ROMAN LEAD-GLAZED CERAMICS

FROM THE COLLECTION OF THE
NATIONAL MUSEUM OF THE
UNIFICATION ALBA IULIA

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Complex analytical methods to study Roman glazed ceramic from Dacian Kingdom for origin establishing of archaeological artifacts, imports/local production, at the Eastern border of Roman Empire (GLAZEX). Nr. 352 PED/2020

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1. FOREWORD

The idea of capitalizing on the rich collections of artefacts of the National Museum of the Unification in Alba Iulia, as well as presenting them to the general public in the most accessible and attractive manner, has preoccupied and still concerns the team of specialists of this prestigious institution. Proof of this are the numerous AFCN projects, carried out since 2008, to which is added the most recent *Pantheon 3D* project, focused on the modern presentation of the artefacts that have composed the religious life of the Romans who inhabited the ancient Apulum, as materialized in the publication of no less than four volumes dedicated to the various worshiped deities.

On the other hand, the valorisation of the Roman ceramic artefacts in the repository of the National Museum of the Unification from Alba Iulia held a very important place in these projects, with different ceramic categories being published in recent years, starting from the pieces discovered in recent archaeological excavations, to the presentation in different exhibitions of some particular ceramic categories. Among them, it is worth mentioning the terracotta figurines (*Coroplastica, medalioane și tipare ceramice din colecțiile Muzeului Național al Unirii din Alba Iulia: Catalog de expoziție, Alba Iulia, 2011*), *terra sigillata* and other ceramic materials with epigraphical evidences (*Lux, util și estetic*) or the cult vessels (presented in the volumes of the *Pantheon 3D* project).

The latest project carried out by the same team of National Museum of the Unification specialists (archaeologists and restorers), in collaboration with researchers from the National Institute for Research and Development for Optoelectronics - INOE 2000 subsidiary Research Institute for Analytical Instrumentation Cluj-Napoca, is the result of an UEFISCDI research project (Nr. 352 PED/2020) which deals with a special category of Roman pottery from the collections of the same museum – lead-glazed pottery. It is a special production technique, which implied the vitreous layer to have special mineral components and especially its firing process, which requires two stages, meant that glazed pottery was produced on a much smaller scale than other categories of Roman fine ware. Precisely this production technology with all the stages of its complex operating chain that it required is highlighted by Dan Anghel and Ilie Lascu in the introductory chapter of this volume.

The next two chapters focus on the presentation of glazed pottery discovered and especially produced at Apulum. Dan Anghel and Anca Timofan highlight the artefacts recently discovered as a result of the numerous preventive excavations carried out in the last three decades in Alba Iulia, including the evidence related to the existence of a local production. The same idea – of valorising recent rescue excavations in ancient Apulum – is followed by the authors of the next chapter – George Bounegru and Dan Anghel – by analysing the place occupied by the glazed ceramic vessels in the funerary inventories of tombs discovered in the five known funerary areas of Apulum. Their presence, along with other ceramic categories would represent, according to the authors, evidence of a higher social status of the dead, as evidenced by analogies made with the funerary inventories of other necropolises discovered in the Roman Empire.

The last two chapters of the volume are dedicated to the ceramic centre from Ampelum, more precisely to the prolific activity of the potter *Caius Iulius Proclus*, the only producer with *tria nomina* known in the province of Dacia, who worked on this site in the middle of the 2nd c. AD and whose products, among which the glazed ones occupy an important place, are part of the National Museum of the Unification from Alba Iulia collections.

For starters, Anca Timofan and Dan Anghel make a presentation of the well-known vestiges of the workshop of *Caius Iulius Proclus*.

Archaeological rescue excavations, performed in 1984, led to the discovery of the structures of a pottery workshop, delimited by walls, built in the *opus incertum* technique that protected the kilns and other annexed buildings. Three kilns, used concomitantly, were uncovered in this workshop. Two of them shared the same stoking pit while the third was located around 50 m west of the first two. All three were taken apart and turned into refuse pits, containing various ceramic materials and household garbage. A large quantity of pottery products, extremely varied, was found in the pits of the demolished kilns, mostly consisting of production refuse. Thus, this pottery workshop produced: vessels with barbotine and applied decorations; terracotta and votive reliefs, lamps common pottery. The production of glazed pottery is very well attested, as such refuse vessels were in different stages of firing.

The same authors focus their analysis on the ceramic artefacts discovered in the rooms of the disused kilns and around the workshop, among which the glazed ones, mostly wasters, were *ex-voto* offered to different deities – Venus, Liber Pater/Dionysus, Telesphorus, Attis, the Gorgon Medusa, but especially to the god Mithras. The variety of glazed products made by *Caius Iulius Proclus*, some of them unique for Dacia, attests the most important workshop specialized in the manufacture of this ceramic category in the province.

The last article that accompanies the volume in question, thanks to Dan Dana, discusses the origin of the name of *Caius Iulius Proclus* and analyses, from an epigraphic point of view, all the variants by which the artisan in question marked its products – possible owner of the workshop and *officinator* at the same time according to the verb *fecit* which accompanies a large part of the products made by him.

The catalogue of the glazed artefacts from the National Museum of the Unification from Alba Iulia collections is presented in a unitary manner, starting with from the discovery place and archaeological context, the storage place, and inventory number, followed by the description of the artefact (morphological parts, fabric and glaze, decoration, dimensions, and state of preservation), chronological framing and bibliography. The 104 glazed artifacts are presented according to ceramic categories: beakers and cups, *kantharoi*, jugs, trays (*lanx*) and dishes, bowls, lamps, *patera* handles, terracotta figurines, anthropomorphic vessels. They are accompanied by graphic and photographic illustrations of very good quality, the exceptional pieces also benefiting from a 3D scanning, which puts them in an even better light. The maps documenting the pottery workshops of the province where the production of glazed pottery is attested, as well as the one showing the places where artefacts of this type were discovered from the archaeological excavations carried out on the territory of ancient Apulum, complete the useful information contained by this volume.

The valorisation of this special, less common category of Roman pottery and the demonstration through the recent archaeological discoveries and interdisciplinary analyses, of the certain production centres in Roman Dacia – Apulum and Ampelum – is extremely beneficial for putting into circulation this special material and the research results of an enthusiastic and passionate group of specialists.

Therefore, I highly recommend a conscientious reading of the scientific articles that accompany this catalogue, as well as studying the pieces illustrated both through photos and 3D scanning, in order to obtain a better image of this special category of Roman pottery, produced or imported in the province of Dacia.

The exhibition that foreshadows this catalogue is a must-see!

Dr. Viorica Rusu-Bolindeț
National Museum of Transylvanian History
Cluj-Napoca

2. ABOUT GLAZEX

The project titled *Complex analytical methods to study the Roman glazed ceramic from Dacian Kingdom for establishing the origin of archaeological artefacts, imports/local production, at the Eastern border of Roman Empire (GLAZEX)* No. 352PED/2020, financed by the Executive Union for the financing of Higher Education, Research, Development and Innovation" (UEFISCDI), was won by the National Institute for Research Development for Optoelectronic INOE – 2000 the subsidiary Research Institute for Analytical Instrumentation Cluj-Napoca, being implemented in partnership with the National Museum of the Unification Alba Iulia.

The project takes place between 2020-2022 and aims at developing a complex set of analytical spectrometric, modern, archaeometric methods (XRF, XRD, ICP-AES, ICP-MS (quantitative, multi-elemental, isotopic report method) for studying the Roman glazed ceramic from Dacia in order to determine the origin of the archaeologic artefacts, imports or local production of this subcategory of ceramic products manufactured by the Roman potters.

The laboratory integration an validation of new spectrometric method, the identification of the origins of the archaeological samples as a result of multiple investigation methods, the identification of the primary materials and the origin of the sample by analysing its composition, the analysis, interpretation and corroboration of the obtained results in order to properly place it within the adequate historical framework represent the final phase of our project whose sustainability aims at developing the GLAZEX method in order to apply it in the study of the ceramic heritage objects and proving the usefulness and functionality of the methods developed in order to establish the cultural identity of these artefacts

The volume contains the results of the activities from the first stage of the project, that of documenting and inventorying the glazed ceramic artefacts that constitute the object of the laboratory analyses. It is the first ever attempt of this kind in the study of Roman pottery with lead glaze from the province of Dacia, being in this respect a very important and necessary one. The study of the Roman glazed ceramic from Dacia started with the Dorin Alicu and Alina Soroceanu publishing this type of material from Ulpia Traiana Sarmizegetusa, followed by the discovery of a workshop that produced glazed ceramic at Ampelum in the middle of the 2nd century AD. Caius Iulius Proclus' *officina* from Ampelum is the only production centre that has benefited from an intense and intensive scientific capitalisation (favoured by the richness and diversity of discoveries). The researcher Ion T. Lipovan has capitalised on this material by publishing some studies and articles, alone or with collaborators. Other workshops where glazed ceramic was produced and where such a production can be proven through the characteristic technological inventory are only at Apulum and Micăsasa. The glazed ceramic from Apulum has not been exhaustively researched, with the only contribution belonging to Viorica Rusu-Bolindeț who in 1995 published the materials discovered in the digs conducted west of the Colonia Aurelia Apulensis.

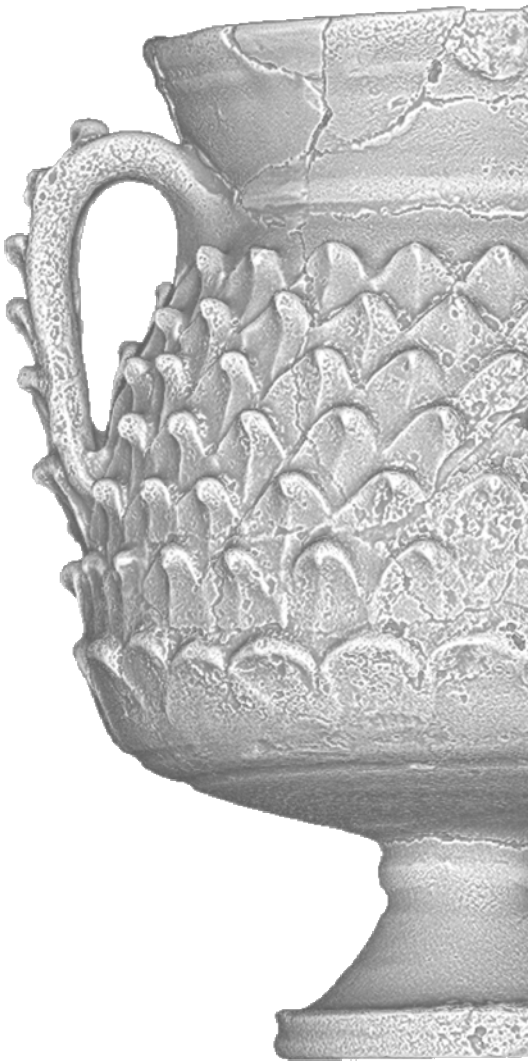
„Roman Lead-Glazed Ceramics from The Collection of The National Museum of Unification Alba Iulia" presents both the history and the technological fabrication process for glazed ceramics as well as the contexts for this type of discoveries as made at Apulum and Ampelum. The artefact catalogue presents the typological variety of this fascinating Roman ceramic, represented through fragmentary or complete pottery, some of them never before published. The archaeological research conducted in the last two decades have substantially enriched the collection of the National Museum of the Unification in Alba Iulia with new glazed artefacts discovered in different archaeological contexts located in the two urban centres and the funerary environment from Apulum.

In addition to the expected analytical data, our research has allowed the identification and methodical and unitary valorisation of the Roman glazed ceramics kept in the exhibition and in the deposits of the National Museum of the Unification in Alba Iulia, which is one of the largest collections of this kind in the Roman province of Dacia.

Project coordinator: Claudiu Tănăselia
Responsible for the project: Dan Anghel

3.

THE GLAZED POTTERY. THE MANUFACTURING TECHNOLOGY



Glazing represents a thin, amorphous, solid layer that is formed when a melt based on silicon (supercooled liquid) cools down; glazing forms on the surface of a ceramic product through firing or as a result of the reaction with a refractory material[1]. The term „glazing" is also used for a mixture prepared as a powder or a watery suspension, that can be applied on pottery through immersion, brushing or spraying[2].

The glazing of pottery is a technique that was first experimented with in Mesopotamia, in the middle of the 2nd millennium BC[3] in order to offer its characteristic shine, being put in practice for the architectonic ceramic[4]. The vitreous layer was obtained from the ash that resulted from burning different plants and its composition includes great quantities of sodium and potassium combined with calcium oxides and silicon (Na_2O, K_2O) - CaO - SiO_2[5]. The adding of alkaline substances serves as a flux for lowering the temperature at which silicon melts from 1670-1723°C to 793° C and does not result in a coloured layer, the glazes being applied across all polychromatic surfaces, with engobes based on mineral oxides[6].

The technique is partially abandoned until the 1st century BC, when, in different centres from Syria and Asia Minor (Antioch, Tarsus, Pergam, Smirna/Izmir)[7], start to be produced vessels covered with a lead-based glaze[8]. The innovation consists in the replacement of ash obtained from plants or from sodic carbonates with lead oxide (litharge) as a flux; the melting temperature for silicon dropping to 717°C (for a quantity of litharge of 70% SiO_2)[9]. The products from Micro Asia are mentioned by Cicero in the year 50 BC in a letter to his friend Atticus, under the name of *Roshica vasa*, after the name of the city Rhosos where Marcus Tullius Cicero served as governor[10]. The technology spreads in western Mediterranean Sea[11], afterwards, the vessels of this type start being manufactured in Italic workshops from the central (Rome)[12] and northern areas[13] then, following the migration of some craftsmen at the beginning of the 1st century AD, in southern Gaul[14] (Lyon, Saint-Romain-en-Gal-Vienn), central Gaul[15] (Vichy, St.-Remy-en-Rollat, Gannat, Lezoux) and eastern Gaul, along the Rhine valley[16]. After the second half of the 1st century AD[17], starts to be manufactured in Hispania[18], Britannia[19], Germania Superior[20], Moesia Superior[21], Pannonia[22], especially in areas rich in lead ore[23]. Litharge does not occur naturally, it is a residue resulting from craft activities that involve melting lead[24] or following processes where associated minerals are processed, particularly the reduction of galena (lead sulphide) PbS[25], for extracting silver (1,03% Ag and 86% Pb)[26].

The production centers in Dacia are documented starting with the half of the 2nd century, through the discoveries of artefacts[27], rejections[28] and elements connected to the operational production chain (kiln stilts and residues)[29] (Fig. 1). After the second half of the 2nd century AD, this type of products enjoys a progressive development with the glaze being applied on other categories of ceramic artefacts such as oil lamps and figurines[30].

The early products from Asia Minor and Italy are characterised through them shaped with the help of moulds[31] so that, afterwards, the glaze replaced the red or black finish of pot-thrown pottery, typical of ceramic with thin walls, decorated through incisions, stamping or relief executed in the barbotine technique[32].

The manufacturing technology involves two working stages. In the first stage, the pottery is shaped and decorated, being fired in kilns at temperatures specific for common ceramics (about 900°C) in a reducing or oxidizing atmosphere, a process that achieves form stability (a stage called „biscuit phase")[33].

Two methods of preparing the barbotine solution are identified, based on the content of limestone found in the clay.

For limestone clays, (Ca>5%), used especially for the Italic products from the 1st century AD, a mixture of litharge and silicon ($P^bO.SiO_2$) was used. In the next period, the application of just

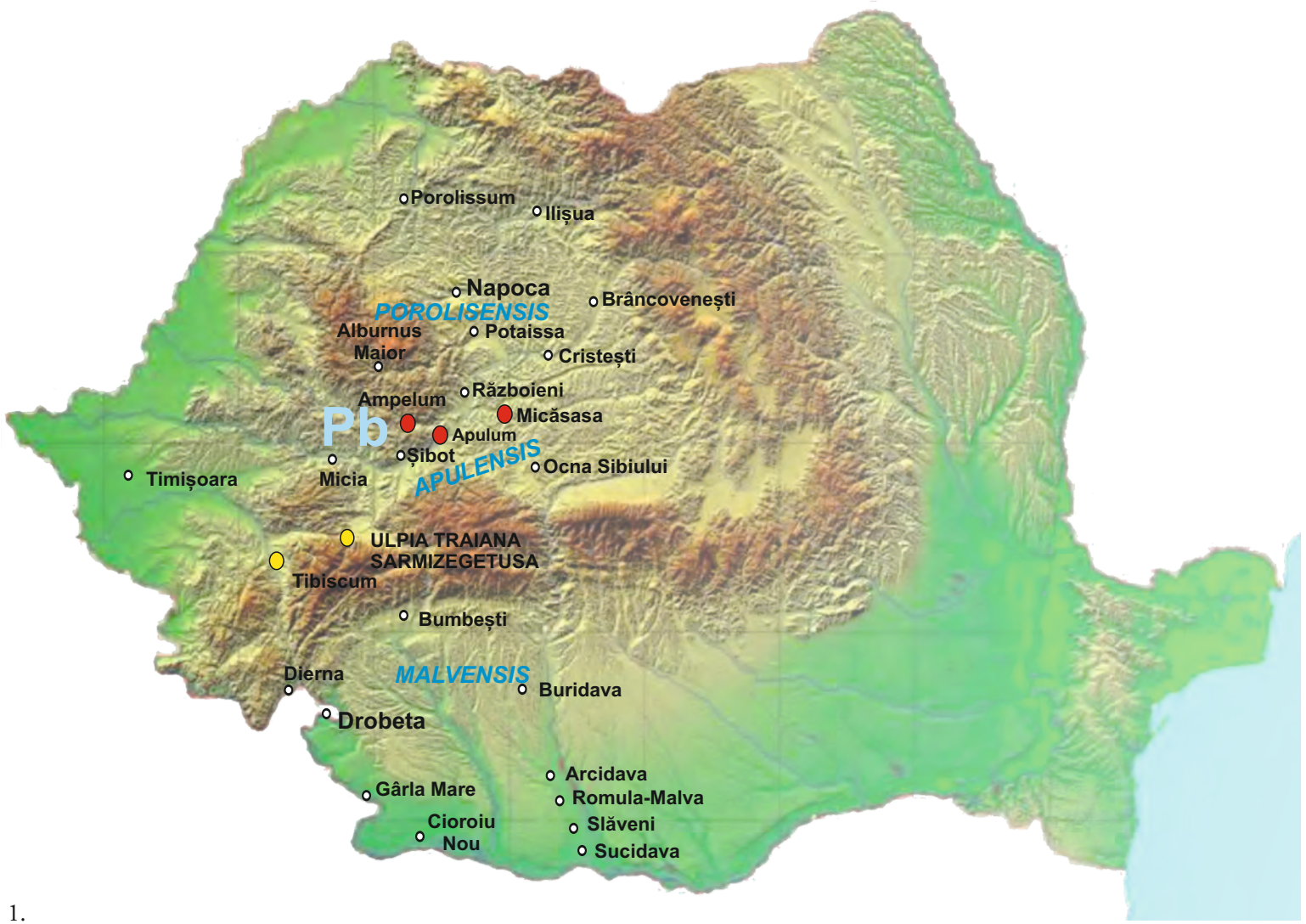


Fig. 1.

○ Pottery workshops from the province of Dacia

Pb Lead sources

● Workshops for the production of lead-glazed ceramics identified by related elements from the operating chain (waste, kiln stilts).

● Posible workshops for the production of lead-glazed ceramics.

litharge on clays that do not contain limestone (Ca <5%), will be generalised; this is a specific signature to products from Gaul and the areas next to the Danube, case in which the clay that is used must contain enough silicon to form the vitreous layer[34]. The lowering of the melting point of glazes with the addition of silicon can also be achieved by adding limestone as an additional flux[35]. The quantity of litharge represented 50-70% from the suspension's volume, while the deposited layer had to be relatively thick for a uniform coating[36] and a superior shine[37].

The resulting glaze is transparent; the change in colour can be attributed to the iron ions from the ceramic pot offering shades of bright red or black based on the firing atmosphere conditions[38]. Intense shades of green or yellow are obtained by adding in the solution metal oxides, especially compounds of iron and copper, and depending on the nature and valence of metal ions (Fe^{2+}, Fe^{3+}, Cu^{2+}, Cu^{+}) crystals are formed that absorb light in a different manner[39]. Iron oxides Fe^{3+} offer shades of yellow and Fe^{2+} shades of green. Copper gives shades of red or brown in a reducing atmosphere, green in the presence of oxygen[40], and if alkalis are added to the suspension, it results in an intense blue colour[41]. If the mixture contains more iron than copper, the glaze will still be yellow[42].

The next step consists in biscuit firing the pottery at temperatures between 800-1000°C[43] without respecting any levels because the ceramic body is already fired and will no longer suffer any major deformities, while the chemically bound water has already been removed from the composition[44]. The contraction of the glaze when cooled (about 500°C) must be lower than that of the ceramic body; incompatibilities can lead to crack and the detachment of the vitreous body[45]. In parallel, the maximum temperature must be maintained for a longer time in order for the glaze to "mature"; this is needed in order to eliminate the gases released in between the clay body and the vitreous layer,

Fig. 2.
Deteriorations of the vitreous layer
from firing the pieces inside the kiln.

Fig. 3.
Kiln stilt discovered
at Apulum, *officina* B
(Ciaușescu 2004, p. 321, fig. 7).

Fig. 4.
Spur (kiln support)
marks.

that might result in degradation such as a surface with a porous aspect, craters and crazing (Fig. 2) [46].

Another precaution consists in preventing the pots from touching one another, because the melted glaze is viscous, it trickles and the vessels can be stuck one to the other (Fig. 4) or the kiln's walls[47]. This drawback has been prevented by the usage of kiln spurs. The kiln spurs interspaced between the ceramic artefacts in order to obtain uniform firing conditions were widely used for producing *terra sigillata*[48], but the specific forms could not adapt to the new conditions demanded by the vitreous layer.

The potters have experimented with a series of methods for separating the products by trying to "suspend" them so that there is a minimum of contact points. Pot shards placed in the sand[49], three-armed shackles[50] and cylindrical supports on which the vessels were placed face down[51] were used. The most often used are circular shaped kiln spurs supported by three legs of different sizes[52]. In Dacia, ceramic supports are documented, consisting of a ring with three legs, pieces of this type being discovered in the *officina* B from Apulum (Fig. 3)[53] and Micăsasa; lead residues have also been discovered here[54].

A fragment of a leg stand that still has traces of glaze (cat. no. 79), was recently discovered in the inventory of a pit with firing scraps, recently researched in the western are of *Colonia Aurelia Apulensis* (Fig. 5). It is in the same complex that glazed pottery with defects and trickling of the viscous material were found; the complex is dated in the second half of the 2nd century AD.

The production of glazed pottery during the 2nd-3rd centuries AD is a secondary activity of Roman workshops, its magic consisting in its resembling to the lustre of metal artefacts and the fact that the walls of the vessels are waterproof. The large amount of litharge required to prepare the suspension limits the areas where the raw material was available and the fact that two firings are performed for the same product, which involves additional precautions, is reflected in expensive and probably more difficult to access goods[55]. The constraints of the operational production chain in Dacia are evidenced by the extremely low percentage of glazed ceramic that is discovered in most sites, belonging to the Roman period.

