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Piotra Dyczka

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Ośrodek Badań nad Antykiem Europy
Południowo-Wschodniej
00–927 Warszawa
ul. Krakowskie Przedmieście 32
novae@uw.edu.pl

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SPIS TREŚCI

Adam Jakub Jarych

ON THE FRONTIERS OF THE PROVINCE: MONUMENTALIZING ROMAN TOWER TROPHIES IN THE TIMES OF THE ROMAN REPUBLIC AND EMPIRE[1]

Abstract: Trophy building was a tradition in Rome already in the third century BC. To believe the written sources, the first trophies were placed in the Capitol, but whether they had counterparts in the field is not entirely clear. The first trophies that Roman commanders appear to have put up in enemy territory, in 121 BC, were not the ephemeral trophies of the Greeks but rather stone towers dominating the battlefield. The remains of five such tower trophies on the frontiers of a province or in enemy territory, ranging in date from the times of the Roman Republic and Empire, are studied in this paper. They constituted a symbol of imperial might and at the same time were a harbinger of the romanization of a conquered territory and its inhabitants.

Key words: tower trophy, spoils of war, Coll de Panissars, La Turbie, Adamclisi

The trophy (Gr. τρόπαιον, Lat. *tropaeum*) was an established tradition in the Mediterranean world already in the fifth century BC.[2] In Greece, it was originally a victory marker, put up on a battlefield to mark the spot where a routed enemy had turned and fled. The armor and weapons of the defeated were hung up in a tree or on a wooden frame.[3] Mannequin trophies of this kind were dedicated to the gods: Zeus *Tropaios* or Poseidon, the latter in the case of naval battles. It was blasphemy to destroy such a battlefield marker, but ones that had disintegrated on their own were not rebuilt in an effort to let old conflicts die out and be forgotten.[4]

Ephemeral battlefield markers were ultimately replaced with commemorative monuments resembling the trophies in appearance but built of more durable materials.[5] A more elaborate

[1] The author gratefully acknowledges Dr. Georges Castellvi for making available the results of the investigations at Coll de Panissars and for sharing literature on the subject.

[2] Gansiniec 1955; Picard 1957; Kinnee 2018. The earliest mentions of trophies are to be found in the works of the poet Aeschylus and the historians Thucydides and Xenophon. Pausanias' repeated information on trophies in Homeric times is considered anachronous by most researchers, because Homer never once used the word τρόπαιον.

[3] Janssen 1957, pp. 240–241. The word "tropaion" originates from the verb τρέπω "to turn". It meant "to retreat from the battlefield" in army jargon.

[4] Picard 1957; Pritchett 1974, p. 275. Picard was among the few researchers to point out the "magic nature" of a tropaion as a talisman embodying all the souls of soldiers died in battle.

[5] Castellvi 2015, p. 213. One example of this type of marker is the trophy discovered in 1860 in Orchomenos and dated probably to the turn of the fourth century BC.

architectural form was given to these monuments from the fifth century BC on[6] and they were no longer restricted to the battlefield.[7] Surviving literary sources and numismatic evidence indicate that the Greek practice was adopted by the Romans no later than by the close of the third century BC [Fig. 1].[8] It was then that trophies made of stone or precious metals were placed in the Capitol.[9] Whether these gifts to Jupiter had a counterpart in the field cannot be ascertained.[10]

Fig. 1. Roman *Victoriatus* (*RRC* 93/1c), coin struck from 211 BC
(reverse with a representation of Victory wreathing a trophy)

Available sources indicate that the Romans set up trophies on the battlefield for the first time in Transalpine Gaul during the campaign of Gnaeus Domitius Ahenobarbus and Quintus Fabius Maximus in 121 BC. These were stone towers (*saxeae turres*) rather than ephemeral markers, crowned with the weapons of the routed enemies.[11] Any discussion of Roman trophies, especially the so-called tower trophies, starts with these monuments.[12]

Archaeological investigations have yielded data for the study of five different Roman tower trophies: that of Gnaeus Pompeius the Great at Coll de Panissars, that of Augustus at La Turbie and of Trajan at Adamclisi, as well as the trophies at Urkulu[13] and at Adamclisi (an older one?),[14] in which two cases there is no agreement among researchers as to who commissioned their construction. Importantly and unlike the structure from 121 BC, none of these trophies were built on a battlefield. They were set up at a province frontier or already in enemy territory, most often on hills or in mountain passes in order to be visible from a distance (hence the term landscape-trophy in reference to these monuments).[15] These structures, which were built after a military campaign, surpassed in architectural form the field monuments (such as that of Lucius Cornelius Sulla among others)[16] which were raised during a war. The splendid tower trophies of Pompeius, Augustus and Trajan discussed in this article were constructed in this fashion.

[6] Hölscher 2006, p. 31. In this period trophies started to be put up on columns as at Marathon or turrets as at Leuctra.

[7] Stroszeck 2004, p. 315.

[8] *RRC* 93/1c.

[9] Flor. 1.20.4–5; Itgenshorst 2005, p. 208. According to Florus, Gaius Flaminius placed a trophy on the Capitol in 223 BC. The practice was continued in later years. T. Itgenshorst has suggested that Lucius Emilius Paulus may have done the same in 181 BC.

[10] Castellvi 2015, p. 208.

[11] Flor. 1.37.3–5.

[12] Castellvi 2015, pp. 207–258; Kinnee 2018, p. 108.

[13] Amela Valverde 2016, pp. 73–77. Researchers have suggested that the trophy at Urkulu could have been raised by either Pompeius, Sertorius or Marcus Valerius Messala.

[14] Poulter 1986, pp. 519–528; Stefan 2009, pp. 613–634. Poulter connects this trophy with Trajan, Stefan with Domitius.

[15] Hölscher 2006, pp. 31–33. Hölscher also analyzes the battleground markers of Sulla in Cheronea and Caesar's at Zela as landscape trophies.

[16] Camp *et alii* 1992, pp. 443–455; Kountouri 2009, pp. 248–253. Sulla's trophies at Cheronea and Orchomenos were discovered respectively in 1990 and in 2004. The remains of the second of the two monuments (still not studied in detail) suggest a rectangular base and a column in imitation of a tree trunk, supporting the armor and weapons, all made of local limestone.

The trophies of Gnaeus Domitius Ahenobarbus and Quintus Fabius Maximus

As said already, the earliest trophies constructed by the Romans in enemy territory were the monuments of Ahenobarbus and Maximus,[17] reported by both Strabo and Florus. According to the second-century-AD historian, the Romans responded to the call of the Aedui and the inhabitants of Massilia and fought a couple of victorious battles with the Allobroges and the Arverni. In charge of military action in Transalpine Gaul at the turn of 122/121 BC, Ahenobarbus first fought the Celtic tribes. Following a victory he raised a trophy in the form of a stone tower topped by the weapons of the defeated enemy. A few months later Maximus did the same to commemorate his success against the Allobroges and Averni. In his narrative Florus noted that the Roman commanders decided to build these monuments even though it was not a Roman practice, the Romans not being in the habit of boasting about their victories to the defeated enemy.[18] Strabo mentioned the two battles (situating the first one near Vindalium, where the Sorgue enters the Rhone, and the second one at the confluence of the Isère and the Rhone), but wrote only casually of the trophies. He noted the trophy of Maximus, which was made of white stone, together with the temples of Hercules and Mars.[19]

No archaeological remains of these monuments have ever been found,[20] which however did not stop speculation on their shape and identification. Jean-Pierre Révellat believed that the trophy of Maximus stood near the locality of Andance, where ruins of a tower from the Roman period were preserved (*Sarrasinière*).[21] Recent archaeological investigations of the structure revealed it to be a family mausoleum from the first century AD.[22] A hypothesis connecting the trophy of Ahenobarbus with the Tour Magne in Nîmes has also been rejected.[23]

The form of the monument chosen by the generals has also excited debate. Gilbert Charles Picard sought the reason behind the choice of the tower form in the art and architecture of Pergamon where commemorative markers of this kind were common.[24] According to Katherine E. Welch, the explanation was more prosaic, namely, the dense forests of Transalpine Gaul and the low urban index necessitated trophies that towered over a battlefield; otherwise they could not have been seen from afar. Welch also observed that the monuments could have resembled in appearance the cenotaph of Drusus from Mainz.[25] According to Georges Castellvi, the generals initially constructed trophies in the form of tumuli encircled by a ring of stones and placed the

[17] Picard 1957, pp. 106–107. Picard thought that Lucius Aemilius Paulus raised a trophy already after the Battle of Pydna in 168 BC. This idea is based on the reverse of a *denarius* depicting the Roman general together with Perseus and his sons, standing next to a trophy (*RRC* 415/1). The coin was not struck until 62 BC, hence the scene itself may have been symbolic in nature rather than rendering a real event.

