalent among the clay-sized minerals. Ceramic bodies were prepared according to a variety of recipes. Forty-five per cent of all analysed sherds found at Voitenki were made of category A clays, 31% were made using clays of category C and 13% were made from category G clays. Only 12% of sherds were made of clays belonging to eight other categories, and four of these were probably imported from beyond the region under discussion.

All of the handmade vessels, except one, were made from the same raw materials as the wheel-made ones. A single sherd from a handmade pot found at the cemetery site was made from a ceramic body that combined non-calcareous and calcareous clays.

A total of 36 clay types were identified among the clay categories (A, B, C, D, E, F, G, H, X and Y) established for Voitenki and the sites in its vicinity.

Twenty two clay types used in ceramic workshops within the Voitenki region were not used to make any of the analysed sherds found at Voitenki. Fourteen types of clay were used in the production of pottery discovered at Voitenki, of which seven types were also used by potters at other sites.

The use of the same clays at various sites does not mean that the raw material was extracted from the same place. The fact that these clays belong to various MGR-groups indicates that various clays representing a single clay type were extracted from various locations.

The presence of eleven MGR-groups (from a total of 115 MGR-groups) tells us that eleven clays were used at various sites. Three of these MGR-groups are numerously represented: the use of the same clay was attested

at six sites (Voitenki, Gvozdevo, Vysokopol'e, Ogul'tsy, Shlyakhove and Trofimovka), another clay was used at five sites (Ogul'tsy, Vysokopol'e, Baranovo, Gvozdevo and Trofimovka) and the use of a third clay was confirmed at five sites (Gvozdevo, Ogul'tsy, Trofimovka and Shlyakhove). However, the same plastic raw materials were used at various sites to make pottery based on different ceramic recipes.

Analysis of the wall and grate of a kiln discovered at Voitenki showed that they were made of calcareous clays, hence from clays not used to make any of the analysed potsherds. Their chemical composition and thermal behaviour is very similar to that of a lump of clay recovered from the settlement.

Only 21 ceramic fragments were analysed in order to assess the technology used in their production (20 fragments from Voitenki and 1 from Khalimonovka).

Samples from Voitenki belonging to the same MGR-group (same clay) and the same clastic material group (i.e., made using the same recipe) exhibit differences in their physical ceramic properties when we compare pottery from the settlement to vessels from the cemetery, which points to differences in the preparation of settlement and burial pottery. If we assume that the samples selected for analysis are representative of the whole assemblage, then we can argue that there was a certain standardisation in the production of settlement pottery as opposed to that of burial pottery.

The original firing temperature of most of the pottery found in graves is higher than that of the pottery from the settlement site. Perhaps in the case of the burial ceramics we are dealing not with the original firing temperature but with the maximum exposure temperature? The state of one of the sherd samples recovered from a grave is somewhere between dried and fired.

One sherd discovered at the Khalimonovka site, made of the same clay and using the same ceramic recipe as 11 sherds from Voitenki, was fired at the same temperature as one of the 11 Voitenki fragments. Could they have been made in the same kiln batch?

Site	No. of samples	Pots	Bowls, open form	Bowls, closed form	Vases	Jugs	Others
		Number of samples					
Voitenki, settlement	182	94	30	25	11	3	1 beaker, 11 storage vessels, 7 bottom fragments
Voitenki, cemetery	86	31	15	12	12	14	1 jars, 1 beaker
Voitenki, handmade pottery, settlement	11	8	3				
Voitenki, handmade pottery, cemetery	1	1					
No. of samples	280	134	48	37	23	17	21
Baranovo	4	2		2			
Gvozdevo	7	3	2	1			1 storage vessel.
Khalimonovka	19	9	1	5	4		
Khvorostovo	3		1	1			1?
Lozovaya	6	3	1	1	1		
Oguftsya	12	7	1	2	2		
Shlyakh 2	6	2		3	1		
Shlyakhove	3	1	2				
Trofimovka	4	3	1				
Vysokopol'e	9	5	1	2	1		
No. of samples	73	35	10	17	9		2
Other samples							
Voitenki, settlement	2						1 lump of clay, 1 kiln sample
Voitenki	14						14 clay samples
All analysed samples							
	353	169	58	54	32	17	23

Tab. 1. Number of analysed samples by vessel type and site. For Voitenki, the number of samples from the settlement and from the cemetery is also indicated. All of the analysed sherds came from wheelmade vessels except for a few examples of handmade pottery found at the Voitenki settlement/cemetery

Settlement (MGR-groups)	Cemetery (MGR-groups)	Clay type (colour when Fired at 1200°C)		Chemical characteristic
1, 1.1, 4, 5, 7, 9, 11, 10, 10.1, 18, 18.2, 18.3, 22, 27, 28, 36, 37, 43, 49, 59 Kha, 60 Kha, L, V, 60.1-60.3 Kha, 60.4, 60.5, 81, 82	18, 18.1, 81, 82	A1	NC clay, Brown/red	high Na, K, Rb, Zr
13		A2		
	115, clay	A3		
42, 57, 57.1-57.3, 88, 88 G, V, O, T, Sl, 88.1 O, 90 O	57, 88	A4		
	56	A5		
89		A6		
6		A7		
50		A7.1		
62-64 Sch, 65 L, 68 Kha, B, 68.1 Kh, 68.2 Kha, 68.3 B		A8		
58		A8.1		
3, 8, 12, 14, 21, 24, 38, 39, 40, 44, 52		B1	NC clay, brown/red	K <sub>2</sub> O<1,5%
2, 2.1, 2.2, 2.2 Sch, 15, 20, 23, 25, 26, 29, 30, 32, 33, 31, 45, 46, 51, 53, 61 Sch, 79 O, 80, 83, 85, 86, 91, 92 B, G, O, T, V	2, 15, 46, 51, 80, 83, 85, 86	C1	NC clay, Brown/red	
19	84	C1mx		
16, 17		C2		
34		C3		
35, 35 Kha, 41		C4		low K and Rb
48		C5		
54		C6		
55		C7		
47		C8		
66 L, 67 Kha, 69 Kh		C9		
87		C10		
75 O, Sl, T, 77 O		C11		
114 Kha		D1	NC clay, brown/red	high K, low Rb
71 G, O, Sl, T, 73-74 G		F1	NC clay, Brown-beige	high Al, K <sub>2</sub> O<1,2%
72 G		F2		
93 V, 103		F3		
97, 97 Kha	97	G1	NC clay, Brown-beige	low Fe, K <sub>2</sub> O<1,2% V > 160 ppm
94, 94 Kha, Kh, L, 95 L, 96, 96 B, Kha	96	G2	NC clay, white-greenish	
98, 100, 104, 105 V, 106, 107, 108, 109, 110, 112	102	G3	NC clay, Beige	
70		Y1	Regional production?	high Y
99		Y2		low Fe, V, Cr
101		Y3		high Ti

Tab. 2. List of all MGR-groups by settlement and cemetery indicating clay type/clay category and chemical characteristics (the table does not include clay types represented by samples that did not undergo MGR-analysis). MGR-groups represented by sherds found at either the Voitenki settlement or cemetery are marked in red; MGR-groups marked in green were represented at both the settlement and cemetery. MGR-groups marked in black are represented by sherds from other sites. MGR-groups marked in blue occur at both Voitenki and other sites. B = Baranovo, Kha = Khalimonovka, Kh = Khvorostovo, G = Gvozdevo, L = Lozovaya, O = Ogul'tsy, Sch = Shlyakh-2, Sl = Shlyalkhove, T = Trofimovka, V = Vysokopol'e



MGR group	Clay type	Lab. No.	wt. %										ppm										I.o.I. %				
			SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	V	Cr	Ni	Cu	Zn	Rb	Sr	Y	Zr	Nb					
18	A1	AD1063	72.86	0.914	14.79	5.76	0.054	1.15	1.25	0.71	2.19	0.33	127	123	54	12	62	82	117	33	466	19	700	33	67	23	4.05
18	A1	AD1061	72.94	0.889	14.35	5.77	0.060	1.18	1.50	0.75	2.20	0.37	125	128	49	12	77	91	136	34	440	20	723	28	88	18	3.19
60	A1	MD3928	74.47	0.880	13.23	5.14	0.060	1.42	1.37	0.96	2.35	0.12	128	113	44	16	56	90	131	35	422	12	651	34	91	18	2.80
-	E1	AD579	78.59	1.641	12.38	3.79	0.011	0.45	1.88	0.09	0.59	0.58	110	103	22	32	23	20	147	23	335	36	660	20	33	15	3.28
103	F3	MD5341	65.34	1.117	22.11	8.87	0.024	0.55	1.28	0.02	0.51	0.17	182	156	42	18	26	19	97	14	252	18	176	8	13	30	4.52
Imports																											
-	X1	AD546	70.30	0.964	14.19	8.28	0.111	1.59	1.29	0.79	2.35	0.12	376	764	88	48	81	81	95	30	313	18	757	12	79	23	4.07
99	Y2	MD3530	73.46	0.986	19.44	2.98	0.010	0.57	0.92	0.19	1.10	0.34	81	90	32	9	35	44	75	23	218	19	306	26	46	26	3.51
Local clay																											
120	A3	MD4405	72.31	0.930	14.84	6.29	0.360	1.37	1.18	0.44	2.19	0.09	127	119	65	22	78	105	98	41	411	16	636	38	111	22	9.37

Tab. 3. Chemical composition of sherds representing local wares (clay types A1, E1, F3) and imported wares (clay types X1 and Y1), and chemical composition of local raw material (clay type A3). Clay type A1 is represented by two sherds attributed to MGR-group 18 and one sherd attributed to MGR-group 60 (for the chemical analysis results of all analysed sherds, see Daszkiewicz, Schneider 2021. Results of chemical analysis by WD-XRF. Major elements are calculated as oxides and normalised to a constant sum of 100% (total iron is calculated as Fe<sub>2</sub>O<sub>3</sub>). The element concentrations determined are valid for samples ignited at 900°C (specimens for the measurements are melted after ignition). Preparation by M. Daszkiewicz ARCHEA; measurements using the calibration of Arbeitsgruppe Archäometrie performed by G. Schneider and

A. Gotsche (courtesy of A. Schleicher, Deutsches GeoForschungsZentrum GFZ Potsdam)

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# The Ethnic Identity of Handmade Pottery from Sites Located on the Northern Shores of the Black Sea

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## Abstract

*Handmade ceramics are among the most numerous mass categories originating from the excavation of ancient sites on the northern shores of the Black Sea. One of the issues involved in the study of this group is the question of establishing the ethnic and cultural identity of the producers and users of these vessels. Technological aspects as well as the absence of any standardization of handmade ceramics are considered as possible indicators of the ethnicity of its producers and the issue, in terms of who made these particular vessels, has been hotly debated since the 1960s. The possibility of production by Greek craftsmen has been indicated as a possibility in the case of the early handmade ceramics from sites in the northern Black Sea littoral.*

## Keywords

*handmade pottery, northern Black Sea littoral, ethnic attribution*

One of the main questions raised when studying handmade ceramics from the northern shores of the Black Sea is the ethnic identity of its makers.<sup>1</sup> While the barbarian origin of most pottery producers goes generally unchallenged, the Greek colonists have also been suggested, especially in the early years after the arrival of the Greeks when the influence of local inhabitants on the urban population of the ancient cities was not as significant as it would become in later centuries. The ethnic attribution of handmade vessels is made based on a consideration of form and ornament, as well as important technological aspects, such as firing method, inclusions in the clay, and surface treatment. But it is equally important to pay attention to the ethnic, cultural, and political situation in the Black Sea littoral, especially the contacts between the Greeks and the local population.

The common view until the 1960s was that handmade pottery was the work of barbarian tribes inhabiting the northern Black Sea coast.<sup>2</sup> The first to counter this opinion and to attribute this category of vessels to the Greek colonists living in cities located in the Black Sea littoral was V.V. Lapin. He believed that the Greeks were equally well acquainted with both techniques: molding pottery by hand and throwing on a wheel, and that the material culture of the Greek colonies in the early period of their functioning was not affected by contacts with the native population. Both categories of pottery, handmade and wheel-made, are simultaneously present in the archaeological record, a situation confirmed by ethnographic studies.<sup>3</sup> Considering the limited assemblage of kitchen wares found in mid-6th century BC Torikos, N.A. Onajko argued that the Greeks were producing handmade ceramics mainly to fill

<sup>1</sup> Attributing ethnicity based on the material culture, especially ceramics, has been the subject of a lively scientific discussion: Binford 1962, 220; Hegemon 1992, 517–536; Jones 1997, 106–128; Hegemon 1998, 264–280; Knapp 2014, 36–37.

<sup>2</sup> Vlasov 2019, 125; Klemešova 2019, 28.

<sup>3</sup> Lapin 1966, 162–163.

the gap in the repertoire of cooking pots, which the colonists found necessary in the cooler and much harsher climate of the Black Sea littoral necessitating the preparation of more hot dishes than they were used to in Greece.<sup>4</sup> Other researchers have also claimed that the appearance of handmade pottery among the Greeks in the Archaic period was related to an insufficient amount of turned kitchen pottery.<sup>5</sup> The main argument against Greek production of handmade pottery was that with their higher degree of cultural development and knowledge of wheel-made pottery technology, the Greek colonists would not have produced such primitive pottery.<sup>6</sup> Opponents included E.G. Kastanayan,<sup>7</sup> who believed it impossible for Greek colonists in the 7th and 6th centuries BC to be influenced by the culture of a local peoples to such an extent as to produce handmade ceramics,<sup>8</sup> and K.K. Marchenko.<sup>9</sup> Collecting all the most critical findings of researchers dealing with this issue, V.P. Vlasov concluded that there are currently no grounds for inferring that the Greeks actually produced handmade pottery on the spot.<sup>10</sup>

Indeed, the Greeks in the 6th century BC used the potter's wheel and pottery workshops are known from the Black Sea colonies of this period, for instance, the 6th century BC installation discovered on the Berezan peninsula, suggesting that there were skilled craftsmen, including a potter, among the Greeks colonizing the northern shores of the Black Sea.<sup>11</sup> Therefore, considering whether the Greeks were capable of producing handmade ceramics in the Black Sea littoral in the 7th–6th centuries BC, one should ask whether this production was a home industry or made by a professional potter. Not to say, that a certain technical knowledge and skills are required also of someone making pottery by hand. The maker has to know how to shape vessels, not to mention how to choose and temper the clay, and how to fire the

finished product. This suggests the participation of a potter in this process, but one cannot rule out women, for example, who would have taken on the task of making everyday utensils – handmade ceramics definitely were such products of daily use – in a form of unorganized production.<sup>12</sup> The primitiveness and conservatism of handmade forms also argued for a home production.<sup>13</sup>

Home production presupposes the empirical transfer of knowledge about working with clay and producing vessels. The need to follow closely certain rules translates in turn into traditional methods of work maintained over a long time.<sup>14</sup> This would explain the long production of handmade pottery, despite knowledge of the potter's wheel among the Greeks. Another possibility to be taken into account is that handmade vessels were brought to the Greek cities either by purchase from the barbarian tribes or through intermarriages with the local women. Researchers have practically not addressed the important issue of potential trade in handmade vessels.<sup>15</sup> Regarding this issue, one should take into account Bobrinskij's definition of economic forms of ceramic production. Handmade ceramics represent either his first form, that is, home production, in which the producers are almost exclusively women and both makers and users are connected by blood ties, or the second form, that is, custom-made handicrafts, in which case both sexes are engaged in producing ceramics and there are family or ethnic ties between producers and users.<sup>16</sup> In view of this, it is impossible for handmade pottery to have reached the Greek cities of the northern Black Sea littoral in the initial period of their existence through trade.<sup>17</sup> Imitations of Greek wheel-turned dishes present in the handmade pottery repertoire have been considered as proof of the barbarians' acquaintance with Greek ceramics.<sup>18</sup> However, it is also possible that the Greeks

4 Onajko 1980, 89–90.

5 Lapin 1966, 163; Gavriluk 2014, 47.

6 Klemešova 2019, 28.

7 Kastanaan 1981, 127–128.

8 Kastanaan 1981, 5.

9 Marčenko 1988, 109–110; Marčenko 1975, 76.

10 Vlasov 2019, 125–131.

11 Krutilov, Bondarenko 2015, 205–217.

12 The production of bread baking pans in the modern Balkans is an example of this type of practice, now abandoned but which still existed in the 1950s. These vessels were called “female ceramics”, because only women were involved in making them, including the entire process of obtaining and preparing the clay. The primitive production methods may, according to some researchers, indicate that they have not changed since antiquity. This primitive form of ceramic production by women is independent of professional potmaking on a potter's wheel, see: Filipović 1951, 1–2.

13 Kastanaan 1981, 126.

14 Bobrinskij 1978, 242.

15 Vlasov 2019, 129.

16 Bobrinskij 1978, 25–26.

17 Kastanayan also claimed that handmade pottery could not be traded because it was the result of home, not industrial production: Kastanaan 1981, 127–130.

18 Gavriluk 1984, 7.

may have done it themselves.<sup>19</sup> Production of handmade ceramics in later centuries could have been the effect of the Greeks inevitably succumbing to barbaric influences. A case in point are the handmade vessels discovered on the Taman Peninsula, dated to the 1st–2nd centuries AD. Analyzing the firing temperature and atmosphere, and the composition of the ceramic mass, as well as the functional purpose of these vessels, M.E. Klemeshova came to the conclusion that these ceramics were different from handmade pottery found at other sites in the region and, thus, could represent Greek production.<sup>20</sup>

To sum up, handmade pottery from Meotian or Scythian sites is clearly the work of ethnic barbarians with the hand-

made imitations of turned Greek vessels found at these sites reflecting Greek cultural influence on the local population. As for handmade vessels discovered at the Greek cities in the northern Black Sea littoral in the initial period of existence of these colonies, the Greek ethnicity of their producers cannot be ruled out with certainty. Taking into account the available archaeological and ethnographic sources, such as the presence of handmade pottery in the earliest layers of Greek cities on the northern shores of the Black Sea and data on the production process, it can be concluded that production of handmade vessels by ethnic Greeks is possible and should not be excluded, even if for now the evidence for this hypothesis is lacking.

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<sup>19</sup> Kotin 2011, 188–195.

<sup>20</sup> Klemešova 2019, 28–35.





# The Assemblage of Archaic Handmade Pottery from V.V. Lapin's Excavations at Borysthenes

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## Abstract

*This paper considers a collection of ceramics that has not been published before, from the 1960–1980 excavations by V.V. Lapin at Borysthenes (Berezan'). The material presented here came from the fills of 46 semi-dugouts and 97 household pits of the archaic period from the "Osnovnoi" excavation on the site. Six groups of handmade pottery ("Greek"; "Thracian"; "local"; "forest-steppe" "Kizil-Kobyn" and "Colchian") were distinguished in the ceramic assemblage of the archaic period of Borysthenes on the basis of their differing origin and contemporary analogies. The development of these groups can be examined in the framework of the three main phases identified on the basis of changes in their composition. The chronology of these phases can be determined, among other things, with reference to the chronology of the painted ceramics determined for the site by A.V. Bujskikh. The first phase dates to the second half of the 7th – the beginning of the 6th century BC; the second – first half of the 6th century BC; the third – the second half of the 6th – the first half of the 5th century BC. Some features of the development of the fine ware, table-ware, kitchen and household pottery were traced on the basis of quantitative and qualitative methods. Of note is the occurrence of the group of "Greek" handmade pottery and its changes in these phases. This group became predominant in the third phase. A number of quantitative and qualitative changes in the composition of the "non-Greek" group of handmade pottery are also identified. These lead to the conclusion that the population of archaic Borysthenes was polyethnic.*

## Keywords

*Borysthenes, V.V. Lapin, handmade pottery, quantitative and qualitative methods, chronology of painted ceramics, "Greek" group, "Thracian" group; "local" group; "forest-steppe" group, "Kizil-Kobyn" group; "Colchian" group*

## Introduction

In the study of the processes of exploration, occupation, and developing of new territories, the analysis of handmade pottery assemblages is an important and yet often neglected source. Such research can reveal data on a number of issues and details of such processes (e.g., character, intensity, dating, and results). In many instances the emergence of these kinds of ceramics has been the result of the interaction through contact of various population groups, differing in ethnic characteristics and/or levels of cultural and socio-economic development. The archaic handmade pottery assemblage of Borysthenes (Berezan') is an interesting example of the possibilities such research opportunities.

Changes in assemblages of handmade pottery are an important indicator of ongoing ethno-cultural developments in the course of the historical process. Alongside the use of other data, the results of their qualitative and quantitative analysis are a necessary condition for investigation of a series of problems of Greek colonization of the Northern Black Sea coastal area. Moreover, sometimes the correct interpretation of data about handmade pottery becomes decisive in the relevant discourse, for example, when evaluating the nature, ways and results of both interethnic relationships and taxonomic stages of development at the level of individual ethnicities. Pottery is a major source in the analysis of archaeological cultures, especially those corresponding to the levels of primitive and traditional economies. The study of handmade pottery from archaeological

assemblages is important in any analysis of the nature and stages of the transition from one type of society to another as a result of the historical interaction of autochthonous and allochthonous populations in this territory.

The history of the study of handmade ceramics from the materials of the ancient Greek sites of the Northern Black Sea coastal area began in the 1930s. It is associated with the names of several well-known researchers of antiquity<sup>1</sup> and continues to this day.<sup>2</sup> Already by the 1950s, the hypothesis was being formed and became widespread that the presence of handmade pottery in the composition of the ceramic assemblage of ancient centres (including the Archaic ceramic assemblage of Borysthene), was due to the presence of a barbarian stratum of the population in them. Later, a group of handmade ceramics began to be associated with the Scythian culture of the Northern Black Sea coastal area.

For a long time, the attribution of the handmade pottery to the barbarian groups of the population was self-evident. It would seem that such a picture should be reproduced on all sites of classical antiquity of the Northern Black Sea coastal area, including Borysthene as one of the earliest settlements. However, V.V. Lapin drew attention to the heterogeneity of the handmade ceramic assemblage of Borysthene. He also noted that over half a century ago, “[...] handmade pottery was also common among the Greeks, used mainly for kitchen purposes”.<sup>3</sup>

However, even today, the analytical approach, corresponding methodology and techniques for researching and attribution of the type composition of ceramics and quantitative distribution are still not widely used in research on the sites of classical antiquity of the Northern Black Sea Coast area. It is obvious that this claim is especially important for Borysthene (Berezan’) as the key archaic site not only for the territory of Ukraine, but also for entire Circum-Pontic macroregion.

Over the past 40 years or so, since the publication of the first monographic investigation of handmade pottery by K.K. Marchenko in 1988,<sup>4</sup> the artefact base of all branches of the ceramics has significantly expanded, both territorially and quantitatively. Also, new concepts, techniques (including in the methods of analytical archaeology), approaches and opportunities for its research have appeared.

In particular quite recently, A.V. Buiskikh has been carried out on a new qualitative level extensive research and clarification of the dating of painted ceramics from Borysthene<sup>5</sup> and partly also from Olbia.<sup>6</sup> Her book contains the results of research on painted vessels from the archaic ceramic assemblage of Borysthene based on material from the excavations in 1960–1980 at Borysthene under the direction of V.V. Lapin (1928–1981). We assume that the Archaic ceramic assemblage of Borysthene from the collection of material from these excavations is a lower taxonomic component of the Archaic ceramic assemblage of Borysthene as a whole.

Due to the results of A.V. Buiskikh’s research, it has become possible to create and utilise a new more precise timeline of the Archaic period of Borysthene. These upgraded chronological data for the painted pottery from Borysthene are not only important for the dating of individual finds of painted ware, but also make it possible to use this information for the dating of other artefacts and events concerning Borysthene in the Archaic period, including associated handmade pottery specimens. In accordance with the rules of association and *terminus ante/post quem*, the refined chronological framework for the painted pottery can be applied to the material found with it in the fills of the semi-dugouts and household pits of Borysthene. This provides a rare opportunity to clarify the usually blurred and indefinite temporal boundaries of the existence of the handmade pottery. There is now the prospect of linking all the handmade ceramics that relate to the Archaic period of the Berezan’ settlement to reliably dated material.

Until now, only about half of the Archaic ceramic assemblage of Borysthene from Lapin’s excavations has been studied. After the publication of the results of the research into the painted pottery, the part of the material from the site that contains the Archaic handmade pottery assemblage that he recovered remains unstudied. Without an analytical research of this body of handmade pottery, it is impossible to make any complete and authentic reconstruction of the Greek presence on the Berezan’ Island and subsequent evolution phase of Greek colonization of South Buh (Hypanis) subregion of Northern Black Sea coastal area.

### The purpose of the research

The purpose of this research is therefore to conduct a quantitative analysis of the collection of the Archaic

1 Knipovič 1934, 90–111; Kul’skaâ 1940; Kruglikova 1954; Kastanaân 1952; Kastanaân 1981; Marčenko 1988.

2 Senatorov 2005; Bruâko 2015.

3 Lapin 1966, 162–163.

4 Marčenko 1988.

5 Bujskih 2019.

6 Bujskih 2013.

handmade pottery assemblage from Lapin's excavations as an essential and even indispensable part of the excavated material and the pottery assemblages from Borysthenses as a whole. It is necessary to obtain the data for the reconstruction of the socio-economic and cultural-ethnological processes that in the two centuries from the second half of the 7th century BC until the first half of the 5th century BC took place in the history of the populations of the Northern Black Sea coastal area in the region between the mouths of the Dnipro and Danube, and southern Transdanubia (Dobrudja),<sup>7</sup> and the Western Black Sea coastal region.

In this article, we restrict ourselves to presenting the results of the research in the context of pottery (excluding fragments of amphorae) concerning mainly the material from the semi-dugouts from the excavations of the expedition of V.V. Lapin in 1960–1980. To achieve this purpose it was necessary to set and complete the following tasks:

- analysis of the results of previous studies and chronology of the Borysthenses handmade pottery in the process of colonization of the Lower Buh region and the Northern Black Sea coastal area during the Archaic period;
- quantitative and comparative typological analysis of the Archaic handmade pottery from Borysthenses and the Archaic ceramic assemblage of Borysthenses as a whole;
- processing, description, systematization and virtualization (digitalization) of the collection of handmade ceramics from the materials of the Berezan' expedition of V.V. Lapin 1960–1980,
- differentiation of chronological phases of the material of the Archaic period determining the varying quantities of characteristic groups of ceramics within them;
- identification of signs of ethnic strata in the ethnogenetically heterogeneous groups of handmade ceramics.

### **Analysis of previous studies of handmade ceramics from Borysthenses**

The first research on the handmade ceramics of the settlement on Berezan' Island was carried out by G.A. Dzis-Raiko who published materials from the excavations of M.F. Boltenko (the material from this excavation is kept in the Odesa Archaeological Museum). Based

on the differences in the technology of manufacture of the vessels as the basis for the classification of the handmade pottery, the Berezan' handmade pottery assemblage was divided into two traditional groups: burnished tableware and rough cookware. Within these groups, Dzis-Raiko singled out separate morphological types. In terms of ethnocultural interpretation, she emphasized the similarity of most of the types of pottery identified by her to the materials of the steppe and partially forest-steppe zones of the "Early Scythian Age" in the Northern Black Sea coastal area.<sup>8</sup>

The results of the first systematic studies of the Archaic handmade pottery assemblage from Borysthenses and the Archaic handmade pottery assemblage of Olbia were presented in the monograph by K.K. Marchenko in 1988.<sup>9</sup> Both of these sites were located on the lower reaches of the Southern Buh and Dnipro. Marchenko singled out, described and statistically (quantitatively) analyzed 34 types of handmade vessels. He proposed a periodization of the development and classification of the Archaic handmade pottery assemblages from both Borysthenses and Olbia that are relevant today. He also established a number of technological features of the production of vessels of the archaic period. In particular, handmade pottery from Borysthenses and Olbia were fabricated from local, so-called greasy (fat) "carbonate and non-carbonate clays of grey colour". For tempering of the fabric (to prevent shrinkage and cracking during drying and firing of vessels), the clay was mixed with non-plastic materials such as quartz sand (grit), crushed fired clay (grog). The results of the studies of the Archaic handmade pottery assemblage from Olbia and Borysthenses also included some petrographic descriptions. The fabric was poorly mixed, the firing was uneven, and the sherd had a porous structure. There were three kinds of the mechanical treatment of the outer surfaces of the Borysthenses Archaic handmade pottery vessels identified in Marchenko's book: polishing, burnishing and rough (without visible traces of rubbing or smoothing). Other groups of pottery were characterized by colour, respectively, for burnished vessels – black – grey.

It was determined that the firing of the handmade pottery was carried out at temperatures not exceeding 700°C. From this, the conclusion had been drawn that almost all of the handmade ware of the Archaic time at Berezan' was made with the use of bonfire (or pit-fire) firing.<sup>10</sup> But this hypothesis turned out to be premature: in 2015 remains of ceramic kilns were found.<sup>11</sup>

7 Irimia 1983, 81–119.

8 Dzis-Raiko 1959, 32–42.

9 Marčenko 1988, 62–65.

10 Marčenko 1988, 62–68.

11 Krutilov 2015, 116–124.





Fig. 1. Borysthenean handmade pottery samples of the first phase of the Archaic period (second half of the 7th – early 6th centuries BC):  
 1–4 – jar vessels; 5, 7 – miniature vessels; 6, 7 – pot with a concave neck; 8 – pot with throat in the form of a bell; 9–12 – bowls;  
 13 – frying pan; 14, 15, 17 – vessels of Kizil-Kobyn appearance; 16, 18 – ceramics of the “Cimmerian” group



According to the functional purpose, the handmade ware of Berezan' was divided by Marchenko into three groups – cookware, tableware and storage vessels, within which types were distinguished (pots, bowls, large storage vessels, etc.). Types were divided into variants.

Based on the results of studies of the Archaic handmade pottery assemblage from Borysthene and Olbia, an important conclusion was reached about the heterogeneity of handmade pottery in the material from Archaic Borysthene (Berezan' Island). In particular, in addition to the material with "Scythian", also "forest-steppe" affinities, Marchenko also wrote about the presence of groups of ceramics with affinities with "Thracian" material in the Danube area.<sup>12</sup> He also noted traces of the presence of vessels with affinities to those of the Kizil-Kobyn culture of Crimea.

A major methodological step forward in the research of the handmade ceramics assemblage was the development of a quantitative analysis technique using an unequal sample size to obtain a weighted average. This technique and other features of the methodology and concepts he applied remain relevant to this day (in particular, his concept of "rules for the formation of a cultural layer" and the legitimacy of counting materials from a layer).

The paradox is that, despite the fact that Marchenko's book coming out in 1988, i.e. seven years after termination of the work of Lapin's Berezan' expedition, for a number of reasons the materials of the Archaic handmade pottery assemblage from the latter's excavations Borysthene are practically not reflected in it.

At the same time, a certain part of the digital collection of handmade ceramics from Borysthene comes from the materials excavated in 1963–1991 by the Berezan' expedition of the State Hermitage Museum in Saint Petersburg, Russia. The assemblage of Archaic handmade ceramics of Borysthene from materials of the Hermitage were made available to scholarship by S.N. Senatorov who carefully processed, described, catalogued and published this material in 2005. The author focused "on the implementation of the principles of a formalized description of the handmade ceramics of Berezan'"<sup>13</sup> so necessary when examining the place of the Archaic handmade pottery assemblages in the composition of the Archaic ceramic assemblage of Borysthene as a whole.

Handmade ceramics from separate sites of Borysthene (based on the material from excavations by S.N. Mazarati) were selectively studied by the author of

this article. Based on the data accumulated by that time, the category of "Greek" handmade ceramics was singled out as a separate group in the composition of Archaic handmade pottery assemblage from Borysthene for the first time.<sup>14</sup>

Thus, despite all this work, a common shortcoming of all previous studies of archaic handmade pottery of Northern Black Sea coastal area was almost complete disregard of the material from the twenty-years of fieldwork and research of Lapin in 1960–1980. This was problematic for a number of reasons. There were two unique features in the Lapin's expedition. The first was the good choice of the excavation site itself: it fell on the site of the earliest Berezan' settlement and therefore with a long almost continuous spectrum of subsequent existence (c. 200 years). The second feature was the uninterrupted duration (20 years) of excavations within the same area, the "Osnovnoy" (Main) excavation trench. This allowed the head of the excavations, V.V. Lapin, to establish and develop an intuitive understanding of the site, at least its Archaic period. Many of Lapin's assumptions and comments left in the margins of field diaries, or contained in the monograph and his articles correspond to modern interpretations and ideas about the colonization of the Northern Black Sea coastal area.

According to the field documentation, the archive of material left by this investigator accumulated the results of studies of 46 semi-dugouts and 97 utility (household) pits and the cultural layer of the Berezan' settlement. This is a gigantic array of information: it contains 12 662 fragments of ceramic vessels of all categories (wheelmade/wheelthrown and handmade pottery). This number (according to field schedules and excluding amphorae) includes more than five thousand fragments of handmade ceramics (slightly less than 40% of the total number). About a third of selected sherds of the handmade pottery (1124 pieces, or 31% from the field schedules) turned out to be suitable for classification. This material, however, is practically unavailable to scholarship and until very recently remained a blank spot in the research on the antiquities of the Northern Black Sea coastal area.

Research of the collection of the archaic handmade pottery assemblage from Lapin's excavations is favoured by its satisfactory state: the finds have a code; the field documentation is well-composed and detailed. The only exception to this concerns the last year of work. The expeditionary report and the field diary for the 1980 season have been lost. However, the data from the surviving book of lists and descriptions of individual finds was enough for the goals of our research.

<sup>12</sup> Marčenko 1974, 149–160.

<sup>13</sup> Senatorov 2005, 174.

<sup>14</sup> Gavriluk 2007, 339.

### Statement of the problem and methods of its solution

The collection of handmade pottery from Lapin's excavations are more than 40 years old. However, as mentioned above, this material as a whole has not yet been properly investigated and not made available to scholarship. Due to the size of the assemblage as a whole, this article presents only the material from the fills of the site's semi-dugouts as the most informative and well-dated features of Borysthenes.

The body of the collection of handmade pottery from Lapin's excavations (Tab. 1) is formed mainly by ceramic fragments and appropriate field documentation preserved in the stores of the Institute of Archaeology NAS of Ukraine (collection no. 1446). In general, this material has a somewhat unspectacular mass character, but still a huge information potential.

Also, until recently the large scale of the collection of Archaic period material from the Lapin's excavations (as mentioned, numbering 12 662 units) represented a kind of cognitive barrier, which could really be overcome only when new approaches (including improved methods of quantitative analysis) could be used.

Only recently have conditions been created favourable to the research of the material from Lapin's excavations and its components. In particular, three necessary conditions must be met for successful research into the Archaic handmade pottery from this collection.

The first and key condition is the availability of an objective chronological scale for the material from the Lapin's excavations. The appearance of the monograph by A.V. Buiskikh,<sup>15</sup> presenting the results of the systematization of the fine ware of the Archaic period from Lapin's excavations, has practically solved the issue of developing the timeline and clarifying the dates for the Archaic layers of Borysthenes. A particularly important result of this research was the element-by-element identification and attribution of the painted ceramics array of the Archaic period and the clarification of their dating. According to our data, there were 5995 fragments of handmade ceramics from the Archaic assemblages investigated in Lapin's fieldwork at Borysthenes. Now, thanks to the timeline built according to the data from Buiskikh's monograph, it becomes possible to synchronize all other categories of artefacts of the Archaic period. It was possible to date most of the objects of the handmade ceramic assemblage, integrated or associated with identified wheelmade (wheelthrown) pottery sherds in the corresponding contextual macrovol-

No.	Chronological phase	Attribution of objects by:			
		dating		types (kinds)	
		pcs.	%	pcs.	%
1	2nd half of the 7th – the beginning of the 6th centuries BC	1251	32,21	324	28,83
2	1st half of the 6th centuries BC	1365	38,63	396	35,23
3	2nd half of the 6th – 1st half of the 5th centuries BC	1053	29,16	404	35,94
Total		3669	100,00	1124	100

**Tab. 1. Characteristics of the verified objects of the virtual collection of handmade pottery of Borysthenes and the results of their attribution according to chronological and typological features**

Ethnie, culture, territory	1st phase		2nd phase		3rd phase		Total	
	640s–590s BC		590s–550s BC		540s–450s BC			
	pcs	%	pcs	%	pcs	%	pcs	%
“Greek”	123	38,4%	165	37,8%	215	54,3%	503	43,6%
“Thracian”	155	48,4%	165	37,8%	110	27,8%	430	37,3%
“local”	42	13,1%	38	8,70%	25	6,31%	105	9,11%
“forest-steppe”			46	10,5%	30	7,58%	76	6,59%
“Kizil-Kobyn”			23	5,26%	7	1,77%	30	2,60%
“Colchian”					9	2,27%	9	0,78%
Total	320	100%	437	100%	396	100%	1153	100%

**Tab. 2. Quantitative distribution of objects of Archaic ceramic complex excavated by V.V. Lapin in terms of the main ethnicity groups and the chronological phasing spans**

<sup>15</sup> Buiskikh 2019.

umes, rooted (embedded) in the fill layer or horizon of the building remains of the excavation trench of “Osnovnoy”. By these means they became artefacts with more or less satisfactory chronometric dating. At the same time, we must realize and share the ever-present fears about the threat of a situation related to the problem of redeposited finds by virtue of violation of stratification.<sup>16</sup>

The results of the expanded cataloguing of Northern Black Sea materials from the Archaic period – the second half of the 7th – the first half of the 5th centuries BC – should be integrated into the Northern Black Sea pottery database previously created on the basis of the results of research on ceramics of previous periods (9th – first half of the 7th centuries BC).<sup>17</sup>

Finally, the third necessary condition is caused by need to compensate the 43-year pause in research on the material (including the handmade wares) of Lapin’s excavations. This gap produces the necessity of integrating the results of research both on the digital collection of material from the Lapin’s excavations but also other parts of the Borysthenes,<sup>18</sup> as well as contemporary sites of the Archaic period outside Borysthenes including Velikaya Chernomorka 2, Beikush, Viktorovka 1.<sup>19</sup>

Until recently, the handmade pottery, as a rule, had no absolute dating. Therefore, the task is to chronologize the handmade ceramic assemblage of Borysthenes according to the chronological scale of the painted ceramics of Borysthenes<sup>20</sup> within the Archaic period, which fundamentally distinguishes this work from the approach of K.K. Marchenko and our other predecessors.