Dan Anghel, Ilie Lascu

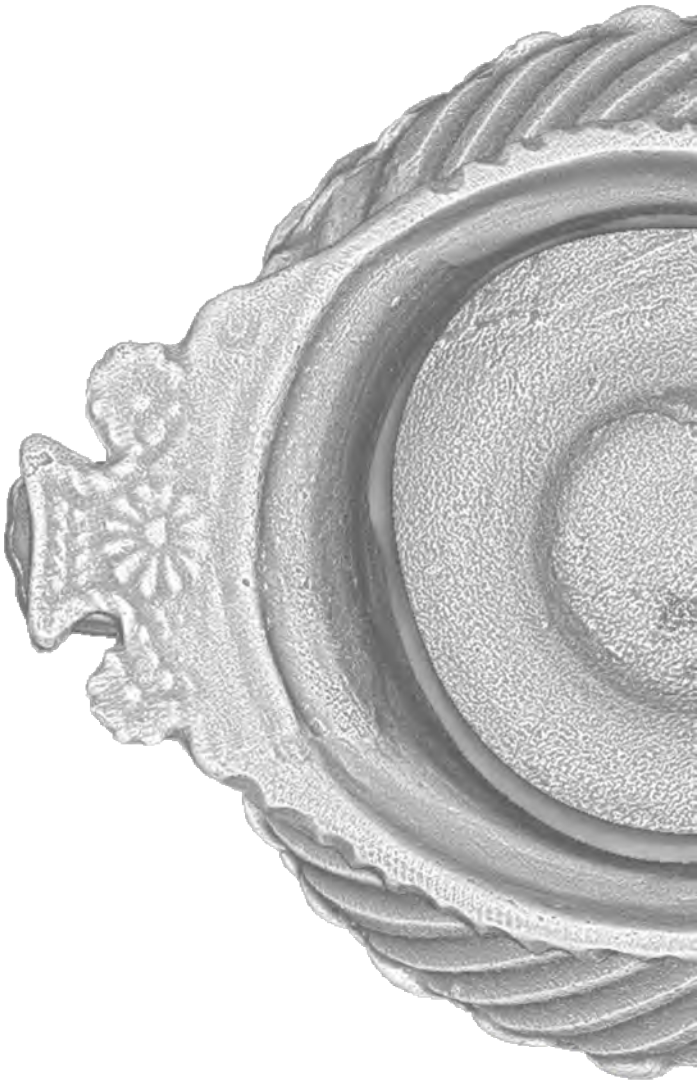
Notes

1. Pradell, Molera 2020.
2. Dodd 1994, p. 142, „glazed".
3. Walton 2004, p. 5.
4. Greene 2007, p. 653.
5. Giralt 2014, p. 9.
6. Giralt 2014, p. 9; Di Febo *et alii* 2017, p. 3.
7. Cerdán *et alii* 2019, p. 152.
8. Greene 2007, p. 653; Walton, Tite 2010, p. 733.
9. Pradell, Molera 2020.
10. Greene 2007, pp. 653, 656.
11. Walton 2004, p. 2.
12. Gohier 2018, p. 203.
13. Baumann 2010, p. 127.
14. Desbat 1986, p. 33; Greene 2007, p. 660; Rusu-Bolindeț 2007, p. 324; Gohier *et alii* 2018, p. 478.
15. Gohier 2018, p. 204, fig. 1.
16. Mușețeanu 1993, p. 232.
17. Walton 2004, p. 12.
18. Gohier 2018, p. 204; Cerdán *et alii* 2019, pp. 155-156.
19. Peacock 1982, p. 64; Walton 2004, p. 15.
20. Baumann 2010, p. 127.
21. Cvejetićanin 2010, p. 37, fig. 72-73; Walton, Tite 2010, p. 734.
22. Walton, Tite, 2010, p. 734; Cerdán *et alii* 2019, p. 154, fig. 2.
23. Peacock 1982, p. 64; Baumann 2010, p. 127.
24. Lead manufacturing workshops correlated with glazed ceramics are attested at Durostorum (Baumann 2010, p. 128, footnote 155).
25. Hodges 1965, p. 444; Cuomo di Caprio 2017, p. 263; Di Febo *et alii* 2017.
26. Lipovan 1990, p. 279.
27. Alicu, Soroceanu 1982; Benea 2004, p. 210; Rusu-Bolindeț 1995; Rusu-Bolindeț 2007, p. 323.
28. Lipovan 1983-1984; Lipovan 1990; Lipovan, Băluță 1995.
29. Mitrofan 1990, p. 137, fig. 33/3; Ciaușescu 2004, p. 230, fig. 7-8; Egri 2018, p. 118, fig. 6/2.
30. Alicu, Soroceanu 1982, p. 55, pl. VI/1, 4-6; Lipovan 1983-1984; Desbat 1986, p. 37; Martin 1995, p. 64.
31. Green 2007, p. 653.
32. Desbat 1986, p. 33; Rusu-Bolindeț 2007, p. 323; Baumann 2010, p. 27.
33. Cuomo di Caprio 1985, p. 97-103; Lipovan 1990, p. 274; Cuomo di Caprio 2017, p. 261, graphic 14; Cerdán *et alii* 2019, p. 152.
34. Walton, Tite 2010, p. 754.
35. De Vito *et alii* 2017, p. 1787.
36. Walton 2004, p. 5, 16; 45-60%, after Tite *et alii* 1998, p. 242; 75% PbO and 25% SiO_2, after Di Febo *et alii* 2017, p. 1; 70% PbO + 30% SiO_2 after Pradell, Molera 2020.
37. Cuomo di Caprio 2017, p. 264.
38. Pradell, Molera 2020.
39. Pradell, Molera 2020.
40. Desbat 1986, p. 33; Pradell Molera 2020.
41. Hodges 1965, p. 45.
42. Tekkök *et alii* 2009, p. 5.
43. Cerdán *et alii* 2019, p. 152; Di Febo *et alii* 2017, p. 3.
44. Cuomo di Caprio 2017, pp. 331-332.
45. Tite *et alii* 1998, p. 246.
46. Hodges 1965, p. 47; Lipovan 1990, p. 280; Tite *et alii* 1998, p. 246.
47. Domźalski 2003, p. 187.
48. Lerat, Jeannin 1960, p. 7, fig. 2; Anghel 2019.
49. Höpken 2003, p. 365, Abb. 1.
50. Passelac 1992, p. 216, fig. 3/8; 5/8; 6/2; 7/10; 10/7-9; 12-13.
51. Oransay 2001, p. 52, fig. 2/a.
52. Gohier 2018, pp. 206, 208, fig. 3, 5.
53. Ciaușescu 2004, p. 321, fig. 7-8; Egri 2018 p. 119, fig. 6/2.
54. Mitrofan 1990, p. 137, fig. 33/3; 35/1.
55. Rusu-Bolindeț 2007, p. 322; Höpken *et alii* 2009, p. 130.

Glazed pottery firing experiment.

4.

THE LEAD-GLAZED POTTERY FROM APULUM



The conquest of the Dacian Kingdom (today's territory of Romania) by the armies of the Roman Emperor Trajan (98-117 AD) at the beginning of the 2nd century AD, has lead to the creation of the province of Dacia. Roman Apulum (modern Alba Iulia) was a complex conurbation, the largest city in the province, and the seat of the Legion XIII Gemina[1]. Its civilian settlement (*canabae*) developed after the construction of the first phase of the fortress and expanded in the 2nd and 3rd century AD in its vicinity. A part of this settlement or, in the opinion of other authors, the whole territory occupied by the *canabae* evolved rapidly reaching to fulfil in 197 AD the conditions needed for obtaining first urban status, becoming *Municipium Septimium Apulense* in the Severan period[2].

Regarding the centre located near Mureş River (Partoş District), after the Marcomannic Wars, Emperor Marcus Aurelius raised the *vicus* to the rang of *Municipium Aurelium Apulense*. In the during the reign of Commodus (180-192 AD) the *municipium* became *Colonia Aurelia Apulensis,* a higher rank for a prosperous city[3].

In the newly reorganized Dacia Apulensis, the palace of the Roman governor (*praetorium consularis*) - *legatus Augusti pro praetore trium Daciarum* – was also located in Apulum[4].

Apulum was a flourishing urban centre in the 2nd and 3rd century AD. Archaeological and epigraphical evidence underline the significant impact of the military presence on the social and economic development of the city. The proximity of the gold mines from the Apuseni Mountains, its location near Mureș River and at the crossroad of several major routes allowed this conurbation to prosper socially and economically.

The glazed pottery from Apulum has not been thoroughly researched, the only contribution in the field is due to Viorica Rusu-Bolindeț in 1995 when the materials discovered from the excavations conducted west from *Colonia Aurelia Apulensis* are presented[5]. The situation is similar for other centres from Roman Dacia; this is somewhat justified by the extremely low percentage of this ceramic category compared to everyday products manufactured in the province and other types of imported pottery[6]. The only manufacturing centre that has enjoyed an exhaustive and intensive scientific capitalisation (favoured by the richness and diversity of discoveries) is represented by the *officina* of Caius Iulius Proclus from Ampelum[7]. Other workshops where glazed ceramic was produced and where such production can be proven through the specific technologic inventory, are only at Apulum[8] and Micăsasa[9] (Fig. 1).

The identification of the origin of the artefacts is also made more difficult by the fact that the technique is (brought) "imported" in Dacia by craftsmen trained in workshops from other provinces such as Moesia Inferior (Durostorum)[10], Moesia Superior (Viminacium-Margum, Novae, Diana, Singidunum etc)[11], Pannonia (Brigetio, Aquinicum, Poetovio, Sirmium, Carnuntum, Vindobona etc)[12]. Such potters manufacture items that imitate products from the Italic and Gaul workshops, sometimes adapting them in accordance to the technical and cultural traditions specific to their areas of origin, with the differences being most of the times subtle or inexistent. The difficulties in interpretation reside also in the fact that we are operating with a very small quantity of artefacts, mostly preserved fragmentarily.

The specialised bibliography offers also the results of archaeometric investigations conducted on ceramic lots with lead-based glaze originating from Apulum-Partoș[13]. The lead isotopes analysis that was conducted for four samples, shows that the source for the litharge that was used for obtaining the glaze, is in the non-ferrous deposits located in the eastern Rhodope Mountains and northern Bulgaria[14]. The presence of imports is

also documented by a plate discovered at Tibiscum that bears the inscription *Crispinvs*, proof of a potter with Italic origins[15].

The archaeological research conducted in the last two decades have substantially enriched the collection of the National Museum of the Unification from Alba Iulia with artefacts belonging to this ceramic category, discovered in different archaeological contexts located on the territory and in the necropolises of the two urban centres from Apulum.

A substantial batch of artefacts was discovered following archaeological excavations conducted in the southern necropolis from Apulum, located on Dealul Furcilor-Podei[16]. The artefacts that were deposited as funerary inventory consisted in small, drinking vessels (mugs with one or two handles and variants of *skyphos-kantharos*) (cat. no. 6-11, 27)[17] and a tray belonging to the Drag. 39 type (cat. no. 44) [18]. Other contexts from around the necropolis have yielded a fragmentary plate with an applied handle[19] and prosopomorphic vessel, shaped in a mould, depicting a feminine character (cat. no. 92)[20]. The northern necropolis has offered two other glazed artefacts: a Conspectus 3.3.2. type *catillus/catinus* (cat. no. 62) and a one-handle mug, decorated with diagonal wide incisions (cat. no. 12) [21].

The archaeological research conducted in the western area of the Roman fortress in the *canabae* area (Parcul Unirii-*Fântâna Cinetică*) have resulted in two Drag. 46 type (cat. no. 65-66) vessels and two *kantharoi* decorated in the barbotine technique (cat. no. 14-15). A number of five cup fragments (*kantharos, skyphos*) (cat. no. 17-18, 20, 22, 24, 27) have been recovered following the fall of an earth mound, south of the Roman fortress (the northern slope of the St. Francisc of Paola Ravelin)[22] alongside with the stand of a vessel and the rim of a pot (cup, jug?) of larger size (D. r. 100 mm) (cat. no. 43). A fragment from an oil

Fig. 5.
Waste pit from Apulum
(photo Florin Ciulavu).

lamp with an annular handle was discovered following the research conducted at the southern gate of the Roman fortress (cat. no. 83), while a similar piece was discovered in the eastern area of the necropolis from Dealul Furcilor-Podei (cat. no. 82). The northern sector of the *canabae* offered fragments from a plate (Drag. 42) (cat. no. 52) with an applied handle, one the tronconic leg stand from a cup (cat. no. 32), and one *skyphos* handle (cat. no. 30) The eastern area of the *Municipium Septimium Apulense* has offered some fragments discovered on N. Titulescu St. (cat. no. 26, 89, 93-94).

The inventory of a pit that contained firing scraps, dated after the middle of the 2nd century AD, excavated to the west of the *Municipium Aurelium Apulense* / *Colonia Aurelia Apulensis* (Dacilor St.), has provided several fragments of glazed ceramic (cat. no. 45, 48-50, 55, 71-73, 75-76), including a handle from a *patera* (cat. no. 68), vitreous paste residues (cat. no. 80) and the leg stand from a firing support (cat. no. 79) a large part of the fragments being discovered in a scrap pit[23] (Fig. 5) .

The upper level, dated in the 3rd century AD has yielded a significant quantity of glazed ceramic materials, among them cup fragments, type Drag. 39 plate fragments and artefacts that cannot be identified. A series of items with lead-based glaze were also found in other areas of the same urban centre (the Liber Pater sanctuary (cat. no. 25, 47)[24], Gemenilor St. (cat. no. 16, 38), Lupa Capitolina street (cat. no. 19, 31, 35); the cups decorated in the barbotine and *cut glass* techniques predominate. The research conducted to the south-east of *Colonia Aurelia Apulense*, in an area that was affected by the introduction of a water pipe beneath the Mureș River, have resulted in several oil lamp fragments beautifully decorated, of great dimensions (the largest artefacts of this type ever discovered at Apulum) (cat. no. 85-86, 90-91). The lamps are dated at the beginning of the 2nd century AD, being associated with a coin from Trajan[25]. Another oil lamp, intact, that is preserved in the collection of the National Museum of the Unification from Alba Iulia, belonging to the *trilychnis* type, marked with the stamp CAI, comes from the museum's old collections (cat. no. 84)[26].

Most artefacts fall in the category of fine ceramic, used for eating and drinking[27], a general characteristic for this type of ceramic across the whole of the Roman Empire in the 2nd-3rd centuries AD[28] . The highest percentage is represented by mugs and cups (*kantharos*, *skyphos* with different intermediary variants), with thin walls, decorated with barbotine placed in the shape of pine cone needles or scales.

Ornaments consisting of wide, parallel, horizontal, vertical or oblique incisions are also frequent. The ornamentation through excision (*cut glass*) (cat. no. 16) is less frequent. All the artefacts from the *vasa po(ta)toria* category are characterised by a conic leg stand, empty on the inside and with an exterior profile with 2 or 3 horizontal grooves. The Drag. 39 type trays and the plates that imitate metal vessels with applied handles and incised and/or printed decorations are frequently encountered.

The same categories are also found to be decorated in relief with zoomorphic or divine representations (cat. no. 46, 48). With the exception of the prosopomorphic vessel and the Drag. 39 type round trays, that are shaped by being pressed in moulds, all the items retain, on the inside or on the outside, traces specific for them being shaped on the potter's wheel. An unpublished batch consists of two *patera* handles (cat. no. 68-69), with a semi-circular extremity (Rusu-Bolindeț 1997, type II/6) marked by a wide perforation, an unknown variant in the unglazed version at Apulum[29]. The vessels of medium and large size are less frequent, being represented only through fragments that, very rarely, allow for the shape to be determined. There are no known artefacts decorated in the barbotine technique with white engobe and covered with "transparent" glaze; their production is very well documented in the *officina* of Caius Iulius Proclus from Ampelum[30].

The colour of the glaze[31] varies from intense green, olive green to brown and brown-yellow. The items that have important

colour differences in between the two sides of the ceramic body are represented only by a pitcher's neck discovered in the area of the Liber Pater sanctuary[32], with a brown-reddish colour on the inside and dark green on the outside (cat. no. 42). Chromatic modifications from one area to another, but of lower intensity, are frequent and are the result of the unequal thickness of the barbotine layer deposited on the face of the vessels. The trickling of the glaze and its accumulations in recesses is a process characteristic for the production technology, the difference in the shades in between the plans of the embossed decor enhancing the aesthetic effects of these products. The ceramic body shows colours specific for firing in an oxidised and reducing atmosphere and no strict, technological correlation can be observed between the glaze shade, the shape of the vessels and the specific gaseous firing conditions.

An interesting situation is offered by the large number of artefacts that show faults in the vitreous layer due to the firing process. The technological faults consist in the glaze accumulating as spots irregularly distributed, trickling and uncontrolled accumulations of the vitreous layer. Another category of faults consists in a matte aspect, a porous texture and a whitish shade of the glaze due to the temperature being too high inside the kiln. The same thermal process also caused the appearance of protuberances caused by the defective elimination of the gases released during the firing process. The temperature variations and the differentiated contraction of the ceramic body, in relation to that of the glaze, caused cracks in the vitreous layer. The specific markers for the production technology are represented by three glaze accumulations placed evenly in the lower area of a cup discovered on Dealul Furcilor; the imperfections mark the contact points with the kiln stilt (cat. no. 8)[33]. Burrs specific to objects touching one another or after being positioned for firing have been also identified in the case of the oil lamp with the CAI stamp and a cup discovered in the southern necropolis (cat. no. 84).

Trilychnis lamp
with the stamp CAI.

The great number of artefacts with faults can exemplify a technology in an incipient phase or the ability of some *negotiatores cretarius*[34] to sell inferior products to less knowledgeable clients or clients with limited financial resources.

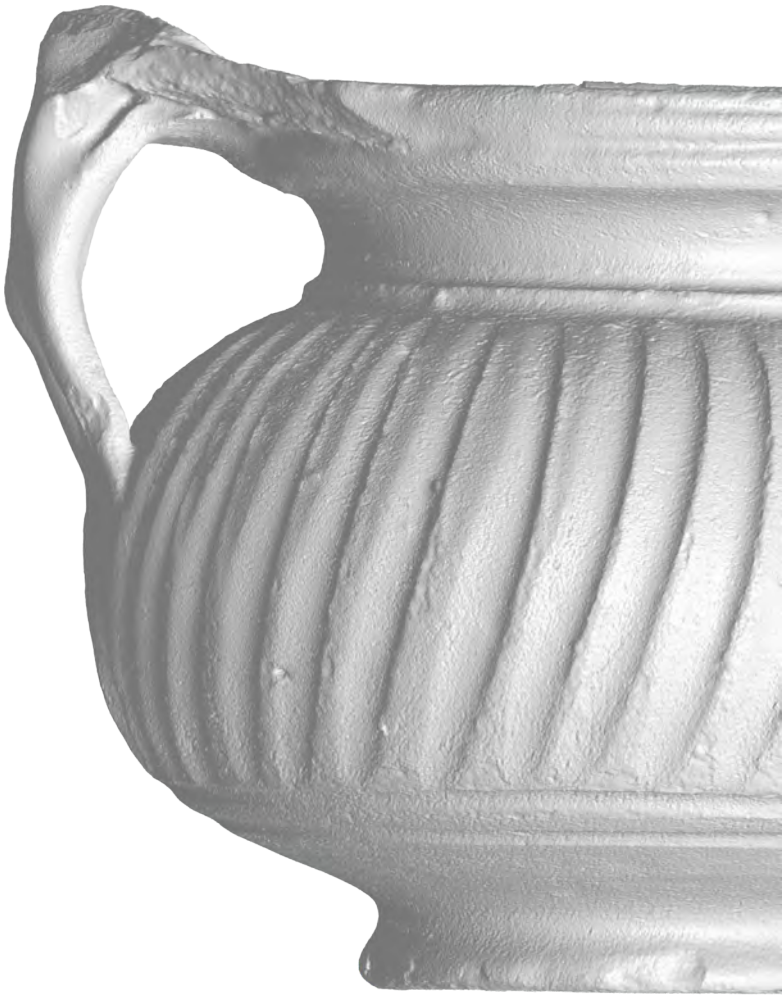
Dan Anghel, Anca Timofan

Notes

1. See Moga 1985.
2. Diaconescu, Piso 1993, pp. 67, 71; Ardevan 1998, pp. 48-50; Ota 2012, pp. 31-36.
3. Diaconescu, Piso 1993, pp. 67-70. Ardevan 1998, pp. 45-50, 81-83.
4. See Cserni 1888; Diaconescu, Piso 1993, pp. 72 -73; Rusu-Bolindeț 2019, pp. 97-120.
5. Rusu-Bolindeț 1995.
6. Alicu, Soroceanu 1982; Rusu-Bolindeț 1995, p. 14; Benea 2004.
7. Lipovan 1983-1984; Lipovan 1990; Lipovan, Băluță 1995.
8. Ciaușescu 2004, p. 321, fig. 7-8; Egri 2018 p. 119, fig. 6/2.
9. Mitrofan 1990, p. 137.
10. Mușețeanu 1993.
11. Cvjetičanin 2006, pp. 123–127.
12. Mușețeanu 1993, p. 232; Kölcze 2018, p. 20; Cerdán *et alii* 2019, p. 154, fig. 2.
13. Walton, Tite 2010, pp. 739-741, table II-III, fig. 3. Probably from the excavations conducted to the north-west of the *Colonia Aurelia Apulense* (Diaconescu *et alii* 2005; Ciaușescu 2004).
14. Walton, Tite 2010, p. 741, tabel III.
15. Benea 2004, pp. 204, 211, catalog nr. 1, fig. 3/6, 7.
16. Bolog 2017.
17. Bolog 2017, pp. 235-236, types C15, C16, C18, C22; p. 212, pl. 41/M7; p. 30, pl. 47/M100; p. 48, pl. 58/M242; p. 62, pl. 67/M365.
18. Bolog 2017, p. 47, pl. 58, M/239.
19. Bolog 2017, p. 193, pl. 145/1025.
20. Anghel *et alii* 2011, p. 52, nr. 70, Bolog 2017, p. 175, pl. 139/606, pl. 163.
21. Necropolele 2003, p. 27, nr. cat. 73.
22. A complete oil lamp with nine mouths was discovered in the same context (Anghel 1995).
23. Similar pieces were discovered in the inventory from the *officina* B from Apulum (Ciaușescu 2004, p. 230, fig. 7-8; Egri 2018, p. 118, fig. 6/2) and Micăsasa (Mitrofan 1990, p. 137, fig. 33/3).
24. Rusu-Bolindeț 1995.
25. The archaeological material is not published.
26. Băluță 1976, p. 112.
27. Popilian 1976, p. 55; Alicu, Soroceanu 1982; Gudea 1995, abb. 2; Rusu-Bolindeț 1995, p. 149; Benea 2004; Rusu-Bolindeț 2007, pp. 323-326.
28. Popilian 1976, p. 55; Alicu, Soroceanu 1982; Gudea 1995, abb. 2; Rusu-Bolindeț 1995, p. 149; Benea 2004; Rusu-Bolindeț 2007, pp. 323-326.
29. Rusu-Bolindeț 1997, taff. II/1-2; III, VI/2-4, VII/1, VIII.
30. Lipovan 1994.
31. Because the differences in shades from one area to the other, the colour code mentioned represents the darkest shade that exists on the ceramic fragment.
32. Rusu-Bolindeț 1995, p. 148, fig. 1.3.
33. Höpken 2003; Höpken *et alii* 2009.
34. Peacock 1982, p. 106.

