INSTITUTE OF ARCHEOLOGY
AND ART HISTORY OF ROMANIAN
ACADEMY CLUJ-NAPOCA

UNIVERSITATEA TEHNICĂ
DIN CLUJ-NAPOCA

JAHA
JOURNAL OF ANCIENT HISTORY
AND ARCHAEOLOGY

editura
MEGA

Journal
of Ancient History and Archaeology

No. 11–3 / 2024

CONTENTS

STUDIES

ANCIENT HISTORY

ARCHAEOLOGY

ARCHAEOLOGICAL MATERIAL

NUMISMATICS

ISSN 2360 266x
ISSN–L 2360 266x

Design & layout: Francisc Baja

editura MEGA

Editura Mega | www.edituramega.ro
e-mail: mega@edituramega.ro

NOTES ON SOME OF THE GLASS FINDS IN THE *VILLA RUSTICA* OF DEALUL LOMB – CLUJ-NAPOCA

Sever-Petru BOȚAN
Institute of Archaeology Iași, Romania
sever_botan@yahoo.com

Vitalie BÂRCĂ
Institute of Archaeology and Art History Cluj-Napoca, Romania
vitalie_barca@yahoo.com

Sorin COCIȘ
Institute of Archaeology and Art History Cluj-Napoca, Romania
scocis@yahoo.com

DOI: 10.14795/j.v11i3.1087
ISSN 2360 – 266X
ISSN–L 2360 – 266X

Abstract: The rescue archaeological excavations which yielded the glass items discussed here were conducted in the summer of 2008, nearby Cluj-Napoca, on Dealul Lomb. These unearthed and fully investigated a Roman date building, most likely a *villa rustica*, unreported in the academic literature until that date. The find of summer 2008 completes the picture on Roman farmhouses located in the vicinity of the Roman town at Napoca, the presence of three such sites thus confirming the importance of the area that lay to the left and right of Chinteni valley.
Pottery fragments and glass objects originating from the *villa* on Dealul Lomb are preserved in a fragmentary state, which makes difficult their accurate typological framing and finer chronology. Window pane fragments weigh most among Roman date glass fragments discovered on Dealul Lomb.
The Roman building and discovered archaeological material, among which the glass artefacts here, evidence that the villa had most likely functioned during the last decades of the 2nd century – first half of the 3rd century AD.

Keywords: *glass finds, glass vessels, artifacts, archaeological excavations, Roman villa, Napoca, Chinteni valley, Dealul Lomb.*

The rescue archaeological excavations conducted in the summer of 2008 on Dealul Lomb[1] of Cluj-Napoca, located north the Dâmbul Rotund and Iris quarters (Fig. 1), resulted in the find and complete investigation of a Roman date building, namely a *villa rustica*, unreported in the academic literature until then[2].

The area where the Roman building was identified is known under the toponym Dealul Lombii or Dealul Popești being a hilly massif, located between the villages of Popești to the west and Chinteni to the east[3] (Fig. 1).

The Roman building examined in 2008 has a southern orientation, being located midway the southern slope of Dealul Lomb, towards the western slopes, at approximately 500 m south the road running to the place of Chinteni.

Although discussed area was subject to heavy landslides, which likely also existed in the Roman period, the main rooms of the villa could be delimited

[1] Lomb Hill.
[2] See COCIȘ *et alii* 2009; COCIȘ *et alii* 2010.
[3] COCIȘ *et alii* 2010, 565. Dealul Lombii slopes markedly eastwards, westwards and southwards and includes an area with slope breaks and landslides on the slope descending from south-east, where also emerge some streams of a semi-permanent nature. Geomorphologically, the region is of interfluve type, the hilly massif being delimited to the west by Popești Stream, flowing from north to south and spilling in the Nadăș valley. Eastwards, Dealul Lombii is crossed still on a north-south direction by Chinteni stream, which spills in Someșul Mic river. (COCIȘ *et alii* 2010, 565–566).