Further research is based on the empirical fact of the existence of two lines of development of Borysthenes ceramics, which differ in origin and ethnic characteristics – Greek and non-Greek. The obvious significance of this dichotomy was explicitly or implicitly taken into account in each model or scheme for reconstructing the emergence and functioning of the ceramics of ancient centres. Of course, Borysthenes was no exception. The interaction of both groups of the population (non-Greek and newcomer Greek) occurs in conditions of low population density (practically in a *terra nullis*) in the zones of the founding of Milesian settlements in the Southern and, especially, Northern Black Sea region. The huge size of the assemblage of ceramics (including handmade wares) from Archaic Borysthenes also increases the level of objectification (accuracy of calcula-

tions) in the research of ceramics due to the manifestation of the law of large numbers. Here, we are trying to trace the development of the Archaic handmade pottery assemblage of Borysthenes based on the premise of studying the occurrence of both categories (Greek and non-Greek) vessels in combination with each other. In other words, the lines of development of both Greek and non-Greek ceramics are not opposed to each other, but are considered together. At the same time, the non-Greek part of the pottery assemblage exhibits a polyethnic character (Tab. 2). The periodization of the assemblage of Archaic handmade ceramics of Borysthenes is presented in Table 2. In this study, we will proceed not from the picture of the development of purely Greek ceramics, as is usually done in most studies on ancient ceramics, but, on the contrary, we will focus our attention on the evolution of the handmade ceramics as a whole.

Within the allocated ceramic phases, it is also necessary:

- to develop and present a method of quantitative analysis for the evaluation of each ceramic group of the entire ceramic assemblage of any ancient site;
- to examine the entire collection of V.V. Lapin *de visu*, selecting from it fragments suitable for identification, classification and statistical processing;
- to explore the possibilities of identifying signs of the ethnicity of the population of the Lower Buh region of the Archaic period on the basis of the handmade ceramics.

### **Results and discussion of the examination of the handmade ceramics of the Archaic period from the Lapin’s excavations**

In many cases when analyzing local (autochthonous) cultures that came into contact with the culture of classical antiquity as an alien (allochthonous) culture, it is advisable to perceive its unbroken Archaic period from the perspective of the other simpler culture(s) with their own time spans (phases), scales and paces of their changes.

Table 2 shows a picture of quantitative changes in ethnicity groups of the Archaic ceramic assemblages from the Lapin excavations within the chronological phases identified within the period. Tables 3–5 summarize the results of the comparative typological and quantitative distribution of the Archaic ceramic assemblages from the Lapin exca-

<sup>16</sup> Nevio, Forte 2021.

<sup>17</sup> <https://doi.org/10.5281/zenodo.3521608>.

<sup>18</sup> Domanskij, Marčenko 2006; Čistov 2006; Čistov 2012; Čistov et al. 2020.

<sup>19</sup> Gavriluk, Bondarenko 2021, 123–139.

<sup>20</sup> Bujskih 2019, 192–194.

S-DO	Kind of numerals	Main pottery groups (types) from semi dugout (S-DO)											$k = n_{CW} / n_{HMP}$ (9)/(10)
		Painted	Black slip	Fine ware	Greyware	Redware	Table ware	Cooking ware	HMP	Kitchen ware	HHU	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
65	abs.	308	4	312	20	24	44	4	37	41	9	406	0,11
	%	75,9	1,00	76,8	4,9	5,9	10,8	1,0	9,1	10,1	2,20	7,50%	
70	abs.	524	60	584	27	24	51	8	55	63	6	704	0,15
	%	74,4	8,5	83,0	3,8	3,4	7,2	1,1	7,8	8,90	0,90	13,0%	
72	abs.	249	0	249	21	43	64	6	52	58	7	378	0,12
	%	65,9	0,00	65,9	5,6	11,4	16,9	1,60	13,8	15,3	1,90	6,98%	
51	abs.	242	8	250	42	21	63	3	50	53	5	371	0,06
	%	65,2	2,2	67,40	11,3	5,7	17,0	0,80	13,5	14,3	1,30	6,85%	
36	abs.	103	10	113	0	5	5	6	42	48	8	174	0,14
	%	59,2	5,7	64,9	0,00	2,90	2,90	3,40	24,1	27,6	4,60	3,21%	
58	abs.	224	17	241	36	25	61	25	49	74	5	381	0,51
	%	58,8	4,5	63,3	9,4	6,6	16,0	6,6	12,9	19,4	1,30	7,04%	
65a	abs.	434	4	438	75	56	131	50	101	151	24	744	0,5
	%	58,3	0,50	58,9	10,1	7,50	17,6	6,7	13,6	20,3	3,20	13,7%	
59	abs.	284	37	321	40	25	65	42	84	126	0	512	0,5
	%	55,5	7,20	62,7	7,80	4,90	12,7	8,20	16,4	24,6	0,00	9,46%	
71	abs.	382	6	388	44	100	144	14	126	140	19	691	0,11
	%	55,3	0,90	56,2	6,4	14,5	20,8	2,0	18,2	20,3	2,70	12,8%	
33	abs.	29	4	33	0	1	1	15	8	23	0	57	1,9
	%	50,9	7,0	57,9	0,00	1,8	1,80	26,3	14,0	40,4	0,00	1,05%	
6	abs.	93	6	99	3	29	32	21	17	38	0	169	1,2
	%	55,0	3,6	58,6	1,8	17,2	18,9	12,4	10,1	22,5	0,00	3,12%	
12	abs.	194	111	305	167	138	305	173	27	200	16	826	6,4
	%	23,5	13,4	36,9	20,2	16,7	36,9	20,9	3,30	24,2	1,90	15,3%	
Total	abs.	3066	267	3333	475	491	966	367	648	1015	99	5413	
	By types, %	56,6	4,93	61,6	8,78	9,07	17,8	6,78	12,0	18,8	1,83		

abs.—absolute (quantity); HMP – handmade pottery; HHU – household utilities

**Tab. 3. Ceramic complex from Borysthene from V.V. Lapin's excavations: main typological groups, their structure and quantitative distribution. The first phase of the Archaic period (c. 640s–590s)**

variations in these three phases, from the second half of the 7th to the early 5th centuries BC.

#### Dynamics of changes by “genetic” groups

In the ceramic assemblage of Borysthene of the Archaic period from the Lapin excavations, there are six groups of handmade pottery, differing in origin and contemporary analogies (Tab. 2). These six groups may be characterised as follows: “Greek” (brought from Miletus<sup>21</sup> and/or produced in Borysthene, with shapes duplicating of pottery vessels of classical antiquity); “Thracian” (existing in the Northern Black Sea coastal area “Thracian” handmade utensils); “local” (existing in the North-

ern Black Sea coastal area, starting from the Late Bronze Age, in particular; with features of the Cimmerian culture); “forest-steppe” (imported material, having analogies in the ceramics of the forest-steppe zone of the Northern Black Sea coastal area); “Kizil-Kobyn” (imported material, having contemporary analogies in the ceramics of the Kizil-Kobyn culture); “Colchian” (imported material, having analogies in the ceramics of Colchis); “import” (ceramics that were presumably imports, but the analogies of which are not known).

Particular attention is drawn to the group of “Greek handmade” pottery. Their proportions in the handmade pottery assemblage increased significantly with time. In the first

<sup>21</sup> Aydemir 2005, 85–101.





Fig. 2. Borysthenes handmade pottery samples of the second phase of the Archaic period (first half of the 6th century BC): 1–4 – jars; 5, 6 – pots of various types; 7, 8 – miniature vessels; 9–11 – bowls of three types; 12 – cup; 13 – scoop with a low handle

chronological phase they comprised 38.4%, but by the third phase the quantity of this material reached 54.3%. In the same way there was a noticeable decrease in the percentage respectively of “Thracian” and “Thracian” (from 46.9% to 27.8%) and “local” (from 13.1% to 6.31%) pottery groups in the same time span. With the passage of time, the group of “imported” ceramics disappeared.

The “Thracian” group prevailed in the first ceramic phase (47%), but at the end of the Archaic period (in the third phase), its percentage among handmade ceramics dropped to 28% (Tab. 2).

“Local” handmade pottery was present in the material excavated by Lapin throughout the Archaic period.

A feature of the second phase is the appearance of “forest-steppe” and “Kizil-Kobyn” groups with fairly significant concentrations, respectively, 10.5% and 5.3% and their subsequent reduction in the third phase to 7.6% and 1.8%.

A distinctive feature of the third phase is the appearance, albeit in small quantities, of fragments of Colchian pithoi, which make up the “Colchian” group of the Archaic handmade pottery assemblage from the Lapin excavations (2.3%).

Accordingly, with a “supra-Greek-centric” look at the nature of the development of the ceramic corpus Borysthene (on the basis of the materials of the Archaic ceramic assemblages from semi-dugouts investigated in the Lapin excavations and without taking into account fragments of amphorae), it turned out that in accordance with the timeline of painted ceramics and “logic” of development of local ceramic groups, all ceramics was stratified into three characteristic time intervals or phases:

- the first interval: the second half of the 7th – the beginning of the 6th centuries BC;
- second interval: first half of the 6th century BC;
- third interval: second half of the 6th – first half of the 5th centuries BC (Tab. 1).

#### **Main typological groups, their structure and quantitative distribution by phases**

The study from the point of view of the functional purpose of ceramics from the fills of the semi-dugouts of the Archaic period allows us to distinguish four functional

groups of pottery. These comprise: – fine ware (painted + black-glazed); tableware (redwares + greywares), cooking ware (kitchen pottery + handmade pottery) and household utensils (storage vessels, thick-walled – pithoi), additional categories include louteria, lamps etc.

Below, we will consider the characteristics of the pottery assemblages of the three phases of the Archaic period presented in Table 2 in more detail.

#### ***The first phase of the Archaic period***

The first phase of the Archaic period (the second half of the 7th – the beginning of the 6th century BC) is represented by the material from 12 semi-dugouts and 21 household pits, discovered by Lapin in the “Osnovnoy” Trench. The semi-dugouts of the first phase of the Archaic period discussed in the article are small in area (6–9 sq. m) structures deepened into the ground surface by 0.50–2.0 m or parts of building structures. No hearths or any details of building structures were recorded in the semi-dugouts of the first phase.

The most indicative is the change in the amount of painted ceramics, which was included in the group of “fine ware” – its indicators range from 75.9 to 24% (Tab. 3). On average, all fine ware (painted, red-figured, black-figured and black-glazed pottery) amounted to 61%. Redware and greyware ceramics are close to 18%. The percentage of fragments of “household” ceramics (thick-walled dishes) was small (1.83%); kitchenware and handmade pottery were more noticeable – 19%.

It can be assumed that the first Greek settlers of Borysthene did not bring simple kitchen utensils with them. They most likely used “home-made” ware as household equipment intended for satisfaction of their daily needs.

Using the material from the second half of the 7th – early 6th century BC from the settlements on the Berezan’ island, it is possible to identify the characteristics of the set of handmade pottery that would be typical for the first phase of the appearance of the Hellenes in the territory of the Northern Black Sea coastal area (Tab. 2, Fig. 1) and to characterize the main “genetic” groups of handmade ceramics within it.

In this phase of the Archaic period, the “Thracian” group, first identified by Marchenko, was the most numerous and diverse.<sup>22</sup> It is dominated by jars of four types, miniature jars (Fig. 1.1–5), as well as bowls of the third and fourth types (Fig. 1.11–12) with analogies in pottery assemblages of the Carpatho-Danube region,<sup>23</sup> in the Danube basin

<sup>22</sup> Marčenko 1974, 159–160.

<sup>23</sup> Moscalu 1983, 231–236; Crișan 1969; Vulpe 1967.



Fig. 3. Fragments of handmade pottery that first appeared in the materials of Borysthenes in the second phase of the Archaic period:  
 1 – cups with a slightly profiled body; 2, 5, 6 – scoops with low handles; 3, 4 – cups; 7 – bowls on a pedestal;  
 8–10 – black burnished “Kizil-Kobyn” bowls; 11 – flat brazier dishes; 12 – frying pans with rim



(Cilic-Dere)<sup>24</sup> near Transylvania,<sup>25</sup> the Danube Valley,<sup>26</sup> Apollonia<sup>27</sup> etc. A noticeable Thracian presence is confirmed by finds of a large number of vessels of the Thracian group in other areas of Borysthenes.

The “Greek” group of handmade ceramics at Borysthenes is represented by finds of fragments of pots with a bell-shaped neck (Fig. 1.8), supports for such pots, which have analogies in the materials of Miletus, bowls of the first and second types, as well as fragments of flat brazier dishes (Fig. 1.10, 1.13).

Local (“Cimmerian”), i.e., utensils of the pre-Scythian periods are represented by pots with a concave neck, which appeared in the steppe sites in the ceramics of the Sabatinovka culture of the Late Bronze period, are common in the Belozersk and pre-Scythian sites (Fig. 1.6–7). In the pre-Scythian period, goblets with black burnishing and geometric ornaments were often found in the steppe zone of the Northern Black Sea coastal area.<sup>28</sup> In the first phase of the Archaic period burnished goblets with geometric ornaments, made using a serrated stamp were most ancient (Fig. 1.16, 1.18). Cups quickly became popular in the steppe zone of the Northern Black Sea. V.A. Il’inskaya believed that the sacred bowl of the Scythians had the shape of a goblet with a spherical body, perhaps such vessels could be used as cult ones.<sup>29</sup>

In the first Archaic phase, burnished dishes having analogies in the Kizil-Kobyn culture occasionally appear in the materials of Borysthenes. Such dishes are mainly represented by fragments of vessel walls with carved ornamentation, which complicates the identification of kinds and, moreover, types of dishes. For the first Archaic phase, only goblets with a straight neck, a recurved rim and a spherical body can be identified with certainty (Fig. 1.14–17). The ornamentation of such vessels is dominated by rows of triangles filled with oblique lines, the base of the throat and the tops of which are underlined by round stamp imprints.

### *The second phase of the Archaic period*

This phase dates from the first half of the 6th century BC. Almost all genetic groups of handmade pottery are also present in the second phase. Only small changes in the composition and characteristics are observed. The “Greek” and “Thracian” groups are equally represented (Tab. 2).

In the “Greek” group (38%), pots with bell-shaped necks (Fig. 2.6) and bowls of the first two types (Fig. 2.9–10) were still used. Other types of dishes underwent significant changes: vessels with horizontal handles appeared (Fig. 3.11); disc-shaped braziers were being replaced by more functional frying pans with a rim (Fig. 3.12). Miniature cups continued to exist (Fig. 2.7–8, 2.12); “beaker-shaped” vessels (Fig. 3.3) and bowls on pedestals appeared, repeating the shapes of wheel thrown pottery (Fig. 3.7).

The second, “Thracian” group, comprising 38% (Tab. 2), included all the same jar vessels of all four types (Fig. 2.1–4), but their number was decreasing. There were burnished pots with a cone-shaped neck, bowls of the third and fourth types (Fig. 2.11). In this phase, scoops (Fig. 2.13, 3.2, 3.5–6) and goblets (Fig. 3.1) with light burnishing appeared in the materials of Borysthenes.

Local – “Cimmerian”, i.e., utensils of the pre-Scythian period, were represented in the second phase only by pots with an concave necks (Fig. 2.5), which made up only 9% of ceramics (Tab. 2). Fragments of burnished “Cimmerian” goblets were not found in this phase.

The group of Kizil-Kobyn ceramics became more diverse. In the second phase, it made up 5.3% (Tab. 2) of the Archaic handmade pottery assemblage from Borysthenes. In this phase, in addition to goblets with geometric ornaments, burnished bowls (Fig. 3.8–9) and large pots (Fig. 4.9) were found. Finds in Scythian burials of burnished bowls and pots with geometric ornaments (Fig. 3.10, 4.1–2, 4.4–5, 4.8, 4.10), dated to the first half of the 6th century BC, trace the path of the Kizil-Kobyn utensils to Borysthenes. Most likely, they passed through the north of Crimea and the south of the modern Kherson region.

A feature of the handmade ceramic assemblage of Borysthenes of the second phase is the appearance of a new group of handmade ceramics – the “forest-steppe” assemblage, making up 11% (Tab. 2) of the Archaic handmade pottery assemblage from the Lapin’s excavations. It is well distinguishable by the visually determined composition and colour of the ceramics. Its “repertoire” is represented by fragments of jar (tulip-shaped) with a moulded-on roller and punctures under the rim and fragments of large bowls with a wrapped edge and the same perforations. Similar vessels were found in the materials of the right-bank and left-bank settlements.<sup>30</sup>

24 Simion 1992–1993, 27, fig. 3d.

25 Gogăltan, Nagy 2012, 130, pl. 5.

26 Irimia, Conovici, Ganciu 2007, 81–119.

27 Damyanov 2022, 89–99.

28 Gavriluk 2017, 32–41, 51–92.

29 Il’inskaâ 1973, 13–15.

30 Il’inskaâ, Terenozhkin 1983; Daragan 2011, 264–265, pl. 111–112; Geiko 2011, 155, fig. 64; Smirnova et al. 2018, 170–171, fig. 139–140.



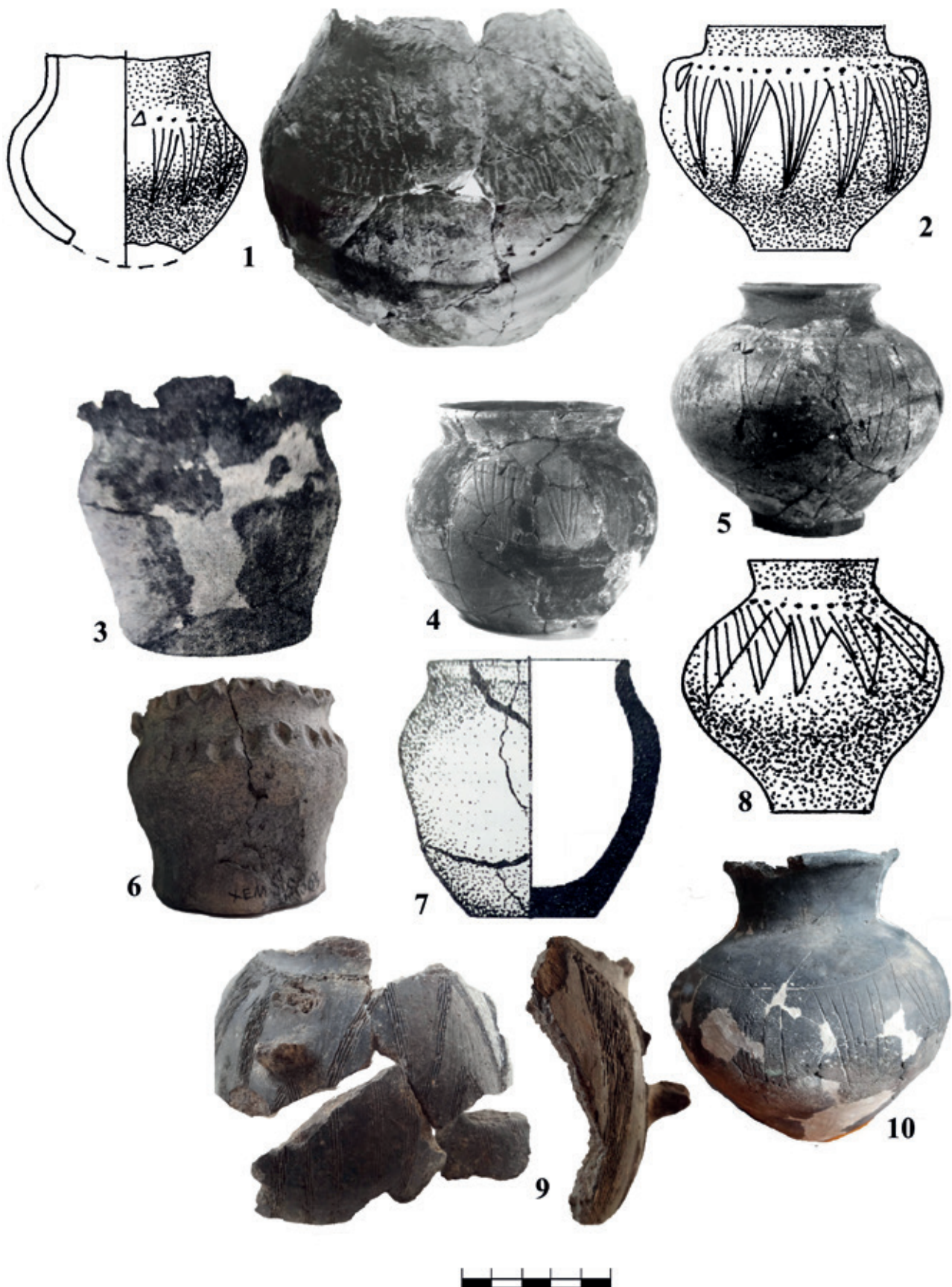


Fig. 4. Black burnished ware from funerary sites: black burnished ware of the first half of the 6th century BC from Scythian graves (1, 2, 4, 5, 8–10); pots from Archaic cemeteries of the second half of the 6th–first half of 5th BC (3, 6, 7): 1 – Primors'ke (Bilâev et al. 1976, fig 13); 2 – Pershiy Kelermesky Barrow (Iessen, Piotrovskij 1940, pl. XIV.2); 3 – Olbia, burial ground, Burial 1912/32 (Kozub 1974, 69, fig. 27); 4 – Astanino, Barrow 9, Burial 1; 5 – Pervokonstantinivka Barrow 15, Grave 2; 6 – Berezan', burial ground; 7 – Pribugske, Burial 251 (Snytko, Snytko, Halyčev 2011, 469, fig. 1.2); 8 – Simferopol Barrow 7, Burial 1 (Leskov 1957, 112, fig. 48.2); 9 – Borysthenes, AB75-850; 10 – Kalynivka, Barrow 1, Burial 8

### *The third phase of the Archaic period*

This phase covers the second half of the 6th – the first half of the 5th centuries BC. In comparison with the two previous phases, it produced a lot more finds, coming from 23 semi-dugouts and 36 utility pits.

Semi-dugouts of the third phase were more diverse than those that were represented in the first and second phases. The third phase is dominated by buildings that were rectangular in plan (semi-dugouts 15, 31, 40, 41, 44, 46), rectangular with rounded corners (3, 7, 14) or oval (32, 39, 49, 53a). Two semi-dugouts had a trapezoidal shape (1, 56), one round (34), one square (45) and one (8) apsidal (with a semicircular end wall). Five buildings were destroyed and their existence was recorded due the adobe floor. The form of these buildings could not be established. All semi-dugouts had adobe floors, five of the described buildings had a hearth. In many cases post holes were found. In two cases, entrances to semi-dugouts were recorded – in the form of a rectangular vestibule or in the form of ledged steps near the wall. The wall of the rectangular semi-dugout 41 was reinforced with masonry.

The ceramic material from the fill of semi-dugouts of the third Archaic phase allows us to determine four functional groups and reconstruct their composition. The distribution of the fine ware groups of ceramics in this phase is shown in Table 5.

The percentage of fine ware in semi-dugouts of the third period ranged from 34 to 68%. The average value of percentage for painted ware in the dugouts was 32%.

The percentage of table ware rises to 42%; for cooking utensils – up to 24%; household – up to 2%. The number of fragments of handmade ceramics significantly decreased compared to the previous period – from 17 to 9%. However, fragments of pottery cooking utensils in the dugouts of the third phase were found more than handmade cooking utensils (Tab. 5).

In the third phase, the main genetic groups of handmade wares were still represented. “Local” ceramics disappeared, the composition of the “Kizil-Kobyn” assemblage changed, the number of dishes noticeably decreased. New groups of handmade “Colchian” vessels appeared (Tab. 2).

In the “Greek” group (54%), pots with bell-shaped necks (Fig. 5.6) and bowls of the first two types (Fig. 5.12)

were still used. Other types of dishes underwent significant changes: the number of pans with horizontal handles increased and handmade lids appeared. In this phase, “beaker-shaped” vessels and bowls on legs also continued in use, and the guttus appeared (Fig. 5.17). Another form that appeared at this time were mugs that repeated the shapes of pottery vessels (Fig. 5.14–16).

The second, “Thracian” group, accounting for 28% assemblage (Tab. 5), included all of the same jars (Fig. 5.1–4), but their number had decreased. Large storage vessels (*korchagi* in Ukrainian) were represented mainly by pot-shaped forms (Fig. 5.9), there were bowls of the fourth type. In this phase, scoops with low handles (Fig. 5.19) and goblets (Fig. 5.20) with light burnishing appeared in the assemblage of material from Borysthenes.

Local – “Cimmerian” – vessels, in the third phase were represented only by pots with a concave necks (Fig. 5.5), which made up only 6% of the handmade ceramics assemblage (Tab. 2).

Kizil-Kobyn ceramics were represented in the third phase of the archaic handmade pottery assemblage of Borysthenes only by fragments of the walls of burnished vessels with geometric ornament. The percentage of Kizil-Kobyn ceramics (Tab. 2) had dropped to 1.8% (compared with 5.3% in the second phase and complete absence in the first phase).<sup>31</sup> Ceramics having analogies in contemporary forest-steppe sites, completely disappeared.

A feature of the handmade ceramic assemblage of Borysthenes of the third phase was the appearance of a new, “Colchian”, group of handmade ceramics that made up 2.3% of the Archaic handmade pottery assemblage from Borysthenes (Tab. 2). It is well distinguishable by the “parquet” ornamentation of thick-walled black or grey-burnished. Storage vessels similar in form and ornamentation have analogies in the handmade ceramics of Colchis and date back to the end of the 6th – beginning of the 5th century BC.<sup>32</sup> Sometimes fragments of “Colchian” pithoi are found in the Archaic layers of the ancient centres of the Northern Black Sea coastal area.<sup>33</sup>

A feature of the sites of the third phase of the Archaic period is the appearance of materials from the settlements of the *chora* of Borysthenes. The processing of handmade ceramics of some of them – the Velikaya Chernomorka 2 (Fig. 5.16–17), Viktorivka 1 (Fig. 5.5), Beikush (Fig. 5.1), as well as materials from the *chora* of Olbia, allows me

31 Fragments of burnished vessel walls with geometric ornament have been found in significant quantities only in the third phase in the layers of the Velikaya Chernomorka 2 settlement: Gavriluk, Otreško 1982 84, fig. 51.7.

32 Mikeladze 1977, 17, fig. 5.

33 Tolstikov, Muratova 2018.



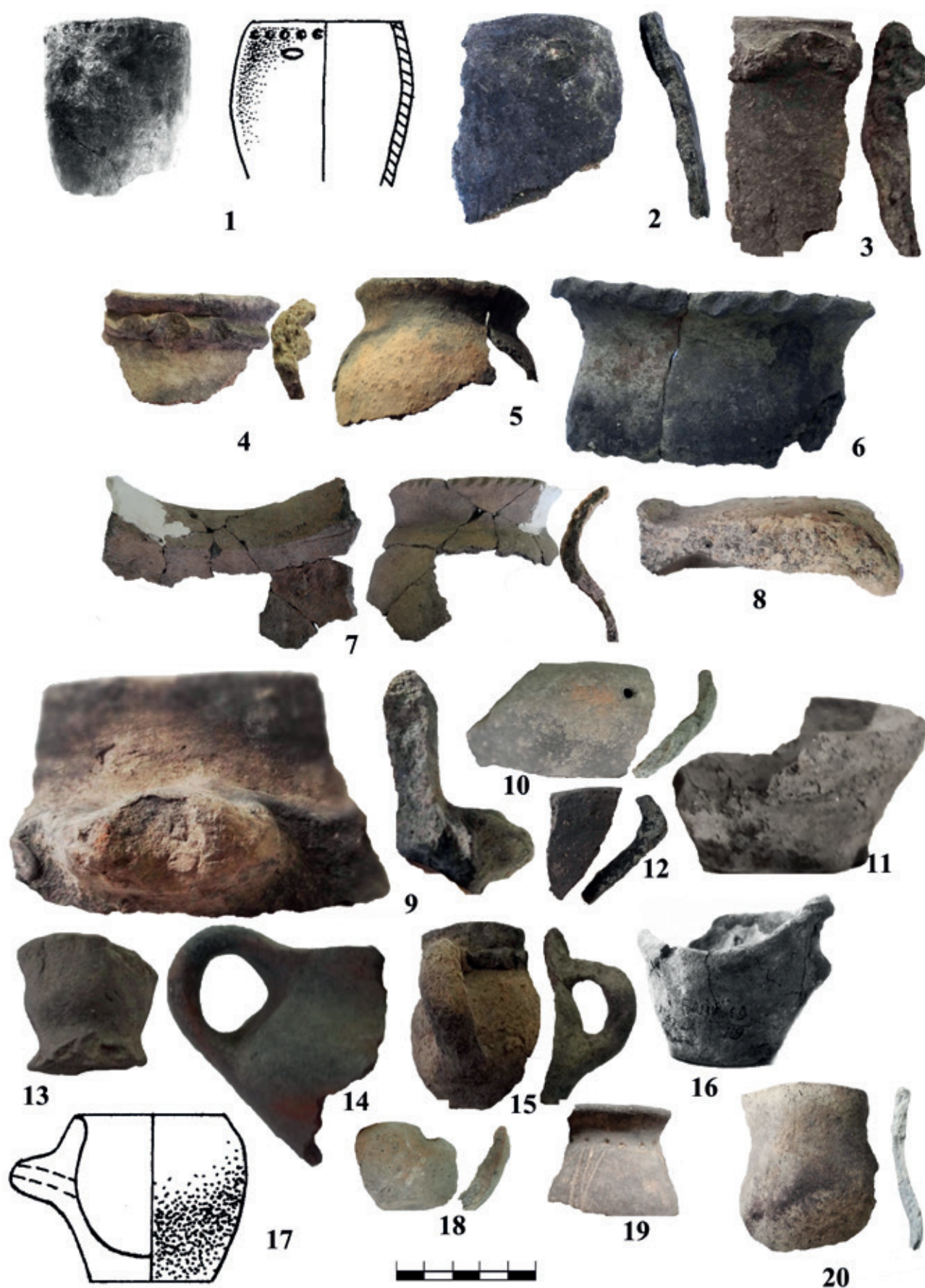


Fig. 5. Borysthenes handmade pottery samples of the third phase of the Archaic period (second half of the 6th – first half of the 5th centuries BC):  
 1–4 – jars; 5, 6 – pots; 7 – saucepan; 8 – lid; 9 – large storage vessel (korchaga); 12 – bowls; 13, 18 – miniature cup;  
 14–15 – scoops; 16 – mug; 17 – guttus; 19 – burnished goblet; 20 – goblet

to assert that the population of the *chora* of Borysthene practically did not differ in ethnic composition from the polyethnic population of the *polis* itself.

Another feature of the Archaic handmade pottery assemblage of the Northern Black Sea coastal area was the appearance of handmade vessels in ancient burial grounds. This refers to the Olbian necropolis,<sup>34</sup> the burial ground of Borysthene, excavated by G.L. Skadovsky<sup>35</sup> and the recently discovered burial ground near the village of Pribugskoye (Fig. 4.3, 4.6–7).<sup>36</sup>

### Conclusions

The following results were obtained from our examination of the assemblage of handmade pottery of the Archaic period from the 1960–1980s IANAS excavations by V.V. Lapin from the Borythenese settlement:

1. The handmade pottery assemblage of the Archaic period was processed and digitized. This includes finds from 46 semi-dugouts and 97 household pits and the cultural layer of Borysthene (Berezan' Island) overall of 12 662 fragments of ceramic vessels of all categories (according to field lists and excluding amphorae). This number includes more than five thousand fragments of handmade ceramics (less than 40% of the total number) and 1124 (31%) fragments of handmade ceramics suitable for classification.
2. By way of revealing the contexts of the mass material of handmade pottery, painted and black-glazed ceramics fragments, a number of key points in the development of the entire ceramic assemblage of Borysthene of the Archaic period were identified.
3. In the chronometric analysis of the assemblage of handmade pottery from the Lapin excavations, a virtual chronological scale was used which was built according to the upgraded dates of the associated painted ceramics of the Archaic period contained in the monograph by A.V. Buisikh.
4. The results of the quantitative and typological studies of the Archaic ceramic assemblage of Borysthene from Lapin's collection were as follows:
  - two main interacting lines of development of the Borysthene ceramic assemblage of the Archaic period
  - Greek and non-Greek – have been identified.
- it is shown that already at the initial stage of the development of the Borysthene ceramic assemblage, the “Greek” handmade pottery footprint began to be detected in the spectrum of ceramics, i.e., handmade pottery, presumably of Milesian appearance, but produced in Borysthene itself in the environment of the “Greek” ethnicity and probably from local Borysthene clays
- at the same time, the non-Greek line of development of ceramics was polyethnic. In it, based on the materials of the handmade pottery assemblage obtained in Lapin's research, is material representing five ethnic groups: “Thracian”; “local”; “forest-steppe”; “Kizil-Kobyn” and “Colchian”.

5. It has been established that the development of the ceramic assemblage of the Archaic period of the Northern Black Sea coastal area can be divided into three phases:

I: the second half of the 7th – the beginning of the 6th centuries BC;

II: first half of the 6th century BC;

III: second half of the 6th – first half of the 5th centuries BC.

6. Quantitative and typological analysis of handmade pottery from Lapin's excavations was carried out based on the materials of excavations of 46 semi-dugouts. After attaching additional materials, this material was integrated into the digital records of the Archaic ceramic assemblage of Borysthene as a collection of higher level.

7. In each of three phases discussed above, a specific (even unique) picture of the distribution of semi-dugouts and their fill according to the features of handmade ceramics is formed. In the first phase were observed “Thracian”, “Greek” and “local” handmade pottery; in the second phase vessels of “forest-steppe” and “Kizil-Kobyn” were had appeared; in the third phase the “Kizil-Kobyn” group of handmade pottery had decreased and the “Colchian” one appeared.

8. The area of distribution of the Kizil-Kobyn pottery in the early Scythian steppe burials in the second phase of the Archaic period allows us to trace the movement of the Kizil-Kobyn handmade pottery

34 Kozub 1974, 69, fig. 27.

35 Kostenko, Abikulova 2016, 42, nos. 277–279.

36 Snytko, Snytko, Halyčev 2011, 469, fig. 1.2.



group into the Northern Black Sea coastal area in general and into the Lower Buh subregion (Borysthene) in particular.

9. It is assumed that in the second phase of the Archaic period there is a causal relationship between the empirical fact of an increased of the table pottery fraction and the formation in Borysthene of its own production of such ware.

10. In the final, third, phase of the Archaic period, the “Greek” group of handmade ceramics began to dominate (54%) in the composition of the handmade pottery of Borysthene. This fact can be interpreted as evidence of the predominance of the Greek ethnicity

in the population of Borysthene but only from the last phase of the Archaic period.

11. It is assumed that the decrease in the number of painted ceramics by the end of the Archaic period was associated with an increase in the quantity of imported black-glazed pottery, and therefore with a change in the vectors of Borysthene’s trade contacts.

12. The first finds of handmade pottery in the ancient burial grounds of the Lower Buh subregion date back to no earlier than the third phase (the second half of the 6th – early 5th centuries BC). However, in the graves of the subsequent classical period, such finds did not become more numerous.