5.

THE GLAZED POTTERY DISCOVERED IN THE ROMAN NECROPOLISES FROM APULUM



Five funerary areas are known so far at Apulum. They belong to the two settlements that have during the course of time become *Municipium Aurelium /Colonia Aurelia Apulensis* and *Municipium Septimium Apulense*[1]. Without insisting on the integration of these necropolises we can note however that the first civilian settlement from the bank of the Mureș has to the south, east and west three necropolises that were without a doubt placed along the communication pathways. It is not mandatory that they existed at the same time[2]. The necropolis located on Dealul Furcilor-Podei, located to the south of the Roman fortress and the *canabae* that later became *Municipium Septimium Apulense* is the one most thoroughly researched. In the northern part of the fortress and of the Roman settlement, along the road that connected Apulum to Ampelum and the gold area of the Apuseni Mountains, develops another great funerary area discovered following the excavations from the „Stația de Salvare", conducted at the end of the last century (Fig. 10).

The funerary inventory that was discovered is typical for the Roman provincial world. Usually, the graves contain a common inventory, the rich ones being extremely rare. The richness of the funerary furniture indicates not only a certain social status but also that the deceased's family was connected to the religious traditionalism that stated that he had to enter the Afterlife accompanied by objects that held an apotropaic role or for the deceased's own usage. Thus, because of the inventory they contain, the graves illustrate both the beliefs connected with death, particularities connected with ethnicity, but also the deceased's social status. The latter one is reflected by the quality of the objects that were deposited.

At Apulum, the majority of the graves are poor or have been robbed. It is obvious that there existed also rich graves that had monuments associated to them; proof of this is the large number of funerary inscriptions or of sculptural pieces that are in the collections of the National Museum of the Unification from Alba Iulia. But these graves were the first to have fallen prey to robbing; the expensive funerary inventory was the first to be stolen, followed by the stone construction that marked then.

What we understand by funerary inventory or furniture has been preserved in very few cases. Usually, we are dealing with classic associations. They are complete or fragmentary ceramic artefacts, bronze coins but also common jewels belonging to the deceased. In rare cases, special objects are found, objects that can shed further light on the deceased.

Ceramic vessels are the most frequent discoveries. They are the materialisation of the belief that stated that the soul would need food and drink while on its journey to the afterlife. The overwhelming majority of ceramic at Apulum is represented by common ceramic, locally produced, with classic shaped or by artefacts characteristic for this centre, such as cups decorated with a small wheel[3]. Good-quality ceramic is rarely encountered; this inventory category is exemplified by mugs, cups and bowls with thin wall, locally produced[4] and, in extremely rare cases, imported[5]. In this context however are encountered also several glazed vessels; these are items that not everyone could afford the luxury to own and use but which represent a much more readily accessible alternative by comparison to the metal vessels that they imitate[6].

At a first evaluation we notice that the discoveries of glazed pottery at Apulum are mainly fragmentary in the civilian environment[7] and in the form of whole or restored vessels as far as the funeral inventory is concerned. It is also upon a first glance that

Fig. 6. Glazed vessel discovered in funerary context within the Southern Necropolis, M. 100 (photo Adrian Bolog).

their presence in tombs might be a mark of a distinct social status. It is known that the ceramic with lead-based glaze is represented in Dacia by a very low number of artefacts, with most of the discoveries in a fragmentary state[8]; the situation is similar for the whole of the Roman Empire during the course of the 2nd-3rd centuries AD[9].

One of the causes is represented by the fact that unlike the common ware ceramic, of the provincial imitations of *terra sigillata*, the pots covered with a vitreous layer are the result of a complex technology that depends on the presents of litharge sources (lead oxides)[10], and the operation chain involves two firings before the end product can be obtained[11]. The use of kiln spurs or separators[12] reduces the number of vessels that could be fired in a single batch, with implications with regards to the increase in the production costs[13]. All of these impediments mean that the manufacturing of glazed ceramic remains in the 2nd-3rd centuries AD the result of a specialised activity, the prerogative of specialised workshops or craftsmen.

A luxury product, the glazed ceramic is preferred over the *terra sigillata* in the Apulum graves. While *terra sigillata* is discovered fragmentary, mostly outside the graves, the vessels being most likely used for rituals conducted during the funeral, the glazed ceramic is discovered especially inside the tombs.

One of the discoveries is represented by a glazed oil lamp, this kind of artefacts being relatively numerous at Apulum. A fragmentary oil lamp, with a similar morphology, size and chromatic was discovered during the excavations conducted at *porta principalis dextra* of the Roman fortress belonging to the legion XIII Gemina (cat. no. 83)[14]. The manner in which the artefact was manufactured indicates quite clearly that we are dealing with a provincial copy. It was discovered in an incineration tombs with the burning in *ustrinum* (the Southern Necropolis, M.11, cat. no. 82). Next to the calcinated bones, probably belonging to a woman, the funerary inventory that was not robbed consisted of two pitchers, one cup, a bronze ring, two amber rings, a sewing needle, a bronze mirror and the already mentioned glazed oil lamp[15]. The associated ornaments

indicate that she was not an ordinary person. It is known that the amber was not cheap in Antiquity, objects fashioned from this material being highly prized. It is likely that the glazed oil lamp, be it a provincial copy, was meant to complete the deceased's image as a matron. With regards to the stamp FESTI (Fig. 7) on the bottom of the oil lamp, it is well-known at Apulum and Dacia in general, with discoveries in the necropolis from Ampelum-Vulcoi, Cristești, Ghelar, Ilișua, Micia, Porolissum, Tibiscum, Ulpia Traiana Sarmizegetusa[16]. The discoveries bearing the stamp of this northern Italic potter are provincial copies, chronologically dated mostly in the 2nd century, the dating also including the beginning of the 3rd century AD.

Fig. 7.
Detail of a glazed lamp with the stamp FESTI discovered in a funerary context (the Southern Necropolis).

Another three glazed artefacts that come from the Southern Necropolis, also represented the inventory of rich graves, being deposited alongside several ceramic and glass vessels, oil lamps, coins, bronze artefacts and beads[17] (Fig. 6). The other vessels in the graves represented unique inventory[18] or were accompanied by an oil lamp[19].

Unfortunately, the most spectacular discovery of glazed pottery in the Apulum necropolis, the anthropomorphic vessel, was found in a fragmentary state, without the existence of a clear context (Fig. 8, cat. no. 92). Even so, its existence in the area known only for Roman funerary discoveries connects it to funerary practices. An anthropomorphic mug depicting a crouched feminine person holding in her arms a vessel, was discovered at Potaissa, from the western necropolis located on the Șuia Hill[20]. M. Bărbulescu connects this type of vessel to the "thirst of the dead men"[21].

The belief that stated that the dead suffer from a terrible thirst, with the tendency to drink from the bitter waters of the Lethe river that caused the dead to forget their earthly lives, is transposed in practice a series of funerary customs by the placement of vessels with liquids or drinking vessels in the tomb, as well as periodic rituals. I. Berciu and W. Wolski published half a century ago a tomb with a device for libations discovered at Apulum with analogies found along the coast of meridional Gaul, Hispania and northern Africa[22]. Placed in a funerary construction, the brick sarcophagus had an orifice above through which liquid entered the funerary urn with the help of a lead pipe. At its end, another stone sarcophagus had the lid shaped as a funnel with an orifice through which the liquid reached the remains of the deceased child.

This anthropomorphic vessel is a ritualic one, with origins in the special funerary vessels named „the mourners" discovered in Cyprus and dated in the second half of the 2nd millennium BC. The tradition is continued with the special type of vessels that have spread from the Greek to the Roman world[23]. These vessels had a specially conceived bottom in order to drain the liquid inside it. Thus, the liquid would drain ritually on the grave and it became sacred by

being poured from such recipients. The vessel itself, once broken, was not used anymore, being consecrated to the deceased one[24]. The discovery at Apulum is almost entirely missing the lower part, retaining only a hint that proves its height. The rupture is much better observed on the Potaissa analogy[25]. The lower part is missing since Antiquity. A similar artefact comes from Napoca. Considered to also originate from a funerary context, a vessel representing the body of one of the *Moirai* has a broken bottom. The attributes that it helds in its hands, the spindle and the thread, identify it as Clotho the Spinster, a divinity that interrupted the course of one's life[26]. It is also possible that the pitcher shaped as a human head discovered at Romula, with a tear in relief on both cheeks, might have also had a funerary character[27]. But the bottom of this vessel, as well as the one of the vessel located in the Craiova Museum but originating at Negru Vodă (Constanța county) is complete[28]. In fact, the entire ceramic centre from Romula is also attested by several mould of small anthropomorphic vessels, but this type of vessels is not present in the funerary context[29].

The "thirst of the dead" can also be connected to a series of vessels designed for drinking or storing liquids that were discovered in tombs. Statistically, the greatest number of this type of discovered ceramic vessels (pitchers, mugs, cups, glasses etc) reflect this belief. Twelve of the thirteen glazed artefacts included here are drinking vessels, cups and intermediary forms of *kantharos-skyphos*, shaped based on the specific of each craftsman or workshop (cat. no. 6-12, 27).

The vessels are decorated in the barbotine technique, places as scales, or with conic protuberances, similar to the pine needles. The vessels that have such decorations are found across the whole of the Roman Empire, the technique being used for a long period of time. At Napoca, the only glazed vessel known is a *kantharos* with two circular handles and a short, annular leg stand. It was decorated in two registries composed of rows of scales separated by grooves and profiles[30].

Fig. 8.
Anthropomorphic vessel discovered in the Southern Necropolis from Apulum *(partial digital reconstruction)*.

A *kantharos* comes from the Roman necropolis from Berghin and it is decorated with two rows of scales arranged around the maximum diameter in association with wide vertical incisions, another row of scales being arranged on the edge of the rim (cat. no. 13)[31]. This piece also combines the *kantharos* shapes with applied plaques, shaped in a mould specific for the *skyphos*[32]. The combination of scales with wide incisions placed in the upper part of the vessels has analogies at Ulpia Traiana Sarmizegetusa[33].

Glazed vessels that originate from graves from Alburnus Maior have been published. Thus, M129 and M235 from the necropolis from Tăul Secuilor/Pârâul Porcilor have each included in their inventories a glazed cup, both ornamented with the pine cone model[34]. In Moesia Inferior, the M7 from Kragulevo, included in its rich inventory two glazed vessels manufactured in the barbotine technique with the motif of the pine cone[35]. The custom of placing glazed vessels continues also during the 4th century AD with discoveries from Intercisa in Pannonia Inferior[36] or from Niš[37]. being published. We note that the glaze technique is present in these sited on other types of vessels (pitchers and large mugs), glazed shapes that are less common among the discoveries from the 2nd-3rd centuries AD from Apulum. But we are talking about a period when we are certainly witnessing a development of the technology and a diversification of the ceramic containers that were glazed[38].

With regards to the bowl discovered in the northern necropolis, its utility can be similar to that of a cup (*caucum*); it resembles the latter in terms of dimensions. Practically, the bowl served to hold different sauces or vinegar (cat. no. 62)[39].

Another category of glazed pottery from the necropolis is represented by the trays. The trays for solid foods (imitations after metal plates and adaptations of shapes specific for *terra sigillata* as Drag. 39, Drag. 42 plates) (Fig. 9; cat. no. 44, 53), glazed are relatively common discoveries at Apulum[40]; their quantity is much

Fig. 9.
Plate (Drag. 39 Type) discovered
in the Southern Necropolis from Apulum.

lower however when compared to that of the drinking vessels. The items that fall in these types are attested in Dacia also at Ampelum, Micăsasa, Resculum and Porolissum[41].

One notices similarities in the manner in which the two artefacts from the southern necropolis are ornamented. Concentric circles that ornament the rim of Drag. 39 trays are found at Apulum, on two artefacts from the museum's old collections[42]. A decoration comprised of short parallel lines placed towards the rim is present at Micăsasa on the edge of a glazed tray, that has in its centre a stylized motif of a fish[43]. A tray is discovered in M1 in the necropolis from Drašan, in Moesia Inferior[44]. The decoration is simple, roughly executed and the surface is not glazed. Just like at Apulum, it is not known whether the vessel was placed in the grave empty or whether it contained a food offering.

The presence of glazed vessels in the inventories of the Roman graves from Apulum, by comparison to other luxury ceramics (*terra sigillata* with embossed or smooth decorations), identifies a particularity of the funeral practices from this centre. In an extrapolated statistical analysis, we can consider that the density of discoveries in funerary contexts is greater that in the civilian and military environments. Most of the artefacts come from the inventory of rich graves; the fact that certain artefacts with a low frequency are placed in these contexts probably also served to highlight the status of the deceased.

Currently, we cannot state whether the artefacts from Apulum were produced locally or they were imported. Following the analysis of the ceramic paste, the vitreous layer and the lead isotopes we want to try and identify the production areas. This aspect might allow us to formulate and analyse more information connected to the deceased.

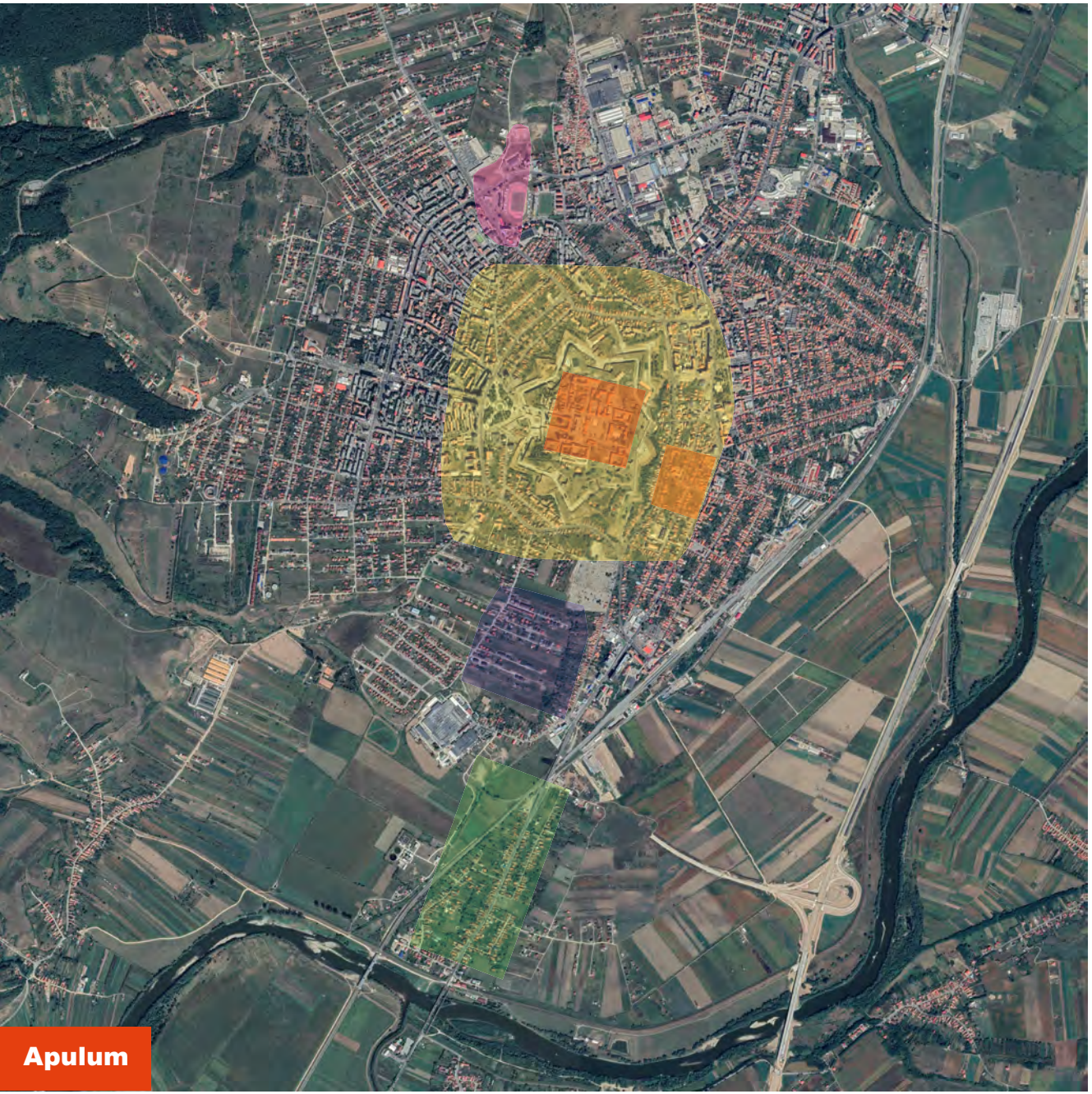
George Bounegru, Dan Anghel

Notes

1. For the location and discussions see Bounegru 2017, pp. 20-25, pl. I.
2. Without having processed all the material, at a first analysis we can say that the necropolises from the south and east do not seem to exceed the 2nd century AD.
3. See Bounegru 2017, p. 47 and the following.
4. Bolog 2017, pp. 233-237; Bounegru 2017, pl. XL.
5. Bolog 2017, p. 39, C. 14. pl. 53, M. 169/1.
6. Walton, Tite 2010, p. 734.
7. Rusu-Bolindeț 1995.
8. Popilian 1976, p. 55; Alicu, Soroceanu 1982; Rusu-Bolindeț 1995; Gudea 1995; Benea 2004; Rusu-Bolindeț 2007, pp. 21-22.
9. Desbat 1986, p. 33; Walton 2004, p. 16.
10. The main centers for the production of glazed pottery are developing in areas with lead ore, especially galena (Peacock 1982, p. 64; Lipovan 1983-1984; Lipovan 1990; Lipovan, Băluță 1995), but limited production could also take place in the vicinity of an *officina plumbaria* (Baumann 2010, p. 128, note 155), by using the residues left over from lead processing.
11. Cuomo di Caprio 2017, pp. 263-272.
12. Gohier 2018, p. 206, fig. 3, 5.
13. Höpken *et alii* 2009, p. 130.
14. Pending publishing.
15. Moga, Timofan 2009, pp. 250-251, pl. 1; The grave's inventory will be published in the future.
16. Băluță 2003, pp. 67-69.
17. Bolog 2017, pp. 30-31; pl. 47, M. 100; p. 48, pl. 58, 242; p. 62, pl. 67, M. 365.
18. Bolog 2017, p. 47, pl. 58, M. 239.
19. Bolog 2017, p. 21, pl. 41, M. 7.
20. Bărbulescu 2015, p. 170.

21. Bărbulescu 2003a, p. 276.
22. Berciu, Wolski 1971, pp. 375-389; Wolski, Berciu 1972, pp. 107-120.
23. See Bărbulescu 2003b, p. 89.
24. During the research conducted in the two large necropolises from Apulum, the one from Dealul Furcilor-Podei and the northern one from the „Stația de Salvare" there were discovered outside the graves several pitcher necks or upper parts from the vessels. They could come at the same time from graves that were robbed or destroyed by the agricultural works but also from a series of periodic practices that the descendants conducted at their graves.
25. Bărbulescu 2015, fig. 293.
26. See Bărbulescu 2003b, p. 90, fig. 4.
27. Bondoc, Dincă 2005, pp. 64-65.
28. Bondoc 2005, p. 17.
29. Bondoc 2005, 40-41, pp. 51-52. The two are presented as figurine moulds, but both of them have a handle protruding from the head area. This accessory indicates rather the production of prosopomorphic vessels by pressing the clay in a two-valve mould.
30. Rusu-Bolindeț 2007, p. 324, pl. LXXIV, nr. 396.
31. Alicu, Soroceanu 1982, p. 55, note 32; Șerban 2020.
32. Șerban 2020, fig. 7-9.
33. Alicu, Soroceanu 1982, p. 56, cat. no. 4, pl. I/4.
34. *The supply* ... 2018, cat. no. 135-136.
35. Vasilcin 1996-1997, p. 48, tabl.1/6 and 7. Artefact nr. 7 is identical in terms of shape and decoration to one of the discoveries from Roșia Montană (The supply, no.135).
36. Vágó, Bóna 1976, Grab 45, 84, 100, 157, 1001, 1078, 1136, Taff. XXVI-XXVIII.
37. Jeremic 2012, cat. no. 155, 160-167.
38. Eva Bónis inventories the settlements from Pannonia where, based on the scraps or discoveries, ceramic workshops are presumed to have existed, workshops that produced glazed ceramic in the 1st-4th centuries AD. See Bónis 1990, pp. 24-35.
39. www. prima-elmenta sv *acetabul.*
40. Rusu-Bolindeț 1995, p. 148, pl. IV/2. An important number of artefacts have been discovered during preventive archaeological excavations in the western area of *Municipium Aurelium Apulense* (28J Dacilor Street) in context with scraps, ceramic items with firing faults and other technologic rejections pending publishing.
41. Gudea 1995, Abb. 2.
42. Isac *et alii* 1979, p. 255, cat. no. 60-61, pl. VIII/60-61.
43. Mitrofan 1995, pl. 21/2; *The supply* ... no. 302.
44. Oța 2013, p. 368, fig. 13/1.

Fig. 10.
Archaeological map of Apulum with glazed pottery discovered in funerary context



Apulum

CASTRA LEGIONIS XIII GEMINAE

CANABAE LEGIONIS XIII GEMINAE / MUNICIPIUM SEPTIMIUM APULENSE

MUNICIPIUM AURELIUM APULENSE / COLONIA AURELIA APULENSIS

PRAETORIUM CONSULARIS

THE SOUTHERN NECROPOLIS

THE NORTHERN NECROPOLIS

6.

CAIUS IULIUS PROCLUS'S POTTERY WORKSHOP FROM AMPELUM

When one considers the urban organisation of the province of Dacia, the centre from Ampelum (Zlatna, Alba county) remains an unknown from many points of view; the archaeological research[1] that were conducted here were preventive in their nature, while the other discoveries were random. The ruins of the ancient city have been mentioned as early as the 16th century and, starting with the 19th century, the Roman buildings have been dislodged when the foundries were built[2]. The ancient city, that developed along the Ampoi Valley[3], was strongly affected in the period of the 1980s by the expansion of the copper processing plant.

A centre for the mining of gold from the Apuseni Mountains (*aurariae Dacicae*), Ampelum has been the headquarters for the administration of the mountain area from the west of the province, of the mining controlled by the imperial fiscus and was headed by the *procuratores aurariarum*[4]. It was here that an *ordo Ampelensium*[5] was active; the settlement became a *municipium* probably under Septimius Severus (193-211 AD) as this emperor's policy for awarding municipal status to mining districts is well known[6].