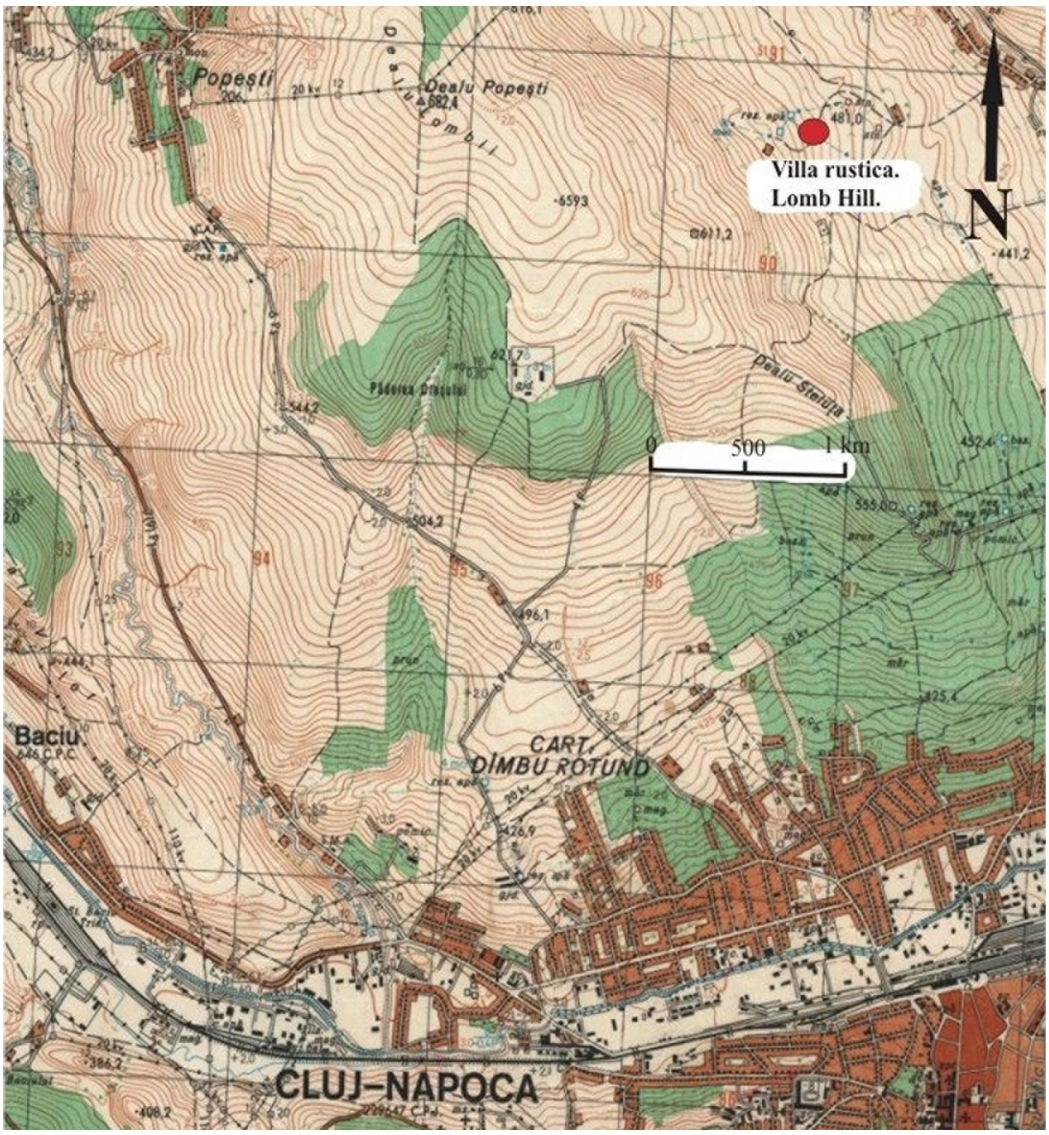


Fig. 1. Survey 1:25.000 scale map with the position of the Roman date building investigated on Dealul Lomb/Lomb Hill (after COCIȘ *et alii* 2010).

Fig. 2. *Villa rustica* on Dealul Lomb/Lomb Hill. Aerial photo taken by the completion of the archaeological excavations in the summer of (after COCIȘ *et alii* 2010).

(Fig. 2–4). Damages to the building are partly due also to water pipe emplacement works carried out during the second half of the last century, which partially or entirely damaged wall foundations.

The structure was discovered and delimited subsequent to the performance of a test pit, its complete investigation being accomplished through the excavation of large grids[4], totalling 3900 m^2. The *villa rustica* was identified in Grids 108 and 109, delimited by a balk, while in the third (S 115), excavated westward the structure, Roman remains are significantly fewer (Fig. 2–4).

The research evidenced that the *villa rustica* covered an area of approximately 1200 m^2. Although successive landslides and later, modern interferences, occurred in the analysed area and even if most identified foundation walls had collapsed, the main rooms of the Roman building were successfully delimited and numbered successively with letters[5] (Fig. 2–4).

The archaeological material discovered subsequent to the research of this *villa rustica* is represented by an impressive quantity of very good quality pottery artifacts, including common wares, stamped wares, fragmentary *terra sigillata* and lamps. Furthermore, many tiles, bricks, shingles and hypocaust elements were found, as well as a significant number of objects in iron (nails (93 examples), spurs (3 items), clasps (5 specimens), knives (6 specimens), chisels (2 exemplars), sickles (1 example), keys (5 examples), hinges (5 specimens), links etc. and bronze (links (1 item), key chains (1 example), spatulas (1 item), buckles (1 item), but also in bone (hairpins (3 items), sewing needles (1 item), fragmentary pins (2 specimens)[6]. Among the pottery material is noteworthy an anthropomorphic vessel surviving fragmentarily, while among the tile material a *tegula mammata* impressed with stamp *VAL(erius) C [AT] (---)*[7] stood out. The latter comes from a context datable between late 2nd century – early 3rd century AD.

Among the discovered artifacts we mention here the military equipment appliques (3 exemplars), two omega iron brooches and the denarius with the effigy of emperor Severus Alexander on the obverse. The coin condition allows its framing among the issues of AD 222–228[8]. The two omega brooches belong to type 28b1 in the brooch typology established by S. Cociș, being fashionable on the province of Dacia territory from the second half of the 2nd century until mid 3rd century AD[9].

The 21 glass vessel fragments and objects originating from Dealul Lomb in Cluj-Napoca are in a fragmentary condition, which makes almost impossible any accurate typological identification as well as a finer chronology.

Fragments 1 and 2 in the Catalogue here represent two concave bottoms made of slightly greenish glass with a porous appearance and air bubbles in composition. They may belong to beakers derived from type Isings 30/AR 34 of almost cylindrical shape, occasionally tapering towards the mouth[10]. The outer surface of these beakers is most often decorated with incised linear motifs, set on parallel belts. These beakers were popular and diffused mainly during the first two centuries of our era. Numerous exemplars emerged particularly in northern Italy (where the centre at Aquileia was famous for its glass production) and Switzerland and, undoubtedly, they spread throughout the Roman empire[11].

Fragment 3 is a beaker rim, polished and rounded outwards. Unfortunately, its small sizes and lack of any other decorative indication does not allow us to typologically frame the item. It is possible it belonged to a beaker type Isings 34, highly spread during the 1st – 3rd century AD throughout the Roman empire[12]. Similarly to the above exemplars, the slightly greenish colour could be indicative of these vessels' dating to the 2nd century AD, when the fashion of colourless or less coloured glass was very popular.

Items 4–6 are also almost impossible to identify. Exemplars 5 and 6 seem to belong to the same vessel or to similar vessels, in a (likely) hemispherical shape, made of thick, colourless, greenish tint glass. The features of the fragments suggest they could be part of a bowl, however it is impossible to say which type for certain.

Moving onward, fragments 7–9 seem to belong to certain prism recipients of type Isings 50, used to store and carry liquids[13]. These vessels are of variable sizes (between 6 and 40 centimetres) and differentiate greatly in terms of rim and handle shapes[14]. Made by mould blowing, many exemplars are decorated by the base with various geometric, vegetal patterns or even inscriptions[15].

Prism recipients are found in appreciable numbers in the military settlements of the empire[16], being likely related to troop supply necessities, especially with wine or oil[17]. Owing to their popularity, they remained fashionable during the first four centuries of our era, peaking especially between late 1st century and first half of the following century[18].

The highest ratio among the Roman glass fragments discovered on Dealul Lomb if that of window panes (No. 10–20), made of various coloured glass (green, bluish-green or greenish-gray) and a glass fabric of different quality, which emphasises that these fragments come from several window pane types.