S-DO	Kind of numerals	Main pottery groups (types) from semi dugout (S-DO)											$k=n_{CW}/n_{HMP}$ (9)/(10)
		Painted	Black slip	Fine ware	Greyware	Redware	Table ware	Cooking ware	HMP	Kitchen ware	HHU	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
62-63	abs.	252	0	252	25	1	26	3	17	20	0	298	0,18
	%	84,6	0	84,6	8,4	0,3	8,7	1,01	5,7	6,71	0	9,5%	
68	abs.	126	0	126	39	0	39	0	36	36	0	201	0,0
	%	62,69	0	62,7	19,4	0	19,4	0	17,9	17,9	0	6,4%	
30	abs.	289	69	358	45	27	72	15	54	69	13	512	0,28
	%	56,5	13,5	69,9	8,79	5,27	14,1	2,93	10,6	13,5	2,54	16,3%	
38	abs.	40	8	48	19		19	4	0	4	0	71	μ
	%	56,3	11,3	67,6	26,8		26,8	5,63	0	5,63	0	2,3%	
48	abs.	42	1	43	22		22	7	3	10	0	75	2,3
	%	56	1,33	57,3	29,3		29,3	9,33	4	13,3	0	2,4%	
4	abs.	62	0	62	9	9	18	3	31	34	0	114	0,097
	%	54,39	0	54,4	7,90	7,9	15,8	2,6	27,2	29,8	0	3,6%	
52	abs.	38	0	38	20	5	25	0	10	10	0	73	0,0
	%	52,1	0	52,05	27,4	6,85	34,25	0	13,7	13,7	0	2,3%	
5	abs.	17	7	24	3	3	6,0	1	2	3	0	33	0,50
	%	51,5	21,2	72,7	9,09	9,09	18,2	3,03	6,06	9,09	0	1,0%	
37	abs.	98	19	117	30	0	30	20	26	46	1	194	0,77
	%	50,5	9,79	60,3		0	15,46	10,31	13,4	23,7	0,52	6,2%	
64	abs.	248	65	313	182	60	242	72	48	120	10	685	1,5
	%	36,2	9,49	45,7	26,6	8,76	35,33	10,5	7,01	17,5	1,46	21,8%	
53a	abs.	390	19	409	130	45	175	37	97	134	10	728	0,38
	%	27,0	1,31	28,3	8,99	3,11	12,1	2,56	6,71	9,26	0,69	23,1%	
42	abs.	26	39	65	49		49	24	22	46	5	165	1,1
	%	15,8	23,6	39,4	29,7		29,7	14,6	13,3	27,9	3,02	5,2%	
Total	abs.	1628	227	1855	573	150	723	186	346	532	39	3149	
	by types, %	51,7	7,21	58,9	18,2	4,76	22,96	5,91	10,99	16,89	1,24		
abs. – absolute (quantity); HMP – handmade pottery; HHU – household utilities													

**Tab. 4. Ceramic complex from Borysthene from V.V. Lapin’s excavations: main typological groups, their structure and quantitative distribution. The second phase of the Archaic period (c. 590s–550s BC)**

S-DO	Kind of numerals	Main pottery groups (types) from semi dugout (S-DO)											$k=n_{CW}/n_{HMP}$ (9)/(10)
		Painted	Black slip	Fine ware	Grey-ware	Redware	Table ware	Cooking ware	HMP	Kitchen ware	HHU	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
11	abs.	41	4	45	4	0	4	5	0	5	7	61	$\mu$
	%	67,2	6,6	73,8	6,6	0,0	6,6	8,2	0,0	8,2	11,5	1,49%	
15	abs.	41	10	51	12	3	15	7	8	15	4	85	0,88
	%	48,2	11,8	60,0	14,1	3,5	17,7	8,2	9,4	17,7	4,7	2,07%	
50	abs.	8	1	9	6	3	9	0	0	0	0	18	$\mu$
	%	44,4	5,6	50,0	33,3	16,7	50,0	0,0	0,0	0,0	0,0	0,44%	
39	abs.	139	32	171	74	6	80	43	24	67	3	32	1,8
	%	43,3	10,0	53,3	23,1	1,9	24,9	13,4	7,5	20,9	0,9	7,83%	
7 – 1962	abs.	71	14	85	26	35	61	2	12	14	4	164	0,17
	%	43,3	8,5	51,8	15,9	21,3	37,2	1,2	7,3	8,5	2,4	4,00%	
53	abs.	95	27	122	38	13	51	26	18	44	6	223	1,4
	%	42,6	12,1	54,7	17,0	5,8	22,9	11,7	8,1	19,7	1,5	5,44%	
9	abs.	126	51	177	29	21	50	2	78	80	8	315	0,03
	%	40,0	16,2	56,2	9,2	6,7	15,9	0,6	24,8	25,4	2,5	7,68%	
56	abs.	45	21	66	21	6	27	13	11	24	2	119	1,2
	%	37,8	17,7	55,5	17,9	5,0	22,9	10,9	9,2	20,2	1,7	2,90%	
8 – 1961 – 1962	abs.	57	48	105	20	6	26	14	10	24	1	156	1,4
	%	36,5	30,8	67,3	12,2	3,9	16,1	9,0	6,4	15,4	0,6	3,80%	
3 – 1961	abs.	37	36	73	16	5	21	2	8	10	2	106	0,25
	%	34,9	34,0	68,9	15,1	4,7	19,8	1,9	7,6	9,4	1,9	2,59%	
34	abs.	60	12	72	52	5	57	30	13	43	0	172	2,3
	%	34,9	7,0	41,9	30,2	2,9	33,1	17,4	7,6	25,0	0,0	4,20%	
49	abs.	24	7	31	15	2	17	14	7	21	0	69	2,0
	%	34,8	10,1	44,9	21,7	2,9	24,6	20,3	10,1	30,4	0,0	1,68%	
10	abs.	3	0	3	4	0	4	2	1	3	0	10	2,0
	%	30,0	0,0	30,0	40,0	0,0	40,0	20,0	10,0	30,0	0,0	0,24%	
44/46	abs.	63	25	88	47	4	51	36	36	72		212	1,0
	%	29,7	11,8	41,5	22,2	1,9	24,1	17,0	17,0	34,0		6,21%	
40	abs.	166	136	302	129	29	158	60	45	105		574	1,3
	%	28,9	23,7	52,5	22,4	5,0	27,5	10,4	7,8	18,3		16,8%	
57	abs.	171	80	251	222	43	265	122	37	159		685	3,3
	%	25,0	11,7	36,7	32,4	6,3	38,7	17,8	5,4	23,2		20,1%	
45	abs.	25	17	42	32	2	34	7	0	7		102	$\mu$
	%	24,5	16,7	41,2	31,4	2,0	33,3	6,9	0,0	6,9		2,99%	
41	abs.	8	7	15	5	1	6	10	5	15		36	2,0
	%	22,2	19,4	41,7	13,9	2,8	16,7	27,8	13,9	41,7		1,05%	
67	abs.	67	54	121	98	31	129	29	29	58		316	1,0
	%	21,2	17,1	38,3	31,0	9,8	40,8	9,2	9,2	18,4		9,25%	
1 – 1960	abs.	9	12	21	5	7	12	0	3	3	0	36	0,00
	%	15,6	37,5	53,1	15,6	21,9	37,5	0,0	9,4	9,4	0,0	0,88%	
14	abs.	12	19	31	25	2	27	10	11	21	0	79	0,91
	%	15,0	23,8	38,8	32,5	2,5	35,0	12,5	13,8	26,3	0,0	1,93%	
2 – 1960	abs.	32	51	83	63	37	100	36	22	58			1,6
	%	13,3	21,2	34,4	26,1	15,4	41,5	14,9	9,1	24,1	0,0	5,88%	
Total	abs.	1300	664	1964	943	261	1204	470	378	848	84	4100	
Total	%	31,7	16,2	0,0??	23,0	6,4	0,0??	11,5	9,2	0,0	2,0		

abs.—absolute (quantity); HMP – handmade pottery; HHU – household utilities

**Tab. 5. Ceramic complex from Borysthene from V.V. Lapin's excavations: main typological groups, their structure and quantitative distribution. The third phase of the Archaic period (c. 540s–440s)**

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# Epigraphic Map of Tropaeum Traiani During the Principate. Town and its Rural Territory before 317 AD

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## Abstract

*The Roman urban-religious complex Tropaeum Traiani in Lower Moesia province (present day-village of Adamclisi in Romania) has been studied since the end of the 19th century. Despite long-term research, only the Late Antique town has been recognized well, but finds, mainly epigraphic monuments, indicate the existence of the town in the Principate. Seventy-nine epigraphic texts dated to the first three centuries AD from Tropaeum Traiani and its rural territory indicate the existence of a town as early as in the first half of the 2nd century AD. Mapping of these epigraphic finds may be helpful in recreating not only the character of the settlements in the rural territory but also can add some interesting observations on the possible topography of the town in the Principate. The paper presents the current state of research and compares it with the results of mapping the epigraphic finds. Furthermore, epigraphic sources have been compared with concepts of the town's origin and the topography of the site. .*

## Keywords

*Lower Moesia, Tropaeum Traiani, epigraphic evidence, Principate*

Tropaeum Traiani is located about 1 km north of the modern village of Adamclisi (Constanța district) in the south-eastern part of Dobruja.<sup>1</sup> The site is an urban-religious complex formed by the funerary altar, the tumulus (so-called mausoleum), the triumphal monument (the proper *tropaeum*), and the fortified town bearing its name (Fig. 1),<sup>2</sup> located on the crossroads of major roads connecting civil and military centres, such as Durostorum on the Danube, and important towns such as Callatis, or Tomis on the Black Sea coast (Fig. 2).<sup>3</sup> The town was lo-

cated far from the commemorative monuments, on a low polygonal plateau, in the middle of the Urluia Valley leading to the Danube. The aim of this paper is to present the current state of research as well as the results of the analysis of epigraphic finds and the topography of the site.

The first systematic research on the site were started in 1882 by Grigore Tocilescu, director of the National Museum of Antiquities in Bucharest. The work was concentrated in the vicinity of the *tropaeum* and continued

<sup>1</sup> This paper is based on the MA thesis entitled *Mapa archeologiczna Tropaeum Traiani w okresie pryncypatu. Miasto i jego terytorium wiejskie przed 317 rokiem (Archaeological Map of Tropaeum Traiani during the Principate Period. Town and its rural territory before AD 317)* written by the author under the supervision of dr hab. Agnieszka Tomas (Faculty of Archaeology, University of Warsaw). I would like to thank dr hab. Agnieszka Tomas for comments and discussions on the topic. Special thanks are due to dr Adriana Panaite ("Vasile Pârvan" Institute of Archaeology, Romanian Academy, Bucharest) for helpful suggestions and comments, and thank you for the welcome in Bucharest. My acknowledgements also go to Dr F. Matei-Popescu ("Vasile Pârvan" Institute of Archaeology, Romanian Academy, Bucharest) for his comments on the epigraphic sources from the Tropaeum Traiani. Finally, thanks go to T. Dziurdzik for improving my English text.

<sup>2</sup> Matei-Popescu 2014, 205; Alexandrescu-Vianu 2015, 166.

<sup>3</sup> Panaite 2016, 65. For more information about the roads identified near the Tropaeum Traiani see: Panaite, Miu 2016.

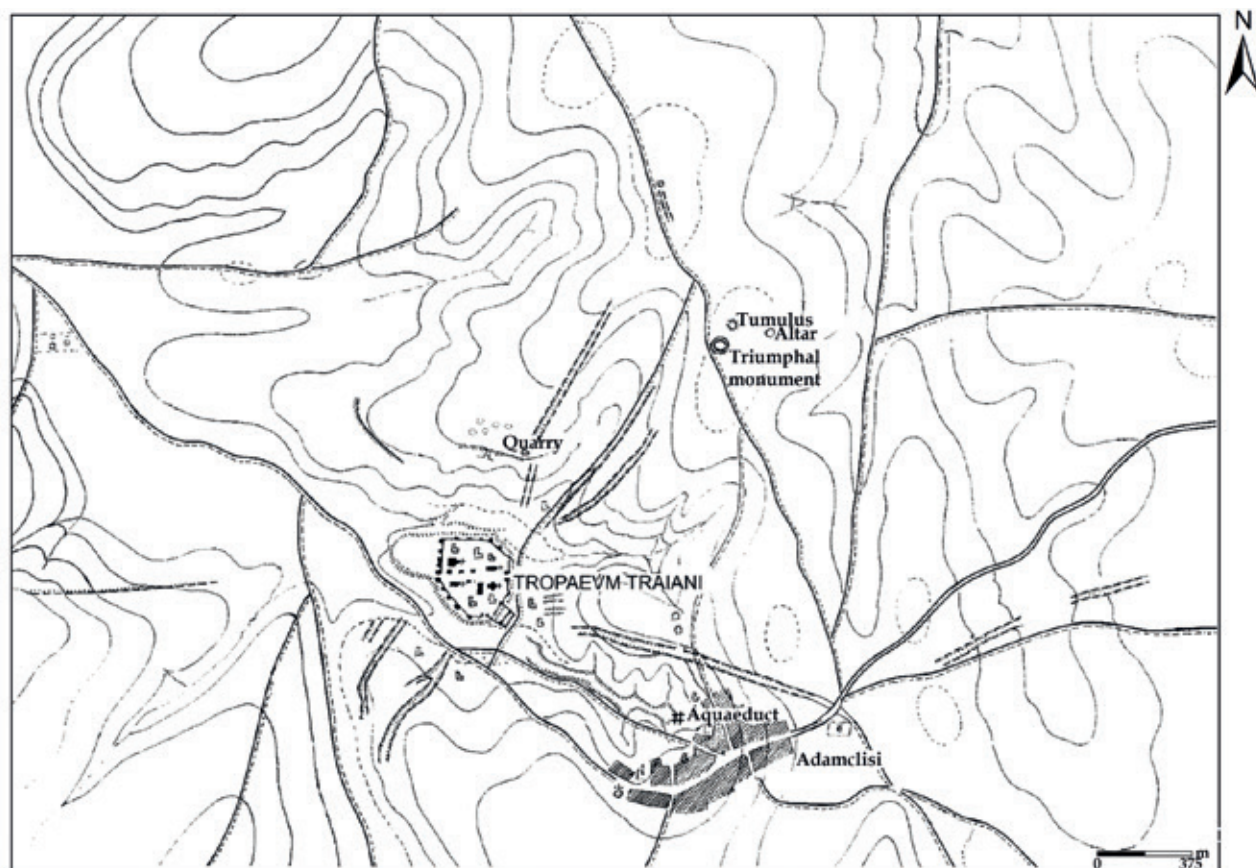


Fig. 1. Tropaeum Traiani. The fortified town and commemorative complex by Pamfil Polonic (prepared by: A. Gizińska)

until 1890.<sup>4</sup> Research within the fortified town began under the direct supervision of G. Tocilescu in 1891. The focus was primarily on the study of the vicinity of the town gates, particularly eastern and western ones, and the main street (*via decumana*). The results of the excavations carried out at the site in cooperation with architect and archaeologist G. Niemann and archaeologist O. Benndorf were published in 1895.<sup>5</sup>

Despite the research on the site conducted since the end of the 19th century, many issues are still not explained. The infrastructure connecting all the elements of the complex is also only partly known. While the Late Roman town's layout and surface (10 ha) have been well studied, the location of the town from the Principate, its extent, and rural territory remain quite unclear. On the other hand, the moment and circumstances of its foundation, as well as of its obtaining municipal rights, are more hypothetical than based on solid archaeological evidence.

The above-mentioned monuments – the altar, the tumulus (so-called mausoleum), and the triumphal monument – are located on a hill at a distance of approximately 2 km from the fortified town of Tropaeum Traiani. Of these, only the dating of the *tropaeum* itself does not raise doubts, as according to the dedicatory inscription,<sup>6</sup> it was inaugurated in 109 AD.<sup>7</sup> The triumphal monument is dated based on the fragmentarily preserved name and Trajan's titulature and also information about the office of *tribunicia potestas* held by the emperor. Fragments of the numbers suggest XIII *tribunicia potestas*.<sup>8</sup> Hence, this implies the period between 10 December 108 – 9 December 109. The monument was built on the top of a hill that overlooks the surrounding area, it is clearly visible even from the village Fetești located on the opposite bank of the Danube, 30 km away from Tropaeum Traiani.<sup>9</sup>

The altar was built approximately 200 m east of the *tropaeum*. The walls of the altar were covered with slabs

4 The extensive literature relating to the Tropaeum Traiani commemorative complex has been written, for example; Tocilescu, Benndorf, Niemann 1895; Florescu 1961; Florescu 1965; Vulpe 1968; Sâmpetru 1984; Alexandrescu-Vianu 1995–1996; Alexandrescu-Vianu 2006; Barnea A., Lohmann 2021.

5 Tocilescu, Benndorf, Niemann 1895.

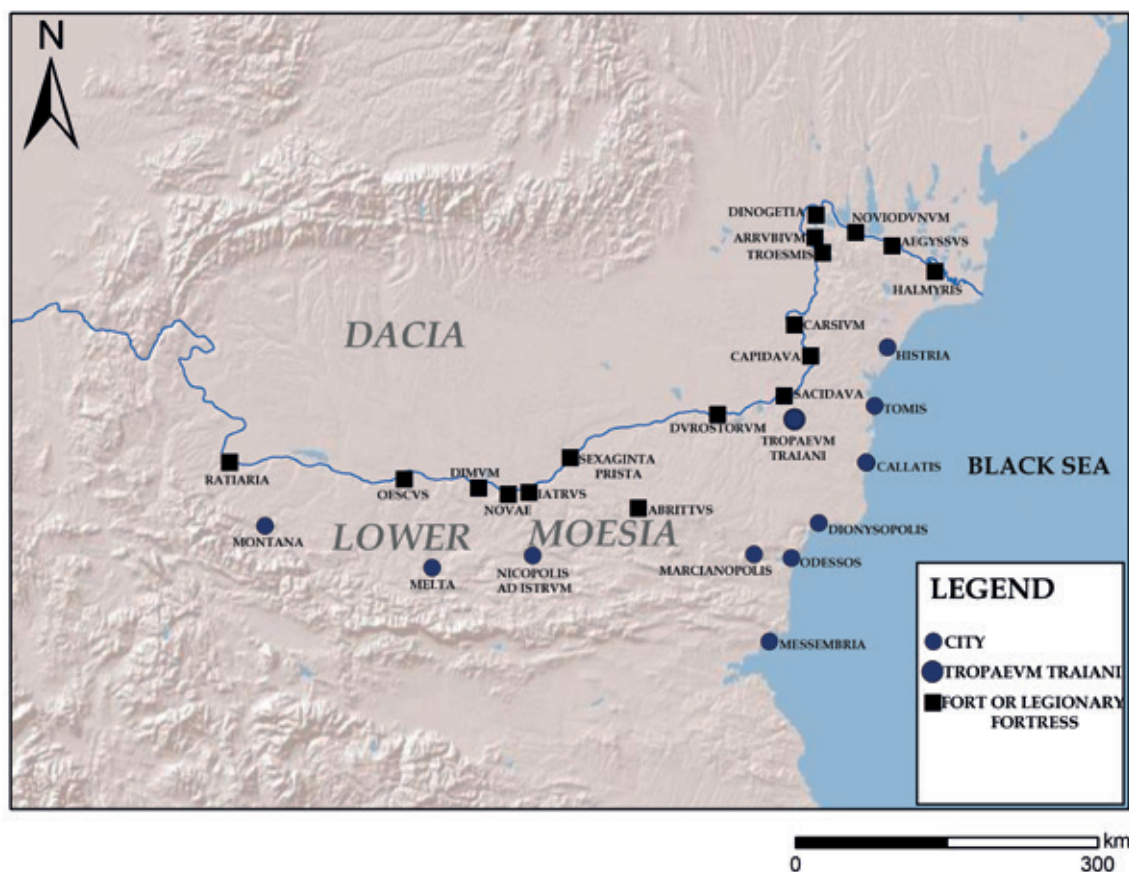
6 *CIL* III 12467.

7 In 1909, during excavations near the East Gate, fragments of limestone slabs with a fragmentary inscription were discovered. E. Doruțiu-Boilă believed that the trophy must have originally had two identical inscriptions, arranged symmetrically on two opposite sides of the *tropaeum*: Doruțiu-Boilă 1965, 209–214. Later the Romanian scholar changed her opinion: Doruțiu-Boilă 1987 (1988), 45–56.

8 *ISM* IV 5; Tocilescu, Benndorf, Niemann 1895, 128.

9 Poulter 1986, 524.





**Fig. 2. Location of Tropaeum Traiani in Lower Moesia (prepared by: A. Gizińska, base map from © 2014 Esri)**

with a carved inscription containing the names of the fallen soldiers. Some of them were found during excavations of the altar carried out by G. Tocilescu in the years 1895–1896, in the Turkish cemetery in Adamelisi and in the fortified town Tropaeum Traiani. Due to the fragmentally preserved inscription, we know that the moment when it was raised cannot be clearly dated<sup>10</sup> but R. Vulpe<sup>11</sup> and K. Strobel<sup>12</sup> dated the building of the funerary altar to the reign of Trajan and suggested that its erection was associated with the commemoration of the soldiers fallen during the Dacian Wars. On the other hand, several authors, among them C. Cichorius,<sup>13</sup> I. Berciu,<sup>14</sup> N. Gostar,<sup>15</sup> C. Petolescu,<sup>16</sup> and E. Doruþiu-Boilã,<sup>17</sup> proposed dating the monument to the years 85–88 AD and to connect it with the reign of Domitian, and his Dacian campaigns. A. Poulter was of the opinion that the altar is associated

with Trajan but is not contemporary with the triumphal monument. In his opinion, the inscription mentions the *legio I Minervia*, which may have been sent to Lower Moesia c. 102/103 AD.<sup>18</sup>

The tumulus, which is also called mausoleum, was built on the hill top, approximately 80 m away from the *tropaeum*. The tumulus was built on the same axis as the funerary altar, which in the opinion of C.C. Petolescu testifies to the *tropaeum* located outside this line being later added to the commemorative complex.<sup>19</sup> Inside, the tumulus four stone walls were discovered,<sup>20</sup> but the function of the monument still could not be identified. A. Poulter suggests that the tumulus did not serve funerary functions but was a monument of victory dated to the reign of Trajan. Originally, its function was that of

10 *ISM* IV 8 = *CIL* III 14212.

11 Vulpe 1938, 136–144.

12 Strobel 1984, 327.

13 Cichorius 1904, 20–23.

14 Berciu 1965, 262–266 and 275–276.

15 Gostar 1969, 120.

16 Petolescu 1991, 58; Petolescu 2014, 137–141.

17 Dorutiu-Boilă 1961, 345.

18 Poulter 1986, 524.

19 Petolescu 2014, 137–141.

20 Tocilescu 1900, 88–89; Sâmpetru 1984, 161–187; Poulter 1986, 525; Panaite 2016, 163.

a *tropaeum*, preceding the construction of the triumphal monument inaugurated in 109 AD.<sup>21</sup>

M. Sâmpetru, the author of the second volume of the monographic series *Tropaeum Traiani*, about the commemorative complex, believed that all three monuments are contemporary. According to him, the plan for all three monuments was originally created in 102 AD. The altar and the tumulus were erected a year after Trajan's victory in the First Dacian War. However, the triumphal monument was erected a little later in 109 AD, on a previously selected place according to the plan created in 102 AD.<sup>22</sup> The Romanian scholar believed that the architect responsible for the design of the commemorative complex was Apollodorus of Damascus.<sup>23</sup> However, researchers contradict many of the conclusions drawn by M. Sâmpetru. The idea of A. Poulter that *tropaeum*, tumulus, and funerary altar are not contemporary was confirmed by M. Alexandrescu-Vianu based on the evidence of stylistic differences and the materials used to build them.<sup>24</sup> The *tropaeum* was built from stone quarried in the Deleni quarries, while the stone used in the tumulus and altar comes from quarries in Cetatea and Văleni.<sup>25</sup>

### Concepts of the town's origin

In relation to Tropaeum Traiani, four general concepts of the town's origin can be distinguished: local origin, military, Roman *vicus*, and *municipium* from the very moment of the foundation of the town.<sup>26</sup> The first refers to the local settlement in this area, which was the basis for the creation of a *civitas* at the turn of the era, later transformed into a *municipium*. According to A. Barnea, who excavated the site since 1968, the Roman town under the name of the triumphal monument,<sup>27</sup> inaugurated in 109 AD, replaced the settlement of the Getae from the turn of 1st century BC – 1st century AD.<sup>28</sup> At the end of the 1st century and the beginning of the 2nd century AD, the settlement of the Geto-Dacians suffered serious damage, caused by the First Dacian War of Trajan, and since then it was incorporated into the system located directly

under the rule of the Romans.<sup>29</sup> This idea was first presented by V. Pârvan who believed that the settlement was transformed by the Romans into a town centre named after the triumphal monument.<sup>30</sup>

One of them is related to the existence of a fort from the period of the Dacian Wars. Based on the analysis of the aerial photography taken in 1969, I. Bogdan-Cătănciu proposed a hypothesis that the Early Roman town is located in the north-eastern part of the Late Roman town, and it had a relatively small area, similar to the size of forts of auxiliary troops,<sup>31</sup> therefore, it is possible that the fort was the first Roman installation. The town's main streets would correspond to the major arterial streets of the fort. The Romanian scholar determined the dimensions of the fort as 250 × 150 m, which gives an area of 3.75 ha. To verify these suppositions, several small trenches were established in places where the possible defensive wall of the fort could be located. However, the results of the research did not confirm this hypothesis.<sup>32</sup> This concept also seems to be highly improbable due to the relatively small area of the Early Roman town compared to the Late Roman town. In the opinion of I. Bogdan-Cătănciu, in the times of Licinius and Constantine, people living in the area around the town moved to a naturally defensive area because of invasions, among others, of the Dacian tribes of the Carpi. This action caused an increase in the area of the town of the Late Antique period, compared to the town of the Principate.<sup>33</sup> The Late Roman town's expansion in the time after the crisis of the 3rd century AD would be surprising. The phenomenon of urban development is not often found in times more inclined to encourage limited urban areas. In the vicinity of Tropaeum Traiani, the fortified area of Histria was limited after the Gothic invasion, becoming about four times smaller than the Early Roman town.<sup>34</sup>

One of the hypotheses of the town's foundation is associated with the development of Roman settlement at the crossing of important Lower Moesian roads. The emergence of the *municipium* would be therefore the result of the development of the memorial complex. According

21 Poulter 1986, 525.

22 Sâmpetru 1984, 18.

23 Sâmpetru 1984, 19.

24 Alexandrescu-Vianu 2006, 210.

25 Alexandrescu-Vianu 2006, 209; Panaite 2016, 207, n. 14.

26 Many other hypotheses have also arisen about the Traiani Tropaeum and the commemorative complex, described in Panaite 2016, 163–164.

27 Barnea A. 2006, 413.

28 In the opinion of V. Barbu, before the Early Roman town, this place was related to the settlement of the Getae and Dacians: Barbu 1965, 32.

29 Scurtu, Barnea A. 2004–2005, 454–455.

30 Pârvan 1912, 11–12.

31 Bogdan-Cătănciu 1979, 53; Bogdan-Cătănciu 1992, 193–198.

32 Panaite, Miu 2016, 203.

33 Bogdan-Cătănciu 1995–1996, 204.

34 Mărgineanu-Cârstoiu, Apostol 2016, 33–35.

to I. Barnea on the site of the former Geto-Dacian settlement, Trajan founded a fort, near which a Roman *vicus* was established. The new civilian *vicus* was inhabited by an indigenous population, veterans, and newcomers who settled down near the triumphal monument. Thanks to its location, the village developed, obtained municipal rights, and became an important urban centre of the region. During the reign of Marcus Aurelius, before 170 AD, it would have received municipal rights.<sup>35</sup> V. Barbu who agrees with I. Barnea believed that the Roman settlement in Dobruja was to consolidate the Roman rule and domination over the local population.<sup>36</sup>

The moment of obtaining the municipal status of Tropaeum Traiani is another question discussed by the scholars. The town whose name would have a commemorative meaning would have been founded after the end of Trajan's Dacian Wars, at the time when the triumphal monument (*tropaeum*) was built on the nearby hill. G. Tocilescu, the first researcher of Tropaeum Traiani, believed that the monument was erected on the orders of Emperor Trajan in 108–109 AD to commemorate a victory over the Dacians and their allies.<sup>37</sup> The *tropaeum*, according to his opinion, was built about 20 km south of the battlefield, which in his opinion must have been located in the valleys between Axiopolis (today Cernavodă) and Tomis (today Constanța). A. Barnea who believed that the *tropaeum* commemorated Trajan's victory in the First Dacian War, thought that the emperor founded the towns: Nicopolis ad Istrum and Marcianopolis in 102 AD on the route of his campaigns. However, at the site of the decisive battle, he founded a triumphal monument dedicated to Mars Ultor and inaugurated it in 109 AD. The town located near the monument would have obtained municipal status at the same time when the monument was built.<sup>38</sup> Although most researchers believe that Tropaeum Traiani obtained municipal rights during the reign of Trajan, there is no shortage of voices questioning this theory. F. Matei-Popescu considers that Hadrian cannot be excluded as the one who granted the municipal rights to Tropaeum Traiani, because “the strongest argument in the favour of a Hadrianic foundation is the duumviral organization of the town, which in the Lower Danube area could mark this type of foundation”.<sup>39</sup>

### Concepts of the town's origin in the light of archaeological evidence

Everything that is known about Tropaeum Traiani during the Principate is based on epigraphic evidence, as well as on the results of excavations carried out in a few small trenches.<sup>40</sup> The only monument inside the town dated to this period is the forensic basilica, which could have been built at the earliest during the reign of Septimius Severus.<sup>41</sup> The results of excavations within the town's wall led to the identification of the stratigraphy of the site, including distinguishing the phases of the Principate near the East Gate. The earliest phases, which are referred to as N I, N II, and N III seem to be the most interesting with regard to the earliest history of the site. The first of them is related to the mixed material associated with the Getae and Roman settlement, which is dated between the 1st century BC – 1st century AD. This phase ends in a fire, as evidenced by a preserved layer of ash and charcoal. I. Bogdan-Cătănciu believed that this moment can be dated to 85–86 AD<sup>42</sup> or, as suggested by A. Panaite, to 101–102 AD.<sup>43</sup> The next phase (N II), dated to the reign of Trajan and his successor and ends with destruction by fire. After that, the defensive wall of Tropaeum Traiani was built, and these traces are interpreted as the results of the devastating invasion of the Costoboci in 170 AD.<sup>44</sup> Phase N III is dated to the reign of Septimius Severus based on numismatic finds and its end is related to yet another fire,<sup>45</sup> probably caused by the devastating invasions of the Carpi at the end of the 3rd century AD.

The architectural remains visible on the surface come from Late Antiquity, but epigraphic finds indicate the existence of the town in the earlier period. Epigraphic finds give us information about the inhabitants, but also the character of the settlement in the rural territory.

This paper includes epigraphic finds dating from the 1st century AD to 317 AD. It should be borne in mind, however, that only one inscription is dated by some researchers to the 1st century AD.<sup>46</sup> This is the inscription connected with a funerary altar, dated to the reign of Domitian or Trajan.<sup>47</sup> No other epigraphic find dated to this period is

35 Barnea I. 1979b, 227.

36 Barbu 1965, 33.

37 Tocilescu, Benndorf, Niemann 1895, 169–170.

38 Barnea A. 2015, 153–154; Suceveanu, Barnea A. 1991, 54.

39 Matei-Popescu 2014, 209.

40 Panaite 2016, 165; Matei-Popescu 2014, 210.

41 Bogdan-Cătănciu 2003, Tropaeum Traiani – Cetatea, <http://www.cimec.ro/Arheologie/tropaeum/cetatea/index.html> (p. 13) (access 02.04.2023).

42 Bogdan-Cătănciu 1979, 60.

43 Panaite 2016, 167.

44 Matei-Popescu 2014, 210.

45 Panaite 2016, 165.

46 I mention this problem when discussing the funerary altar.

47 ISM IV 8.

known. The vast majority of inscribed stones are dated to the 2nd century AD. The latest find is the dedicatory inscription for Emperor Licinius dating to 317 AD, containing the expression *a fundamentis* which probably refers to the reconstruction of the town walls of Tropaeum Traiani, destroyed during the invasions of the Carpi at the end of the 3rd century AD.<sup>48</sup>

In relation to the town of the Principate, epigraphic sources play an extremely important role. Seventy-nine finds found in Tropaeum Traiani and its immediate vicinity and dated to the first three centuries AD were included in the analysis for the current paper. The vast majority of epigraphic sources known from Tropaeum Traiani, and its immediate vicinity include votive and funerary inscriptions. In addition, one can distinguish a group of dedications, with a particular role of dedications to the Emperors (Fig. 3). It should be remembered that most of the known epigraphic monuments from Tropaeum Traiani were re-used in Late Antiquity, hence their original context is lost. In addition, some of them were also reworked and adapted to perform new functions.

The seventy-nine inscriptions dated to the first three centuries AD and discovered in Tropaeum Traiani and its immediate vicinity indicate the existence of a town as early as in the period of the Principate. Most of them, i.e., thirty-seven, are come from the 2nd century AD,<sup>49</sup>

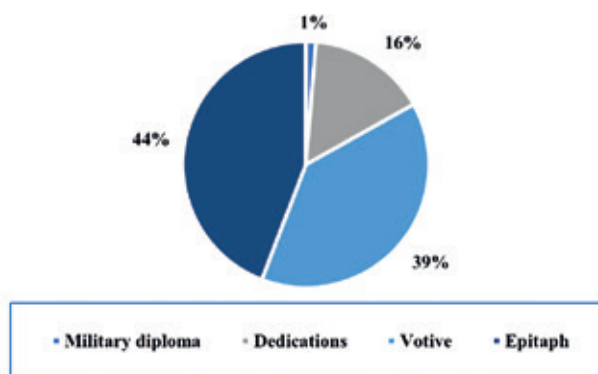


Fig. 3. Types of the inscriptions from Tropaeum Traiani and its rural territory

and eighteen are dated to the 3rd century AD. In addition, ten inscriptions originate at the turn of the 2nd and 3rd centuries AD. One can also distinguish a small group, containing five monuments, broadly dated to the 2nd and 3rd centuries AD (Fig. 4).

The earliest known inscription from Tropaeum Traiani is a dedication (or, as C.C. Petolescu noted an invocation) to Mars Ultor, which was originally carved on the tabula that was a part of the triumphal monument.<sup>50</sup> Due to the lack of unambiguous dating of the altar, the preserved inscription cannot be considered as the earliest (reign of Domitian or Trajan).<sup>51</sup>

Epitaphs discovered at the site allow making observations about the social structure of the people living in this area. They testify to the existence of large Greek,<sup>52</sup> Thracian, and Dacian communities in the rural area of Tropaeum Traiani in the 2nd century AD. Based on these, F. Matei-Popescu concluded that<sup>53</sup> the Greek-speaking population living in Tropaeum Traiani, and its rural territory were the newcomers from Bithynia.<sup>54</sup> Among the settlements located in the *territorium* of Tropaeum Traiani, one can mention Greek settlements at the present-day villages of Urluia, Ion Corvin, Plopeni, and Nastradin, and the *villae rusticae* in Pietreni and Floriile.<sup>55</sup> The Greek community inhabiting the rural territory of Tropaeum Traiani is evidenced also by a fragmentarily preserved epitaph probably found in the town,

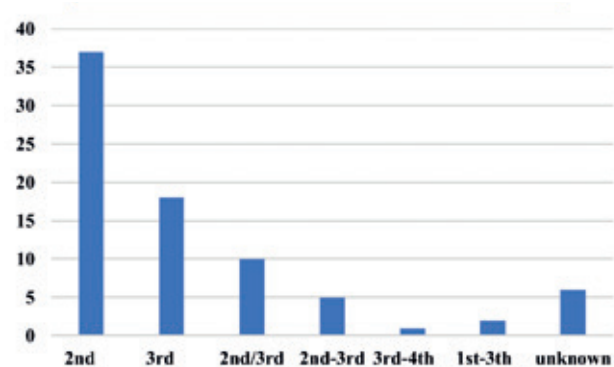


Fig. 4. Dating of the inscriptions from Tropaeum Traiani and its rural territory

48 ILS 8938. On the inscription and the circumstances of the refunding, see Matei-Popescu 2014, 206.

49 Dating has been proposed based on the corpus *Inscriptiones Scythiae Minoris*. In the case of the inscription ISM IV 72 and the lack of proposed dating in the corpus, the inscription database: Epigraphic Database Heidelberg was used, and the monument was dated by Francisca Feraudi-Gruenais (HD048054). Similarly, in the case of the inscription ISM IV 73, the dating proposed by Brigitte Gräf from the Epigraphic Database Heidelberg was taken (HD082751).

50 ISM IV 5; Petolescu 2014, 137.

51 ISM IV 8.

52 Matei-Popescu 2013, 223.

53 Matei-Popescu 2014, 213–215.

54 Matei-Popescu 2021, 205.

55 Suceveanu, Barnea A. 1991, 54.



in which the deceased is presented as *natione Graecus*.<sup>56</sup> Protogenes (Πρωτογένης), probably an autochthon from a rural area, in which he was a representative of the executive power (*magister*),<sup>57</sup> erected the altar for Zeus Obrimos *pro salute* Emperor Maximinus Thrax and *Caesar* Gaius Julius Verus Maximus. The monument was discovered during an excavation in 1968 on the north side of the *via decumana*, c. 7 m from the East Gate.<sup>58</sup> Among the inhabitants of Tropaeum Traiani, it is also possible to distinguish Romanized families of Thracian origin. Four sons erected the gravestone for their parents, Sarbis and Atticus:<sup>59</sup> three of them served in the Roman army. Castus was a centurion of the Eleventh Claudian Legion, while Celsus and Marcus were soldiers of the same unit. Even though only their cognomen is known, they must have been Roman citizens.<sup>60</sup> Moreover, the Romanized Thracian Tiberius Claudius Mucius commemorated his wife, Claudia.<sup>61</sup>

The Late Roman town is located on a slightly elevated area, steeply descending towards the west, south, and north. The area outside the East Gate gently descends towards the east to a plateau located 460 m away.<sup>62</sup> Research in this area was carried out but gave inconclusive results.<sup>63</sup> As a result of research on the Eastern Plateau, a Getic settlement was identified covering an area of about 1 ha.<sup>64</sup> Moreover, ceramic material associated with the 1st century BC and 1st century AD and phase N II was identified.<sup>65</sup> However, it should be remembered that no remains of structures were found.<sup>66</sup> The idea of the existence of a civil settlement on the plateau next to the East Gate was already suggested by Barbu.<sup>67</sup>

The material discovered during the excavations on the Eastern Plateau coincides with the material discovered during excavations carried out in a few small trenches within the town's wall. Both in the town and on the Eastern Plateau it was possible to identify the same phase related to the mixed

material associated with the Getae and Roman settlement, dated between the 1st century BC – 1st century AD.<sup>68</sup> The coincidence of material in these two places may indicate the use of this area by the Getic population. While the identification of material related to phase N II, dated to the reign of Trajan and his successor found in the town and also on the Eastern Plateau probably allows us to conclude that at least since the beginning of the 2nd century AD, this place was inhabited by a heterogenic population.<sup>69</sup> Based on the epigraphic sources, areas in the immediate vicinity of Tropaeum Traiani were inhabited by veterans,<sup>70</sup> *cives Romani*, and peregrines of Thracian, Dacian, and Greek origin, including newcomers from Bithynia.

### The problem of the presence of active soldiers in the vicinity of Tropaeum Traiani

Another problem is also raised by the presence of soldiers of the Roman army in the town and its immediate vicinity attested by epigraphic finds. Among seventy-nine inscribed stones, ten mention active soldiers, of these, eight were found within the town's wall of Tropaeum Traiani (Fig. 5). These monuments are dated primarily to the 2nd century AD, three of them are dated at the end of the 2nd and beginning of the 3rd centuries AD (Tab. 1).

The earliest record of the presence of an active soldier in Tropaeum Traiani dates to 157 AD. The *tribunus militum* of the Eleventh Claudian Legion, M. Stabius Colonus erected an altar *pro salute* Antoninus Pius.<sup>71</sup> In 161 AD, during the reign of Marcus Aurelius in Tropaeum Traiani the centurion of *legio XI Claudia* is attested, Annius Saturninus set up an altar for the health of the emperor. The monument was discovered in the 19th century, probably in the Turkish cemetery, and then reused in the church in Deleni, 5 km away from the site. During the rule of Marcus Aurelius, a *vexillatio* composed of soldiers of the

<sup>56</sup> ISM IV 65.

<sup>57</sup> Aparaschivei 2015, 27 and 30.

<sup>58</sup> ISM IV 18.

<sup>59</sup> ISM IV 67 = AE 2004, 1272.

<sup>60</sup> Matei-Popescu 2010, 148.

<sup>61</sup> ISM IV 84 = AE 2015, 1225; Detschew 1957, 316–317.

<sup>62</sup> Research on the Eastern Plateau allowed for the identification of a phase dated to the Roman period, based on the discovered fragments of pottery dated to the 2nd – 4th centuries AD. For more information see reports for the years 1993–2006 in CCA.

<sup>63</sup> Cîrjan 2010, 86.

<sup>64</sup> Arsenescu et al. 2019, 62.

<sup>65</sup> Bogdan-Cătăniciu, Barnea A. 1979b, 179–180.