The inscriptions discovered give evidence for the cosmopolitan aspect of the society and the heterogeneous character from the ethnic point of view of the population established in this centre in the golden zone of Dacia, first of the all the communities of Illyrian colonists organised in *kastella*-type settlements in the territory of the mining district and subordinated to it[7]. Without a doubt Ampelum was an important economic centre where activated numerous mining technicians, clerks from the Roman administration, workers, traders, craftsmen originating from Dalmatia, Italy, Greece, Asia Minor, northern Africa etc, with some of them being imperial slaves and freedmen[8].

The archaeological material from Ampelum gives evidence about the wealth of this small *El Dorado* of the ancient world[9] from the 2nd-3rd centuries AD and about the lives of its inhabitants: large architectonic pieces, sculptural, funerary and votive monuments, construction materials, bronze and ceramic vessels, votive terracotta, different jewellery, household items etc.

We will discuss one of these remarkable discoveries below, namely the kiln complex used for firing ceramic from Ampelum – the pottery workshop (*officina*) of the craftsman Caius Iulius Proclus (Fig. 1)[10].

In 1984, following the construction of the industrial complex, salvage archaeological researches were conducted across an area of about 3 ha where ancient remains had been previously signalled, in the south-east area of Zlatna city, to the left of the Ampoi River[11]. On the eastern limit of the point "Lunca" walls with a width of 0,70 m and several rooms belonging to a Roman building that had hypocaust installations, were discovered; the researchers that conducted the excavations included the building in the *villae* building typology[12]. In a few sections located below the level of these constructions a layer of burn, 0,15 cm thick, was noticed; this indicated the existence of a previous habitation phase. It is in this early level that the kilns from Ampelum were discovered; the three kilns fall in the category of arched circular kilns with a median pillar to support the perforated floor[13].

The first kiln (C1) had a circular shape and was discovered at -0,90 m depth, being dug in a layer of clay. The diameter of the hearth of the firing chamber was 1,95 m with a height of 0,85 m with an arch and the diameter of the stocking hole was 0,80 m; the thickness of the clay walls was 10-12 cm. The firing chamber was separated from the vessel firing chamber through a perforated plaque supported by a central pillar; these elements have been destroyed since Antiquity and scattered across the hearth of the firing chamber[14]. Following the destruction of the kiln, the area was used to deposit ceramic shards from vessels that broke during usage or for fabrication scraps from nearby kiln.

Fig. 11.
Kiln no. 3 from Ampelum.
Caius Iulius Proclus's *officina*
(MNUAI photo archive).

Following the excavation of kiln C1 fragments from different types of ceramic vessels have been discovered: locally produced *terra sigillata* made from a fine reddish-yellowish paste and a red-brick, glossy engobe[15]; scrap fragments of glazed ceramic belonging to the two firing stages as used in the technological process for obtaining this type[16]. The colour of the glaze varies from green-olive and bluish dark green to brown yellowish with green iridescence. Some fragments have a novel *in solea* stamp representing a shoe sole contoured by tacks[17]. The shapes of the vessels discovered in this kiln are: small cup, bowl, different plates and lances[18]. There were also discovered household ceramic shards such as: pots, pitchers, bowls, plate, fruit bowl and lid. The discovery of 26 fragments belonging to a large vessel that could be completed was extremely important; the neck had on it incised the potter's name (*tria nomina*) - *G(aius) IVLIVS PRO[clus] FECIT*'[19] (Fig. 16).

The *officina*[20] of Caius Iulius Proclus (sometimes called *figlina*[21]) was a specialised workshop, in this case on manufacturing pottery but it could also name the place where the products were sold[22], while the one supervising the activity was an *officinator*[23].

In C1 there were also discovered two oil lamps with the stamps ATIMETI, respectively FORTIS, manufacturers that have been active during the second half of the 1st century AD and the first half of the 2nd century AD[24]. I. T. Lipovan, the one who published the material from the kilns, believes that not far from this kiln used to store fabrication scrap and household garbage, there was a workshop composed of a group of active kilns that had produced the offerings. Unfortunately, the respective area could not be systematically researched because of the destructions caused when the Roman building materials were extracted even from the 18th century and the building of the foundry. Also, the construction of the railway Alba-Iulia – Zlatna in 1895, greatly disturbed the ancient city of Ampelum[25].

The second kiln (C2) was identified to the east of the first one, about 50 m away, identically dug in a layer of yellow clay, with the diameter of the firing chamber of 1,75 m, the height of 0,94 m and the walls 10-12 cm thick. The arched stocking hole had a diameter of 0,80 m. The complex is half preserved, being destroyed by a foundation wall that overlapped perpendicularly, built after the kiln was destroyed and filled with scrap. In front of the stocking hole there was an oval ash pit. This pit served two kilns, C2 and C3 (Fig.11). Its destruction was done under the same circumstances as the first one, the two kilns being identical and contemporary[26].

The inventory of this kiln is comprised of fragments or complete artefacts that are scaped due to firing faults or their breaking while in use. The category of barbotine decorated pottery is represented by vessels that are complete, can be completed or fragments[27]. The decoration fashioned in this technique completes in some places the decoration that is the result of shaping. The ornamental motifs that are noticeable are: a grape vine, with leaves and clusters of grapes, embossed scales arranged in one or more rows, crescents, embossed stripes or dots arranged on the vessel's upper part. The engobe that was used can be the colour of chalk, light brick-red or white. The identified vessel types are: cup with a leg stand, cup, mugs with one handle, pitcher. Such vessels have been considered to be luxury products, probably imported and dated in the 2nd century AD[28].

The lead-glaze pottery discovered in this kiln is represented by different vessels manufactured from a fine, dense paste that gained a brick-reddish and greyish colour after firing. The decoration was made through excisions or grooves, both during the shaping and when the glaze was applied, in the barbotine technique: grapevine with grapes, scales, oblique or wavy lines alternating with dots placed on the vessel's exterior. The colour of the glaze varies from olive green to bluish-green and the decorations are made with a white-yellowish glaze[29]. The vessel types that were remade and that fall in this category are: bowls, mugs and a *lanx*. Some fragments come from vessel handles, leaf-shaped oil lamp handles etc[30].

Several oil lamps were discovered in a fragmentary state in the kiln and the ash pit; two of them, import pieces, bear the stamp OCTAVI[31], a manufacturer from the first half of the 2nd century AD while other, locally produced, had the initials GIP incised[32]. The

lids and the stamps on these oil lamps have a grape-vine chord with grapes ornamental motif.

The third kiln, located to the right of the C2 kiln was preserved across only one side, for a length of 1,20 m and a height of 0,64 m from the hearth of the firing chamber to the upper part of the walls. Only a small portion of the stoking hole was preserved, a short distance away from the stokehole of the second kiln[33]. It had an oval shape with straight walls. This one too was dug in the layer of yellow, argillaceous clay, being destroyed afterwards by the foundation wall that also disturbed the stokehole from kiln no. 2. The ash layer that was preserved in the firing chamber's hearth contained several fragments of grey ceramic and a fragment from a bronze *stylus*[34].

The ceramic ex-votos that were produced in the workshop of Caius Iulius Proclus, besides the epigraphic and sculptural votive monuments discovered at Ampelum, reflect not only the wealth of some social categories but also the ethnic diversity and the specific beliefs of the colonists from this important gold mining centre. The fragments from this category belong to votive statuettes with or without glaze. The cult of the goddess Venus was practiced through figurative representations of this deity such as the fragmentary terracotta that come from the *officina* from Ampelum (cat. no. 102-104)[35]. The upper part of the base of one such statuette bears the initials GIP in the barbotine technique[36]; the craftsman Caius Iulius Proclus is thus also attested on religious artefacts (cat. no. 102). The ithyphallic oil lamps discovered in the Ampelum workshop[37] (one incised with the abbreviation GIP[38]) depict Telesphorus, the god of convalescence, associated with the cult of the gods of medicine - Aesculapius and Hygeia. The cult of the healing gods is attested at Ampelum by two altars[39] and an inscription that mention the building of a temple[40]. The phallic symbol and the vegetal motifs depicted on the base of the artefact signed by the craftsman can be connected to a cult of fertility and fecundity[41] but the apotropaic role of the representations prevails as Telesphorus is a protector of children who are healing[42].

Fig. 12.
Kantharos (waster) decorated with bunches of grapes in the barbotine technique (Caius Iulius Proclus's *officina* from Ampelum).

Some glazed ceramic vessels produced in Caius Iulius Proclus' workshop are decorated with a grapevine motif, symbolic elements that might relate to the Dionysiac cult (Fig. 12; cat. no. 5). An ancient Italic god, assimilated to Dionysus – Bacchus, Liber Pater was worshipped as a god of vegetation and grapevine along with Libera, its worshipping being very popular in Dacia, particularly in the urban centre from Apulum[43], located next to the gold area.

There is another possible Dionysian-type association at Ampelum, attested in an inscription dedicated by the imperial slave Romanus, along with his wife, to the gods Liber and Libera[44]. A *collegium Liberi Patris* is attested not far away, at Alburnus Maior[45].

Fig. 13.
Vessel with on applied figure - the Gorgon Medusa's head from Caius Iulius Proclus's *officina* from Ampelum *(3D mesh rendering)*.

The head of the Medusa Gorgo (*gorgoneion*) is embossed with the help of a mould inside a vessel[46] discovered in kiln no. 1; Medusa Gorgo is a mythological character very frequently encountered in the Greco - Roman art, thus, the inventory of figurative ornaments on glazed pottery from Ampelum was enriched (Fig. 13; cat. no. 56).

Two fragmentary votive terracotta depict Attis[47], a Micro Asian god worshipped in the mystery cult of the Phrygian goddess Cybele – Magna Mater; it had especially funerary attributes as a guardian of tombs and symbol of resurrection. One of these figurines, manufactured from a grey paste, depicts several symbolic elements in the lower registries such as the rooster and a running boar and the craftsman signature appears in the formula *G*(*aius*) *I*(*ulius*) *P*(*roculus*) *FE*(*cit*)[48] (Fig. 14). The other statuette depicts Attis from the waist up, with the god wearing its characteristic Phrygian bonnet[49]. We find the god at Ampelum again in its most common pose, on the lateral walls of funerary altars, but the ethnicity of the deceaseds is not mentioned[50].

Fig. 14.
Votive terracotta statuette of Attis and the signature *G(aius) I(iulius) P(roculus) fe(cit)* incised *ante cocturam*.

The religious objects (ex-votos) from Caius Iulius Proclus' *officina* exceptionally reflect the variety of religious manifestations that exists in Dacia's gold area. A different category is represented by glazed ceramic fragments that belong to reliefs with Mithraic representations[51]. Kiln no. 2 contained 85 fragments of reliefs with the scene of the Mithraic sacrifice (cat. no. 94, 98), one of them also had the craftsman signature abbreviated – GIP[52]. Other ceramic fragments fashioned from grey paste with traces of greenish glaze have zoomorphic representations[53] and based on the latest reconstructions come from the upper part of a pitcher decorated with an embossed bull's head (Fig. 15; cat. no. 100) [54].

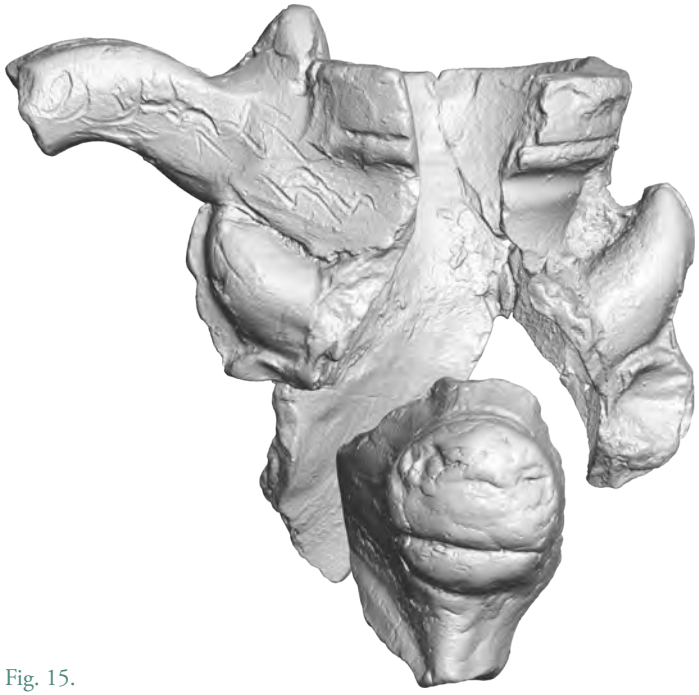


Fig. 15.
Glazed zoomorphic jug with
the representation of a bull's head
(Caius Iulius Proclus's *officina* from Ampelum)
(3D mesh rendering).

The Mithraic reliefs from Ampelum that display the tauroctony scene and are made in the glaze technique are the only votive artefacts of this type discovered in the province of Dacia. They were made to be used as ex-votos in the Mithraic sanctuaries and signal the existence of members of Mithras' cult of mysteries in the centre from Ampelum and the gold area. Such cult objects could have been sold for a more accessible price than marble or limestone reliefs in the great urban centres located nearby, such as Apulum, where the popularity of the Mithraic cult is attested[55]. Ceramic representations of the god Mithras are extremely rare discoveries, among them are included the terracotta reliefs from Panticapaeum[56], on the Black Sea shore that depict the tauroctony scene and are dated probably in the 1st century BC. A few fragments belonging to a ceramic relief with the representation of Mithras were also discovered at Aquincum, in the so-called Symphorus Mithraeum[57].

The drinking vessel decorated with the bull's head could have held a sacred character and this details also points out to other divinities that have this animal as an essential attribute. Jupiter Dolichenus[58], a syncretism between Jupiter and Ba'al from Doliche (Commagene, Syria), was in the centre of a cult widely spread in Dacia[59]; the god was represented on a bull. It was one of the *dii militares* but also a protector of mining communities[60] and of those dealing with the mining and the processing of metals; its followers considered that "he is born where iron is formed"[61] .

Several epigraphic monuments were dedicated to him in Ampelum[62], with the inscriptions demonstrating the heterogenous character of the population from this gold-processing centre[63]. A votive column dedicated to Jupiter Dolichenus is raised by a group of priests; among them Aurelius Marinus has a Roman name, Adde, son of Barsemeius had a Semitic name while the third, Socrates, is a Greco-Oriental, probably of Assyrian origin[64]. Such votive columns discovered at Ampelum probably came from a cult building[65].

Also, the epigraphic evidence and the coroplastic representations of scenes and religious attributed from the cultic sphere of gods worshipped in the military environment such as

Mithras and Jupiter Dolichenus, can be correlated with the presence of the Roman army in the province's gold area[66]; this was without a doubt an area that was well-defended due to its strategic and economic importance. Although little is known about the fortification system in the area, an essential role in the defence of the gold mining operations was the camping of the legion XIII Gemina at Apulum[67]. The presence of a detachment of soldiers (*vexillatio*)[68] from this legion is known at Ampelum, followed by the *numerus Maurorum Hispaniensium*[69], a unit probably in the service of the *procurator aurarium*[70].

The gold mining areas were connected through a network of roads to the military centres located inside the province and the western frontier area. Thus, the road Apulum - Ampelum - Alburnus Maior is known as the main gold road[71]. Even more so, Ampelum brought together the entire production of gold, silver, lead and copper from Dacia Superior. A foundry for non-ferrous metals in the 2nd-3rd centuries AD was believed to have existed here; also, it was believed that the cupellation technique was used here given the composition of the silver ores and the analogies with the mining centres from other Roman provinces. After the refining of gold and the cupellation of silver in this supposed foundry, the by-product – litharge (lead oxide) – was used in the pottery workshop for obtaining lead-based glaze[72].

The manufacturing of glazed ceramics at Ampelum was possible due to the existence, probably in a local quarry near the workshops, of a clay that through its composition could conform to the specific technology of production for this category of ceramics[73]. After the shaping and the drying in open air, the objects were bisque fired, a first firing in the potter's kiln, and after they cooled down, they were underglazed. Next, came a second firing phase at temperatures of about 900-1000°C[74] and because of these high temperatures, the emulsion melted, resulting a layer of lead-based glaze[75].

The discovery of this novel complex from Ampelum used for manufacturing glazed pottery is all the more important since the artefacts keep the *signature* of the artisan (*officinator*), in the person of Caius Iulius Proclus, one of the few local craftsmen identified until now. The activity of the workshop from Ampelum took place at the middle of the 2nd century AD, a dating established based on the stratigraphic complex and certain ceramic categories discovered in the three kilns, such as pottery decorated in the barbotine technique[76] and the stamped oil lamps[77].

The particularity of this *officina* is represented by the possibility of identifying the typology of lead-based glazed products. The variety of shaped and of ceramic categories, the craftsman's art and technique – we know that the craftsman was a Roman citizen – indicate a certain level of training, education, skill and, why not, a good knowledge of the demands of the market. Many of the glazed ceramic products are unique in the context of this type of discoveries from Dacia. The forms that are manufactured here imitate the Roman bronze tableware and types characteristic of *terra sigillata* (Drag. 24/25, Drag. 37, Drag. 42) (cat. no. 57-58, 60-61, 63-64) [78].

The inventory of the three kilns, rich and varied in ceramic products, offers clear information concerning the technology used to obtain certain ceramic types, particularly the glazed one, and contributes to a better knowledge and understandings of the social, religious and economic aspects from Ampelum and the gold area of the Roman Dacia.

Anca Timofan, Dan Anghel

Notes

1. The archaeological excavations from Ampelum - Zlatna (Alba county) were headed by Al. Popa in between 18th of April – 15th of August 1984. The research collective included: C. L. Băluță, V. Moga, R. Ciobanu from The National Museum of the Unification Alba Iulia, ing. I. T. Lipovan from Zlatna and, for a short period of time, Ioana Bogdan Cătăniciu from the Insitute of History and Archaeology Cluj-Napoca.
2. IDR III/3, p. 281.
3. Ardevan 1998, p. 51.
4. IDR III/3, p.281.
5. IDR III/3, no. 282, 284.
6. Ardevan 1998, p. 54; Noeske 1977, pp. 278-285.
7. Noeske 1977, pp. 275-277.

8. IDR III/3, p. 281.
9. Lipovan 1983–1984, p. 301.
10. Lipovan 1983-1984, pp. 301-317; Lipovan, Băluță 1995, pp. 137–146.
11. Popa, Moga, Ciobanu 1986, p.109; Moga, Ciugudean 1995, pp. 213-214, no. 15-16.
12. Popa, Moga, Ciobanu 1986, p. 109.
13. See analogies for the circular kilns in Floca, Ferenczi, Mărghitan 1970, Popilian 1976, pp. 139-146, Benea 1982, pp. 22-40.
14. Lipovan 1983-1984, p.302.
15. Lipovan 1983-1984, p. 303, pl. I, 1-5, 6; Lipovan 1992–1994 a, p. 121, 123, pl.VII/2, pl.VIII/1 (terra sigillata type fragments discovered in kiln no. 2).
16. Lipovan 1983-1984, p. 303, pl. IV, 4, pl. IV, 5.
17. Lipovan 1983-1984, p. 304, pl. IV/4-5.
18. Lipovan 1983-1984, p. 304, pl. IV/1, 3-5.
19. Lipovan 1983-1984, p. 304, pl. III/8, pl. V/1 a-c.
20. Plinius, NH 35. 155, 35. 161.
21. With regards to officinae and figlinae, see the terminology at Tapio 1975.
22. Wright 1917, pp. 17-19.
23. Vitruvius „officinatoris probabitur exaction", De arch. 6.9.
24. Lipovan 1983-1984, p. 304, pl. V/2-3; Lipovan 1988a, pp. 181-188.
25. Lipovan 1983-1984, p. 305.
26. Lipovan 1983-1984, p. 305.
27. Lipovan 1996, pp. 201-213.
28. Lipovan 1983-1984, p. 306, pl. VI/1-7, pl. VII/1, pl. IX/1-3.
29. Lipovan 1983-1984, p. 307, pl. IX/5, pl. X/1.
30. Lipovan 1983-1984, p. 307, pl. IX/5, pl. X/1, 3.
31. Băluță 2003, p.137.
32. Lipovan 1983-1984, p. 308, pl. IX, 6-7.
33. Popa, Moga, Ciobanu 1986, p. 112; Lipovan 1983-1984, p. 309, fig. 1, C3.
34. Lipovan 1983-1984, p. 309.
35. Lipovan 1983-1984, p. 307, pl. X, 4; Lipovan 1988-1991b; Lipovan 1990, p. 289, fig. 5/1-5; Anghel et alii 2012, pp. 40-41, no. 17-19.
36. Lipovan 1983-1984, p. 307; Lipovan 1990, p. 289, no. 35, fig. 5/2; Anghel et alii 2011, p. 40, no. 18.
37. Popa, Moga, Ciobanu 1986, p. 112, fig. 8/3; Lipovan 1992a, pp. 63-65, fig. 1, 1 a-b, 2 a-b; Anghel et alii 2011, pp. 59-60, no. 66-67; Varga 2016, p. 21-23, no. 1, 2, pl. I, 1, 2.
38. Lipovan 1983-1984, p. 308, pl. V a-c, the author wrongly believed it to be a representation of Priapus.
39. IDR III/3, 286-287.
40. Igna 1935, p. 92; IDR III/3, 208.
41. Antal 2014, pp. 195-206, pl. II, 9 a-b.
42. Varga 2016, pp. 21-23, no. 1, 2, pl. I/1-2.
43. Schäfer, Diaconescu 1997, pp. 195-218; Haynes 2005, pp. 38-45; Timofan 2019.
44. IDR III/3, 322; Ardevan 1998, pp. 286-287, nr. 386; Wollmann 1996, p. 208, pl. XLVII/5.
45. Ardevan 1998, 293, no. 412; Wollmann 1986, pp.267-268, no.7; Wollmann 1996, p.208, pl. XLIII/4.
46. Lipovan 1990, pp. 281, 287, 288, no. 13, fig. 3/1.
47. Bărbulescu 1984, pp. 134, 137.
48. Lipovan 1990, p. 289, no. 40, fig. 4/2b; Lipovan 1992a, pp. 68-69, fig. 3/2a-b; Anghel et alii 2011, p. 53, no. 52.
49. Lipovan 1990, p. 289, nr. 39, fig. 4/2 a-c; Lipovan 1992a, pp. 66-68, fig. 3/1a-b; Anghel et alii 2011, p. 53, no. 51.
50. Wollmann, Lipovan 1982, pp. 98-99; Wollmann 1996, p. 215.
51. Lipovan 1983-1984, p. 308, pl. X,7; Lipovan 1992-1994b, pp. 153-160; Anghel et alii 2011, pp. 57, 59, no. 59-61, 65.
52. Lipovan 1983-1984, p. 308; Lipovan 1992-1994b, pp. 155-156, pl. II/5.
53. Lipovan 1983-1984, p. 308, pl. X, 2; Lipovan 1990, p. 290, fig. 6/2-3.
54. Lipovan 1992-1994b, p.155, pl. I/5a-b.
55. Szabó 2015, pp. 407-422; Egri et alii 2018, pp. 268-276; Pavel 2018, pp. 24-37.
56. CIMRM no. 11-12; Zsidi 2014, p. 124.
57. Zsidi 2014, p. 119-129, fig. 2-6.
58. Bărbulescu 1984, p. 122, 146, 181; Nemeti 2019, pp. 236-251, fig. 25-28.
59. See Popa 1978.
60. Petrović 2015, pp. 323-332.
61. CIL III, 128, „…nato ubi ferrum exoritur"; Cumont 1929, pp. 104-105.
62. IDR III/3, 295-299.
63. IDR III/3, 299; Wollmann 1996, pp. 217-218.
64. Wollmann, Lipovan 1982, p. 90, no. 1, fig. 1; Wollmann 1989, p. 116, fig. 11.
65. Wollmann, Lipovan 1982, p. 90, no. 1, fig.1; Wollmann 1996, pp. 218-219.
66. Țentea 2009, pp. 369-379.
67. See Moga 1985.
68. Piso 2000; IDR III/3, 344, 354, 360, 369.
69. IDR III/3, 302, 312, 325, 339; Petolescu 1983, pp. 329-330; Petolescu 2002, pp. 137-138.
70. Țentea 2009, p. 370.
71. Wollmann 1996, pp. 70-71, pl. LXVI; Fodorean 2006, pp. 252–254.
72. Lipovan 1990, pp. 279-280.
73. Alicu, Soroceanu 1982, p. 54, note 2; Lipovan 1990, p. 274.
74. Alicu, Soroceanu, 1982, p. 54.
75. Lipovan 1990, p. 279.
76. Lipovan 1996, pp. 203-213.
77. Lipovan 1983-1984, p. 310; Lipovan 1988a, pp. 181-188.
78. See Dragendorff 1895.