[18] Flor. 1.37.3–5: *Utriusque victoriae quod quantumque gaudium fuerit, vel hinc aestimari potest, quod et Domitius Ahenobarbus et Fabius Maximus ipsis quibus dimicaverant locis saxeas erexere turres, et desuper exornata armis hostilibus tropaea fixerunt, cum hic mos inusitatus fuerit nostris. Numquam enim populus Romanus hostibus domitis victoriam exprobravit.*

[19] Strab. 4.1.11: καθ᾽ ὃ δὲ συμπίπτουσιν ὁ Ἴσαρ ποταμὸς καὶ ὁ Ῥοδανὸς καὶ τὸ Κέμμενον ὄρος, Κόιντος Φάβιος Μάξιμος Αἰμιλιανὸς οὐχ ὅλαις τρισὶ μυριάσιν εἴκοσι μυριάδας Κελτῶν κατέκοψε, καὶ ἔστησε τρόπαιον αὐτόθι λευκοῦ λίθου καὶ νεὼς δύο, τὸν μὲν Ἄρεως τὸν δ᾽ Ἡρακλέους.

[20] Castellvi 2015, pp. 214–215.

[21] Révellat 1864, p. 19. According to Révellat, the tower had a few floors with trophies placed in niches and a quadriga of the defeated Bituitus on its top.

[22] Burnand 1979, pp. 119–140.

[23] Picard 1957, pp. 152–153; Castellvi 2015, p. 244. The tower was part of a Gaulish *oppidum* already in the third century BC and stood near the sanctuary of a Celtic water-spring deity (*Deus Nemausus*). In the time of Augustus, it was developed and incorporated into the town fortifications. Castellvi posed the question as to whether such a finely decorated monument could have commemorated the Battle of Actium beside being a structure of defensive function. After all, it stood near a sanctuary dedicated to the water-spring deity.

[24] Picard 1957, pp. 154–155; Carlsen 2014, p. 112. Carlsen thinks that the Greek mercenaries in Ahenobarbus' army may have been responsible for the construction of the trophy.

[25] Welch 2006, pp. 12–13.

weapons of the defeated enemy at the top. Later, the monument of Maximus among others could have been developed just as Strabo describes.[26] However, pending the discovery of any kind of archaeological evidence, these speculations must remain just that. The important thing at this stage is that these buildings must have served as a blueprint for generals, like Pompeius, who later built his trophy on the Coll de Panissars.

The trophy of Gnaeus Pompeius the Great on the Coll de Panissars and the trophy at Urkulu

There are many more sources, both literary and archaeological, for the trophy of Pompey the Great raised after the war with Quintus Sertorius in 72 BC. The earliest mention of the trophy comes from the fragmentarily preserved *History* of Sallust. The historian stated laconically that the general, having conquered Spain, put up markers along the top of the Pyrenees (*summum Pyrenaeum*).[27] More details of the foundation were presented by Julius Exuperantius, who reported that the trophies were raised after defeating Sertorius' ally Marcus Perperna Vento and pacifying the cities of Clunia, Calagurris and Uxama.[28]

Strabo gave a more exact localization, stating that Tarraco was the first city between the trophies on the summits of the Pyrenees and the river Iberus. He also noted that some of the Emporitans inhabited the ridges of the Pyrenees all the way to the trophies of Pompey the Great, where a road ran from Italy to Iberia and on to Baetica.[29] Book IV of his *Geography* indicated that the trophies, along with the sanctuary of Aphrodite at Portus Veneris, marked the frontier between Spain and Gaul.[30]

Pliny the Elder supplied more details on Pompey's trophies, which included an inscription informing about the conquest of 876 *oppida* between the Alps and the frontier of Hispania Ulterior.[31] He also suggested that the monument was decorated with an indeterminate representation (*imago*), similar to pictures that were presented during Pompey's third triumph in 61 BC.[32]

Cassius Dio also mentioned the Pyrenean *tropaion* when describing Julius Caesar's campaign in Spain. Instead of building a victory monument at the top when he crossed the Pyrenees in 49 BC, the Roman general had a great altar of polished stones constructed (probably for Venus) in the vicinity of the trophies of Pompey the Great. According to Dio, Caesar did so because he was well aware that the trophies his rival raised did not bring him any fame.[33]

A closer study of these reports calls attention to a few details. Pliny said that Pompey intentionally omitted Sertorius from the inscription.[34] This may have been a considered political act rather than mere spite. Florus said in his account that the victorious generals (Pompey and Quintus Cecilius Metellus Pius) chose to conduct a foreign war rather than a civil one in order to be able

[26] Castellvi 2013, p. 51; Castellvi 2015, p. 215. The stone used in the construction may have been limestone quarried in the Alps.

[27] Sall. *Hist*. 3.89: [Pompeius] *de victis Hispanis tropaea in Pyrenaei iugis constituit.*

[28] Iul. Exuper. 56: *Postea Pompeius Perpennam subegit; Auxummen, Cluniam, Calagurrim civitates delevit, et factis in Pyrenaeo trophaeis, Romam regressus est.*

[29] Strab. 3.4.7–9.

[30] Strab. 4.1.3: ἔνιοι δὲ τὸν τόπον ἐν ᾧ ἐστι τὰ Πομπηίου τρόπαια ὅριον Ἰβηρίας ἀποφαίνουσι καὶ τῆς Κελτικῆς.

[31] Plin. *HN* 3.4.1; Plin. *HN* 7.27.1: *Citerioris Hispaniae sicut conplurium provinciarum aliquantum vetus forma mutata est, utpote cum Pompeius Magnus tropaeis suis, quae statuebat in Pyrenaeo, DCCCLXXVI oppida ab Alpibus ad fines Hispaniae ulterioris in dicionem ab se redacta testatus sit.*

[32] Plin. *HN* 37.6.3.

[33] Cass. Dio 41.24: Πομπηίῳ ἐτεταμιεύκει ἦν· αὐτὸς δὲ μέχρι Ταρράκωνος πλοίοις ἐκομίσθη. ἐντεῦθεν δὲ διὰ τοῦ Πυρηναίου προχωρῶν τρόπαιον μὲν οὐδὲν ἐπ᾽ αὐτοῦ ἔστησεν, ὅτι μηδὲ τὸν Πομπήιον καλῶς ἀκούσαντα ἐπὶ τούτῳ ἤσθετο, βωμὸν δὲ δὴ ἐκ λίθων ξεστῶν συνῳκοδομημένον μέγαν οὐ πόρρω τῶν ἐκείνου τροπαίων ἱδρύσατο.

[34] Plin. *HN* 7.27.1: *Suae adscripsit et maiore animo Sertorium tacuit.*

to seek the right to a triumph.[35] In Rome, celebrating a military success over fellow citizens was perceived in a negative light, hence the silence about the defeat of Sertorius and his allies, replaced with information about the conquest of 876 villages.

Researchers are in doubt regarding the number of *oppida* actually subjugated by Pompey, especially as no regular military action too place in Transalpine Gaul at the time. Hence, it is thought that the number was inflated by including villages and even isolated forts or towers subjugated during the campaign.[36] Neither is it clear what this *imago* mentioned by Pliny actually looked like; it is commonly assumed that the *tropaion* was decorated with either a statue of Pompey, a relief with his representation, or a personification of the conquered peoples or the weapons of the defeated enemies.[37]

The line of the frontier between the provinces has also been debated for years, the goal being to establish the exact localization of the *tropaion*. One of the ideas assumed that Pompey's monument was constructed at the edge of the sea, like the sanctuary of Aphrodite. However, it would mean that there was no clear border between Hispania and Gaul, which does not seem probable. The other idea placed the trophy inland, enabling an exact line to be drawn between the monuments. In this case, the sanctuary of Aphrodite would have been an ideal navigation point for sailors plying the coast, whereas the trophy would have played the same role for those traveling by land.[38] Archaeological research at Coll de Panissars corroborates the second hypothesis.