<sup>66</sup> Matei-Popescu 2014, 211, n. 56.

<sup>67</sup> Barbu 1965, 44.

<sup>68</sup> Panaite 2016, 167.

<sup>69</sup> Matei-Popescu 2014, 124.

<sup>70</sup> Among others: CIL XVI 58 = ISM IV 3 = RMD IV 222 or ISM IV 47.

<sup>71</sup> CIL III 14214<sup>1</sup> = ISM IV 21.

First Italian and Fifth Macedonian Legions was probably present in the immediate vicinity of Tropaeum Traiani.<sup>72</sup> The monument was found in today's village of Băneasa located 20 km west of the site. An altar for Neptune was erected under the care of Eptidius Modestus, a centurion of the Fifth Macedonian Legion, and Valerius Clemens, a centurion of the First Italian Legion. The presence of a detachment of Roman legions was probably related to the invasion of the Costoboci in 170 AD.<sup>73</sup> In the 2nd century AD (or, as F. Matei-Popescu noted in the 3rd century AD),<sup>74</sup> Iulius Favor, a centurion of the *legio XI Claudia*, erected an altar for Apollo. The monument was found within the town's wall during an excavation carried out by P. Nicorescu and D. Ciurea in the years 1935–1940.<sup>75</sup> In 1968, near the East Gate of the town, three altars were discovered.<sup>76</sup> All of them are dedicated by soldiers of the I Italian and V Macedonian legions and erected *sub cura* Orfius Sabinus, *evocatus* of the Fifth Macedonian Legion.<sup>77</sup> V. Pârvan believed that a *vexillatio* composed of soldiers of the *legio I Italica* and *legio V Macedonica* was stationed in the vicinity of Tropaeum Traiani because of the Marcomannic Wars.<sup>78</sup> This hypothesis would also be confirmed by the above-mentioned dedication to Neptune, which also mentioned a *vexillatio* of these legions. E. Popescu was of the opinion that the presence of detachments was related to the invasion of the Costoboci in 170 AD.<sup>79</sup> According to F. Matei-Popescu, during the reign of the Severan dynasty in Tropaeum Traiani is attested another centurion (*legio I Italica*), Q. Lucilius Piscinus erected an altar for *Sol Invictus in honorem domus divinae*.<sup>80</sup> The altar was found next to the West Gate on *via decumana* in 1891.

Active soldiers are also known from private inscriptions, a *signifer legio XI Claudia* erected with his brother, a *duumvir municipium* Tropaeum Traiani the tombstone

for their father and sister.<sup>81</sup> This suggests that he came from the town or its immediate vicinity. In addition, Castus, a centurion of the *legio XI Claudia*, and his two brothers, soldiers of the same legion, set up tombstone for their parents.<sup>82</sup> The above inscriptions attest to local enlistment to the army. However, six inscribed stones from Tropaeum Traiani and its rural territory also mentioned veterans of the Roman army who, probably after their military discharge, settled in Tropaeum Traiani or its immediate vicinity (Tab. 2). Some of them are known from funerary inscriptions, such as L. Aemilius Severus, *centurio legionis XIII Geminae*<sup>83</sup> or C. Iulius Valens, *centurio legionis V Macedonicae*, who served in the army 30 years.<sup>84</sup>

*Legio XI Claudia* was sent to Durostorum (today Silistra, Bulgaria) probably around 115–117 AD when its presence is first attested by the epigraphic finds.<sup>85</sup> This is the nearest legionary camp, located about 60 km to the north-west of the site. In the immediate vicinity of Tropaeum Traiani, the remains of fortifications in Rasova, Lespezi, Pietreni, Ion Corvin, Cetatea, and Plopeni have been identified, but no excavations have ever been carried out there to verify and determine the chronology of the sites.<sup>86</sup> The detachment of legions *XI Claudia*, *I Italica*, and *V Macedonica* may have been stationed in Rasova located less than 20 km north of the site, up to 167 AD, as evidenced by the construction material connected with these legions and coins dating back to the reign of Trajan.<sup>87</sup> According to I.C. Opriș, from Rasova to Tropaeum Traiani, located inland, it is a day's march, which may indicate that the fort was the main supply point of the town.<sup>88</sup> This hypothesis is also supported by the altar found in Rasova and mentioning Aelius Castus, *duumvir*,<sup>89</sup> who in the opinion of A. Panaite and I.C. Opriș may have been a representative of executive power in the *municipium* Tropaeum Traiani.<sup>90</sup>

72 ISM IV 26.

73 Aricescu 1977, 46 and 95; Matei-Popescu 2010, 52–53.

74 Matei-Popescu 2010, 134.

75 AE 1972, 522 = ISM IV 27.

76 Barnea A. 1969, 595–596.

77 ISM IV 42a, ISM IV 42b and ISM IV 42c.

78 Pârvan 1912, 11–12.

79 Popescu 1964, 198–199.

80 CIL III 12468 = ISM IV 33; Matei-Popescu 2010, 81–82 and 104.

81 ISM IV 61.

82 ISM IV 67.

83 ISM IV 48.

84 CIL III 14214<sup>10</sup> = ISM IV 55.

85 Matei-Popescu 2010, 134.

86 Panaite, Miu 2016, 203 and 206.

87 Irimia 1985, 144 and 154; Panaite, Miu 2016, 204.

88 Opriș 2020, 397.

89 AE 1963, 175 = AE 2004, 1270.

90 Panaite, Miu 2016, 204.

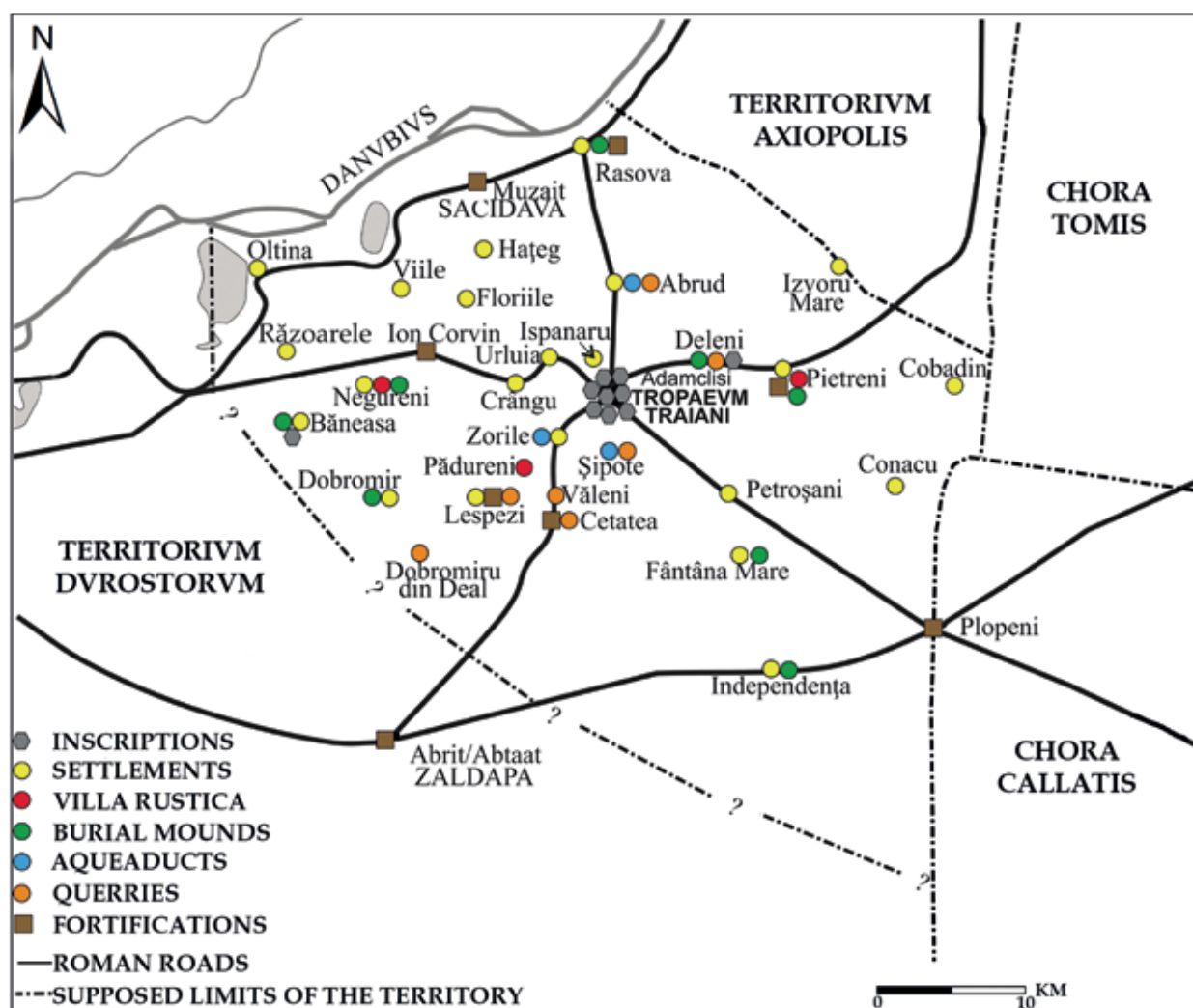


Fig. 5. The places of finding epigraphic monuments mentioning active soldiers from Tropaeum Traiani and its rural territory (after: Panaite, Miu 2016, 205, fig. 2, supplemented by: A. Gizińska)

The presence of active soldiers in Tropaeum Traiani and its immediate vicinity raises many questions. Epigraphic monuments related to active soldiers were reused during the reconstruction of the defensive walls of Tropaeum Traiani, hence their original context is lost. As I mentioned, the nearest legionary camp is located 60 km to the north-east of the site but therefore, it seems unlikely that these stones can originally come from Durostorum or its territory. If that were the case, inscribed stones would have to be transported on the Danube, maybe to Rasova, where recent find confirms that probably it was a place, where the *Classis Flavia Moesica* was stationed,<sup>91</sup> and then transported to Tropaeum Traiani, located 20 km away from the river. Furthermore in the vicinity of the site are located several quarries, from which stone was used, among others, to build a commemorative complex.<sup>92</sup> In addition, there is no significant accumulation of epi-

graphic sources related to the soldiers of the Eleventh Claudian Legion, a similar number can also be found in the context of the soldiers of the First Italian Legion from Novae and the Fifth Macedonian Legion, which from 167 AD was stationed in Potaissa in Dacia.<sup>93</sup> Therefore, these inscribed stones are probably not *pierres errantes* but are associated with the presence of army troops somewhere in the vicinity of Tropaeum Traiani.<sup>94</sup>

### The problem of granting municipal rights to Tropaeum Traiani

It is important to determine the moment when Tropaeum Traiani obtained municipal rights. One of the concepts of a town's origin is related to the existence of a *municipium* from the very moment of its foundation. At the site of the decisive battle, Trajan founded a triumphal monu-

91 Opreș 2020, 399–400.

92 Alexandrescu-Vianu 2006, 209; Panaite 2016, 201, n. 14.

93 Matei-Popescu 2010, 52.

94 Aricescu 1977, 38; Matei-Popescu 2010, 134.

ment, and granted the town located at the foot of it municipal rights at the same time.<sup>95</sup> Unfortunately, the lack of epigraphic sources dating back to the reign of Trajan, which would confirm the existence of the *municipium*, means that the precise moment when municipal rights were granted is still unknown. The earliest inscription that perhaps can attest the existence of the *municipium* of Tropaeum Traiani is dated to 116 AD.<sup>96</sup> The statue base contains an inscription for Trajan and was erected by the community, the members of which are described as *Traianenses Tropaeenses*.<sup>97</sup> But as F. Matei-Popescu notes, it seems unusual that the word *municipium* is missing in such an official document,<sup>98</sup> and actually, the inscription speaks against the theory about the early granting of municipal rights. Moreover, there are no other epigraphic texts dated to this period that could confirm the hypothesis of the existence of a *municipium* of Tropaeum Traiani during the time of Trajan, and the first documents attesting to the existence of municipal authorities is dated to the reign of Marcus Aurelius. A text referring to a member of the *ordo decurionum* appears on an epitaph erected for a *duumvir* of the *municipium*, Lucius Fufidius Lucianus, who died during the invasion of the Costoboci in 170 AD.<sup>99</sup> This monument testifies that already before 170 AD, the *municipium* was headed by a city council, in which executive power was exercised by magistrates organized in two-person colleges (*duumviri*). However, the earliest inscription where the word *municipium*<sup>100</sup> itself is used in reference to Tropaeum Traiani is a statue base with the dedication to Commodus and Genius municipii – the monument was erected in 181 AD by the members of *ordo decurionum*.<sup>101</sup>

Based on epigraphic evidence and the lack of epigraphic sources dating back to the reign of Trajan, L. Mrozewicz shares the opinion that Tropaeum Traiani was at first a *vicus* before obtaining municipal rights. According to the Polish scholar, this is indicated by a statue base dated 116 AD, erected in Trajan's honour by the residents of Tropaeum Traiani, who name themselves *Traianenses Tropaeenses*. The monuments were found in the secondary context near West Gate in a Late Roman building.<sup>102</sup> Prob-

ably the statue base was set up originally in the *forum*.<sup>103</sup> The expression *Traianenses Tropaeenses* in his opinion indicated a quasi-municipal status of the settlement. Granting municipal rights would have taken place between 167 and 170 AD. He believed that the existence of a community of Roman citizens and the political significance of Tropaeum Traiani allowed the supposition that social life was organized on the model of a *municipium* even before that time.<sup>104</sup>

### Rural territory

The exact extent of the town's rural territory is not exactly determined and verified, among other things, due to the lack of large-scale archaeological research. However, a general outline of the *territorium* can be approximately defined based on epigraphic monuments and results of field surveys carried out in the vicinity of Tropaeum Traiani. A. Panaite and C. Miu propose the limits of the town's territory which contain the present day-villages of Lespezi, Pietreni, Conacu, Negureni, Zorile, Abrud, Urluia, Fântâna Mare, Băneasa, Independența, Floriile, Cetatea, Viile, Cobadin, Ispanaru, Petroșani, Adâncata (Fig. 5).<sup>105</sup> The rural territory of Tropaeum Traiani contains the quarries in Deleni located 5 km to the east and the area around today's village of Abrud located about 9 km north-east of the town. Moreover, stone was also quarried in the nearby present-day villages located about 20–30 km to the south such as Dobromiru din Deal, Lespezi, and Cetatea, as well as in Șipote and Văleni, 10–12 km away from Tropaeum Traiani.<sup>106</sup> Fragments of aqueducts located in the rural territory were discovered in Abrud, Zorile, and Șipote. Near the water source in the village of Zorile, terracotta water pipes and material dating back to the Hellenistic and Roman periods were discovered. This aqueduct supplied water to the Late Roman annex of Tropaeum Traiani located near the South Gate.<sup>107</sup> Other sources of good water are also located in Zorile, Abrud, Urluia, and Șipote, as was determined by L. Ellis in the hydroarchaeological project carried out by her in 2005–2010.<sup>108</sup>

95 Barnea A. 2015, 153–154; Suceveanu, Barnea A. 1991, 54.

96 Matei-Popescu 2014, 207.

97 Barnea I. 1979a, 17; *CIL* III 12740.

98 Matei-Popescu 2014, 207.

99 *ISM* IV 49.

100 Popescu 2013, 131–133.

101 *AE* 1964, 251 = *AE* 2013, 1339.

102 *ISM* IV 9; Popescu 1964, 186; Barnea I. 1979a, 17.

103 Matei-Popescu 2014, 207.

104 Mrozewicz 1982, 65 and 82.

105 Panaite, Miu 2016, 203.

106 Panaite, Miu 2016, 203.

107 Papuc, Ionescu, Constantin 2011, 326.

108 Ellis 2019, 83–90.



Moreover, based on epigraphic finds, in the immediate vicinity of Tropaeum Traiani *villae rusticae* were located in Pietreni, Negureni, and Pădureni.<sup>109</sup> In Pădureni was found an altar set up for Jupiter by Aelius Inerus, *duumvir*.<sup>110</sup> In the village of Urluia located 3 km to the north was found an altar for Heros erected by Iachetav, servant (*villicus*) in the *villa rustica*, dated to the 3rd century AD.<sup>111</sup> The owner of the rustic villa was L. Aelius Marcianus, *clarissimus vir*, who owned a latifundium in the rural territory of Tropaeum Traiani. F. Matei-Popescu shares the opinion that the town had a large rural territory, which stretched east to the territories of the Greek cities and in the west to the Roman forts located on the Danube. In the south, however, it stretched as far as the *civitas Audecensium* which is attested in epigraphic sources from Cetatea located about 20 km south of the town.<sup>112</sup> A. Panaite and C. Miu in their article proposed that the *territorium* of Tropaeum Traiani included areas up to a distance of about 30 km from the site. Considering the inscription found in the present-day village Rosica (Bulgaria), the area of the *territorium* proposed by them is probably correct at least in a southerly direction.<sup>113</sup> Of course, the findspots of epigraphic monuments carved on stone can be misleading as the stone could have been often moved in the past, even over long distances (so-called *pierres errantes*).<sup>114</sup> It is possible, however, that at least some of these inscribed monuments were erected locally in the rural territory. From today's villages located near the site, several monuments associated with Tropaeum Traiani dating back to the first three centuries AD are known. Within the proposed *territorium* of Tropaeum Traiani were found eight altars – in a Turkish cemetery Cherem-Guisu near Adamclisi,<sup>115</sup> Nastradin (today's village Pădureni) located approximately 11 km to the south-

west of the site,<sup>116</sup> Mulceova (today's village Abrud), located approximately 9 km to the north,<sup>117</sup> Băneasa – c. 30 km to the west,<sup>118</sup> and Deleni located c. 6 km to the east.<sup>119</sup> Another altar was found in a cemetery in the village Urluia placed 3 km to the north-west from Tropaeum Traiani,<sup>120</sup> another was found in Urluia (or in Deleni)<sup>121</sup> and in Rosica (Bulgaria), located approximately 20 km to the south.<sup>122</sup> Also, a limestone block with a fragmentary preserved votive inscription was discovered in Zorile located about 3 km south of the site.<sup>123</sup> Moreover within the rural territory were found five tombstones, two of them in Ion Corvin – c. 14 km to the west,<sup>124</sup> one in Floriile, located approximately 15 km to the northeast,<sup>125</sup> and one near Ion Corvin.<sup>126</sup> The original location of the fifth gravestone is difficult to determine, it was probably in the village Cochirleni or a cemetery in Adamclisi.<sup>127</sup> Two fragments of a limestone architrave with carved funerary inscription, possibly a part of a sarcophagus, were found in the cemetery near Adamclisi.<sup>128</sup> The last stone found within the proposed rural territory of Tropaeum Traiani was a marble funerary block.<sup>129</sup>

### Epigraphic map of Tropaeum Traiani

The dataset included inscribed material discovered on the site since the end of the 19th century when excavations began. Mapping the inscribed monuments within chronological divisions may provide some interesting observations. To determine the dating of the monuments, I used the information proposed in *corpora* and the inscription itself. The dataset was compiled in the ArcGIS software.

Thirty-seven epigraphic finds were mapped within the town walls of Tropaeum Traiani (Fig. 6). Their con-

109 Panaite, Miu 2016, 204.

110 *CIL* III 12466.

111 *CIL* III 12463 = *ISM* IV 34.

112 *ISM* IV 82; Matei-Popescu 2014, 215–216.

113 Panaite, Miu 2016. About the proposed *territorium municipium* of the Tropaeum Traiani see also: Matei-Popescu 2014, 215–216.

114 Kolendo, Żelazowski 2003, 46–58.

115 *ISM* IV 13.

116 *ISM* IV 19.

117 *ISM* IV 20.

118 *ISM* IV 26.

119 *ISM* IV 31.

120 *ISM* IV 34.

121 *ISM* IV 44.

122 *CIL* III 7470.

123 *ISM* IV 41.

124 *ISM* IV 72 and *ISM* IV 46.

125 *ISM* IV 66.

126 *ISM* IV 51.

127 *ISM* IV 70.

128 *ISM* IV 53.

129 *ISM* IV 84.

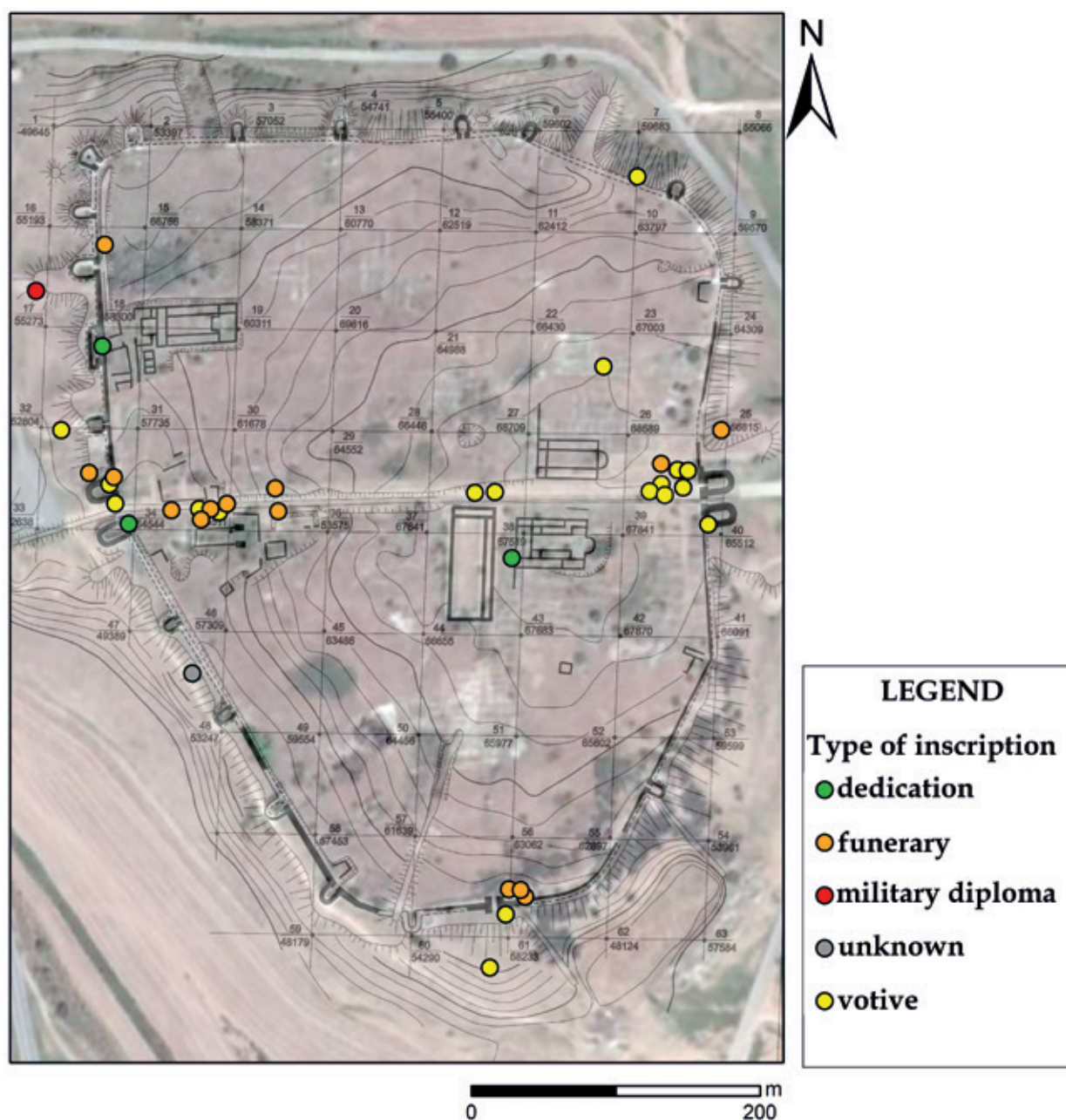


Fig. 6. Tropaeum Traiani. Types of inscriptions found within the town's walls  
(based on an image taken from the Chronicle of the Archaeological Excavations in Romania, 2004 Campaign.  
Report no. 1 and positioned on satellite images provided by Google Earth, prepared by: A. Gizińska)

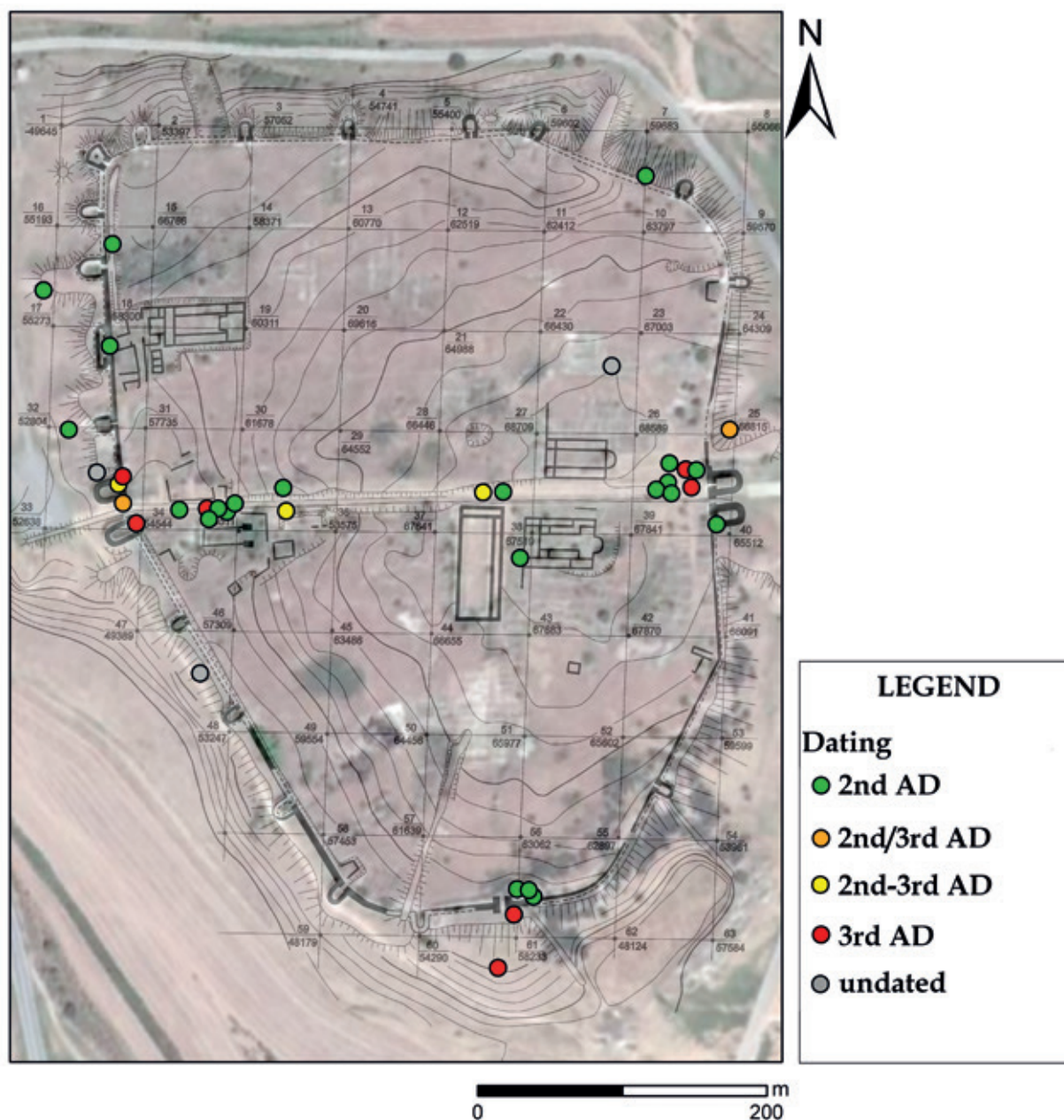
centration is remarkable in the vicinity of the town's West Gate and Basilica C. The majority of the currently known inscribed stones discovered in Tropaeum Traiani were reused as a building material, primarily in the Late Roman fortifications.

The material mapped within the town walls is mostly dated to the 2nd century AD (Fig. 7). The concentration visible in the vicinity of the West Gate is formed by votive and funerary inscriptions, while the inscriptions

in the vicinity of the East Gate are primarily votive. The finds from the East Gate may point to the existence of a temple or temples in the vicinity. Most of the funerary monuments reused in the West Gate were dated to the 2nd century AD. It can be assumed that they probably originate from a necropolis located outside the West Gate.<sup>130</sup> This may indicate that material available directly outside the town's wall was used to rebuild the defensive wall. While the inscribed stones with carved votive inscriptions are scattered, their concentrations are visible in the vicin-

<sup>130</sup> The existence of a necropolis outside the town walls was confirmed, among other things, during surface surveys carried out in the summer of 2002. The necropolis is located about 900 metres southwest of the centre of the Tropaeum Traiani. In addition, rescue research in 1986 allowed the recognition of another necropolis functioning in the 2nd – 6th century AD. For more information about the excavation campaign, see reports for the year 2003 in CCA (<http://cronica.cimec.ro/>).





**Fig. 7. Tropaeum Traiani. Dating of epigraphic monuments found within the town's walls**  
(based on an image taken from the Chronicle of the Archaeological Excavations in Romania, 2004 Campaign.  
Report no. 1 and positioned on satellite images provided by Google Earth, prepared by: A. Gizińska)

ity of the West and East Gates, hence it is impossible to clearly determine from which place they originally came.

It is worth mentioning that geophysical research was carried out at the site in the years 2000–2014. The results were verified by small-scale excavations, primarily in sectors A and B. The research covered almost the entire area of the part of the site located within the town walls.<sup>131</sup> The result of the work was the creation of a city plan by E.F. Scurtu, but it is associated with the town and buildings dating back to the 6th century AD.<sup>132</sup>

### Conclusions and research perspectives

It seems that pre-Roman and Roman settlements should exist nearby, as evidenced not only by epigraphic sources but also by the results of archaeological investigations. Early Roman " observed at several places within the site, confirm the existence of the Roman settlement in the Principate, but also extensive construction works.

The current state of research does not allow us to determine the layout of the town preceding Late Antique Tropaeum Traiani. Based on the analysis of the findspot of ep-

<sup>131</sup> Scurtu 2020, 118 and 123–124.

<sup>132</sup> Scurtu 2020, 146–147, fig. 15.

igraphic monuments and the shape of the terrain, it can be supposed that the town probably occupied the central and eastern parts of the Late Roman town. Most likely, it could have stretched further to the east and included the plateau located there. In the 3rd century AD, with the growing crisis and unrest in the Empire and intense invasions of barbarian tribes, the town began to shrink, occupying a naturally defensive area.

Based on the analysis of the mapping of inscribed stones, it can be concluded that to rebuild the defensive wall in the vicinity of the West Gate, stone building material in the form of tombstones dating back primarily to the 2nd century AD was used. This hypothesis is also supported by the results of research, during which a necropolis, located to the west of the site in Valea Mare was discovered. Another necropolis was found on a hill north of the town.<sup>133</sup> Epigraphic monuments with carved votive inscriptions are scattered within the town wall, so it is impossible to clearly determine their original context. Three altars found in the vicinity of the East Gate can testify to the existence of the place of worship in the nearby area.<sup>134</sup> Not much can be said about Tropaeum Traiani in the 1st century AD, although the earliest phase distinguished by Romanian scholars is dated to the 1st century BC – 1st century AD, there currently is a lack of epigraphic material datable to such an early period.

The exact extent of the *territorium* is still unknown, it would be beneficial to continue the field survey, archaeo-

logical excavations, and non-invasive surveys on large scale. To understand how Tropaeum Traiani functioned during the Principate period, it is important to study the elements of infrastructure outside the town's wall, such as roads, waterworks, and extramural buildings.

Although aerial research and analysis of aerial photographs have been carried out in the region, the remains of marching camps from the period of Trajan's wars which should be expected in the near vicinity have not yet been located. Furthermore, epigraphic sources mention active soldiers, who must have been based in this area already during the existence of the town.

Certainly, the discovery of the places where the *vexillationes* attested by the epigraphic texts were based is one of the main challenges. From Tropaeum Traiani and its rural territory only ten inscriptions are currently known that mentioned active soldiers. For this reason, in the current state of research and with the lack of remains of the possible military base, we must be careful in determining the character of military presence in this area.

The development of non-invasive surveys allows us to explore the site and detect more archaeological remains on a large area in a relatively short time. Certainly, non-invasive prospection and traditional surface field walking survey methods carried outside the defensive walls could bring some valuable data.

<sup>133</sup> Panaite, Miu 2016, 207.

<sup>134</sup> *ISM* IV 42a, b, c; Barnea A. 1969, 595–596.



LP	NAME	REFERENCE	DATING
ACTIVE SOLDIERS			
1	Annius Saturninus	ISM IV 31 = CIL III 7483	161 (ISM) 161–180 (EDH, EDCS)
2	Aelius Antonius Aeternalis	ISM IV 61 = CIL III 14214 <sup>6</sup>	2nd/3rd c. (ISM) 151–250 (EDCS, EDH)
3	Eptidius Modestus	ISM IV 26 = CIL III 14433 = AE 1901, 50	170 (ISM, EDCS) 101–250 (EDH)
4	Iulius Favor	ISM IV 27 = AE 1972, 522	2nd c. (ISM) 201–300 (EDH, EDCS)
5	Q(uintus) Lucilius Piscinus	ISM IV 33 = AE 1894, 109 = CIL III 12468	2nd/3rd c. (ISM) 151–300 (EDH, EDCS)
6	Orfius Sabinus	1) ISM IV 42a = CIL III 14214 <sup>3a</sup> 2) ISM IV 42b = CIL III 14214 <sup>3b</sup> 3) ISM IV 43c = CIL III 14214 <sup>3c</sup> Barnea 1969, 595–609.	2nd c. (ISM) 107–167 (EDCS, EDH)
7	M(arcus) Stabius Colonus	ISM IV 21 = AE 1901, 48 = CIL III 14214 <sup>1</sup>	157 (ISM, EDCS) 139–160 (EDH)
8	Valerius Clemens	ISM IV 26 = CIL III 14433 = AE 1901, 50	170 (ISM, EDCS) 101–250 (EDH)
9	Castus	ISM IV 67 = AE 2004, 1272	2nd/3rd c. (ISM) 251–300 (EDCS, EDH)
10	Celsus	ISM IV 67 = AE 2004, 1272	2nd/3rd c. (ISM) 251–300 (EDCS, EDH)
11	Marcus	ISM IV 67 = AE 2004, 1272	2nd/3rd c. (ISM) 251–300 (EDCS, EDH)

**Table 1. Active soldiers and officers mentioned in the inscriptions from Tropaeum Traiani and its rural territory**

Lp	Name	Reference	Dating
Veterans			
1	L(ucius) Aemilius Severus	ISM IV 48 = CIL III 14214 <sup>8</sup>	1st half of the 2nd c. (ISM) 171–230 (EDH) 101–150 (EDCS)
2	C(aius) Artorius Saturninus	ISM IV 47 = CIL III 14214 <sup>9</sup> = Conrad 2004, 197, no. 264	end of the 2nd c. (ISM) middle of the 2nd c. (Conrad) 131–170 (EDCS, EDH)
3	C(aius) Iulius Valens	ISM IV 55 = CIL III 14214 <sup>10</sup> = Conrad 2004, 197, no. 265	middle of the 2nd c. (Conrad) 131–170 (EDH) 101–200 (EDCS)
4	<i>ignotus</i>	ISM IV 71	undated (ISM)
5	<i>ignotus</i>	ISM IV 53 = CIL III 13736	2nd c. (ISM) 151–300 (EDH, EDCS)
6	<i>ignotus</i>	ISM IV 64 = CIL III 14214 <sup>7</sup>	2nd–3rd c. (ISM) 101–300 (EDCS) 131–170 (EDH)

**Table 2. Veterans mentioned in the inscriptions from Tropaeum Traiani and its rural territory**

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- AE* – L'Année épigraphique, Paris.
- CCA* – Cronica Cercetărilor Arheologice din România, București.
- CIL* – *Corpus Inscriptionum Latinarum*, Berolini – Paris 1863–2006
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# Building with an Apse Outside the Walls of the Citadel at Tyras. A Further Step Towards Explaining Its Function

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## Abstract

*In the immediate vicinity of the citadel in Tyras (Bilhorod-Dnistrovskiy, Ukraine), a Ukrainian-Romanian expedition discovered part of a mysterious building with an apse in the 1990s. Although the structure was located outside the defensive walls, in light of the current state of research, it was interpreted as a Christian basilica, headquarters building (principia) or bathhouse (balneum). Dating the accompanying layers to the 2nd–3rd century may indicate a connection to the Roman garrison stationed in the citadel during this period. The location of the extra muros, as well as the plan and size of the structure, prompts a search for analogies among temples where Roman soldiers participated in private worship outside garrisons. Therefore, it was assumed that the building with the apse served as a Mithraeum or Dolichenum. The impossibility of carrying out the excavation verification prompted the authors of this study to conduct geophysical surveys. The obtained results confirmed that the size and proportions of the building with the apse are very similar to such structures as e.g., the temple of Jupiter Dolichenus, founded by Roman soldiers near the fort in Balaklava.*

## Keywords

*Roman Army, Mithras, Mithraeum, Dolichenum, Tyras*

In the 1990s, a Ukrainian-Romanian expedition conducting research at the Tyras citadel (Bilhorod-Dnistrovskiy, Ukraine) discovered part of a building with an apse (no. 610) built of stone bonded with lime mortar.<sup>1</sup> This building was added to the outer face of curtain no. 552, near the gate leading from the citadel behind the walls

(Fig. 1.7). Finds from the infill of the building, were dated to the 2nd–3rd century AD.<sup>2</sup>

According to some researchers, however, the building may have functioned as a “Christian basilica”<sup>3</sup> and thus functioned at the end of antiquity. There has also been a view in

<sup>1</sup> Samojlova, Kožokaru, Boguslavskij 2002.

<sup>2</sup> Zubar 2004, 138–139; Zubar’ 2005, 107.

<sup>3</sup> Samojlova, Kožokaru 2003.