7.

C. IULIUS PROCLUS, THE PRIDE OF A PROLIFICENT LOCAL PRODUCER FROM AMPELUM

The producer C. Iulius Proclus is without any doubt the best known *officinator* in Roman Dacia, that certainly furnished variegated items in a given region, as proven by an extraordinary discovery and the signatures that he applied with a great frequency[1]. He was active in Ampelum (today Zlatna), which was the administrative centre of the goldmine exploitation within the Apuseni Mountains, as property of the imperial tax and seat of the *procurator aurariarum* of Dacia. During the Roman presence, Ampelum strongly developed as a mining centre, inhabited, as shown by the epigraphic evidence, by various categories, such as miner settlers (from Dalmatia), but also specialized immigrants from Asia Minor (especially Bithynia), and a servile population (slaves and freedmen, including ones from the imperial house), without neglecting the presence of some military elements.

In the summer of 1984, the rescue excavations at Zlatna conducted by archaeologists from Alba Iulia, accompanied by the tireless engineer Ioan T. Lipovan, revealed a complex of three ceramic kilns belonging to the *officina* of C. Iulius Proclus (mid-2nd century AD). The kilns, well-placed nearby the Ampoi River, were dismantled before the construction of the stone buildings, being transformed into garbage pits, while the workshop was moved elsewhere in Ampelum. It was mainly here that archaeologists collected the rests of a variegated ceramic production (whole and fragmentary vessels, and even waster), in many cases providing signatures, as witnesses of a serial production: stamped pottery[2], vessels decorated in barbotine technique[3] or with an applied decoration[4], greenish lead-based glaze ceramics[5], lamps[6], votive reliefs and statuettes[7], *mortaria*[8], and common pottery[9]. The amazing discovery of such a complex provided a privileged evidence not only for local ceramic production in the province, but also for the "minor epigraphy".

In the kiln No. 1, the most interesting find was that of a large capacity vase, in a fine homogeneous paste of grey-yellowish colour, partially reconstituted from more than 20 fragments. On its tick walls, decorated before firing with incised geometric patterns – while the flared edge is decorated with simple incisions –, an inscription was incised *ante cocturam* on the neck, under the lip, in an elegant script and decreasing letters (starting with 1.2 cm): G·IVLIVS·PRO[CLVS] FECIT (*ILD* I 356a)[10], that is *G(aius) · Iulius · Pro[clus] fecit*, "C. Iulius Proclus made this" (Fig. 17).

Fig. 16.
3D mesh detail of an anthropomorphic lamp
of ithyphallicTelesphorus,
signed GIP - *G(aius) I(ulius) P(roclus)*.

In the kiln No. 2, about 20 fragmentary statuettes were found, as rejections of fabrication, some of them being inscribed on their pedestal before firing: a statuette of Attis, signed G·I·P·FE (*ILD* I 356c) (Fig. 14), that is *G(aius)·I(ulius)·P(roclus)·fe(cit)*[11]; a fragmentary anthropomorphic lamp of ithyphallic Telesphorus, signed G·I·P below, inside a *tabula ansata* (*ILD* I 356b) (cat. no.

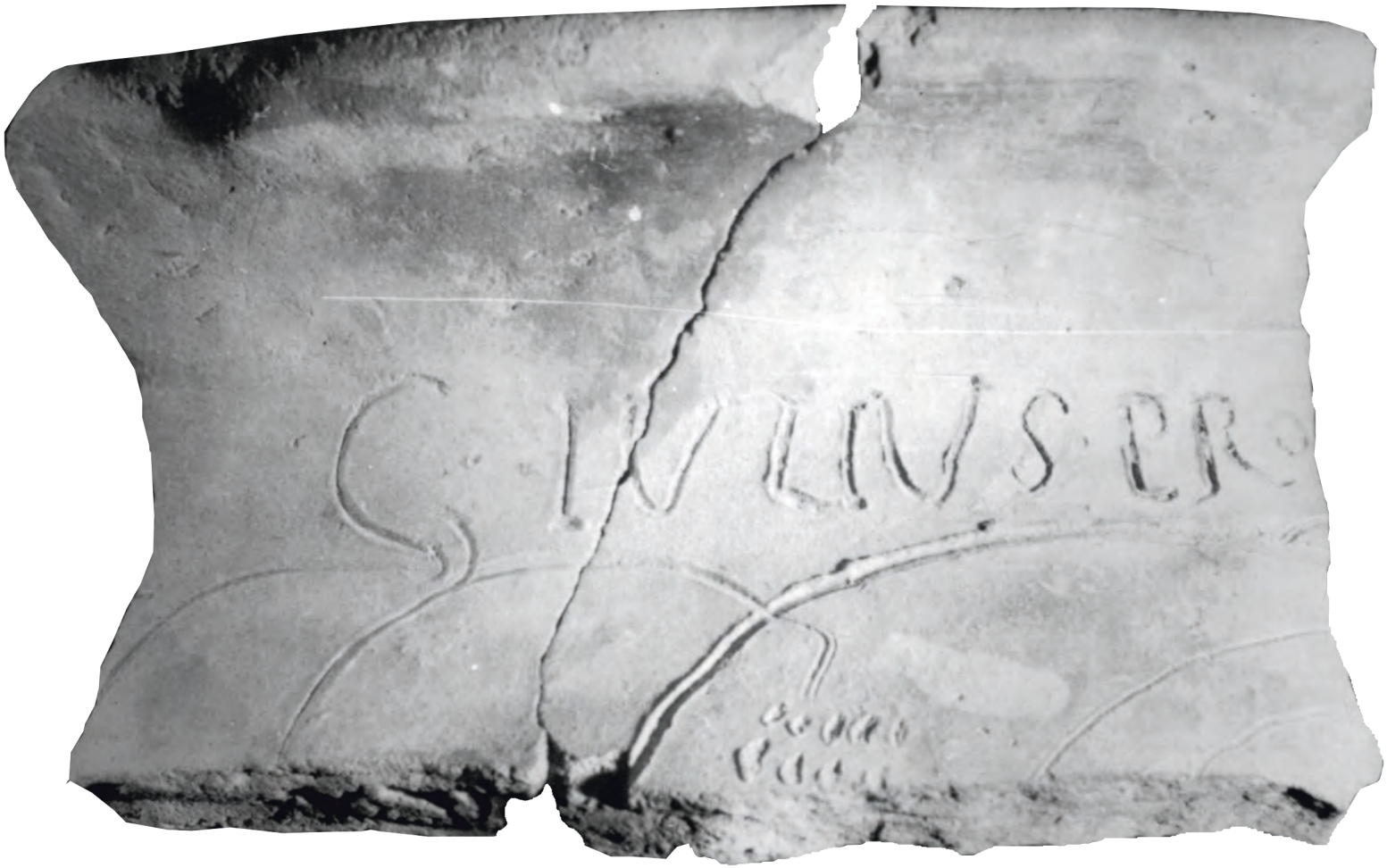


Fig. 17
Storage vessel fragment with the signature
G(aius)·Iulius·Pro[clus] fecit (“C. Iulius Proclus made this”)
(MNUAI photo archive).

101)[12] (Fig. 16); a statuette of Venus, inscribed G·I·P (cat. no. 102)[13], different locally produced lamps (type Loeschcke X) with the graffito G·I·P inside a circle or surrounded by two bunch of grapes inside a circle (*ILD* I 356d)[14] (Fig. 18); plaques with Mithraic scenes, among them a fragment inscribed G·I·P on the base (*ILD* I 356e)[15].

Fig. 18.
Lamp with stamp *GIP* surrounded with vine stalks and bunches of grapes *(MNUAI photo archive)*.

Lamps produced in the *officina* of C. Iulius Proclus, as proven by the signatures G·I·P, were found not only in Ampelum, but also nearby, at Apulum[16], and as far away as the auxiliary fort from Cristeşti (Mureş county)[17].

Another piece of evidence, discovered in the same complex in 1984, is an opisthographic private Latin letter on a ceramic tablet (broken in two joining fragments), engraved *ante cocturam* in a mixture of capital and cursive letters. It was sent by our producer to a friend, as it started with the typical epistolary formula: *G(aius) Iulius Proclus · Lucio fratri meo salutem*, "C. Iulius Proclus to my brother Lucius, greetings!". This unique document, still unpublished[18], provides the full name of the producer and concerns maybe the ceramic production.

Finally, the same person could have been the dedicant of an altar to Liber Pater, found illegally at Ampelum before 2012 (only photos were provided): *Libero* | *Patri Aug(usto)* | *sacr(um)* | *[.] Iulius* | *[---]++us* | *[---]*[19]. Judging after one of the photos[20], it is very tempting to restore the name of the dedicant as *[C.] Iulius [Pro]clus*, matching not only with the preserved parts of the letters but also the missing characters.

We ignore the precise origins of our producer, and his *tria nomina* are not very helpful. The *praenomen Caius* is everywhere abridged G (and not C)[21], as a pronunciation mark (*Gaius*); *Iulius* is a banal *gentilicium*, attested twice or three times at Ampelum[22]; finally, the *cognomen Proclus* is a syncopated form of the frequent *Proculus*. More important is to underline the maniacal signatures of the *officinator*: we may be sure that C. Iulius Proclus was very proud of his extremely diversified productions (of various qualities), that was signed before firing – either in full letters (Fig. 19), either abridged as an acronym – and invaded thereafter not only the region of Ampelum but also adjacent areas.

Dan Dana

Notes

1. Lipovan 1983-1984; Popa, Moga, Ciobanu 1986, 112; I. I. Russu, in *IDR*, III.4, 1988, pp. 120-121; Wollmann 1989, 116; Pop 1994, p. 45; Moga 1996, esp. 10; Bărbulescu 2007; Rusu-Bolindeţ 2007, 28 and 323.
2. Lipovan 1992-1994a.
3. Lipovan 1996.
4. Lipovan 1988-1991a (with figures).
5. Lipovan 1990; Lipovan 1992-1994b (also with the signature GIP, incised, stamped or in barbotine technique, before firing); Lipovan, Băluţă 1995.

6. Lipovan 1984-1985.
7. Lipovan 1992a.
8. Lipovan 1992b.
9. Rusu-Bolindeţ 2011, pp. 110-111.
10. Lipovan 1983-1984, p. 304 (drawing p. 314, pl. III/8; pl. V/1a-c); Popa, Moga, Ciobanu 1986, p. 112 (photo p. 116, fig. 8/1); Gudea, Cosma 1992, p. 212, no. 53 (drawing p. 236); Moga 1996, p. 11 (photo and drawing p. 14, fig. 3). In the bibliography the verb FECIT is added or supposed by the predecessors, but no photo is provided for such a fragment; I am indebted to Volker Wollmann for documentation and pictures, among them one with the second fragment of this vase, whose reading remains quite unclear. The fragments of the vase seem lost.
11. Lipovan 1983-1984, p. 307 (pl. X/5); Popa, Moga, Ciobanu 1986, p. 112 (photo p. 116, fig. 8/2); Wollmann 1989, p. 116 (photo fig. 13a); Lipovan 1990, pp. 289-290, no. 40 (photo p. 278, fig. 4/2b); Lipovan 1992, p. 68, no. 4 (photo p. 67, fig. 3/2a); Moga 1996, p. 11 (photo and drawing p. 115, fig. 4a); Anghel *et alii* 2011, p. 53, no. 52 (photo).
12. Lipovan 1983-1984, p. 307 (pl. X/4); Lipovan 1984-1985, p. 146, no. 15 (photo p. 144, pl. II/3); Popa, Moga, Ciobanu 1986, p. 112 (photo p. 116, fig. 8/3); Wollmann 1989, p. 116 (photo p. 117, fig. 13b); Lipovan 1990, p. 289, no. 30 (photo p. 278, fig. 4/1b); Lipovan 1992, pp. 63-66, no. 2 (photos p. 64, fig. 1.2ab; drawing p. 65, fig. 2.1); Moga 1996, p. 11 (photo and drawing p. 115, fig. 4b); Anghel *et alii* 2011, p. 59, no. 66 (photo); Varga 2016, p. 30, no. 1 (photo p. 36, pl. I/2).
13. Lipovan 1988-1991a, p. 658 (photo p. 660, pl. I/2a); Anghel *et alii* 2011, p. 40, no. 18 (photo).
14. Lipovan 1983-1984, pp. 307-308 (pl. IX/6-7); Lipovan 1984-1985, p. 142 (no. 1), 145 (nos. 2-8) (photos p. 143, pl. I/1-7), pp. 145-146, no. 11-14 (photos p. 143, pl. I/8; p. 144, II/1-2); photo and drawing *IDR*, III.4, 1988, p. 121, fig. 86cb; Moga 1996, p. 11 (drawings p. 116, fig. 5b); Benea 2006, pp. 340, 347 (no. 20), pp. 349 and 354 (no. 7) [= Benea 2008, pp. 307-308, 310, 318-319 (no. 21), 321 (no. 1), 333 (no. 7)]. See also Lipovan 1982-1983 and 1984-1985 (workshop of Iulius Proclus).
15. Lipovan 1983-1984, p. 308 (pl. X/7); Lipovan 1990, p. 290, no. 43 (photo p. 283, fig. 6/4); Lipovan 1992-1994b (photo p. 159, pl. II/5).
16. Băluţă 2003, pp. 103-104, type XXXVII.
17. *IDR* III.4 160 (photo and drawing p. 121, fig. 86a). This lamp is similar (but not identical) to the lamps found in the *officina* at Ampelum (kiln no. 2).
18. Lipovan 1988b, pp. 59, 66 (no. 12) and p. 69 (photo p. 68, fig. 5/1) (*ILD* I 341, without mentioning the character of private letter); Wollmann 1989, pp. 116 and 118 (photo p. 117, fig. 14). The beginning of the letter is quoted by I. I. Russu (*IDR*, III.4, 1988, p. 121), with an approximate reading: *C. Iulius Proclus Lucio Alexandriano salutem*. This document will be published by V. Wollmann, D. Dana, M. Dana.
19. Ciută, Ciută 2016 (photos and drawing p. 213, pl. I) (*EpRom* 2016-35-006). I am grateful to Marius Ciută, that provided me the original photos.
20. I am indebted to Marius-Mihai Ciută for this image and additional information.
21. On the signatures (see the illustration), the rendering of this letter G is very similar, always in two times.
22. Cf. a dedication to Isis *[pro salut]e M(arci) Iul(i) Ap[olli]naris Ver[u]s Aug(usti) n(ostri) <et> Romanus Aug(usti) n(ostri) vern(a)* (*CIL* III 7837 = *IDR* III.3 332 = AÉ, 2013, 1313); a dedication to Jupiter Optimus Maximus *[p]ro salut(e) Statia(e) Festae [C(aius)] Restitutius Iustus et C(aius) Iulius Priscinus* (AÉ, 1991, 1346 = *ILD* I 344); and the dedication to Liber Pater of *[-] Iulius [---]++us* (Ciută, Ciută 2016), maybe our producer (see supra).

Fig. 19.
Types of Caius Iulius Proclus's signatures incised *ante cocturam* .

8.

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ABREVIATIONS

ActaAntHung - Acta Antiqua Academiae Scientiarum Hungaricae.

AIIA - Anuarul Institutului de Istorie şi Arheologie Cluj-Napoca.

AJA - American Journal of Achaeology.

AFJ - The Archaeological Forum Journal, CBA, Yorkshire.

ActaMN - Acta Musei Napocensis, Muzeul de Istorie a Transilvaniei. Cluj-Napoca.

ActaMP - Acta Musei Porolissensis, Muzeul Judeţean de Istorie şi Artă, Zalău.

Arch Ert - Archaeologiai Értesítő.

Apulum - Apulum, Acta Musei Apulensis, Muzeul Naţional al Unirii, Alba Iulia.

Archaeol Anthropol Sci - Archaeological and Anthropological Science, Springen.

BHAUT - Bibliotheca Historica et Archaeologica Universitatis Timisensis, Centrul de Studii de Istorie şi Arheologie „Constantin Daicoviciu", Timişoara.

BMA - Bibliotheca Musei Apulensis, Muzeul Naţional al Unirii Alba Iulia.

BMN	- Bibliotheca Musei Napocensis, Muzeul de Istorie a Transilvaniei, Cluj-Napoca.
CIL	- Corpus Inscriptionum Latinarum, Berlin.
CIMRM	- Corpus Inscriptionum et Monumentorum Religionis Mithriacae I-II, Haga, 1956-1960.
Dacia NS	- Dacia. Nouvelle série: Revue d'archéologie et d'historie ancienne, Bucureşti.
De arch.	- Marcus Vitruvius Pollio, De architectura libri decem.
DocArch	- Documenti di Archeologia, Padova.
IDR III/3	- Inscripţiile Daciei romane III. Dacia Superior 3, zona centrală (teritoriul dintre Ulpia Traiana, Micia, Apulum, Alburnus Maior, Valea Crişului), (I. I. Russu, Oct. Floca, V. Wollmann), Bucureşti, 1984.
IDR III/4	- Inscripţiile Daciei Romane. III, Dacia Superior 4, zona răsăriteană (I.I. Russu), Bucureşti, 1988.
NH	- Plinius Secundus, *Naturalis Historia.*
Peuce	- Peuce, Institutul de Cercetări Eco-Muzeale, Tulcea.
Potaissa	- Potaissa, Studii şi comunicări,Turda.
RAE	- Revue Archéologique de l'Est, Société archéologique de l'Est, Dijon.
RB	- Revista Bistriţei, Complexul Muzeal Bistriţa-Năsăud, Bistriţa.
RCRFActa	- Rei Cretariae Romanae Fautores.
Sargetia	- Sargetia. Acta Musei Devensis, Deva.
SCIVA	- Studii şi Cercetări de Istorie Veche şi Arheologie, Bucureşti.
StudiaUBB	- Studia Universitatis Babeş-Bolyai, Cluj-Napoca.
Tibiscum	- Tibiscum (Studii şi comunicări. Etnografie. Istorie), Caransebeş.

CATALOGUE ABREVIATIONS

L - Lenght
w - width
H - Height
D. b. - Diameter base
D. r. - Diameter rim

9.

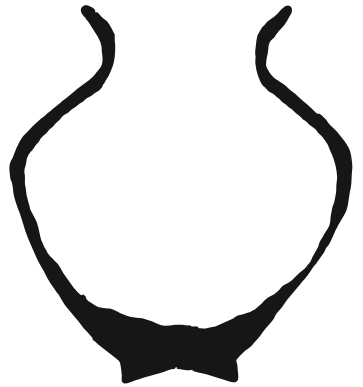
CATALOGUE

1. Beaker

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8348.
The vessel has an ovoid body, everted rim, short neck and ring base, with a small umbo in the middle
Fine brick-red fabric. The surface is covered in green lead-glaze (Munsell 5Y7/4). Ornamented in the barbotine technique.
Technological waste. Restored.
H. 94 mm; D. b. 34 mm; D. r. 65 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 274, fig. 1/3; Lipovan, Băluță 1995, p. 138, fig. 1/5.

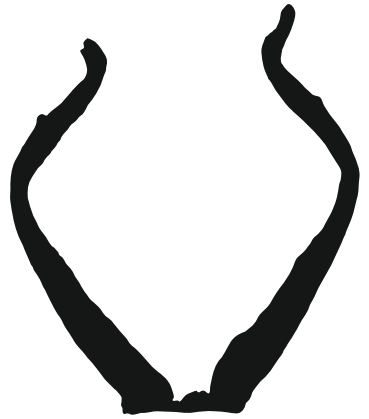
2. Beaker

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8353.
The vessel has an ovoid body, everted rim, short neck, and ring base with a small umbo in the middle. Fine brick-red fabric. Decorated in the barbotine technique. Technological waste.
H. 114 mm; D. b. 35 mm; D. r. 68 mm.
Second half of the 2nd century AD.
Lipovan, Băluță 1995, p. 138/ fig. 2/3; Lipovan 1996, p. 206, fig. 2/7.



3. Beaker

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8554.
The vessel has an ovoid body, everted rim, short neck, and ring base.
Fine brick-red fabric. Ornamented with the barbotine technique.
Technological waste.
H. 100 mm; D. b. 52 mm; D. r. 65 mm.
Second half of the 2nd century AD.
Lipovan, Băluță 1995, p. 138, fig. 1/4; Lipovan 1996, p. 209, fig. 2/5.



4. Beaker

Ampelum (Caius Iulius Proclus's workshop)
MNUAI, Inv. no. R. 8347.
The vessel has an ovoid body, everted rim, short neck and ring base, with a small umbo in the middle.
Fine brick-red fabric. Ornamented with the barbotine technique.
Technological waste. Restored.
H. 94 mm; D. b. 31mm; D. r. 55 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 247, fig. 1/2; Lipovan, Băluță 1995, p. 138, fig. 1/2; Lipovan 1996, p. 209, fig. 2/3.

