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# ROMAN GLASSWARE FROM THE AREA OF THE CHERNIAKHIV/ SÂNTANA DE MUREȘ CULTURE: TYPOLOGY, CHRONOLOGY AND DISTRIBUTION

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**Abstract:** The aim of this article is to examine the typological spectrum of Roman glass vessels discovered in the Cherniakhiv/Sântana de Mureș area. The analysis is primarily focused on the chronology of the circulation and distribution patterns of the various glass types of Roman origin represented in Eastern Europe during the late Roman and early Migration periods.

In my opinion, there are only two conditions that allow us to associate certain types of barbarian glass vessels with Roman origin with relative assurance: if their production within the Empire is documented in written or archaeological sources, and if they have identical parallels among the widespread synchronous glassware forms in the Roman provinces. A total of fourteen types of glassware from the Cherniakhiv/Sântana de Mureș area meet the aforementioned criteria. These include mainly cups and beakers, which were widely used in various Roman territories. The majority of glass vessels of Roman origin come from funerary assemblages.

It seems likely that one of the main transit points for glass objects from different parts of the Empire into the area of the Cherniakhiv/Sântana de Mureș culture was the Lower Danube provinces. Another possible route of imported glass goods to the local population may also have passed through the North Pontic cities.

First introduced into the Cherniakhiv/Sântana de Mureș area in the second half of the third century, imported glass objects circulated alongside the other categories of the local material culture until the second third of the fifth century. Over this time, their number increased considerably, from a few heterogeneous glass cups in the early phases of the culture to several dozen rather uniform conical beakers during the early Migration period. This shift appears to have occurred approximately in the mid-fourth century and was evidently related to the significant changes in Roman-Gothic interaction following the recognition of the latter as *foederati* of the Empire by Constantine I.

**Keywords:** *glassware, Roman import, Barbaricum, Eastern Europe, late Roman period.*

## INTRODUCTION

Since the formation of the discourse on Roman artefacts beyond the *limes*, glass vessels discovered in *Barbaricum* have been associated exceptionally with Roman influences<sup>1</sup>. The rise of this idea probably was driven by various

<sup>1</sup> EGGERS 1951, 59–62; WHEELER 1954, 3–5; EKHOLM 1963; 1965; SMILENKO 1952, 70;

factors, primarily the primitive and savage image of barbarians created by ancient authors. The assumption of autonomous glassworking activity in *Barbaricum*, which required the engagement of highly qualified specialists, contradicted the idea about the colonial nature of the Empire's interactions with Germanic tribes, which was quite widespread in the twentieth century. Finally, the limited number of these objects that markedly stood out among the material culture of the local population also supported the Roman origin of the glass vessels found outside *limes*.

Nevertheless, the further systematisation of the accumulated material, the publication of the first catalogues of glassware discovered in *Barbaricum*<sup>2</sup> and research materials from new Roman provincial centres<sup>3</sup> significantly influenced the evolution of such views.

In the early 1970s, the possibility of producing glass vessels beyond the *limes* first became the subject of a separate discussion that continues today<sup>4</sup>. Essential for its establishment was the publication of the first excavations of a secondary glass workshop discovered in Komariv, in the area of the Cherniakhiv/Sântana de Mureş culture, located over 300 km from the nearest section of the Roman border<sup>5</sup>. The discovery of the Komariv workshop seems to have triggered, for the first time, the necessity to justify the categorisation of glass vessels found in *Barbaricum* as Roman imports.

## WHAT IS ACTUALLY ROMAN?

The foregoing discussion raises an important and complex problem: what exactly should we consider as Roman? In prehistoric studies, this is primarily a spatial question, the answer to which is usually quite elementary. Roman means made within the Empire<sup>6</sup>.

However, the actual situation is much more complicated. For example, U. Foss and M. Erdrich emphasise that the production of certain imported goods found in *Barbaricum* is sometimes problematic to record archaeologically within the Roman provinces<sup>7</sup>. Indeed, the secondary glassworking or processing of non-ferrous metals offers a vivid illustration of this phenomenon<sup>8</sup>. Due to the recycling practices that were widely utilised by Roman craftsmen, these production activities often leave little or no archaeological traces. While the archaeometric data reveal distribution patterns and the origin of raw materials, but provide limited information on the provenance of finished objects<sup>9</sup>.

In this regard, Roman is also often determined as foreign to barbarian style and technology<sup>10</sup>. However, ongoing archaeological research is revealing that certain technologies,

such as glassworking or goldsmithing, previously believed to be exclusively Roman, were also common in barbarian societies, while the list of items unique to the material culture of the population of *Barbaricum* is constantly shrinking. In addition, in the barbarian territories located close to *limes*, Roman goods often appear to be a virtually integral part of the daily life of local communities<sup>11</sup>.

Following S. Schreiber, the use of the dichotomy "native-foreign" to characterise imported objects in *Barbaricum* demonstrates a much deeper sense of the concept of "Roman", which is determined not only by the location of artefacts in space, but also by their specific features, the formation of which was driven by technological traditions or aesthetic preferences of a particular sociocultural environment<sup>12</sup>. In this case, if it is impossible to establish the geographical place of manufacture of the objects, specific technological and stylistic features may serve as evidence of their Roman origin, provided that they are identical or at least similar to the corresponding characteristics of products widespread in the Roman provinces and do not coincide with the attributes of local objects that are similar in function<sup>13</sup>.

Another important issue is the existence of barbarian imitations to Roman objects. Constructed using a different technology, they reproduce the stylistic features of the latter. While imitations made of different materials (such as ceramic imitations of glass or metal tableware) are quite easy to distinguish from the authentic items, some other barbarian products are literally copies of Roman ones (for example, copies of Roman denarii made by casting, the so-called *denarii flati*, or cladding, the so-called *denarii subaerati*<sup>14</sup>). Therefore, stylistic features alone do not always provide an unquestionable basis for associating objects with Roman origin.

A further list of challenges in interpreting artefacts as Roman is provided by S. Schreiber<sup>15</sup>. For example, whether objects produced by Roman craftsmen in *Barbaricum*, or made from raw materials extracted in barbarian territories, can be considered Roman. Within this discussion, it is worth mentioning the assumption that Roman glassblowers could have produced goods "on request" for barbarians, exclusively for distribution outside the *limes*, which is sometimes used to determine the origin of certain types of Cherniakhiv glass vessels<sup>16</sup>. As a rule, the authors do not provide any arguments to support this idea. However, in the light of new archaeological discoveries this assumption may become promising<sup>17</sup>.

SYMONOVICH 1957, 28–30; 1964, 11; 1977, 184–185; DIACONU 1965, 106–108.

<sup>2</sup> EGGERS 1951; KROPOTKIN 1970; RAU 1972; STRAUME 1987; LUND HANSEN 1987.

<sup>3</sup> ISINGS 1957; FREMERSDORF 1958, 1959, 1962, 1967, 1970; CLAIRMONT 1963; DOPPELFELD 1966; BARKÓCZI 1968.

<sup>4</sup> KROPOTKIN 1970, 32; RAU 1972, 168–170; 1974; RUMYANTSEVA *et alii* 2021.

<sup>5</sup> SMISHKO 1964; RUMYANTSEVA/BELIKOV 2017.

<sup>6</sup> SCHREIBER 2018, 61; RAU 1972, 168; VOß/ERDRICH 2003, 143–144.

<sup>7</sup> VOß/ERDRICH 2003, 143–144.

<sup>8</sup> FREESTONE 2015; SAINSBURY 2018; BRAY 2020.

<sup>9</sup> SCOTT/DEGRYSE 2014, 22–23.

<sup>10</sup> EGGERS 1951, 10–11; LUND-HANSEN 1987, 16–17.

<sup>11</sup> TILLISCH 2009, 545; POPA 2015, 67–170; ARDELEANU 2016; DROBERJAR 2022.

<sup>12</sup> SCHREIBER 2018, 44. The German researcher's beliefs are closely aligned with the concepts of technological choices (see LEMONNIER 1986; 1993) and technological styles (see LECHTMAN 1977).

<sup>13</sup> VOß/ERDRICH 2003, 143–144.

<sup>14</sup> See DYMOWSKI 2021; AWIANOWICZ/DYMOWSKI/MYZGIN 2022.

<sup>15</sup> SCHREIBER 2018, 64.

<sup>16</sup> GAVRITUKHIN 2017; RUMYANTSEVA/BELIKOV 2017, 262.

<sup>17</sup> In this case, the eye brooches of the so-called Prussian series of the third group, according to O. Almgren's classification, are worth mentioning (ALMGREN 1923). Their distribution area covers almost exclusively the areas outside the *limes*, which has led to the idea of a barbarian origin of these objects. Recently, however, evidence for the production of eye fibulae of this series has been discovered in Carnuntum (Bad Deutsch-Altenburg)/AT and Augusta Vindelicorum (Augsburg)/DE (SCHREIBER 2018, 59).

To sum up the first part of our research we can conclude that no clear criteria for attributing artefacts as Roman in origin have yet been established. They are usually determined intuitively, depending on the context or circumstances. The most common of these are spatial, technological or stylistic characteristics of archaeological objects. However, using these criteria in isolation is dangerous and can lead to erroneous conclusions. Thus, only two conditions permit us to associate certain types of barbarian glass vessels with Roman origin with relative assurance: if their production within the Empire is documented in written sources or archaeologically and if they have identical parallels among the widespread synchronous glassware forms in the Roman provinces. It is crucial that such similarities between artefacts should be manifested through the combination of the same technological solutions and similar decorative patterns.

## AN OVERVIEW OF THE MAJOR TYPES OF LOCAL GLASSWARE

No less than fourteen types of glassware from the Cherniakhiv/Sântana de Mureş area satisfy the aforementioned conditions. Following the shared morphological and technological features, they can be divided into several groups, including drinking vessels (cups and beakers) and glass tableware (jugs).

### *Hemispherical cups with cracked-off rims (Isings Form 96)*

The group consists of thin-walled (wall thickness not exceeding 0.35 cm) vessels blown of glass with different colours and quality<sup>18</sup>. On average, they are about 8 cm (4.6–11.2 cm) high and have a rim diameter of about 10 cm (7.5–12 cm). The rim is curved, cracked-off, and carefully polished. A wide horizontal abraded band covers the exterior surface below the rim. The base is round, slightly thickened, and has a small stable platform. The decoration usually includes abraded or wheel-cut bands and wheel-cut facets; some specimens combine abraded elements with applied glass drops or threads. Depending on the method of treatment and decorative design, several types of hemispherical cups can be distinguished.

The first typological unit is represented by the **Eggers 216 type**<sup>19</sup> vessels. At least three almost intact glass cups of this type come from graves 96 in Cherneliv-Ruskyi/UA<sup>20</sup> (Fig. 1: 1), 67 in Tîrgşor/RO (Fig. 1: 4), and from the settlement layer at Poienestî/RO (Fig. 1: 5). In addition, G. Gomolka-Fuchs

<sup>18</sup> The colour range varies from completely decolourised and virtually colourless with different shades of green to natural yellow or green.

<sup>19</sup> In typological attribution of glassware discovered within the Cherniakhiv/Sântana de Mureş area, I use several schemes. In particular, these are the classifications of H.-J. Eggers (types Eggers 180–250, see EGGERS 1951) and E. Straume (types Straume I–X and Subgroups 1–2, see STRAUME 1987), which encompass the majority of the glass finds known in *Barbaricum*. In addition, the schemes of C. Isings (Isings Form 1–134, see ISINGS 1957), B. Rütli with additions by S. Fünfschilling (types AR 1–215, see RÜTTI 1991 and FÜNFSCHILLING 2015), K. Goethert-Polaschek (types Trier 1–165, see GOETHERT-POLASCHEK 1977), and D. Foy, created in collaboration with her colleagues (types IN 1–326, see FOY *et alii* 2018), which encompass the majority of glassware forms prevalent in the Roman provinces, are employed.

<sup>20</sup> The Appendix contains further information on the morphological and metric characteristics of the vessels.

mentions two more fragmented pieces of analogous vessels from Băiceni/RO and Bârlad – Valea Seacă/RO<sup>21</sup>. However, the poor state of preservation complicates their precise typological attribution. The artefacts are relatively homogeneous in size and decorative pattern, which corresponds to scheme A in the definition of O. Yatsenko<sup>22</sup>.

Only the glass cup discovered in Cherneliv-Ruskyi comes from a dated context. A multipart antler comb with a low semicircular back (Nikitina variant I.2.a<sup>23</sup>; Fig. 1: 3) and a bronze crossbow fibula with a returned foot<sup>24</sup> (Gorohovskij variant A.5/A.5; Fig. 1: 2) accompanied the buried person beside the glass vessel indicate the chronological position of the assemblage within the second phase of a local relative chronological system<sup>25</sup> or the last third of the third and first third of the fourth centuries.

Glass cups of the Eggers 216 type widely occur in *Barbaricum* outside the Cherniakhiv/Sântana de Mureş area. More than sixteen artefacts are known from “princely graves” of the Leuna-Haßleben horizon<sup>26</sup>, four – from the territory of the West Germanic tribes (Klein-Köris/DE and Häven/DE)<sup>27</sup>, two – from the area of the Wielbark culture (Krosno/PL and Pielgrzymowo/PL)<sup>28</sup>, one – from the Dębczyno group (Białęcino/PL)<sup>29</sup> and two – from the area of the Luboszyce culture (Luboszyce/PL)<sup>30</sup>, one – from the territory of the Free Dacians (Mătăsaru/RO)<sup>31</sup> and one more – from the Sarmatians of the Lower Dniester (Semenivka/UA)<sup>32</sup>. The items usually vary in size and decorative patterns.

<sup>21</sup> GOMOLKA-FUCHS 1999, 132, Abb. 2: 6–7.

<sup>22</sup> A detailed classification of Eggers 216 type cups was offered by C. Clairmont (CLAIRMONT 1963) and O. Yatsenko (YATSENKO 2006).

<sup>23</sup> In attributing chronological indicators from burial assemblages containing analysed glass vessels, I employ the following typological schemes: the classification of multipart antler combs by G. Nikitina and classifications of brooches and buckles (made of non-ferrous metals) by E. Gorohovskij (1988), O. Petrauskas (2010), and A. Kokowski (1996), as well as classifications of Roman amphorae and imported ceramic tableware by D. Shelov (1978) and S. Didenko (2018).

<sup>24</sup> In O. Almgren’s classification, these brooches are commonly known as fibulae of type 161.

<sup>25</sup> To date, there are several relative chronological schemes for the material complex of the Cherniakhiv/Sântana de Mureş culture, which are generally quite similar in structure. (KAZANSKI/LEGOUX 1988; GOROHOVSKIJ 1988; BAZHAN/GEJ 1992; GEJ/BAZHAN 1997; TEJRAL 1992; 1997; PETRAUSKAS/SHYSHKIN 2010; LYUBICHEV 2019b). Most of them consist of four or five main phases and sometimes a “zero” or transitional phase. Each stage is defined by the combination of specific chronological indicators in assemblages. These objects typically encompass both locally produced artefacts and imported goods. Absolute dates for these stages are typically established by identifying of analogous finds from dated contexts of the Northern Black Sea region, Central Europe, and the nearest Roman provinces, containing coins or objects whose circulation period is well documented within the Empire. In this research, I use the system introduced by E. Gorohovskij, which includes five phases and a transition stage between the first and second phases (GOROHOVSKIJ 1988).

<sup>26</sup> Haina/DE (SCHMIDT/BEMMANN 2008, 155–157, Taf. 216: 18–21), Leuna/DE (SCHULZ 1953, 61–62, Taf. XXXIV: 1), Stráže/SK (grave 1; HRNČIARIK 2021, 39–40, Tab. 1, Fig. 8), Ostrovany/SK (grave 1/2; HRNČIARIK 2021, 40, Tab. 1, Fig. 10), Himlingøje/DK (grave 1–1949; LUND HANSEN 1995, Taf. 20: C24707–9), Hågerup/DK (BEMMANN 2014, Abb. 10).

<sup>27</sup> VOŠ *et alii* 1998, 96–97, Taf. 37: 1, 50: 1.

<sup>28</sup> STAWIARSKA 1999, 266, Kat. N. 86–87.

<sup>29</sup> STAWIARSKA 1999, 265, Fig. 84, Kat. N. 84.

<sup>30</sup> STAWIARSKA 1999, 266, Kat. N. 88–89.

<sup>31</sup> IONIȚĂ 2000, 340, Fig. 3: 1.

<sup>32</sup> SIMONENKO 2003, 53–54, Fig. 9: 3; BĂRCĂ/SYMONENKO 2009, 253, Fig. 101/4.

Nonetheless, some objects adorned with decorative scheme A after O. Yatsenko are virtually indistinguishable from the abovementioned local finds. For example, in the burials from Haina/DE and Himlingøje/DK (assemblage 1–1949), such vessels were deposited with similar larger cups decorated with ornamental schemes D and C after O. Yatsenko, respectively, which implies the simultaneous coexistence of these vessels in a barbarian context. Supposedly, these assemblages were created between AD 245/255 and 275/285<sup>33</sup>. Another glass cup with decorative scheme A after O. Yatsenko comes from a Sarmatian burial in Semenivka, which O. Symonenko dated to the second or third centuries<sup>34</sup>.

From the second half of the second to the middle of the third century, Eggers 216 type cups became widespread in various regions of the Roman Empire. Some scholars suggest they could have existed here until the first half of the fourth century<sup>35</sup>. However, the vessels undoubtedly related to this period are virtually unknown.

The provenance of the Eggers 216 type glass cups is still a matter of debate. It appears that they were produced in several centres operating in Rhineland, Pannonia, Syria, and the Northern Black Sea region<sup>36</sup>. However, the latter one, including Tánais (Nedvigovka)/RU and Alma-Kermen/UA, is not currently considered as their place of origin due to a lack of archaeological evidence<sup>37</sup>.

Roman glass vessels resembling the Cherniakhiv artefacts in size and decorative design are known mainly in the European provinces of the Empire and from the Northern Black Sea region<sup>38</sup> (Fig. 11: A), which probably excludes their eastern (Syrian) origin. The absence of glass items with decorative scheme A after O. Yatsenko from the Dura Eurōpus<sup>39</sup> supports this assumption. Presumably, cups of Eggers 216 type could have reached the area of the Cherniakhiv/Sântana de Mureş culture from the west or north Pontic regions, where such artefacts are also considered imported goods from the Rhineland or Pannonia<sup>40</sup>.

A hemispherical glass cup from grave 11 in Ruzhychanka/UA (Fig. 1: 9) represents the next typological position. The vessel shows similarities with Roman glass cups of the **IN 110** or **117 type**. The object is decorated with pinched together applied glass threads of the same colour as the

vessel, which create a pattern resembling the Latin letter X and an abraded horizontal narrow band arranged above it. Two analogous artefacts are known from Selongey/FR<sup>41</sup> (Fig. 1: 14) and Niederbieber/DE<sup>42</sup> (Fig. 1: 11) in Germania Superior, where they were discovered in contexts dating to the third century<sup>43</sup>.

Another glass cup of Roman origin comes from grave 105 in Romankivtsi/UA (Fig. 1: 6). A complex geometric design comprising five sections, each created by an abraded circular band and a wheel-cut round facet arranged inside it, covers the vessel's surface. An identical decorative element is visible at the bottom of the cup, whereas vertical straight abraded bands separate the details of the general pattern.

The assemblage from grave 105, which also contained a multipart antler comb with a low semicircular back (Nikitina variant I.2.a; Fig. 1: 7) and a small-size circular bronze buckle (Gorokhovskij series Zh/Ж; Fig. 1: 8), belongs to the second phase of the local chronological system.

At least two artefacts resembling the glass cup from Romankivtsi were spotted within Roman provinces – in Colonia Augusta Rauracorum<sup>44</sup> and Kolovrat/RS<sup>45</sup> (Fig. 1: 10). The vessel from the Kolovrat necropolis in Moesia Superior is probably its proximate analogue. The author of the publication identifies the find with items of group II according to the classification of L. Barkóczy<sup>46</sup>, decorated with so-called medallions<sup>47</sup>, and associates it with the third or fourth century<sup>48</sup>. Glass cups with analogous decorative design are also recognised as vessels of type e after C. Clairmont<sup>49</sup> or Augst type according to T. Stawiarska<sup>50</sup> and were widespread mainly in the Middle and Lower Danube provinces during the third and early fourth centuries<sup>51</sup> (Fig. 11: A), although isolated finds of these objects occur in both the northwestern (Augusta Treverorum or Trier/DE)<sup>52</sup> and eastern (Dūra Eurōpus)<sup>53</sup> regions of the Empire. However, this interpretation seems misleading for the glass cup from Romankivtsi, representing a separate typological cluster.

A hemispherical glass cup from settlement Gura Căinarului 1/RO (Fig. 1: 13) probably had a decorative design similar to the vessels of **group II after L. Barkóczy**. Perhaps its most comparable analogue is a cup from the necropolis at Mursa/

<sup>33</sup> BEMMANN 2014, 188, 190.

<sup>34</sup> SIMONENKO 2003, 53–54; BÂRCĂ/SYMONENKO 2009, 253.

<sup>35</sup> WEINBERG/STERN 2009, 95; FÜNFSCHILLING 2015, 332.

<sup>36</sup> SOROKINA 1965, 208; STAWIARSKA 1999, 125–130; WEINBERG/STERN 2009, 94–95; FOY *et alii* 2018, 107).

<sup>37</sup> YATSENKO 2006, 135–136; PUKLINA 2018, 73. Although the hypothesis of the production of Eggers 216 type cups in Tánais remains firmly rooted in the scientific literature (GOMOLKA-FUCHS 1999, 132; STAWIARSKA 1999, 125–130; WEINBERG/STERN 2009, 94–95; FOY *et alii* 2018, 107).

<sup>38</sup> Specifically, glass cups adorned with decorative scheme A after O. Yatsenko are known from Paris/FR (MOIRIN 2009, 194, Fig. 9: 13), Reims/FR, Marseille/FR (FOY *et alii* 2018, V. I, Assemblage 037: 13, 110: 5), Colonia Augusta Rauracorum (Augst)/CH (RÜTTI 1991, 68, Taf. 60: 1335), Brixia (Brescia)/IT (ROFFIA 2015, 235, Fig. 1a: 4), Intercisa (Dunaújváros)/HU (BARKÓCZI 1986, 172, Abb. 5: 11), Poetovio (Ptuj)/SI (ŠUBIC 1976, 46, N. 60a, Pl. VI: 47), Nicopolis ad Istrum (Nikyup)/BG (SHEPHERD 1999, 313, Fig. 11.2: 12), Mlekarevo/BG (CHOLAKOVA 2006, 222, Fig. II: 17–18), Tyras (Bilhorod-Dnistrovskiy)/UA (SON 1988, 50, Fig. 3: 7), Olbia Pontica (Parutyne)/UA (FOY/THIRION-MERLE/VICHY 2004, 170, Fig. 2: VRR 752; PUKLINA 2018, 69–70, Fig. 1–2), Tánais (Nedvigovka)/RU (YATSENKO 2006, 132–133).

<sup>39</sup> See CLAIRMONT 1963.

<sup>40</sup> CHOLAKOVA 2006, 222; PUKLINA 2018, 74.

<sup>41</sup> FOY *et alii* 2018, V. I, Assemblage 052: 7.

<sup>42</sup> HOFFMANN 2000, Fig. 2.

<sup>43</sup> FOY *et alii* 2018, V. II, 112, 117.

<sup>44</sup> RÜTTI 1991, 69, Taf. 60: 1344.

<sup>45</sup> CERMANOVIĆ-KUZMANOVIĆ 1992, 388, Kat. N 5.

<sup>46</sup> BARKÓCZI 1986, 173–180.

<sup>47</sup> A round or oval wheel-cut facet is arranged inside a circle created by a narrow, deep wheel-cut band. The latter is set back from the facet at a slight distance.

<sup>48</sup> CERMANOVIĆ-KUZMANOVIĆ 1992, 388, Kat. N 5.

<sup>49</sup> CLAIRMONT 1963, 70–72.

<sup>50</sup> STAWIARSKA 1999, 142–143; 2014, 86, 88.

<sup>51</sup> For detailed information on individual finds, see CALVI 1968, 72–73, Tav. II: 4, Cat. 172; RÜTTI 1991, 69, Taf. 60–61, Kat. N 1340–1346; BARKÓCZI 1986, 177–178, Abb. 8; BARKÓCZI 1988, 64–65; SARANOVIĆ-SVETEC 1986, 76, Taf. I: 8, Kat. N. 13; CERMANOVIĆ-KUZMANOVIĆ 1992, 388, Kat. N 5; SALDERN 1964, 45, Fig. 10; CZURDA-RUTH 1989, 133, Abb. 3: 34–35; STAWIARSKA 2014, 86, 88, Fig. 34: X; SHEPHERD 1999, 316, Fig. 11.2: 20, 22, 24, 11.3: 25.

<sup>52</sup> GOETHERT-POLASCHEK 1977, 58, Abb. 19: 209.

<sup>53</sup> CLAIRMONT 1963, 70–72.

RS (Fig. 1: 12), discovered in a context dated to the fourth century<sup>54</sup>.