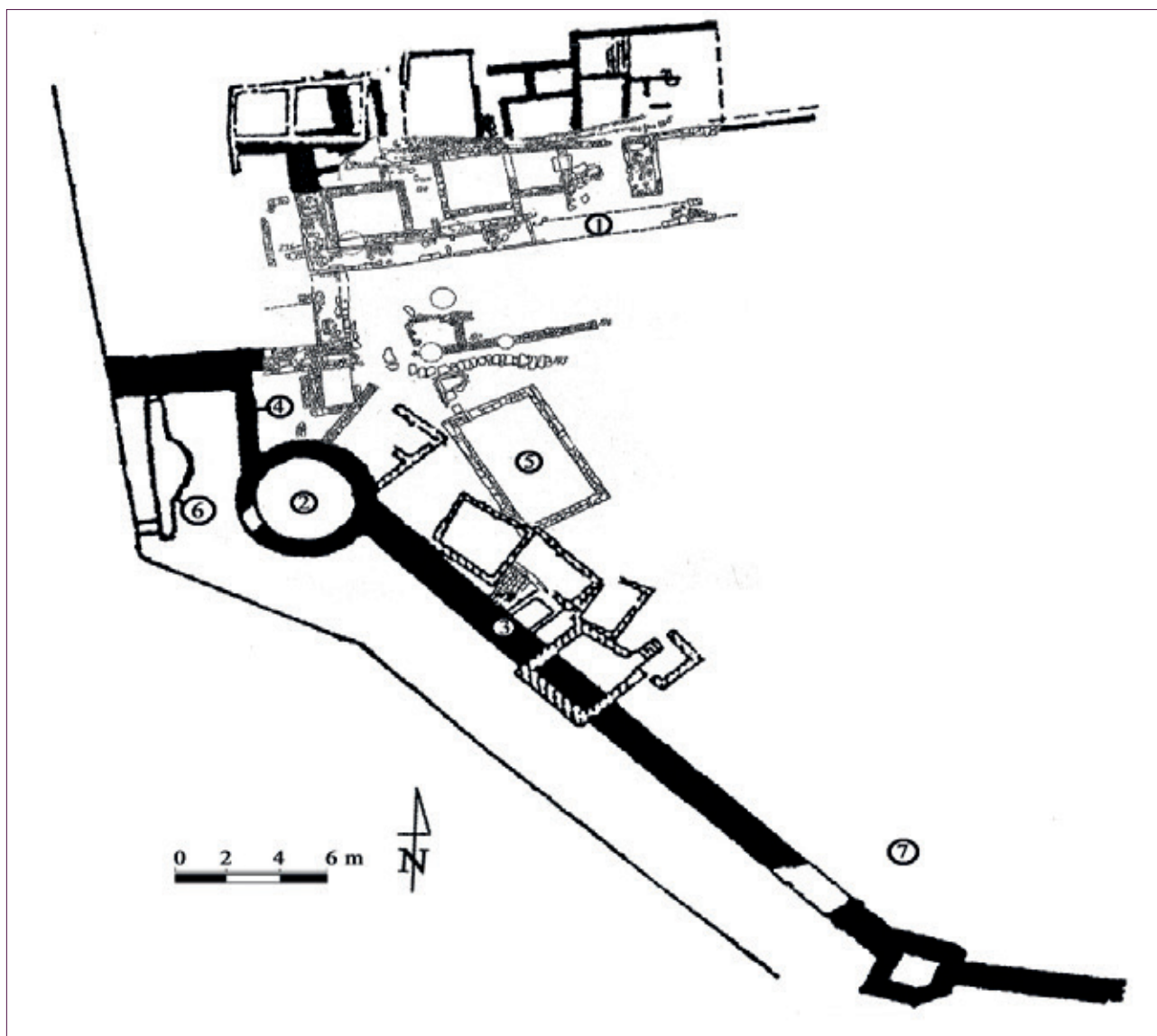


Fig. 1. Tyras. Part of the citadel ruins (after: Karyškovskij, Klejman 1985, fig. 13, 33; Klejman 1999, fig. 1; Zubar 2004, fig. 1, 3; concept: R. Karasiewicz-Szczypiorski; drawing: O. Kubrak). Defensive walls: 1 – curtain wall no. 72; 2 – round tower no. 68; 3 – curtain wall no. 37; 4 – curtain wall no. 212. Buildings from the Roman period: 5 – so-called “*vexillatio* building” or “V-building”; 6 – building with apse; 7 – find spot of the supposed temple

the literature that these are relics of a structure used by the Roman military as a bathhouse or headquarters building.<sup>4</sup>

Both hypotheses, however, seem unlikely. The building in question is much older than the earliest remains of a Christian temple that we know from the northern shores of the Black Sea (90s of the 4th century). Moreover, this oldest church discovered so far in the Chersonesos Taurica as a different plan and proportions.<sup>5</sup> It also does not seem possible that the headquarters building of the garrison stationed in the nearby citadel was built outside the defensive walls.<sup>6</sup> It is difficult to find similar situations

in Roman military architecture. Moreover, an analogous theory, put forward by the same researcher, in relation to the relics of the temple of Jupiter Dolichenus at Balaklava was also incorrect.<sup>7</sup>

The key to interpreting the function of the building in question appears to be its location *extra muros* and in the immediate vicinity of the citadel occupied by the Roman garrison. The location and dating of the building allow us to assume that it was a Mithraeum, possibly a Dolichenum or temple combining the various private cults performed by Roman soldiers and civilians accompanying the army.

4 Zubar 2004, 140; Zubar' 2005, 107.

5 Parhomenko, Fomin 2016.

6 see: Zubar 2004, 139, 142–143; Zubar' 2005, 107.

7 see: Križyc'kij, Zubar 2000; cf. Sarnowski, Savelja 2000.



Similar sites are known from Balaklava and Cape Aj-Todor, among others.<sup>8</sup> The temples discovered at these sites were built by private foundations, outside the walls of the forts but at some distance from the fortifications. The stationing of the garrison in the city citadel may explain why the alleged temple was built just outside the walls. Arguably, analogous places of worship were located very similarly near the citadel at Chersonesos and in the vicinity of the so-called citadel at Olbia.<sup>9</sup>

The proposed interpretation of the puzzling Tyras building is not only due to its location. The plan (including the presence of an apse) and the dimensions of the building are important. As only a part of the presumed temple has been discovered so far, its maximum width is known, which is 10.25 m. It should be noted, however, that the authors of this study are not certain that there was not still a passage between the structure in question and the nearby defensive wall.

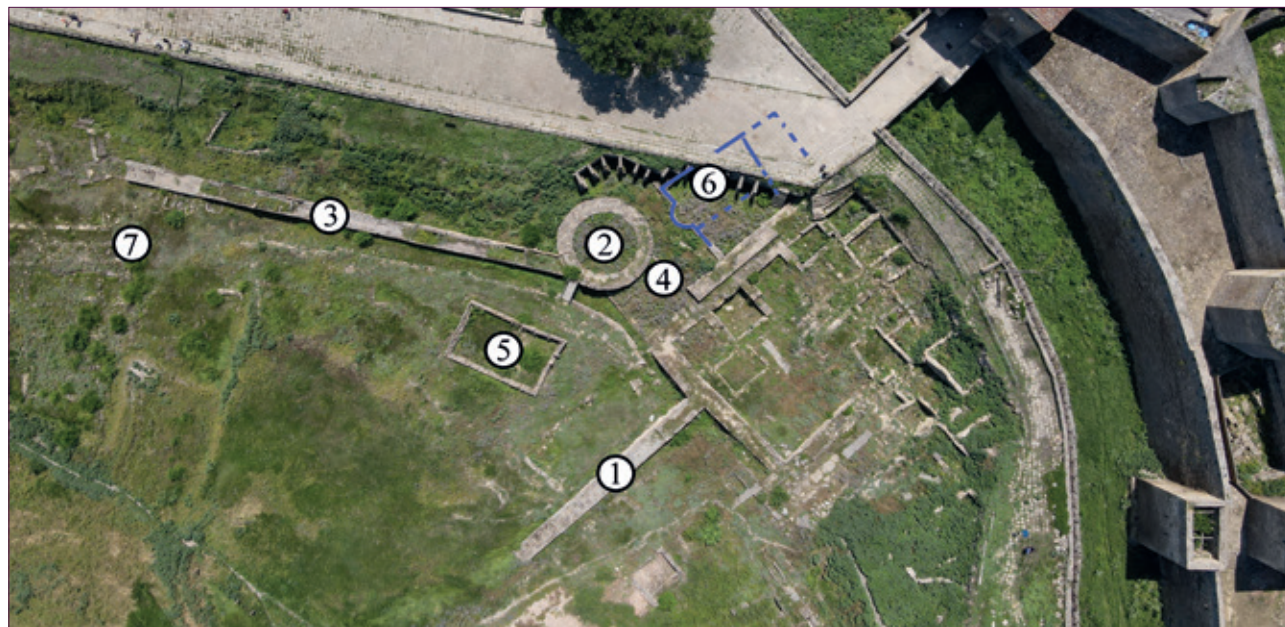


Fig. 2. Tyras. Excavation area behind the walls of the Turkish fortress – bird's-eye view (numbering as described to Fig. 1) (photo: O. Kubrak). The course of the foundations of the building with the apse (part uncovered and part reconstructed on the basis of geophysical measurements) is highlighted in colour



Fig. 3. Tyras 2021. Location of the resistivity survey area (K. Misiewicz)

<sup>8</sup> Sarnowski, Savelja 2000; Karasiewicz-Szczypiorski 2015a, fig. 37 and 43; Karasiewicz-Szczypiorski 2015b, fig. 17; Karasiewicz-Szczypiorski 2019, fig. 2.

<sup>9</sup> Karasiewicz-Szczypiorski 2018, 191–193.

Among similar buildings with an apse, the Temple of Jupiter Dolichenus in Balaklava was slightly more than 7 m wide, the Mithraeum in London (Walbrook) was less than 8 m,<sup>10</sup> and the temple of the same god from Novae was 7 to 8 m wide.<sup>11</sup> The hypothesis presented regarding the function of the building is strengthened by the fact that fragments of a marble tile depicting the tauroctony scene were found nearby.<sup>12</sup>

Most likely, the answers to most questions could be provided by further excavations. Unfortunately, the unexcavated part of the building with the apse is hidden more than 2 m under the cobbled road leading to the main gate of the Ottoman Akkerman fortress. This location makes it virtually impossible to open a new excavation. For this reason, geophysical measurements were used to determine the length of the alleged temple.

### Measurements

Electrical resistivity measurements were carried out at the Tyras site in question in June 2021. A parallel (linear) dipole – dipole array was used, with the following parameters: current electrodes A-1m-B – distance from measur-

ing electrodes D = 4 m – measuring electrodes M-1 m-N. Such an arrangement made it possible to obtain information on changes in the apparent resistivity values of layers down to a depth of about 2 m below modern ground level. The characteristics of the system are described in many textbooks on prospecting using the electrical resistivity method,<sup>13</sup> as is the way of interpreting the separated anomalies in the distribution of the recorded apparent resistivity values.<sup>14</sup> This was the only system possible under the existing field conditions (disturbed near-surface layer, prospected remains at a depth of 2–3 m below modern ground level. An additional difficulty was the hardened ground surface requiring the drilling of holes for electrodes between paving stones. Measurements were taken in a 1-metre grid. It was only possible to obtain reliable data over an area of 8 × 18 m (Fig. 3). The measurements recorded a distribution of apparent soil resistivity values between 3 and 16 ohm-m. Such low resistivity values were mainly due to the characteristics of the backfill layers, which consist mainly of low-resistivity clayey formations and high moisture saturation after a wet spring with high rainfall. On the one hand, this was a factor facilitating the introduction of current into the ground, but on the other hand reducing the contrast between the archaeological objects

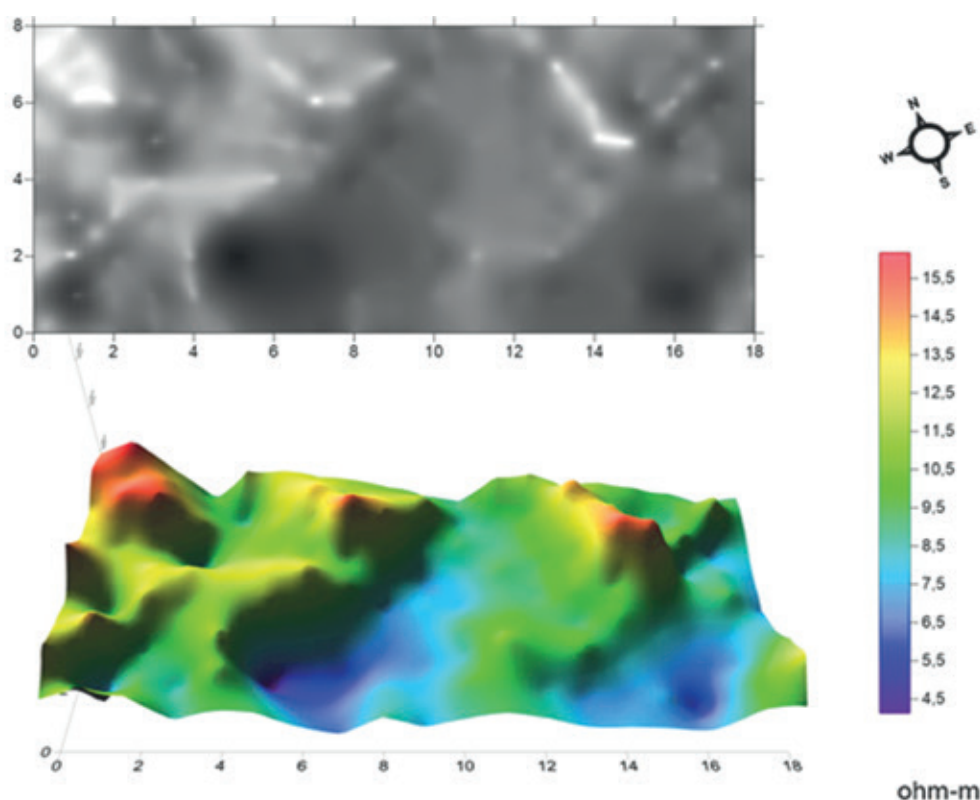


Fig. 4. Map in grey shades from black – lowest to white – highest values (top) and colour model of 3-dimensional distribution of recorded values of apparent soil resistivity (K. Misiewicz)

10 CIMRM no. 814; Shepherd 1998.

11 Tomas, Lemke 2015, 228, fig. 6; Tomas 2017, fig. 27B.

12 The finding has not yet been published.

13 Loke et al. 2015; Varga, Novák, Szarka 2008; Pasierb 2012.

14 Tsokas, Tsourlos 1997.



and their surroundings. The maps (in grey scale) and the coloured pseudo 3-dimensional models of the distribution of the measured apparent resistivity values (Fig. 4) show narrow linear anomalies with elevated values, the source of which may be the presence of stone foundations lying in a low resistivity environment. This can be evidenced by the fact that they are parallel in many places and have apparent right angles indicating the anthropogenic origin of the recorded anomalies. In addition, the 3-dimensional model shows a multi-layered pattern of alteration, some of which may be caused by objects lying directly beneath the ground surface (rather related to modern levelling and preparation of exposures of excavated archaeological remains) while others lie at greater depths.

### Conclusions

Geophysical surveys have established that the building outside the walls of the citadel at Tyras was about 10 m long. It would therefore have been a rectangular building of roughly square proportions with an apse on the eastern side. However, it cannot be ruled out that there was another room adjacent to the building to the west, the remains of which may be represented by another, much less legible, geophysical anomaly (Figs. 2 and 4). On the assumption that the building in question served as a temple it could

have been a *pronaos*, as in the case of the Dolichenum in Balaklava.<sup>15</sup> Based on the examination of the remain sand the measurements discussed, it can furthermore be assumed that the entrance<sup>16</sup> visible in the reconstructed part of the wall to the left of the apse was outside the main room of the building. Perhaps there was a passageway between the defensive wall and the presumed temple, or (more likely) it was a separate space separated from the apse room (*naos*) by a colonnade. In that case, there may have been a podium, elevated above floor level, which served as a lounger (*cline*) for the worshippers participating in the rites.

Establishing the approximate size and probable plan of the building confirms that earlier comparisons to other cult buildings (including mithraeums) were justified. Of the temples identified as analogues, the Dolichenum at Balaklava was about 10 m long (excluding the *pronaos* and apse) and the Mithraeum at London (Walbrook) just over 15 m long (also excluding the apse). The building outside the citadel walls at Tyras was therefore probably small, similar in size to the Roman-founded temple near the fort at Balaklava (7 × 10 m). Of course, the hypothesis presented, based on geophysical measurements, requires verification by excavation. The authors express the hope that such research will soon be possible.

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<sup>15</sup> Sarnowski, Savelja 2000, figs 6, 7, 15–17.

<sup>16</sup> It is uncertain whether this is not the lower part of the window opening. This is one of many issues that needs to be clarified during future architectural and archaeological investigations.

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#### Abbreviations :

CIMRM – M. Vermaseren, *Corpus inscriptionum monumentorum religionis Mithraicae*, Hagae 1960.







# The Fortifications of Western Tanais in the Light of Archaeology and Geophysics. Results of Electrical Resistivity Measurements in 2018 and 2019

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## Abstract

*Geophysical surveys in the western part of ancient Tanais covered in 2018 an area south of Trench XXV in its immediate vicinity and in 2019 north of the excavation, in place of the presumed northwestern corner of the fortifications in the western part of the town. The results complement the picture of the defences formed on the base of the remains discovered in the Trench XXV, contributing significantly to the overall view of fortifications in western Tanais and revising some earlier assumptions, among others, the depth of the defensive ditch, which turned out to be much deeper than previously thought. Electrical resistivity measurements also revealed the presence of a corner tower at the junction of two curtain walls.*

## Keywords

*Tanais, geophysical survey, electrical resistivity measurements, fortifications*

## Introduction

The ancient town of Tanais was founded at the end of the first half of the 3rd century BC<sup>1</sup> on the right bank of the Mertvyi Donets, one of the anabranches of the Don (ancient Tanais) delta (Fig. 1). Initially, the town was located near the influx of the Don into the Sea of Azov (ancient Lake Maeotis).<sup>2</sup> Today the site is situated close to the village of Nedvigovka, located about 35 km west of Rostov-on-Don.<sup>3</sup>

There are three main periods in Tanais history, the turning points marked by two episodes of destruction of the town: in the end of the 1st century BC and again in the mid-3rd century AD. The first period covers the time from the founding of the town to its destruction by Polemon I, king of Bosphorus at the very end of the 1st century BC.<sup>4</sup> The second period began in the 1st century AD. It was previously thought that the western part of Tanais ceased to exist after the destruction,<sup>5</sup> but recent investigations revealed that some buildings in this part of the town re-

1 Discussion of Tanais foundation chronology, see: Šelov 1968; Šelov 1970, 15–23; Fedoseev 1990; Fedoseev 1996; Fedoseev 1999; Žitnikov 1992; Žitnikov 1994, 192; Kac 2002; Jöhrens 2005.

2 Šelov 1970, 82.

3 For more on the localisation of Tanais see: Knipovič 1949, 24; Šelov 1970, 82; Arsenieva et al. 1998, 53; Arsenyeva 2003, 1050; Zubarev 2005, 298–300; Scholl 2014, 192–193.

4 Šelov 1969a; Šelov 1969b.

5 Šelov 1970, 227.

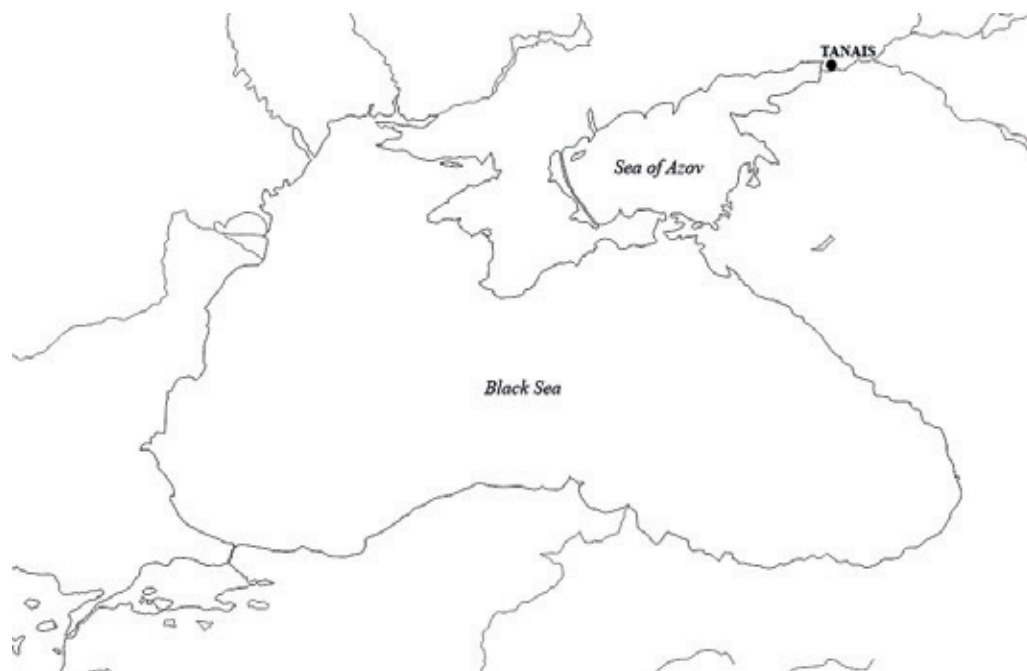


Fig. 1. Location of Tanais

mained in use until the AD 80s<sup>6</sup> even as the rest of the area was used as a children's necropolis and afterwards as a rubbish dump.<sup>7</sup> The eastern part of the town was rebuilt in the 1st century AD, followed by the next stage at the end of the 1st – beginning of the 2nd century AD when the fortifications were restored.<sup>8</sup> During this period, there is evidence of a conflagration which destroyed Tanais in the middle of the 2nd century AD, after which the town was quickly rebuilt. About a hundred years later the town was ultimately destroyed.<sup>9</sup> The third period in the history of the site is no longer related to the history of the ancient town. The settlement that was founded in the territory of ancient Tanais in the late 4th century AD functioned until the third quarter of the 5th century AD.<sup>10</sup>

Remains of defensive walls surrounding the western part of Tanais were discovered in the 1950s and 1960s: a section from the north (Trench IX)<sup>11</sup> and another one from the west (Trench XIII).<sup>12</sup> Early in the 21st century, the *diateichisma* connected with the gateway leading from western Tanais to the citadel was unearthed (Trench VI).<sup>13</sup> Excavations by the Centre for Research on the Antiquity

of Southeastern Europe and the Institute of Archaeology of the University of Warsaw, conducted since 1996 in conjunction with the Institute of Archaeology of the Russian Academy of Sciences in Moscow and later the Archaeological Expedition of Museum-Reserve 'Tanais', have been concentrated on the system of fortifications in the western part of the town. Remains of a defensive ditch, a stone-and-timber bridge, two curtains of defensive walls with a town gate, and some buildings within the fortifications were unearthed in Trench XXV (Fig. 2).<sup>14</sup> The defensive ditch was dug in a sterile layer of clay and, in its lower part in some places, carved in bedrock, taking advantage of a natural gully. The section uncovered within the trench was aligned N–S. The scarp and the counterscarp of the defensive ditch were reinforced with stone retaining walls (Figs. 3–4).<sup>15</sup> The original form of the ditch was probably more or less trapezoidal.<sup>16</sup> Crossing it was a stone-and-timber bridge crossed the defensive ditch to the town gate. Two stone walls supported the bridge on the northern side; the western wall was 7.50 m long, the eastern one 3.40 m. On the south, the bridge was supported on

6 Matera 2018; Matera 2021, 451–453.

7 Sholl' 2008a, 185.

8 Presnova 2020, 72.

9 Arsen'eva, Il'āsenko, Naumenko 2010a, 17–21.

10 Domžalski 2021, 32.

11 Boltunova 1969, 105–107; Boltunova, Kameneckij, Deopik 1969, 8; Kazakova 2008, 207.

12 Boltunova 1969, 121–123; Boltunova, Kameneckij, Deopik 1969, 8; Kazakova 2008, 207.

13 Naumenko, Scholl 2014, 192; see also: Arsen'eva, Il'āsenko, Naumenko 2010b, 321–322.

14 Scholl 2005a; Scholl 2005b; Sholl' 2008a; Sholl' 2008b, 308–309; Scholl 2009; Scholl 2011a; Scholl 2011b; Sholl' 2012; Sholl', Matera 2012; Sholl', Rovin'ska 2012, 49–50; Naumenko, Scholl 2014; Scholl 2013; Scholl 2014, 212–216; Matera 2019; Matera 2020.

15 Matera 2019, 15–16; Matera 2021, 447–450.

16 Il'āsenko, Arsen'eva, Naumenko 2015, 177; Matera 2019, 14–15; Matera 2021, 449.





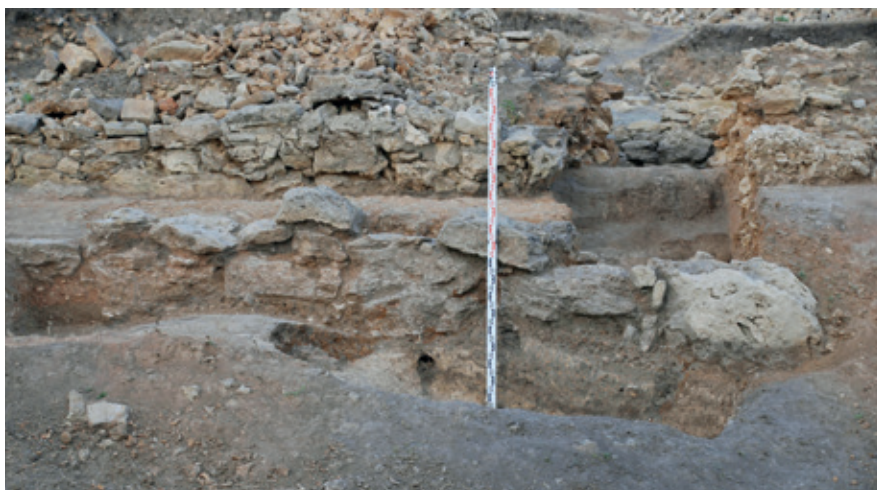


Fig. 3. Scarp of the defensive ditch reinforced with a retaining wall (photo: M. Matera)

wooden piles. Shifting the eastern stone pillar by about 10 degrees to the north in relation to the western pillar created a broken axis that made access via the bridge to the gate more difficult.<sup>17</sup> The town gate, which was 1.70 m wide, was flanked by two curtains of defensive walls. The southern curtain (I), aligned N–S and running parallel to the defensive ditch, was set perpendicular to the western pillar of the bridge. The second curtain (II), aligned NE–SW, flanked the gate on the northern side, running at right angle to the eastern pillar of the bridge. Both curtains were approximately 3.0 m wide.<sup>18</sup> The recent work by the Polish team has also overturned earlier assumptions concerning the date of construction of these fortifications that had placed it during the reign of Mithridates VI Eupator.<sup>19</sup> It is now believed, based on archaeological sources, that the fortifications in western Tanais were constructed in the (beginning/first half of the 2nd century BC or a little earlier),<sup>20</sup> possibly in relation to the emergence of the Early Sarmatian culture in the Don steppe.<sup>21</sup>

While the work so far has resulted in an overall picture of the Tanais western defenses, important research questions remained. They concerned the fortifications in Trench XXV, the overall understanding of the defense system and the general topography of Tanais. One of the most important issues, still unresolved, is where the defensive trench dis-

covered in Trench XXV turns back to the west,<sup>22</sup> connecting presumably with a section of the ditch, aligned E–W, known from Trench XXIII.<sup>23</sup> The original depth of the defensive ditch was also in need of verification. Another key question sought to establish whether there had been a tower at the junction of the northern and western defensive walls of western Tanais. Towers were known to reinforce key points of the Hellenistic wall separating the eastern part of Tanais from its western part. Tower

1 was located in the southwestern corner of the eastern part of the town.<sup>24</sup> Towers 3,<sup>25</sup> 4 and 4 ‘northern’ flanked the gateway leading from the west to this part of Tanais.<sup>26</sup>

### Survey methodology

The principal method chosen for the geophysical prospection, coupled with archaeological research that was carried out in 2018–2019 to answer these questions, was electrical resistivity. This method has already yielded good results in earlier surveying at the site, which had been aimed at reconstructing the urban town plan and locating its most important parts.<sup>27</sup> Vertical geoelectrical soundings (VES) using the Schlumberger measuring system were done.<sup>28</sup> The measuring electrodes MN were spaced 0.3, 3.0 and 6.0 m apart, and the current electrodes AB were placed successively at distances of 1.0, 1.3, 1.6, 2.0, 2.5, 3.2, 4.0, 5.0, 6.2, 8.0, 10.0, 13.2, 16.0, 20.0, 25.0, 32.0 and 40.0 m. This allowed measuring the apparent resistivity at the depth of current penetration from 0.25 to 20.0 m below the modern ground level, which in practice made it possible to identify changes in the resistivity of layers from the modern surface to a depth of about 10 m. The vertical sections along each of the profiles were developed in detail thanks to measurements of surface height changes at the sounding points. The electrical resistivity sounding curves were interpreted with an IPI for Windows

17 Sholl' 2008a, 180; Sholl' 2008b, 309; Scholl 2009, 169–170; Scholl 2011a, 59; Sholl', Matera 2012, 483–484; Scholl 2014, 213; Matera 2019, 17.

18 Sholl', Matera 2012, 485–486.

19 Scholl 2011b, 303; Sholl' 2012, 13; Sholl', Matera 2012, 487.

20 Matera 2019, 20; Matera 2020, 74–76; Matera 2021, 451; cf. Il'āsenko, Arsen'eva, Naumenko 2015, 179.

21 Polin 1992, 68 and 117; Polin 2017, 225; Polin 2018, 269.

22 Matera 2021, 449.

23 Arsen'eva et al. 2004, 62–63; Il'jaenko 2005, 152; Il'jaenko 2007, 24.

24 Naumenko 2005, 123.

25 Naumenko 2002, 165–169; Arsen'eva, Naumenko 2004, 29–31; Naumenko 2005, 116–118; Arsen'eva, Il'jaenko, Naumenko 2010b, 318.

26 Arsen'eva, Il'jaenko, Naumenko 2010b, 318–321 and 323.

27 Böttger, Herlich, Misiewicz 1996; Misiewicz 1998; Misevič 2001; Misevič, Toločko 2002; Misiewicz 2003; Misevič 2007, 116–118.

28 Loke 2004, 11.





**Fig. 4. Counterscarp of the defensive ditch reinforced with a retaining wall (photo: M. Matera)**

software package, and the Surfer 13 and Voxler programs by Golden Software Inc. were used to prepare maps and cross-sections.

The measured apparent resistivity values presented as sounding curves were interpreted using numerical methods to minimize the error of fitting the field curve to a set of theoretical curves. The program prepares models of geoelectrical structure treated as systems of homogeneous (isotropic) layers, parallel to the flat surface of the earth. Based on the recorded data on the value of the apparent resistivity measured on the ground surface, the program determines the thickness ( $h$ ) and the specific resistivity ( $r$ ) of the layers deposited to a depth corresponding to the maximum range of current penetration. The phenomenon of equivalence, i.e. the overlapping of curves for different models, is used in this process. As a consequence, in the conditions of multi-layer models, the equivalence applies to the entire model at the same time.<sup>29</sup> In this way, vertical cross-sections of the distribution of apparent resistivity values for all soundings along the profile lines were made.

The distribution of the resistivity values was obtained by inverting the measurement data. In this procedure, the depth scale corresponds to the approximate depth in the ground. It should be noted, however, that the location of boundaries and anomalies is related to the vertical resolution of the method. Cross-sections and maps obtained as the final result of data processing are subject to geological and archaeological interpretation.

The basic parameter tested with the use of electrical resistivity measurements is the resistivity of geological formations and archaeological objects registered in ohm-meters [ $\Omega\text{m-ohm-m}$ ]. It is a complex parameter depending on many factors and processes such as: temperature, water content and quality, chemical compounds, porosity and permeability, lithology and mineral composition. The determined values can vary significantly, from 1 ohm-m in saline formations to tens of thousands of ohm-m in sediments such as dry dune sands, embankments or rocks of chemical origin. Although the archaeological and geological interpretation of electrical resistivity data is not always unambiguous, knowing the characteristic ranges of soil resistance<sup>30</sup> occurring in the researched area and correlating them with the results of archaeological excavations, it is possible to transfer the obtained results (distribution of resistivity values) to the lithology of geological formations and the thickness of separate layers. In the case of electrical resistivity measurements carried out in Tanais, this task was partly facilitated by the immediate vicinity of the study area to Trench XXV.

The most common type of geoelectrical surveys are vertical electrical soundings (VES) or electrical profiling (PE). In vertical soundings, increasing the depth of the effective penetration of the electric field into the ground consists in increasing the spacing of the power electrodes. The final result of the series of measurements are maps of the distribution of apparent resistivity values on the depth scale ( $AB/2$ ). The obtained results are then processed, visualized and interpreted in order to recognize the geological

<sup>29</sup> Dahlin 1966; Loke, Barker 1996.

<sup>30</sup> Volgesang 1995; Loke et al. 2015.

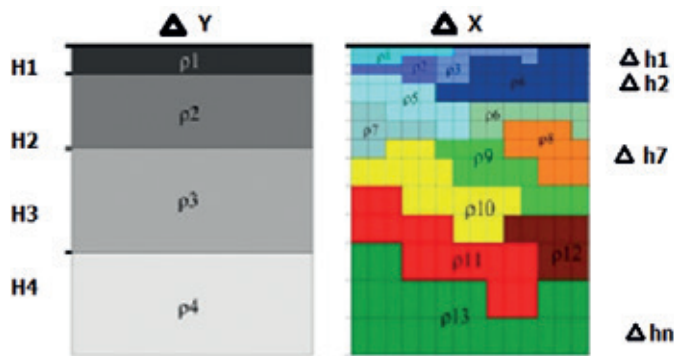


Fig. 5. Comparison of geoelectrical models used in the process of interpretation of data on the distribution of resistivity obtained with the use of electrical resistivity measurements (K. Misiewicz)

structure or location of archaeological remains. However, in the process of interpretation, it should be taken into account that in the case of measurements in zones with a heterogeneous geological structure (or a highly processed system of backfill layers as in the case of archaeological sites), the measuring side A and B of the power electrodes may be located in different geological centres. Thus, the left side of the measurement equipment may register completely different values than its right side, which means that the VES curves can be very disturbed. This complicates the interpretation of the obtained VES curves. Furthermore, the obtained results do not always satisfactorily describe changes in the geological structure. Therefore, in the interpretation process, the aim was to create a model that could be changed both vertically and horizontally (2D modelling). With the changeable structure of the subsoil, where the variability of the geology is very dynamic and not predictable, this type of methodology gives satisfactory results with regard to recognition of soil and water conditions and allows for a more reliable location and determination of archaeological structures.

In 2D modelling, the processing of the obtained results is based on the use of block division, where the mesh of the block with dimensions  $\Delta X$  by  $\Delta H_n$  determines the measured value (or several values) of resistivity. Horizontal

mesh width  $\Delta X$  is usually constant for the entire profile, while its vertical width  $\Delta H$  is variable. The mesh size increases with depth. The final result of applying the inversion method is a resistivity model, i.e. a spatial distribution of the resistivity values along the tested profile (Fig. 5). The obtained distribution of values is not burdened by the subjective interpretation of the geophysicist.

## 2018 survey results

The study area was located to the south of Trench XXV in its immediate vicinity. Traverses were set 1 m apart with sampling points 2 m apart. An alternating staggered grid (“en quence”) was used, i.e. sounding points were set every 2 m, in even meters on even-numbered profiles and odd meters on odd-numbered profiles. In this way, a measurement resolution of 1 m was maintained with half the number of soundings. In total, 125 soundings were performed, located on five lines with a length of 35 m and four lines with a length of 16 m (Fig. 6). Each of the sounding points was located in UTM global coordinates (zone 37 T), which allowed for their integration in the GIS geographic information system, correlating geophysical maps with aerial photographs and satellite images, and linking them with plans of features uncovered in Trench XXV (Fig. 7). Changes in the apparent resistivity in the range from 20 to 900 ohm-m were measured. The wide range of recorded resistivity resulted not only from differences in resistivity and thickness of layers through which the current flowed. It was also the result of deformation of current lines and equipotential surfaces in the case when soundings were carried out too close to the border of the trench. Despite the limited number of such soundings, it was not possible to completely eliminate this effect.

The measured values of apparent resistivity presented as sounding curves were interpreted with IPI software (Fig. 8) using numerical methods to minimize the error of fitting the field curve to a set of theoretical curves. The outcome were vertical apparent resistivity cross section (Fig. 9, upper map) and resistivity section with layer configuration

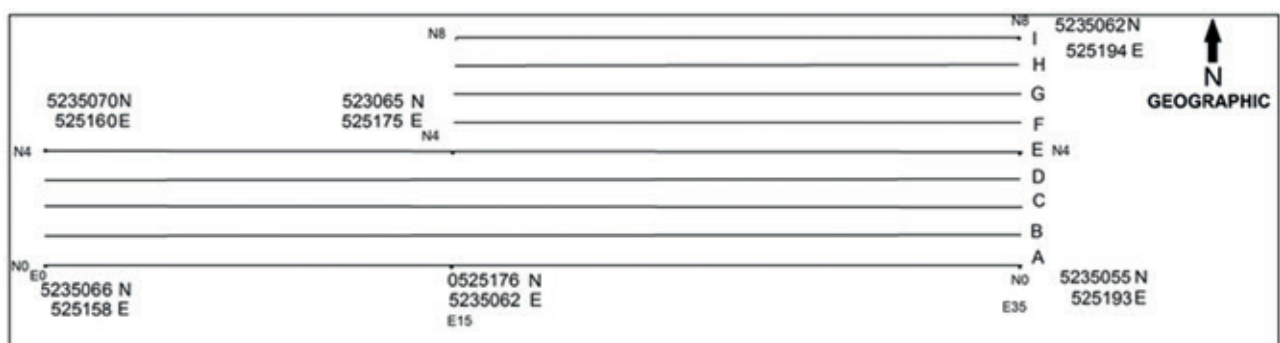


Fig. 6. Tanais 2018. Profile lines with UTM grid coordinates (K. Misiewicz)





Fig. 7. Tanais 2018. Profile lines superimposed on a fragment of a satellite image (K. Misiewicz)

(Fig. 9, lower map). Layer configuration was analyzed to a depth of 6 m below modern ground level, taking into account differences in terrain height. This served to prepare a cross-section of the vertical distribution of apparent resistivity values (Fig. 10, upper map) and a block model of calculated values of resistivity (Fig. 10, lower map).