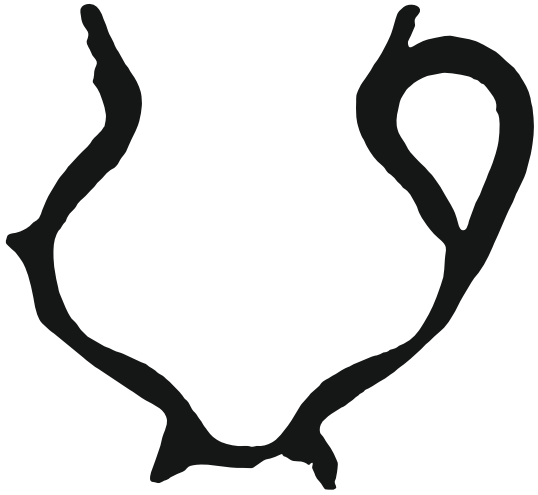
Relevant for the restoration of the operating chain are the four cups, three of which are unglazed and one is covered with an olive-green glass layer that are part of a much larger group of similar pieces discovered at Ampelum (Lipovan 1996, pp. 205-209, pp. I / 2-9; II / 2-7; III). The vessels have one handle and are decorated in the barbotine technique, predominating the rows of scales applied with the finger and points (cat. no. 1, 3-4). One of the cups is distinguished by the fact that the decoration came off when fired, on the surface remaining visible only circular prints (cat. no. 2). The presence of pieces of similar size and ornamentation indicates the use of the glazing technique which includes two firing stages (the biscuit phase and the glazing phase). This technological style was used by early Italic workshops and was later abandoned in favour of direct glazing (Desbat 1986, p. 37). The pieces have analogies in the glazed pottery produced by the workshops from central and northern Italy and, later, those of southern Gallia (Capitou) (Gohier *et alii* 2016, p. 587, fig. 5/1; Gohier 2018, p. 203 -204, fig. 2 / 8-11).

5. Cup

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8360.
Bitronconic cup decorated with three overlapping registers. The upper and lower registers are ornamented with wide parallel incisions. On the maximum diameter, a phytomorphic decoration was created, in the barbotine technique, with a white engobe that alternates leaves and bunches of vines. Wheel-thrown. Semi-fine grey fabric, lead-glaze (Munsell 5Y 5/3).
H. 110 mm; D. b. 60 mm; D. r. 60 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 287, no. 9, fig. 2/2; 7/7; Lipovan, Băluță 1995, p. 138, fig. 2/5.

6. Cup

Apulum; the Southern Necropolis (M. 100).
MNUAI, Inv. no. R.10550.
Rounded rim, long neck sloping outwards. The body is globular with a register of oblique incisions at the top. It had two profiled oval handles (one missing from antiquity), attached to the middle of the neck and in the area of maximum diameter. The foot is tronconic, hollow on the inside. Firing defect located under the handle. Fine red fabric, lead-glaze (Munsell 7.5YR 6/6). Restored.
H. 61 mm; D. b. 28 mm; D. r. 50 mm.
First half of the 2nd century AD.
Bolog 2017, p. 31 și 236- tip C18, pl. 47.

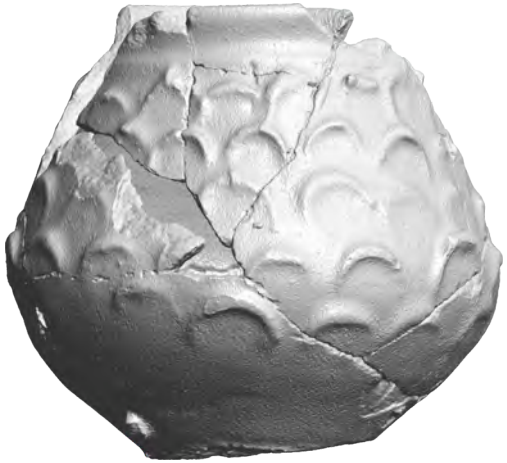


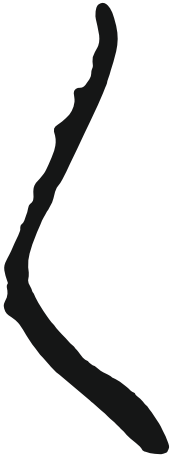
7. Cup

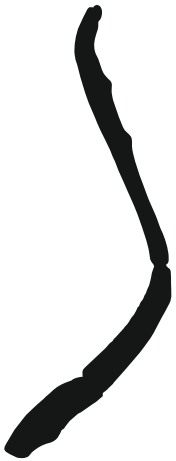
Apulum; the Southern Necropolis (-0.60-0.80 m depth).
MNUAI, Inv. no. R. 11233.
Vertical rim with two grooves. The body is globular, decorated with two grooves below the maximum diameter. In the upper part there is a decoration in the barbotine technique arranged in the form of scales. It is provided with a handle attached to the base of the neck and to the area of the maximum diameter. The handle is decorated with the same type of impressions in the form of scales. The foot is tronconic, hollow on the inside, separated from the body of the vessel by a nervure. Fine grey fabric, lead-glaze (Munsell 5Y 6/8). Restored.
H. 74 mm; D. b. 27 mm; D. r. 87 mm.
2nd–3rd centuries AD.
Unpublished.

8. Cup

Apulum; the Southern Necropolis (-0,45 m depth).
MNUAI; Inv. no. R. 10594.
Globular body. Slightly everted rim. At the top there is a decoration in the barbotine technique in the form of scales. Fine grey fabric, lead-glaze (Munsell 2.5Y5/4). The contact points with the kiln spurs are visible in the lower area.
Restored.
H. 77 mm; D. b. 35 mm; D. r. 53 mm.
2nd–3rd centuries AD.
Bolog 2017, p.157, cat. no. 65, pl. 133.

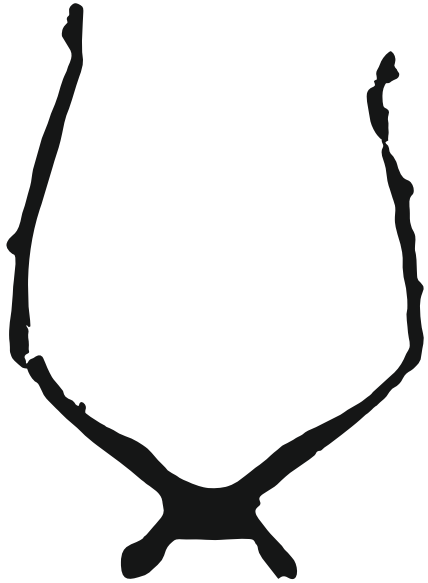






9. Cup

Apulum; the Southern Necropolis (M. 7).
MNUAI, Inv. no. R. 10621.
Skyphos imitation. Vertical rim with two grooves. The body is bitronconic, decorated with two grooves below the maximum diameter. In the upper part it presents a decoration made in the barbotine technique in the form of pine cone. It has a grooved handle attached under the rim and in the area of maximum diameter. The foot is tronconic, hollow on the inside, and on the outside it is decorated with two nervures at the base and one at the body delimitation. Grey fabric, lead-glaze (Munsell 7.5YR 6/6) damaged on burning. Restored.
H. 126 mm; D. b. 38 mm; D. r. 71 mm.
2nd–3rd centuries AD.
Bolog 2017, p. 21 and 236- type C22, pl. 41.

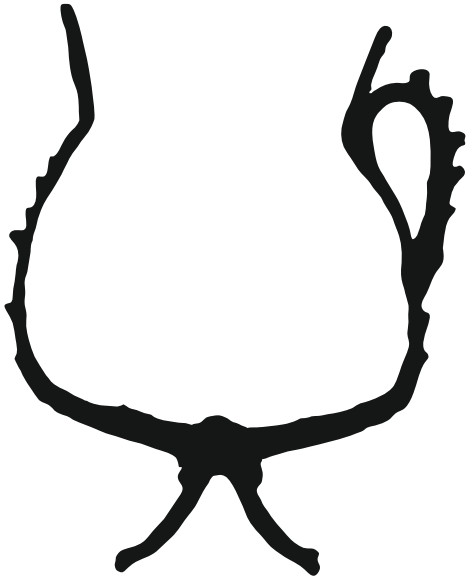


10. Cup

Apulum; the Southern Necropolis (M. 242).
MNUAI, Inv. no. R. 10547.
Skyphos imitation. Vertical rim with three grooves. The body is bitronconic, decorated with four grooves that frame the maximum diameter. At the top there is a decoration in the barbotine technique in the form of scales. It has two grooved handles attached under the lip and in the area of maximum diameter. The foot is tronconic, hollow on the inside and decorated with three grooves on the outside.
Fine red fabric, lead-glaze (Munsell 7.5Y R6/8). Restored.
H. 114 mm; D. b. 38 mm; D. r. 77 mm.
First half of the 3rd century AD.
Bolog 2017, p. 47 and 235, pl. 48.

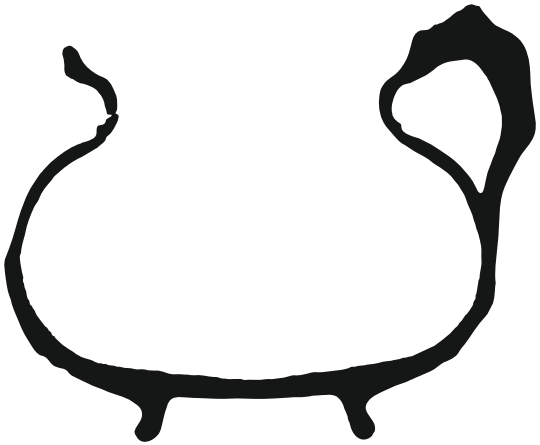
11. Cup

Apulum; the Southern Necropolis (M. 365).
MNUAI; Inv. no. R. 10779.
Vertical rim with two grooves. The body is globular, decorated with two grooves below the maximum diameter. In the upper part it presents a decoration in the barbotine technique in the form of scales. It has a handle attached to the base of the neck and in the area of the maximum diameter. The handle is decorated with pine scales. The foot is tronconic, hollow on the inside, separated from the body of the vessel by a nervure. Thrown on the wheel from fine grey fabric, lead glaze (Munsell 2.5Y 4/4). Restored.
H. 127 mm; D. b. 48 mm; D. r. 78 mm.
Second half of the 2nd century AD.
Bolog 2017, p. 62 and 236- type C16, pl. 67.



12. Cup

Apulum; the Northern Necropolis (Complex, no. 521).
MNUAI, Inv. no. G. 33.
Fine fabric, the globular body is decorated with wide parallel oblique incisions. The concave neck is delimited from the body by a circular nervure. The rim is straight. From the rim and from the maximum diameter area it has a handle decorated with a plaquette with a leaf motif. It has a ring-shaped base. Fine grey fabric, lead-glaze (Munsell 10YR6/6). Restored.
H. 88 mm; D. b. 48 mm; D. r. 74 mm.
2nd–3rd centuries AD.
Unpublished.



13. Kantharos

Berghin (Alba County); the Roman necropolis.
MNUAI, Inv. no. G. 36.
The vessel has a bitronconic body with a long, cylindrical neck and an everted rim, decorated with scales applied in the barbotine technique on the outside. The neck is decorated with vertical, parallel grooves. The body is divided into two registers. The upper register, delimited by the neck through a groove, has a decoration with oblique grooves to the right. The delimitation from the lower part is made by two rows of decoration with barbotine which alternates. The foot is tronconic hollow on the inside. The vessel is provided with two grooved handles attached under the rim and in the area of maximum circumference. Under the lip the handles are superimposed by applied plaquettes, moulded in the pattern. Fine grey fabric, lead-glaze (Munsell 2.5Y 4/3). Restored.
H. 152 mm; D. b. 60 mm; D. r. 100 mm.
2nd–3rd centuries AD.
Şerban 2020.

14. Kantharos

Canabae / Municipium Septimium Apulense (Alba Iulia, Parcul Unirii - Fântâna arteziană).
MNUAI, Inv. no. R. 11723.
The vessel has a bitronconic body with a long, cylindrical neck and a vertical rim. The neck is decorated with horizontal, parallel grooves. The body is divided into two registers. The upper register is decorated in the barbotine technique in the form of pine cone and scales. The lower part is simple, decorated under the maximum diameter with two horizontal grooves. The foot is tronconic, hollow on the inside. The vessel was provided with two handles attached under the rim and in the area of the maximum circumference that are missing today. Fine red fabric, lead-glaze (Munsell 7.5YR 6/8). Restored.
H. 150 mm; D. b. 40 mm; D. r. 100 mm.
2nd–3rd centuries AD.
Unpublished.

15. Kantharos

Canabae / Municipium Septimium Apulense (Alba Iulia, Parcul Unirii - Fântâna arteziană).
MNUAI, Inv. no. R. 11735.
The vessel has a bitronconic body with a long, cylindrical neck and an everted rim. The neck is decorated with vertical, parallel, uneven grooves. The body is divided into two registers. The upper register, delimited by the neck, but also by the lower part of the vessel through a circular groove, has a barbotine decoration. The base is simple, undecorated. The foot is tronconic empty on the inside. The vessel is provided with two grooved handles attached under the rim and in the area of maximum circumference. Made of fine grey fabric, lead-glaze. Fine red fabric, lead-glaze (Munsell 7.5YR 6/8). Restored.
H.120 mm; D. b. 35 mm; D. r. 83 mm.
2nd–3rd centuries AD.
Unpublished.

16. Cup

Colonia Aurelia Apulensis (Alba Iulia, Partoș district, Gemenilor St., - 2.20 m depth).
MNUAI. Inv. no. G. 22.
The lower part of a cup with a hollow tronconic foot, decorated in the cut-glass technique. Wheel-thrown, fine red fabric, lead-glaze (Munsell 2.5Y 4/4).
80 x 70 mm.
2nd– 3rd centuries AD.
Unpublished.

17. Cup

Canabae / Muncipium Septimium Apulense (Alba Iulia, St. Francisc of Paola ravelin, 1983, fortuitous find).
MNUAI, Inv. no. G. 34.
Oval body decorated in the upper register in the barbotine technique in the form of pine cone. Red fabric, lead-glaze (Munsell 7.5YR 4/6).
96 x 84 mm.
2nd century AD.
Unpublished.

18. Cup

Canabae / Muncipium Septimium Apulense (Alba Iulia, St. Francisc of Paola ravelin, 1983, fortuitous discovery).
MNUAI, Inv. no. G. 31.
Wall fragment of a vessel decorated in the barbotine technique in the form of pine cone scales. Whell-thrown, fine grey fabric, lead-glaze (Munsell 10YR 6/4)
50 x 41 mm.
2nd century AD.
Unpublished.

19. Cup

Colonia Aurelia Apulensis (Alba Iulia, Lupa Capitolina St., - 1.40 -1.60 m depth).
MNUAI, Inv. no. G. 20.
Cup fragment decorated in the barbotine technique, with applications in the form of scales and two groups of horizontal incisions. Wheel-thrown, fine grey fabric, lead-glaze (Munsell 7.5YR 5/6).
60 x 43 mm.
2nd–3rd centuries AD.
Unpublished.

20. Cup

Canabae / Muncipium Septimium Apulense (Alba Iulia, St. Francisc of Paola ravelin 1983, fortuitous discovery).
MNUAI, Inv. no. G. 32.
Vertical rim decorated with two grooves. Decorated in the barbotine technique in the form of pine cone scales. Whell-thrown, fine grey fabric, lead glaze (Munsell 10YR 4/5).
33 x 30 mm.
2nd century AD.
Unpublished.

21. Cup

Municipium Aurelium Apulense.
MNUAI, Inv. no. G. 23.
Wall fragment of a vessel decorated in the barbotine technique in the form of pine cone scales. Fine red fabric, lead-glaze (Munsell 10YR 6/4).
45 x 35 mm.
2nd century AD.
Unpublished.

22. Cup

Canabae / Muncipium Septimium Apulense (Alba Iulia, St. Francisc of Paola ravelin, 1983, fortuitous find).
MNUAI, Inv. no. G. 27.
Oval body decorated In the barbotine technique in the form of pine cone scales. Fine red fabric, lead-glaze (Munsell 5Y 5/4).
33 x 24 mm.
2nd century AD.
Unpublished.

23. Cup

Canabae / Muncipium Septimium Apulense.
MNUAI, Inv. no. G. 24.
Rim fragment of a vessel decorated in the barbotine technique in the form of scales. Wheel-thrown, fine grey fabric, lead-glaze (Munsell 10YR 4/3).
42 x 35 mm.
2nd-3rd centuries AD.
Unpublished.

24. Cup

Canabae / Muncipium Septimium Apulense (Alba Iulia, St. Francisc of Paola ravelin 1983, fortuitous find).
MNUAI, Inv. no. G. 30.
Vessel wall decorated in slip technique in the form of pine cone scales.
Grey fabric, lead-glaze (Munsell 10YR 4/5).
51 x 43 mm.
2nd century AD.
Unpublished.

25. Cup

Colonia Aurelia Apulense, (Alba Iulia, Partoș district).
MNUAI; Inv. no. R. 8599.
Cup fragment decorated with vertical nervures. Fine red fabric, lead-glaze (Munsell10 YR 3/4).
46 x 40 mm.
2nd-3rd centuries AD.
Rusu-Bolindeț 1995, p. 148, pl. II/7.

26. Cup

Canabae / Muncipium Septimium Apulense (Alba Iulia, NicolaeTitulescu St., - 2.50-2.70 m depth)
MNUAI; Inv. no. G. 29.
Fragmentary cup, ovoid body, decorated at the top with parallel incisions. Wheel-thrown, fine grey fabric, lead-glaze (Munsell10YR 6/4).
62 x 56 mm; 48 x 35 mm; 50 x 24 mm.
2nd century AD.
Unpublished.

27. Cup

Apulum; the Southern Necropolis (M. 8).
MNUAI, Inv. no. G. 49.
Globular vessel with straight lip. Decorated with two parallel grooves. Annular base. It has a handle attached to the base of the neck, above the maximum diameter. Wheel-thrown. Fine red fabric, lead-glaze (Munsell 10YR5/6)
2nd–3rd centuries AD.
H. 90 mm; D. b. 37 mm; D. r. 71 mm.
Unpublished.

28. Cup

Municipium Aurelium Apulense (Alba Iulia, Partoș District, Dacilor St.).
MNUAI, Inv. no. G. 2.
Rim fragment of a vessel decorated with horizontal and vertical nervures. Fine grey fabric, lead-glaze (Munsell 10YR 6/8).
25 x 18 mm.
Second half of the 2nd century AD.
Unpublished.

29. Cup

Municipium Aurelium Apulense (Alba Iulia, Partoș District, Dacilor St.).
MNUAI, Inv. no. G. 11/2.
Rim fragment decorated with vertical and horizontal nervures. Fine grey fabric, lead-glaze (Munsell 10YR 6/8).
35 x 30 mm.
Second half of the 2nd century AD.
Unpublished.

30. Handle

C*anabae/Municipium Septimium Apulense* (Alba Iulia, Moților St. -1, 7m depth).
MNUAI, Inv. no. G. 47.
Cup (*skyphos*?) handle of triangular shape with rounded edges framed by two circles. In the lower part the upper end of the handle is kept. Made by pressing in the pattern.
Fine grey fabric. Lead glaze (Munsell 10YR3/3).
2nd–3rd centuries AD.
61 mm x 42 mm.
Unpublished.

31. Cup

Colonia Aurelia Apulensis (Alba Iulia, Partoș District, Lupa Capitolina St.).
MNUAI, Inv. no. G. 19.
Annular base of a cup. Wheel-thrown. Fine red fabric, lead-glaze (Munsell 10YR 5/8).
D. b. 45 mm.
2nd–3rd centuries AD.
Unpublished.

32. Cup

Canabae Municipium Septimium Apulense (Alba Iulia, North Carolina District, 1983).
MNUAI, Inv. no. G. 38.
The inferior part of a cup with foot. Wheel-thrown.
Fine red fabric, lead-glazed (Munsel 7.5YR 5/4).
74 x 75 mm.
2nd–3rd centuries AD.
Unpublished.

33. Cup

Canabae / Municipium Septimium Apulense (Alba Iulia, St. Francisc of Paola ravelin, 1983, fortuitous find).
MNUAI, Inv. no. G. 37.
Hollow tronconic foot. Wheel-thrown. Fine red fabric, lead-glazed (Munsel 10YR6/4).
31 x 24 mm.
2nd century AD.
Unpublished.

34. Cup

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, f. n.
Tronconic and hollow foot of a cup. Fine brown fabric, lead-glaze (Munsell 10YR 4/3).
D. b. 41 mm.
Second half of the 2nd century AD.
Unpublished.

35. Vessel

Colonia Aurelia Apulensis (Alba Iulia, Partoș District, Lupa Capitolina St., 1,40-1,60 m depth).
MNUAI, Inv. no. G. 18.
Hallow tronconic foot. Fine grey fabric, lead-glaze (Munsell 7.5YR 5/6). Waster.
D. b. 70 mm.
2nd–3rd centuries AD.
Unpublished.

36. Cup

Ampelum.
MNUAI; Inv. no. R. 8380.
Annular base decorated with concentric circles.
Wheel-thrown. Fine grey fabric, lead-glaze (Munsell 7.5GY6/4).
41 x 32 mm.
2nd-3rd centuries AD.
Unpublished.

37. Cup

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8406/1, R. 8406/6.
Fragments of a cup decorated with vertical nervures arranged in two registers. The lower end of the handle is marked by a nodule.
Fine red fabric, lead-glaze (Munsell 10YR 3/4) in which white sand was added.
35 x 30 mm; 36 x 31 mm; 56 x 41 mm; 35 x 26 mm; 34 x 23 mm; 90 x 52 mm.
Second half of the 2nd century AD.
Unpublished.

38. Cup

Colonia Aurelia Apulensis (Alba Iulia, Partoș District, Gemenilor Street, -1.50 m depth.
MNUAI, Inv. no. G. 25.
Annular base of a cup. Wheel-thrown. Fine grey fabric, lead-glaze (Munsell 10YR5/6).
73 x 45 mm.
2nd-3rd centuries AD.
Unpublished.

39. Cup

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8391/2.
Fragment of cup with round, everted rim. Decorated in the barbotine technique with white clay slip. The ends of the handle are preserved. Semi-fine brown fabric, lead-glaze (Munsell 10YR 2/4). Waster.
D. r. 120 mm.
Second half of the 2nd century AD.
Unpublished.

40. Cup

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8378.
Cup rim, decorated in the barbotine technique. Wheel-thrown. Fine red fabric, lead-glaze (Munsell 7.5GY7/4).
D. r. 56 mm.
Second half of the 2nd century AD.
Lipovan 1991, p. 287, no. 11, fig. 8/2.

41. Jug

Canabae / Muncipium Septimium Apulense (St. Francisc of Paola ravelin,1983, fortuitous find).
MNUAI, Inv. no. G. 39.
Wall vessel decorated with an embossed nervure. Fine grey fabric, lead-glaze (Munsell 10YR 4/5)
44 x 40 mm.
2nd century AD.
Unpublished.