Another Roman glass cup comes from grave 310 in Cherneliv-Ruskyi (Fig. 2: 1). The vessel shows similarity with the glass cups of **type 12.2 after A. Antonaras**<sup>55</sup>, decorated with a complex geometric design comprising deep horizontal wheel-cut bands and several rows of wheel-cut vertical oval facets or short narrow grooves.

The assemblage, apart from the glass item containing two bronze crossbow fibulae with returned feet<sup>56</sup> (Gorokhovskij variant B.2/B.2; Fig. 2: 2–3), can be assigned to the third phase of the local chronological system or the second and third quarters of the fourth century. Two related glass vessels are known from Thessaloniki/GR (Fig. 2: 4, 7), where they were uncovered in a domestic context, attributed to the late third – early fifth centuries<sup>57</sup>.

Hemispherical glass cups adorned with a complex geometric design, created by abraded or/and wheel-cut deep horizontal bands, wheel-cut vertical oval facets, and short narrow grooves, known as the **Iacobeni type**<sup>58</sup> represent the next typological unit. The main pattern, limited by wheel-cut deep horizontal bands, includes two horizontal rows of pentagons joined by the vertices of obtuse angles, which incorporate wheel-cut vertical oval facets. In addition, a series of wheel-cut vertical, short, narrow grooves sometimes cover the surface below or above it. At least three almost intact vessels of this type come from graves 82 in Havrylivka/UA (Fig. 3: 5), 21–1961 in Kosanove/UA (Fig. 3: 1), and 20 in Iacobeni/RO (Fig. 3: 10). Several fragmented pieces of glassware with an analogous ornamental pattern were also identified in Frunzivka/UA<sup>59</sup> (Fig. 3: 6), Komariv/UA<sup>60</sup>, Budești/MD, and Poienești<sup>61</sup>. However, the poor state of preservation complicates their precise typological attribution.

The assemblages from Kosanove and Frunzivka are crucial for estimating the circulation time of Iacobeni type cups within the Cherniakhiv/Sântana de Mureș area. In the first case, the glass vessel was accompanied by a bronze sheet fibula of variant 2 type 1 according to the classification of O. Petrauskas and E. Sinica<sup>62</sup> (Fig. 3: 4), a bronze buckle with a thickened anterior part (Gorokhovskij series V/B; Fig. 3: 3), and a multipart antler comb with a trapezoidal back (Nikitina variant II.2; Fig. 3: 2). The second deposit, apart from the glass cup, included a fragmented piece of the bronze crossbow fibula with a returned foot (Gorokhovskij variant B.2; Fig. 3: 9) and two circular bronze buckles with an excessively thickened anterior part (Gorokhovskij series G/Г; Fig. 3: 7–8). The conjunction of these chronological indicators allows both burials to be attributed to the third phase of local chronological system.

<sup>54</sup> SARANOVIĆ-SVETEC 1986, 11, 76, Taf. I: 8, Kat. N. 13.

<sup>55</sup> ANTONARAS 2017, 61–62.

<sup>56</sup> In O. Almgren's classification, these brooches are commonly known as fibulae of type 162.

<sup>57</sup> ANTONARAS 2017, 199, Cat. N. 63–64.

<sup>58</sup> IONIȚĂ 1994–1995.

<sup>59</sup> KRAVCHENKO 1967, 160–162, Fig. 2: 6.

<sup>60</sup> RUMYANTSEVA 2014, 425, Fig. 7: 99.

<sup>61</sup> GOMOLKA-FUCHS 1999, 134, Abb. 4: 2–3.

<sup>62</sup> In O. Almgren's classification, these brooches are commonly known as fibulae of series 2 group VI. For detailed information on the typology and chronology of these items, see PETRAUSKAS/SINICA 2010.

Another vessel of this type comes from Vrangstrup/DK (Fig. 3: 11) in Zealand, but the dating of this object remains a matter of debate<sup>63</sup>.

Similar glass cups are known from the Northern Pannonia and Thrace. In Brigetio (Komárom Szőny)/HU<sup>64</sup> and Poetovio<sup>65</sup> (Fig. 3: 12) they come from contexts related to the third century. In the Mautern necropolis (Mautern an der Donau)/AT an analogous cup (Fig. 3: 13) was discovered in a burial dated to the second quarter of the fourth century<sup>66</sup>, while a fragment of a similar glass vessel from Savaria (Szombathely)/HU was attributed by L. Barkóczy to the second half of the fourth century<sup>67</sup>. A fragmented piece of glassware with an analogous decorative pattern was also recorded at Karasura (Chirpan)/BG<sup>68</sup>. Apparently, one of the production centres of these glass vessels existed within Northern Pannonia, from where they presumably could have reached the area north of the Lower Danube through the mediation of the dioceses of Dacia or Thrace.

Remains of an almost complete hemispherical glass cup decorated with a series of vertical wheel-cut facets arranged in two rows, which probably belong to the **Eggers type 223** or **226**, were discovered in grave 100 from Velyka Buhaiivka/UA (Fig. 2: 5). The assemblage, along with the glass object, containing fragments of a multipart antler bell-shaped comb with a semicircular back and raised shoulders (Nikitina variant III.2.a; Fig. 2: 8), belongs to the fourth phase of the local chronological system or the second half of the fourth century. Several fragmented pieces of analogous glass vessels also come from Komariv (Fig. 2: 6) and, probably, Bârlad – Valea Seacă. However, I am unsure of the typological attribution of the latter due to the lack of published information on this find.

Glass cups of the Eggers types 223, 226–229 widely occur in the North and Central European *Barbaricum*. Two analogous vessels come from Jutland (Rådved/DK and Laerkenfeldt/DK<sup>69</sup>), two – from Zealand (Sigersted/DK and Varpelev/DK<sup>70</sup>), and one – from Bornholm island (Kobbeå/DK<sup>71</sup>), whereas at minimum three similar artefacts are known from the areas of the Wielbark (Pruszcz Gdański/PL) and Przeworsk (Zakrzów/PL) cultures as well as Dębczyno group (Redlino/PL)<sup>72</sup>. One more glass cup of this type was recently discovered in one of the barbarian burial sites of the Crimean foothills in Neyzats (Krasnogirske)/UA<sup>73</sup>. The artefacts vary in size and decorative design. The vessels from Sigersted (Fig. 2: 13), Redlino (Fig. 2: 9), and Pruszcz Gdański (Fig. 2: 7) demonstrate the greatest similarity to the

<sup>63</sup> The author of the find publication dated the context to the second quarter of the fourth century (BROHOLM 1953, 63). In contrast, E. Straume associates this artefact with the end of the C<sub>2</sub> and C<sub>3</sub> phases (i.e. mainly with the fourth century), while U. Lund Hansen attributes it exclusively to the C<sub>2</sub> phase (AD 250/260–310/320) of the Scandinavian system of relative chronology (STRAUME 1987, 124, Pl. 12: 97; LUND HANSEN 1987, 428).

<sup>64</sup> BARKÓCZI 1988, 65, Taf. LXXI: 40, Kat. N. 40.

<sup>65</sup> ŠUBIC 1976, 46, Fig. 11, N. 59.

<sup>66</sup> POLLAK 1993, 183, Taf. 17.

<sup>67</sup> BARKÓCZI 1988, 106, Taf. XV: 168, LXXVII: 168, Kat. N. 168.

<sup>68</sup> GOMOLKA 1992, 266 Abb. 1: 21.

<sup>69</sup> RAU 2008, 225, Abb. 1: 6, 5: 4; STRAUME 1987, 119, Kat. N. 85.

<sup>70</sup> STRAUME 1987, 120, 122, Kat. N. 89.1, 95.2.

<sup>71</sup> STRAUME 1987, 119, Kat. N. 84.

<sup>72</sup> STAWIARSKA 1999, 285–286, 289–290, Kat. N. 147–148, 161.

<sup>73</sup> SHABANOV 2011, 148, Fig. 5: 34.

glass cup discovered in Velyka Buhaiivka. However, despite the evident morphological similarities, the explicit chronological differences between these finds militate against their common origin. The glass cup from grave 250a in Pruszcz Gdański comes from a dated context related to the last third of the third and first decades of the fourth centuries or the C<sub>2</sub> stage of the Central European relative chronological system<sup>74</sup>. Similarly, the glass vessels from Redlino and Sigersted are typically attributed to the period spanning the second half of the fourth and first decades of the fourth centuries<sup>75</sup>. The later chronological position, which is determined within the first half or first third of the fourth century, presumably has the glass vessel from the tomb 139 in Neyzats (Fig. 2: 12), displaying comparable morphological features<sup>76</sup>.

Analogous glass cups occurred in various Roman provinces, where they circulated during the third and first half of the fourth centuries<sup>77</sup>. Two glass vessels resembling the artefact from Velyka Buhaiivka in size, glass colour, and decorative pattern were discovered in Singidunum<sup>78</sup> (Fig. 2: 11). One of these comes from a domestic context dating from the third to the middle of the fourth century. The other originates from the layer of the late third or the first half of the fourth century. Another comparable vessel related to the late Roman period comes from Karanis<sup>79</sup> (Fig. 2: 10).

A hemispherical glass cup of the **Eggers 213 type** was discovered in grave 96 from Viitenky/UA (Fig. 4: 1), related to the fifth phase of the local chronological system or the last quarter of the fourth and the first third of the fifth centuries. Beside the glass vessel, the assemblage was accompanied by a single-piece bell-shaped antler comb with high back and short horizontal shoulders<sup>80</sup> (Fig. 4: 2), two oval bronze buckles with a thickened anterior part (Gorokhovskij series V; Fig. 4: 4–5), and an extraordinary bronze crossbow fibula with a full, sheet-catch plate, similar to brooches of Petruskas type 1.4 (Fig. 4: 3).

Two intact glass cups of the Eggers 213 type are known from Meszne/PL (Fig. 4: 6) and Dębczyno/PL in the area of the Dębczyno group<sup>81</sup>. Both finds share some morphological

features with the artefact from Viitenky, but belong to the C<sub>2</sub> stage of the Central European chronological system<sup>82</sup>.

Hemispherical cups with cracked-off rims decorated with horizontal abraded or deep wheel-cut bands (Eggers 213 type) were probably one of the most popular and long-used Roman glassware form. In the second half of the second century, they first appeared in use in the northwestern provinces<sup>83</sup>, and from the last decades of the third to the first half of the fifth century became extremely widespread in the European part of the Empire<sup>84</sup>. In the Eastern Mediterranean, vessels of this type acquired much less popularity<sup>85</sup>, although a few specimens are also recorded here<sup>86</sup>. A great variety of vessel shapes and decorative patterns suggests the possibility of multiple places of origin.

**Hemispherical glass cups decorated with applied drops of coloured glass** (or so-called **Nuppenschalen**) represent the final typological branch of this group. Three almost intact vessels of this type come from graves 102 in Viitenky (Fig. 4: 7), 14 in Zhuravka/UA (Fig. 4: 15), and 70 in Mogoşani/RO (Fig. 4: 10). Dark blue applied elements are dominant among the local finds. Typically, they are arranged in rows or triangles. Usually, abraded horizontal bands cover the vessel's surface in addition to the applied elements.

The circulation of these glass objects in the Cherniakhiv/Sântana de Mureş area is traditionally associated with the final (fifth) phase of the local chronological system<sup>87</sup>. However, a closer look at the accompanying finds from grave 70 in Mogoşani, in my opinion, suggests an earlier chronological position for cups of this type. Apart from the glass vessel, the assemblage contained a couple of silver crossbow fibulae with returned feet (Gorokhovskij variant B.2; Fig. 4: 11–12), which can be attributed to the third or fourth phase of the chronological scheme presented by E. Gorokhovskij. The use of cups with applied drops of coloured glass in later contexts is well documented by the graves from Viitenky and Zhuravka. The first assemblage presumably contained a fragment of a bell-shaped multipart antler comb (Nikitina type III; Fig. 4: 9) and an oval bronze buckle more than 2 cm in size (Gorokhovskij series D/Д; Fig. 4: 8)<sup>88</sup>. The second deposit included a double-plate fibula with a large semicircular head and rhomboidal foot (Kokowski type D; Fig. 4: 13) and an oval small buckle (Gorokhovskij series Zh; Fig. 4: 14). Both burials can be assigned to the fifth phase of the local chronological system.

An intact glass cup decorated with applied drops of dark blue and dark brown glass related to the late Roman or early Migration period is known from Nord Hogstad/NO in Rogaland<sup>89</sup>. However, the vessel rather shows a close affin-

<sup>74</sup> STAWIARSKA 1999, 286, Fig. 148, Cat. N. 148. For detailed information on the relative chronology of the Roman period in Central European *Barbaricum*, see EGGERS 1955; GODŁOWSKI 1970; TEJRAL 1986, 1992, 1997.

<sup>75</sup> RAU 1972, 128–129; 2008, 222; LUND HANSEN 1987, 100, 411, 472; VASIL'YEV 2013.

<sup>76</sup> SHABANOV 2011, 148; VASIL'YEV 2013, 423–425.

<sup>77</sup> Specifically, glass cups of Eggers 223 or 226 type are known from Colonia Claudia Ara Agrippinensium (Köln)/DE (DOPPELFELD 1966, 64, Abb. 148; FREMERSDORF 1967, 76–77, Taf. 46, Abb. 5) and Bonn/DE (FOLLMANN-SCHULZ 1988, 107, Taf. 46: 395, Kat. N. 395) in Rhineland, from Singidunum (Beograd)/RS (RUŽIĆ 1994, 47, T. XXXV: 7–8, Kat. N. 874, 872) in the Middle Danube, from Karanis (Kom Oshim)/EG (HARDEN 1936, 152, Pl. XVI: 426) and Dūra Europus (CLAIRMONT 1963, 68–70, Fig. 4, Cat. NN. 258–264) in Eastern Mediterranean.

<sup>78</sup> RUŽIĆ 1994, T. XXXV: 7–8, Kat. N. 874, 872.

<sup>79</sup> HARDEN 1936, 138, 152, Pl. XVI: 426.

<sup>80</sup> It is generally accepted that the single-piece antler combs circulated in *Barbaricum* mainly during the early Roman period. However, the "renaissance" of their popularity, as was noticed by R. Shyshkin, took place within the Cherniakhiv/Sântana de Mureş area in the second half of the fourth century (SHYSHKIN 1999, 45). The artefacts from this period are notable for their shape, which imitates contemporaneous multipart bell-shaped antler combs.

<sup>81</sup> STAWIARSKA 1999, 267, Fig. 90, Cat. N. 90–91.

<sup>82</sup> MACHAJEWSKI 1993, 121; STAWIARSKA 1999, 130–131.

<sup>83</sup> FOY *et alii* 2018, 105.

<sup>84</sup> COOL/PRICE 1995, 88–90; PRICE/COTTAM 1998, 117–118, Fig. 48: b; FÜNFSCHILLING 2015, 331–332.

<sup>85</sup> FÜNFSCHILLING 2015, 332.

<sup>86</sup> FOY *et alii* 2018, 105.

<sup>87</sup> GAVRITUKHIN 2017, 103; LYUBICHEV 2019b, 98–99; PETRAUSKAS 2021, 21.

<sup>88</sup> The grave 102 from Viitenky was destroyed by looting or ritual activity in the past, making it hard to identify the original collection of finds that accompanied the buried person. Fragmented pieces of a glass cup occurred at different levels of the burial deposit, suggesting that it belonged to this assemblage.

<sup>89</sup> LUND HANSEN 1987, 469.



ity with glassware from the Rheinland provinces, where applied elements usually display a wide range of glass colours<sup>90</sup>. Occasional finds of glassware decorated in the same way come from Öland (Eketorp/SE, Hässelby/SE, Skön/SE), Pomerania (Gąski/PL), Masovia (Wola Skromowska/PL) and Lesser Poland (Otafęż/PL, Jakuszowice/PL)<sup>91</sup>. They are typically attributed to the fourth and first half of the fifth centuries<sup>92</sup>.

Glass vessels decorated with applied drops of dark-blue glass are widely represented at the barbarian burial sites within the Crimean foothills, where both hemispherical cups and conical beakers threaded in this way occur in graves of the second half of the fourth and the first half of the fifth centuries<sup>93</sup>.

During the fourth and first half of the fifth centuries, hemispherical cups decorated with applied drops of coloured glass became extremely widespread in the European part of the Empire<sup>94</sup> and the Northern Black Sea region<sup>95</sup>. The abundance, wide distribution area, and specific morphological differences of these glass vessels in various Roman provinces indicate at least several centres of their production<sup>96</sup>. Supposedly, some of them were established in Pannonia, Thrace, and Crimea<sup>97</sup>.

Ihor Gavritukhin believes that they could have supplied with their products the barbarians to the north of the Danube, including the Gothic population of the Cherniakhiv/Sântana de Mureş culture, as evidenced by the similarity of shape and decorative patterns between individual local artefacts, on the one hand, and glass cups with coloured glass drops from the Middle Danube region of the Empire and the Bosphorus, on the other<sup>98</sup>. However, in contrast to the glassware from the Lower Danube provinces and the Northern Black Sea region, usually made of low-quality glass in various shades of green or yellow<sup>99</sup>, the Cherniakhiv cups are blown mainly of transparent colourless glass material. This fact, in my view, contradicts I. Gavritukhin's hypothesis and suggests that their place of origin should probably be sought outside this area. Nevertheless, it seems possible that hemispherical cups decorated with applied drops of coloured glass

could have reached the territory inhabited by Gothic tribes from the dioceses of Dacia and Thrace, where a few colourless glass objects of this type, presumably representing imported goods, have also been documented<sup>100</sup> (Fig. 11: C).

#### *Conical beakers with cracked-off rims (Isings Form 106)*

The group comprises thin-walled (wall thickness not exceeding 0.5 cm) vessels blown of glass with various colours and quality<sup>101</sup>. The curved cracked-off rim is carefully polished or left unworked. An abraded horizontal band often covers the exterior surface below the rim. The bottom is rounded or slightly flattened. The decoration usually includes abraded/wheel-cut horizontal bands or applied coloured elements. Some vessels combine different methods of ornamentation. Undecorated samples are also quite common.

The crucial role in the chronological ranking of these beakers different scientists reasonably give to the method of decoration<sup>102</sup> and size<sup>103</sup> of the artefacts. Currently, three types of vessels can be assigned to this group.

The first one unites artefacts varying in size (height – 11.4–15.5 cm, and rim diameter – 7–9.5 cm) decorated with abraded horizontal bands or without any adornment, mostly known as beakers of **variants a and d of Isings Form 106 or type AR 68.1**. The majority of vessels have unworked rims, and only a few specimens show additional treatment of the edge.

A minimum of 22 conical beakers of this type come from fifteen native sites, which makes them one of the most common and widely distributed objects of Roman origin in the local barbarian context<sup>104</sup>. Their largest concentration is noticed in the southwest of the Cherniakhiv/Sântana de Mureş area, in the interfluvium of the Dniester and Siret rivers (Fig. 11: D). For example, no less than five analogous vessels were discovered at Nahirne 2/UA (Fig. 5: 7, 18; 6: 11, 17, 21), two – at Bilenke/UA (Fig. 5: 1; 6: 1), and two more – at Slobodzia-Chișcăreni/MD (Fig. 5: 22; 6: 16). Individual finds also come from Viitenky (Fig. 6: 8, 18), Zhuravka (Fig. 5: 27), Odaia/UA (Fig. 5: 26), Chervone 2/UA, Dănceni/MD (Fig. 5: 25), Mălăiești/MD (Fig. 5: 12), Barcea/RO (Fig. 5: 24), Boanca/RO (Fig. 6: 19), Ciorani/RO (Fig. 6: 6), Lețcani/RO (Fig. 5: 19), Polocin/RO (Fig. 6: 20), and Țirgșor (Fig. 5: 11).

Most artefacts come from dated contexts referring to the fourth phase or the second half of the fourth century<sup>105</sup>. For example, in grave 100 from Bilenke, a conical beaker of this type (Fig. 5: 1) was accompanied by a multipart antler bell-shaped comb with a semicircular back and raised shoulders (Nikitina variant III.2; Fig. 5: 2), and a light-clay Roman amphora (Shelov F type) of subtype F.3 after S. Didenko (Fig. 5: 3), dated to AD 360–370. The assemblage from grave

<sup>90</sup> FREMERSDORF 1962, 9; SOROKINA 1971, 99; ANTONARAS 2017, 177.

<sup>91</sup> Two specimens come from the area of the Przeworsk culture (Otafęż/PL, Jakuszowice/PL), one – from Wielbark culture (Wola Skromowska/PL) and one more – from Dębczyno group (Gąski/PL). For detailed information on individual finds, see NÄSMAN 1984, 45–49; STAWIARSKA 1999, 135–137, 273–275, Cat. N. 108–112.

<sup>92</sup> NÄSMAN 1984, 146–147.

<sup>93</sup> ZAJTSEV/MORDVINTSEVA 2003, 57–58, 61–62, Fig. 2: 10, 10: 17; SHABANOV 2011, 151–152, 166, Fig. 6: 41–43, 12: 27; GAVRITUKHIN *et alii* 2021, 103, Fig. 7: 1.

<sup>94</sup> ISINGS 1957, 131–132; HARDEN 1987, 102; FREMERSDORF 1962; BARKÓCZI 1972; COOL/PRICE 1995, 88–89; BUORA 1997, 25–26; BOŢAN/APARASCHIVEI 2015, 159; ANTONARAS 2017, 62–63, 177.

<sup>95</sup> SOROKINA 1971; SAZANOV 1995; ZASETSKAYA 2000; ZASETSKAYA 2008, 8–27; GOLOFAST 2001, 123–126.

<sup>96</sup> BOŢAN/APARASCHIVEI 2015, 159.

<sup>97</sup> BARKÓCZI 1988, 96–97; JEREMIĆ 2009, 145; GOMOLKA 1979, 148; CHOLAKOVA 2015, 142; SOROKINA 1971, 100–101.

<sup>98</sup> GAVRITUKHIN 2017, 103.

<sup>99</sup> On morphological features of individual finds, see (BARKÓCZI 1988, 96–100, Kat. N 144–156; RUŽIĆ 1994, 45–48, T. XXXIII: 4–9, XXXIV: 3–6, XXXV: 1–2, 5–6, Kat. N 771, 779, 804–807, 816–818, 835–844, 846–850, 875–876, 884, 938, 940; JEREMIĆ 2009, 145–148; SHEPHERD 1999, 372; CHOLAKOVA 2015, 140–148; SOROKINA 1971, 85; ZASETSKAYA 2000; ZASETSKAYA 2008).

<sup>100</sup> MILOVANOVIĆ 2005, 17–18, Fig. 4: 19–20; STAMENKOVIC/GREIF/HARTMANN 2017, 215, Fig. 3: 13.

<sup>101</sup> The colour range varies from completely decolourised and virtually colourless with different shades of green to natural yellow or green.

<sup>102</sup> KAZANSKI/LEGOUX 1988; CROITORU 2009, 220–222; GAVRITUKHIN 2017, 95–103.

<sup>103</sup> HOPKALO 2008, 98; 2011, 73–74; GAVRITUKHIN 2017, 95–103.

<sup>104</sup> Their actual number must considerably exceed this value since plain undecorated artefacts, indistinguishable from other fragmented glassware pieces, are virtually impossible to count accurately.

<sup>105</sup> KAZANSKI/LEGOUX 1988, 24; HOPKALO 2011, 84–85; GAVRITUKHIN 2017, 101.

36 in Nahirne 2, in addition to the glass vessel (Fig. 5: 7), contained a bronze crossbow fibula with a returned foot (Gorokhovskij variant B.2; Fig. 5: 5), a circular bronze buckle with an excessively thickened anterior part (Gorokhovskij series G; Fig. 5: 4) and a red slip oinochoie-jug of Didenko type 1, related to the second half of the fourth century (Fig. 5: 6). A grave 67 from Nahirne 2, besides an analogous glass beaker (Fig. 5: 18), yielded a multipart antler bell-shaped comb with a semicircular back and raised shoulders (Nikitina variant III.2; Fig. 5: 17), two silver crossbow fibulae with returned feet (Gorokhovskij variant B.2; Fig. 5: 13–14), a red-clay one-handed jug of Didenko type 6 (Fig. 5: 15) and a red slip bowl of Didenko type 3 (Fig. 5: 16), both dated to the second half of the fourth or first decades of the fifth century. In grave 10 from Slobodzia-Chișcăreni/MD, a similar glass vessel (Fig. 5: 23) was discovered along with a light-clay Roman amphora of Didenko subtype F.3 (Fig. 5: 22). An analogous conical beaker (Fig. 5: 19) and a bronze crossbow fibula with a returned foot (Gorokhovskij variant B.2; Fig. 5: 21) come from grave 23 in Lețcani. A grave 195 from Tîrghșor, apart from the glass vessel (Fig. 5: 11), contained two silver crossbow fibulae with returned feet (Gorokhovskij variant B.2; Fig. 5: 8–9), and a small size oval silver buckle (Gorokhovskij series Z/3; Fig. 5: 10)<sup>106</sup>.