In the Roman world, the discovery of the blowing procedure led to the emergence of easy means in the natural lighting of rooms, namely the broad use of glass window sheets[19]. Glass transparency properties provided adequate lighting of

[4] Area 115: 620.16 m^2; Area 108: 1447.2 m^2; Area 109: 1832 m^2 (COCIȘ *et alii* 2010, 566).
[5] COCIȘ *et alii* 2010, 566–568.
[6] VASS/COCIȘ 2022, 125, 126, 127, 128, 130, 131, 132, 138, 139, Tab. 1–2, Pl. III/4, 7, 22, 43; V/43; VI/54–55.
[7] COCIȘ *et alii* 2010, 567, 573, FIG. 15. COCIȘ/MATEI 2021, 106, 107, CAT. NO. 2, PL.1/2; 5; IDR APP. II, *AD* CLXIII.
[8] Determination dr. habil. Cristian Găzdac, whom we thank this way as well.
[9] COCIȘ 2004, 130–131.
[10] ISINGS 1957, 45; RÜTTI 1991, 51–53.
[11] MANDRUZZATO/MARCANTE 2005, 93, 211–213; BIAGGIO-SIMONA 1991, 63.
[12] ISINGS 1957, 48–49.
[13] ISINGS 1957, 65–67.
[14] CHARLESWORTH 1966, 26–40.
[15] See PÁNCZÉL 2011, 175–187, for the mould discovered at Apulum, which confirms the production of such vessels also in the workshops from Roman Dacia. Item 9 in the catalogue here seems to have also had a circular decoration, incised on the exterior of the base.
[16] For a distribution of these finds by the Lower Danube see BOȚAN 2019, 116.
[17] BOȚAN/ELEFTERESCU 2018, 33.
[18] CHARLESWORTH 1966, 30.
[19] DELL ACQUA 2004, 109.

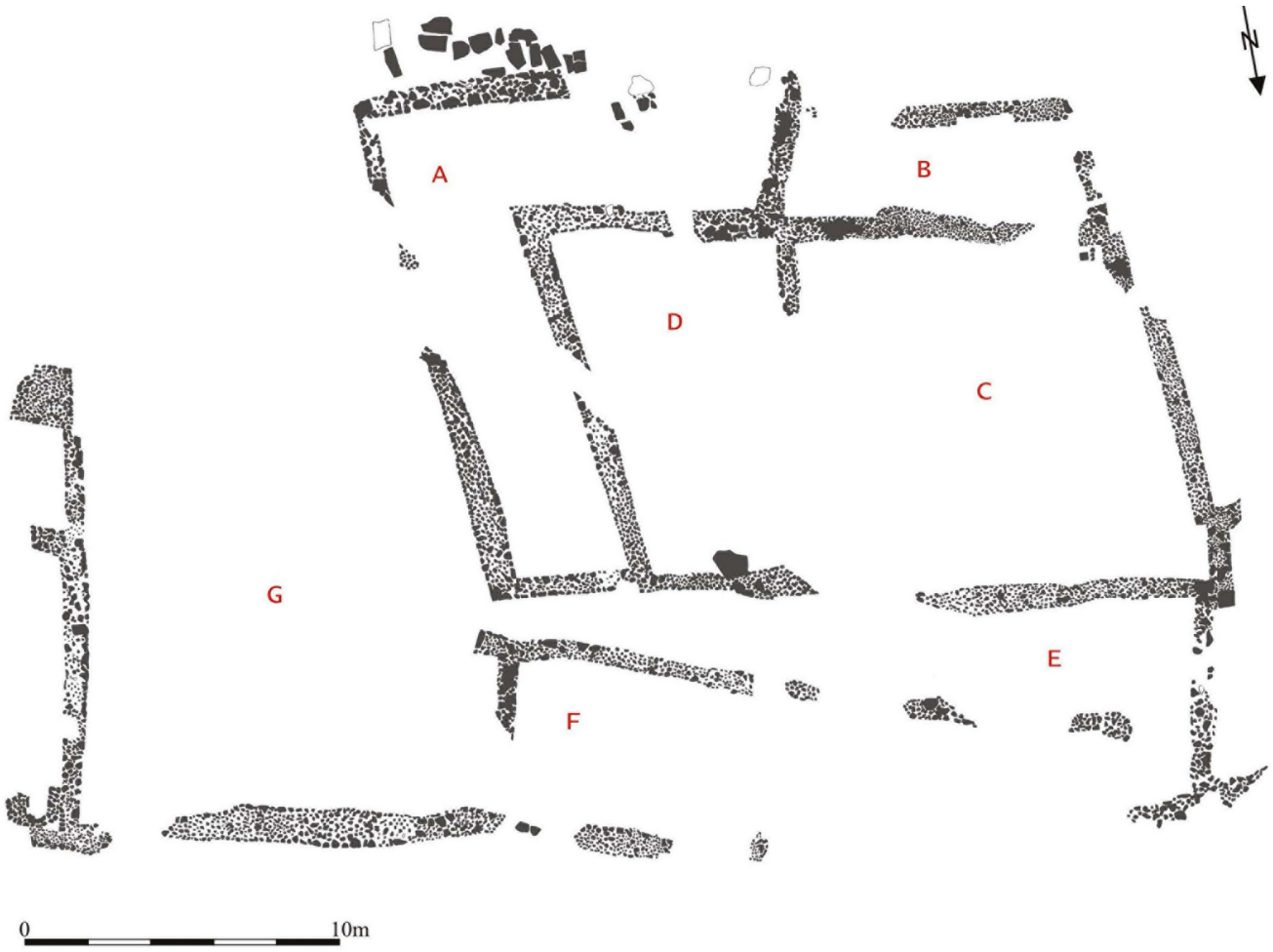


Fig. 3. Plan of the Roman farmhouse on Dealul Lomb/Lomb Hill (after COCIȘ *et alii* 2010).

Fig. 4. Internal layout of the Roman farmhouse (after COCIȘ *et alii* 2010).