42. Jug

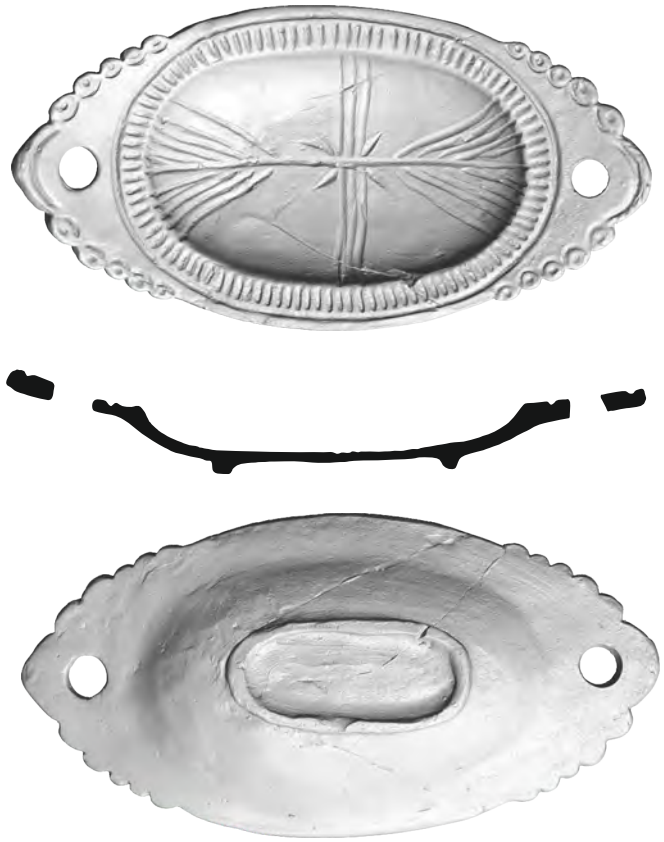
Colonia Aurelia Apulensis (Alba Iulia, Partoș District).
MNUAI, Inv. no. R. 8600, R. 8601.
Neck fragment of a pitcher decorated with wide parallel incisions, red fabric, lead-glaze (ext. Munsell 5Y 5/3; int. Munsell 10YR 4/6).
50 x 47mm.
2nd–3rd centuries AD.
Rusu-Bolindeț 1995, p. 148, pl. I / 3.

43. Jug

Canabae / Muncipium Septimium Apulense (Alba Iulia, St. Francisc of Paola ravelin, 1983, fortuitous find).
MNUAI, Inv. no. G. 35.
Vertical rim, decorated with wide parallel incisions. Wheel-thrown, fine grey fabric, lead- glaze (Munsell 10YR 4/5).
44 x 38 mm.
2nd century AD.
Unpublished.

44. Platter (lanx)

Apulum, the Southern Necropolis.
MNUAI, Inv. no. R. 10562.
Oval shape (Drag. 39 imitation). Moulded in the pattern, decorated with wide prints and wide incisions. The two semicircular handles have central perforations and circles on the edges. Fine grey fabric, irregular glaze (Munsell 2.5Y6/8). Restored.
H. 35 mm; L. 300 mm; l. 152 mm.
2nd–3rd centuries AD.
Bolog 2017, p. 47, pl. 58.



45. Platter (lanx)

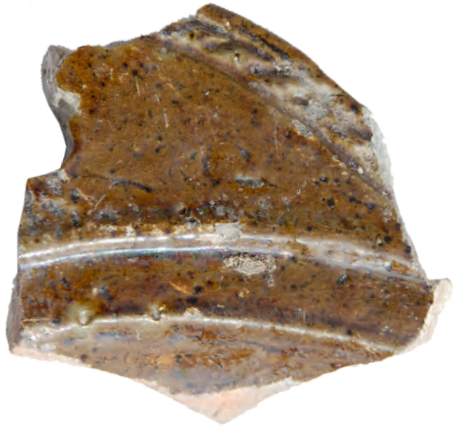
Municipium Aurelium Apulense (Alba Iulia, Partoș District, Dacilor St.).
MNUAI, Inv. no. G.1.
Drag 39 type plater rim, imprinted decoration.
Fine grey fabric, lead-glaze (Munsell 5Y5/6).
60 x 30 mm.
Second half of the 2nd century AD.
Unpublished.

46. Platter (lanx)

Colonia Aurelia Apulensis (Alba Iulia, Partoș District).
MNUAI, Inv. no. G. 17.
Plateau fragments, Drag. 39 imitation, with embossed decoration obtained by moulding (Mercurius in a temple). Fine red fabric, lead-glaze (Munsell 2.5Y5 / 6; spots Munsell 10YR 5/6)
46 x 56 mm.
2nd–3rd centuries AD.
Unpublished.

47. Platter (lanx)

Colonia Aurelia Apulensis (Alba Iulia, Partoș District).
MNUAI, Inv. no. R. 8598.
Plateau handle, Drag. 39 imitation, transversal perforation, deep twisted decoration. Moulded in the pattern. Fine grey fabric, lead-glaze (Munsell 10YR3/3).
68 x 68 mm.
2nd–3rd centuries AD.
Rusu-Bolindeț 1995, p. 148, pl. IV / 2.



48. Platter (lanx)

Colonia Aurelia Apulensis (Alba Iulia, Partoș District, Dacilor St.). MNUAI, Inv. no. G.12.
Plateau handle, Drag. 39 imitation. Moulded in the pattern. Zoomorphic decoration (dog and wild boar). Fine red fabric, lead-glaze (Munsell 10 YR 5/6).
76 x 51 mm.
3rd century AD.
Unpublished.

49. Platter (lanx)

Colonia Aurelia Apulensis (Alba Iulia, Partoș District, Dacilor Street). MNUAI, Inv. no. G. 7.
Platter handle, Drag. 39 Type, with transversal perforation. Moulding, fine red fabric, lead-glaze (Munsell 7.5YR 5/4).
55 x 62 mm.
3rd century AD.
Unpublished.

50. Plate

Colonia Aurelia Apulensis (Alba Iulia, Partoș District, Dacilor Street). MNUAI, Inv. no. G. 15.
Plate bottom decorated with vertical incisions, annular. Fine red fabric, lead-glaze (Munsell 10YR 5/6).
D. b. 71 mm.
3rd century AD.
Unpublished.

51. Plate

Canabae / Municipium Septimium Apulense (Alba Iulia, Nicolae Titulescu St.).
MNUAI, Inv. no. G. 26.
Plate with flared rim and vertical edge, decorated with two rings. Wheel-thrown. Fine red fabric, lead- glaze (Munsell 7.5YR5/6-spots Munsell 10YR 5/6).
100 x 56 mm.
2nd–3rd centuries AD.
Unpublished.

52. Plate

Canabae / Municipium Septimium Apulense (Alba Iulia, North Carolina District, 1983).
MNUAI, Inv. no. G. 28.
Plate fragments, Drag. 42 imitation, wheel-thrown. Decorated by incision, fragmentary applied handle, with flattened ends. Fine grey fabric, lead-glaze (Munsell 10YR3 / 3).
75 x 55 mm; 65 x 30 mm; 52 x 35 mm.
2nd–3rd centuries AD.
Unpublished.

53. Plate

Apulum, the Southern Necropolis.
MNUAI, Inv. no. R. 10600.
Plate fragment, Drag. 42 imitation, wheel-thrown. Decorated by incision and impressions in three registers. The edge was decorated with a strip of prints. The oblique wall and the base were covered with incised lines. A semi-circular handle with flattened ends was applied. Fine grey fabric, lead-glaze (Munsell 7.5YR5/6).
114 x 91 mm.
2nd–3rd centuries AD.
Bolog 2017, p.193, cat. no. 1025, pl. 145.

54. Plate

Colonia Aurelia Apulensis (Alba Iulia, Partoș District).
MNUAI, Inv. no. G.16.
Plate fragments, Drag. 42 imitation, wheel-thrown, imprinted and incised decoration, applied handle. Fine grey fabric, yellowish brown lead-glaze (Munsell 10YR 5/6).
56 x 73 mm; 70 x 46 mm; 560 x 80 mm.
2nd–3rd centuries AD.
Unpublished.

55. Plate

Municipium Aurelium Apulense (Alba Iulia, Partoș District,Dacilor St.).
MNUAI, Inv. no. G. 3.
Plate rim, Drag. 42 imitation with applied handle. Wheel-thrown. Fine red fabric, lead-glaze (Munsell 10YR 5/6).
55 x 23 mm.
Second half of the 2nd century AD.
Unpublished.

56. Platter

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 9033.
Platter base with an applied ornament (the Gorgon Medusa?) inside two concentric circles. The lower part is decorated with four concentric circles. Wheel-thrown. Semi-fine red fabric, lead-glaze (Munsell 10YR 6/4).
112 x 76 mm.
Second half of the 2nd century AD.
Lipovan 1990, pp. 287-288, no. 13, fig. 3/1.

57. Plate

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8367.
Imitation after metal vessels (or Drag. 42 Type). Annular bottom, hemispherical body marked in the middle area with two horizontal grooves Wide, rounded rim, decorated in the barbotine technique with a meander line of white-yellow dots. Applied handle with flattened extremities, decorated in the same way. Wheel-thrown. Fine reddish-brown fabric, lead-glaze (Munsell 5YR 1/4).
Restored.
H. 32 mm; D. b. 41 mm; D. r. 106 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 287, no. 7, fig. 2/1; Lipovan, Băluță 1995, p. 186, fig. 6.

58. Plate

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R.8368.
Imitation after metal vessels with everted and profiled rim (or Drag. 42 Type). Applied handles and annular bottom. Inside, it has a stamp *in solea* that shows the hobnail of the Roman footwear (*clavus caligaris*), framed by two concentric circles. Wheel-thrown. Semi-fine grey fabric, lead-glaze (Munsell 5Y6/6). Drops and circles of glaze arranged irregularly inside.
Waster. Restored.
H. 47 mm; D. b. 85 mm; D. r. 250 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 287, no. 18, fig. 3/4; Lipovan, Băluță 1995, p. 138, fig. 4/2.

59. Platter

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8405/1.
Platter fragments decorated in the barbotine technique with vegetal motifs. Semi-fine brown fabric, lead-glaze (Munsell 10YR3/4). Waster.
D. r. 290 mm.
Second half of the 2nd century AD.
Unpublished.

60. Bowl

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8390.
Fragments of calote-shaped bowl (Drag. 37 imitation). Decorated with two parallel incisions. Dots were applied in the barbotine technique. Semi-fine red fabric, lead-glaze (Munsell 7.5YR4/6). Waster.
D. r. 200 mm.
Second half of the 2nd century AD.
Lipovan 1991 p. 287, no. 10, fig. 7/6.

61. Bowl

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8409/1, R. 8409/3.
Fragments of bowl with everted, rounded rim (Drag. 36 imitation). Decorated in the barbotine technique with white slip. Semi-fine brown fabric, lead-glaze (Munsell 10YR 3/4).
D. r. 320 mm.
Second half of the 2nd century AD.
Lipovan 1991 p. 288, no. 15, fig. 4/7.

62. Bowl

Apulum (the Northern Necropolis).
MNUAI, Inv. no. R. 10126.
Tronconic shape with annular base (Conspectus 3.1.2). Decorated with prints on the rim and a register of wide incisions, arranged obliquely at the top. Wheel-thrown. Fine red fabric, lead-glaze (Munsell 7.5 YR6/7). Restored.
H. 43 mm; D. b. 47 mm; D. r. 127mm.
2nd–3rd centuries AD.
Necropolele 2003, no. 73.

63. Bowl

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8365.
Hemispherical bowl with annular bottom, pronounced shoulder with a horizontal nervure and a rounded rim (Drag. 37 imitation). Decorated in the upper register with parallel lines of white engobe. The lower register is ornamented with a wavy line and white dots between meanders. Wheel-thrown. Fine reddish-brown fabric, lead-glaze (Munsell 5Y6/6). Waster. Restored.
H. 82 mm; D. b. 80 mm; D. r. 190 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 287, no. 9, fig. 2/2; 7/7; Lipovan, Băluță 1995, p. 138, fig. 2/5.

64. Bowl

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Nr. inv. R. 8366.
Imitation of Drag. 24-25 form, with vertical rim, and a central cordon runs along the belly of the bowl. The base is provided with a footring. Fine reddish-brown fabric, lead-glaze (Munsell 10YR 4/5). Restored.
H. 54 mm; D. b. 48 mm; D. r. 118 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 287, nr. 8, fig. 7/5.

65. Bowl

Canabae / Municipium Septimium Apulense
(Alba Iulia, Parcul Unirii-Fântâna Cinetică).
MNUAI; Inv. no. R. 11754.
Tronconic bowl with inwards arched walls (imitation after Drag. 46), flat bottom and decorated with two parallel grooves inside the lip. Fine red fabric, lead glaze (Munsell 7.5YR6/6). Restored.
2nd–3rd centuries AD.
H. 40 mm; D. b. 42 mm; D. r. 105 mm.
Unpublished.

66. Bowl

Canabae / Muncipium Septimium Apulense
(Alba Iulia, Parcul Unirii-Fântâna Cinetică).
MNUAI, Inv. no. R. 11755.
Tronconic bowl with inwards arched walls (imitation after Drag. 46), flat bottom and decorated with two parallel grooves inside the lip. Fine red fabric, lead glaze (Munsell 10YR4/6). Restored.
H. 40 mm; D. b. 52 mm; D. r. 93 mm.
2nd–3rd centuries AD.
Unpublished.

67. Bowl

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8395/1.
Fragment of a bowl with straight rim and rounded edge, decorated with two parallel incisions. Fine red fabric, lead-glaze (Munsell 10YR 4/3). Waster.
D. r. 210 mm.
Second half of the 2nd century AD.
Unpublished.

68. Patera handle

Municipium Aurelium Apulense (Alba Iulia, Partoș District, Dacilor St.).
MNUAI, Inv. no. G. 14.
Patera handle. Moulded, transversal perforation, fine red fabric, lead-glaze (Munsell 10 YR 5/6).
65 x 35 mm.
Second half of the 2nd century AD.
Unpublished.

69. Patera handle

Municipium Aurelium Apulense (Alba Iulia, Partoș District, Gemenilor St.).
MNUAI, Inv. no. G. 21.
Patera handle. Moulded, transversal perforation, fine grey fabric, lead-glaze (Munsell 7.5YR5/6).
44 x 30 mm.
Second half of the 2nd century AD.
Unpublished.

70. Patera handle

Canabae / Municipium Septimium Apulense (Alba Iulia, Moților St., - 3m depth).
MNUAI, Inv. no. G. 48.
Patera handle decorated at the top with a stylized vegetal motif. The lower face has two circular, concentric grooves. Moulded from red semi-fine fabric. Lead glaze (Munsell 7.5GY3/3) lower face and (Munsell 10YR5/6).
62 x 56 x 15 mm.
2nd–3rd centuries AD.
Unpublished.

71. Vessel

Municipium Aurelium Apulense (Alba Iulia, Partoș District,Dacilor St.)
MNUAI, Inv. no. G. 6.
Wall fragment of a vessel decorated with a horizontal incision. Fine grey fabric, lead-glaze (Munsell 7.5Y5/6, Munsell 10YR5/6 stains).
32 x 23 mm.
Second half of the 2nd century AD.
Unpublished.

72. Vessel

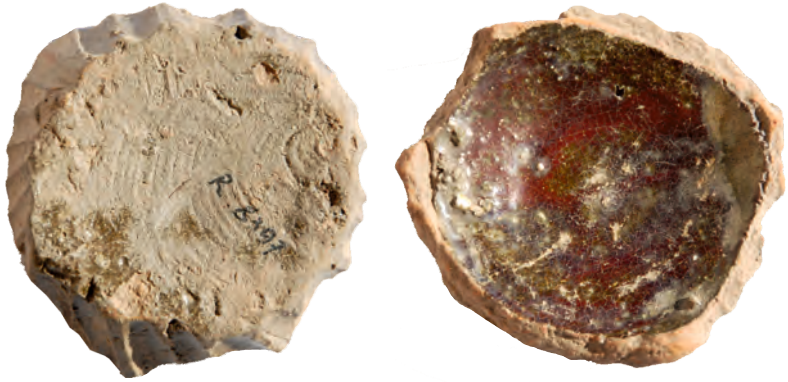
Municipium Aurelium Apulense (Alba Iulia, Partoș District, Dacilor St.).
MNUAI, Inv. no. G. 13.
Wall fragment of a vessel decorated with incisions. Fine grey fabric, lead-glaze (Munsell 10YR 6/8).
57 x 45 mm.
Second half of the 2nd century AD.
Unpublished.

73. Vessel

Colonia Aurelia Apulensis; (Alba Iulia, Partos District, Dacilor Street, - 1. 20 m depth).
MNUAI, Inv. no. G. 8.
Wall fragment of tronconic vessel decorated with vertical and parallel incisions. Fine red fabric, lead-glaze (Munsel 7.5YR5/6, Munsell 10YR 5/6 stains).
65 x 65 mm.
3rd century AD.
Unpublished.

74. Vessel

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8397.
Base of a vessel, decorated with vertical incisions. Wheel-thrown. Fine red fabric, lead-glaze (Munsell 10YR 4/3, non-uniform). Waster.
H. 18 mm; D. b. 56 mm.
Second half of the 2nd century AD.
Unpublished.



75. Vessel

*Colonia Aurelia Apulensis (*Alba Iulia, Partoș District, Dacilor St.). MNUAI, Inv. no. G. 9.
Wall fragment, fine gray fabric, lead-glaze (ext. Munsell 7.5Y5/6; int. Munsell 2.5Y6/4).
46 x 36 mm.
3rd century AD.
Unpublished.

76. Vessel

Colonia Aurelia Apulensis (Alba Iulia, Partoș District, Dacilor Street). MNUAI, Inv. no. G. 10.
Wall fragment, fine grey fabric, lead-glaze (ext. Munsell 7.5YR 5/4, int. Munsell10YR 6/6).
60 x 32 mm.
Second half of the 2nd century AD.
Unpublished.

77. Handle

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8407.
Handle with oval profile, and ornament attached on the upper part (zoomorphic motif?). Decorated with parallel incisions on the sides and S-motifs chained on the outside. Covered with black slip and a white stripe on the outside. Semi-fine red fabric, lead-glaze (stains).
105 x 26 mm.
Second half of the 2nd century AD.
Lipovan 1991, p. 288, no. 23, fig. 8/5.

78. Handle

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8393.
Handle with oval profile and conical protuberance applied in the upper part. Semi-fine red fabric, lead-glaze (Munsell 2.5Y5/6).
72 x 42 mm.
Second half of the 2nd century AD.
Lipovan 1991, p. 288, no. 26, fig. 8/6.

79. Kiln stilt

Municipium Aurelium Apulense (Alba Iulia, Partoș District, Dacilor St. - 2. 40 m depth).
MNUAI, Inv. no. G. 4.
Kiln stilt for glazed pottery, traces of glaze (stains).
54 x 23 mm.
Second half of the 2nd century AD.
Unpublished.

80. Waster

Municipium Aurelium Apulense (Alba Iulia, Partoș District, Dacilor St.).
MNUAI, Inv. no. G. 5.
Pottery fragment partially vitrified, with traces of glaze (accidental leaking).
35 x 22 mm.
Second half of the 2nd century AD.
Unpublished.

81. Waster

Municipium Aurelium Apulense (Alba Iulia, Partoș district, Dacilor St.).
MNUAI, Inv. no. G. 11/1.
Wall fragment of a vessel, fine grey fabric, lead-glaze (Munsell 7.5YR 5/6). Waster.
50 x 35 mm.
Second half of the 2nd century AD.
Unpublished.

82. Lamp

Apulum, the Southern Necropolis, Viilor Street, M. 11.
MNUAI, Inv. no. R. 10545.
Monolychnis lamp, Loeschcke X Type. Smooth discus with a filling hole in the centre, delimited by a well-emphasized cord. The shoulder has two buttons arranged symmetrically, the nozzle is elongated, rounded, with traces of use. The handle is circular and raised, with two parallel incisions. The base is straight, delimited by three concentric circles and it is marked with the stamp FESTI.
Moulded from fine brick red fabric, lead-glaze (Munsell 10YR 6/6).
L. 84 mm; w. 49 mm; H. (handle) 46 mm; H. 27 mm.
2nd–3rd centuries AD.
Unpublished.

83. Lamp

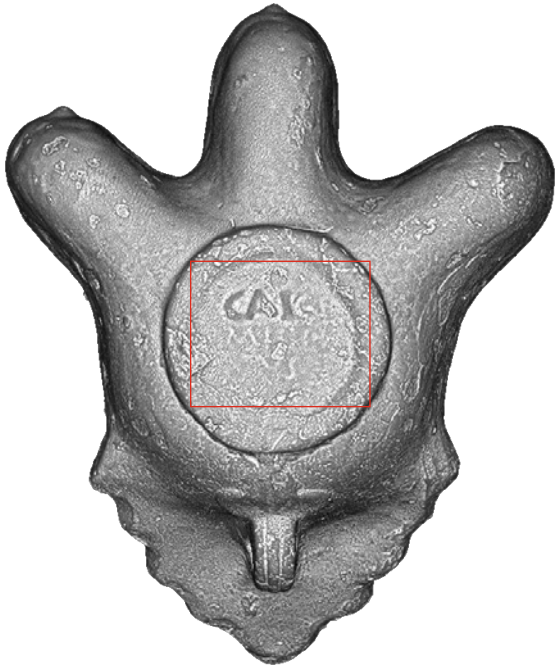
Apulum, Legion XIII Gemina's fortress, Porta principalis dextra. MNUAI, Inv. no. R. 9581.
Fragmentary lamp, the circular handle and a part of the basin are preserved. The handle is decorated with a twisted band, and the lower end is completed by a phytomorphic motif. Moulded from fine red fabric, lead-glaze (Munsell 10YR4/4).
H. 44 mm; L. 45 mm.
2nd–3rd centuries AD.
Unpublished.

84. Lamp

From the former Feher collection.
MNUAI, Inv. no. R. 2432.
Trilychnis lamp, Loeschcke X Type. The palm has a vegetal decoration under which there is a semi-circular handle with two grooves.The vegetal decoration is also present in the space between the three nozzles. The discus is decorated with a rosette. The base is annular with the stamp CAI. Before glazing, probably in the raw fabric, a text was incised on the bottom three times, from which it is still preserved:

[...]
MI (LIT)
VS

Moulded from fine red-brown fabric, lead- glaze (Munsell 2.5Y 6/4).
H. 110 mm; L. 154 mm, the width between nozzles 144 mm; discus diameter 95 mm.
2nd–3rd centuries AD.
Băluță 1976, p. 112.



85. Lamp

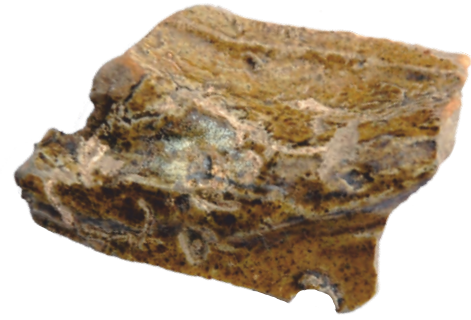
Muncipium Aurelium Apulense (Alba Iulia, Partoș District).
MNUAI, Inv. no. G. 41.
Fragment from the base of an anse that had a vegetal decoration. A hemispherical protuberance is still preserved. A fragment of the applied handle is kept in the back. Fine grey fabric, irregular lead-glaze (Munsell 5YR3/4, 10YR5/4).
First half of the 2nd century AD.
60 x 25mm.
Unpublished.