Last but not least, ancient authors often wrote of Pompey's marker in the plural, but this hardly means that the general put up two separate trophies. Some researchers have suggested that the use of the plural reflected the elaborate architectural form of the monument itself.[39]

Summing up the information from the sources, the *tropaion* was not a perishable structure; instead, it was an architectural form towering over the landscape.[40] Picard suggested the form of a tumulus crowned with trophies and dedicated to Venus *Victrix*. Unlike the Greeks, Roman generals dedicated their trophies to the guardian deities, which they perceived as their personal patrons.[41]

Tradition had situated Pompey's trophy on Coll de Pertús, but the results of archaeological excavation have verified this view. In 1984, working at Coll de Panissars, Georges Castellvi discovered the remains of a structure, which he identified as a *tropaion* raised after the campaign against Sertorius.[42] The foundations of this structure were found under the ruins of a medieval monastery of Santa Maria de Panissars [Fig. 2]. Today one can see two parallelepiped bases, of unequal height, separated by a ditch 5.15 m wide. This is believed by researchers to be a fragment of the *via Domitia*, which joined the *via Heraclea* (later *via Augusta*) in Hispania.[43] The bases were executed in the *opus caementicium* technique presenting pseudo-isodomic bondwork, using limestone probably quarried around the town of Gerunda. The blocks were 0.60 m high and weighed more than a ton each. The eastern base was 1.65 m high, the western one 6.50 m. The pedestals were more or less symmetrical, 30.76 m and 30.91 m long, and 15.53 m and 16.06 m wide. Combined, they covered an area of 36.70 m by 30.84 m. A sign of a cross was found (0.50–0.55 m) at the bottom of the trench in the southwestern corner of the base; it most probably marked the edge of the monument. Subtracting this measure from each corner, we arrive at dimensions that are

[35] Flor. 2.10.9.
[36] Amela Valverde 2016, p. 49.
[37] Castellvi, Nolla, Roda 1995, p. 17.
[38] Castellvi 1989, p. 15; Amela Valverde 2016, p. 53.
[39] Castellvi 2013, pp. 52–53; Amela Valverde 2016, pp. 67–68.
[40] Gansiniec 1955, pp. 122–123.
[41] Picard 1957, p. 184.
[42] Castellvi 1993, pp. 27–30; Castellvi, Nolla, Roda 1995, pp. 5–18; Castellvi, Nolla, Roda 2008; Castellvi 2015, pp. 219–230. Coll de Panissars lies 325 m a.s.l. and is 1250 m away from Coll de Pertús.
[43] Amela Valverde 2016, p. 59; Roda 2013, pp. 533–534. Amela Valverde suggests that Pompeius could have moved the *via Heraclea* from Coll de Pertús to Coll de Panissars, enabling the Romans to control the pass during the conflict with Sertorius.

Fig. 2. Remains of the monastery at Coll de Panissars,
current state of preservation (source: Wikimedia Commons)

close to classical for Roman architecture, that is, 120 feet by 100 feet (35.55 m by 29.63 m). Above each base one finds U-shaped foundations opening toward the trench, marking a quadrangle 22.40 m by 18 m, which could indicate that the structure had two or more tiers. Nothing has survived however of the superstructure [Fig. 3].[44] A few remains of a cornice made of local sandstone, as well as fragments of inscriptions consisting of single letters were also found on the spot. The material is too fragmentary for analysis.[45]

The preserved ruins verified Picard's theories as to the appearance of Pompey's *tropaion*. The structure must have been quite original. According to one hypothesis, it was a double altar standing on either side of the *via Domitia*, the trophies set up on its top.[46] Alvaro Ibarra would like to see an arch decorated with trophies, but nothing to attest to this form of the structure has ever been discovered.[47] Last but not least, a tower has been envisioned on the grounds of the inner foundations (*trofeo turriforme*). Supporters of this idea reconstruct the *tropaea Pompeii* as a double-tiered tower with the top resembling a stepped pyramid crowned with a statue of the victorious general. The inscription that Pliny mentioned would have been placed on the facade of either the first or the second platform. It could have been flanked by a frieze or relief decoration, but again, no evidence of anything of the kind has been preserved [Fig. 4]. The monument would have been either 30 m high according to the first hypothesis or 60 m according to the second one. although the latter seem improbable considering that a similar trophy of this kind, the *tropaion* of Augustus at La Turbie, was only 49 m high. It has also been suggested that Pompey's architects drew on the Hellenistic mausolea and tower tombs of Numidia that Pompey could have seen during his campaigns in Africa.[48]

[44] Castellvi, Nolla, Roda 1995, pp. 9–11; Castellvi 2015, p. 224.
[45] Castellvi, Nolla, Roda 2008, pp. 171–176.
[46] Castellvi, Nolla, Roda 1995, pp. 5–18.
[47] Ibarra 2009, p. 84; Ibarra 2014, p. 141.
[48] Castellvi, Nolla, Roda 2008, pp. 154–160.

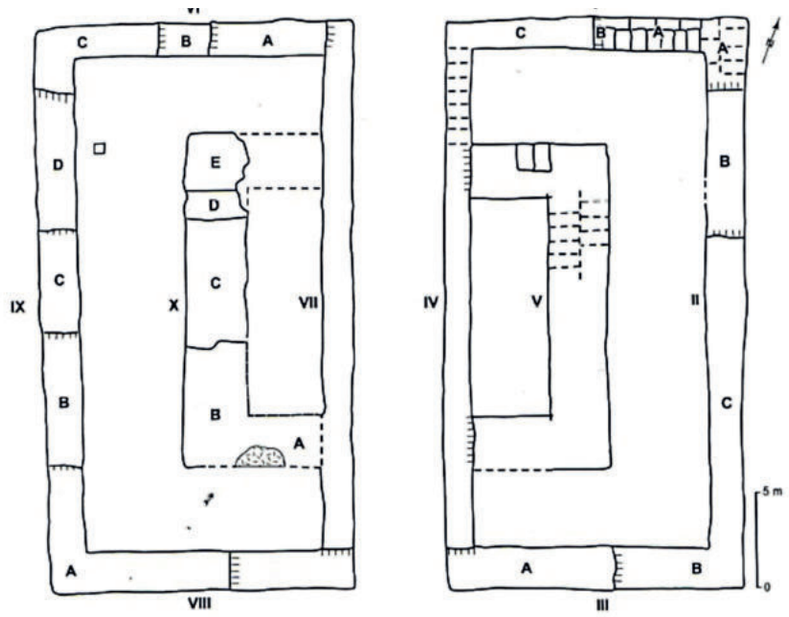

Fig. 3. Plan of the trophy of Pompeius at Coll de Panissars (author: G. Castellvi)

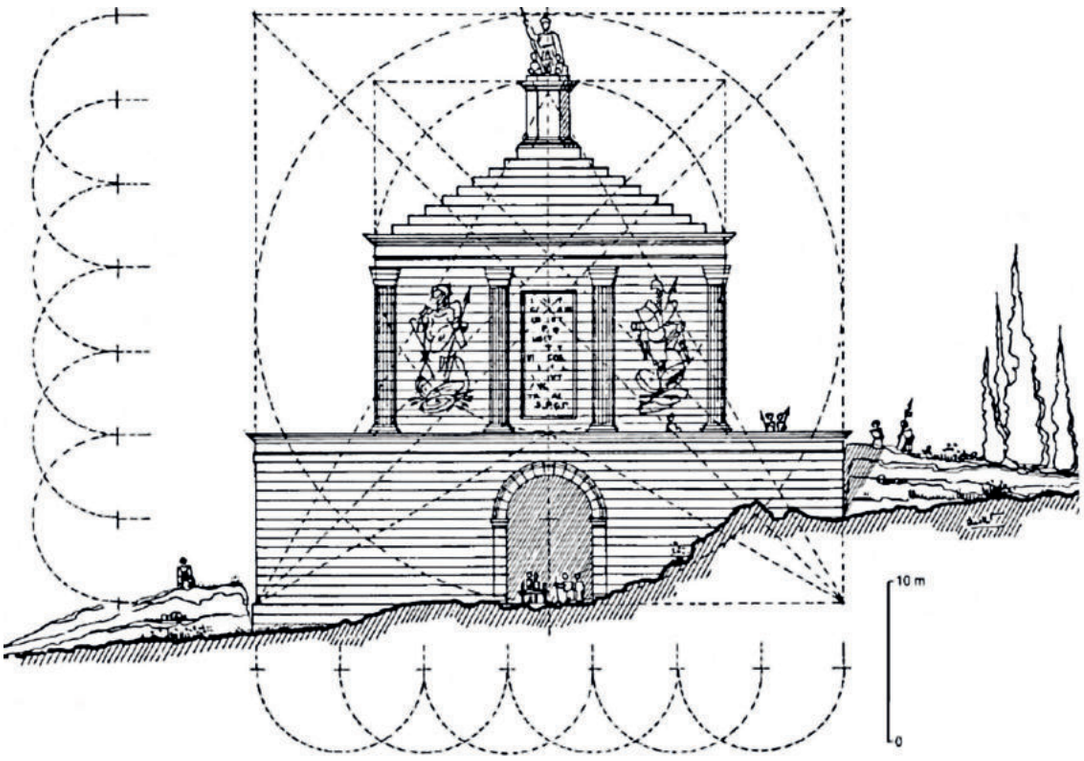

Fig. 4. Reconstruction of the trophy of Pompeius at Coll de Panissars (author: J. L. Paillet)

Javier Arce is skeptical, primarily because he does not believe the remains discovered on Coll de Panissars to be part of a *tropaion*; to him they represent fortifications securing the pass through the Pyrenees (*clausurae*). The proposed reconstructions are, in Arce's opinion, mistakenly derived from later monuments of this kind, such as the trophy of Augustus. Having studied the narrative sources again, the numismatic material,[49] as well as the remains of one of the two trophies Sulla left at Cheronea, Arce suggested that Pompey's building could not have been of equally monumental form. He reconstructed a base with two sculpted trophies on either side flanking a small column bearing a statue of the general. In a variant of his reconstruction, the base was decorated with a relief representation of Pompey and twin trophies were placed on pedestals on top of it. Arce was also of the opinion that like Sulla's trophy, Pompey's marker must have been raised near a temple, hence he preferred to situate it near the sanctuary of Aphrodite, but without indicating an actual location.