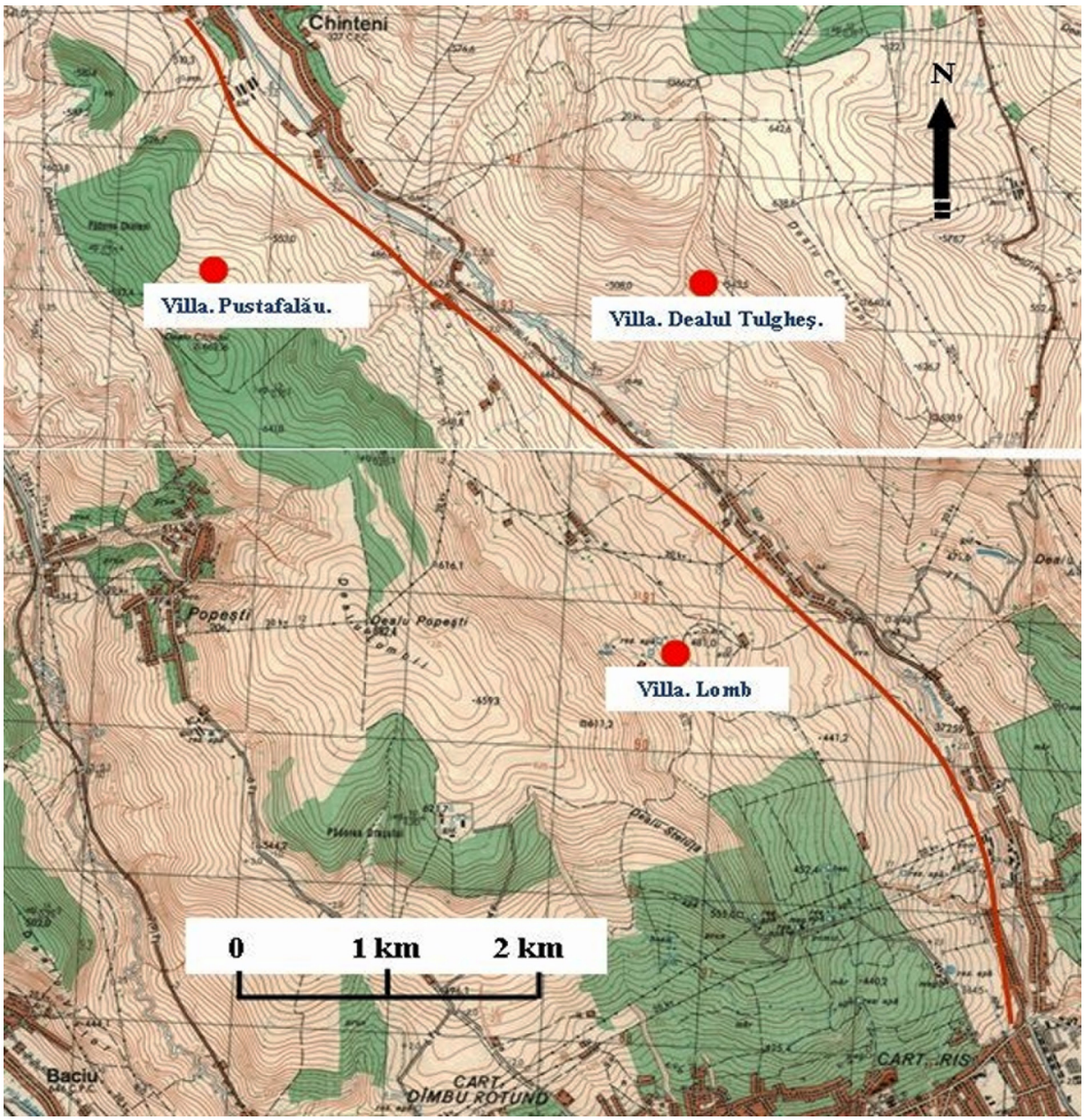


Fig. 5. Survey 1:25.000 scale map with the area north of Cluj-Napoca and the position of the three known farmhouses (after COCIȘ *et alii* 2010).

public and private edifices. Thus, first finds of such windows are recorded as early as the 1st century BC, being already widely diffused only one century later, as proven by the finds of Pompeii[20].

These window sheets were generally produced in three different techniques: mould cast glass, crown glass and "cylinder" blown glass and were placed in wooden or metal frames[21]. The most used technique is that "in cylinder", emerged somewhere by early 2nd century AD. This supposed the forming, by blowing, of an elongated glass bubble, whose ends were then cut, forming a glass cylinder. It was then cut along one side and extended on a flat surface, until it reached the form of a glass sheet[22]. Items made in this technique exhibit numerous elongated, parallel-set air bubbles in the composition of the glass fabric, which is also notable in the fragments analysed here.

Lastly, item 21 is an elongated, hexagonal bead, made of blue glass. This bead type was also produced in Workshop 1 at Tibiscum (Type II.2 = 2b)[23]. In the typological classification devised by Magdalena Tempelmann-Mączyńska, these beads belong to group XII[24]. Such beads are frequent in the Sarmatae territory located west the province of Dacia[25]. Items in this type are specific to the Wielbark culture, the Prezeworsk culture and that West-Baltic where they date starting with phases B2/C1 (AD 150/160–180) in the central-European chronology, being massively used during

[20] KANYAK 2009, 26; DELL ACQUA 2004, 109.
[21] DELL ACQUA 2004, 109.
[22] KANYAK 2009, 38–39.
[23] BENEA 2004, 196, TYPE II.B, FIG. 30.
[24] TEMPELMANN-MĄCZYŃSKA 1985, 35, Pl. 2/108–122.
[25] BÂRCĂ 2014, 125–126, 127, Fig. 27, Type IV.2.1, Pl. 19/10–12; 25/29–67; 34/1–16; 39/59–67; 43/70; BÂRCĂ/GRUMEZA 2022, Fig. 6/2, 7, 10; GRUMEZA 2014, 97–98, Fig. 32, Type IV.2.1; GRUMEZA 2019, 55, 59, 76, Pl. 22, Group IV/C/1; GRUMEZA/BÂRCĂ 2020, 406, FIG. 2, TYPE IV/C/1.

phases C1-C2 (AD 180–310/320)[26]. Their production and use ends in phase D (late third quarter of the 4th century – mid 5th century AD)[27].

It is certain that the find of summer 2008 is extremely important and completes the picture about the Roman date farmhouses nearby the Roman town of Napoca. The presence of three such sites, two to the right of the Chinteni valley (at Pustfalău[28] and Lomb) and one on the opposite side (Dealul Tulgheș[29]), located at small distance one from the other (Fig. 5), prove the importance of the areas on both sides of the Chinteni valley.

Regarding the *villa rustica* on Dealul Lomb we specify that both the building and the primary analysis of the archaeological material evidence a broad dating of its functioning, namely the time interval comprised between the last decades of the 2nd century – first half of the 3rd century AD[30].