Successive profile lines were analyzed to produce pseudo 3-dimensional models of the distribution of apparent resistivity values for different ranges of current penetration (Fig. 11) and colour maps of calculated specific resistivity at individual depths (Fig. 12). Georeferences made it possible to present them superimposed on an orthophotomap (Figs. 13–18). At the same time, Voxler software was used to produce profiles illustrating the distribution of calculated resistivity values in the vertical direction and the thickness of separate layers as a function of their depth along the X axis (Fig. 19) and the Y axis (Figs. 20–21). The final stage of data processing using Voxler software was the preparation of a model of equipotential surfaces, roughly corresponding to the shapes and depth of structures causing the anomalies in the distribution of measured values of ground resistivity (Figs. 22–25).

This provided the grounds for an analysis of measured apparent resistivity in the range of 20–400 ohm-m and an analysis of calculated resistivity in the range of 40–370 ohm-m.

Numerous increases in local resistivity (marked in yellow, red and brown) and linear anomalies both in the eastern and western parts of the studied area were registered at a depth of 0.5 m. Instances of decreased resistivity are marked in blue (Fig. 13). They are connected with differences in the humidity of subsurface layers. These anomalies were also visible on subsequent levels (Figs. 14–15). However, at a depth of 1.5 m, increases in resistivity were still visible

only in the western part of the studied area. In the eastern part, they lost their dynamics and were registered as slight increases in resistivity in a generally low-resistivity environment. At a depth of 2.0 and 2.5 m only slight linear resistivity increases were recorded in the western part of the study area (Figs. 16–17). Increases in apparent resistivity (Fig. 18) at the current range below 6.0 m and the differentiation of low resistivity on the map for the level about 6.0 m below the ground surface may be the result of higher-resistivity natural outcrops of bedrock.

The layer configuration described here is also visible in the geoelectrical cross-sections made along the X axis (Fig. 19) and along the Y axis (Figs. 20–21). The presence of layers with higher resistivity can be associated with archaeological remains. In no place are they deeper than 2 m. In the eastern part of the study area, only single narrow anomalies of higher resistivity are visible. In the western part, there is an extensive zone with increased resistivity: profiles along meters E 525158, 160 and 162 (Fig. 19). This zone splits into two narrower anomalies only on profile E 525164.

The following hypotheses are supported by the described anomalies:

- the source of observed changes is the presence of archaeological features, such as the remains of stone buildings in layers deposited up to 2 m below the modern ground surface. An anthropogenic origin of the changes in resistivity is confirmed by the models of structures causing anomalies (Figs 21–25). They show narrow lines crossing at right angles corresponding to the preserved remains of stone walls. The configuration and thickness of the layers indicate that we may be dealing with multiphase structures (probably from different time horizons), especially in the western part of the study area.

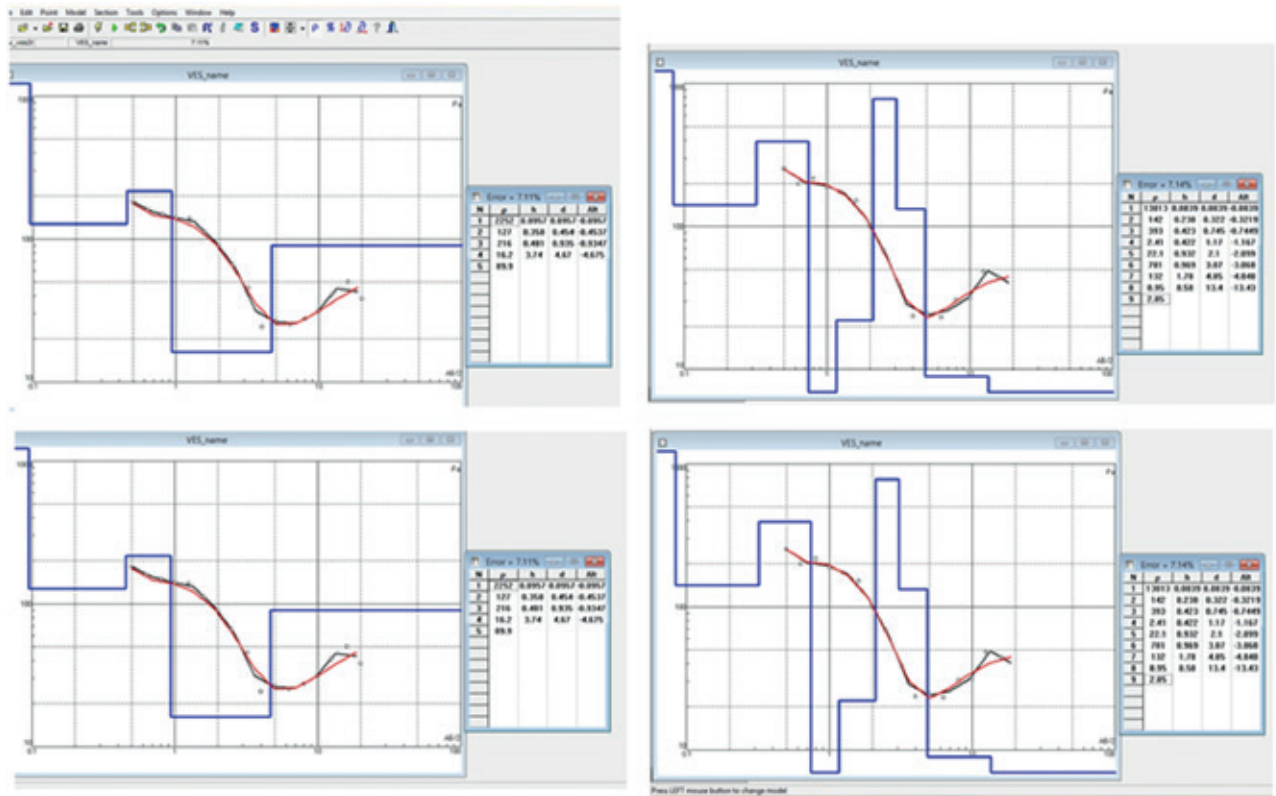


Fig. 8. Sample probing curves visualized in IPI software (K. Misiewicz)

- high-resistivity zones that can be interpreted as bedrock appear only at depths below 5 m. This can be explained by changes of geological structure in the study area, although it cannot be ruled out that the bedrock was cut out. This is suggested by the regular boundaries of low-resistance zones (horizontal and vertical) lying below possible archaeological remains. They are visible both on maps illustrating the distribution of measured apparent resistivity (Figs. 9–10, upper maps) and on the geoelectric cross-sections (Fig. 9, especially the lower map).
- a semicircular high-resistivity anomaly, noted in the northwestern corner of the study area at a depth of 0.5 to 2.0 m, may correspond to the place where the defensive ditch turns to head west.

### 2019 survey results

The study area was located north of Trench XXV, at the presumed location of the northwestern corner of the fortifications in western Tanais (Fig. 26). The same research method was used as in 2018. The measurements were made in 10 traverses. In total, 100 soundings were carried out, located on 10 lines with a length of 10 m (Fig. 27). No clear differences in the relief of the ground surface were recorded in the study area, the ground here having been levelled by modern building activity. Therefore, there was no need to apply topographical corrections during the development and graphical presentation of the study results.

Changes in the apparent resistivity in the range from 20 to 130 ohm-m were measured. Their distribution on individual lines varied depending on the depth of deposition and the thickness of the features causing the recorded changes (Figs. 28–31, upper maps). The values of resistivity were calculated as a result of the interpretation of the sounding curves ranging from 13 to even over 300 ohm-m. High resistivity values, not exceeding 200 ohm-m, were caused by a few disturbances of natural geological layers (Fig. 28, lines 1–2). The highest resistivity values were recorded when the remains of stone structures were present (Fig. 29, lines 3–4). Most of the features causing increases in resistivity were located at a depth of approximately 1.8–2.0 m, which is visible on the apparent resistivity vertical maps and geoelectrical cross-sections (Figs. 28–31). The same conclusions can be drawn from the interpretation of the distribution maps of calculated resistivity at individual depths (Figs. 32–36).

At a depth from 0.25 to 1.6 m (Figs. 32–33), low-resistivity formations with values not exceeding 80 ohm-m predominate. Only a few increases of resistivity of various forms and sizes (mostly circular with a diameter not exceeding 1.0 m) were recorded at this depth. From a depth below 1.6 m there was a general increase in resistivity. Below a depth of 2.5 m parallel linear structures with a width of 2.0–3.0 m and higher resistivity appear. At a depth of 2.5–3.0 m, they are separated by a lower resistivity structure with clear boundaries that is 4–5 m wide (Fig. 34). Recorded below 3.0 m was a resistivity increase shaped

like a regular square (with right angles); it is visible to a depth of 4.5–5.0 m. Below this depth, resistance increases were recorded practically over the entire surface of the tested area (Fig. 36). They seem to be related to the presence of bedrock, that is, limestone cracked in the upper layers with varying degrees of water saturation. The obtained data were used to create models of structures causing anomalies in the distribution of resistivity values (Figs. 37–38): M1 – above the high-resistivity structure; M2 – at the level of the upper surface of the high-resistivity layer; M3 – at the level of the lower surface of the high-resistivity layer, and M4 – comparison of equipotential surfaces with maps of resistivity distribution above and below the registered structure.

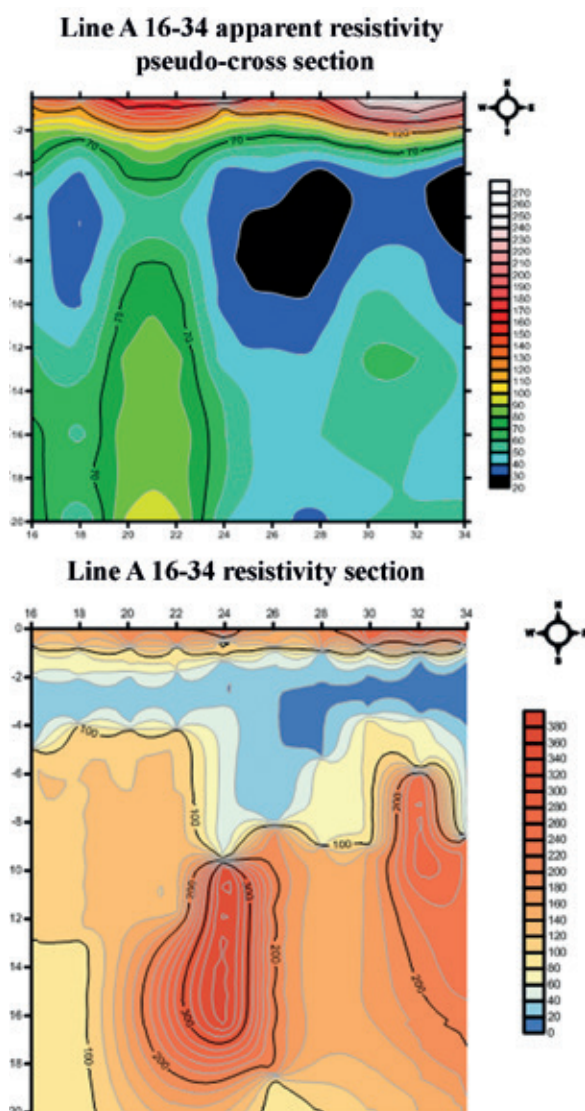


Fig. 9. Tanais 2018. Exemplary cross section of vertical apparent resistivity (upper map) and resistivity section with layer configuration (lower map) (K. Misiewicz)

The reason for changes in the observed distribution of resistivity is the deposition of stone structures at a depth of less than 1.6 m in a layer with a thickness of more than 2 m. Most likely, these are relics of two walls separated by a defensive ditch. One of them served as a defensive wall. The second one was probably a retaining wall strengthening the counterscarp of the defensive ditch. It is possible that the square structure described above is related to the remains of a corner tower at the junction of two curtains of defensive walls: the east–west curtain discovered in Trench IX and the north–south curtain registered in Trench XXV.

### Archaeological interpretation

The anomalies recorded by the measurements taken in the 2018 season were linked to structures discovered in Trench XXV. In the western part of the study area, changes in resistivity in the form of narrow lines crossing at right angles were recorded at a depth of up to 2 m. They correspond to the remains of an architectural complex functioning from the Hellenistic period to the 1st century AD. This complex consisted of several rooms abutted by a stone pavement on the south side (Fig. 39).<sup>32</sup> The registered linear increases in resistivity could correspond to the outlines of another room adjacent to the pavement on the south. The almost complete lack of increased resistivity on the extension of the line of the defensive wall is probably due to its total destruction. As a matter of fact, only single stones from the original wall have been preserved in situ in squares 112, 118 and 119.

The regular boundaries of low-resistance zones (horizontal and vertical) registered in the area adjacent to the defensive ditch from the south, at depths below 5 m, indicate intentional cutting of the bedrock to form its bottom (Figs. 9–10). It would mean that the defensive ditch was deeper (especially in its central part) than previously believed. Layers of eroded culturally sterile clay flowing down the slopes of the ditch were noted during excavations, especially in the central part (Fig. 40). A pit to clean the lower parts of the ditch was also recorded (Fig. 41). Fragments of bedrock lay flat in this hollow, moved there by erosion following these works. It should be assumed that the original form of the defensive ditch was different than previously assumed (the excavation in this part of the trench were interrupted before this could be verified and unfortunately it does not seem that it will be possible in the near future).<sup>33</sup> Geoarchaeological research has now confirmed the presence of what appears to be a deep, rectangular hollow partly carved in the rock in the central part of the defensive ditch.<sup>34</sup>

<sup>32</sup> Il'âsenko et al. 2018, 107–111; Matera 2021, 452–453.

<sup>33</sup> Matera 2019, 14; Matera 2021, 447.

<sup>34</sup> Matera 2019, 15.



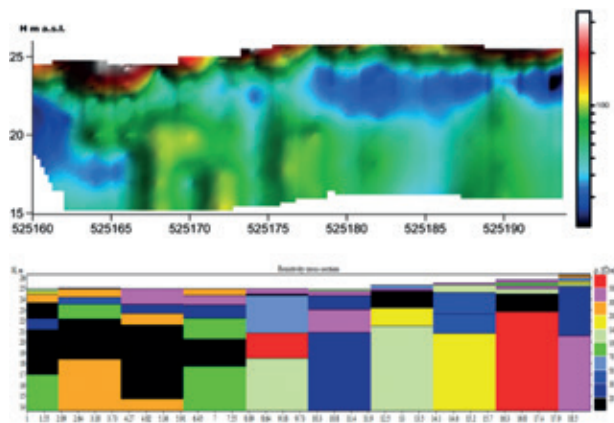


Fig. 10. Tanais 2018. Exemplary vertical of apparent resistivity cross section (upper map) and resistivity section with layer configuration (lower map) taking into account differences in the height of the terrain surface (K. Misiewicz)

A high-resistivity semicircular anomaly in the north-western corner of the study area, observed at a depth of 0.5 to 2.0 m, could correspond to the turn in the defensive ditch where it starts to run back to the west. Investigations

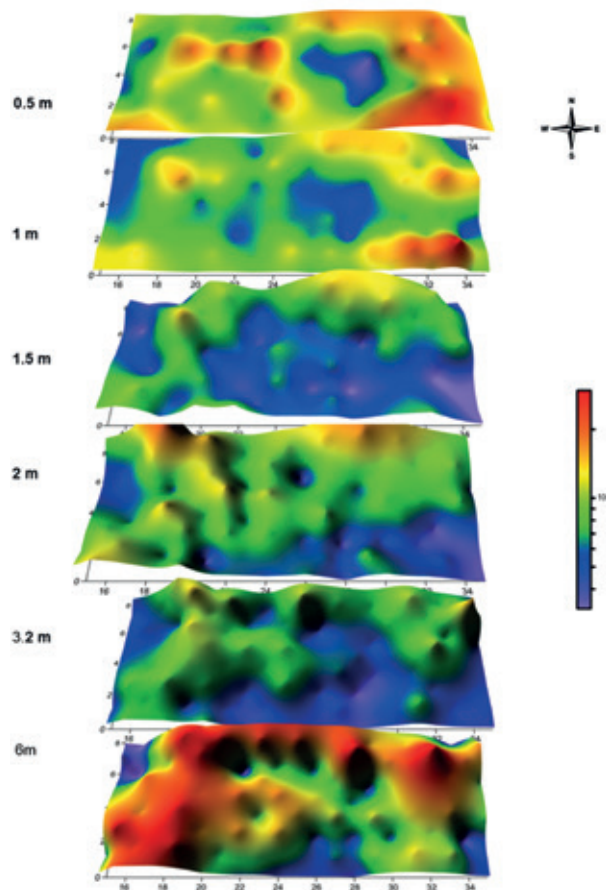


Fig. 11. Tanais 2018. Pseudo three-dimensional models of the distribution of measured apparent resistivity for different current penetration ranges (K. Misiewicz)

in Trench XXXVI located between Trenches XXIII and XXV revealed a section of a defensive ditch aligned E–W (with a slight deviation to the northeast).<sup>35</sup> Extending the line of the ditch eastward falls in line with the recorded anomaly, confirming earlier assumptions about the course of the defensive ditch and the line of fortifications in this part of the town.<sup>36</sup>

## Conclusions

The fortifications discovered in Trench XXV have been shown to be part of a well-planned defense system effective in repelling a sudden attack by nomads as well as resisting a regular siege. Tanais yielded to Polemon I at the end of 1st century BC, but that does not detract from the military design and engineering skills of the builders of these fortifications. The defensive capacity of the system was greatly reduced at the time of the conquest, the defensive ditch being apparently at least partly filled as a result of, among others, intensive erosion of its slopes.<sup>37</sup> The results of resistivity measurements added new data

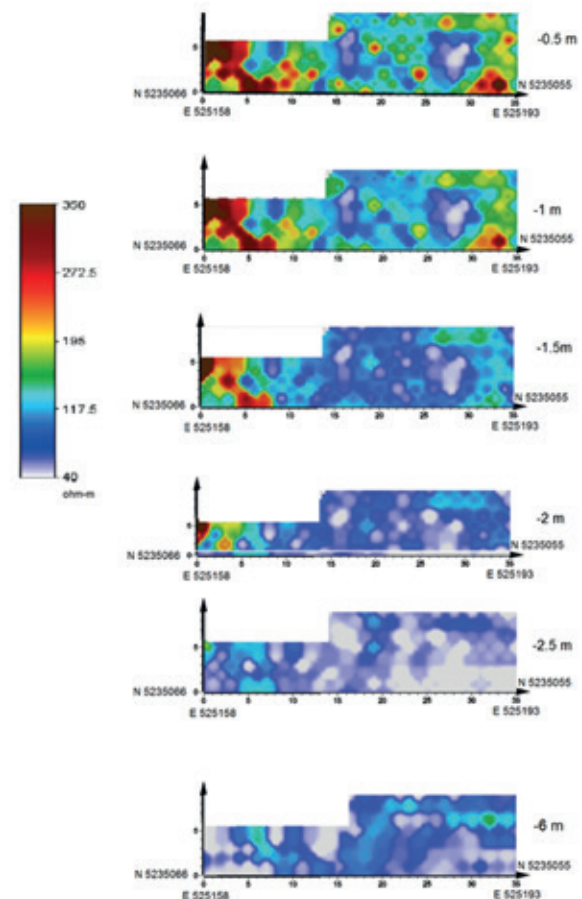


Fig. 12. Tanais 2018. Color maps of current resistivity at individual depths (K. Misiewicz)

<sup>35</sup> Il'āsenko, Egorova, Prokof'ev 2022, 83–84.

<sup>36</sup> Il'jašenko 2005, 153; Il'āsenko 2007, 24–25; Kazakova 2008, 212.

<sup>37</sup> Il'āsenko, Arsen'eva, Naumenko 2015, 177, n. 29; Matera 2019, 15; Matera 2021, 449.



demonstrating the formidable character of these defenses: the defensive ditch appears to have been much deeper than previously assumed and a corner tower guarded the junction of two curtain walls in this part of the circuit.

Not the least, the results of the geoelectrical survey carried out in Tanais in the 2018 and 2019 seasons demon-

strated the usefulness of such measurements, recommending it for use at other sites with a complex stratigraphy. The interpretation of the fairly detailed picture offered by the survey was greatly facilitated by the good archaeological recognition of both the immediate vicinity of the study area and the entire site. Needless to say, archaeological verification of the findings is still recommended.



Fig. 13. Tanais 2018. Orthophotomap with calculated values of current resistivity at a depth of 0.5 m (M. Bogacki, K. Misiewicz)

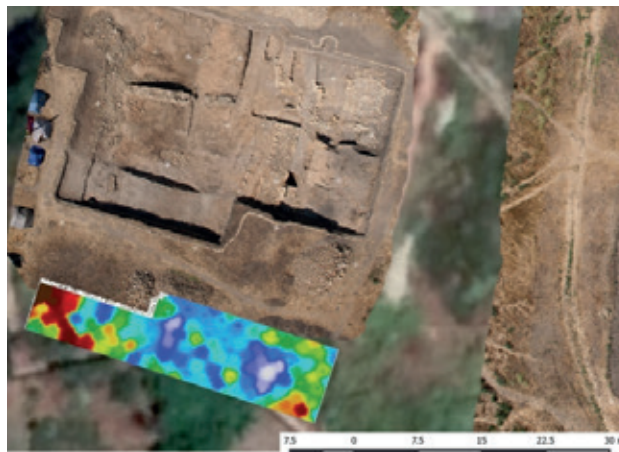


Fig. 14. Tanais 2018. Orthophotomap with calculated values of current resistivity at a depth of 1.0 m (M. Bogacki, K. Misiewicz)

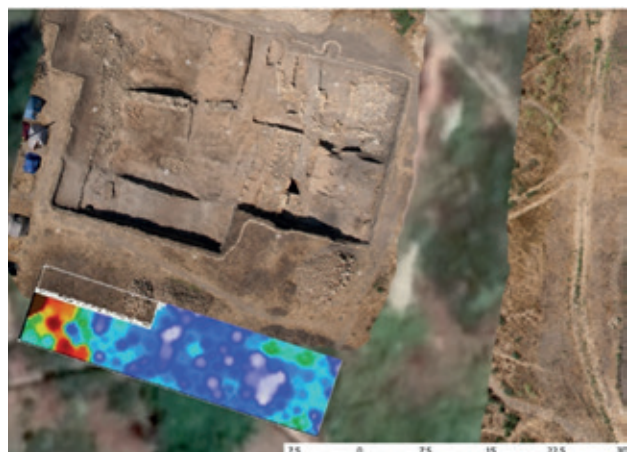


Fig. 15. Tanais 2018. Orthophotomap with calculated values of current resistivity at a depth of 1.5 m (M. Bogacki, K. Misiewicz)



Fig. 16. Tanais 2018. Orthophotomap with calculated values of current resistivity at a depth of 2.0 m (M. Bogacki, K. Misiewicz)



Fig. 17. Tanais 2018. Orthophotomap with calculated values of current resistivity at a depth of 2.5 m (M. Bogacki, K. Misiewicz)

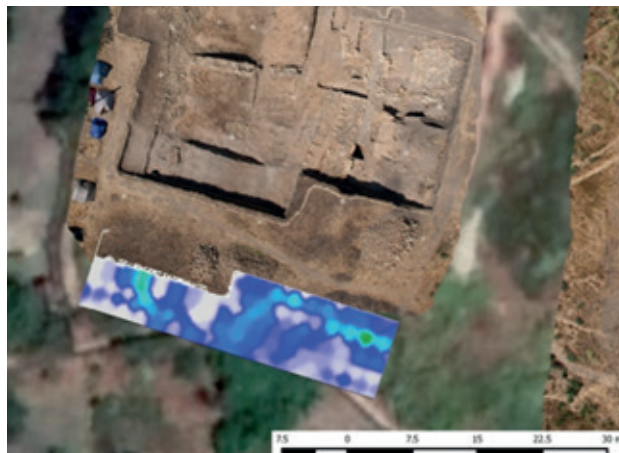


Fig. 18. Tanais 2018. Orthophotomap with calculated values of current resistivity at a depth of 6.0 m (M. Bogacki, K. Misiewicz)

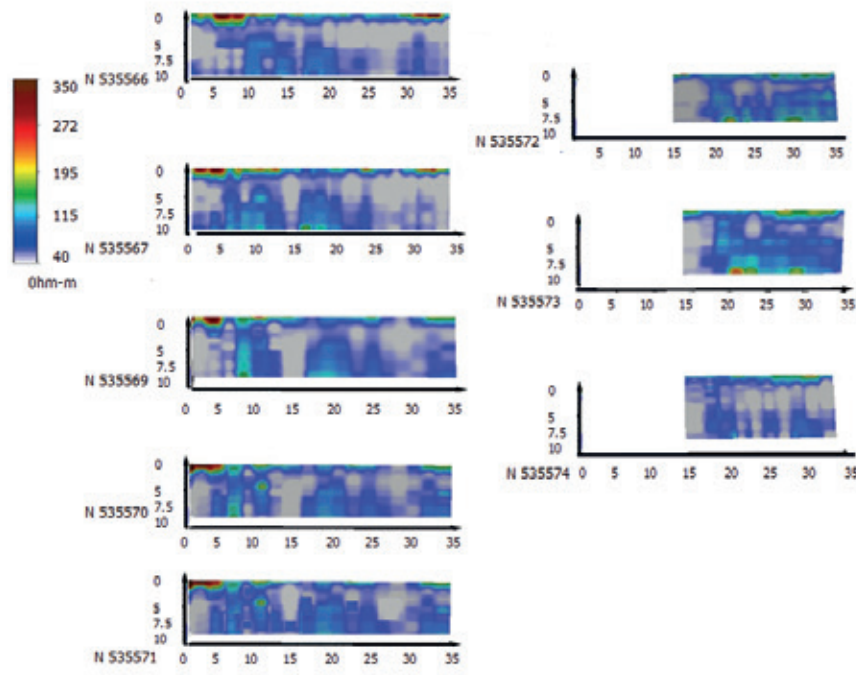


Fig. 19. Tanais 2018. Juxtaposition of profiles illustrating the distribution of calculated values of current resistivity in the vertical direction and the thickness of separated layers as a function of their depth along the X axis (K. Misiewicz)

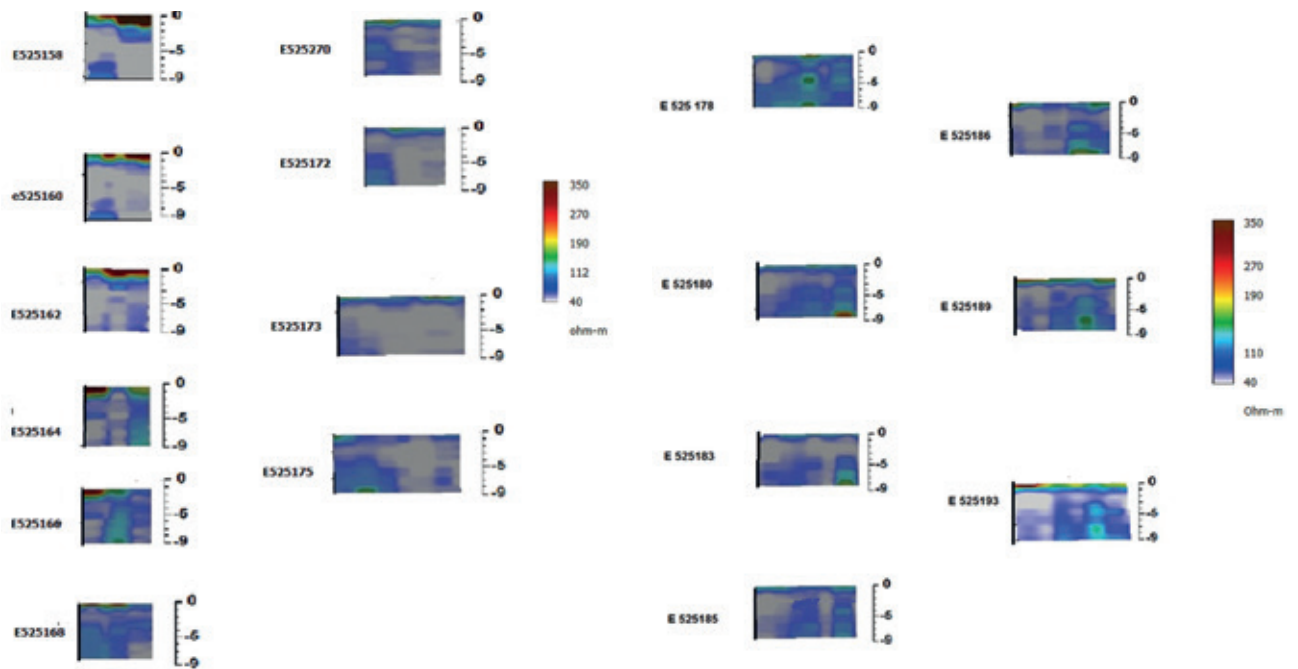


Fig. 20. Tanais 2018. Juxtaposition of profiles illustrating the distribution of calculated values of current resistivity in the vertical direction and the thickness of separated layers as a function of their depth along the Y axis (E 525158–175) (K. Misiewicz)

Fig. 21. Tanais 2018. Juxtaposition of profiles illustrating the distribution of calculated values of current resistivity in the vertical direction and the thickness of separated layers as a function of their depth along the Y axis (E 525178–193) (K. Misiewicz)

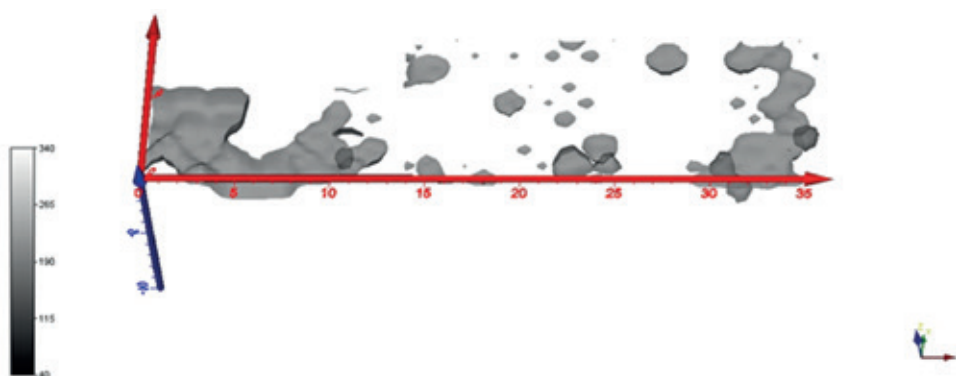


Fig. 22. Tanais 2018. Model of equipotential surfaces, view from the south. Depth up to 0.8 m (K. Misiewicz)

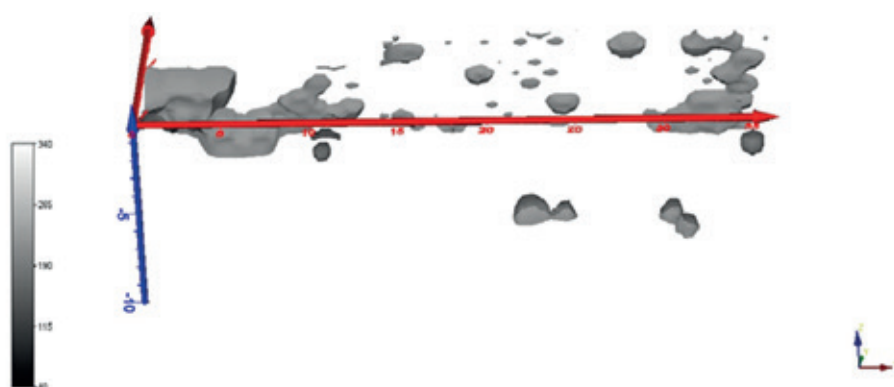


Fig. 23. Tanais 2018. Model of equipotential surfaces, view from the south. Depth up to 1.5 m (K. Misiewicz)

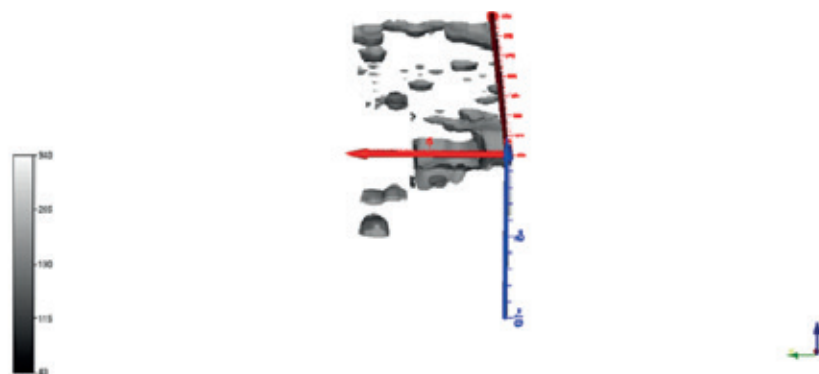


Fig. 24. Tanais 2018. Model of equipotential surfaces, view from the west. Depth up to 2.5 m (K. Misiewicz)

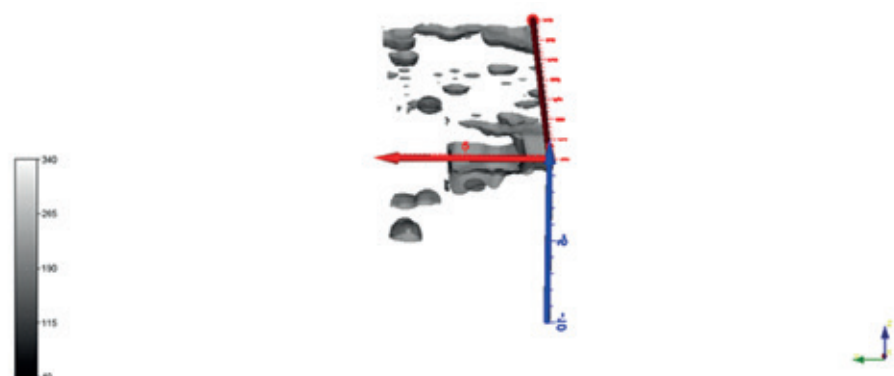


Fig. 25. Model of equipotential surfaces, view from the north. Depth up to 3.5 m (K. Misiewicz)





Fig. 26. Tanais 2019. Location of the surveyed area (K. Misiewicz)



Fig. 27. Tanais 2019. Location of geoelectrical soundings (K. Misiewicz)



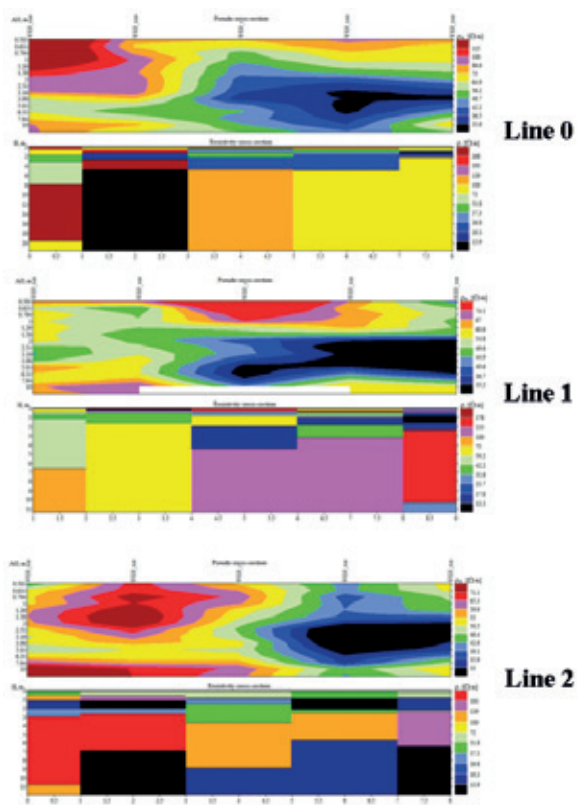


Fig. 28. Tanais 2019. Juxtaposition of maps of apparent resistivity distribution in the vertical (pseudo-sections) and geoelectric cross-sections. Lines 0–2 (K. Misiewicz)

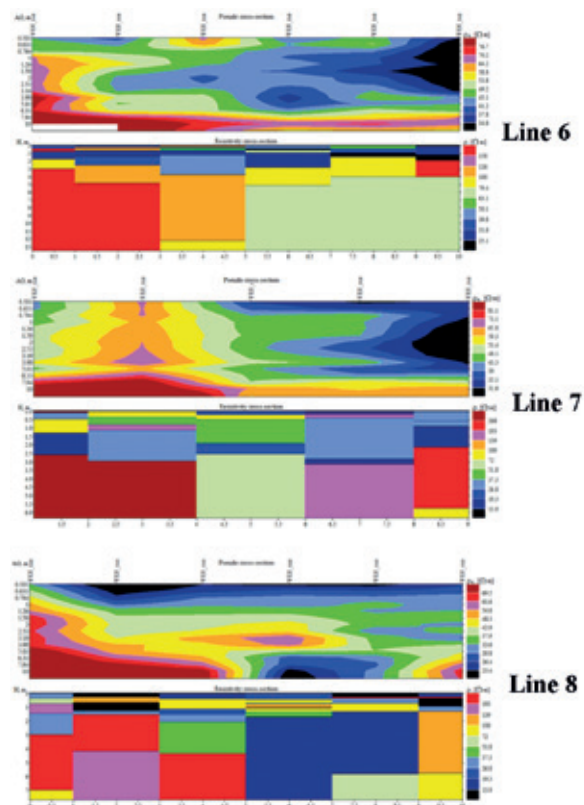


Fig. 30. Tanais 2019. Juxtaposition of maps of apparent resistivity distribution in the vertical (pseudo-sections) and geoelectric cross-sections. Lines 6–8 (K. Misiewicz)