Arce's reasoning stands to doubt. Georges Castellvi, Josep Nolla and Isabel Roda noted already that for whatever reason conscious or not, he failed to take into consideration the results of archaeological excavations on Coll de Panissars.[50] Second, conclusions *per analogiam* between the trophies from Cheronea and in the Pyrenees are insupportable. The former were raised on the battlefield during a raging war (First Mithridatic War), so they were probably field *tropaia* which were shortly replaced by permanent markers, as evinced by the discovery of the remains of one of Sulla's monuments on the Turion hill.[51] To believe Exuperantius, Pompey started on his marker only after military action had ceased, hence he could devote to the project definitely more time and effort than Sulla. It is presently assumed that the construction took place in 72–71 BC, but his ally Lucius Afranius could have continued on the work after the general had departed for Rome.[52]

In any case, coins are hardly a credible source for the reconstruction of any architectural structure, *tropaia* included. Those issuing coins were satisfied usually with schematic representations of particular monuments. They omitted many details in favor of a symbolic depiction of a given structure. Consequently, Pompey's *tropaion*, presumably of an original form, could have been represented according to a scheme that was popular in the Roman tradition and easily recognized by its recipients.

Lastly, the fortifications (*clausurae*) mentioned by Arce were found in the Pyrenees, but not on Coll de Panissars; they were located 3.5 km north of this locality, in the small town of Les Cluses.[53] Coll de Panissars remains an ideal location for a *tropaion* which would have towered over the *via Domitia* connecting the two provinces. Most researchers today accept the reconstruction of Pompey's trophy as a *trofeo turriforme*, proposed by Castellvi in conjunction with his associates, the architects Jean Luis Paillet and Ricardo Mara.[54]

Francisco Pina Polo is of the opinion that Pompey put up not one, but two trophies. Pointing out the sources that use the plural when referring to Pompey's trophies, Pina Polo believes that Pompey built a second tropaion on the summit of Urkulu in the western Pyrenees, on the frontier between Hispania and Aquitania. To Polo, the trophy marked the deportation of the routed peoples of Hispania to Lugdunum, that is, on the route from Pompaelo to Burdigala, north of the Roncesvalles pass, which Pompey's army had to cross.[55]

[49] *RRC* 359/1; *RRC* 468/2; *RRC* 536/4; Arce 1994, p. 263. Arce analyzed the coins of Sulla, Caesar and Mark Anthony, among others, bearing representations of field trophies.
[50] Castellvi, Nolla, Roda 1995, p. 18.
[51] Camp *et alii* 1992, pp. 443–455.
[52] Amela Valverde 2016, p. 52.
[53] Castellvi, Nolla, Roda 1995, p. 18.
[54] Castellvi 2015, p. 224; Amela Valverde 2016, p. 67; Kinnee 2018, p. 70. Kinnee accepts the location of the trophy, but is skeptical regarding its reconstruction in the form of a tower.
[55] Pina Polo 2009, p. 284.

Fig. 5. Remains of the trophy on the summit of Urkulu, current state of preservation (source: Wikimedia Commons)

The remains of a tower are preserved on Urkulu. The structure was 19.50 m in diameter [Fig. 5], the walls 2.60 m wide and standing 4.50 m high (surviving height is 3.60 m), made of local limestone. It was built on bedrock without any foundations. Fragments of an altar were located near the trophy. The excavations did not produce any conclusive dating evidence, resulting in many researchers negating the ideas of Pina Polo. Jean-Luc Tobie has given a date in the reign of Augustus, perhaps even after the campaign of Marcus Valerius Messala, who pacified the revolt in Aquitania in 26 BC.[56]

The reconstruction of this monument does not raise any doubts. It is generally accepted today that it was composed of a stone ring 4.50 m high and an earth mound approximately 3 m high with the weaponry of the routed enemy placed at the top, altogether perhaps even 10 m in height.[57] In appearance, the tropaion on Urkulu resembled more the tumulus-shaped trophy of Drusus on the Elbe,[58] rather than the monumental towers of Pompey on the Coll de Panissars or Augustus in La Turbie.

Trophy of Augustus in La Turbie

> To the Emperor Caesar — The son of Caesar now deified, Augustus, Pontifex Maximus, and emperor fourteen years, in the seventeenth year of his holding the tribunitial authority, the Senate and the Roman people, in remembrance that under his command and auspices all the Alpine nations which extended from the upper sea to the lower were reduced to subjection by the Roman people [...].[59]

[56] Tobie 1976, pp. 43–62; Amela Valverde 2016, p. 78.
[57] Castellvi 2015, p. 217.
[58] Flor. 2.30.
[59] Plin. *HN* 3.24 (transl. J. Bostock).

This excerpt comes from an inscription found on a *tropaion* dedicated to Augustus, raised on the border of Transalpine Gaul (already Gallia Narbonensis at this time) and Cisalpine Gaul.[60] The building was erected on the initiative of the Senate at the turn of year 7 BC to commemorate the victory of the emperor and his generals over the Alpine tribes in the campaign of 16–14 BC.[61] This trophy, like the ones described above, was not situated on the battlefield and its location was carefully chosen, by the *via Iulia Augusta*, one of the chief routes across the Alps to Italy. It marked the highest point (*Alpe summa*) [Fig. 6] as well as the intersection of many roads, including one in the direction of the port in Monoikos.[62]

Fig. 6. Trophy of Augustus in La Turbie, current state of preservation
(source: Wikimedia Commons)

Contrary to Pompey's trophy, parts of which were either destroyed or reused in the foundations of another building,[63] the monument in La Turbie was used also in later times, for instance in the Middle Ages, when it served as a guard tower. Many elements of its decoration, statues included, were destroyed by the monks from Lérins. Its present appearance the *tropaion* owes to years of research by Jules Formigé, who worked on the reconstruction in 1923–1933, paid for by Edward Tuck.[64]

[60] *CIL* V 7817. 140 fragments of inscriptions were found at La Turbie.

[61] Formigé 1955, pp. 101–102. The tribes conquered by the Romans inhabited an area from the Adriatic to the Mediterranean, and from the sources of the Rhine and Rhone to the territory north of Lake Garda. Depending on the text edition, the number of tribes oscillates between 44 and 46.

[62] Ibarra 2014, p. 146; Kinnee 2018, pp. 119–124. The settlement of Monoikos was located 3 km from the trophy. In the nineteenth century, the writer C. Lenthéric believed that the trophy had been raised to commemorate a Roman victory over the Ligurii. None of the sources, however, mention any skirmishes in the vicinity of La Turbie.

[63] Amela Valverde 2016, p. 62. The fortress of Bellegarde, for instance.

[64] Castellvi 2015, p. 238; Kinnee 2018, pp. 115–120.