The older specimens are mainly plain, undecorated vessels. The beakers adorned with abraded horizontal bands appear to have become widespread only during the fifth phase of the local chronological system. Three artefacts from this period were discovered in graves 260 from Viitenky (Fig. 6: 8), 51 from Bilenke (Fig. 6: 1), and a single burial in Ciorcani (Fig. 6: 6). Despite the inhumation from Viitenky was destroyed by looting or ritual activity in the past, the excavators associate the glass vessel and several finds from a layer above the grave pit with the set of items that accompanied the deceased person<sup>107</sup>. Of particular interest are a bell-shaped multipart antler comb (Nikitina type III.1.a; Fig. 6: 10), undoubtedly related to the fifth phase and a light-clay Roman amphora of Didenko subtype F.3 (Fig. 6: 9). The second assemblage yielded an oval silver buckle with a thickened anterior part (Gorokhovskij series V; Fig. 6: 4), two silver buckles of Gorokhovskij series D (Fig. 6: 2, 5), and an analogous item made of copper alloy (Fig. 6: 3). The deposit from Ciorcani, apart from the conical glass beaker, containing a red-clay one-handed jug (Fig. 6: 7) of the Independența type according to Magomedov-Didenko classification<sup>108</sup>, possibly can be attributed to both the fourth and fifth phases.

Several undecorated samples also come from later contexts. In grave 17 from Nahirne 2 such a vessel (Fig. 6: 11) was uncovered along with a bronze crossbow fibula with a returned foot (Gorokhovskij variant B.3/B.3; Fig. 6: 13) and a bronze buckle of Gorokhovskij series D (Fig. 6: 12), while in grave 39 from Slobodzia-Chișcăreni similar glass object (Fig. 6: 16) was accompanied by fragments of a bell-shaped multipart antler comb (Nikitina type III.1.a; Fig. 6: 15) and a

bronze buckle of Gorokhovskij series D (Fig. 6: 14). The later conical beakers are also notable for their increased size<sup>109</sup>.

The local artefacts display great similarity to the synchronous glassware forms in the Roman provinces, which has been repeatedly emphasised by various authors<sup>110</sup>. During the second half of the fourth and first half of the fifth centuries, conical beakers of variants a and d of Isings Form 106 or AR 68.1 type circulated in different regions of the Empire<sup>111</sup>. Especially popular they appear to have become in the Lower Danube and Balkan provinces<sup>112</sup> and in the Eastern Mediterranean<sup>113</sup>. It seems plausible that these vessels could have entered the Cherniakhiv/Sântana de Mureș area from the dioceses of Dacia or Thrace.

The next type is represented by large conical beakers (with an average height of 17.7 cm and a rim diameter of 9.8 cm) decorated with wheel-cut straight horizontal bands, also known as the **Havrylivka 35/Sântana de Mureș group** in the definition of G. Rau<sup>114</sup>. Most artefacts have carefully polished rims. The wheel-cut bands usually cover the upper and middle parts of the vessel body, although individual specimens are almost entirely covered with ornamentation. Three decorative patterns occur among the analysed artefacts, including several wheel-cut narrow (0.1–0.3 cm) horizontal bands, two or three wheel-cut wide (0.4–0.6 cm) horizontal bands, or a combination of both narrow and wide elements.

At least 28 beakers of this type were spotted within the Cherniakhiv/Sântana de Mureș area. The majority of finds are concentrated to the west of the Dniester River (Fig. 11: D). For instance, three complete conical beakers were discovered at Barcea/RO (Fig. 8: 10–12), two – at Mihălășeni/RO (Fig. 7: 7; 8: 13), and two more – at Mogoșani (Fig. 7: 4; 8: 14). Single finds also come from Bilenke (Fig. 8: 1), Velyka Buhaiivka (Fig. 8: 17), Havrylivka (Fig. 8: 8), Danylova Balka/UA (Fig. 7: 17), Zolochiv/UA, Lisovi Hrynivtsi/UA (Fig. 8: 5), Nahirne 2 (Fig. 7: 1), Ranzheve/UA (Fig. 7: 14), Chervone 2/UA (Fig. 7: 16), Brăviceni/MD (Fig. 7: 15), Budești (Fig. 8: 9), Sobari/MD (Fig. 8: 21), Bârlad – Valea Seacă (Fig. 10: 2), Cărligi/RO (Fig. 8: 22), Gherăseni/RO (Fig. 7: 12), Mărtinești/RO (Fig. 7: 13), Mitreni/RO (Fig. 8: 15), and Sântana de Mureș/RO (Fig. 8: 16). Several fragmented pieces of the same vessels were recorded in Komariv (Fig. 8: 18–20). A specific decorative pattern, which makes them more noticeable among the other fragmented pieces of local glassware, can explain the abundance of these artefacts.

Four items come from dated contexts attributed to the fourth phase of the local chronological system. In grave 1 from Nahirne 2, a glass beaker of this type (Fig. 7: 1) was accompanied by a circular bronze buckles with an excessively thickened anterior part (Gorokhovskij series G; Fig. 7: 2) and a red slip oinochoie-jug of Didenko type 1 (Fig. 7: 3), related to the second half of the fourth century. A similar glass vessel (Fig. 7: 12) and a multipart antler bell-shaped comb with

<sup>106</sup> The silver buckle itself has a later chronological position (see GOROKHOVSKIJ 1988), but in conjunction with other finds from the assemblage, it can be attributed to the fourth phase of the local chronological system.

<sup>107</sup> HOHUNSKA/RUSNAK 2023.

<sup>108</sup> MAGOMEDOV/DIDENKO 2009.

<sup>109</sup> HOPKALO 2011, 84–85; GAVRITUKHIN 2017, 101.

<sup>110</sup> SYMONOVICH 1977, 183; KAZANSKI/LEGOUX 1988, 24; GOMOLKA-FUCHS 1999, 135; HOPKALO 2011, 84–85; GAVRITUKHIN 2017, 103.

<sup>111</sup> ISINGS 1957, 126–131; FÜNFSCHILLING 2015, 347.

<sup>112</sup> BARKÓCZI 1988, 82–84; RUŽIĆ 1994, 51–52; ANTONARAS 2017, 77–79.

<sup>113</sup> HARDEN 1936, 159–160; WEINBERG/GOLDSTEIN 1988, 87–94; FÜNFSCHILLING 2015, 347.

<sup>114</sup> RAU 1972, Fig. 52; RAU 1975, 481–482.

a semicircular back and raised shoulders (Nikitina variant III.2; Fig. 7: 11) were uncovered in grave 59 from Gherăseni. The grave 5 from Mărtinești, besides the glass beaker (Fig. 7: 13), contained a multipart antler bell-shaped comb with a semicircular back and raised shoulders (Nikitina variant III.2) and a red slip oinochoie-jug of Didenko type 1<sup>115</sup>. The grave 8 from Mogoșani yielded a silver crossbow fibula with a returned foot (Gorokhovskij variant B.2; Fig. 7: 5) and a silver double-plate fibula with a large semicircular head and long rhomboidal foot (Kokowski variant A.1; Fig. 7: 6).

The assemblage from grave 376 in Mihălășeni, consisting of a Sântana de Mureș group conical beaker (Fig. 7: 7), a bronze crossbow fibula with a full, sheet-catch plate (Petrauskas variant 2.7.1; Fig. 7: 9), an oval bronze buckle with a thickened anterior part (Gorokhovskij series V; Fig. 7: 10), and a ceramic imitation of Robinson M 273 type amphora (Fig. 7: 8), dated by S. Didenko to the second half of the fourth century, can be assigned to both the fourth or fifth phases of the local periodisation system.

Three analogous glass vessels come from graves 61 at Bilenke (Fig. 8: 1), 35 at Havrylivka (Fig. 8: 8), and 18 at Lisovi Hrynivtsi (Fig. 8: 5), related to the fifth phase. The first assemblage, in addition to the glass vessel, included an oval bronze buckle more than 2 cm in size (Gorokhovskij series D; Fig. 8: 2.). The second one yielded three small-size circular bronze buckles (Gorokhovskij series Z; Fig. 8: 6–7). Two small oval silver buckles (Gorokhovskij series Zh; Fig. 8: 3–4) come from the third deposit.

Local conical beakers decorated with wheel-cut horizontal bands show close affinity to the synchronous glass vessels throughout the Empire<sup>116</sup> (Fig. 11: C), which was traditionally a strong argument in favour of their Roman origin<sup>117</sup>. The latter are represented in Roman provinces by conical beakers of **AR 69/Trier 54 type** or **variant 47.f after L. Barkóczy**<sup>118</sup> attributed mainly to the last quarter of the fourth and first decades of the fifth century<sup>119</sup>. The glass artefacts of this type probably were produced in several centres operating in various parts of the Empire. The range of products from glassworking sites at Jalame and Khirbat el-Ni'ana presumably included analogous vessels<sup>120</sup>. Some scholars considered the territory of Thrace<sup>121</sup>

<sup>115</sup> BOBI 1977–1979.

<sup>116</sup> Analogous glass vessels are known from Colchester/GB (COOL/PRICE 1995, 90, Fig. 5.16: 573), *Augusta Treverorum* (GOETHERT-POLASCHEK 1977, 74–75, Abb. 27, Taf. 43: 314), *Colonia Augusta Rauracorum* (RÜTTI 1991, 76, Taf. 67, Kat. N 1451–1452; FÜNFSCHILLING 2015, 348), Ságvár/HU, Štrbinci (Đakovo)/HU (BARKÓCZI 1988, 85, Taf. X: 110; LELJAK 2012, 129, Fig. 8: a), *Sirmium* (Sremska Mitrovica)/RS, *Timacum Minus* (Ravna) RS, *Naissus* (Jagodina Mala)/RS (RUŽIĆ 1994, 51–52, T. XXXVIII: 6, XXXIX: 8–10, Kat. N 973, 1031–1040, 1041–1042; JEREMIĆ/GOLUBOVIĆ/DRČA 2017, 119, Pl. III: 8, Cat. N 8); *Poetovio* (LAZAR 2003, 198, fig. 52), Athens/GR (WEINBERG/STERN 2009, 143, Fig. 18: 306), Khirbat el-Ni'ana (el-Kh-irbah)/IL, Jalame (Haifa)/IL (GORIN-ROSEN/KATSNELSON 2007, 90–93, Fig. 8: 1; WEINBERG/GOLDSTEIN 1988, 93, Fig. 4–47: 448–449), *Karanis* (HARDEN 1936, 162, Pl. V, XVI: 455).

<sup>117</sup> SYMONOVICH 1952, 68; 1977, c. 183; KAZANSKI/LEGOUX 1988, 28; GOMOLKA-FUCHS 1999, 135, 137; CROITORU 2009, 221.

<sup>118</sup> BARKÓCZI 1988.

<sup>119</sup> BARKÓCZI 1988, 85; LAZAR 2003, 198. In the northwestern provinces, they probably came into use earlier, in the second half of the fourth century (FÜNFSCHILLING 2015, 348).

<sup>120</sup> WEINBERG/GOLDSTEIN 1988, 93, Fig. 4–47: 448–449; GORIN-ROSEN/KATSNELSON 2007, 90–93, Fig. 8: 1.

<sup>121</sup> GOMOLKA-FUCHS 1999, 135–137; STAWIARSKA 2014, 65, 97.

and Pannonia<sup>122</sup> as a possible place of manufacture for these objects, including artefacts from the Cherniakhiv/Sântana de Mureș area.

At present, however, there are different views regarding their origin. For, example, I. Gavritukhin emphasising some morphological differences between Roman conical beakers and local finds suggests that the latter could have been made in “centres where Roman craftsmen produced glassware exclusively for export to the Cherniakhiv/Sântana de Mureș culture”<sup>123</sup>. These centers, he believes, might exist both on the territory of the Empire and outside *limes*<sup>124</sup>. Oleh Petrauskas considers the fragmented pieces of analogous beakers from Komariv among the products of local glassworking site<sup>125</sup>. Following O. Rummyantseva's opinion, tall conical beakers could be manufactured in the Komariv workshop<sup>126</sup>. This category might also include the Sântana de Mureș group vessels. Given these observations, both the local origin of the conical beakers decorated with wheel-cut horizontal bands and their import from Roman provinces seem possible.

The third typological unit comprises large **conical beakers decorated with applied drops of coloured glass**. The rims of vessels are carefully polished. The applied elements are usually dark blue<sup>127</sup>. The objects typically combine the overlay decoration with abraded or wheel-cut horizontal bands.

Three intact beakers of this type were discovered in graves 115 from Shyshaky/UA (Fig. 9: 1), 507 from Bârlad – Valea Seacă (Fig. 9: 8), and individual burial from Chornobaivka/UA (Fig. 9: 9). The deposit from Shyshaky presumably related to the fifth phase of the local chronological system. In addition to the glass vessel, it contained two silver oval bronze buckles of Gorokhovskij series D (Fig. 9: 2–3). The chronological position of the grave from Bârlad – Valea Seacă is less clear. Apart from the conical glass beaker, the set of funerary inventory included a multipart antler bell-shaped comb (Nikitina variant III.1; Fig. 9: 7), which can be attributed to the fourth phase, a bronze buckle with a thickened anterior part (Gorokhovskij series V; Fig. 9: 6), an analogous silver buckle (Fig. 9: 5) decorated with punchmark decoration in the so-called Untersiebenbrunn style, which is believed to have become popular in the Lower Danube and North Pontic area in the late fourth and first half of the fifth centuries<sup>128</sup>. In addition, the assemblage was accompanied by a gold pendant, namely the solidus of Constantius II (Fig. 9: 4), minted between AD 337–361<sup>129</sup>. It is possible that the collection can be assigned to both the fourth and fifth phases of the local chronological system.

A considerable concentration of conical beakers decorated with applied drops of coloured glass is observed in

<sup>122</sup> BARKÓCZI 1988, 85.

<sup>123</sup> GAVRITUKHIN 2017, 95, 101.

<sup>124</sup> The possibility of manufacturing these glass vessels in *Barbaricum* was first proposed by E. Straume (STRAUME 1987, 58).

<sup>125</sup> PETRAUSKAS 2014, 179–180.

<sup>126</sup> RUMYANTSEVA 2020, 175–177.

<sup>127</sup> Except for the glass beaker from grave 115 in Shyshaky, combining applied drops of dark blue and red-ruby opaque glass.

<sup>128</sup> BITNER-WRÓBLEWSKA/PESCH/PRZYBYŁA 2020, 230–248.

<sup>129</sup> PALADE 2004, 221–222.

the Crimean foothills (Fig. 11: C-D)<sup>130</sup>. A minimum of seven almost intact vessels of this type, dated predominantly to the last decades of the fourth and first half of the fifth centuries, come from barbarian burial sites in Neyzats (graves 115 and 485)<sup>131</sup>, Opushky/UA (grave 381)<sup>132</sup>, Frontove 3/UA (grave 51)<sup>133</sup>, and Suvorove/UA (graves 51 and 54)<sup>134</sup>.

During the second half of the fourth and early fifth centuries, conical beakers with applied drops of coloured glass spread in Roman provinces, particularly in the Middle and Lower Danube<sup>135</sup> and Eastern Mediterranean<sup>136</sup>, as well as in the Northern and Eastern Black Sea regions<sup>137</sup> (Fig. 11: C). In contrast, they are virtually unknown in the northwestern parts of the Empire<sup>138</sup>.

At least several centres appear to have produced glass vessels of this type. Conical beakers made of naturally coloured yellow or green glass are considered to be of Egyptian origin<sup>139</sup>. Colourless samples were supposedly manufactured in Syria or Palestine<sup>140</sup>. The range of products of the secondary workshop in Jalame, operated during the second half of the fourth century, presumably also included conical beakers decorated with applied drops of dark blue glass<sup>141</sup>. The analogous glass artefacts discovered in the area of the Cherniakhiv/Sântana de Mureş culture seem to have originated from the Eastern Mediterranean<sup>142</sup>. Conical beakers of this type probably could have reached the local barbarian population from the Lower Danube provinces or the Northern Black Sea region, where they were well represented in the same period.

*Ovoid beakers with cracked-off rims decorated with applied drops of coloured glass (AR 65 type)*

An intact glass vessel analogous in shape and decoration comes from grave 112 in Shyshaky (Fig. 9: 11). Its rim is curved, cracked-off, and carefully polished. An abraded horizontal band is visible on the exterior surface below the rim. The base is flattened and slightly concave. Three rows of red-ruby, blue, amber, and turquoise opaque glass drops cover the vessel's body. Two more abraded horizontal bands complement this decorative design.

Similar glass beakers are also known in Roman provinces as **Triar 52.b type** vessels. During the second half of the fourth and first half of the fifth centuries, they became widespread mainly in Northern Gaul<sup>143</sup>. The glass artefact from Shyshaky presumably has an analogous chronological

position and can be attributed to the fifth phase of the local periodisation system.

*Cylindrical beakers with fire-rounded rims and pushed-in tubular base rings*

The glass vessels displaying these morphological features are also known as beakers of **type I in the classification of I. Khrapunov**<sup>144</sup>. They were widely distributed in Southern Crimea and adjacent areas from the mid-third to the early fifth century<sup>145</sup>. Extremely popular such glass objects became among the barbarian population of the Crimean foothills<sup>146</sup>. Supposedly, their origin was connected with Chersonesos<sup>147</sup>.

The cylindrical or bell-shaped beakers of this type display a range of glass colours and quality<sup>148</sup>. Some samples are decorated with applied self-coloured glass threads, but most artefacts lack any adornment. The rim is frequently slightly out-turned and thickened. The base usually exhibits a pontil scar.

An analogous glass beaker decorated with applied glass thread was discovered in an individual Gothic grave unearthed within the former living area of Olbia (Fig. 9: 10). Apart from the glass vessel, the buried person was accompanied solely by classic Cherniakhiv wheel-thrown pottery<sup>149</sup>. Unfortunately, the lack of contextual material makes it impossible to determine the precise chronological position of this assemblage.

*Other forms of glass tableware*

Glass vessels for pouring or storing liquids are rare objects in Eastern European *Barbaricum* from the studied period. Only two artefacts related to this category of Roman tableware is known from the Cherniakhiv/Sântana de Mureş area. A glass jug of the **Isings Form 126** comes from grave 501 in Bârlad – Valea Seacă (Fig. 10: 1). The upper part of the vessel was broken off and lost, but usually, analogous glass jugs have a funnel-shaped rim bent outwards. The flat base is slightly concave. A thick ribbed handle is attached to the shoulder and neck of the vessel. The decoration includes abraded short grooves creating two horizontal rows of pentagons joined by the vertices of obtuse angles. Each of these probably incorporates a wheel-cut oval facet. Five abraded horizontal bands limit the main ornamental pattern.

Apart from the glass jug, the grave 501 from Bârlad – Valea Seacă yielded a conical glass beaker of the AR 69 type (Fig. 10: 2), a fragment of a multipart antler bell-shaped comb (Nikitina variant III.1.a; Fig. 10: 4), a red slip jug of Didenko type 3 (Fig. 10: 3), related to the second quarter of the fourth – first decades of the fifth centuries, and a gold pendant – the solidus of Constans II (Fig. 10: 5), minted between AD 337–350<sup>150</sup>. Presumably, the assemblage can

<sup>130</sup> SHABANOV 2023a, 241, 243.

<sup>131</sup> SHABANOV 2011, 152, Fig. 6: 42–43.

<sup>132</sup> SHABANOV 2023a, Fig. 2: 9.

<sup>133</sup> GAVRITUKHIN *et alii* 2021, 103, Fig. 7: 1.

<sup>134</sup> ZAJTSEV/MORDVINTSEVA 2003, 57–58, 61–62, Fig. 2: 10, 10: 17.

<sup>135</sup> BARKÓCZI 1988, 101–102; MINČEV 1988, 49; JEREMIĆ 2009, 148.

<sup>136</sup> HARDEN 1936, 160, 162; GORIN-ROSEN/JACKSON-TAL 2008, 147; ISRAELI 2008, 383.

<sup>137</sup> SOROKINA 1971, 90–94; SAZANOV 1995; GOLOFAST 2001, 128–132; ZASETSKAYA 2008, 27–32; SOROKINA 1979, 60; BAGHATURIA-KNER 2009, 361–362; SHALIKADZE/KAKHIDZE 2009, 376.

<sup>138</sup> WEINBERG/STERN 2009, 136.

<sup>139</sup> HARDEN 1936, 156; WEINBERG/GOLDSTEIN 1988, 89.

<sup>140</sup> WEINBERG/GOLDSTEIN 1988, 89; DUSSART 1998, 347.

<sup>141</sup> WEINBERG/GOLDSTEIN 1988, 87–94.

<sup>142</sup> BOŢAN/APARASCHIVEI 2015, 167; GAVRITUKHIN 2017, 101.

<sup>143</sup> FÜNFSCILLING 2015, 339–340; GOETHERT-POLASCHECK 1977, 68–69; SENNEQUIER 2013, 95.

<sup>144</sup> KHRAPUNOV 2002, 55.

<sup>145</sup> KHRAPUNOV 2002, 56; GAVRITUKHIN *et alii* 2021, 102–103; SHABANOV 2023b.

<sup>146</sup> KHRAPUNOV 2002, 55.

<sup>147</sup> KHRAPUNOV 2002, 56; SHABANOV 2023b.

<sup>148</sup> The colour range varies from completely decolourised and virtually colourless with different shades of green to natural yellow or green.

<sup>149</sup> LEJPUNSKAYA 2006, 183–188, Fig. 2.

<sup>150</sup> PALADE 2004, 221–222.

be attributed to the fifth phase of the local chronological system.

Analogous cylindrical glass jugs, also known as vessels of **Trier 125, AR 171** or **IN 231** type, were in use within the Empire during the late third and early fifth centuries<sup>151</sup>. The peak of the distribution of artefacts with complex geometric incised decoration relates to the second half of the fourth century<sup>152</sup>. At least three distinct centres producing glass jugs of this type are believed to have existed in the Rhineland, Pannonia, and Egypt<sup>153</sup>. Vasile Palade suggests the Egyptian origin of cylindrical jug from Bârlad – Valea Seacă, noting that latter shows similarity with glassware from Western Europe<sup>154</sup>. Indeed, vessels resembling artefact from Sântana de Mureş area in size and decorative design were discovered at Colonia Claudia Ara Agrippinensium and Brigantium (Bregenz)/AT<sup>155</sup>.

Another glass jug comes from grave 444 in Tîrghșor (Fig. 10: 6), accompanied by a collection of local wheel-thrown pottery and a set of nomadic melee weapons (Fig. 10: 11–12)<sup>156</sup>. Unfortunately, the preservation of the glass container is not well enough to undoubtedly identify its initial shape. The tall (about 40 cm in height) one-handed vessel blown of yellow-green, transparent glass perhaps had a funnel-shaped rim and bulbous body. The assemblage presumably related to the fifth phase of the local chronological system also yielded a fragmented glass cup, a silver buckle with a thickened anterior part (Gorokhovskij series V; Fig. 10: 8), two bronze buckles of Gorokhovskij series D (Fig. 10: 9–10), and a red-clay patera of Didenko type 2 (Fig. 10: 7) dating from the second quarter to the end of the fourth century.

#### *Miscellaneous fragments*

Approximately fifteen fragmented pieces lack diagnostic features and cannot be identified as a specific glassware type. Only characteristic decorative details allow assuming their Roman origin. The majority of these finds were discovered outside of enclosed archaeological contexts.

Three rim fragments related to hemispherical cups or conical beakers with cracked-off rims come from Chervone 2 (Fig. 9: 21–23) and Kut/UA (Fig. 9: 24). The edges are carefully polished. An abraded horizontal band covers the exterior surface below the rims.

Two body fragments decorated with abraded or wheel-cut horizontal bands come from Velyka Buhaivka (Fig. 9: 26) and Zapadnia/UA (Fig. 9: 25). Both fragments probably belong to hemispherical cups or conical beakers with cracked-off rims.

Ten artefacts represent glassware decorated with applied drops of dark blue opaque glass. Two vessels treated in this way were uncovered at Velyka Buhaivka (Fig. 9: 14–15). Two more similar artefacts are known from Budești (Fig. 9: 18, 20). Single analogous glass objects come from Viitenky (Fig. 9: 12), Voskresenske 1/UA (Fig. 9: 19), Danylova Balka, Nahirne 2 (settlement; Fig. 9: 16), Sosnova/UA (Fig. 9: 13),

and Bratei/RO (Fig. 9: 17)<sup>157</sup>. The applied elements are mainly relief and almost unfused with the surface of the fragments. Marvered glass blobs cover the artefacts from Budești and Bratei. The vessel from Sosnova was additionally treated with abraded horizontal bands. The fragments decorated with applied drops of coloured glass may belong to both hemispherical cups and conical beakers with cracked-off rims.

#### **DISCUSSION**

The geographic origin of the Roman glassware discovered in the Cherniakhiv/Sântana de Mureş area encompasses a variety of regions within the Empire (Fig. 11). For example, hemispherical cups of the Iacobeni type or group II after L. Barkóczi and conical beakers of the AR 68.1 type were common mainly in the Middle and Lower Danube provinces, whereas hemispherical cups of the IN 110/117 type and ovoid beakers of the AR 65 type occurred exclusively in Northern Gaul and the Rhine Valley. In contrast, vessels of the Eggers 213 and 216 types, hemispherical cups decorated with applied drops of coloured glass, and conical beakers of the AR 69 type are spotted virtually throughout the Empire. However, it seems reasonable to suggest that the majority of these artefacts were acquired by the indigenous Gothic population from the territory of the Lower Danube provinces, given the geographical location of the Cherniakhiv/Sântana de Mureş culture. Most glass types analysed are represented in this region, albeit sometimes in limited quantities.