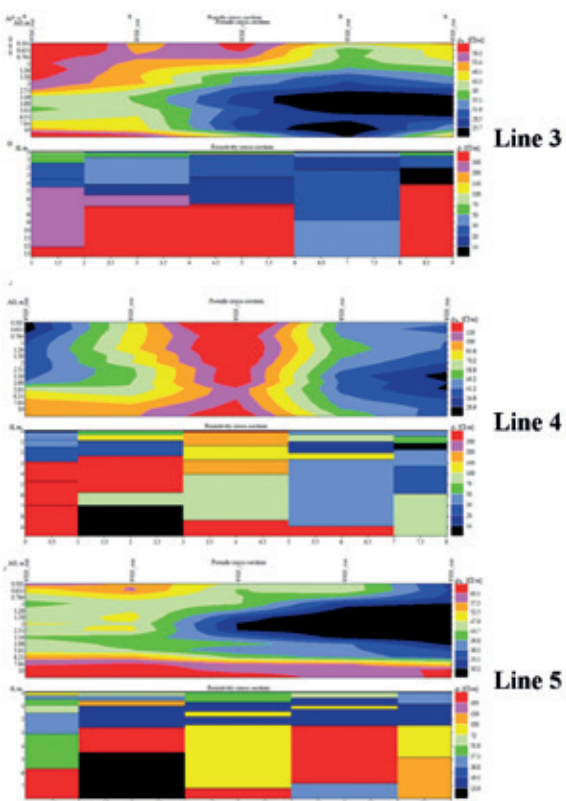


Fig. 29. Tanais 2019. Juxtaposition of maps of apparent resistivity distribution in the vertical (pseudo-sections) and geoelectric cross-sections. Lines 3–5 (K. Misiewicz)

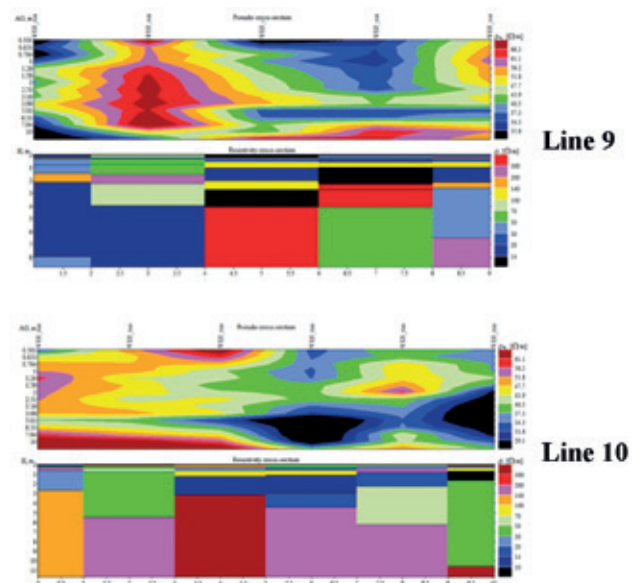


Fig. 31. Tanais 2019. Juxtaposition of maps of apparent resistivity distribution in the vertical (pseudo-sections) and geoelectric cross-sections. Lines 9–10 (K. Misiewicz)

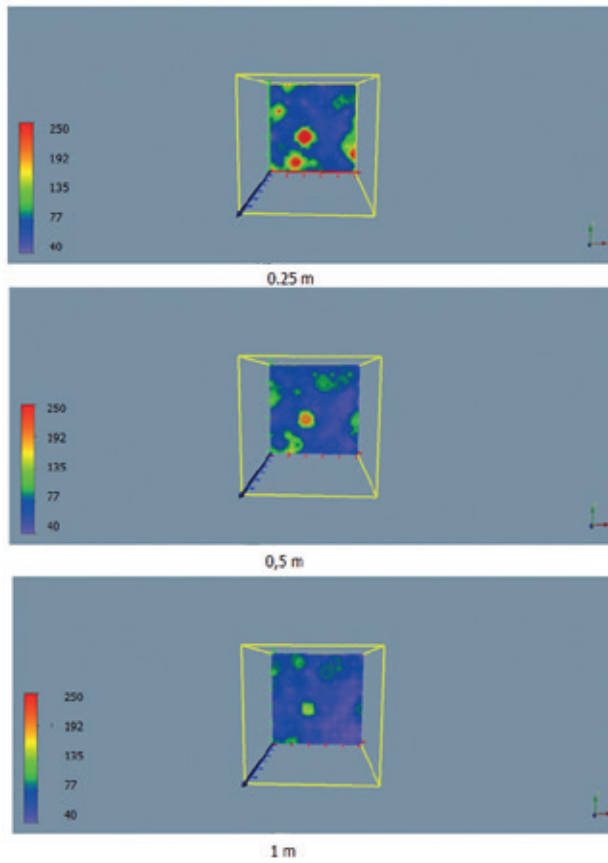


Fig. 32. Tanais 2019. Juxtaposition of maps of current resistivity distribution for depths from 0.25 to 1.0 m (K. Misiewicz)

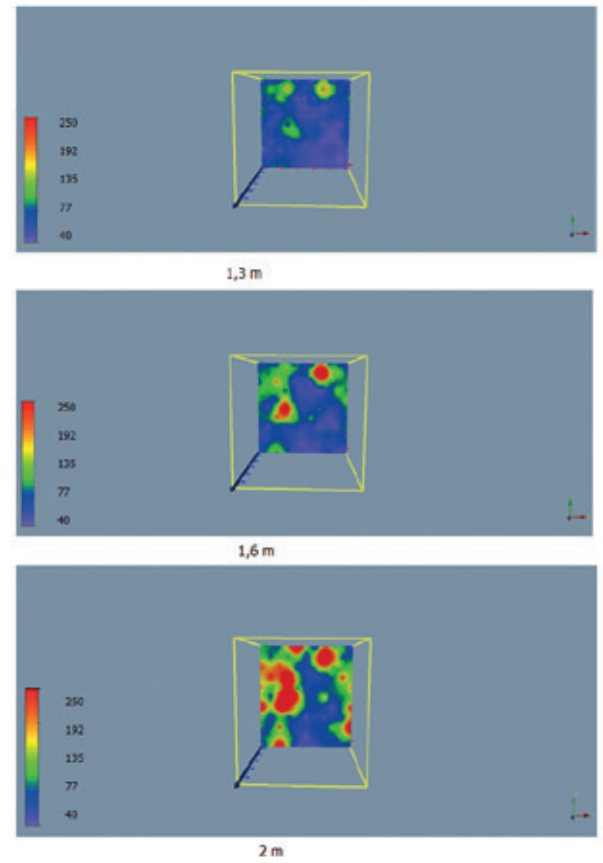


Fig. 33. Tanais 2019. Juxtaposition of maps of current resistivity distribution for depths from 1.3 to 2.0 m (K. Misiewicz)

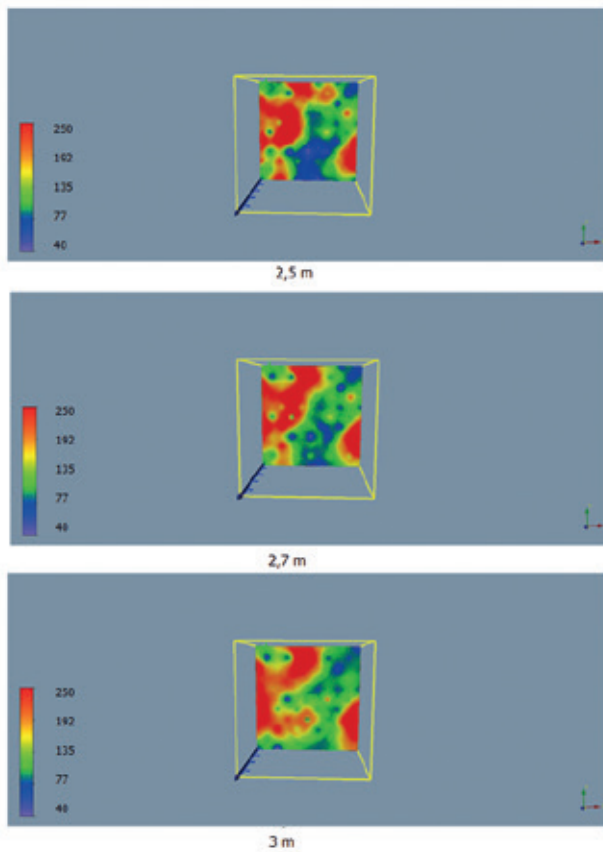


Fig. 34. Tanais 2019. Juxtaposition of maps of current resistivity distribution for depths from 2.5 to 3.0 m (K. Misiewicz)

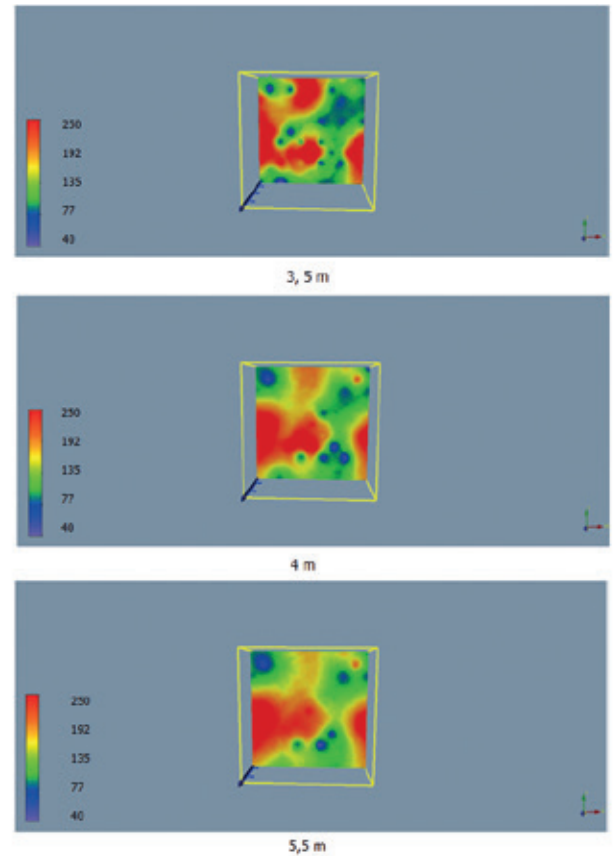


Fig. 35. Tanais 2019. Juxtaposition of maps of current resistivity distribution for depths from 3.5 to 5.5 m (K. Misiewicz)

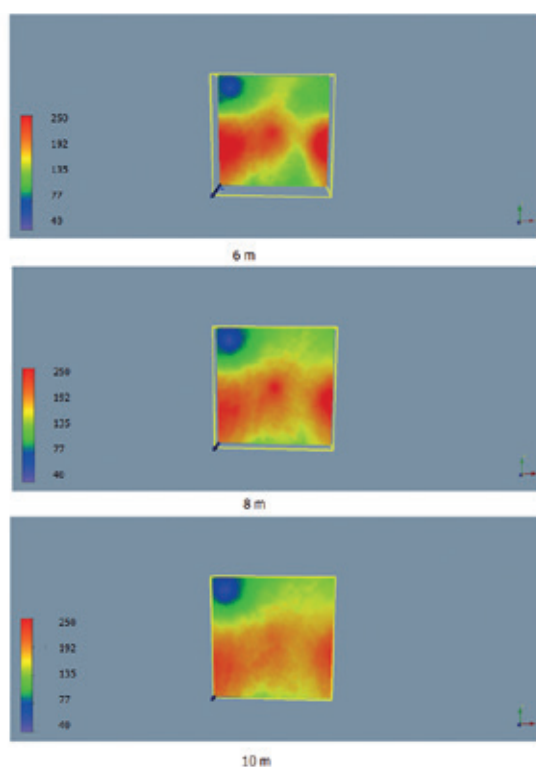


Fig. 36. Tanais 2019. Juxtaposition of maps of current resistivity distribution for depths from 6.0 to 10.0 m (K. Misiewicz)

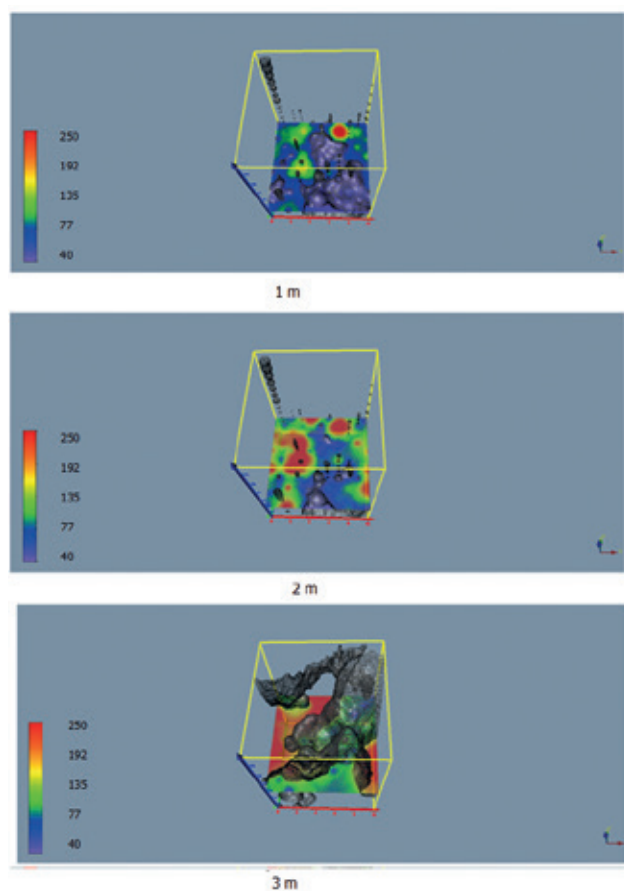


Fig. 37. Tanais 2019. Modelling of structures causing anomalies in the distribution of resistivity. M1 – above a high-resistivity structure; M2 – level with the upper surface of the high-resistivity layer; M3 – level with the lower surface of the high-resistivity layer (K. Misiewicz)

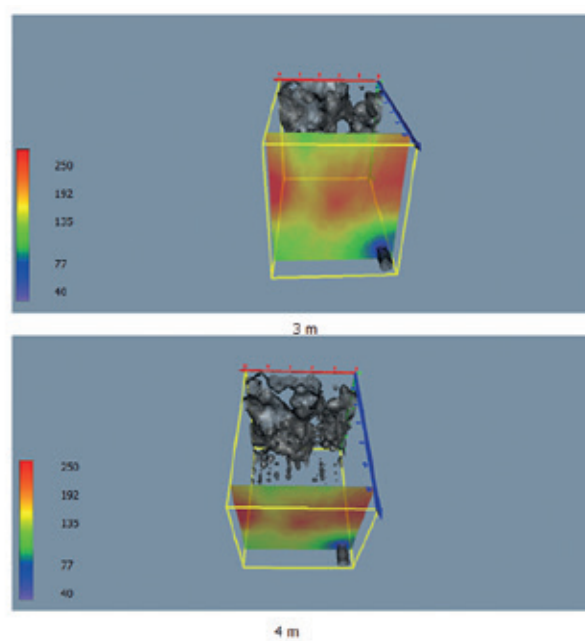


Fig. 38. Tanais 2019. Modelling of structures causing anomalies in the distribution of resistivity in the layer under the main structure of anthropogenic origin (K. Misiewicz)





Fig. 39. Late Hellenistic architectural complex with the phase of reconstruction in 1st century AD (photo: D. Bunin)



Fig. 40. Layers of eroded culturally sterile clay in the defensive ditch (photo: M. Matera)



Fig. 41. A pit to clean the lower parts of the ditch. View from the west (photo: M. Matera)



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# A Olbia and Borysthene in Old Polish Literature. Preliminary Report

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## Abstract

*The author presents in the paper the result of his research on the presence of the memory of Olbia as an ancient Greek colony in the literature and history of the Jagiellonian state of Poland and the Polish-Lithuanian Commonwealth. The paper is a preliminary report rather, because the results of the literature search, which was originally intended to illustrate the state of knowledge about the history of research on today's archaeological site, exceeded all the expectations of the author. The role of Olbia, also allegorical or purely rhetorical, both in the culture and politics of the Polish-Lithuanian state in the 15th–17th centuries turned out to be much greater than one could have expected. This is due to the broader manner of that epoch (Renaissance and Baroque), the use of ancient scenography and ancient references when describing contemporary events. For this reason, the article only signals this issue by illustrating it with selected examples. The presentation of all the sources identified by the author will require a more extensive publication. The most important types of references to ancient Olbia/Borysthene indicated in the article are the use of ancient names – city, river, inhabitants – when describing the struggle with the Turks, Tatars, and Muscovites. Also, the geographical orientation on the north-south axis according to the ancient image of these territories and not their actual location relative to the centre of the state. A very important discovery is the oldest, according to the author's knowledge, description of the territories around Olbia found in the diplomatic document of the chancellery of King Sigismund II Augustus (1542). We will find there unique and extremely important information about the existence of a crossing near ancient Olbia.*

## Keywords

*Olbia Pontica, Black Sea, antiquity, Jagiellonian, Old Polish literature, Sigismund II Augustus, Polish-Lithuanian Commonwealth, Ochakiv, Berezan, Borysthene, Hypanis, Dnipro, Southern Buh, Ukraine, Herodotus, Tatars, Ottoman Empire*

## Introduction

Research into Pontic Olbia, one of the most important archaeological sites in the Black Sea basin, has a long and rich history. Nevertheless, while conducting, courtesy of my Ukrainian colleagues, excavations at this site,<sup>1</sup> I re-

alized relatively quickly that the history of the research on this site was described in a serious way only since the occupation of this area by Russia at the end of the 18th century and the identification of the ruins at the mouth of the Buh to the Dnipro as Olbia by Peter Simon von Pallas.<sup>2</sup> Of the earlier mentions of Olbia, the travel

<sup>1</sup> About the excavation project see on the project website: <http://blackseaproject.iaepan.edu.pl/en>. I would like to express my deepest gratitude to prof. Mikołaj Szymański for reading the manuscript and sharing with me his opinions and friendly critical mentions as well as advice. Of course, all remaining failures in the text are on the author's responsibility only.

<sup>2</sup> von Pallas 1797; von Pallas 1801.

journal of Maciej Broniewski<sup>3</sup> was most often mentioned. Meanwhile, after even a cursory literature search, I found several extremely interesting references to Olbia/Borysthenes in Old Polish literature, starting from the 16th century, and it was a great discovery for me to find in the CAHR (Central Archives of Historical Records, Warsaw, Poland) collection a document from the royal chancellery, dated 1542 and describing the topography of the vicinity of Olbia and Ochakiv.<sup>4</sup> In this way, a small, as I initially thought, research trip turned into a fascinating journey into the land of Old Polish literature, both Latin and written in Polish. At some point, however, it was necessary to complete this research, which was, however, only a supplement to the study of the excavation materials.

For this reason, this article does not in any way present the entire picture of Olbia in Old Polish literature. As I realized at some point in collecting materials, it was basically a topic for a separate monograph. Therefore, the purpose of the article is only to indicate the existence of mentions in Old Polish literature about Olbia/Borysthenes and to present a selection of official documents – especially from the period of the Jagiellonian rule in Poland (1386 to 1572), in which the territories around Olbia are mentioned, and the knowledge of which disappeared around the mid-19th century and bringing it back to the minds of researchers of the topic.<sup>5</sup> The history of modern research on Olbia, though not in the sense of modern science, does not begin at the end of the 18th century, but at the beginning of the 16th century.

As mentioned above, both Pontic Olbia and Borysthenes appear relatively often and in an interesting context in the works of Old Polish writers. It is difficult to separate Latin texts from Polish, because basically all Old Polish authors knew Latin and wrote either in both languages or only in Latin. This changes only at the end of the 17th century, or rather in the 18th century, when Latin slowly loses its role as a universal language of both Europe and the Polish-Lithuanian Commonwealth.<sup>6</sup> It was good or very good, as a side effect of this state of affairs, knowledge of ancient culture with particular emphasis on Roman literature and mythology, with which people were acquainted during the study of Latin. Hence, both in the Polish and Latin-language literature of the 16th and 17th centuries, there are many references to figures from the history and mythol-

ogy of ancient Rome, and in the formal sphere to imitate literary *topoi* in both historiography and poetry. For the latter, one of the most important models was Horace, but the knowledge of other poets of the golden and silver periods of Roman literature is also visible. References to these patterns were clear to all educated people of Europe at that time, and the ability to refer to the ancient context made communication along and across the continent very easy. Jan Kochanowski was a good example of such Polish-Latin bilingualism and, at the same time, a precursor of bridging the gap between the two languages.<sup>7</sup>

Therefore, it should not be surprising in this context that the area where the territories occupied by the Polish-Lithuanian state, and later by the Commonwealth, and earlier by the ancient Romans and Greeks, played a special role in such a discourse. This concerns the area between the lower Dnistr and the Dnipro, which generally covers the area between ancient Olbia and Tyras. Much of this territory was known in the 17th century under the name of the Wild Fields. For a proper understanding of the context in which these areas appear in Old Polish literature, it is necessary to briefly explain their image in ancient literature from Herodotus to the Late Roman period, because the image created at that time was a reference point for modern authors.

Historic Olbia is situated on the western bank of the Southern Bug (i.e. Buh), where it flows into the Dnipro, forming the beginning of a Dnipro-Buh Liman. Its area covered the entire territory of the Liman, which flows separated from the Black Sea by the spit and flows into it only about 30 km further, near Ochakiv. On the islet located opposite Ochakiv, today called Berezan and in antiquity Borysthenis, we find the earliest traces of the presence of Greeks in the area. The exact area of Olbia's *chora* is discussed by specialists,<sup>8</sup> and here I would only like to point out that perhaps an additional element that confused the issue of the nomenclature of "Olbia" were the changing borders of the territory controlled by the city.

The most important for our considerations, however, is the fact that from the point of view of the Greeks and Romans, Pontic Olbia was located in the North, while the North, in the ancient sense, initially stretched from Thrace to the mythi-

3 *Tartariae descriptio*... 1595; second edition: *Russia seu Moscovia*... 1630; Russian translation: *Opisanie Kryma*... 1867 which Russian-speaking researchers use profusely; reprint *Tartariae descriptio / Opis Tatarii* 2011; latest edition with German translation and comments: *Im Auftrag des Königs*... 2011.

4 CAHR, *Metryka Koronna, Libri Legationum*, Fr. 11, 76–78, *Do króla i komisarzy [To the king and the commissioners]*. I would like to express my great gratitude to the management and employees of CAHR for allowing access to the original document.

5 Of course, both documents and ancient threads in Old Polish literature were well known to the relevant specialists, but these works have not been used by historians of antiquity and archaeologists dealing with Olbia and more broadly the northern shores of the Black Sea. As a rule, they were limited to quoting the works of Marcin Broniewski and sometimes Adam Naruszewicz.

6 Jelicz (ed.) 1985; Lewandowski (ed.) 1996; Axer 1995; Axer (ed.) 2004; Axer 2010.

7 Kwiatkowska 2015.

8 E.g.; Kryzhitskii 2000; Marčenko 2013; Bujskich 2006; Wąsowicz 1975.

cal Northern Ocean. It should also be noted that its image evolved in ancient culture over time.<sup>9</sup> Regardless of these changes in perception, Olbia and Scythia were always part of the North in antiquity, and on the mental map of people educated in ancient literature, these territories were identified with the north for a long time and not with the east, as if it resulted from the geographical location in relation to Paris, London, Berlin and even of Warsaw. Still in *Zemsta* [*The Revenge*], the flagship comedy of Count Aleksander Fredro (1793–1876), Papkin – one of the characters – exclaims:

*I am Papkin - Lion of North.*<sup>10</sup>

The parallel point of view and the replacement of the North with the East in relation to Russia did not begin to appear in Europe until the 18th century, and finally dominate the minds of Europeans in the 19th century.<sup>11</sup> This change, made at the time when Russia appeared on the Black Sea (the final conquest of Ochakiv by the Russians took place in 1788),<sup>12</sup> coincides with the beginning of fading into oblivion of earlier mentions of this area, and, in connection with a more general change in research paradigms, slowly removing from the scientific and social memory the image of Olbia shaped in the pre-Enlightenment period. This can also be seen in Polish literature. While in the 19th century there are still wider references to this city using the achievements of an earlier era, in the 20th century they are rare, and those remarks that I found indicate unfamiliarity or superficial acquaintance (in the context of Olbia) with the achievements of Old Polish literature.<sup>13</sup>

### Olbia and its (literary) geography

In ancient literature, and through it as well as in the modern literature, the image of Olbia has been dominated by

a picture from the times of Herodotus and the period of its greatest splendour. It should be noted that there was a certain confusion in the naming of the city, which already appears in Herodotus and continues throughout the ancient and modern period, and in fact continues to the present day. To begin with, it should be remembered that in ancient times the Buh River was called Hypanis and the Dniro – Borysthene. In this context, it will be easier to understand the difficulties associated with the ancient name of the city. At that time, there was a parallel name of the *polis*, sometimes referred to as Olbia, another time as Borysthene.<sup>14</sup> This is not the proper place for a deeper discussion of the causes of this naming confusion, but it played an important role in later times and, perhaps, was the cause of the misidentification of ancient Olbia with Ochakiv back in the early 19th century.<sup>15</sup> There may be two reasons, in my opinion, for this. First, in front of today's Ochakiv, there is an island known today as Berezan, on which the oldest trading post of the Greeks in the area was founded in the 7th century BC (i.e., before the founding of Olbia), which grew with time. The island (a peninsula in ancient period) lies at the mouth of the Liman (in antiquity also called Borysthene) into the Black Sea and the settlement bore the same name in antiquity.<sup>16</sup> The same (or similar – Borysthene) name was used even in antiquity for Olbia<sup>17</sup> and the Borystheneites were also called Greeks or rather Greco-Scythians living in the area between today's Buh and the Dniro.<sup>18</sup> For more superficial readers of Herodotus in antiquity, and even more so in modern times, all these names could merge into one concept. Secondly, the Ottoman fortress in Ochakiv was built largely of stones transported via Liman from the ruins of Olbia.<sup>19</sup> We find in *IOSPE* many examples of the stones with inscriptions found not only in Ochakiv, but in other neighbouring cities.<sup>20</sup> Perhaps these stones and possibly some Greek inscriptions on some of them could have led to a misconception about the

9 Rausch 2013; The name Borysthene is etymologically strongly bound with the Greek name of the North cf. Boreas – the northern wind.

10 Fredro, *Zemsta*, act 3, scene 4.

11 Wolff 2020. I am presenting this work in a symbolic sense, knowing that it does not exhaust all the literature on this subject.

12 I would like to express my gratitude to the professor Hieronim Grala for an extremely inspiring discussion about the beginnings of the term “Eastern Europe” and bibliographic suggestions.

13 E.g. Sinko 1932, 168–169.

14 Consequently, the inhabitants and citizens of the city were sometimes called Olbiopolitans and sometimes Borystheneites.

15 *The learned geographer of our age, Mr. Busching, says that Olbia was in the place where Ochakiv is now.* (transl. AT): Naruszewicz 1805, 116–117, n. 25. The first edition: Naruszewicz 1787.

16 Eusebius put the foundation of the Borysthene by Milesians at 657–646 BC: Eus., *Chron.* 95b, which is contested by modern scholars: Solovyov 2004, 17. Just recently Benedetto Bravo summed up the sources and presented a very interesting hypothesis about “una polis, due città”: Bravo 2021, 7 seq. The idea was discussed earlier e.g., Vinogradov 1989, 25–31.

17 Hdt. 4.17.1: ἀπὸ τοῦ Βορυσθενείτων ἐμπορίου (τοῦτο γὰρ τῶν παραθαλασσίων μεσαιτατόν ἐστι πάσης τῆς Σκυθίας), ἀπὸ τούτου πρῶτοι Καλλιπίδαι νέμονται ἐόντες Ἕλληνες Σκύθαι. Borysthene: Claudius Ptolemy: Ptol., *Geog.*, 3.5.28 repeated in 8.10.3.

18 Hdt. 4.18: ἀτὰρ διαβάντι τὸν Βορυσθένα ἀπὸ θαλάσσης πρῶτον μὲν ἡ Ὑλαίη, ἀπὸ δὲ ταύτης ἄλλοι οἰκέουσι Σκύθαι γεωργοί, τοὺς Ἕλληνες οἱ οἰκόντες ἐπὶ τῷ Ὑπάνι ποταμῷ καλέουσι Βορυσθενείτας, σφέας δὲ αὐτοὺς Ὀλβιοπολίτας.

19 It is difficult to say when the most intensive phase of this stone “import” was. Probably after the first siege of Ochakiv by the Russians in 1737, but the “procedure” could be earlier. Anyway, there are solid traces in Olbia itself of the exploitation of this stone.

20 E.g.: *IOSPE* I 21 (found in Kherson in 1902), *IOSPE* I 49 (in Mykolaiv city museum), *IOSPE* I 79 (“In oppido Otschakov s Oczakow vidit Peyssonelius, in cuius schedis ad Adalb. Ziegler...”), I.85 (reused for Turkish funeral monument), I.86 (Inventum id esse in oppido Oczakov).

identity of ancient Olbia with the modern Ochakiv. Nevertheless, in the light of the above-mentioned findings of Benedetto Bravo, it may turn out that the identification of Olbia with the vicinity of Ochakiv is not unfounded.

The geographical location of Olbia/Borysthenes at the northern boundaries of the inhabited world and Herodotus' description of its closer and further regions as cold (description of snow and winter) and inhabited by wild and not very friendly peoples and griffins guarding gold,<sup>21</sup> dominated the image of this region in the eyes of ancient and modern elites for millennia. This calque, borrowed from ancient sources and transformed into modern needs, can also be found in Old Polish literature. It should be added that in Latin literature, the Scythians have been replaced by the Sarmatians as the hosts of this territory for some time,<sup>22</sup> which, in the eyes of Old Polish authors, could have made this area even more attractive in connection with the widespread belief in the Sarmatian origin of the Polish nobility. Anyway, Scythia and Sarmatia together with the vicinity of Olbia and Borysthenes (the river), they have enduringly entered the rhetorical gimmicks of ancient literature as examples of distant, wild, and cold territories.

### Olbia as a literary scenography

It should not be surprising, therefore, that we find this image also in Old Polish literature and that ancient borrowings appear frequently in the descriptions of these territories. One of the oldest mentions can be found in the diaries of Jan Dantiscus (1485–1548), who at one point mentions that he participated in a military expedition against the Dacians, Getae and Borysthenes as a youth (in 1502):

*Junior et belli contra Dacosque Getasque atque  
Borysthenidas tempore miles eram.*<sup>23</sup>

Of course, he did not fight with the inhabitants of Olbia or the Borysthenites, nor with the Dacians or the Getae, but with the Wallachians and Tatars (= Borysthenites). Such an ancient disguise of contemporary peoples is common in the Old Polish Latin literature until the 18th century.

A good example in this regard is the panegyric by Franciszek Gradowski (1545–1599) on Krzysztof Radziwiłł

“Piorun” [the Lightning], describing his incursion against the Muscovites in the times of Stefan Batory (1581). The introduction mentions Piorun's father:

*Namque Sigismundus cum regni sceptrā teneret  
Sarmatici August, cum capta Polocia Moschos [1563]  
acciperet rerum dominos viciniaque omnis  
saepe Borystheniis male terreretur ab armis,  
Radivilo incensus miro virtutis amore  
pro lege atque aris et pro patria salute  
arma movet notisque ciet magna agmina terris.*<sup>24</sup>

Borysthenes appears more often in this work, including once as a truly ancient personification of a river deity:

*Ipse Borysthenius ripa pater extulit alta  
herbosum caput Serebrinum affatur euntem:  
“Siste Graduum! Pergesne tuos cumulare dolores?  
O, fuge iam tantis te nunc opponere belli  
viribus et tutos, infelix, quaere receptus”.  
Dixerat et rursus vitreum caput occulit undis.*<sup>25</sup>

The quoted text carries at least two important pieces of information for us. First, especially in the case of verses 100–107, where Borysthenes (the personification of the river) speaks to the Russian chief, one can see how deep the dependence on ancient patterns is, not only in the linguistic sphere (Latin), but also in literary *topoi*. This is not a superficial knowledge of the language, but a deep dependence on the patterns of ancient culture. The second, and essential for our argument, is the comparison of the Muscovites with the Borysthenites in verses 39–49.

This is a somewhat broader problem that may be astonishing at first. While in Dantiscus and other Old Polish authors identifying ancient peoples with inhabitants of the same territories contemporary to the authors, it is understandable, the use of the term Borysthenites for Muscovites, at first glance, is less so.<sup>26</sup> Nevertheless, a scan of the map shows that in its upper ranges, the Dnipro flows through Smolensk and Orsha and near Vitebsk, i.e., through the area of the so-called The Smolensk Gate. From the 15th century, wars between the Grand Duchy of Lithuania and the Grand Duchy of Moscow, and from 1547 the Russian Empire, were fought for control over this territory.

21 Hdt. 4.7.3, 4.17–18 and 4.24. Full catalogue of ancient sources dealing about “the North” is given by Rausch: Rausch 2013.

22 E.g.: Iuv., *Sat.* 2: *Ultra Sauromatas fugere hinc libet et glaciale / Oceanum, quotiens aliquid de moribus audent / qui Curios simulant et Bacchanalia vivunt.*

23 Dantiscus, *Carmen*..., v. 171–172.

24 *Hodoeporicon*... 2011, v. 39–49.

25 *Hodoeporicon*... 2011, v. 100–107. Sierebrenny was concentrating his troops in the vicinity of Orsha.

26 The publishers of the work interpret this term in this spirit: *Hodoeporicon*... 2011, 95, v. 41, recognizing that the author meant the Tatars here. I do not agree with this opinion also in the context of the other, apart from the quoted places, where Borysthenes (Dnipro) is mentioned in the context of Vitebsk, Orsha (v. 260–261) and once the author even (incorrectly) places the sources of the Dnipro and Don (Tanais) next to each other (margin v. 686). At that time, the Tatars were no longer present there.



Geographically, therefore, everything is in line with the paradigm of a peculiar *interpretatio Romana*, although the Greeks and Romans undoubtedly visited the upper Dnipro very rarely, if ever. By the way, it can be safely said that the reference to the ancient Borysthenites/Olbiopolitans here is very superficial or comes down to the fact of living on the same river, although at its two extreme ends. Such a "broad" approach to geography seems to be confirmed by the following lines of the poem, in which Radziwiłł addresses soldiers as follows:

*Ecquis erit iuvenum, flammam qui primus in urbem  
Coniciat muroque faces immittat aperto?  
Mercedem ille feret! Sumptis agite undique flammis,  
Instate et poenas periuriae sumite gentis.  
Credite nunc omnes, quos lata Borysthenis unda,  
Quos Maeotis alit, populos pendere propinquis  
In scopulis – uno tot proelia vincite tecto.  
Antiquum reparate decus molemque paternae  
Lithaviae fulcite humeris. Hic omnia campus  
Vindicat, haec nobis pacem victoria firmat!*<sup>27</sup>

It may not be without significance that on the (roughly) meridional course of the Dnipro, Smolensk lies even more to the north than Olbia, already northern in the eyes of the Greeks and Romans. In this configuration, Moscow is a northern country indeed. Identifying Muscovites with Tatars by using the term Borysthenites or Scythians,<sup>28</sup> shared by both peoples, may indicate that the Moscow state was identified by the author more with the Tatar-Mongol civilization than with the Slavic civilization. By the way, the question arises whether such attribution of the common (Mongolian) heritage to Tatars and Muscovites was not more common during this period than we think today.

An extremely interesting fragment for our considerations can be found a few lines below, where Radziwiłł says goodbye to Filon Kmita (1530–1587), who leaves his ranks:

*Inde Borysthenias Fillon rediturus ad urbes,  
Ante manum, Radivile, tuam complexus, abivit.*<sup>29</sup>

Filon Kmita had estates in the vicinity of Lityń, then turned into Chernobyl by king Sigismund Augustus, and in 1566, that is, two years after the described events, he became the starosta<sup>30</sup> of Orsha. This allows us to assume which "Borysthenian" cities the author of the work had in mind. On the formal level, this fragment sounds in the ear of a classically educated author as an allusion to Olbia, the only Greek city on the Borysthenes.

Another author dealing with this subject (war with Moscow) is also Jan Kochanowski (1530–1584), who actively participated in promoting Polish-Lithuanian successes in the Moscow wars, creating such works as *Jazda do Moskwy* [Riding to Moscow], 1583 or *Ode de expugnatione Polottei* [Ode on the capture of Polatsk], 1580. It must be clearly stated here that Kochanowski was one of many authors describing in Latin the wars from the times of Stefan Batory. This trend in Polish literature was continued in later times. Kochanowski, although a perfect example of Polish-Latin bilingualism of those times, mentioned little about the Dnipro (Niepr) and in his works we do not find any allusions to Olbia or the ancient provenance of this river in general.<sup>31</sup> Nevertheless, in Kochanowski's poetry, Moscow is clearly perceived as a country in the North rather than in the East:

*On tyran północnej strony,  
Któremu jako sam mniema,  
Świat tak wielki równia niema,  
Car Moskiewski plac mężnemu,  
Puścił Królowi Polskiemu:  
Nieoparł się aż o lody,  
Niepławnej północnej wody.*<sup>32</sup>

As stated above, such a picture persisted among some Polish authors at the beginning of the 19th century.

Another example, but among the authors of the next generation, may be a poem by Maciej Kazimierz Sarbiewski (1595–1640), one of many devoted to the glorification of Hetman<sup>33</sup> Jan Karol Chodkiewicz, in which, in the first line, he alludes to his contribution to the war with Muscovites:

27 *Hodoeporicon*... 2011, v. 517–526. The publishers justly refer to the formulas of Virgil and Lucan: *Hodoeporicon*... 2011, 129, v. 521–522.

28 *Hodoeporicon*... 2011, v. 683–685: *Sic ait veteris iam vix ad moenia Dobni / delatus Scythicas ingenti strage cohortes / delevit procersque alios in carcere clausit.*

29 *Hodoeporicon*... 2011, v. 691–692.

30 *Capitaneus* or County Sheriff; at the time it was the office of a territorial administrator, usually conferred on a local landowner and member of the nobility.

31 A good example is *Song XIII*, v. 13–16 from the *First Songs*: *Albo gdy pycha nie mogła pokorze / Wytrzymać stusu, a w głębokie morze / Krwawy Niepr płynął miejąc na ostrowy / Moskiewskie lupy i pobite głowy?* [Or when hubris could not [help to] the lowliness / Withstand a hit, and into the deep sea / Bloody Niepr was sailing throwing out / Moscow's loot and beaten heads?] (transl. AT).

32 *Piesni trzy*... 1580, *O wzięciu Połocka* [On the capture of Polatsk], v. 6–12: *He is a tyrant of the north side, / Whom he himself thinks / The world so great is no equal, / Tsar [of] Moscow did not keep the square / for the brave Polish King: / He did not resist on the ice only, / Of the unnavigable northern waters* (transl. AT).