Formigé proposed local limestone from the quarries in Justicier and Giram as the building material of this monument. It was composed of an outer basis in the *opus caementicium* technique, its sides 32.52 m wide and 12.34 m high. The stone blocks were bonded with clamps bearing the name of the emperor. Inscriptions (17.44 m by 3.63 m) commemorating the Alpine campaign were located on the eastern and western walls. They were carved into slabs of Luni marble and flanked by two carved trophies and a personification of Victory. Steps on the northern and southern sides led to the top of the monument. Standing on an inner base, which was 27.10 m wide and 4.21 m high, was a rotunda measuring 18 m in diameter. A row of 24 Tuscan columns ran around the perimeter, set up each on pedestals 2 m high, topped by a Doric frieze of metopes carved with representations of bucrania, weaponry and armor. The niches between the columns were filled most probably with statues of commanders fighting in the campaign.[65] The one surviving statue is that of Drusus. A conical roof made up of 12 steps was found at the top, crowned presumably with the actual trophy. Altogether the monument was 49 m high.[66]

The appearance of the monument at the top cannot be reconstructed for lack of any surviving elements. Medieval sources speak of a statue of a man or a god with a demon at his feet. Lauren Kinnee believes this description to reflect a typical theme in Roman art of a captive or captives at the feet of the victor and characterizes the monument as a so-called *trophy tableau* (this is the case, for example, of the trophy of Trajan).[67] The motif appeared frequently on coins and in reliefs. Picard, however, thought that the figure at the top was a statue of Augustus; after all, the monument was dedicated to him.[68]

Other trophies beside the one at La Turbie were raised in the reign of Augustus. In 9 BC, the emperor's stepson Drusus raised a monumental *tropaion* in the form of a tumulus on the Elbe; the weapons of the routed Marcomanni were placed on top of it.[69] Writing in the mid-second century AD, Claudius Ptolemy listed in his geographical work the locality of *Tropaia Drousou*, which led Picard to speculate that the building stood for a long time and was even elaborated and decorated.[70] However, without archaeological evidence the appearance of this monument is merely speculation. The trophy may have had an ornamental inscription, like the trophies of Germanicus that was constructed at Idistaviso in AD 16.[71]

The trophies in Adamclisi

The long skirmishing of the Romans and Dacians ended with the conquest of Sarmizegetusa in AD 106. Trajan commemorated this success by building a trophy in AD 109, not in the Dacian capital, however, but in Lower Moesia. The tropaion was constructed on one of the hills around Adamclisi; even today, it is visible from more than 10 km away. Remains of an altar were preserved near this monument, next to a "mausoleum" that many researchers identify as an earlier trophy.[72] The structure was reconstructed to its present shape in 1977, by Florea Bobu Florescu among others[73] [Fig. 7].

[65] Lamboglia 1956, p. 53.
[66] Formigé 1949.
[67] Kinnee 2018, p. 119.
[68] Picard 1957, p. 294.
[69] Cass. Dio 55.1; Flor. 2.30: *Nam Marcomannorum spoliis et insignibus quendam editum tumulum in tropaei modum excoluit.*
[70] Ptol. *Geogr.* 2.11.13; Picard 1957, p. 302; Castellvi 2015, p. 216.
[71] Tac. *Ann*. 2.18.2: *Miles in loco proelii Tiberium imperatorem salutavit struxitque aggerem et in modum tropaeorum arma subscriptis victarum gentium nominibus imposuit*; cf. also Tac. *Ann*. 2.22.1.
[72] Poulter 1986, p. 524; Stefan 2009, p. 621.
[73] Florescu 1965.

Fig. 7. Twentieth-century reconstruction of the trophy of Trajan in Adamclisi (source: Wikimedia Commons)

The choice of location for this trophy has led some researchers to suggest that the Romans had fought the Roxolani not far from Adamclisi; there is, however, nothing in the narrative sources and no archaeological evidence in favor of this idea.[74] Alvaro Ibarra proposed that Trajan had wished to eclipse a trophy put up in this place by Domitian and razed after the emperor's death and his *damnatio memoriae*.[75] However, the Romans, like the Greeks before them, tended to spare the trophies of their rivals for religious reasons.[76] Trajan presumably would not have acted differently. And there is little reason for Domitian to have raised a trophy here because, as Brian W. Jones observed, he did not reach Dobruja during the campaign of AD 84–85.[77]

Andrew G. Poulter put forward the idea of two trophies in Adamclisi, both built by Trajan. The older *tropaion* according to Poulter would have been 90 m northwest of the trophy of AD 109 and would have dated to around AD 102 (after the first Dacian war), commemorating together with an altar the legionaries killed in this campaign.[78] The monument was constructed of local limestone on a circular plan. It consisted of three stone walls with buttresses and a mound rising on this substructure. The inside ring was thicker (1.50 m) than the outer casing walls, suggesting a substantial height. A hole in the middle may have been for a column that towered over this structure. No human remains were ever found within the monument, rejecting the mausoleum theory.[79] Despite the skeptical opinion of many researchers,[80] Trajan's army may have raised the trophy already during the First Dacian War, upon occupying Dobruja about AD 102. This would explain

[74] Ibarra 2014, pp. 148–149.
[75] Ibarra 2014, p. 149.
[76] Vitr. 2.8.15; Cass. Dio 42.48. Vitruvius speaks of the Rhodians who did not destroy the trophy built by Artemisia after reconquering their city. Caesar also spared two trophies, that of Pompey and that of Mithridates VI.
[77] Jones 1992, pp. 138–139.
[78] Poulter 1986, p. 525; Alexandrescu Vianu 2015, p. 169. Contentious issues regarding the identification of the altar are analyzed by Alexandrescu Vianu, among others.
[79] Poulter 1986, p. 525.
[80] Alexandrescu Vianu 2015, p. 167. Some researchers still think that the monument was a mausoleum of Cornelius Fuscus, a general of Domitian. Vianu suggests that it was a tomb from the times of Augustus.

according to Poulter why another victory monument was constructed at Adamclisi following the Second Dacian War.[81] Following this assumption, the trophy pictured on the reverse of a denarius struck in Rome in AD 103 may represent this tentative older monument[82] [Fig. 8].

Fig. 8. Reverse of a denarius (*RIC* II 88) struck between AD 103–111 with a representation of the trophy of Trajan

The narrative sources fail to mention the trophy of AD 109, but its dating is precise, based on the inscription preserved at the top of it.

> Ma[rti] Ultor[i] / Im(perator) [Caes]ar, divi / Nerva[e f(ilius)], N[e]rva / [Tr]aianu[s Aug(ustus) Germ(anicus)] / 5. [Dac]i[cu]s p[ont(ifex) max(imus)] / [trib(unicia) potes]-t(ate) XIII / imp(erator) VI, co(n)s(ul)] V, p(ater) p(atriae) / (? [devicto exer]citu / [Da-corum et e.g. Sarmata]rum / 10. [- - -]E / [- - -] / [? tropaeum consecravit].[83]

On the grounds of this text, it may be established that the monument was raised three years after the conclusive battle.[84] The tropaion was built on a crepidoma composed of nine steps, 38.62 m in diameter and 2.40 m high. A rotunda was constructed on it, 30.20 m in diameter and 7.58 m high. This rotunda was decorated with six rows of limestone blocks from the Deleni quarry, all of the same size. Above this ran a frieze featuring vegetal motifs and Dacian dragons; topping it were 54 metopes with scenes from the military campaigns, under a frieze of palmettes and linear patterns. At the top was an ornamental cornice with panels presenting captives [Fig. 9]. Lion-shaped gutters for discarding rainwater were fitted at the edges.

A conical roof covered with stone tiles, 5.30 m high, rose above the rotunda. Its central part consisted of a hexagonal tower 11.30 m high. The corners were decorated with pilasters and the said inscription was found at the center. Topping the tower was a pedestal decorated with panoplies and above this a monumental, 9-m high tropaion [Fig. 10]. The trophy was made up of the armor, a helmet, the shields and weapons. The armor breastplate was decorated with a scene of Trajan on horseback, an eagle flying above his head. A *gladius* was depicted next to the emperor along with two hexagonal shields with Gorgon's heads on them. The helmet was placed above the armor. Three captives were shown at the foot of the trophy: two women sitting on either side and

[81] Poulter 1986, p. 526.
[82] *RIC* II 88.
[83] *CIL* III 12467: "To Mars Ultor, Caesar the emperor, son of the divine Nerva, Nerva Trajan Augustus, Germanicus, Dacicus, Pontifex Maximus, Plebeian tribune for the 13th time, [proclaimed] Emperor [by the army] for the 6th time, Consul for the 5th time, Father of the Fatherland, conquered the Dacian and the Sarmatian armies".
[84] Castellvi 2015, p. 249.

Fig. 9. Adamclisi, Archaelogical Museum, metope with a representation of a Dacian captive (photo T. Płóciennik)

Fig. 10. Adamclisi, Archaelogical Museum, original remains of the trophy of Trajan (photo T. Płóciennik)

a man with hands bound behind his back. The monument measured close to 37 m in height and was dedicated to an avenging Mars.[85]

Trajan is believed by some researchers to have built more trophies than just the one at Adamclisi. Juan Roman Carbo Garcia and Felix Julian Rodriguez San Juan suggested that the emperor was responsible for another tropaion resembling the structures from Lower Moesia, La Turbie and Coll de Panissars, which he commissioned at Characene on the Euphrates and Tiger rivers after the Parthian campaign. The monument would have been a mark of Roman power in the East. However, sources, including Jordanes, whence this idea derives from, do not speak of a trophy, but of a statue of the emperor which may have been decorated with weaponry.[86] Moreover, no archaeological evidence of this monument has ever been found. Even so, one should keep in mind the possibility of a trophy of this kind being constructed, especially as coins struck in Rome after the Parthian campaign in the East presented a *tropaion* on the reverse, furnished with the legend *PARTHICA CAPTA*.[87]

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Recapping, the following observations come to mind. First, Roman trophies from the mid-second century BC evolved from simple tumuli resembling provisional towers into monumental structures modeled on Hellenistic tombs or mausolea. These models were repeated throughout the time of the Republic and the Empire. The natural conditions of the setting of these structures may have also determined the architectural form of the trophies. It was essential that they towered over the surrounding territory.