It is evident that the majority of the glassware forms discussed in this study are present in the territory of the Empire in significantly smaller quantities than outside *limes*. A several possible explanations for this phenomenon can be put forward. First, there are notable differences in the archaeological context of glassware finds in the *Barbaricum* and Roman provinces. North of the Lower Danube, where glass cups and beakers are mainly represented in funerary assemblages (see Appendix), the concentration of intact glassware is considerably higher than in the Roman territory, where drinking vessels are usually encountered in a domestic context. Second, the daily human practices undoubtedly influenced the estimated quantity of glass goods. The accidental breakage of glass vessels results in the generation of numerous sharp and potentially hazardous sherds, which must be promptly removed from the immediate vicinity to ensure the safety of the living space<sup>158</sup>. Furthermore, the amount of glassware captured in the modern archaeological record must have been reduced by the practice of collecting glass cullet<sup>159</sup>. Finally, it is evident that the varying scope of the archaeological survey in different Roman provinces, the extent of its publication, and the accessibility of its results to the scientific community have an impact on our current knowledge about the distribution and provenance of glass goods.

<sup>151</sup> ISINGS 1957, 156–157; KLEIN 1996, 154; FÜNFSCHILLING 2015, 444–445; FOY *et alii* 2018, 231–232.

<sup>152</sup> KLEIN 1996.

<sup>153</sup> KLEIN 1996; NENNA 2003, 371–372.

<sup>154</sup> PALADE 2004, 220–221.

<sup>155</sup> KLEIN 2000.

<sup>156</sup> LICHARDOPOL/CIUPERCĂ 2008.

<sup>157</sup> It should be noted that the artefact from Congaz/MD previously identified by I. Gavritukhin (2007, 12, Fig. 3: 7; 2017, Fig. 11: 38) as a vessel decorated with applied drops of coloured glass does not align with this categorisation (GUDKOVA 1999, 297, Fig. 28: 19).

<sup>158</sup> INGEMARK 2014, 177.

<sup>159</sup> Well-known from earlier written sources, this practice appears to have been common in the late antiquity as evidenced by archaeological (KELLER 2005) and archaeometric data (FREESTONE 2015).

The intense interaction of the Gothic tribes living north of the Danube with the inhabitants of the neighbouring Roman territories is well documented in written sources. During the AD 230–270, the Goths are mainly mentioned in connection with the plundering of the Lower Danubian and Balkan provinces or Asia Minor<sup>160</sup>. In the second third of the fourth century, however, Roman-Gothic relations became more peaceful. The treaty between Emperor Constantine I and Ariaric, the leader of the Tervingi, established in AD 332, significantly contributed to the influx of Roman goods<sup>161</sup> and the expanding involvement of commercial exchange with the Roman provincial population in the social and economic life of the Lower Danube Gothic community<sup>162</sup>. The reliance of the Tervingi on Roman provisions and imported goods appears to have increased over time, which, for example, was evident during the conflict between their warlord Athanaric and Emperor Valens in AD 367–369<sup>163</sup>. With the migration of the Visigoths into the territory of the Empire, this trend became even more pronounced<sup>164</sup>.

The water courses of the Prut and Siret basins or the land path along their watershed were presumably one of the leading routes that Roman glassware spread further north into the area of the Cherniakhiv/Sântana de Mureş culture. This is evidenced by the unusual concentration of imported glass goods at local burial sites, for example, in Bilenke, Nahirne 2, Barcea, or Bârlad – Valea Seacă (Fig. 12: a). Serhii Didenko believes this route was also used to transport Roman wine to the internal regions of the barbarian territory, which is clearly illustrated by the distribution of Italian amphorae of the Forlimpopoli type (Fig. 12: d)<sup>165</sup>. In his view, the Roman cities of Dobruja particularly Noviodunum ad Istrum (Isaccea)/RO, Troesmis (Turcoaia)/RO, and Dinogetia (Garvăn)/RO held a leading position in the supply of imported ceramic goods from the European part of the Empire, the Aegean and Black Sea basins to the Gothic population living between the Danube and the Dniester<sup>166</sup>. Perhaps they could perform an analogous function in the transfer of certain glassware types from the northwestern and Danubian provinces or Eastern Mediterranean to the Sântana de Mureş area. The Roman fortifications in Daphne (Grădiştea)/RO and Sucidava (Celei)/RO, built at the Danube crossing points during the reign of Emperor Constantine I, were also probably vital stations for Romano-Barbarian economic contacts in this region<sup>167</sup>.

The distribution of ceramic tableware produced in Chersonesos<sup>168</sup> (Fig. 12: b) and red clay amphorae of the North Pontic origin<sup>169</sup> (Fig. 12: c) indicate another possible route for the spread of imported glass goods to the Cherniakhiv/Sântana de Mureş area. Their finds are scattered along the Black Sea coast between the Dniester and

Danube estuaries, sporadically penetrating northwards into the forest-steppe zone inhabited by the Gothic tribes. Some extraordinary Cherniakhiv sites, such as Kamianka-Anchekrak/UA or Kaborha IV/UA, appear to have been significant trading posts in this region. In addition, the former Olbia and Tyras, where life was revived with new Gothic settlements<sup>170</sup>, may also have been the important points of the commercial exchange between native communities and foreign merchants<sup>171</sup>.

It is notable that, despite a substantial number of imported ceramic objects originating from the Northern Black Sea region, glassware of Crimean or Bosphoran origin is virtually absent from the area of the Cherniakhiv/Sântana de Mureş culture. Only a glass beaker of type I after I. Khrapunov from the single Gothic burial in Olbia can be mentioned in this regard. Since the native sites between the Lower Dniester and the Lower Dnipro have been relatively well studied by extensive large-scale excavations from the 1950s to the 1970s<sup>172</sup>, the simple explanation of this phenomenon with a lack of knowledge about the archaeological situation of the late Roman – early Migration period in the region must be incorrect. Nevertheless, it is possible that some glassware types of Mediterranean or Western European origin, such as conical beakers with cracked-off rims decorated with applied drops of coloured glass or ovoid beakers of the AR 65 type, could have reached the Gothic population of forest-steppe Ukraine (especially communities inhabiting the Dnipro Left Bank or Middle and Lower Dnipro) from the North Pontic region.

The earliest finds of glass vessels of Roman origin in the Cherniakhiv/Sântana de Mureş area related to the second half of the third century. In the burial assemblages attributed to the second phase of the local chronological system, they are represented by occasional hemispherical cups with cracked-off rims of the Eggers 216 and IN 110/117 types (Fig. 13). Only several glass cups of the Antonaras 12.2 and Iacobenii types come from funerary deposits related to the third phase or the second and third quarters of the fourth century (Fig. 13). The number of Roman glass goods increased considerably during the second half of the fourth century, or the fourth phase, perhaps as a consequence of the preceding period of relative stability in relations between the Empire and the barbarians in the AD 330–360. A minimum of twelve glass vessels are known from graves attributed to this phase<sup>173</sup>. The majority of the artefacts are represented by conical beakers with cracked-off rims decorated with abraded or wheel-cut horizontal bands and without decoration (AR 68.1 and 69 types) (Fig. 13). It is curious that the influx of imported glassware to the area of the Cherniakhiv/Sântana de Mureş culture remained virtually unchanged in the last quarter of the fourth and the first third of the fifth centuries, despite the intensifying conflicts between the Danubian Goths and the Roman authorities or the Hunnic

<sup>160</sup> ZOS. I, 23–24, 26–29, 31–35, 37, 39, 42–46, 63; REMENNIKOV 1954; MAGOMEDOV 2001, 134–139; WOLFRAM 2003, 71–89; SHCHUKIN 2005, 134–151.

<sup>161</sup> MAGOMEDOV/DIDENKO 2009, 344.

<sup>162</sup> MAGOMEDOV 2001, 107; WOLFRAM 2003, 94–95; SHCHUKIN 2005, 200–201; DIDENKO 2018, 179.

<sup>163</sup> AMM. MARC. XXVII, 5.

<sup>164</sup> AMM. MARC. XXXI, 4–5; IORD. GET. 131–135.

<sup>165</sup> DIDENKO 2017.

<sup>166</sup> DIDENKO 2018, 164–165.

<sup>167</sup> WOLFRAM 2003, 95; MAGOMEDOV 2006, 54; DIDENKO 2018, 174.

<sup>168</sup> MAGOMEDOV/DIDENKO 2009, 341–344; DIDENKO 2018, 168–169.

<sup>169</sup> MAGOMEDOV 2006; DIDENKO 2018, 168–169.

<sup>170</sup> MAGOMEDOV 2007.

<sup>171</sup> MAGOMEDOV 2001, 107–108; DIDENKO 2018, 171, 176.

<sup>172</sup> SYMONOVICH 1955; 1957; 1960; 1979; 1988; GUDKOVA/FOKEEV 1984; MAGOMEDOV 1979; 1991; MAGOMEDOV/HUDYM-LEVKOVYCH 2003; GUDKOVA/SHULTZE 2017.

<sup>173</sup> Twenty-nine glass artefacts from burial assemblages lack precise dated context and can be attributed to both the fourth and fifth phases of the local chronological system.

invasion into the Northern Black Sea region<sup>174</sup>. Glass objects of Roman origin, including mainly conical beakers of AR 68.1 and 69 types, already known from the previous phase, as well as hemispherical cups and conical beakers with cracked-off rims decorated with applied drops of coloured glass, were recorded at least in fourteen funerary deposits related to the fifth phase of the local chronological system (Fig. 13).

The collection of Roman glass vessels from the Cherniakhiv/Sântana de Mureş sites is distinctly different from the range of synchronous glassware forms from the Roman provinces both in terms of the functional categories of items and typological diversity of artefacts. The majority of local glass objects are drinking vessels, mainly cups and beakers. In contrast, the Roman glass assemblages from the late third to the early fifth century yielded a variety of glassware forms intended for drinking, pouring, storing, or transporting different liquids<sup>175</sup>. At the same time, the typological spectrum of local artefacts lacks some forms of Roman drinking vessels, such as hemispherical cups with cracked-off rims decorated with pulled-off projections (AR 60.3 type), conical beakers with cracked-off rims and tubular base rings (variant b and c of Isings 109 form or AR 70 and 72 types), hemispherical cups with cracked-off rims and dip-moulding decoration (variant a Isings Form 107), and hemispherical cups with cracked-off rims and applied or tubular base rings (Isings Form 108), which were widely distributed in the Lower Danube provinces between the late third and early fifth centuries<sup>176</sup>.

The domination of drinking vessels in the areas inhabited by the Germanic tribes was prominent from the early second to the late fifth century<sup>177</sup>. However, the typological spectra of the glassware from various regions of the *Barbaricum* exhibit notable differences. For instance, Scandinavian glass objects tend to comprise artefacts rare even within the Roman territory, such as beakers with a so-called snake-thread polychrome decoration or painted cups<sup>178</sup>. In contrast, the Roman vessels from the Cherniakhiv/Sântana de Mureş area are represented mainly by ordinary utilitarian glassware forms, adorned with abraded or wheel-cut bands, and less frequently with complex incised geometric patterns. The formation of varying barbarian preferences in my view suggests that that glassware of Roman origin likely did not migrate across great distances beyond the *limes* (for example, from Northern or Western to Eastern Europe and in the opposite direction) and supports the idea that the main routes in which Roman glass goods reached the different regions of the *Barbaricum* were connected with the nearest Roman territories.

<sup>174</sup> AMM. MARC. XXXI; IORD. GET.131–141; ZOS. IV, 20–26. Interestingly, neither Valens' economic sanctions nor the advance of the Huns into the Northern Black Sea region affected the distribution of wine and imported ceramic tableware in the Cherniakhiv/Sântana de Mureş area (MAGO-MEDOV 2006, 54; DIDENKO 2018, 174–175).

<sup>175</sup> However, the range of glass tableware from this period is markedly reduced in comparison to the second and third centuries (VAN LITH/RANDBORG 1985, 463; COOL/PRICE 1995, 235; ANTONARAS 2017, 195–196).

<sup>176</sup> BARKÓCZI 1988, 73–74, 79–81, 95; RUŽIĆ 1994, 47, 50–51; MINČEV 1988, 47–48.

<sup>177</sup> VAN LITH/RANDBORG 1985, 453; LUND HANSEN 1987; STAWIARSKA 1999.

<sup>178</sup> LUND HANSEN 1987, 248–249.

## CONCLUSIONS

Despite the limited quantity of available material, glassware remains a unique and valuable source for reconstructing Roman-Barbarian interaction in Eastern Europe. First introduced into the Cherniakhiv/Sântana de Mureş area in the second half of the third century, imported glass objects circulated alongside the other categories of the local material culture until the second third of the fifth century. Most glass vessels of Roman origin come from funerary assemblages. The range of local glassware forms encompasses almost exclusively bowls and cups known from different parts of the Empire. Glass objects from the early phases of the culture (the second and third phases of E. Gorokhovskij's chronological scheme) are very few, but show a rich typological diversity. During the second half of the fourth and first third of the fifth centuries, the number of glass vessels in burial assemblages increased by more than tenfold; however, a considerable proportion of these artefacts consisted of uniform conical beakers with cracked-off rims.

It seems likely that one of the main transit points for glass objects from different parts of the Empire to the area of the Cherniakhiv/Sântana de Mureş culture was the Lower Danube provinces. It is also possible that some imported glass goods may have indirectly reached the local population via the North Pontic cities, although the archaeological evidence for this is currently insufficient. I can assume that one of the main sources of supply for specific types of glass vessels to the individual Gothic communities (for example, to the barbarian tribes inhabited the left bank of the Lower Danube) was commercial operations. However, it would be misleading to suggest that a universal distribution mechanism operated across the Cherniakhiv/Sântana de Mureş area for imported glass goods. The question of what were these supplying patterns is a complex and fascinating issue, which requires further consideration and is therefore beyond the scope of this study.

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## APPENDIX. A CATALOGUE OF THE ROMAN GLASSWARE FOUND IN THE AREA OF THE CHERNIAKHIV/SÂNTANA DE MUREȘ CULTURE

1. **Bilenke** (Bilhorod-Dnistrovskiy district, Odesa province, Ukraine), burial ground

a) Glass vessel (grave 51) – a conical beaker, blown of colourless, transparent glass with a faint green tinge and numerous air bubbles; curved, cracked-off rim with a polished edge; flattened, slightly concave base; decorated with five abraded straight narrow (0.2-0.3 cm) horizontal bands, covering the upper and bottom parts of the vessel; height 13.2 cm, rim diameter 8 cm, wall thickness 0.15-0.35 cm. (Fig. 6: 1)

Group: conical beakers with cracked-off rims, type: variant a of Isings Form 106 or AR 68.1 type.

BRUYAKO/LEVINSKIJ/ROSOHATSKIJ 1992, 151-152, Fig. 1: 4.

b) Glass vessel (grave 61) – a conical beaker, blown of colourless, transparent glass with a faint green tinge; curved, cracked-off rim; rounded base; decorated with ten wheel-cut straight narrow (0.2-0.3 cm) horizontal bands, covering virtually entire surface of the vessel; height 19.4 cm, rim diameter 12.5 cm, wall thickness 0.32-0.45 cm. (Fig. 8: 1)

Group: conical beakers with cracked-off rims, type: AR 69.

GAVRITUKHIN 2017, Fig. 9: 9; Information by Ihor Gavritukhin.

c) Glass vessel (grave 100) – a fragmented conical beaker, blown of colourless, transparent glass with a faint green tinge; curved, cracked-off rim; flattened, slightly concave base; plain, undecorated; height 14.4 cm, rim diameter 9.5 cm, wall thickness 0.2-0.4 cm. (Fig. 5: 1)

Group: conical beakers with cracked-off rims, type: variant a of Isings Form 106 or AR 68.1 type.

ROSOHATSKIJ 1989, Tab. 27-29.

2. **Cherneliv-Ruskyi** (Ternopil district, Ternopil province, Ukraine), burial ground

a) Glass vessel (grave 96) – a hemispherical cup, blown of colourless, transparent glass with a faint green tinge and isolated air bubbles; curved, cracked-off rim with a carefully polished edge; an abraded narrow band (0.1 cm) horizontal band covers the exterior surface below the rim; rounded, slightly concave base; decorated with wheel-cut vertical facets and short narrow grooves, creating zoned pattern, separated by abraded straight narrow (0.1-0.12 cm) horizontal bands; height 4.6 cm, rim diameter 8.2-8.3 cm, wall thickness 0.15-0.35 cm. (Fig. 1: 1)

Group: hemispherical cups with cracked-off rims, type: Eggers 216.

Collection of the Ternopil Regional Museum of Local Lore.

b) Glass vessel (grave 310) – a fragmented hemispherical cup, blown of colourless, transparent glass with a faint green tinge and numerous air bubbles; curved, cracked-off rim with a polished edge; rounded, slightly concave base; decorated with wheel-cut vertical facets and short vertical or horizontal narrow grooves, creating zoned pattern, separated by wheel-cut rough narrow (0.1-0.15 cm) horizontal bands; height 10.8 cm, rim diameter 11.2 cm, wall thickness 0.12-0.2 cm. (Fig. 2: 1)

Group: hemispherical cups with cracked-off rims, type: Antonaras 12.2.

Collection of the Ternopil Regional Museum of Local Lore.

3. **Chervone 2** (Bila Tserkva district, Kyiv province, Ukraine), burial ground

a) Glass vessel (grave 30) – a fragmented conical beaker, blown of colourless, transparent glass with a green tinge and occasional air bubbles; curved, cracked-off rim with a carefully polished edge; an abraded narrow (0.2 cm) horizontal band covers the exterior surface below the rim; decorated with three wheel-cut straight wide (0.4 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; rim diameter 8.7 cm, wall thickness 0.25-0.2 cm. (Fig. 7: 16)

Group: conical beakers with cracked-off rims, type: AR 69.

Collection of the Research Lab of Archaeological Investigations of the Mykhailo Drahomanov Ukrainian State University, N 3-6/09.

b) Glass vessel (layer) – two rim fragments, blown of colourless, transparent glass with a green tinge; curved, cracked-off rim with a carefully polished edge; an abraded wide (0.5 cm) horizontal band covers the exterior surface below the rim; wall thickness 0.32-0.2 cm. (Fig. 9: 22-23)

Collection of the Research Lab of Archaeological Investigations of the Mykhailo Drahomanov Ukrainian State University, N 12-22/09 and 14-1/06.

c) Glass vessels (layer) – a rim fragment, blown of colourless, transparent glass with a green tinge; curved, cracked-off rim with a carefully polished edge; the parallel scratches are visible on the exterior surface below the rim; wall thickness 0.12-0.13 cm. (Fig. 9: 21)

Collection of the Research Lab of Archaeological Investigations of the Mykhailo Drahomanov Ukrainian State University, N 27-1/06.

d) Glass vessel (layer) – a body fragment of a conical beaker, blown of colourless, transparent glass with a blue-green tinge and occasional air bubbles; decorated with an abraded straight narrow (0.2 cm) horizontal band; wall thickness 0.1 cm.

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

Collection of the Research Lab of Archaeological Investigations of the Mykhailo Drahomanov Ukrainian State University, 4-15/09.

4. **Chornobaivka** (Kherson district, Kherson province, Ukraine), single burial

Glass vessel (grave) – a fragmented conical beaker, blown of colourless, transparent glass; curved, cracked-off rim; rounded base; decorated with applied drops of dark blue opaque glass arranged in triangles. (Fig. 9: 9)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 with applied drops of coloured glass.

KOSTENKO/NESTERENKO 2017, 19.

5. **Danylova Balka** (Holovaniv/earlier Ulianovsk district, Kirovohrad province, Ukraine), burial ground.

a) Glass vessel (grave 3) – a conical beaker, blown of colourless, transparent glass with a green tinge; curved, cracked-off



rim; flattened, slightly concave base; decorated with two wheel-cut straight wide (0.5 cm) horizontal bands, covering the upper and middle parts of the vessel; height 18 cm, rim diameter 10 cm, wall thickness 0.2 cm. (Fig. 7: 17)

Group: conical beakers with cracked-off rims, type: AR 69. SYMONOVICH 1952, 67; KROPOTKIN 1970, 105, Fig. 71: 6, 76: 10, Cat. N 942; RUMYANTSEVA/VORONYATOV/TRIFONOV 2020, 104–109, Fig. 2: 1.

b) Glass vessel (grave 17–1978) – a body fragment; decorated with an applied relief drop of dark blue opaque glass. KAZANSKI 2011, 23, Fig. 2: 12.

6. **Havrylivka** (Novovorontsovka district, Kherson province, Ukraine), burial ground

a) Glass vessel (grave 35) – a conical beaker, blown of green, transparent glass; curved, cracked-off rim; rounded base; decorated with two wheel-cut straight wide (0.4 cm) horizontal bands, covering the upper and middle parts of the vessel; height 17.4 cm, rim diameter 9.2 cm, wall thickness 0.15 cm. (Fig. 8: 8)

Group: conical beakers with cracked-off rims, type: AR 69. SYMONOVICH 1960, 206–207, Tab. IX: 14; SYMONOVICH 1957, 24, Fig. 4: 10, 5: 3; KROPOTKIN 1970, 108, Fig. 75: 9, Cat. N 983.

b) Glass vessel (grave 82) – a fragmented hemispherical cup, blown of colourless, transparent glass; curved, cracked-off rim; rounded, slightly concave base; decorated with wheel-cut vertical facets and short narrow grooves, creating two horizontal rows of pentagons joined by the vertices of obtuse angles, each incorporates wheel-cut vertical oval facet, and two wheel-cut straight narrow (0.2 cm) horizontal bands arranged below this pattern; a row of wheel-cut horizontal grooves covers the bottom part of the vessel; height 9 cm, rim diameter 11 cm, wall thickness 0.3 cm. (Fig. 3: 5)

Group: hemispherical cups with cracked-off rims, type: Iacobeni.

SYMONOVICH 1960, 216–218, Tab. IX: 12; SYMONOVICH 1977, Fig. 1: 6; KROPOTKIN 1970, 108, Cat N 983.

7. **Kosanove** (Haisyn district, Vinnytsia province, Ukraine), burial ground

Glass vessel (grave 21–1961) – a hemispherical cup, blown of colourless, transparent glass with a green tinge and many air bubbles; curved, cracked-off rim with a carefully polished edge; an abraded narrow band (0.1 cm) horizontal band covers the exterior surface below the rim; rounded, slightly concave base; decorated with wheel-cut vertical facets and short narrow grooves, creating two horizontal rows of pentagons joined by the vertices of obtuse angles, each incorporates wheel-cut vertical oval facet and a row of wheel-cut vertical grooves arranged below and limited by two pairs of wheel-cut straight narrow (0.1–0.15 cm) horizontal bands; an abraded narrow (0.1 cm) horizontal band arranged above the geometric pattern; height 10.6–11.2 cm, rim diameter 11.6 cm, wall thickness 0.15–0.3 cm. (Fig. 3: 1)

Group: hemispherical cups with cracked-off rims, type: Iacobeni.

Collection of the Archaeological Museum of the Institute of Archaeology of the National Academy of Sciences of Ukraine.

8. **Komariv** (Dnistrovskiy district, Chernivtsi province), settlement

a) Glass vessel (layer) – a fragmented hemispherical cup, blown of colourless, transparent glass; curved, cracked-off rim; decorated with two rows of wheel-cut vertical facets; rim diameter 9 cm, wall thickness 0.15–0.4 cm. (Fig. 2: 6)

Group: hemispherical cups with cracked-off rims, type: Eggers 223 or 226.

RUMYANTSEVA 2014, 416, Fig. 1: 1.

b) Glass vessel (layer) – a rim fragment of a conical beaker; curved, cracked-off rim; decorated with seven wheel-cut straight narrow (0.1–0.3 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; wall thickness 0.2 cm. (Fig. 8: 18)

Group: conical beakers with cracked-off rims, type: AR 69.

SMISHKO 1964, Tab. III: 4.

c) Glass vessel (layer) – a body fragment of a conical beaker, blown of colourless, transparent glass; decorated with three wheel-cut straight (0.3–0.5 cm wide) horizontal bands; wall thickness 0.25–0.35 cm. (Fig. 8: 19)

Group: conical beakers with cracked-off rims, type: AR 69.

RUMYANTSEVA 2014, 425–426, Fig. 8: 106.

d) Glass vessel (layer) – a body fragment of a conical beaker, blown of green, transparent glass; decorated with two wheel-cut straight (0.3–0.5 cm wide) horizontal bands; wall thickness 0.2–0.25 cm. (Fig. 8: 20)

Group: conical beakers with cracked-off rims, type: AR 69.

RUMYANTSEVA 2014, 426, Fig. 8: 107.