CATALOGUE OF THE GLASS ITEMS[31]

Beaker fragment (inv. 3990). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trench 31, room G, at 5.8 m from the southern profile. Thin, colourless, translucent glass, with air bubbles in composition, lilac-silver iridised. H = 2 cm; Base diameter = approximately 4 cm; L = 5.2 cm; Thk = 0.1 cm (Pl. I/1a–1b).

1. Beaker fragment (inv. 4012). Cluj-Napoca – Dealul Lomb 2008. Grid 109. Colourless, translucent glass, with air bubbles in composition, non-iridised. On the base exterior is noticeable the pontil-mark trace. H = 0.8 cm; L = 4.4 cm; Thk = 0.1 cm (Pl. I/2a–2b).

2. Beaker fragment (inv. 4006). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 41–42, room G, at 22–24 m from the southern profile. Colourless, semi-translucent glass, without air bubbles in composition, non-iridised. Surviving a fragment of the rounded rim. H = 1.4 cm; L = 2.9 cm; Thk = 0.15 cm (Pl. I/3a–3b).

3. Vessel fragment, possibly a cup (inv. 3951). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 39–42, room G. Colourless, good quality, translucent glass, without air bubbles in composition, silver iridised. L = 4.2 cm; W = 3.1 cm; Thk = 0.2 cm (Pl. I/4a–4b).

4. Vessel fragments (inv. 4013). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 35–36, room A, at 27.7 m from the southern profile. Colourless, good quality, translucent glass, without air bubbles in composition, non-iridised. Many cracks on the exterior, on the glass surface. L = 3.7 cm; Thk = 0.4 cm (Pl. I/5a–5b).

5. Vessel fragments (inv. 3968). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 42–44, room G, at 25 m from the southern profile. Colourless, good quality, translucent glass, without air bubbles in composition, lilac-silver and white iridised. Numerous cracks on the glass surface. L = 4.3 cm; Thk = 0.55 cm (Pl. I/6a–6b).

6. Fragment of prism recipient (inv. 3949). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 38–40, room G, at 20.6 m from the southern profile. Green, good quality glass, translucent, without air bubbles in composition, non-iridised. Preserving a vessel body fragment. H = 4.2 cm; W = 3 cm; Thk = 0.2 cm (Pl. I/7a–7b).

7. Fragment of prism recipient (inv. 3949). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 38–40, room G, at 20.6 m from the southern profile. Bluish glass, translucent, without air bubbles in composition, poorly, lilac-gold iridised. L = 4.9 cm; W = 2.8 cm; Thk = 0.3 cm (Pl. I/8a–8b).

8. Fragment of prism recipient (inv. 3954). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 37–41, room G, at 18.2 m from the southern profile. Bluish glass, semi-translucent, without air bubbles in composition, poorly lilac-gold iridised. Possibly base fragment preserving the trace of a pattern impressed in relief. L = 3.2 cm; W = 2.8 cm; Thk = 0.3 cm (Pl. II/9a–9b).

9. Window pane fragment (inv. 3975). Cluj-Napoca – Dealul Lomb 2008. Grid 108, trench 59, room C, at 5 m from the northern profile. Colourless, translucent glass, without air bubbles in composition, slightly silver iridised. L = 5 cm; W = 4.5 cm; Thk = 0.25 cm (Pl. II/10a–10b).

10. Window pane fragments (inv. 4010). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trench 62, room C, at 12 m from the northern profile. Colourless, translucent glass, without air bubbles in composition, non-iridised. Thk = 0.25 cm (Pl. II/11a–11b).

11. Window fragments (inv. 4001). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trench 60, room F, at 3.5 m from the northern profile. Green, translucent glass, without air bubbles in composition, non-iridised. Thk = 0.2 cm (Pl. II/12a–12b).

12. Window fragment (inv. 4000). Cluj-Napoca – Dealul Lomb 2008. Grid 108, trench 60, room C, Greenish-gray glass, semi-transparent, with air bubbles in composition, non-iridised. L = 6.2 cm; Thk = 0.25 cm (Pl. II/13a–13b).

13. Window pane fragment (inv. 3972). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 42–44, room E, at 28 m from the southern profile. Bluish-green glass, translucent, with air bubbles in composition, slightly iridised. Thk = 0.5 cm (Pl. II/14a–14b).

14. Window fragment (inv. 3983). Cluj-Napoca – Dealul Lomb 2008. Grid 108, trenches 65–68, room C, Bluish-green glass, translucent, with air bubbles in composition, non-iridised. Thk = 0.35 cm (Pl. II/15a–15b).

15. Window pane fragments (inv. 3976). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 62–63, room F, at 8.60 m from the northern profile. Bluish-green, translucent glass, with air bubbles in composition, slightly lilac-gold iridised. Thk = 0.4 cm (Pl. III/16a–16b).

16. Window pane fragments (inv. 3976). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 62–63, camera F, at 8.60 m from the northern profile. Green glass, semi-transparent, with air bubbles in composition, non-iridised. Thk = 0.25 cm (Pl. III/17).

17. Window pane fragments (inv. 3977). Cluj-Napoca

[26] TEMPELMANN-MĄCZYŃSKA 1985, 35.
[27] TEMPELMANN-MĄCZYŃSKA 1985, 35. For finds of the phase originating from the Sarmatae cemetery at Mezőszemere, Kismari-fenék see VADAY/DOMBORÓCZKI 2001, 63.
[28] MATEI 1974–1975, 299–302.
[29] ALICU 1994, 539–567; ALICU/COCIȘ/FERENCZI/PAKI/ILIEȘ 1995, 619–633.
[30] In a preliminary study dedicated to the find of the Roman building on Dealul Lomb, a date to the second half of the 2nd century – first half of the 3rd century AD was suggested (COCIȘ *et alii* 2009, 568).
[31] **H** – height; **L** – length; **W** – width; **Thk** – thickness.

– Dealul Lomb 2008. Grid 108, trench 62, room C, at 10.7 m from the northern profile. Green, semi-transparent glass, with air bubbles in composition, non-iridised. Thk = 0.3 cm (Pl. III/18).

18. Window pane fragments (inv. 3977). Cluj-Napoca – Dealul Lomb 2008. Grid 108, trench 62, room C, at 10.7 m from the northern profile. Bluish-green glass, translucent, with air bubbles in composition, lilac-silver iridised. Thk = 0.3-0.4 cm (Pl. III/19).