[85] Florescu 1965; Ibarra 2009, pp. 179–178; Castellvi 2015, p. 250.

[86] Carbo Garcia, Rodriguez San Juan 2012, pp. 17–35.

[87] *RIC* II 325.

As rightly noted by Castellvi and Maria Alexandrescu Vianu, the tropaia from Coll de Panissars, La Turbie and Adamclisi constituted symbols of imperial power, commemorating the death and glory of the legionaries.[88] Their monumental form was meant to tower over the conquered peoples and spoke of the inevitable Romanization of newly conquered territories. According to Hölscher, the raising of trophies was the first step in forging political domination of a conquered area from a military success.[89] Personal ambition of individual generals may have motivated the building of trophies, but the superior objective was to extend Roman territory ultimately to become *imperium sine fine*.

Abbreviations

CIL	*Corpus inscriptionum Latinarum.*
RIC II	*The Roman Imperial Coinage*, vol. II, ed. H. Mattingly, E. Sydenham, London 1968.
RRC	*Roman Republican Coinage*, ed. M. H. Crawford, Cambridge 1974.

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[88] Castellvi 2015, p. 256; Alexandrescu Vianu 2015, pp. 166–181.
[89] Hölscher 2006, pp. 27–48.

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Streszczenie

Na granicy prowincji — monumentalizacja rzymskich tropajonów wieżowych w okresie republiki i cesarstwa

Pod wpływem greckich idei tradycja budowy tropajonów praktykowana była w Rzymie, najpóźniej od schyłku III w. p.n.e., co sugerują źródła literackie oraz numizmatyczne. W okresie tym wykonane z metali szlachetnych lub kamienia trofea ofiarowywano na Kapitolu. Nie ma jednak pewności, czy pomniki te miały swoje polowe odpowiedniki, czy były tylko darem dla Jowisza.

Według dostępnych przekazów Rzymianie wznieśli tropajony na polu bitwy dopiero podczas kampanii Gnejusza Domicjusza Ahenobarbusa i Kwintusa Fabiusza Maksimusa w Galii Zaalpejskiej w 121 r. p.n.e. Nie były to jednak efemeryczne trofea, a kamienne wieże (*saxeae turres*) zwieńczone orężem pokonanych wrogów. Przykład ten jest punktem wyjścia w każdej publikacji na temat tropajonów, w szczególności zaś monumentów, które w literaturze przedmiotu określane są jako *towers-trophies* lub *trophées-tours*.

Dzięki badaniom archeologicznym możemy obecnie przeanalizować pozostałości pięciu trofeów wieżowych: Gnejusza Pompejusza Wielkiego na Coll de Panissars, Augusta w La Turbie i Trajana w Adamklissi. W przypadku tropajonów w Urkulu i (starszego?) w Adamklissi badacze nie są zgodni co do tego, kto zlecił ich budowę. Charakterystyczne jest jednak to, że żadne z tych trofeów (oprócz budowli z 121 r. p.n.e.) nie zostało wzniesione na polu bitwy. Monumenty te wystawiano na granicach prowincji bądź na terytorium wroga, najczęściej na wzgórzach lub przełęczach, aby były widoczne z wielkiej odległości (*landscape-trophy*). Ponadto konstrukcje te przewyższały swą architektoniczną formą tropajony polowe (m.in. Lucjusza Korneliusza Sulli), gdyż w przeciwieństwo do nich były one wznoszone po kampaniach wojennych, a nie w ich trakcie. W ten sposób powstały okazałe trofea wieżowe Pompejusza, Augusta i Trajana, którym poświęcony jest niniejszy artykuł.

Adam Jakub Jarych
Institute of Archaeology
University of Lodz
adamjarych@yahoo.pl

Krzysztof Narloch

WINDS OF CHANGE. THE SOCIAL BACKGROUND OF ROMAN CAVALRY DEVELOPMENT IN THE FOURTH CENTURY

Abstract: A number of processes deeply rooted in the Principate accelerated or reached their peak in late antiquity. A good example are cavalry units, which went from auxiliary status to being one of the main components of the army in the course of 600 years from the times of Augustus. The change of military doctrine resulted not only from external factors, that is, enemy combat techniques, but also from the internal situation of the empire. The present text focuses on the fourth century, in which the cavalry as such and the riders themselves assumed a significant role.

Key words: Late antiquity, Roman army, Roman cavalry, tactics, social status

The history of the Roman Army[1] is the sum of a number of processes, the roots of which often go back to the Principate and in some cases even to the times of the Republic. Apart from external stimuli, such as the need for greater flexibility in the face of the opponent's different types of forces and battle technique, internal processes were also of significance. Together they set trends and determined the pace of change of war doctrine, raising the importance and prestige of the cavalry over time.

The first milestone was Augustus's revolutionary[2] reform of army structure, which called for organizing a permanent and professional armed forces divided into two main types: legions, recruited from the citizens and *auxilia*, which were made up initially of people without Roman citizenship.[3] Most of the horseback riders belonged to the latter category,[4] serving in *alae* and *alae militares* as well as cavalry units called *cohors equitata* and *cohors equitata militaria*.[5]

The gradual but continuous expansion of the role of cavalry forces in the Roman military effort was one of the more important processes initiated with Augustus's reform of the army. In the first century AD, cavalry participation in military expeditions increased slowly but regularly, from 5% in AD 7, which marked the highest intensification of military activities in the *bellum batoniarium*, to 12–13% at the Battle of Mons Graupius in AD 83/84, during Agricola's campaign in Britain.

[1] The research was financed from a National Science Center post-doctoral grant DEC-2015/16/S/HS3/00240.

[2] A term in Roman historiography coined by Ronald Syme (Syme 1939).

[3] For more on military reforms of Augustus, see e.g. Raaflaub 1980, pp. 1005–1025; Keppie 1984, chapter 6; Eck 1988, chapter 12; Speidel 2009, pp. 19–51.

[4] For more on cavalry in the structure of the Roman army, see Narloch 2018, pp. 25–73.

[5] Despite the same sources, there is no agreement concerning the number and strength of the units; see Breeze, Dobson 2000, p. 161; Hodgson 2003, pp. 86–90; Hayes 2013, p. 53.

The process is best illustrated, even if the methodology behind the calculation is not commonly accepted, by comparing the changing percentage of cavalrymen in regular cavalry units: 222 to 243% between the reigns of Augustus and Trajan and 199% between that of Vespasian and Trajan.[6]

Another important process that was taking place in the first and second centuries was the increasing presence of citizens in the auxiliary forces, which were supposed to be recruited from the *peregrini*. Konrad Kraft was the first to note this trend based on his analysis of epigraphic sources, including diplomas, reflecting the make up of auxiliary units, both *alae* as well as *cohortes*, stationed on the Rhine and the Danube.[7] His findings were confirmed by further studies.[8] At the dawn of the Imperial period, the *auxilia* were dominated by *peregrini*, mostly of barbarian origin. This changed especially between the reigns of Vespasian and Marcus Aurelius and by the turn of the second century Roman citizens had gained a majority in the auxiliary forces, showing a marked preference for cavalry units. The trend is thus clearly visible regardless of the disputed methodology, the size of the sample and potential differences of the results across periods, regions and even specific units.

Moreover, one of the last testimonies of the practice of decapitating the defeated enemy dates from the Trajanic period, which is the latest that Kraft noted a dominance of the *peregrini* over citizens in the auxiliary troops. The practice was attributed to auxiliary troops whose savagery[9] and usefulness only for war[10] was stated by Tacitus. Scenes of decapitation of the enemy are shown on Trajan's Column,[11] the Trajanic Grand Frieze initially decorating his forum[12] and the *Tropaeum Traiani* at Adamclisi.[13] The less Romanized relief from Adamclisi is a particularly telling illustration: a rider holds up a head, while the decapitated body of an enemy warrior is shown in the background.[14] Ritual decapitation of the defeated opponent was popular with most peoples of northern Europe[15] and was practiced especially by the Gallic tribes.[16]

The next significant and observable stage in the development of the cavalry took place in the third century,[17] particularly during the reign of the emperor Gallien. The period was exceptional in Roman Imperial history, giving rise to many of the phenomena and socio-political processes that would define late antiquity.

Gallien took power following the unprecedented capture of his father, the Emperor Valerianus, by the Persians. His fairly long reign (until 268) introduced some calm despite the usurpation of Postumus, loss of control in the East and numerous raids by barbarians, encouraged by their earlier successes and the Roman army's failing prestige.