9. **Kut** (Nikopol district, Dnipropetrovsk province, Ukraine), settlement

Glass vessels (layer) – a rim fragment, blown of colourless, transparent glass; curved, cracked-off rim; rim diameter 6.5 cm, wall thickness 0.1 cm. (Fig. 9: 24)

KROPOTKIN 1970, 103, Cat. N 915; SYMONOVICH 1967, 73; SYMONOVICH 1957, 25, Fig. 4: 5.

10. **Lisovi Hrynivtsi 3a** (Khmelnitskyi district, Khmelnytskyi province, Ukraine), burial ground

Glass vessel (grave 18) – a fragmented conical beaker, blown of colourless, transparent glass with a faint blue-green tinge and occasional air bubbles; curved, cracked-off rim with a carefully polished edge; an abraded wide (0.6 cm) horizontal band covers the exterior surface below the rim; rounded base; decorated with eight wheel-cut straight narrow (0.15–0.2 cm) and wide (0.4 cm) horizontal bands, covering almost entire surface of the vessel; height 15 cm, rim diameter 7.5 cm, wall thickness 0.3–0.5 cm. (Fig. 8: 5)

Group: conical beakers with cracked-off rims, type: AR 69.

Collection of the Zbarazh Local History Museum, N 21.

11. **Nahirne 2** (Izmail district, Odesa province, Ukraine), settlement

Glass vessel (layer) – a body fragment; decorated with three applied drops of dark blue opaque glass, arranged in a triangle, the overlay elements are relief; wall thickness 0.1 cm. (Fig. 9: 16)

GUDKOVA/SCHULTZE 2017, 12, Abb. 8: 6.

12. **Nahirne 2** (Izmail district, Odesa province, Ukraine), burial ground

a) Glass vessel (grave 1) – a conical beaker, blown of colourless, transparent glass with a green tinge and occasional air bubbles; curved, cracked-off rim with a carefully polished edge; decorated with fourteen wheel-cut straight narrow (0.1-0.3 cm) horizontal bands, covering almost entire surface of the vessel; height 16.2 cm, rim diameter 8.3 cm, wall thickness 0.2-0.6 cm. (Fig. 7: 1)

Group: conical beakers with cracked-off rims, type: AR 69. GUDKOVA/SCHULTZE 2017, 79–83, Taf.. 2: 6, BRUYAKO/LEVINSKIJ/ROSOHATSKIJ 1992, 152, Fig. 2: 1.

b) Glass vessel (grave 7) – a conical beaker, blown of colourless, transparent glass with a green tinge and occasional air bubbles; curved, cracked-off rim with an unworked edge; an abraded wide (0.6-0.7 cm) horizontal band covers the exterior surface below the rim; rounded base; decorated with seven abraded straight narrow (0.2 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; height 15.5 cm, rim diameter 9.2 cm, wall thickness 0.2-0.4 cm. (Fig. 6: 21)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

Collection of the Izmail Museum of History and Local Lore of the Danube Region, N A571.

c) Glass vessel (grave 17) – a conical beaker; curved, cracked-off rim; rounded base; plain, undecorated; height 13.8 cm, rim diameter 8.3 cm, wall thickness 0.25-0.8 cm. (Fig. 6: 11)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

GUDKOVA/SCHULTZE 2017, 79–83; Taf.. 18: 4.

d) Glass vessel (grave 36) – a body fragment of a conical beaker; rounded base; plain, undecorated; height 15+ cm, wall thickness 0.12 cm. (Fig. 5: 7)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

GUDKOVA/SCHULTZE 2017, S. 79–83; Taf.. 27: 13.

e) Glass vessel (grave 67) – a conical beaker, blown of colourless, transparent glass with a faint green tinge and numerous air bubbles; curved, cracked-off rim with an unworked edge; rounded base; plain, undecorated; height 12.6 cm, rim diameter 8.3 cm, wall thickness 0.15-0.7 cm. (Fig. 5: 18)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

Collection of the Izmail Museum of History and Local Lore of the Danube Region, N A660.

f) Glass vessel (grave 78) – a conical beaker, blown of colourless, transparent glass with a faint green tinge and numerous air bubbles; curved, cracked-off rim with an unworked edge; rounded base; decorated with three abraded straight narrow (0.1 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; height 13 cm, rim diameter 7 cm, wall thickness 0.1 cm. (Fig. 6: 17)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

Collection of the Izmail Museum of History and Local Lore of the Danube Region, N A661.

13. **Odaia** (Chunkiv, Chernivtsi/earlier Zastavna district, Chernivtsi province, Ukraine), burial ground

Glass vessel (grave 23) – a conical beaker, blown of colourless, transparent glass; curved, cracked-off rim with an unworked edge; rounded, slightly flattened base; plain, undecorated; height 11.7 cm, rim diameter 8 cm, wall thickness 0.15-0.5 cm. (Fig. 5: 26)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

NIKITINA 1996, 16, Fig. 6; RUMYANTSEVA 2020, 172–173, Fig. 1: 1.

14. **Pontic Olbia** (Parutyne, Mykolaiv district, Mykolaiv province, Ukraine), single burial

Glass vessel (grave) – a cylindrical beaker, blown of colourless, transparent glass with a green tinge; out-turned fire-rounded rim; pushed-in tubular base ring; pontil scar is visible; decorated with applied self-coloured glass thread arranged in the upper part of the vessel; height 10.2 cm, rim diameter 7.8 cm, wall thickness 0.2-0.3 cm. (Fig. 9: 10)

Group: cylindrical beakers with fire-rounded rims and pushed-in tubular base rings, type: type I after I. Khrapunov. LEJPUNSKAYA 2006, 187, Fig. 2: 1.

15. **Ranzheve** (Odesa/earlier Lyman district, Odesa province, Ukraine), burial ground

Glass vessel (grave 18) – a conical beaker, blown of colourless, transparent glass with a faint green tinge; curved, cracked-off rim; flattened base; decorated with three wheel-cut straight wide (0.4 cm) horizontal bands, covering the upper and middle parts of the vessel; height 20 cm, rim diameter 11.4 cm, wall thickness 0.2-0.3 cm. (Fig. 7: 14)

Group: conical beakers with cracked-off rims, type: AR 69.

SYMONOVICH 1979, 110, Fig. 24: 4, 26; SYMONOVICH 1967, Fig. 18: 26; KROPOTKIN 1970, 107, Fig. 72: 17, Cat. N 963; SYMONOVICH 1977, Fig. 1.

16. **Romankivtsi** (Sokyriany district, Chernivtsi province, Ukraine), burial ground

Glass vessel (grave 105) – a hemispherical cup, blown of green, transparent glass; curved, cracked-off rim with a carefully polished edge; rounded, slightly concave base; decorated with ornamental pattern created by five sections each including abraded narrow (0.1 cm) circular band and a wheel-cut round facet arranged inside it, an identical decorative element is visible at the bottom of the cup, whereas vertical straight abraded bands separate the details of the general pattern; height 6.9 cm, rim diameter 10.1 cm, wall thickness 0.1-0.3 cm. (Fig. 1: 6)

Group: hemispherical cups with cracked-off rims.

NIKITINA 1996, 96–99; Fig. 8, Tab. 45: 4.

17. **Ruzhychanka** (Khmelnyskyi district, Khmelnyskyi province), burial ground

Glass vessel (burial 11) – a fragmented hemispherical cup, blown of colourless, transparent glass with blue-green tinge and isolated air bubbles; curved, cracked-off rim with a carefully polished edge; the parallel scratches are visible on the exterior surface below the rim; decorated with pinched together applied glass threads of the same colour as the vessel, which create a pattern resembling the Latin letter X and

an abraded narrow (0.1-0.2 cm) horizontal band; rim diameter 8 cm, wall thickness 0.1-0.21 cm. (Fig. 1: 9)

Group: hemispherical cups with cracked-off rims, type: IN 110/117.

Collection of the Kamianets-Podilskyi State Historical Museum-Reserve

18. **Shyshaky** (Myrhorod district, Poltava province, Ukraine), burial ground

a) Glass vessel (grave 112) – an ovoid beaker, blown of colourless, transparent glass with a green tinge; curved, cracked-off rim with a carefully polished edge; an abraded narrow (0.3 cm) horizontal band covers the exterior surface below the rim; flattened, slightly concave base; decorated with three rows of red-ruby, blue, amber, and turquoise opaque glass drops, and two abraded wide (0.7 cm and 0.3 cm) horizontal bands running in the upper and bottom parts of the vessel; height 12.5 cm, rim diameter 12 cm, wall thickness 0.28-0.3 cm. (Fig. 9: 11)

Group: ovoid beakers with cracked-off rims, type: AR 65. REIDA/HEIKO/SAPIEHIN 2021, 97–98, Fig. 1–4.

b) Glass vessel (grave 115) – a conical beaker, blown of colourless, transparent glass; curved, cracked-off rim with a carefully polished edge; an abraded wide (1 cm) horizontal band covers the exterior surface below the rim; rounded base; decorated with fourteen applied drops of coloured opaque glass (seven in dark blue, the rest in red-ruby) arranged in two triangles separated by two larger marvered overlay dark blue blobs; three abraded (0.6 cm, 0.4 cm and 0.2 cm wide) horizontal bands cover the surface of the vessel in the upper, middle, and bottom parts; height 18 cm, rim diameter 11.3 cm, wall thickness 0.35-0.4 cm. (Fig. 9: 1)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 with applied drops of coloured glass. REIDA/HEIKO/SAPIEHIN 2016, 20–23, Fig. 2: 4.

19. **Sosnova** (Boryspil/earlier Pereiaslav-Khmelnytskyi district, Kyiv province, Ukraine), burial ground

Glass vessel (layer) – a body fragment; decorated with an applied relief drop of dark blue opaque glass and three abraded narrow (0.1 cm) horizontal bands; wall thickness 0.1 cm. (Fig. 9: 13)

SIKORSKIJ/MAHNO/BUZYAN 1982, Tab. 4.

20. **Velyka Buhaiivka** (Vasylkiv district, Kyiv province, Ukraine), settlement

Glass vessel (layer) – a body fragment, decorated with two wheel-cut wide (0.5 cm) horizontal bands; wall thickness 0.2-0.35 cm. (Fig. 8: 17)

Group: conical beakers with cracked-off rim, type: AR 69. PETRAUSKAS/SHYSHKIN 2013, 80, Fig. 194: 3, App. 2, N 537.

21. **Velyka Buhaiivka** (Vasylkiv district, Kyiv province, Ukraine), burial ground

a) Glass vessel (grave 100) – a fragmented <sup>179</sup> hemispherical cup, blown of colourless, transparent glass with a blue-green tinge and many air bubbles; curved, cracked-off rim with a

carefully polished edge; an abraded narrow band (0.1 cm) horizontal band covers the exterior surface below the rim; rounded, slightly concave base; decorated with two rows of wheel-cut vertical facets and a series of short narrow horizontal grooves, arranged below; an abraded straight narrow (0.1-0.15 cm) horizontal band is visible in the upper part of the vessel; height 8.9 cm, rim diameter 11 cm, wall thickness 0.15-0.3 cm. (Fig. 2: 5)

Group: hemispherical cups with cracked-off rims, type: Eggers 223 or 226.

Collection of the Research Lab of Archaeological Investigations of the Mykhailo Drahomanov Ukrainian State University, N 7–30/2001.

b) Glass vessels (layer) – a body fragment, melted, blown of colourless, transparent glass; decorated with an abraded narrow (0.1 cm) horizontal band; wall thickness 0.15 cm. (Fig. 9: 26)

PETRAUSKAS/SHYSHKIN 2013, 74, Fig. 198: 5, Tab. 41: 594.

c) Glass vessel (grave 11) – a body fragment, melted, blown of colourless, transparent glass with a faint green tinge; decorated with three applied drops of dark blue opaque glass, arranged in a triangle; the overlay elements are relief; wall thickness 0.25-0.3 cm. (Fig. 9: 15)

Collection of the Research Lab of Archaeological Investigations of the Mykhailo Drahomanov Ukrainian State University, N 71/1995.

d) Glass vessel (layer) – a body fragment, melted, blown of colourless, transparent glass with a faint green tinge; decorated with three applied drops of dark blue opaque glass, arranged in a row. (Fig. 9: 14)

Collection of the Research Lab of Archaeological Investigations of the Mykhailo Drahomanov Ukrainian State University, N 5–15/1999.

22. **Viitenky** (Bohodukhiv/earlier Valky district, Kharkiv province, Ukraine), burial ground

a) Glass vessel (grave 96) – a hemispherical cup, blown of colourless, transparent glass with a green tinge and many air bubbles; curved, cracked-off rim with a polished edge; an abraded narrow (0.1-0.2 cm) horizontal band covers the exterior surface below the rim; rounded, slightly concave base; decorated with an abraded narrow (0.1-0.2 cm) horizontal band in the upper part of the vessel and 24 abraded rough narrow (0.1-0.2 cm) bands, creating an arrow-shaped geometric pattern; height 6.8–7 cm, rim diameter 7.5 cm, wall thickness 0.2-0.3 cm. (Fig. 4: 1)

Group: hemispherical cups with cracked-off rims, type: Eggers 213.

Collection of the Museum of Archaeology of V. N. Karazin Kharkiv National University, N 54M/2009.

b) Glass vessel (grave 102) – a fragmented hemispherical cup, blown of colourless, transparent glass with a faint blue-green tinge and occasional air bubbles; curved, cracked-off rim with a carefully polished edge; an abraded wide (0.4-0.5 cm) horizontal band covers the exterior surface below the rim; rounded base; decorated with an applied marvered drops of dark blue opaque glass arranged in two rows, and six abraded narrow (0.1-0.2 cm) horizontal bands, covering the surface

<sup>179</sup> Some fragments are melted and deformed.

of the vessel in the upper and middle part; height 8 cm, rim diameter 12 cm, wall thickness 0.18-0.3 cm. (Fig. 4: 7)

Group: hemispherical cups with cracked-off rims, type: Nuppenschalen. Collection of the Museum of Archaeology of V. N. Karazin Kharkiv National University, N 86M/2009.

c) Glass vessel (grave 102 or 115<sup>180</sup>) – a fragmented conical beaker, blown of colourless, transparent glass with occasional air bubbles; curved, cracked-off rim with a polished edge; rounded base; decorated with four abraded straight narrow (0.1-0.2 cm) horizontal bands, covering the upper and bottom parts of the vessel; rim diameter 9 cm, wall thickness 0.2-0.3 cm. (Fig. 6: 18)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

Collection of the Museum of Archaeology of V. N. Karazin Kharkiv National University, NN 87M/2009 + 62M/2010.

d) Glass vessel (grave 260) – several fragments of a conical beaker, blown of colourless, transparent glass with occasional air bubbles; curved, cracked-off rim with a polished edge; an abraded wide (0.4-0.5 cm) horizontal band covers the exterior surface below the rim; decorated with four abraded straight narrow (0.2-0.25 cm) horizontal bands, arranged below the rim and in the upper part of the vessel; rim diameter 9 cm, wall thickness 0.25-0.06 cm. (Fig. 6: 8)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

Collection of the Museum of Archaeology of V. N. Karazin Kharkiv National University, NN 171-173, 176-178M/2020.

e) Glass vessel (layer) – a body fragment, blown of colourless, transparent glass with a faint green tinge; decorated with an applied relief drop of dark blue opaque glass; wall thickness 0.2 cm. (Fig. 9: 12)

Collection of the Museum of Archaeology of V. N. Karazin Kharkiv National University, N 2M/2018.

23. **Voskresenske 1** (Pryluky/earlier Varva district, Chernihiv province, Ukraine), burial ground

Glass vessel (grave 3) – a body fragment; decorated with an applied relief drop of dark blue opaque glass; wall thickness 0.1 cm. (Fig. 9: 19)

ZHAROV/TERPYLOVSKIYI 2011, 172; Fig. 8: 2.

24. **Zapandnia** (Zmiiv district, Kharkiv province, Ukraine), settlement

Glass vessels (layer) – a body fragment; decorated with two wheel-cut narrow (0.1 cm) horizontal bands; wall thickness 0.3 cm. (Fig. 9: 25)

BAKUMENKO *et alii* 2002, 81, Fig. 1: 7, 2: 4.

25. **Zhuravka/Zhuravka-Vilshanska** (Shpola/earlier Vilshany district, Cherkasy province, Ukraine), burial ground

a) Glass vessel (grave 14) – a hemispherical cup, blown of colourless, transparent glass; curved, cracked-off rim; rounded, slightly concave base; decorated with eight applied drops of dark blue opaque glass arranged in two triangles, separated by two larger marvered overlay blobs, and an abraded narrow (0.2 cm) horizontal band running above the

applied elements; height 5 cm, rim diameter 8.1 cm, wall thickness 0.2-0.35 cm. (Fig. 4: 15)

Group: hemispherical cups with cracked-off rims, type: Nuppenschalen.

SYMONOVICH 1964, 9, Fig. 1: 1; KROPOTKIN 1970, 109-110, Fig. 71: 1, 77: 4, Cat. N 993.

b) Glass vessel (grave 19) – a conical beaker, blown of colourless, transparent glass; curved, cracked-off rim with an unworked edge; rounded base; plain, undecorated; height 11.4 cm, rim diameter 7.2 cm, wall thickness 0.1 cm. (Fig. 5: 27)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

SYMONOVICH 1964, 9, Fig. 1: 3; KROPOTKIN 1970, 109, Cat. N 993; RUMYANTSEVA 2020, 172-173, Fig. 1: 2.

26. **Zolochiv** (Bohodukhiv district, Kharkiv province, Ukraine), single burial

Glass vessel (grave) – a conical beaker, blown of colourless, transparent glass with a green tinge; curved, cracked-off rim; rounded base; decorated with two wheel-cut straight wide (0.4 cm) horizontal bands, covering the upper and middle parts of the vessel.

Group: conical beakers with cracked-off rims, type: AR 69.

SHRAMKO *et alii* 2009.

27. **Brăviceni** (Orhei district; Republic of Moldova), burial ground

Glass vessel (grave 108) – a conical beaker, blown of colourless, transparent glass with a green tinge; curved, cracked-off rim; rounded base; decorated with four wheel-cut straight wide (0.5 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; height 19.6 cm, rim diameter 12 cm, wall thickness 0.1 cm. (Fig. 7: 15)

Group: conical beakers with cracked-off rims, type: AR 69.

VORNIC/CHOBANU 2010, Fig. 6: 3.

28. **Budești** (Municipality Chișinău, Republic of Moldova), burial ground

a) Glass vessel (grave 266) – a fragmented conical beaker, blown of green glass; curved, cracked-off rim; rounded base; decorated with three wheel-cut straight wide (0.4 cm) horizontal bands, arranged in the upper and middle parts of the vessel; height 17 cm, rim diameter 8.4 cm, wall thickness 0.4-0.3 cm. (Fig. 8: 9)

Group: conical beakers with cracked-off rims, type: AR 69.

RIKMAN 1967, 69, Fig. 25: 3, 5; VORNIC 2006, 211-212, Fig. 100: 1.

b) Glass vessel (layer) – a body fragment, blown of colourless, transparent glass; decorated with an applied marvered drop of dark blue opaque glass. (Fig. 9: 20)

VORNIC 2006, 216, Fig. 128: 3.

c) Glass vessel (layer) – a body fragment, blown of colourless, transparent glass; decorated with three applied relief drops of dark blue opaque glass, arranged in a triangle. (Fig. 9: 18)

VORNIC 2006, 216, Fig. 128: 7.

29. **Dănceni** (Ialoveni district, Republic of Moldova), burial ground

Glass vessel (grave 78) – a conical beaker, blown of colourless,

<sup>180</sup> Fragments of a single glass vessel come from two graves destroyed by looting or ritual activity in the past.

transparent glass; curved, cracked-off rim; rounded base; decorated with two wheel-cut narrow (0.1 cm) horizontal bands, arranged below the rim and in the upper part of the vessel; height 10.8 cm, rim diameter 6.7 cm. (Fig. 5: 25)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

RAFALOVICH 1986, 43–44, Tab. XXII: 9.

30. **Gura Căinarului 1** (Florești district, Republic of Moldova), settlement

Glass vessel (dugout dwelling 1) – a body fragment, blown of green, transparent glass; decorated with abraded bands, wheel-cut round facets and narrow grooves, creating arcaded geometric pattern; wall thickness 0.3 cm. (Fig. 1: 13)

Group: hemispherical cups with cracked-off rims, type: group II after L. Barkóczi.

LEVINSKIJ 1990, 177–178, Fig. 2: 6.

31. **Mălăiești** (Grigoriopol district, Transnistria, Republic of Moldova), burial ground

Glass vessel (grave 33) – a conical beaker, blown of colourless, transparent glass; curved, cracked-off rim; rounded base; plain, undecorated; height 21 cm, rim diameter 10.7 cm, wall thickness 0.2 cm. (Fig. 5: 12)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

FEDOROV 1960, 279, Fig. 12; GAVRITUKHIN 2017, Fig. 10: 29.

32. **Slobodzia-Chișcăreni/Lazo** (Chișcăreni commune, Sîngerei district, Republic of Moldova), burial ground

a) Glass vessel (grave 10) – a fragmented conical beaker, blown of green, transparent glass; cracked-off rim; rounded base; plain, undecorated; height 9.2 cm, rim diameter 5.3 cm, wall thickness 0.15–0.35 cm. (Fig. 5: 23)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

LEVINSKIJ 1999, 126; DIDENKO 2018, Fig. 81: 1.

b) Glass vessel (grave 39) – a fragmented conical beaker, blown of green, transparent glass; cracked-off rim with polished edge; plain, undecorated; rim diameter 6.5 cm, wall thickness 0.2–0.3 cm. (Fig. 6: 16)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

LEVINSKIJ 1999, 152–155, Fig. 34: 5.

33. **Sobari** (Soroca district, Republic of Moldova), settlement

Glass vessel (stone construction) – a body fragment of a conical beaker; decorated with two wheel-cut straight wide (0.3 cm) horizontal bands; wall thickness 0.2–0.3 cm. (Fig. 8: 21)

Group: conical beakers with cracked-off rims, type: AR 69

POPA 1997, 125, Abb. 8: 1.

34. **Barcea** (Galați county, Romania), burial ground

a) Glass vessel (grave 134) – a fragmented conical beaker; curved, cracked-off rim; rounded base; decorated with a wheel-cut straight wide (0.6 cm) horizontal band, running below the rim; height 15.4 cm, rim diameter 8.2 cm, wall thickness 0.2–0.3 cm. (Fig. 8: 11)

Group: conical beakers with cracked-off rims, type: AR 69  
ȚĂU/NICU 2013, 66, Pl. 1: 8; GAVRITUKHIN 2017, Fig. 10: 32.

b) Glass vessel (grave 136) – a conical beaker, blown of green, transparent glass; curved, cracked-off rim; flattened, slightly concave base; decorated with four wheel-cut straight wide (0.5 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; height 19.5 cm, rim diameter 10.2 cm, wall thickness 0.1–0.3 cm. (Fig. 8: 12)

Group: conical beakers with cracked-off rims, type: AR 69.

ȚĂU/NICU 2013, 65–66, Pl. 1: 7; GAVRITUKHIN 2017, Fig. 8: 5.

c) Glass vessel (grave 154) – a fragmented conical beaker; curved, cracked-off rim; decorated with four wheel-cut straight wide (0.3–0.5 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; rim diameter 8 cm, wall thickness 0.4–0.2 cm. (Fig. 8: 10)

Group: conical beakers with cracked-off rims, type: AR 69.

ȚĂU/NICU 2013, 65–66, Pl. 1: 9; GAVRITUKHIN 2017, Fig. 9: 14.

d) Glass vessel (grave 165) – a fragmented conical beaker, blown of colourless, transparent glass with a green tinge; curved, cracked-off rim; rounded base; plain, undecorated; height 13.5 cm, rim diameter 7.8 cm, wall thickness 0.1–0.2 cm. (Fig. 5: 24)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

ȚĂU/NICU 2013, 66, Pl. 1: 10.

35. **Bârlad, Valea Seacă** (Vaslui county, Romania), burial ground

a) Glass vessel (grave 501) – a conical beaker, blown of colourless, transparent glass with a faint green tinge and occasional air bubbles; curved, cracked-off rim; rounded (pointed) base; decorated with two wheel-cut straight wide (0.3–0.5 cm) horizontal bands, arranged in the upper and middle parts of the vessel; height 17.2 cm, rim diameter 7.2 cm, wall thickness 0.2–0.3 cm. (Fig. 10: 2)

Group: conical beakers with cracked-off rims, type: AR 69.

PALADE 2004, 139–140, 220, Fig. 265: 9.

b) Glass vessel (grave 501) – a cylindrical jug, blown of green, transparent glass with numerous air bubbles; flattened, slightly concave base; a thick ribbed handle is attached to the shoulder and neck of the vessel; the upper part of the vessel was broken off and lost, but usually, analogous glass jugs have a funnel-shaped rim bent outwards, flattened, slightly concave base; a thick ribbed handle is attached to the shoulder and neck of the vessel, decorated with abraded short narrow (0.1 cm) grooves creating two horizontal rows of pentagons joined by the vertices of obtuse angles, each of these probably incorporates a wheel-cut oval facet; five abraded narrow (0.2 cm) horizontal bands limit the main ornamental pattern; height 20.5 cm, body diameter 9.8 cm, wall thickness 0.2–0.5 cm. (Fig. 10: 1).