19. Window pane fragments (inv. 3977). Cluj-Napoca – Dealul Lomb 2008. Grid 108, trench 62, room C, at 10.7 m from the southern profile. Greenish-gray glass, semi-transparent, with air bubbles in composition, non-iridised. Thk = 0.3 cm (Pl. IV/20a–20b).

20. Glass hexagonal bead (inv. 3957). Cluj-Napoca – Dealul Lomb 2008. Grid 109, trenches 38–40, room E, at 10.7 m from the northern profile. Bluish, semi-transparent glass, with air bubbles in composition, non-iridised. L = 1.6 cm; Thk = 0.3 cm (Pl. IV/21a–21b).

REFERENCES

ALICU 1994
Alicu, D., Cercetări arheologice la Cluj-Napoca. Villa rustica din Valea Chintăului, *Acta Musei Napocensis* 31/I, 539–567.

ALICU/COCIȘ/FERENCZI/PAKI/ILIEȘ 1995
Alicu, D./Cociș, S./Ferenczi, Șt./Paki, A./Ilieș, C., Cercetări arheologice la Cluj-Napoca. Villa Rustica din valea Chintăului. Campania 1988, *Acta Musei Napocensis* 32/I, 619–633.

BÂRCĂ 2014
Bârcă, V, *Sarmatian vestiges discovered south of the Lower Mures River. The graves from Hunedoara Timișană and Arad* (Cluj-Napoca: Mega Publishing House).

BÂRCĂ/GRUMEZA 2022
Bârcă, V./Grmueza, L., Clothes Make the Woman: The Beads Fashion in the Sarmatian Cemetery from Hunedoara Timișană, *Kratkie soobshcheniya Instituta arkheologii / Brief Communications of the Institute of Archaeology* 268, 19–31. DOI: http://doi.org/10.25681/IARAS.0130–2620.268.19–31

BENEA 2004
Benea, D., *Atelierele romane de mărgele de la Tibiscum* (Timișoara: Excelsor Art).

BIAGGIO-SIMONA 1991
Biaggio-Simona, S., *I vetri romani provenienti dalle terre dell'attuale Cantone Ticino*, vol.1–2 (Locarno: Armando Dadò).

BOȚAN/ELEFTERESCU 2018
Boțan, S. P./Elefteresc u, D., *Vase de sticlă de epocă romană descoperite la Durostorum/Ostrov–Ferma 4 (secolele I p. Chr. – IV p. Chr.)* (Iași: Editura Universității "Alexandru Ioan Cuza").

BOȚAN 2019
Boțan, S. P., *Glassware from the Lower Danubian Limes (1st–3rd centuries AD). A brief survey*. In: Mihailescu-Bîrliba, L. (ed.), *Limes, Economy and Society in the Lower Danubian Roman Provinces*, Colloquia Antiqua 25, (Leuven: Peeters), 107–137.

CHARLESWORTH 1966
Charlesworth, D., Roman Square Bottles, *Journal Glass Studies* 8, 26–40.

COCIȘ *et alii* 2009
Cociș, S./Ursuțiu, A./Gogâltan, Fl./Bârcă, V./Ferencz, Sz./Gall, Sz./Fodorean, Fl./Sălășan, M./Mihăilă, C./Blaga, D., Cluj-Napoca, jud. Cluj, Punct: Dealul Lomb. In: *Valachica XXI, Cronica Cercetărilor Arheologice. Campania 2008* (Târgoviște), 288–290.

COCIȘ *et alii* 2010
Cociș, S./Fodorean, Fl./Ursuțiu, A./Bârcă, V., Villa rustica de pe Dealul Lomb (Chinteni, Cluj-Napoca). In: Pop, H./Bejinariu, I./Băcueț-Crișan, S./Băcueț-Crișan, D. (eds.), *Identități culturale locale și regionale în context european. Studii de arheologie și antropologie istorică. In memoriam Alexandru V. Matei* (Cluj-Napoca: Mega), 565–574.

COCIȘ/MATEI 2021
Cociș, S./Matei, D., O nouă *figlina* privată din Dacia romană, *Angvstia* 25, 105–116.

DELL ACQUA 2004
Dell Acqua, F., *Le finestre invetriate nell' antichità romana*. In: Beretta, M./Di Pasquale, G. (eds.), *Vitrum. Il vetro fra arte e scienza nel mondo romano* (Firenze: Giunti), 109–120.

GRUMEZA 2014
Grumeza, L., *Sarmatian Cemeteries from Banat (Late 1st – Early 5th Centuries AD)* (Cluj-Napoca: Mega Publishing House).

GRUMEZA 2019
L. Grumeza, *Corpus der römischen Funde im europäischen Barbaricum. Rumänien Band 1. Kreis Arad* (Cluj-Napoca: Mega Verlag).

GRUMEZA/BÂRCĂ 2020
Grumeza, L./Bârcă, V., Glass beads discovered in the Sarmatian cemeteries from south-western Romania, *Arkheologiya i davnya istoriya Ukrainy / Archaeology and Early History of Ukraine* 3 (36), 402–415. DOI: https://doi.org/10.37445/adiu.2020.03.28

IDR APP. II
Piso I./Marcu F., *Inscriptiones Daciae Romanae. Appendix Ii. Inscriptiones laterum Musei Napocensis* (Cluj-Napoca: Mega, 2016).

ISINGS 1957
Isings, C., *Roman Glass from Dated Finds* (Groningen-Djakarta: J. B. Wolters).

KANYAK 2009
Kanyak, S., Late Roman/Early Byzantine Window Glass from the Marmaray Rescue Excavation at Sirkeci. In: Lafli, E. (ed.), *Late Antique/Early Byzantine Glass in the Eastern Mediterranean* (Izmir: Hürriyet Matabasi), 25–47.

MANDRUZZATO/MARCANTE 2005
Mandruzzato, L./Marcante, A., *Vetri antichi del Museo Archeologico Nazionale di Aquileia. Il vasellame a mensa* (Padova: Comitato Nazionale Italiano, Association Internationale pour l'Histoire du Verre).

MATEI 1974–1975
Matei, Al. V., O așezare rurală romană la Chinteni (jud. Cluj), *Sargeția* 11–12, 299–302.

PÁNCZÉL 2011
Pánczél, Sz., The Production of Prismatic Glass Bottles in Roman Apulum, *Marisia* 31, 175–188.