The establishment of new equestrian units was intended, among others, as a means of saving the situation and was dictated by a new military elite connected with the command headquarters in Sirmium. Its emergence and rise to power can be divided into three stages.[18] The first stage starts with Philip the Arab after his return from the war against the Carpi at the turn of 247/248[19] and

[6] Colombo 2009, pp. 96–117.
[7] Kraft 1951, pp. 69–99.
[8] Alföldy 1968, pp. 105–110; Arnaud-Lindet 1977, pp. 291–292.
[9] Tac. *Ann*. 2.46; *Hist*. 2.22.
[10] Tac. *Germ*. 29.
[11] Scenes 57, 58, 60, 140, 183, 184, 302, 303. More on the column and the frieze, see Lepper, Frere 1988.
[12] Leander Touti 1987, pp. 67, 70. The soldier with decapitated head was identified as a rider by his armament: Goldsworthy 1996, p. 272.
[13] Metope 7. More on the monument, see Florescu 1959.
[14] Goldsworthy 1996, p. 272.
[15] Strab. 4.4.4–5.
[16] Polyb. 3.67; Livy 10.26, 23.24; Green 1992, pp. 116–118.
[17] The literature concerning the period is quite extensive and presents different points of view, e.g. Alföldi 1939, pp. 165–231; Loriot, Nony 1997; and a monumental attempt at a comprehensive approach to the issue: Johne, Hartmann, Gerhardt 2008.
[18] Brizzi 1978, pp. 98–108.
[19] Zos. 1.21.2; Mócsy 1974, p. 204.

lasts through Galien's enthronement in 253.[20] From that point there is indeed no evidence of any other high-ranking commanders in Illyria.[21] Perhaps at this early stage the group had not yet formed or was still weak, which would be confirmed by the absence of any organized actions against Valerianus's dynastic plans. A new phase in the history of this group started with Gallien's co-rule with his father and his rise to the Sirmium command. The careers of Claudius II, Aurelian, Heraclius and Probus (all of whom would rise to supreme leadership within the next 20 years) gained momentum at this time. Some of them would be involved in the coup against him later.

The high position of the cavalry as well as the fact that their commanders shaped the policy of the day is confirmed by the events connected with the plot against Gallien, who may have given the impulse for the development of mounted units. When Aureolus turned against Gallien in the spring of 268, first conniving unsuccessfully with Postumus in Gaul[22] and then proclaiming himself emperor in Milan, he was claimed by Zosimos[23] and later by Zonaras quoting Zosimos[24] to be a commander of the cavalry. According to Aurelius Victor, however, Aureolus when he rebelled was marching to Italy at the head of legions from Raetia (*cum per Raetias legionibus praeesset*) as *dux exercitus*, and was forced to retreat to Milan.[25] The second version is more probable with the reservation that cavalry units were probably a sizable component of his troops,[26] considering that he was returning from a victorious expedition. The plot against Gallien's life, when he arrived in Milan to deal with the rebellion, appears to have been initiated by the praetorian prefect Heraclius,[27] in collusion with Claudius,[28] a tribune at the time,[29] staying in nearby Ticinum with his legion; Zonaras titled him as commander of the cavalry in his work.[30] Gallien's real assassin was a man called Cecropius or Ceronius, a commander of a Dalmatian cavalry unit in the rank of *dux Dalmatarum*.[31] Summing up, the plotters are all referred to in the available sources with the title of cavalry commander. The implication is that in the third century an equestrian career in the army had become an important opportunity of advancement.

The third and last stage of development of the new ruling group started after Aurelian's death in 275. The murder of the emperor may have been the effect of a personal grudge rather than political plotting by the equestrian commanders from Sirmium as no successor was appointed. The choice was left to the Senate. The reign of successive rulers is referred to in the sources as *interregni species*.[32] The end of the soldier emperors came with Diocletian's ascension to power;[33]

[20] A new kind of cavalry *equites promoti* is first mentioned in AD 293: Fink 1971, no. 86, l. 1; *equites Stablesiani* were formed probably by Aureolus, a Milan commander of a contingent of Gallien's army, whose titles included *stabulensis*, see Speidel 1974, pp. 541–546; *equites Scutarii* are first mentioned in connection with the events of AD 285 (Lactant. *De mort. pers*. 19.6), but their formation is attributed to Aurelian or even Gallien, who was to do it while forming his own unit of *protectores*, see Speidel 1975; *equites Dalmatae* were first reported in connection with the events of AD 268 when they defeated a force of Goths and Herules about 3000 strong (Zosimos 1.43.2).

[21] Mócsy 1974, p. 205.

[22] Aur. Vict. *Caes*. 33.17; Zos. 1.40.1; Zonar. 12.25; for more, see Alföldi 1967, pp. 1–15; Drinkwater 1987, pp. 31–33; Watson 1999, p. 41; Goltz, Hartmann 2008, p. 288.

[23] Zos. 1.40.1.

[24] Zonar. 12.25.

[25] Aur. Vict. *Caes*. 33.17.

[26] Simon 1980, pp. 439–443.

[27] SHA *Gall*. 14; Zos. 1.40.2–3.

[28] SHA *Gall*. 14.1–9, 15.2.

[29] Aur. Vict. *Caes*. 33.28.

[30] Zonar. 12.26.

[31] SHA *Gall*. 14.4–9; Zosimos (1.40.2–3) does not mention his name, nevertheless describes him as a commander of the Dalmatian cavalry.

[32] Aur. Vict. *Caes*. 35.12; SHA *Tac*. 14.5, this excerpt concerns Florian: *duo... principes ... quasi interreges inter Aurelianum et Probum*; for more, see Polverini 1975, pp. 1018–1023.

[33] Brizzi 1978, pp. 106–107.

as leader of the group formed around the *protectores*, he shared power with perhaps the biggest number of individuals from the ruling group, managing in effect to play down the personal ambitions of high-ranking army commanders and stabilizing internal state policy. During his reign, as well as later under the Tetrarchy, the process of forming new cavalry units and at the same time increasing the number of cavalrymen accelerated.

A new quality in the traditional approach was expanding the troops to include new cavalry units.[34] The titulature of the regiments formed by the Tetrarchs was coined either from their own names or form the names of their protector gods;[35] another form was to add *nova* to a name.[36] The most important novelty was a formal and administrative division into *legio* and *vexillatio*.[37] Two edicts issued at the turn of the third century introduced a legal differentiation between the two terms, referring *vexillatio* specifically to new cavalry units and not legionary detachments as before.[38]

Credible data on the size of troops deployed to a specific region comes from the Thebais in the province of Egypt where, according to a papyrus from Panopolis,[39] the army in AD 300 consisted of 1000 soldiers from auxiliary troops of the older type, that is, *cohors I Apamenorum equitata* and *cohors XI Chamavorum*, and about 1600 cavalrymen from the new *ala II Herculia dromedariorum* (300)[40] and *ala I Hiberorum* (300), the *equites promoti legionis II Traianae* (700) as well as *equites sagittarii* (300). Legionary troops in garrison numbered about 6000 *vexillationes* from the *III Diocletiana* and *II Traiana* legions, as well as about 1000 soldiers derived from eastern legions.[41] papyrus probably does not mention all the troops stationing in the province and the numbers are estimates anyway, the data demonstrate the percentage of cavalry units to be about 20%, similarly as in the time of Trajan. One should keep in mind that Egypt in late antiquity was hardly central to mainstream political events and consequently the information about troop size and composition, as well as the ratio of infantry to cavalry need not be representative of the whole empire.

Another papyrus from Egypt, specifically from Oxyrhynchus, dated January 295, provides further data on troops used by Tetrarchs during their war campaigns. The papyrus is damaged in the initial parts, but it still gives the names of units sent by Galerius against the rebelling cities of Busiris and Coptos.[42] Specifically, the Romans mobilized about 10,000 soldiers from the older *sacer comitatus*, including cavalry from the *comites domini*, *equites promoti dominorum nostrorum* and the *protectores*. Additionally, there were the cavalrymen from the *ala II Hispanorum*, who were most probably *quingenaria* and at least one unit of *dromedarii*, in total 1000 cavalrymen. The infantry was made up of *vexillationes* from 18 Danubian legions, each consisting of 1000 soldiers. In total, about 29,000[43] soldiers, including 4000[44] cavalry, accounting for nearly 14% of

[34] These were situated in the East, for example: *equites promoti indigenae* and *equites sagittarii indigenae*, *Not. Dig.*, *Or.* XXXII 20, 22–26, 29; XXXIII 18–20, 27; XXXIV 23–27, 29; XXXV 18–23; XXXVI 23–28; XXXVII 18–20, 23; Brennan 1998, pp. 238–244; Lewin 2001, pp. 293–304; Lewin 2004, pp. 230–234. On the cavalry of the time, see Letki 2012: Narloch 2014, pp. 53–69.