Group: glass tableware, type: Isings Form 126.

PALADE 2004, 139–140, 220–221, Fig. 265: 10.

c) Glass vessel (grave 507) – a conical beaker, blown of colourless, transparent glass with a green tinge and occasional air bubbles; curved, cracked-off rim; flattened, slightly concave base; decorated with two rows of applied drops of

dark blue opaque glass; the upper series comprises large marvered overlay blobs, the lower row includes small marvered applied elements, arranged in triangles; two wheel-cut wide (0.4-0.6 cm) horizontal bands cover the surface of the vessel below the rim and in the upper part; an abraded? narrow (0.2 cm) horizontal band is visible in the middle part of the vessel; height 19.5 cm, rim diameter 13.3 cm, wall thickness 0.2-0.3 cm. (Fig. 9: 8)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 with applied drops of coloured glass. PALADE 2004, 140-141, Fig. 269: 4; CROITORU 2009, 230, Fig. 9: 94.

36. **Boanca** (Călărași county, Romania), burial ground

Glass vessel (grave 9) – a conical beaker, blown of green, transparent glass; curved, cracked-off rim; flattened base; decorated with three abraded straight (0.4 cm, 0.5 cm and 0.2 cm) horizontal bands, running below the rim, in the upper and bottom parts of the vessel; height 15.8 cm, rim diameter 8.9 cm, wall thickness 0.2-0.5 cm. (Fig. 6: 19)

Group: conical beakers with cracked-off rims, type: variant a of Isings Form 106 or AR 68.1 type. MIRCEA/FLORIN 1992, 127, 131; Fig 3: M9, 2.

37. **Bratei** (Brateiu, Sibiu county, Romania), burial ground

Glass vessel (layer) – a body fragment, blown of colourless, transparent glass; decorated with an applied marvered drop of dark blue opaque glass. (Fig. 9: 17)

BĂRZU 1973, 68, Pl. XXVI: 20.

38. **Cârligi** (Filipești commune, Bacău county, Romania), settlement

Glass vessel (layer?) – a rim fragment of a conical beaker, blown of colourless glass with a green tinge; curved, cracked-off rim; decorated with three wheel-cut straight wide (0.4-0.5 cm) horizontal bands, running below the rim and in the upper part of the vessel; wall thickness 0.4-0.3 cm. (Fig. 8: 22)

Group: conical beakers with cracked-off rims, type: AR 69. MITREA 1986, 144, Fig. 6: 4, 8: 10; CROITORU 2009, 223, Fig. 5: 2, Cat. N II/2.

39. **Ciorcani** (Prahova county, Romania), burial ground

Glass vessel (grave) – two rim fragments of a conical beaker; cracked-off rim with an unworked edge; decorated with eight wheel-cut straight narrow (0.1 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; rim diameter 13.2 cm, wall thickness 0.3-0.2 cm. (Fig. 6: 6)

Group: conical beakers with cracked-off rims, type: variant a of Isings Form 106 or AR 68.1 type. LĂZĂRESCU/CIUPERCĂ/ANTON 2015, 214, Pl. VI: 2.

40. **Gherăseni – Grîndul Cremenea** (Buzău county, Romania), burial ground

Glass vessel (grave 59) – a conical beaker, blown of colourless glass with a faint green tinge; curved, cracked-off rim; rounded base; decorated with three wheel-cut straight wide (0.5-0.6 cm) horizontal bands, arranged in the upper and

middle parts of the vessel; height 17.2 cm, rim diameter 10 cm, wall thickness 0.4-0.3 cm. (Fig. 7: 12)

Group: conical beakers with cracked-off rims, type: AR 69. CONSTANTINESCU 1992, 206-207, Fig. 2: 2.

41. **Iacobeni** (Vlădeni commune, Iași county, Romania), burial ground

Glass vessel (grave 20) – a hemispherical cup, blown of colourless, transparent glass with a green tinge; curved, cracked-off rim; an abraded narrow band (0.1 cm) horizontal band covers the exterior surface below the rim; rounded, slightly concave base; decorated with wheel-cut vertical facets and short narrow grooves, creating two horizontal rows of pentagons joined by the vertices of obtuse angles, each incorporates wheel-cut vertical oval facet, and two wheel-cut straight narrow (0.1 cm) horizontal bands arranged below this pattern; height 6.6 cm, rim diameter 9 cm, wall thickness 0.1-0.4 cm. (Fig. 3: 10)

Group: hemispherical cups with cracked-off rims, type: Iacobeni.

IONIȚĂ 1994-1995, 151, Abb. 1:1; PÂNCZÉL/DOBOS 2007, 85, Cat. N 49, Pl. VI/49.

42. **Lețcani** (Iași county, Romania), burial ground

Glass vessel (grave 23) – a conical beaker; curved, cracked-off rim; rounded base; plain, undecorated; height 12.4 cm, rim diameter 6.2 cm. (Fig. 5: 19)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

BLOȘIU 1975, 236, Fig. 20: 12; COCIȘ/BĂRCĂ 2020, 141, Pl. 11/12.

43. **Mărtinești** (Vrancea county, Romania), burial ground

Glass vessel (grave 5) – a conical beaker; curved, cracked-off rim; flattened base; decorated with three wheel-cut straight wide (0.6 cm) horizontal bands, arranged in the upper and middle parts of the vessel; height 20.8 cm, rim diameter 11.6 cm, wall thickness 0.25-0.4 cm. (Fig. 7: 13)

Group: conical beakers with cracked-off rims, type: AR 69. BOBÎ 1977-1979, 208, Fig. 10: 1; GOMOLKA-FUCHS 1999, 135, Abb. 5: 5.

44. **Mihălășeni** (Botoșani county, Romania), burial ground

a) Glass vessel (grave 376) – a conical beaker, blown of colourless, transparent glass; curved, cracked-off rim; rounded base; decorated with three wheel-cut straight wide (0.4-0.6 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; height 19 cm, rim diameter 10 cm, wall thickness 0.4-0.2 cm. (Fig. 7: 7)

Group: conical beakers with cracked-off rims, type: AR 69. ȘOVAN 2009, 115-116, Pl. 210: 13.

b) Glass vessel (grave 466) – a conical beaker; curved, cracked-off rim; an abraded wide (1 cm) horizontal band covers the exterior surface below the rim; flattened, slightly concave base; decorated with two wheel-cut straight wide (0.5-0.6 cm) horizontal bands, arranged in the upper and middle parts of the vessel; height 18.8 cm, rim diameter 10.6 cm, wall thickness 0.4-0.2 cm. (Fig. 8: 13)

Group: conical beakers with cracked-off rims, type: AR 69. ȘOVAN 2009, 134, Pl. 250: C, 1.

45. **Mitreni** (Călărași county, Romania), burial ground  
Glass vessel (grave?) – a fragmented conical beaker; curved, cracked-off rim; rounded base; decorated with seven wheel-cut straight narrow (0.1 cm) horizontal bands, running below the rim, in the upper, middle and bottom parts of the vessel. (Fig. 8: 15)

Group: conical beakers with cracked-off rims, type: AR 69.  
MITREA/PREDA 1966, 82; Fig. 216.

46. **Mogoșani** (Dâmbovița county, Romania), burial ground  
a) Glass vessel (grave 8) – a conical beaker, blown of green, transparent glass with numerous air bubbles; curved, cracked-off rim with a polished edge; an abraded horizontal band covers the exterior surface below the rim; flattened, slightly concave base; decorated with three wheel-cut straight wide (0.6 cm) horizontal bands, running in the upper and middle parts of the vessel; height 17.6 cm, rim diameter 11.2 cm, wall thickness 0.25-0.5 cm. (Fig. 7: 4)

Group: conical beakers with cracked-off rims, type: AR 69.  
DIACONU 1970, 379-400, Fig. 5: 10; STAWIARSKA 2014, 119, Fig. 36: 81.

b) Glass vessel (grave 50) – a conical beaker, blown of green, transparent glass with numerous air bubbles; curved, cracked-off rim with a polished edge; flattened, slightly concave base; decorated with three wheel-cut straight wide (0.6 cm) horizontal bands, running below the rim, in the upper and middle parts of the vessel; height 17 cm, rim diameter 9.8 cm, wall thickness 0.2-0.3 cm. (Fig. 8: 14)

Group: conical beakers with cracked-off rims, type: AR 69  
DIACONU 1970, 379-400, Fig. 5: 13.

c) Glass vessel (grave 70) – a hemispherical cup; curved, cracked-off rim; rounded, slightly concave base; decorated with six applied drops of dark blue opaque glass arranged in two triangles, separated by two larger marvered overlay blobs, and an abraded narrow (0.2 cm) horizontal band running above the applied elements; height 10.2 cm, rim diameter 12.4 cm, wall thickness 0.2-0.3 cm. (Fig. 4: 10)

Group: hemispherical cups with cracked-off rims, type: Nuppenschalen.

DIACONU 1970, 401-402, Fig. 5: 15.

47. **Poienești** (Vaslui county, Romania), settlement  
Glass vessel (layer) – a fragmented hemispherical cup; curved, cracked-off rim; decorated with wheel-cut vertical facets and short narrow grooves, creating zoned pattern, separated by wheel-cut narrow (0.1 cm) shallow horizontal bands. (Fig. 1: 5)

Group: hemispherical cups with cracked-off rims, type: Eggers 216.

GOMOLKA-FUCHS 1999, 123, Abb. 2: 5; SPANU *et alii* 2018, Fig. 7: 4.

48. **Polocin** (Pogonești commune, Vaslui county, Romania), burial ground

Glass vessel (grave 77) – a conical beaker, blown of colourless, transparent glass; curved, cracked-off rim; rounded base; an abraded wide (0.6 cm) horizontal band covers the exterior surface below the rim; decorated with three abraded straight narrow (0.3 cm) horizontal bands, covering the surface in

the upper and middle parts of the vessel; height 10.2 cm, rim diameter 9.4 cm, wall thickness 0.2-0.7 cm. (Fig. 6: 20)

Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

MAMALAUCA 2018, 316, Pl. 246: 3.

49. **Sântana de Mureș** (Mureș county, Romania), burial ground

Glass vessel (stray find) – a conical beaker, blown of colourless, transparent glass with a green tinge and numerous air bubbles; curved, cracked-off rim with a polished edge; rounded base; decorated with three wheel-cut straight wide (0.6 cm) horizontal bands, arranged in the upper and middle parts of the vessel; height 18.6 cm, rim diameter 12.8 cm, wall thickness 0.2-0.5 cm. (Fig. 8: 16)

Group: conical beakers with cracked-off rims, type: AR 69.

RAU 2008, 231, Fig. 4: 2, 7: 6.

50. **Tîrgșor** (Târgșoru Vechi, Prahova county, Romania), burial ground

a) Glass vessel (grave 67) – a hemispherical cup; curved, cracked-off rim; rounded, slightly concave base; decorated with wheel-cut vertical facets and short narrow grooves, creating zoned pattern, separated by wheel-cut narrow (0.1 cm) shallow horizontal bands; height 6 cm, rim diameter 10.6 cm, wall thickness 0.2 cm. (Fig. 1: 4)

Group: hemispherical cups with cracked-off rims, type: Eggers 216.

DIACONU 1965, 106, Pl. XLII: 1; NICULESCU 1993, 205 (9); Fig. 9: 3.

b) Glass vessel (grave 195) – a conical beaker, blown of colourless, transparent glass with a green tinge; curved, cracked-off rim; rounded base; plain, undecorated; height 13 cm, rim diameter 8 cm, wall thickness 0.2-0.3 cm. (Fig. 5: 11)

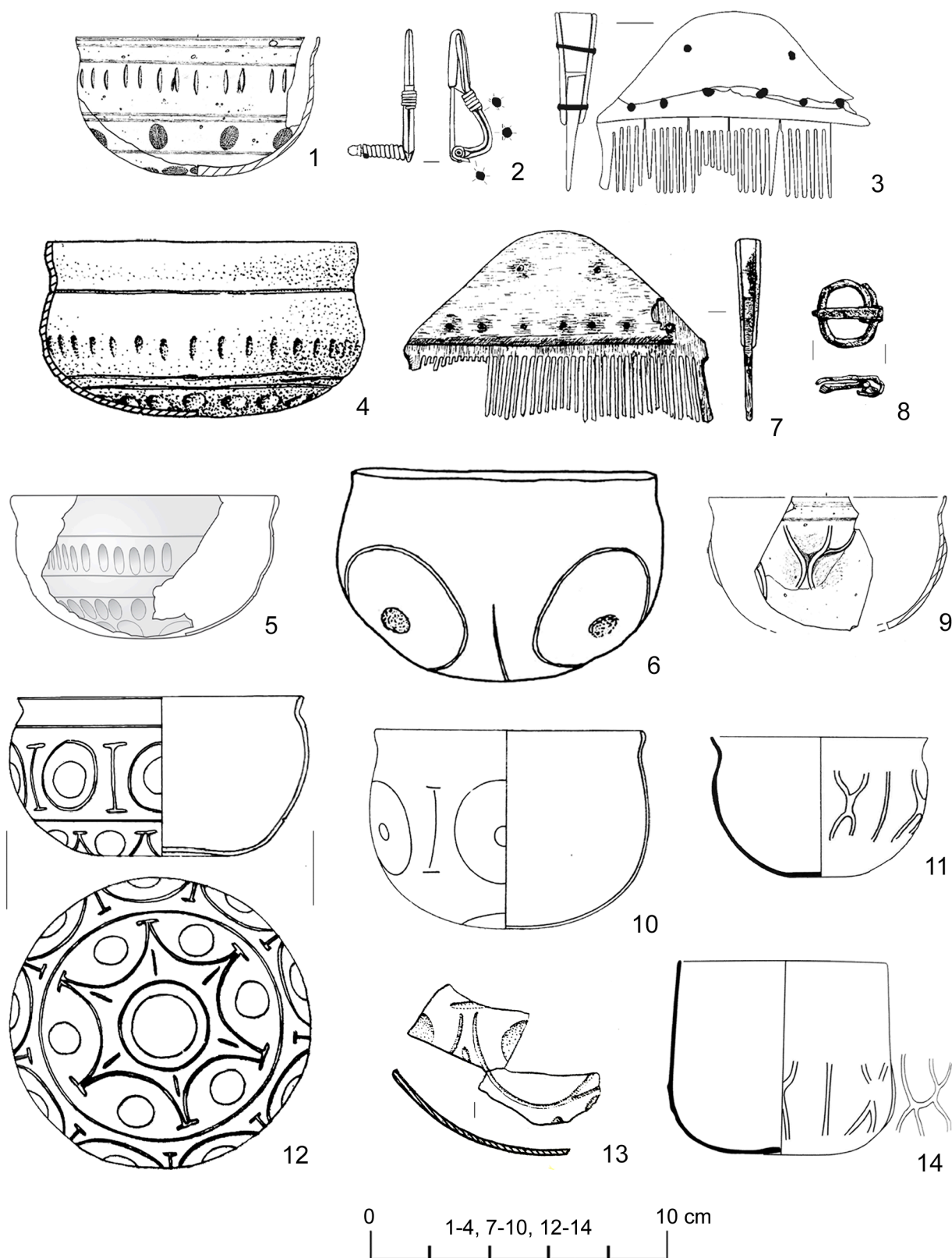
Group: conical beakers with cracked-off rims, type: variant d of Isings Form 106 or AR 68.1 type.

DIACONU 1965, 106, Pl. CXVI: 8.

c) Glass vessel (grave 444) – a fragmented bulbous? jug, blown of yellow-green, transparent glass; a funnel-shaped rim bent outwards?; height approximately 40 cm, (Fig. 10: 6).

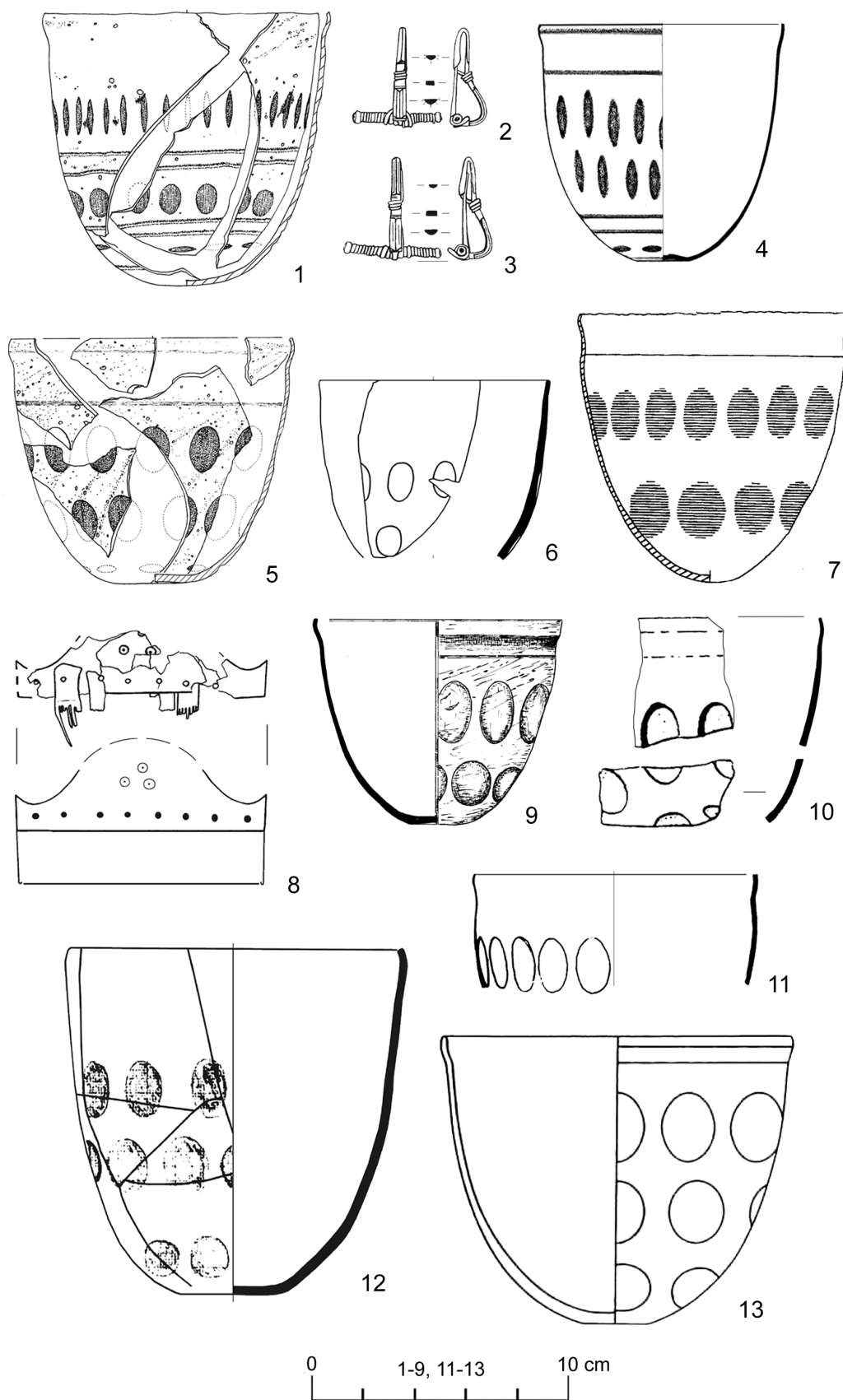
Group: glass tableware.

LICHIARDOPOL/CIUPERCĂ 2008, 111-112, Fig. 5: 1.

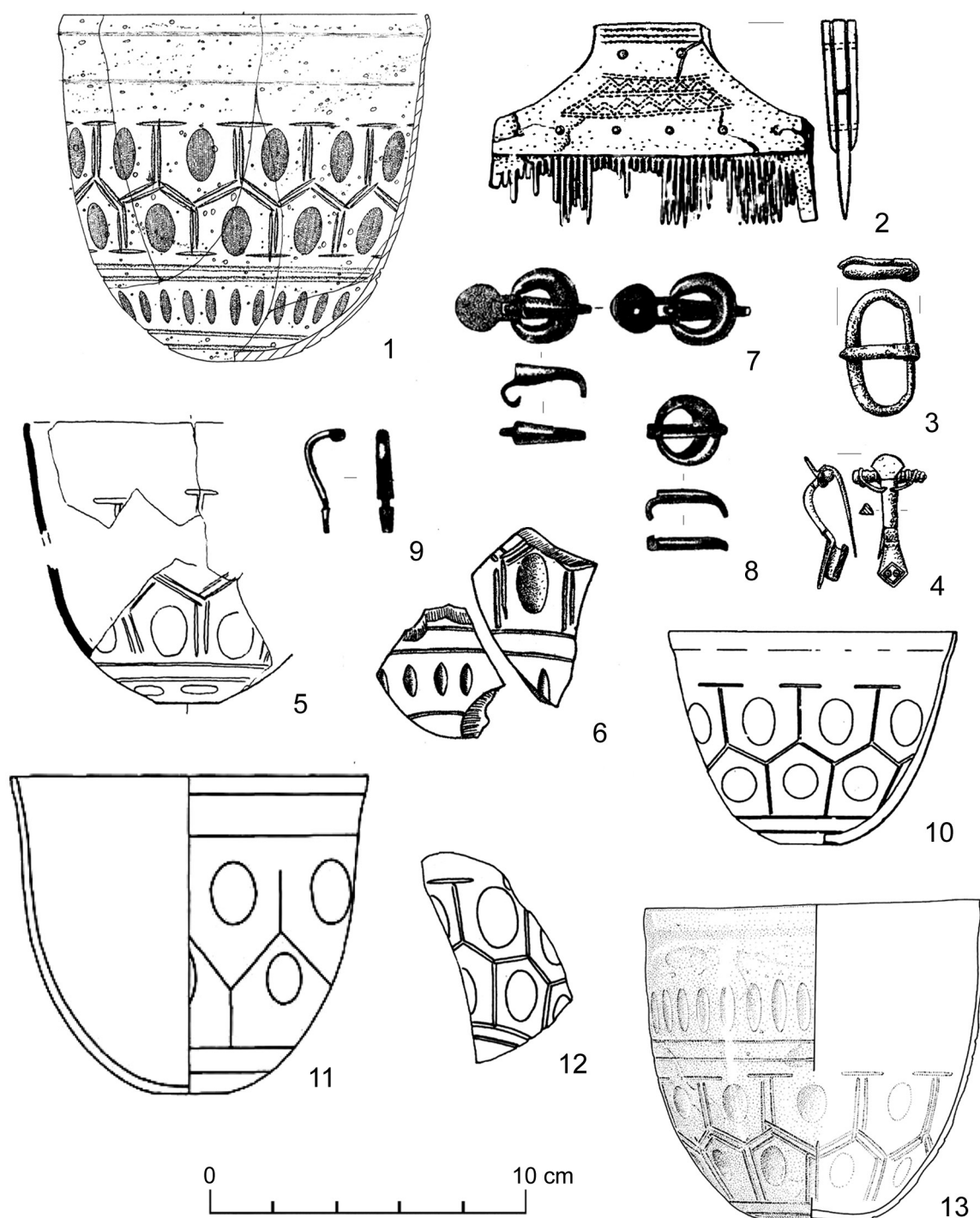


**Fig. 1.** Hemispherical glass cups with cracked-off rims and synchronous chronological indicators. 1-3 – Cherneliv-Ruskyi/UA (grave 96), 4 – Tîrșor/RO (grave 67), 5 – Poieniști/RO (settlement layer), 6-8 – Romankivtsi/UA (grave 105), 9 – Ruzhychanka/UA (grave 11), 10 – Kolovrat/RS, 11 – Niederbieber/DE, 12 – Mursa/RS, 13 – Gura Căinarului 1/RO (settlement layer), 14 – Selongey/FR. 1, 9 – author, 2-3 – after GERETA 2013, 4 – after DIACONU 1965, 5 – after SPANU *et alii* 2018, 6-8 – after NIKITINA 1996, 10 – after CERMANOVIĆ-KUZMANOVIĆ 1992, 11 – after HOFFMANN 2000, 12 – after SARANOVIĆ-SVETEC 1986, 13 – after LEVINSKIJ 1990, 14 – after FOY *et alii* 2018. 1, 4-6, 9-14 – glass, 3, 7 – antler, 2, 8 – bronze.