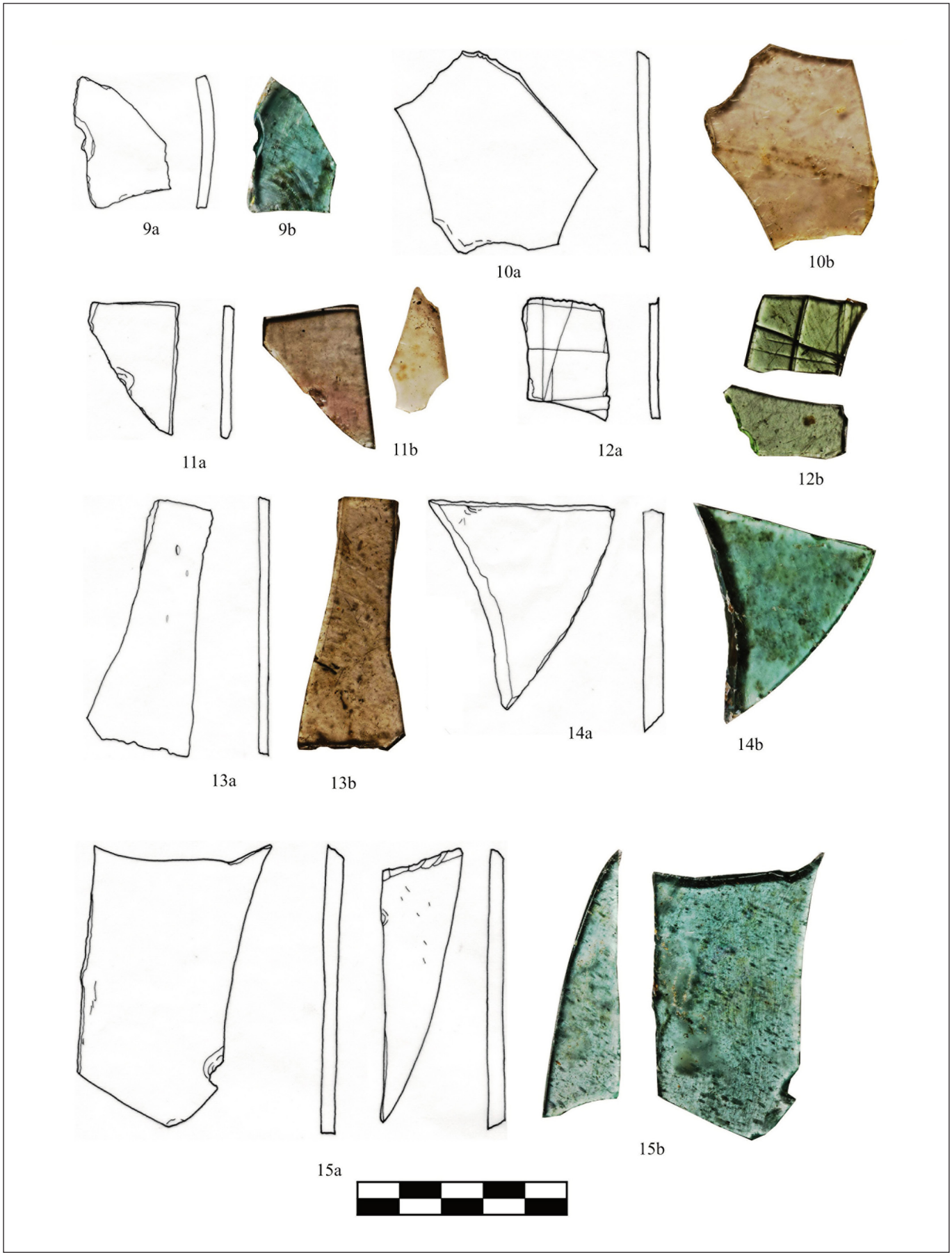
RÜTTI 1991
Rütti, B., *Die römischen Gläser aus Augst und Kaiseraugst*, vol. 1 (text), 2 (katalog und tafeln) (Augst: Römermuseum Augst).

TEMPELMANN-MĄCZYŃSKA 1985
Tempelmann-Mączyńska, M., *Die Perlen der römischen Kaiserzeit und der frühen Phase der Völkerwanderungszeit im mitteleuropäischen Barbaricum* (Mainz: Philipp von Zabern).

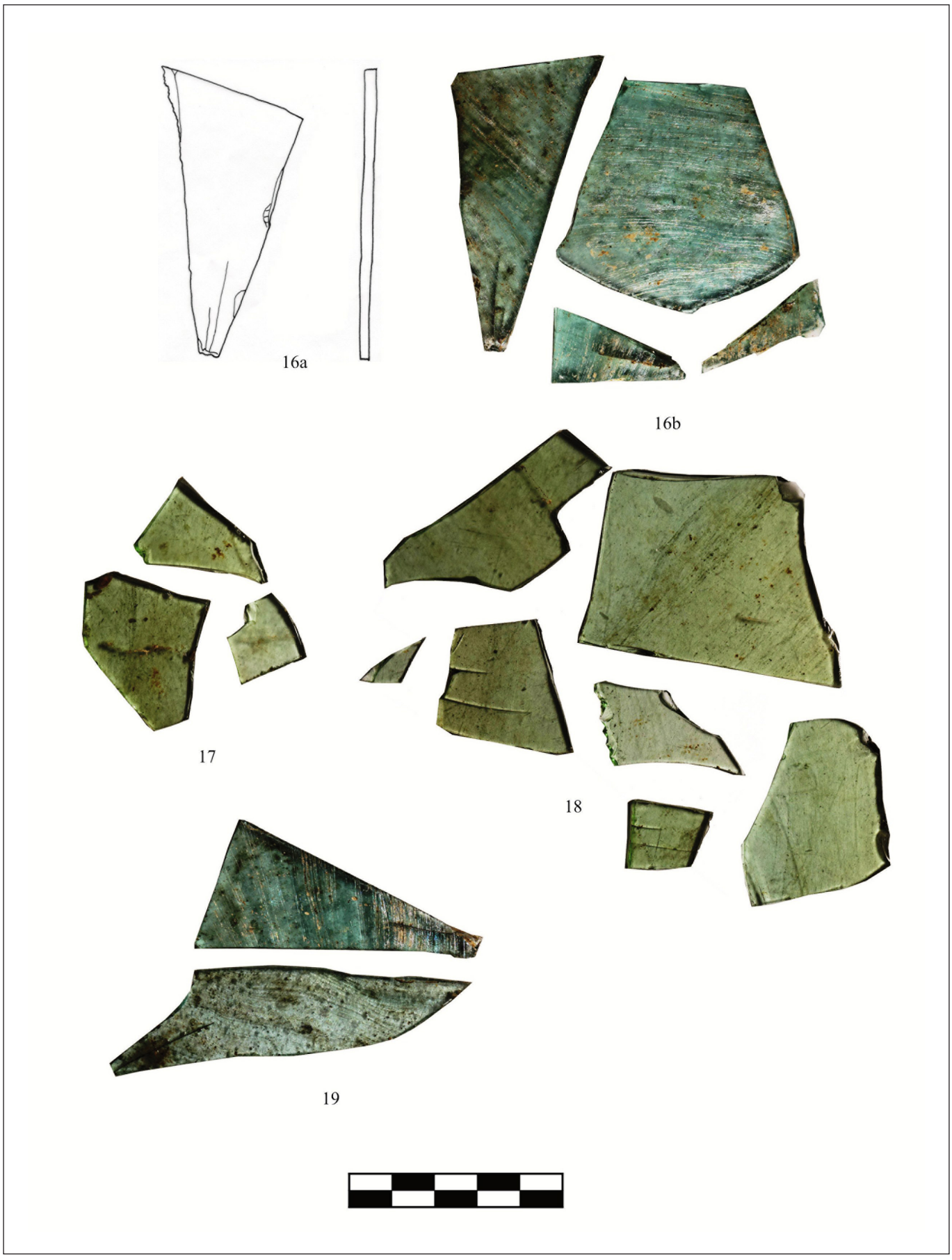
VADAY/DOMBORÓCZKI 2001
Vaday, A., Domboróczki, L., Mezőszemere, Kismari-Fenék. Spätkaiser-frühvölkerwanderungszeitliches Gräberfeldsdetail, *Agria* 37, 5–206.