33 A title assigned to high military commander in the Polish-Lithuanian Commonwealth.

*Grypha Borysthēniis reducem Pax vidit ab arvis,  
Et moesto teneras lavit in imbre genas.  
Fulget adhuc, inquit, nec adhuc tibi conditur ensis?  
Ah, vagina suum si revocaret onus!  
Audiit, et placidas Gryps misit in aëra voces:  
Nonne vides sanctas pacis in ense notas?  
Quod tibi nec soleae, nec sunt tibi tela timori,  
Crux facit; et nostro cernis in ense crucem.*<sup>34</sup>

One can undoubtedly see here a multi-level allusion not only to the Chodkiewicz coat of arms, but also to wild griffins living, according to Herodotus, in the northern lands (at any rate, lands to the north of the Borysthēnes). At the same time, griffin in the “Borysthēnian” context is probably an allusion to the military advantages of Chodkiewicz over the Muscovites/Borysthēnites. Sarbiewski uses this play of words and concepts with a griffin in the lead role many times in his other works.

Looking more broadly at Sarbiewski’s poetry, one can see an extremely deep dependence on the ancient world. It can be said that in principle Sarbiewski “lived” in this literary world.<sup>35</sup> A good illustration of this thesis is the title of Epigram 81:

*Dictum Ioannis Caroli Chodkievicii, cum castra ad Chocim in Dacia contra byzantinum imperatorem moveret.*<sup>36</sup>

In this title, the essence of the matter condenses like in a lens. The real world was described against the background of the ancient scenography.

It is a purely rhetorical and somewhat mythologizing plot of Olbia/Borysthēnes appearing in old Polish literature. This theme also had a practical dimension, as it was effectively used for a progressive, for those times, approach to propaganda issues – today we would say PR. It was initiated in the times of Sigismund I the Old and Jan Dantiscus played a key role here. The most effective way to propagate the point of view of the Jagiellonian court in Europe at that time was to quickly send descriptions, preferably poetic, of battles and campaigns around the then important courts of Europe. Of course, the texts had to be written in Latin and refer to the context of the heritage of ancient culture that was common to Europeans of that time.

An excellent example is the activity of Jan Dantiscus himself, who wrote his first texts celebrating the victory

of Hetman Konstanty Ostrogski at Orsha (September 8, 1514) on September 23 this year.<sup>37</sup> This was followed by a flood of works by other authors writing in Latin that were quickly sent all over Europe, along with prose accounts of the victory, which were compiled in the royal chancellery. In addition to these documents, several prisoners of war were also sent to the Pope and the Emperor.

### Olbia as an ideal city

In addition to the purely rhetorical and “mythologizing” reference to ancient Olbia in Old Polish literature, one can also notice a slightly different use of it in literature. For at the same time when references to wild Borysthēnites in poetry and literature were multiplying, there appeared a work by Ulrich Schober (1559–1598) that was unique against this background.

In Royal Prussia<sup>38</sup> and its largest urban centres (Gdańsk, Toruń, Elbląg), Latin was also the language of correspondence with the outside world, but German remained the main official language.<sup>39</sup> This work should be considered in this context. Ulryk Schober was a German active in Toruń (Thorn), and clearly belonged to the sphere of German culture. This is indicated by his career: born in Lubin (Lüben) in Silesia, he received his first education in the gymnasium of St. Elisabeth in Wrocław (Breslau), from 1577 he studied Greek, Latin and philosophy in Leipzig, and on the recommendation of Franz Tidicaeus, lecturer at the same university, in 1585 he took the position of the chancellor of the gymnasium in Toruń. He participated in the reform of the gymnasium, which in 1594 was transformed into a semi-higher school (Gymnasium Academicum). The then mayor of Toruń Heinrich Stroband (1548–1609), played a key role here. This close cooperation with the mayor found its reflection in the volume we are interested in.

Schober’s work, *Ὀλβιόπολις seu civitas beata [Olbiopolis or the Happy City]*, published in Leipzig in 1592,<sup>40</sup> probably referred to the hot (not only) in Toruń discussion about the best way of organizing the city system at the time and contains about 500 items of Latin poetry written in various meters and styles, presenting various rhetorical figures. They all share a reference to the sentence *felix civitas, quae tempore pacis timetis bella* (a happy city that is afraid of, or preparing for, war in times of peace). This sentence evokes a clear association with the now very popular *si vis pacem para bellum* (if you want peace – get ready

34 *Poemata Omnia* 1840, Ep. 128: *In Gryphem gentilitium ducis*.

35 About Sarbiewski: Buszewicz 2006; Grochal 1994 and especially in the context of its references to antiquity: Mikołajczak 1994.

36 *Epigrammatum Liber* 2003, 92. Sarbiewski’s Chocim is nowadays in Ukraine Хотин (Rumanian Hotyn), in Besarabia.

37 Niedźwiedz 2019, 204.

38 At the time a province of the Crown of the Kingdom of Poland.

39 Szczuczko 2004.

40 Schober 1592, cf. Ryzek 2015, whom I follow in many places of interpretation of Schober’s work.

for war) from the work of Vegetius *De re Militari* paraphrasing Plato's thesis (*Laws* 628c-e). The work of Vegetius was at that time the basic reading of all people dealing with war affairs, and its influence is also clearly visible in the works of Polish theoreticians and war practitioners of that period (Jan Zamoyski, Jan Karol Chodkiewicz, Stanisław Koniecpolski, Andrzej Maksymilian Fredro). The Strobant Memorial, to which Schober refers, should be considered in this context. It is not a coincidence that the poet's volume was published a year after the mayor of Toruń (Heinrich Strobant) notified the Toruń City Council of a memorial about the necessity to erect fortifications, in which the above-mentioned sentence appears.

Schober's book is divided into three parts – an introduction, which is a kind of a letter to the mayor of Toruń, Heinrich Strobant in which the author explains the purpose of the work, the second part, in which we find considerations on epigrams and their construction from the perspective of the principles of rhetoric and the third part, in which we find a transcription of the poetry discussed above divided into four sections representing *topoi* and types of rhetorical tricks, rhetorical figures in the context of grammar rules, rhetorical figures presenting emotions, rhetorical figures showing the strengthening (to the point of exaggeration) of expression. Therefore, we are dealing with a work that discusses rhetorical devices for expressions about war and peace.

The work itself is an excellent example of the rhetorical culture of its time and, as the author himself suggests, was created more for the pleasure of communing with Latin literature and culture and is probably the result of the author's didactic activity. It is also an example of a deep knowledge of the tradition of ancient literature, although probably mainly in its Latin version, that is, one in which the works of Greek authors were read primarily in the form of Latin translations. This was probably also the case with the description of the Achilles shield in the *Iliad*, to which Schober refers to his vision of a "happy city" (*felix civitas*). At the same time, in this comparison – cities at war and cities in times of peace – one should probably look for the path that led the author to formulate the title. It may also refer to Olbia mentioned by Herodotus, but also described in the *Speech 36* of Dion Chrysostom, whose inhabitants speak archaic Greek and cite the *Iliad* and the *Odyssey* from memory.

The reference to Olbia in Schober's work is arbitrary, rhetorical, and probably does not intend to have any connotations with the actual existing ruins of the city, which were mentioned at the same time by the envoy of King Stefan

Batory to the Crimea – Marcin Broniewski (? –1593) – in the published posthumously (1595) description of a journey made in 1578–1579. For Schober, *Olbiopolis* is a literary term and, in the first place, an etymological metaphor referring to considerations about an ideal city-state. Such an Olbia functioned independently in material terms but left its mark on the Old Polish culture.

### The real Olbia

In fact, in all the texts cited so far (and many others not cited in this paper), there is no mention of historical Olbia at all, and in most cases the authors probably meant primarily the river and not the city, but it cannot be denied that there is a common reference to ancient names when mentioning this area. The theme of Olbia/Borysthene in Old Polish literature, mainly Latin, sheds light on the way this city is perceived by the elite of the Jagiellonian state and then by that of the Commonwealth in the context of ancient tradition. However, it should be noted that for almost 200 years the area around Olbia was of interest to these elites also for military and diplomatic reasons. Although it seems a bit exotic in the light of later history, almost until the end of the 16th century there were intense attempts by Poles and Lithuanians to recapture the lands first "seized" by the Tatars and then by the Ottoman Port at the beginning of that century. These attempts became particularly intense in the mid-16th century (especially in the years 1531–1573), when the Polish-Lithuanian side undertook a series of military expeditions to Ochakiv and, more broadly, to the area between the Liman (i.e., Olbia) and Bilhorod-Dnistrovskyi (ancient Tyras). Traces of these events can be found in the Turkish section of the Crown Archives (CAHR) and in Turkish documents from Başbakanlık Arşivi in Istanbul on the economics of Djankerman (Ochakiv) Akkerman (Bilhorod-Dnistrovskyi) and Bender (Tahini) as well as Kiliya in this period. These issues were discussed in a very competent article by Andrzej Dziubiński,<sup>41</sup> which I follow in many places when describing the historical context. The most valuable document in this category is undoubtedly the description of the border line between the Grand Duchy of Lithuania and the Ottoman Port, dated 1542.<sup>42</sup> For a proper assessment of the topographical credibility of this document, it is worth getting acquainted with the historical context and the reasons for its creation.

In the times of the ruler Jagiełło and his brother Vytautas, Poland gained access to the Black Sea from the mouth of the Dniro (Bilhorod-Dnistrovskyi, Akerman) to the mouth of the Danube (Kiliya) after making obeisance by the Principality of Moldavia to the Polish Crown (1387), and Lithuania directly, after subduing by Vytautas the ter-

<sup>41</sup> Dziubiński 1996.

<sup>42</sup> CAHR, *Metryka Koronna, Libri Legationum*, Fr. 11, 76-78, *Do króla i komisarzy [To the king and the commissioners]*.

ritory from the mouth of the Dnistr (Bilhorod-Dnistrovskyi) to the mouth of the Dnipro. This brought the area around Olbia under, at least nominal, control of the Polish-Lithuanian state. Despite the defeat of Vytautas at the Battle of Vorskla river in 1399 and the fall of the idea of subjugating the neighbouring Tatars, these territories for the next 100 years actually belonged to the Jagiellonians. At that time, several fiefs within these borders were granted to the Polish nobility. As part of one of such grant, Ochakiv and its surroundings were property of the Jazłowiecki and Sieniawski family:

*Szlachta brała od książąt grunta puste, po tylu barbarzyńskich dawniej przechodach lub koczowiskach Hunnow, Awarow, Gotow, Kumanow, Uhrow, Sławow, Bulharow, Pieczyngow, Połowcow niszczałe: na nich wioski, dwory i folwarki budowała. Jazłowieccy i Sieniawscy okolice Oczakowskie dziedzictwem posiadali: inni inne: poki rozhukane znowu potym pogaństwo, a swoią swywołą, lub poszeptem Wołoszy, Rusinow i Turkow natchnięte, pięknych tych ludności zaszczerpowa nie popsulo, a z czasem niedało Polakom powodu do zgromadzenia na wyspach Dnieprskich milicyi lekkiej, Kozakami przezwanej, aby ona z gruntow sobie lennością wydzielonych służbę strażniczą przeciwko naieźniczmy Tatarom odbywała. Przydać tu należy, prócz oboiej Siczy starej i nowej kozackiej, wiele mieysc nad Bohem dolnym, oraz Ingułami, Polskimi i Litewskimi włościami zaludnionych, także jezioro Teligolę, i dwa mosty od Witolda na Bohu zbudowane: co wszystko w pismach starożytnych znaydując się oznacza, iż te kraie teraz przez tatarzy posiadane do kraiw Polskich należały.*<sup>43</sup>

In the 15th century, especially after the capture of Constantinople by the Turks in 1453, the situation began to change. On the one hand, the Turks sought to gain control over the lower Danube, on the other hand, these areas were gradually occupied by the Crimean Tatars. In 1484, the Turks seized Kiliya and Bilhorod-Dnistrovskyi, and in 1492 Ochakiv (Djankerman/New Castle in Tatarian or Ozu Kalesi/Dnipro Fortress in Turkish) came under the control

of the Crimean Khanate. This caused a military reaction, first by Kazimierz IV the Jagiellonian, and then by Jan I Olbracht, who in 1492 took the throne of Poland. Initially, several significant victories were won in battles with the Tatars and Turks, but the spectacular defeat in 1497 during the retreat after the unsuccessful siege of Suceava not only buried hopes for regaining Moldavia, but also postponed attempts to regain Ochakiv and the neighbouring territories, despite a brilliant victory in the Battle of Ochakiv by Konstanty Ostrogski over the Tatar Khan Mengli Giray.<sup>44</sup> After Olbracht's death in 1501, the Polish throne was taken over by Alexander the Jagiellonian (since 1492 the Grand Duke of Lithuania), who in 1503 signed a five-year truce with the Sultan Bayezid II. Although the status-quo was indeed acknowledged, formally the Polish-Lithuanian side claimed historical rights to these territories still in the reign of Władysław IV Vasa (1632–1648), and the issue was still considered an open question in diplomatic correspondence with the Turkish side.

At the same time, a period of mutual guerrilla warfare began, which on the Turkish-Tatar side were primarily aimed at acquiring slaves, and on the Polish side – cattle, which were sold with great profit in the Crown. Bilhorod-Dnistrovskyi very quickly became one of the three leading slave trade centres in the region. Despite the official peace with the Turks, the Tatars raided Lithuania and the Crown (Podolia). The Polish-Lithuanian side responded with military measures, including the creation of “obrona potoczna” [Permanent Defense]. This idea was created during the reign of Olbracht and was implemented in 1520 by Sigismund I the Old, who, after his brother's death in 1506, took power in Poland and Lithuania. The mainstay of permanent defense was the institution of border “starosta” [County Sheriffs], who were responsible for the security of their subordinate areas and had the appropriate armed force at their disposal. The situation at the border worsened in the 1530s, when Sigismund I the Old, after Jan Tarnowski's victory at Obertyn (1531), obtained Pokuttya under a peace treaty concluded in 1538, but at the same time the Turks occupied Moldova and the rest of

43 Naruszewicz 1805, 86: *The nobility took empty land from the princes, after so many barbarian invasions or encampments of Huns, Pannonians Avars, Goths, Cumans, Ugrians, Slavs, Bulgarians, Pechenegs, Polovtsians they were destroyed: villages, manors and farms were built on them. Jazłowieccy and Sieniawscy, received the Ochakiv area as inheritance: others other: they were once again riotous pagans, who were inspired by their wantonness or instigations by Wallachians, Ruthenians and Turks, did not corrupt these beautiful populations, and with time the Poles did not have a reason to gather light militias on the Dnieper islands, They were called Cossacks, so that they, from the feudal lands dedicated to them, would serve as guardians against the incursions of Tatars. In addition, apart from the old and new Cossack Sich, many places on the Lower [Southern] Buh, and Inhulets, Polish and Lithuanian populated estates should also be added here, also Lake Teligolian, and two bridges on the Bohu built by Witold: everything in ancient writings means that these lands now owned by the Tatars belonged to the Polish lands.* (transl. AT) and Naruszewicz 1805, 136–137, n. 162: *Sarnicki in describing Poland: Oczakow primarium oppidum Scytharum (Tatarowie) sed nostrates Jazłowieccii et Sieniavii patrium suam (dobra nadane) isthic fuisse asserunt. In Oczakow autem civitate et circumquaque in compestribus Tartari Perekopenses degunt, et hucusque Lithvanorum colonia Vitoldi temporibus erat. [...].* The archaeological sources confirm that information: e.g. Bimbirajte (ed.) 2021, especially summary, 106–108 about the Lithuanian fortress at the “ostrov Velikii” near Tyagin at lower Dnipro in vicinity of Kherson. The fortress was built at the end of the 14th century and disappeared at the beginning of the 16th century.

44 In recognition of this victory, in 1497 Konstanty Ostrogski became the first Grand Hetman of Lithuania in history.



the Black Sea coast as far as the Crimea. Ochakiv was manned by a Turkish garrison even before the annexation of Budzhak.<sup>45</sup> In this way, the situation stabilized for the next several dozen years and the next major war with Turkey took place only in 1595, when Jan Zamoyski regained Moldavia (the Battle of Cecora or Țuțora) and the 17th century brought a series of wars in these areas with both Turks and Tatars. The last time the Commonwealth's troops went to Ochakiv was in 1647,<sup>46</sup> and this expedition probably had a great impact on the support of the Tatars for the Khmelnytsky Uprising of the Zaporozhian Cossacks that broke out in the following year.

Returning to the 16th century, it was a period of relative stabilization, although neither the Turkish nor the Polish-Lithuanian side wanted to embitter the dispute, almost every year there were larger or smaller Tatar incursions. In response, the Polish-Lithuanian side developed an active defence tactic, the originator of which was Michał Sieniawski,<sup>47</sup> although Andrzej Dziubiński argues that the actual originator was also Jan Tarnowski.<sup>48</sup> The essence of this tactic was to organize a network of border checkpoints, the task of which was to constantly carry out reconnaissance and intelligence activities in the Tartar territories and to create a system of efficient communication between them to make pre-emptive attacks on the Tatar abodes as soon as possible, which was to weaken the preparation of the invasion or even scare people away from it. An example of such action was Mikołaj Sieniawski's raid with a thousand cavalry to Ochakiv in 1538 as a response to the appearance of a Turkish garrison in this city. Dziubiński seems to have been right in claiming that these incursions got out of the king's control with the time, as they also brought rich loot. Thus, we have a situation in which both the Turks and the Polish-Lithuanian side controlled each other's attacks to a more and more limited extent, and neither one nor the other ruler wanted to cause a full-scale conflict. Large profits from the spoils gained by both sides encouraged taking the risk of falling out of favour with the

ruler by more and more people willing to get rich quickly. This is also probably where the beginnings of the lifestyle of the later Zaporizhian Cossacks can be traced.

One such border starost was Bernard Pretwicz, active in the years 1535–1559 (c. 1500–1563, of the Wczele<sup>49</sup> coat of arms), the protoplast of all real and literary “zagończyki” (cavalry raiders) operating in the Wild Fields. The starost of Bar was famous for several successful retaliatory invasions on the Tatars and, apart from a few dangerous-sounding nicknames, his achievements were proverbial: “Za Pretwica wolna od Tatar granica”.<sup>50</sup> He gained military fame not only among the Cossacks and in the Kingdom of Poland, but all over Europe. For our considerations, he is a key figure, because his incursions finally caused the authentic or mock anger of King Sigismund II Augustus (king in 1548–1572) and for this reason he had to defend himself before the Sejm<sup>51</sup> in 1550 by writing his multi-page apology,<sup>52</sup> in which we can find many historical details related to the incursions. An important part of the Pretwicz memorial are the references to the topography of the disputed area, when he mentions that he was attacking the Tatar hordes “to the ford near Kieremieniczuk” (Buh), then to “Czapczakleja”, then “to Beremboj”, “Adżibek”, “Berezań plateau” and finally Ochakiv. It should be added here, in the context of previous considerations, that Pretwicz, as a Polonized Silesian, conducted abundant foreign correspondence and young nobles and from outside Poland came under his banner in the hope of fame and loot.<sup>53</sup> It can therefore be assumed that he was an educated man for his time, and he was no stranger to the writings of ancient authors.

Several dozen years later (1579), the description of these areas was included in his work *Tartariae Descriptio* by Marcin Broniewski, Stefan Batory's envoy to the Crimea,<sup>54</sup> and the description of these territories is also known from the *Book of Travel* (*Sejihatname*) by the Turkish author Ewlija Cheelebi (1657)<sup>55</sup> and from the book of Cossack Sami-

45 *Acta Tomiciana*...1915, 60v: *Allatum est etiam ad Regiam Maiestatem quod Caesarea celsitudo vestra arcem Oczakov, et alias nonnullas arces, quae ad Regnum Maiestatis Regiae, a nullo retroacto tempore pertinent, praesidiis firmaverit et illas extruere decreverit*. Royal instruction of May 7, 1538, for the envoy Erazm Kretkowski sent to Istanbul.

46 Goszczyński 2016, 308–309.

47 Pretwicz 1550 cf. Tomczak 1960 and Dziubiński 1996 whose point of view I take here.

48 Dziubiński 1996, 56–57.

49 It is probably not coincidence that the Jan Onufry Zagłoba, one of the main literary figures of (the winner of the Nobel Prize in Literature) Henryk Sienkiewicz's “Trilogy”, used a seal with the Wczele coat of arms.

50 *Under Pretwicz, the border (is) free of the Tatars* (transl. AT); see: Plewczyński 1985, 72–73, 122 sq., 227 sq.; Plewczyński 1995, 88 sq.

51 Historical name of the Polish parliament.

52 Pretwicz 1550.

53 Dziubiński 1996, 79–81. Contemporary researchers suspect that his incursions may have been part of the plot of the Habsburgs trying to draw Poland and Lithuania into the war with the Turks.

54 *Tartariae descriptio*... 1595. Analysis of this mention later in the article.

55 *Księga podróży*... 2018.

ilo Velichko (1697).<sup>56</sup> The juxtaposition of these descriptions and documents from the crown chancellery allows for a relatively accurate reconstruction of the topography of Olbia and its surroundings in the 16th–17th centuries and confronting the state of knowledge of the real place with its traditional image, drawing on the ancient literary tradition, although it is difficult to assess the topographical credibility of these sources at this point.<sup>57</sup> On the other hand, the above historical arguments show the key conclusion for the subject of this article: the Black Sea area from the mouth of the Dnipro to the mouth of the Danube in the 16th century was very well known topographically due to frequent military operations against Tatars and Turks. Therefore, the documents describing these areas are reliable for us and it can be assumed that the authors knew them from their own examination.

Returning to our document describing the proposed route of the border with Turkey and considering its authors (such as the *starosta* of Kamianets-Podilskyi, Jerzy Jazłowiecki from Buchach, whose ancestors once owned properties near Ochakiv), also in this case a very good knowledge of the topography can be assumed. The following border line is proposed on the last page of the document (Fig. 1):

*Począwszy od Horodyszcz czarnego grodu, poprzez Poyakiku, aż do pół Teligolskiego Jeziora, a od jeziora aż do Ynczkieszu, gdzie jest krynica, od Ynczkieszu po wierzchu wierzchowin brzezańskich aż do Carowej Krynice, od Carowej Krynice do ujścia Bohu, gdzie wpada w Niepr i w morze a zowią to Ruskim Przewozem.*<sup>58</sup>

In short, the border, according to the proposal of the Polish side, was to run from the lower reaches of the Dnistr across the Kuyalnik River flowing into the sea in Odessa

through the Kuyalnik Liman to the mouth of the Buh river into the Dnipro. The document is a double disappointment, because firstly, the Turks broke off the negotiations<sup>59</sup> and secondly, there is no mention of the ruins of former Olbia in it, although it was written by educated people who probably knew the area from their own travels. At that time, Olbia was identified with Ochakiv and probably even the ruins that could be found at the mouth of the Buh did not evoke any associations with this city.

However, there is also a spoonful of honey in this tar barrel. The document mentions “Ruthenian crossing”, a crossing near Olbia. This would confirm the assumption that several hundred years ago, and thus even more so several thousand, when the water level was much lower,<sup>60</sup> there was a crossing near Olbia, perhaps even a ford (Fig. 2).<sup>61</sup> After topographic and toponymic analysis, I would agree with the thesis of Yuriy Boltrik, that the most likely crossing point seems to be the line connecting the Ruthenian Sandbar (Russkaya Kosa) with the Wallachian Sandbar (Voloskaya Kosa; Fig. 3). It is worth noting that the name of one of these sandbars resonates also with the term “Russkii Perevoz”. As Boltrik signalled in his paper, accepting this thesis would put in a new light the reasons for establishing the Greek colony in this very place. What’s more – the whole history of Olbia should be rethought because it is difficult to imagine its complete abandonment if the “Olbian route” and the ford associated with it were functioning into later times. This should be true both for the period after the devastation of the city in the middle of the 1st century BC, as well as the reasons for the return of the Romans to the place several dozen years later, as well as the period after the departure of the Romans and even after the fall of the Huns in the 5th century. If there was still a crossing in the 16th century, the site certainly could not be completely

<sup>56</sup> Litopis 2020.

<sup>57</sup> For the sources for the topography of Olbia and its surroundings on the basis of later, mainly non-Polish sources, see: Sapożnikov 2001–2002, which cites a letter from khan Mengli Giray to Ivan III of Russia of 1492 which, according to the author (p. 453), is the oldest mention of Olbia: *I am always one man with my brother, the Great Duke, and now I am building a new fortress at the mouth of the Dnieper River; on the old city, to harm Poland from there*. In my opinion, such a position is wrong, and it is not about the ruins of Olbia, but about the settlement in Ochakiv previously owned by the Jazłowiecki family by the Polish king. The mention of Broniewski and the letter of Mengli Giray are the only texts from before the mid-18th century known to the author. About earlier modern settlements in Ochakiv see, for example: Naruszewicz 1805, 110.

<sup>58</sup> *Starting from Horodyszcz [Castle] of the Black Castle, across Poyakik, up to half of the Teligol Lake, and from the lake to Ynczkiesz, where there is water spring, from Ynczkiesz on the top of the Brzezan [Berezan] plateaus, to Tsarova Krynica [King Water Spring], from Tsarova Krynica to the mouth of the Buh, where it flows into the Niepr [Dnipro] and into the sea and they call it the Ruskii Perevoz [Ruthenian Crossing]* (transl. AT). CAHR, *Metryka Koronna, Libri Legationum*, fr. 11, 78 verso. Document written in Polish. To my knowledge, this is the oldest modern description of the area of Olbia, although I do not lose hope that further searches in Old Polish documents may provide additional information about the area.

<sup>59</sup> Dziubiński 1996, 82–83.

<sup>60</sup> Šilik 1975.

<sup>61</sup> About the “Olbia trade route” and the crossing (ford?) by Olbia, see: Boltrik 2000, especially summary at p. 128; Poltavec, Bessonova 2015, 100, 106 and 108–111. I would like to express my gratitude to prof. Alla Buiskikh for drawing my attention to the thesis about the crossing near Olbia and bibliographic suggestions. I omit the analysis of the maps from the period. During the literature search, I find Olbia marked *expressis verbis* only at the Mercator Map but in the completely wrong place. Although some maps may be an interesting starting point for topographic considerations. However, due to the specific nature of the source, this is a topic for a separate article.



jabini Quasi 33 to v km. Zawodzi  
 było a to porządku od Góroczyska -  
nego grodu po rzekę poyakło az do pol  
tey gólskiego jeziora a od jeziora az  
do gólskiego jeziora jest krynica od  
gólskiego jeziora wyjeżdżamy brzo-  
skich az do czarowej krynicy od czare-  
wej krynicy do wsi boby góru wpa-  
niemy y wniemy a zowa to wsiem  
pojeżdżamy. Tę m. krolu v km. oboni  
 lypki które nam sędziak przez tchobz pob-  
 li pisał otkońsk by v km. boby nagro-  
 wiozomier jego rozkazania knani pojeżdż-  
 by y pojeżdżamy wniemy y pojeżdżamy  
 kizani wlasu v km. nadstego namyżob.  
 zymyżego pana (Dax wkraszlawio nro  
 miedziak po o. Marku Zwangrót. 1542

X. K. M.  
 wjeżdżamy  
 Jan Michalski  
 Mikołaj Szymanski  
 Jęzi Jarosławski  
 Wojciech Starostowski  
 wlasna wlasna wlasna wlasna

Fig. 1. Photo of the manuscript CAHR, Metryka Koronna, Libri Legationum, fr. 11, 78 verso (photo: A. Twardecki)



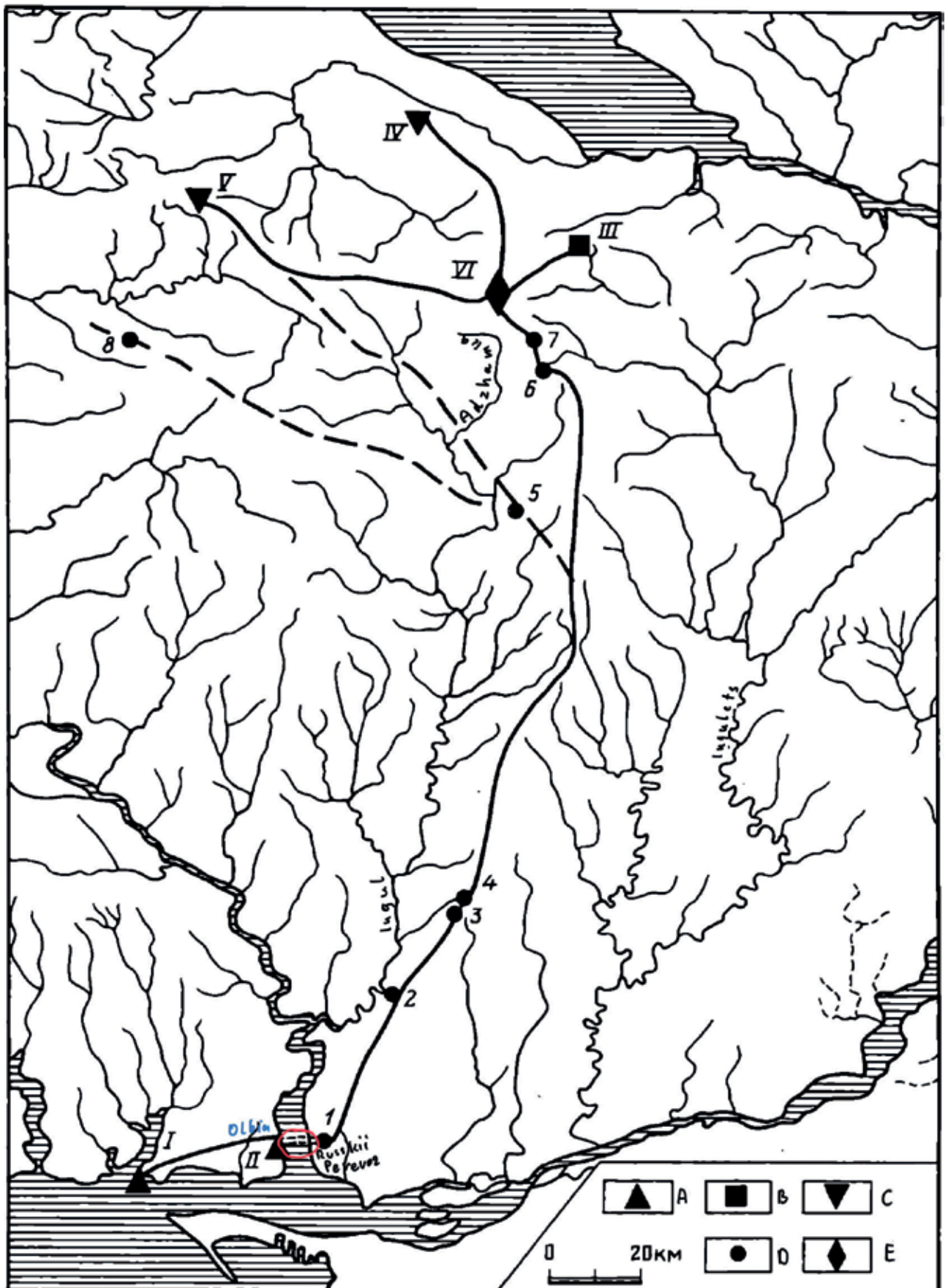


Fig. 2. Plan of the "Olbian trade route" after Boltrik 2000, fig. 1, 123 (by: A. Twardecki). A – Greek sites, B – pre-Scythian sites, C – Scythian sites, D – Scythian statues, E – Presumed localization of the Eksampeion temple; I – Berezan, II – Olbia, III – Chernoles settlement, IV – Matronin settlement; Pastor junction of settlements: 1 – Luparevo, 2 – Kalinovka, 3 – Khristoforovka, 4 – Mar'yanovka, 5 – Ingulo-Kamenka, 6 – Mederovo, 7 – Stanishino, 8 – Erdelevka



deserted. In my opinion, this excuses at least partially the lack of identification of this place (as Ruthenian by name) with ancient Olbia and its long-term identification with Ochakiv.

A good example of such an infatuation with Olbia-Ochakiv is a short reference to Olbia by Marcin Broniewski (? – before 1593).<sup>62</sup> In Broniewski's description, invaluable for the Crimea, there is one mention of Olbia, which the author clearly identifies with Ochakiv. In this respect, this burdened Broniewski's credibility in the eyes of posterity. An example of a low assessment of this mention as a credible source is Minns'<sup>63</sup> with the somewhat acrid remark that Broniewski personally did not visit Olbia during his trip in 1578. Broniewski writes:

*Oczacovia, quae Olbia, Olbis et Boristhenes Olbiopolis quasi beata civitas [AT] a Ptolemaeo et Plinio dicitur, ad Borysthenem, Carcinitum fluvium seu sinum sita est, ac in eum sinum mari Euxino vicinum Borysthenes ibidem exoneratur, quam a Miletiis conditam esse et amplum emporium habuisse Strabo refert. Arx lapidea nec bene tum munita, oppidum ignobile Turcarum ditionis est. Borysthenes seu Neprus altissimus, rapidissimus et latissimus fluvius, qui a septentrione labitur in Carcinitum sinum seu fluvium ac Pontum Euxinum penes Oczacoviam influit. Supra Oczacoviam vero miliaribus quattuor Hispanis seu Bogus fluvius in Boristhenem exoneratur. Ad Oczacoviam vero per Boristhenem et sinum Carcinitum stadiis ducentis (ut vult Strabo) traiectus latissimus et navibus maioribus ac minoribus in Isthmum ibi superatur. In eo traiectu et transitu a peregrinis et mercatoribus vectigal perpetuum imperatori Turcarum solvitur.*<sup>64</sup>

It should therefore be concluded that the mention of Olbia in Broniewski's description results from the compilation of knowledge of the topography of these areas at the royal court (without knowledge of the site of Olbia) with the ancient tradition mentioning the location of Olbia identified with Ochakiv. Interestingly, the first publication of Broniewski's description (1593) is basically simultaneous with the publication of Schober (1592).

In the sixteenth century, the Commonwealth permanently lost access to the Black Sea and in the later descriptions of military expeditions and raids, I did not find any mention of the ruins of ancient Olbia. Nevertheless, Adam Tadeusz Naruszewicz at the end of the 18th century, relying on both Old Polish literature and documents from the royal chancellery, continued the Old Polish tradition in his description of Olbia:

*Miasto to [Oczaków] i zamek mienią być geografowie na tym miejscu lub blisko, gdzie była niegdyś osada Greków Olbia. Turcy ją nazywają Kaalch Ossi, czyli fortecą Ossy. Michayło Litwin<sup>65</sup> Ossowem, dla tej podobno przyczyny, że leży ona przy ujściu Dniepra, który w języku Turków nazywa się Ossi czyli Uzi.*<sup>66</sup>

It can be concluded that Naruszewicz's work in a way closes the period of research on Olbia, research made in the pre-scientific times and based on the uncritical, as a rule, use of ancient sources, and on the knowledge of from visits to areas resulting from constant guerilla fights initiated in the first half of the 16th century. Naruszewicz is rather a representative of the new times: he uses footnotes, gives the names of the cited works. He also had access to the royal chancellery under Stanisław II August Poniatowski and used documents collected there.<sup>67</sup> At the end of the 18th century, this area was already under Russian rule, which opened a completely new chapter in the history of research on Pontic Olbia.

The mentions of Olbia in Polish literature of the 19th century, which can be found, for example, in the works of Hugo Kołłątaj or Józef Ignacy Kraszewski, although still dating back to the old Polish tradition, bear the mark of the new times, in which the modern scientific paradigm and the associated research methodology are being adopted more and more boldly. This leads to a downgrading of the cognitive value of Old Polish texts. There are also more and more works by Russian and Ukrainian researchers dealing with the topography and history of Olbia. A characteristic feature of these publications is the almost complete ignoring of the achievements of the earlier epoch in this regard

62 *Tartariae descriptio*... 1595.

63 Minns 1913, 494: *In 1578 Martinus Broniovius de Biezdzfedeo, ambassador from Bathory to the Crim Tatars, visited the site of which he left a high-flown account more indebted to Strabo than to his own eyes.*

64 *Tartariae descriptio/Opis Tatarii* 2011, 60.

65 In: Michalonis Lituani *De moribus Tartarorum, Litanorum et Moschorum, Fragmina X. multiplici Historia referta. et Iohan. Lascii Poloni De diis Samagitarum, caeterorumq. Sarmatarum et falsorum Christianorum, Item De religione Armeniorum. Et de initio regiminis Stephani Batorii.* Nunc primum per I. Iac. Grasserum, C. P. ex Manuscripto Authentico edita, Basilea 1615.

66 Naruszewicz 1805, 109–110: *This city [Ochakiv] and the castle is called by geographers at or close to where the Greek settlement of Olbia was once. The Turks call it Kaalch Ossi, or Ossa's fortress. Michael the Lithuanian Ossow, for the reason that it lies at the mouth of the Dnipro, which in the Turkish language is called Ossi or Uzi* (transl. AT).

67 For example, he refers to the instruction from 1542 we cited in his footnote 163 on p. 137, although a typing error made him date it to 1342.

(maybe apart from reference to Broniewski's description). As a result, this has led to the exclusion from the scientific literature of mentions about Olbia from before the Russian annexation of these areas. This even applies to most

Polish researchers of antiquity who have failed to refer to Old Polish sources in their works.<sup>68</sup> The analysis of Polish sources dealing with Olbia after the 18th century requires separate publications.



Fig. 3. Proposed localization of the Olbian ford, by A. Twardecki

<sup>68</sup> A good example is the reaction of Tadeusz Sinko, who expresses his joy at the (wrong) assumption made by Stanisław Witwicki that Herodotus personally visited the area of today's Targowitsya. In this context, Olbia is in no way perceived as part of the territory of the Polish-Lithuanian state. You can clearly see the lack of cultural continuity in this respect with Old Polish sources: Sinko 1932, 168.

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*IOSPE I* – Latyshev B. (ed.) 1885, *Inscriptiones Antiquae Orae Septentrionalis Ponti Euxini Graecae et Latinae*, vol. I, *Inscriptiones Tyrae, Olbiae, Chersonesi Tauricae aliorum locorum a Danubio usque ad regnum Bosporanum, Petropoli*.