86. Lamp

Muncipium Aurelium Apulense (Alba Iulia, Partoș District).
MNUAI, Inv. no. G. 42.
Fragment from the base of an anse that had a vegetal decoration. At the back is applied a handle with grooved decoration and the edges are strongly inclined outwards. Moulded and applied. Red fabric, irregular lead-glaze (Munsell 7.5Y 6/8).
First half of the 2nd century AD.
40 x 68 x 33 mm.
Unpublished.

87. Lamp

Ampelum (Caius Iulius Proclus's workshop.
MNUAI, Inv. no. R. 8388/1.
Lamp nozzle with an open channel and the air hole. Moulded from fine red fabric, lead-glaze (Munsell 10YR4/5).
35 x 22 mm.
Second half of the 2nd century AD.
Unpublished.



88. Lamp

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8388/1.
Lamp handle (palm) decorated with a vertical central nervure from which diagonal lines start. Moluded from fine grey fabric, lead-glaze (Munsell 7.5GY3/2).
40 x 37 mm.
Second half of the 2nd century AD.
Lipovan 1991, p. 289, no. 33, fig. 9/4.

89. Lamp

Canabae legionis / Muncipium Septimium Apulense
(Alba Iulia, Nicolae Titulescu St.).
MNUAI, Inv. no. G. 43.
Fragment from the top of a leaf-shaped lamp handle (anse). Modelled by pressing in the pattern. Fine red fabric, lead glaze 7.5GY3/3)
2nd -3rd centuries AD.
79 x 65 x 9 mm.
Unpublished.

90. Lamp

Muncipium Aurelium Apulense; (Alba Iulia, Partoș District).
MNUAI, Inv. no. G. 47.
The lower part of a lamp handle attached to the outer wall of the anse. Modelled by hand and applied on the body of the lamp that was moulded. Fine red fabric, lead glaze (Munsell 2.5Y5/4).
90 x 67 mm.
First half of the 2nd century AD.
Unpublished.

91. Lamp

Muncipium Aurelium Apulense.
MNUAI, Inv. no. G. 44.
Large bilychnis lamp with a leaf-shaped handle. On the outside it had a handle with a split end that is missing today, but you can see its three points of attachment. The reservoir is framed by two semi-circular prominences. The discus has a continuous decoration of incised spirals and meanders, and has a rosette around the filling hole in the centre. Modelled by pressing in the pattern. Fine red fabric, lead glaze (Munsell 2.5Y4/4).
First half of the 2nd century AD.
H. 200 mm; L. 300 mm; l. 200 mm.
Unpublished.

92. Anthropomorphic vessel

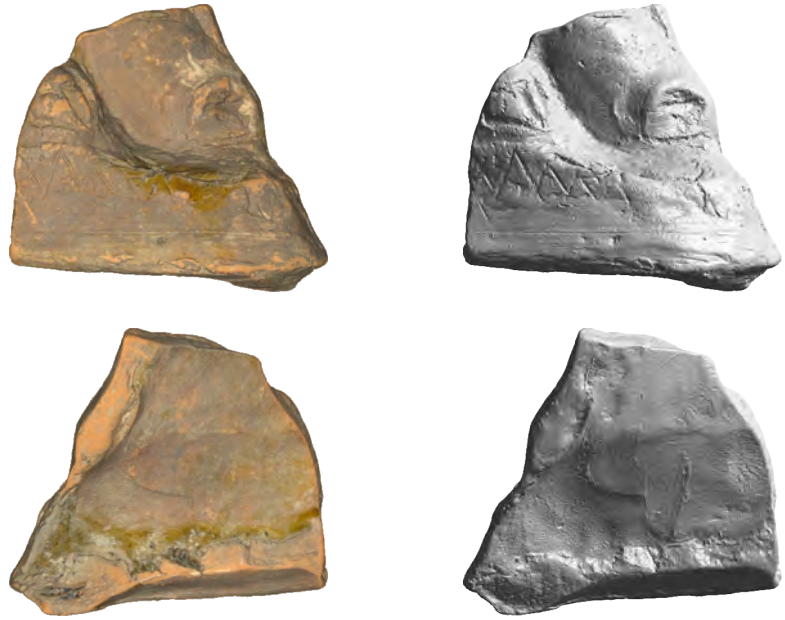
Apulum, the Southern Necropolis.
MNUAI, Inv. no. R. 10745.
Anthropomorphic vessel representing the bust of a woman. On the head, the character wears a tiara with a decoration made in the form of concentric circles. The hairstyle is rendered on the back in the form of oblique incisions. A fragment from the neck area reveals that the character wore a tunic with a "V" cut, over which she had another item of clothing, probably a *palla.* A handle was attached to the body and placed in the neck area. The face and body are destroyed, only the forehead and the left eye are preserved. Moulded. Red fabric, lead-glaze (Munsell 7.5Y5 / 6).
H. 154 mm; L. 64 mm.
2nd–3rd centuries AD.
Anghel *et alii* 2011, p. 76; Bolog 2017, p.175, cat. no. 606, pl. 139, 163.

93. Medusa protome

Canabae legionis / Municipium Septimium Apulense (Alba Iulia, Nicolae Titulescu St.).
MNUAI, Inv. no. G. 45.
Embossed ornament with the representation of Medusa's head. Modelled by pressing in the pattern (probably belonging to a lamp handle). The piece overlaps the upper fixing point of a circular embossed ornament applied on the outside of the vessel (bowl). Fine grey fabric, lead glaze (Munsell 7.5GY3/3).
Second half of the 2nd century AD.
58 x 42 x 43 mm.
Unpublished.

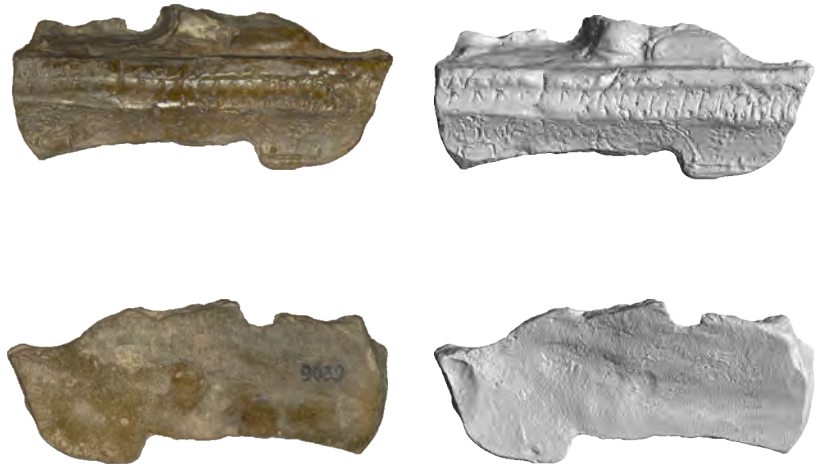
94. Mithraic relief (?)

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 9036.
Fragment of Mithraic relief. The right corner of the rear valve of a figurine. The base decorated by incision with a V-motif is preserved. The muzzle and the hoof of the right foot of a bull are rendered. Fine red fabric. Bivalve moulding. Finrerred fabric. Covered with brown slip (Munsell 5YR6/5), white on the bull's muzzle, lead-glaze (Munsell 10YR4/5).
82 x 90 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 290, no. 43, fig. 6/5; Lipovan 1992-1994b, p. 154, no. 4, pl. I / 4.



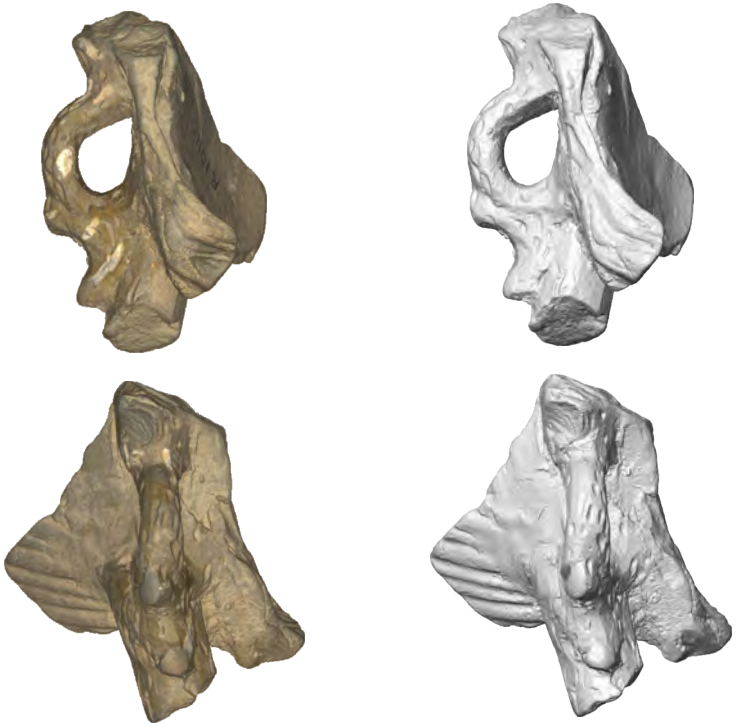
95. Terracotta figurine

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 9039.
The base of the rear valve of a figurine. Bivalve moulding, decorated by incision with networks of lines arranged in divergent angles. Semi-fine grey fabric lead-glaze (Munsell 10YR4/5). Waster.
101 x 42 mm.
Second half of the 2nd century AD.
Lipovan 1992-1994b, p. 154, no. 8, pl. II/4.



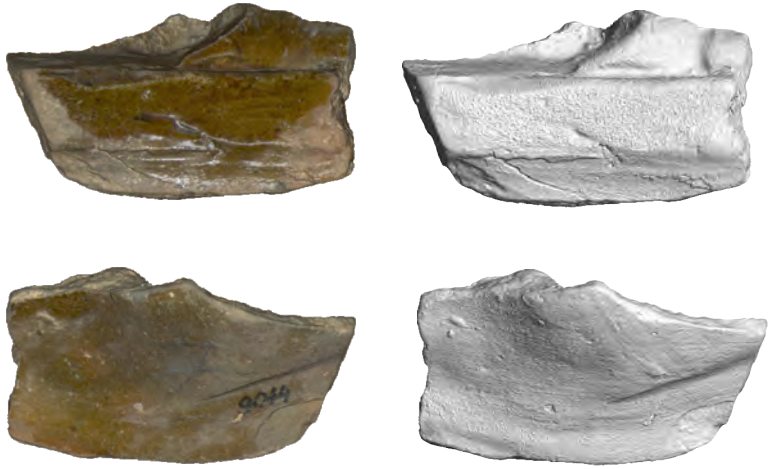
96. Jug

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 10110.
Jug neck with two attached handles, decorated with impressions. On the back there is a zoomorphic element (horn or ear). The lower valve is decorated with parallel incisions. Bivalve moulding. Semifine grey fabric, lead-glaze (Munsell 5YR6/5) in the area of the small handle.
75 x 66 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 290, no. 41, fig. 6/1; Lipovan 1992-1994b, p. 154, no. 4, pl. I/4.



97. Terracotta figurine

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 9044.
Figurine fragment, semi-fine brown fabric. Bivalve moulding, fine grey fabric, lead-glaze (Munsell 10YR 3/4).
50 x 37 mm.
Second half of the 2nd century AD.
Lipovan 1992-1994b, p. 154, no. 7, pl. II/2.



98. Mithraic relief (?)

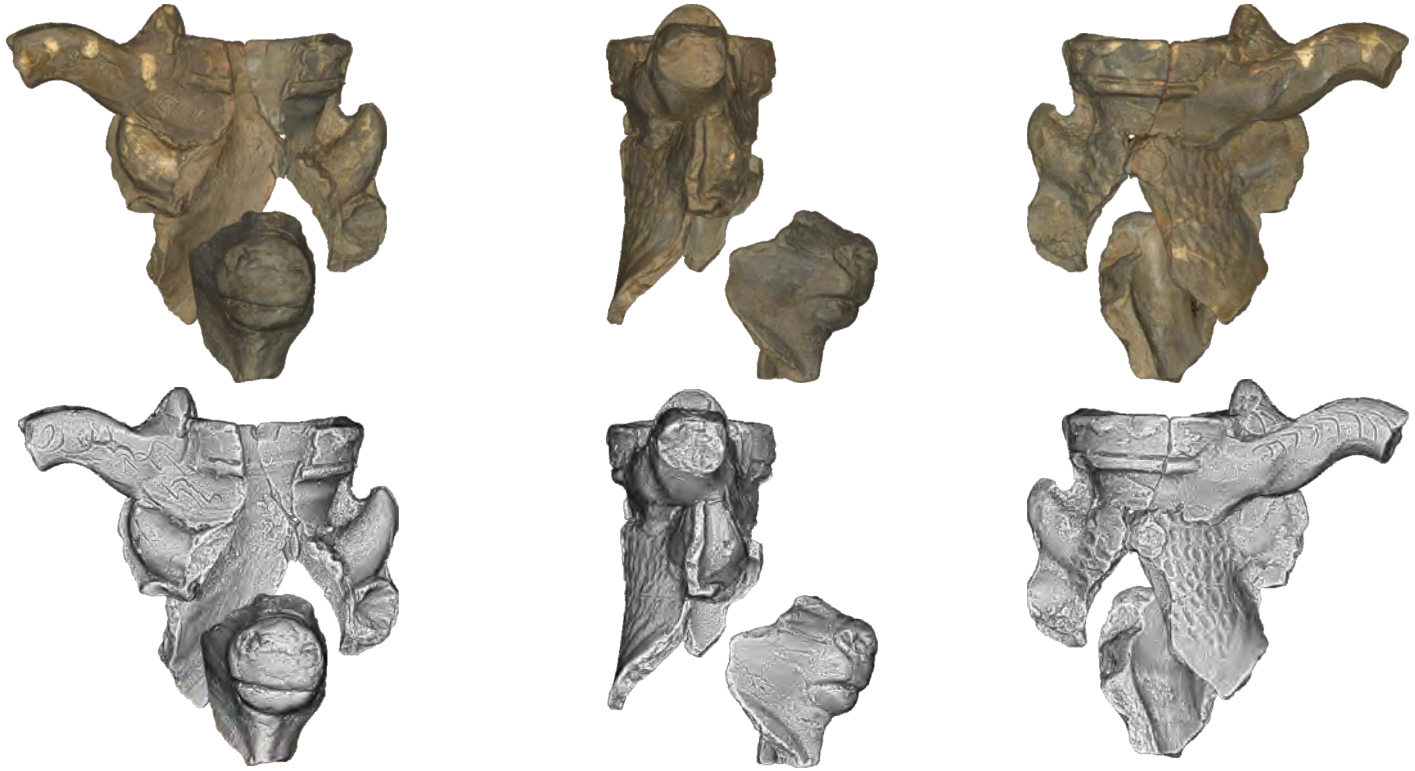
Ampelum (Caius Iulius Proclus's workshop.
MNUAI, Inv. no. R. 9035.
The right corner of the rear valve of a terracotta relief. The base and the left flexed leg of a bull are preserved. Bivalve moulding.
Fine red fabric, lead-glaze (Munsell 10YR 4/5).
56 x 61 x 92 mm.
Second half of the 2nd century AD.
Lipovan 1992-1994b, p. 154, no. 3, pl. I / 3.

99. Terracotta figurine

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 9045.
Figurine fragment representing the folds of a garment. Semi-fine red fabric. Bivalve moulding, fine red fabric, lead-glaze (Munsell 10YR 4/5).
63 x 61 mm.
Second half of the 2nd century AD.
Unpublished.

100. Jug

Ampelum (Caius Iulius Proclus's workshop.
MNUAI, Inv. no. R. 9045.
Zoomorphic jug neck made by moulding. Attached handle with a conical protuberance at the top and decorated by incision with spiral motifs. Straight rim decorated with a horizontal incision. On the posterior valve the horns and the left ear of a bull are rendered. The lower valve is decorated with networks of oval impressions that render the animal's fur. Fine brown fabric and white slip dots marking the horns, rim and edge of the handle. Uneven transparent lead-glaze. The piece is related dimensionally, chromatically and by the composition of the fabric with a bull's muzzle shaped by moulding.
120 x 88 mm; 53 x 36 mm.
Second half of the 2nd century AD.
Lipovan 1990, p. 290, no. 42-43, fig. 6/2-3; Lipovan 1992-1994b, p. 154, no. 5, pl. I/5a-5b.



101. Anthropomorphic lamp - Telesphorus

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8344.
The character is dressed in a hooded cape (paenula), thrown over the tunic, covering his body. The whole body acts as the oil reservoir. The phallus acts as a nozzle and it is broken. On the round base the abbreviation G.I.P. was incised in a cartridge. Fine grey fabric. Moulded in the pattern. Glaze stains (Munsell 10YR 3/4). Fragmentary.
77 x 46 x 41 mm.
Second half of the 2nd century AD.
Popa, Moga, Ciobanu 1986, p. 112, Lipovan 1992a, pp. 63-65, fig. 1, 2 a-b; Anghel *et alii* 2011, p. 59, no. 66.

102. Venus terracotta figurine

Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8337.
The goddess is placed on a circular base. On the upper part of the base the G.I.P. signature appears. Only the feet and the garment are preserved. Fine red-brick fabric. Moulded in the pattern. Waster. Fragmentary.
Second half of the 2nd century AD.
60 x 43 mm.
Anghel *et alii* 2011, p. 41, no. 19.

103. Venus terracotta figurine

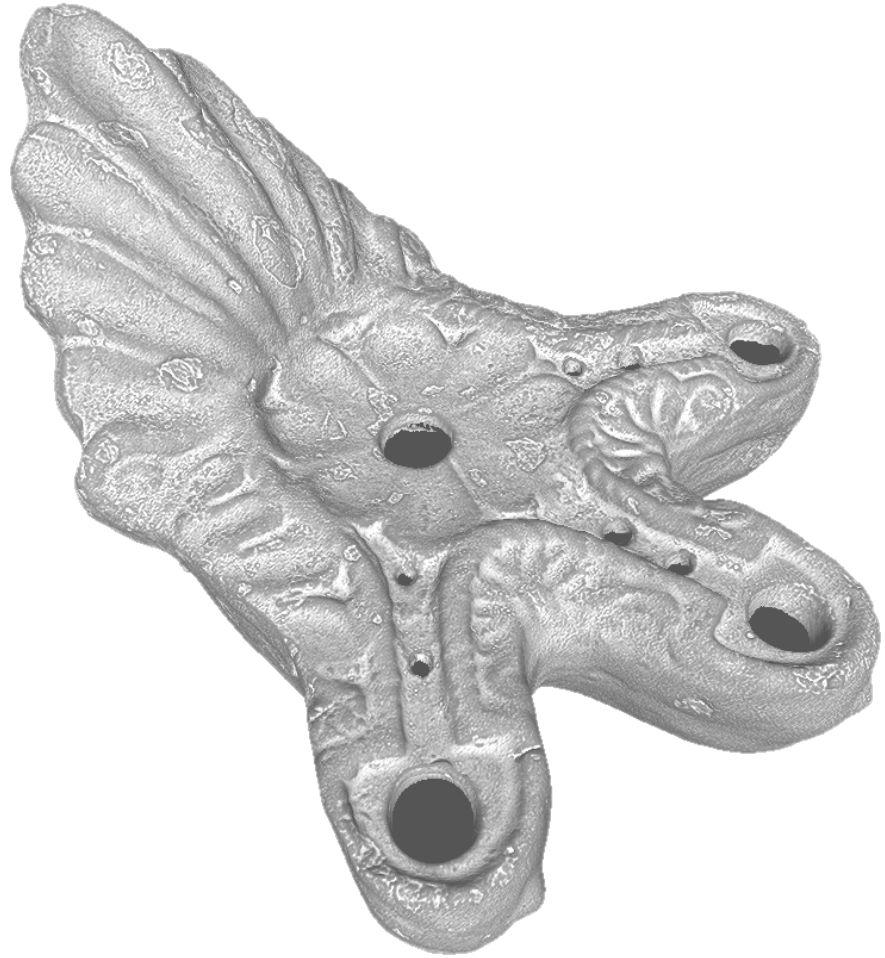
Ampelum (Caius Iulius Proclus's workshop).
MNUAI, Inv. no. R. 8538.
The votive statuette is made of fine red-brick fabric. The deity has an elongated body, well proportioned, the goddess is depicted in a naked pose. Her right hand is stretched along the body, and with the left one she holds one end of the garment. The head is adorned with a diadem. The goddess is placed on a circular base. Moulded in the pattern. Lead glaze (Munsell 10YR4/5). Waster. Restored.
Second half of the 2nd century AD.
30 x 42 mm.
Lipovan 1983-1984, p. 307; Anghel *et alii* 2011, p. 40, no. 18.

104. Venus terracotta figurine

Ampelum (Caius Iulius Proclus's workshop).
MNUAI. Inv. no. R. 8336.
The votive statuette is made of fine red-brick fabric. The deity has an elongated body, well proportioned, the goddess is depicted in a naked pose. Her right hand is stretched along the body, and with the left one she holds one end of the garment. The head is adorned with a diadem. The goddess is placed on a circular base. Moulded in the pattern. Waster. Restored.
Second half of the 2nd century AD.
31 x 42 mm.
Lipovan 1983-1984, p. 307, plate X/4; Anghel *et alii* 2011, p. 40, no. 17.

The Venus terracottas

From the Caius Iulius Proclus's kilns came five fragments of votive figurines depicting the goddess Venus. The pieces were discarded both in the biscuit phase and also after the glazing process. Of these, three pieces are from the collection of the National Museum of the Unification in Alba Iulia. The flattened shape, the round base and the identical dimensions indicate their moulding in the pattern after a bronze prototype. The similarities allowed the restoration of the pieces by filling the gaps with chromatically integrated plaster.
The analysis of the two preserved socles, allowed the identification of technological differences, one of the pieces being smooth, and the other ornamented with a decoration in the form of chained stalks. The same statuette has in the upper part of the base the initials GIP applied in the barbotine technique (cat. no. 102) . Apparently, the decoration was made in the same technique, but the fact that in the joint area it was removed after the cutting of the burr, indicates the imprint directly in the pattern and not a subsequent intervention. Therefore, the figurines were obtained by using two different patterns, one of them being additionally decorated. The role of the circular perforation on the side of the same piece is not very clear, this type of interventions having the role of eliminating water vapor inside the empty figurines when firing them in the kiln.



Roman Lead-Glazed Ceramics from The Collection of The National Museum of Unification Alba Iulia is the first ever attempt of this kind in the study of Roman lead-glazed pottery from Roman Dacia, being in this respect a very important and necessary one.

The volume presents both the history and the technological fabrication process of glazed pottery as well as the contexts for this type of discoveries as made at Apulum and Ampelum. The artefact catalogue presents the typological variety of this fascinating Roman ceramic, represented through fragmentary or complete pottery, some of them never before published.

In addition to the expected analytical data, our research has allowed the identification and methodical valorisation of the Roman glazed ceramics kept in the exhibition and in the deposits of the National Museum of the Unification from Alba Iulia, which is one of the largest collections of this kind in the Roman province of Dacia.

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