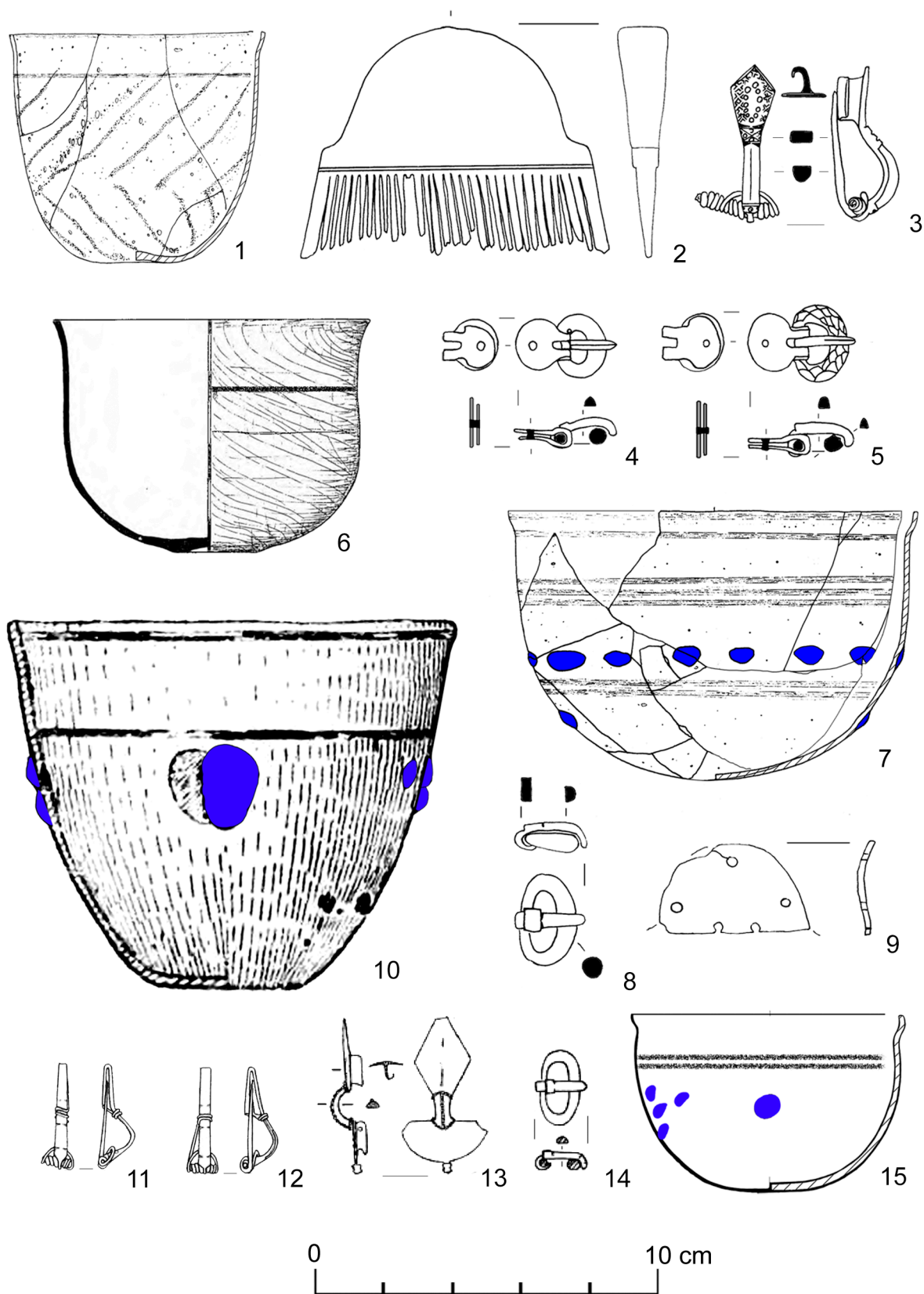




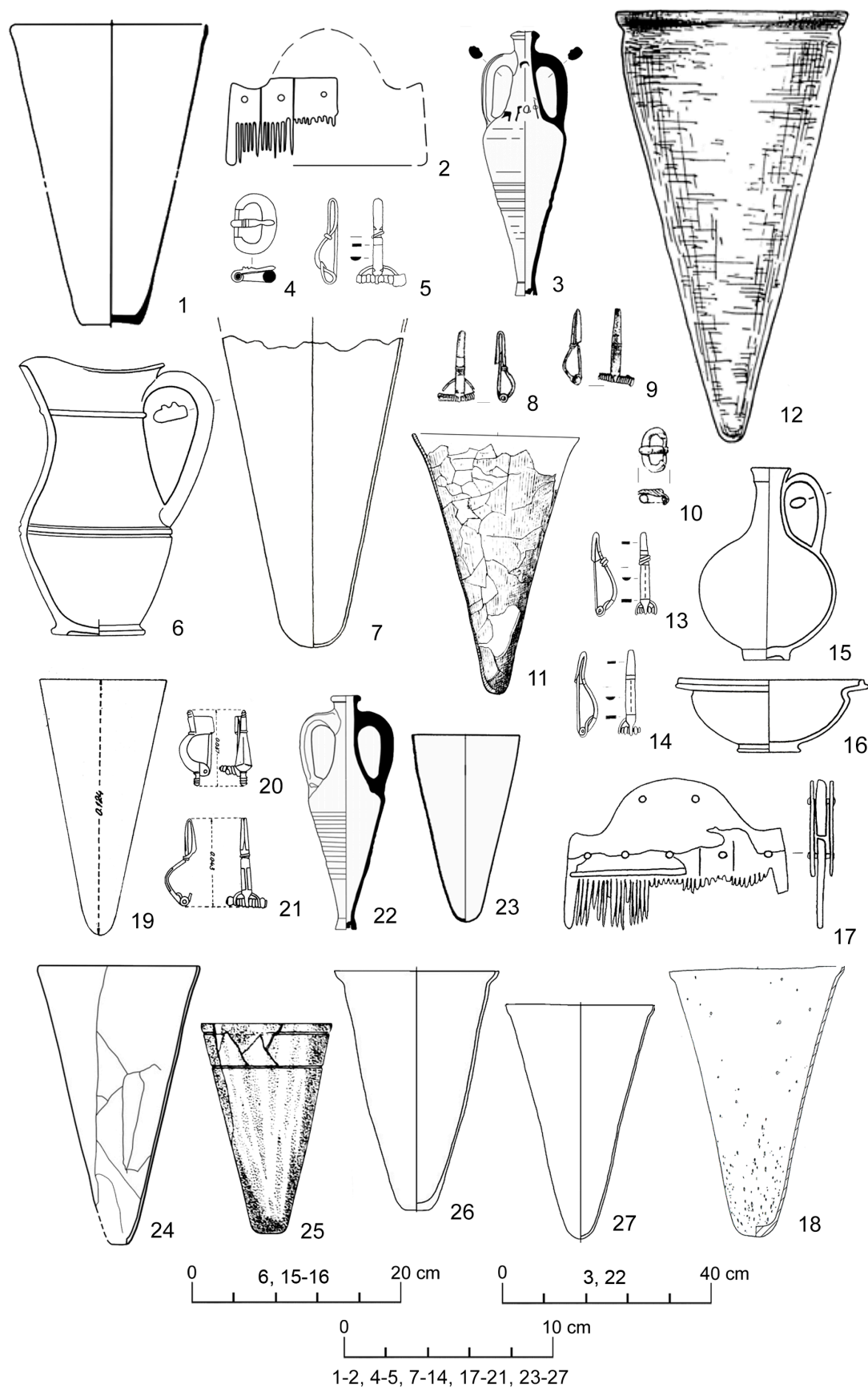
**Fig. 2.** Hemispherical glass cups with cracked-off rims and synchronous chronological indicators. 1-3 – Cherneliv-Ruskyi/UA (grave 308), 4 – Thessaloniki/GR, 5, 8 – Velyka Buhayvka/UA (grave 100), 6 – Komariv/UA (settlement layer), 7 – Pruszcz Gdański/PL, 9 – Redlino/PL, 10 – Karanis (Kom Oshim)/EG, 11 – Singidunum (Beograd)/RS, 12 – Neyzats (Krasnogirske)/UA, 13 – Sigersted/DK. 1, 5 – author, 2-3 – after GERETA 2013, 4 – after ANTONARAS 2017, 6 – after RUMYANTSEVA 2014, 7 – after STAWIARSKA 1999, 8 – after PETRAUSKAS/SHYSHKIN 2013, 9 – after RAU 1972, 10 – after HARDEN 1936, 11 – after RUŽIĆ 1994, 12 – after SHABANOV 2011, 13 – after STRAUME 1987. 1, 4-7, 9-13 – glass, 8 – antler, 2-3 – bronze.



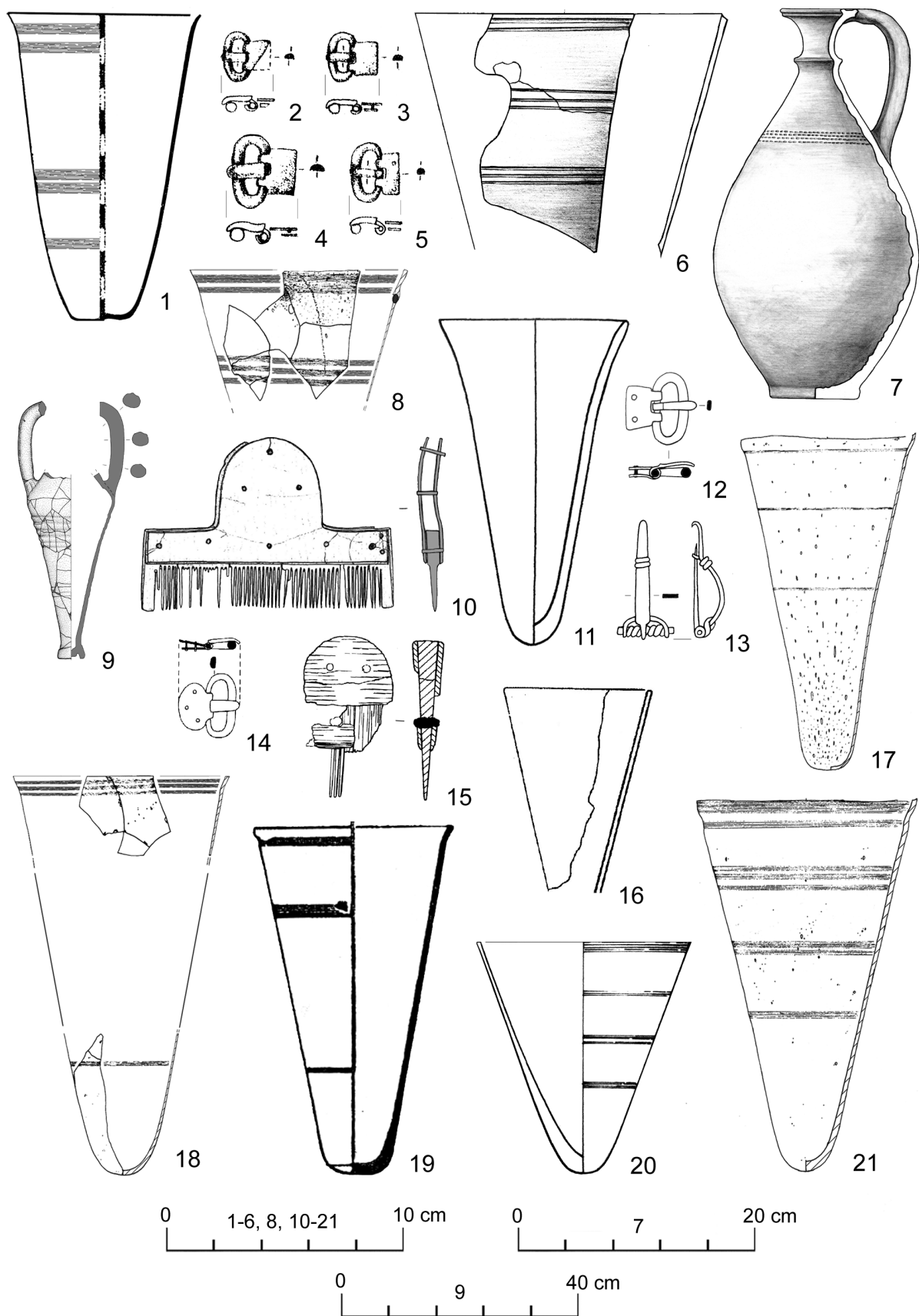
**Fig. 3.** Hemispherical glass cups with cracked-off rims and synchronous chronological indicators. 1-4 – Kosanove /UA (grave 21–1961), 5 – Havrylivka/UA (grave 82), 6-9 – Frunzivka/UA (grave), 10 – Iacobeni/RO (grave 20), 11 – Vrangstrup/DK (grave), 12 – Poetovio (Ptuj)/SI, 13 – Mautern an der Donau/AT. 1 – author, 2-4 – after KRAVCHENKO N. 1967, 5 – after PETRAUSKAS 2003, 6-9 – after KRAVCHENKO A. 1967, 10 – after IONIȚĂ 1994–1995, 11 – after STRAUME 1987, 12 – after ŠUBIC 1976, 13 – after POLLAK 1993. 1, 5-6, 10-13 – glass, 2 – antler, 3-4, 7-9 – bronze.



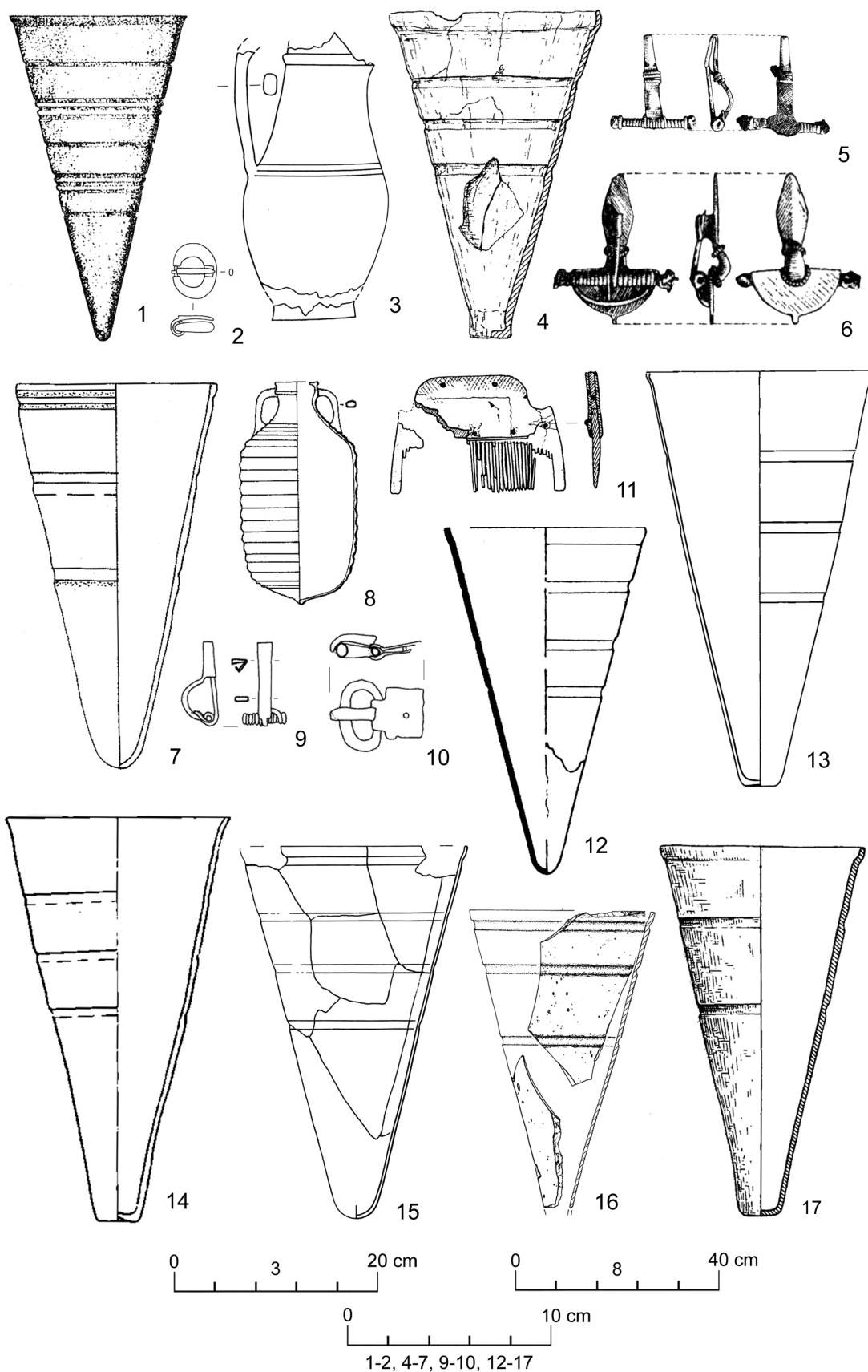
**Fig. 4.** Hemispherical glass cups with cracked-off rims and synchronous chronological indicators. 1–5 – Viitenky/UA (grave 96), 6 – Meszne/PL, 7–9 – Viitenky/UA (grave 102), 10–12 – Mogoșani/RO (grave 70), 13–15 – Zhuravka/UA (grave 14). 1, 7 – author, 2–5 – after LYUBICHEV 2019a, 6 – after STAWIARSKA 1999, 8–9 – after LYUBICHEV 2019b, 10–12 – after DIACONU 1970, 13–15 – after GAVRITUKHIN 2017. 1, 6–7, 10, 15 – glass, 2, 9 – antler, 3–5, 8 – bronze, 11–12 – silver.



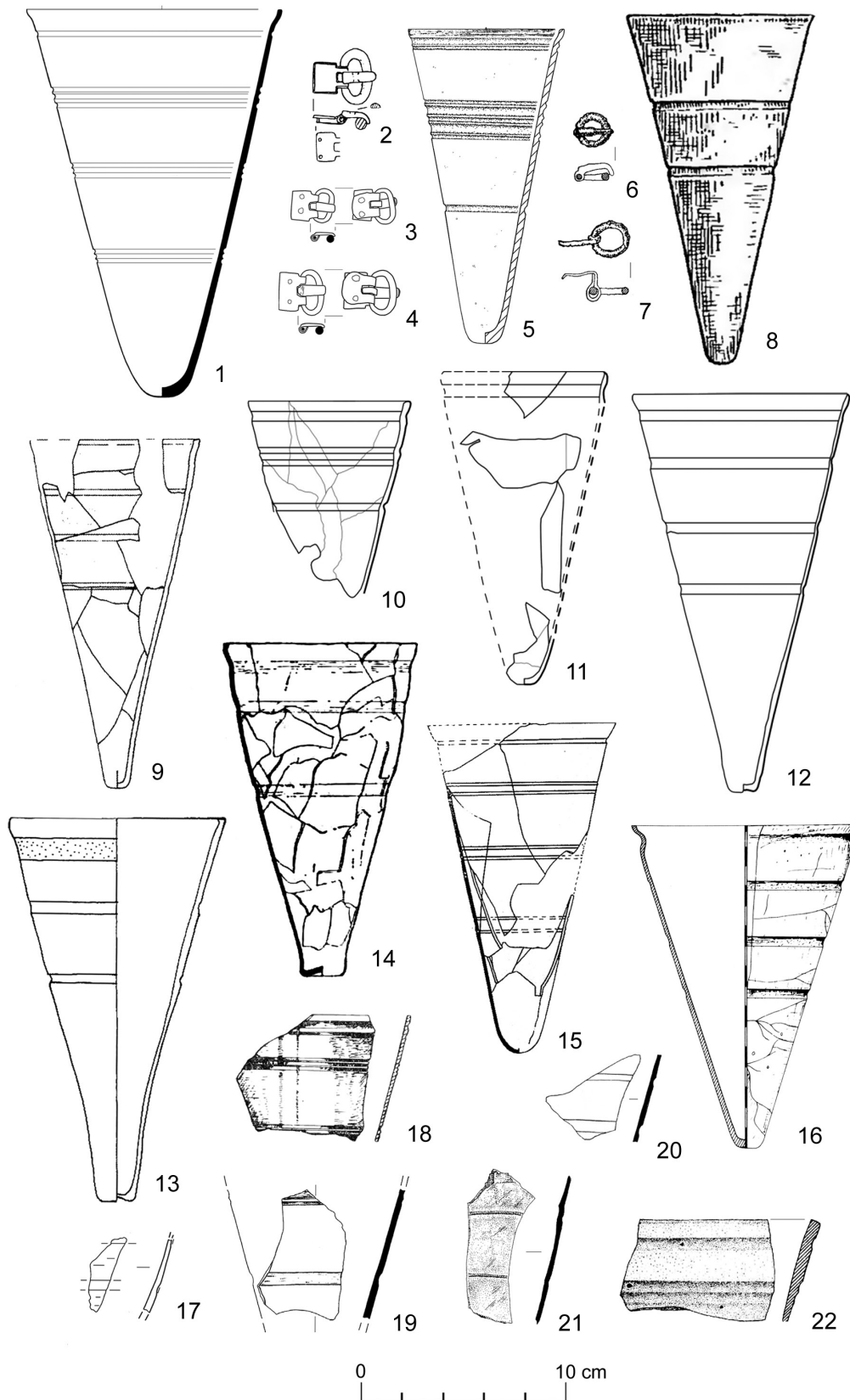
**Fig. 5.** Conical glass beakers with cracked-off rims and synchronous chronological indicators. 1-3 – Bilenke/UA (grave 100), 4-7 – Nahirne 2/UA (grave 36), 8-11 – Tirgșor/RO (grave 195), 12 – Mălăiești/ND (grave 33), 13-18 – Nahirne 2/UA (grave 67), 19-21 – Lețcani/RO (grave 23), 22-23 – Slobodzia-Chișcăreni/MD (grave 10), 24 – Barcea/RO (grave 165), 25 – Dănceni/MD (grave 78), 26 – Odaia/UA (grave 23), 27 – Zhuravka/UA (grave 19). 1-3, 22-23 – after DIDENKO 2018, 4-7, 13-17 – after GUDKOVA/SCHULTZE 2017, 8-11 – after DIACONU 1965, 12 – after FEDOROV 1960, 18 – author, 19-21 – after BLOȘIU 1975, 24 – ȚAU/NICU 2013, 25 – after RAFALOVICH 1986, 26-27 – after RUMYANTSEVA 2020. 1, 7, 11-12, 18-19, 23-27 – glass, 3, 6, 15-16, 22 – ceramic, 2, 17 – antler, 4-5, 20-21 – bronze, 8-10, 13-14 – silver.



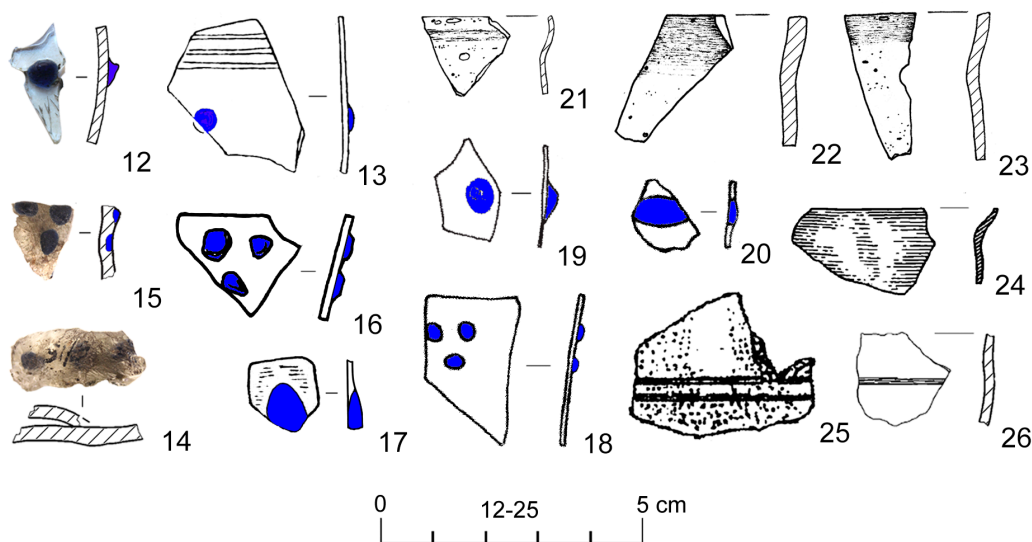
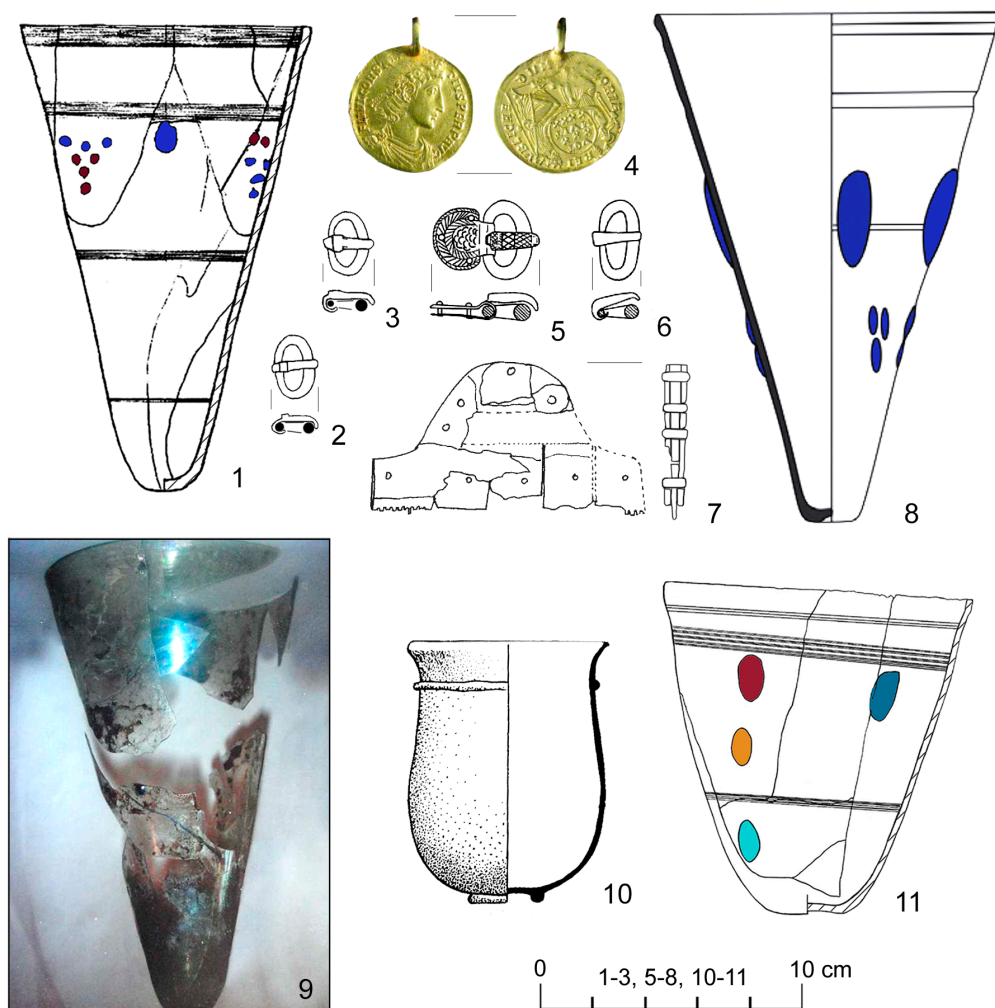
**Fig. 6.** Conical glass beakers with cracked-off rims and synchronous chronological indicators. 1-5 – Bilenke/UA (grave 51), 6-7 – Ciorcani/RO (grave), 8-10 – Viitenky/UA (grave 260), 11-13 – Nahirne 2/UA (grave 17), 14-16 – Slobodia-Chișcăreni/MD (grave 39), 17 – Nahirne 2/UA (grave 78), 18 – Viitenky/UA (grave 102 or 115), 19 – Boanca/RO (grave 9), 20 – Polocin/RO (grave 77), 20 – Nahirne 2/UA (grave 7). 1-5 – after BRUYAKO/LEVINSKIJ/ROSOHATSKIJ 1992, 6-7 – after LĂZĂRESCU/CIUPERCĂ/ANTON 2015, 8, 17-18, 21 – author, 9-10 – after HOHUNSKA/RUSNAK 2023, 11-13 – after GUDKOVA/SCHULTZE 2017, 14-16 – after LEVINSKIJ 1999, 19 – after MIRCEA/FLORIN 1992, 20 – after MAMALAUČĂ 2018. 1, 6, 8, 11, 16-21 – glass, 7, 9 – ceramic, 10, 15 – antler, 3, 12-14 – bronze, 2, 4-5 – silver.