VASS/COCIȘ 2022
Vass, L./Cociș, S., Bones in a City. The Bone one artefacts from Napoca and its Close Catchment Area, *Journal of Ancient History and Archaeology* 9/2, 124–155. DOI: 10.14795/j.v9i2.771.

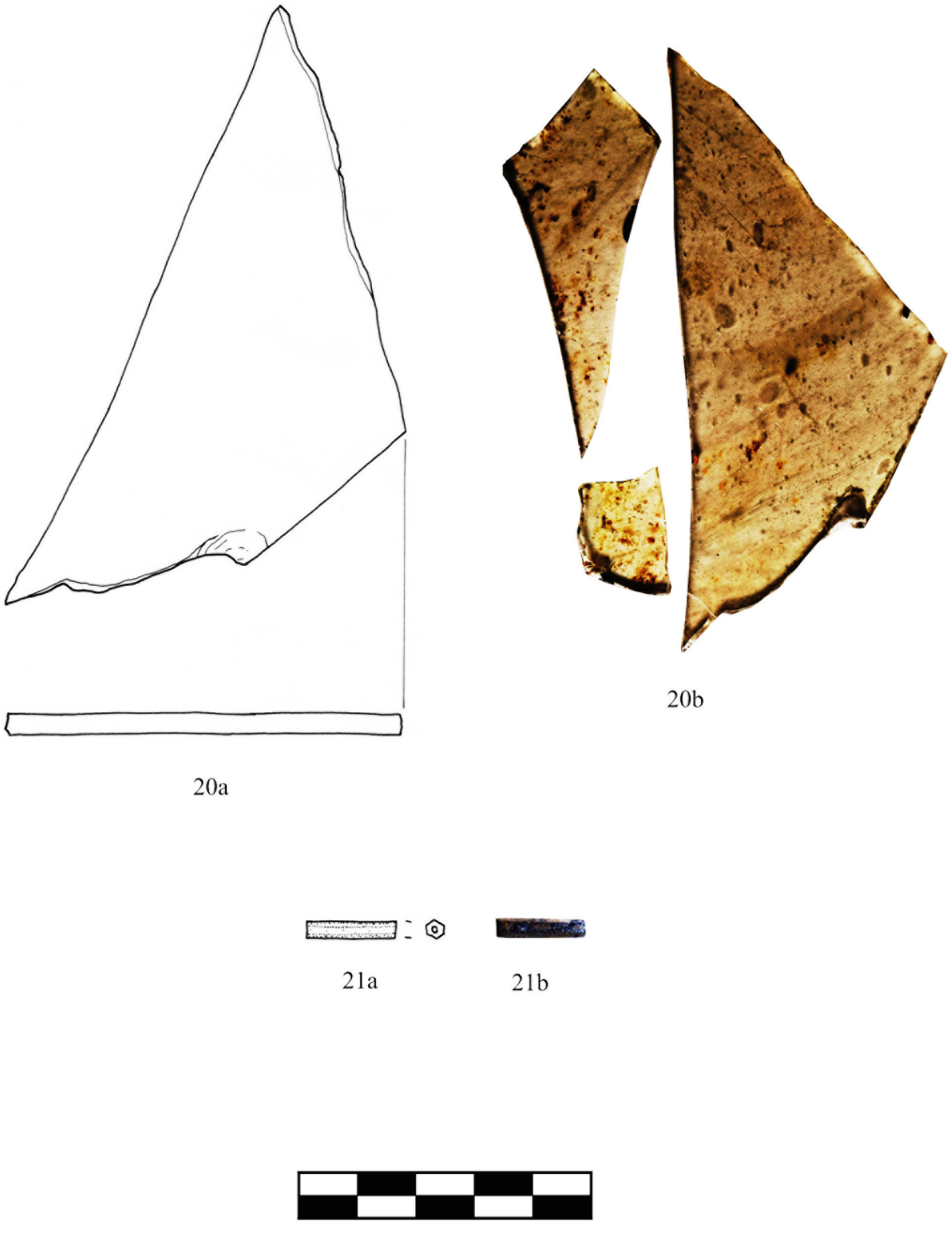
Pl. 1. Glass vessel fragments originating from the *villa rustica* on Dealul Lomb/Lomb Hill.



Pl. 2. Glass vessel (9a–9b) and pane fragments originating from the *villa rustica* on Dealul Lomb/Lomb Hill.



Pl. 3. Glass pane fragments from the *villa rustica* on Dealul Lomb/Lomb Hill.



Pl. 4. Glass pane fragments and a hexagonal bead (21a–21b) from the *villa rustica* on Dealul Lomb/Lomb Hill.