**Fig. 7.** Conical glass beakers with cracked-off rims and synchronous chronological indicators. 1-3 – Nahirne 2/UA (grave 1), 4-6 – Mogoșani/RO (grave 8), 7-10 – Mihălășeni/RO (grave 376), 11-12 – Gherăseni/RO (grave 59), 13 – Mărtinești/RO (grave 5), 14 – Ranzheve/UA (grave 18), 15 – Brăviceni/MD (grave 108), 16 – Chervone 2/UA (grave 30), 17 – Danylova Balka/UA (grave 3). 1 – after BRUYAKO/LEVINSKIJ/ROSOHATSKIJ 1992, 2-3 – after GUDKOVA/SCHULTZE 2017, 4 – after STAWIARSKA 2014, 5-6 – after DIACONU 1970, 7-10 – after ȘOVAN 2009, 11-12 – after CONSTANTINESCU 1992, 13 – after GOMOLKA-FUCHS 1999, 14 – after SYMONOVICH 1977, 15 – after VORNIC/CHOBANU 2010, 16 – by author, 17 – after SYMONOVICH 1952. 1, 4, 7, 12-17 – glass, 3, 8 – ceramic, 11 – antler, 2, 9-10 – bronze, 5-6 – silver.

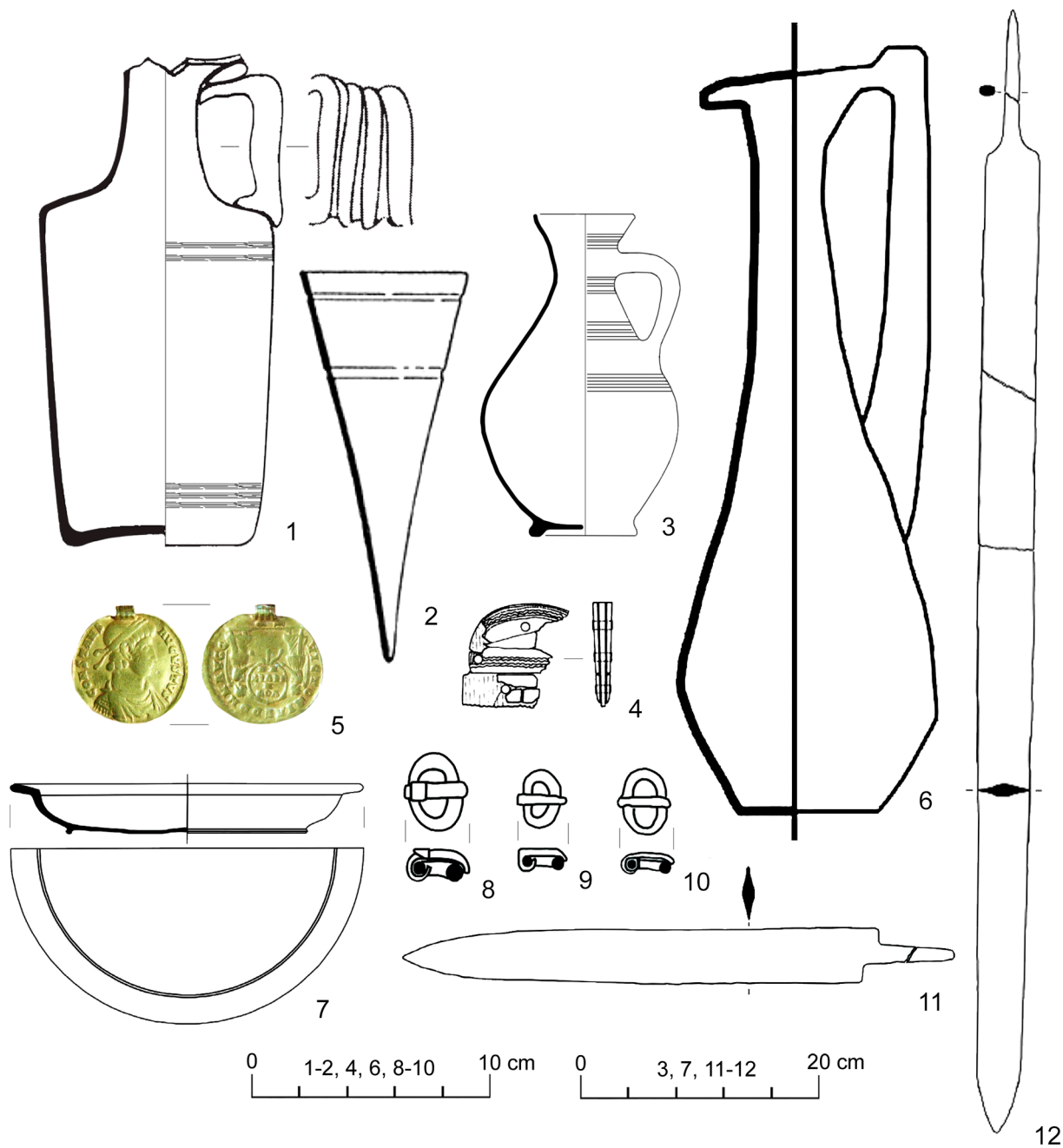


**Fig. 8.** Conical glass beakers with cracked-off rims and synchronous chronological indicators. 1-2 – Bilenke/UA (grave 61), 3-5 – Lisovi Hryniivtsi 3a/UA (grave 18), 6-8 – Havrylivka/UA (grave 35), 9 – Budești/MD (grave 266), 10-12 – Barcea/RO (graves 154, 134 and 136), 13 – Mihălășeni/RO (grave 466), 14 – Mogoșani/RO (grave 50), 15 – Mitreni/RO (grave), 16 – Sântana de Mureș (stray find), 17 – Velyka Buhaivka/UA (settlement layer), 18-20 – Komariv/UA (settlement layer), 21 – Sobari/MD (settlement layer), 22 – Cârliști/RO (settlement layer). 1-2 – after GAVRITUKHIN 2017, 3-4 – after DEMYDKO/STROTSEN/ SHCHEPACHENKO 2024, 5 – by author, 6-8 – after SYMONOVICH 1960, 9 – after VORNIC 2006, 10-12 – after ȚAU/NICU 2013, 13 – after ȘOVAN 2009, 14 – after DIACONU 1970, 15 – after MITREA/PREDA 1966, 16 – after RAU 2008, 17 – after PETRAUSKAS/SHYSHKIN 2013, 18 – after SMISHKO 1964, 19 – after PETRAUSKAS 2014, 20 – after RUMYANTSEVA 2014, 21 – after POPA 1997, 22 – after CROITORU 2009. 1, 5, 8-22 – glass, 6-7 – bronze, 3-4 – silver.

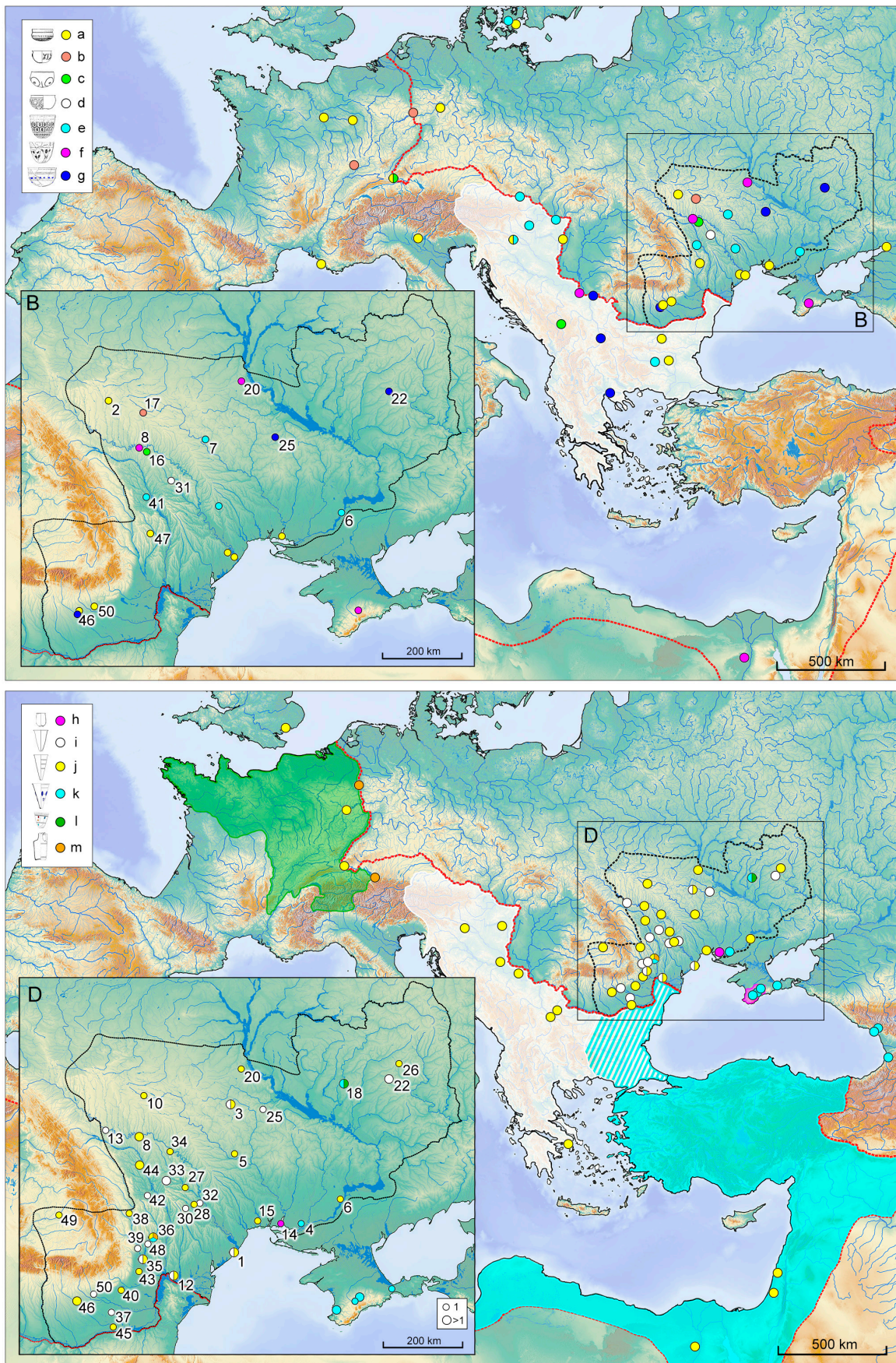


**Fig. 9.** Drinking glass vessels of Roman origin and synchronous chronological indicators. 1–3 – Shyshaky/UA (grave 115), 4–8 – Bârlad – Valea Seacă/RO (grave 507), 9 – Chornobaivka/UA (grave), 10 – Olbia Pontica (Parutyne)/UA, 11 – Shyshaky/UA (grave 112), 12 – Viitenky/UA (layer of the burial ground), 13 – Sosnova/UA (layer of the burial ground), 14 – Velyka Buhaivka/UA (layer of the burial ground), 15 – Velyka Buhaivka/UA (grave 11), 16 – Nahirne 2/UA (settlement layer), 17 – Bratei/RO (layer of the burial ground), 18, 20 – Budești/MD (layer of the burial ground), 19 – Voskresenske 1/UA (grave 3), 21–23 – Chervone 2/UA (layer of the burial ground), 24 – Kut/UA (settlement layer), 25 – Zapandnia/UA (settlement layer), 26 – Velyka Buhaivka/UA (layer of the burial ground). 1–3 – after REIDA/HEIKO/SAPIEHIN 2016, 4 – after IONIȚĂ/MAMALAUČĂ/VORNIC 2009, 5–8 – after PALADE 2004, 9 – after KOSTENKO/NESTERENKO 2017, 10 – after LEJPUNSKAYA 2006, 11 – after REIDA/HEIKO/SAPIEHIN 2021, 12, 14–15, 21–23, 26 – by author, 13 – after SIKORSKIJ/MAHNO/BUZYAN 1982, 16 – after GUDKOVA/SCHULTZE 2017, 17 – after BĂRZU 1973, 18, 20 – after VORNIC 2006, 19 – after ZHAROV/TERPYLOVSKIY 2011, 24 – after SYMONOVICH 1957, 25 – after BAKUMENKO *et alii* 2002. 1, 8–26 – glass, 7 – antler, 2–3, 6 – bronze, 5 – silver, 4 – gold.

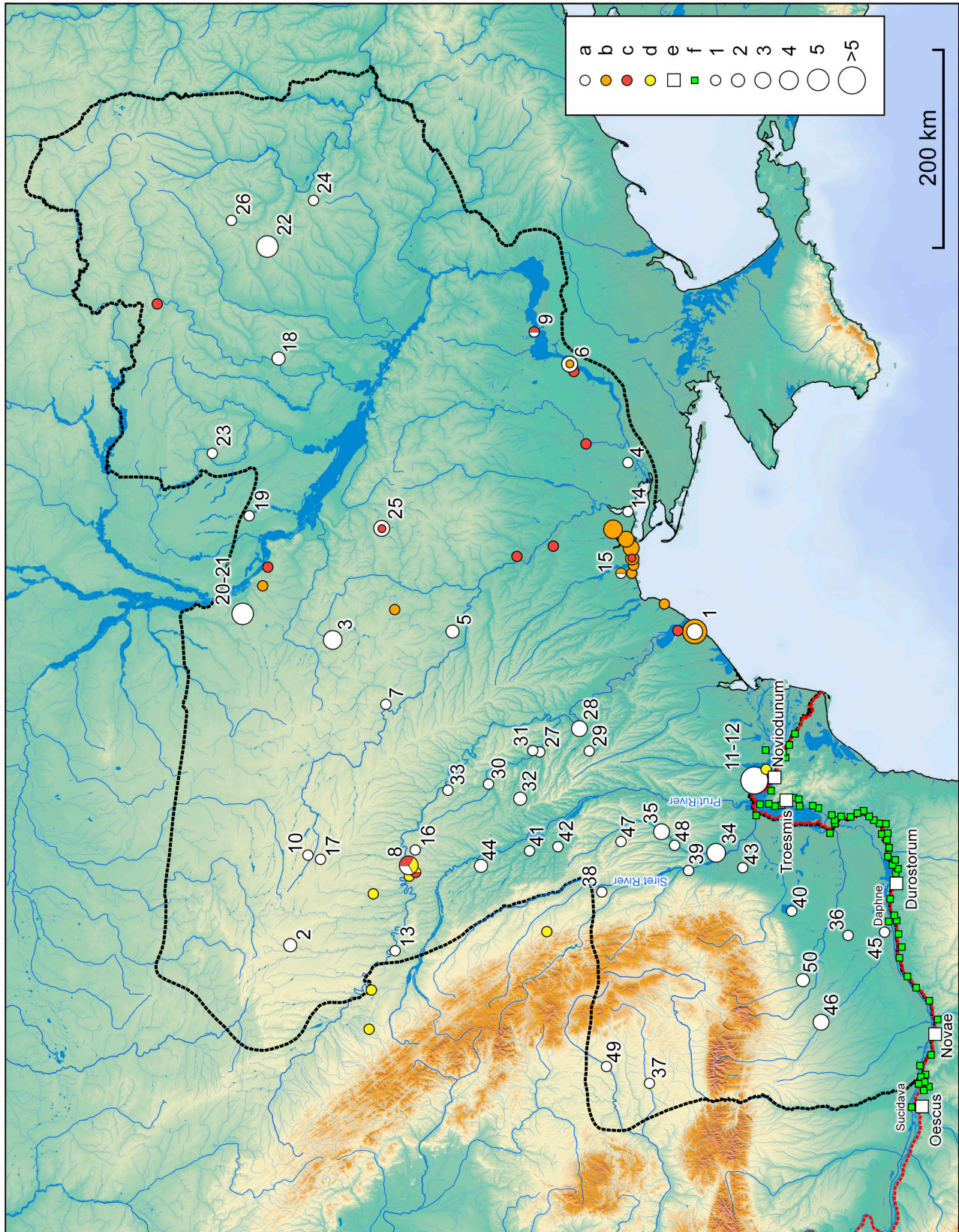




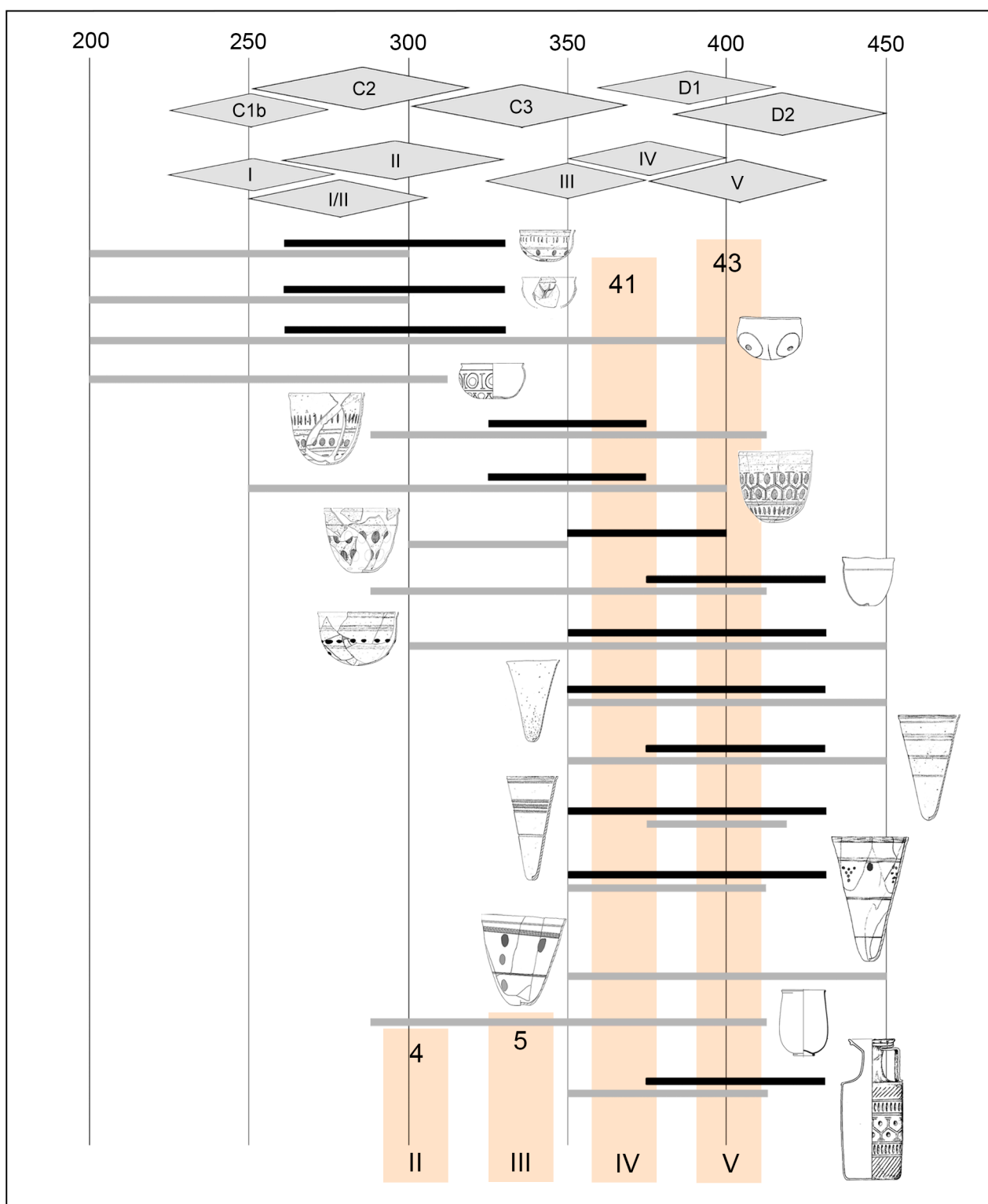
**Fig. 10.** Glass tableware of Roman origin and synchronous chronological indicators. 1-5 – Bărlad, Valea Seacă/RO (grave 501), 6-12 – Tîrșor/RO (grave 444). 1-4 – after PALADE 2004, 5 – after IONIȚĂ/MAMALAUĂ/VORNIC 2009, 6-12 – after LICHIARDOPOL/CIUPERCĂ 2008. 1-2, 6 – glass, 3, 7 – ceramic, 4 – antler, 11-12 – iron, 9-10 – bronze, 8 – silver, 5 – gold.



**Fig. 11.** Spatial distribution of the discussed glass types. Hemispherical cups with cracked-off rims (A-B): a – Eggers 216 type, b – IN 110 or 117 type, c – Romankivtsi-Kolovrat type, d – group II after L. Barkóczy, e – Iacobeni type, f – Eggers 223 or 226 type, g – Nuppenschalen. Conical and ovoid beakers with cracked-off rims, cylindrical beakers with fire-rounded rims and pushed-in base, jugs (C-D): h – Khrapunov type I, i – AR 68.1, j – AR 69, k – beakers, decorated with applied drops of coloured glass, l – AR 65, m – Isings Form 126. Black line indicates the distribution area of the Cherniakhiv/Sântana de Mureș culture, red line – marks Roman *limes*. The numbers correspond to the order given in the Appendix.



**Fig. 12.** The distribution of the Roman imported goods within the Cherniakhiv/Sântana de Mureș area: a – glassware (by author), b – ceramic tableware (after MAGOMEDOV/DIDENKO 2009, DIDENKO 2018), c – ceramic amphorae of the North Pontic origin (after MAGOMEDOV 2006, DIDENKO 2018), d – ceramic amphorae of the Forlimpopoli type (after DIDENKO 2017), e – Roman cities (DARE), f – Roman forts (DARE). Black line indicates the distribution area of the Cherniakhiv/Sântana de Mureș culture, red line – marks Roman *limites*. The numbers correspond to the order given in the Appendix.



**Fig. 13.** The circulation of the discussed glass types in the area of the Cherniakhiv/Sântana de Mureș culture (black stripe) and within the Roman provinces (grey stripe). I-V – phases of the local chronological system by E. Gorokhovskij, C<sub>1b</sub>-D<sub>2</sub> – stages of the Central European chronological system by H.-J. Eggers, K. Godłowski and J. Tejral. The champagne pink stripes indicate the estimated number of individual glass vessels for the various phases of the local chronological system. All of the included glass artefacts originate from burial assemblages. The vessels lacking a precise dated context have been dated in accordance with their times of circulation within the Cherniakhiv/Sântana de Mureș culture. The artefacts with a lifespan extending beyond one chronological phase have been included on multiple occasions, once for each phase.