[35] *Diocletiana, Iovia* or *Herculia.*

[36] *Not. Dig.*, *Or.*, XXXVI 32; Speidel, Pavkovic 1989, p. 153.

[37] *Cod. Iust.* 7.64.9, 10.55.3.

[38] Parker 1933, p. 188; Speidel 1975, p. 221.

[39] Skeat 1964.

[40] Numbers in brackets present assessments of unit size that are the most popular with researchers.

[41] Rocco 2012, p. 206.

[42] The presence of Galerius in Egypt from AD 293 is confirmed by a papyrus written in Caesarea in Palestine, but found in Egypt, see Rea, Salomons, Worp 1985, pp. 101–113.

[43] Eutr. 9.25.1; Fest. *Brev.* 25.2: Galerius had an army of similar size (25,000) at his disposal three years later, during the campaign against the Persians.

[44] Grenfell, Hunt 1898, 43 recto; for more about this expedition and the work done by Galerius's legionaries, see Leadbetter 2000, pp. 82–94; Leadbetter 2002, pp. 85–89.

the total. The numbers are estimates and reflect the strength of the cavalry only on paper. A lower number for the cavalry indicates perhaps that they were deemed of lesser usefulness when laying siege to cities and envisioning street fighting.

The next stage in the development of the cavalry was the rule of Constantine the Great, who introduced his own ideas beside continuing the line taken by his predecessors. Cavalrymen and cavalry units played a significant role in the new political and social order that he organized. The cavalry had an important place in army structure to judge by the *Notitia Dignitatum*, assuming that it reflects the real situation of his reign, even though it dates from later times. Most of the units among the *comitatenses*[45] were *vexillationes equitum*,[46] and a significantly higher percentage of cavalry units was in the forces commanded by the *duces*, which were classified as *limitanei*.[47]

The most significant change at the administrative-structural level was the introduction of two equivalent[48] commanders of the highest rank: *magister equitum* and *magister peditum*. Both were part of the imperial court and when the empire was ruled by more than one Augustus each of them had his own pair of *magistri*.[49] The formal division of the highest rank commanders was the last step toward the independence of the cavalry from the infantry.[50]

The formation of a new horse guard was extremely important for the prestige of the service. *Scholae palatinae*[51] were formed in the place of the *equites singulares Augusti* dissolved after their role in the battle of the Milvian bridge in 312. The new units took over from the earlier *comitatus* as far as their function is concerned, remaining close to the ruler and constituting part of his court. They formed a separate structure within the Roman armed forces,[52] ensuring numerous privileges to those serving in these units.[53]

Many of these equestrian soldiers in the fourth century were of barbarian origin, mostly Germans and especially Franks to judge by the official iconography and the few extant written sources. The tribunes came from tribal aristocracy.[54] Romans could serve in these units as well and often it was a trampoline to higher offices, including imperial purple, as was the case of Jovian[55] and Valentinian.[56]

The *scholares* fulfilled administrative assignments beside having an official representative function and acting as an escort for state dignitaries and members of the imperial family. They were also a policing tool, the ruler's armed hand in implementing policy.[57] On the battlefield, their role was an elite cavalry reserve under the emperor's direct command and his last defense line in case of personal danger.[58] This proximity to the power center, position in society and tasking with utmost responsibility toward the welfare of the state and emperor made them an elite service. Their status was expressed in their armor and particularly in the way that it was decorated.

[45] *Not. Dig.*, *Or.* V–IX; *Occ.* V, VII.

[46] It is not to be excluded that some of the units were stationed along the borders at the time. The main source of the categorisation, *Notitia Dignitatum*, was prepared much later.

[47] Treadgold 1995, pp. 50–52; Coello 1996, p. 16.

[48] For more on the late nineteenth/early twentieth century discussion regarding the superiority of one commander over another or their equal position, see Mommsen 1889, pp. 260–265; Mommsen 1901, pp. 516–524; Ensslin 1930, pp. 307–313; Ensslin 1931, pp. 115–123, 145; Hoepffner 1936, p. 484.

[49] Hoffmann 1974, pp. 381–397.

[50] Such a situation took place at least at the beginning of the division.

[51] According to *Not. Dig.*, *Or.* XI 4, 10; *Occ.* IX 4–8, there were 12 such units, five in the western part of the empire and seven in the eastern one.

[52] *Cod. Theod.* 7.4.23; Frank 1969, p. 49.

[53] *Cod. Theod.* 14.17.9–10.

[54] Barlow, Brennan 2001, pp. 237–254.

[55] Amm. Marc. 25.5.4.

[56] Amm. Marc. 26.1.5.

[57] Frank 1969, pp. 103–126.

[58] Ammianus Marcellinus (31.10.14) describes Emperor Gratian's guard on the battlefield as *comitatus*; see also Amm. Marc. 19.11.8–12, 24.5.6, 26.8.7, 27.10.10–12, 27.10.16, 30.1.11, 31.13.14–15.

In the fourth century, a new system of state workshops producing armament for the army was set up. Changes in production introduced a new kind of helmet, the so-called ridge helmet, which now became part of army equipment. The ones worn by emperors were decorated with gemstones. This form of adornment was reserved for the ruler, ordinary cavalrymen satisfying themselves with more common materials, like appliqués made from glass paste as demonstrated by the Deurne/Berkasovo-type helmets in particular [Fig. 1]. Ornamentation of this kind was not typical just of the cavalrymen from the *scholae palatinae* as almost all of the known ridge helmets were found along the borders of the empire.[59]

Fig. 1. Helmet from Berkasovo (photo K. Narloch)

[59] Miks 2014, pp. 185–186, fig. 114.

The way in which the cavalry was treated in the written sources also underwent a major turnaround from what was the norm in the Principate period. Being for the most part from the privileged classes of society, authors from the times of Augustus devoted their attention to the legions, which were comprised of Roman citizens, rather than the cavalry units, which consisted mainly of soldiers of barbarian origin. By the end of the third century, social changes and a new fighting doctrine imposed by the barbarian threat led authors like Ammianus Marcellinus to acknowledge the cavalry of Constantius II as extremely formidable units.[60] Others seconded him in this opinion, linking the development of the Roman armed forces to the growing importance of the cavalry.[61] In the fifth and the sixth centuries, cavalrymen drew more and more attention from the authors of the day.[62] This process reflected the growing popularity and prestige of the cavalry and individual equestrian soldiers. Theirs was an elite service, close to the rulers and the imperial court. Their role in discharging public office made them stand out increasingly in society and this newly gained popularity was extended to the frontier army. The need for a more elastic army, capable of a quick and determined response to a much more varied set of opponents than before, also raised the prestige of the cavalry.

In view of the described changes, a key issue to be discussed is could the Romans adjust their traditional approach to the military to the requirements of a military doctrine increasingly dependent on equestrian troops. An army manual assigned to Emperor Maurice, the *Strategikon*, put together the broadest description of available tactics. In the sections devoted to the cavalry, troop position was described depending on the size of the army. The main difference was the number of units and hence the number of soldiers deployed in the second line,[63] which was charged with supporting the front line and giving cover or coming to the rescue in case of need.[64] The only recommendation for deploying the cavalry in one line in this manual was for hunting animals.[65]

The units in each line consisted of *koursores* and *defensores* in different proportions. The former were tasked with harassing the enemy, forcing a reaction and in certain cases giving chase to a retreating enemy. The latter fought in a more compact formation, their duties being to provide cover for other units and to charge the enemy lines, if the circumstances allowed. This division became common probably in the sixth century.[66] The flanks were protected by auxiliary troops, which were charged also with counteracting enemy ambushes, organizing their own ambushes and protecting the spare horses and camp. When supporting the infantry in combat, the cavalry was supposed to be deployed in front of the infantry, preferably in two lines.[67] According to the *Strategikon*, this would prevent the formation from breaking up under fire and helped to conceal part of the troops. In case of a retreat, the riders were supposed to ride behind and on the flanks of the infantry in order not to disorganize the battle order. Other roles for the cavalry included protection of the flanks and preventing envelopment; whenever enemy lines were shorter or of the same length, these cavalry units would join the main formation.[68] When the goal was to envelop the enemy, the *Strategikon* called for these units to take up position on the right wing of their forces, hidden behind the lines, then charge with the goal of creating the greatest confusion in the enemy formations, thus increasing the chances for a successful charge of their own army. Cavalrymen were also used as a reserve, deployed to reinforce or lengthen their own lines.

[60] Amm. Marc. 16.12.17: *formidabile genus armorum.*
[61] Lib. *Or.* 18.206; Julian *Or.* 1.37b–38a, 2.57b–c; Veg. *Mil.* 1.20.1, 3.26.34.
[62] See e.g. discussion: Kaldellis 2004–2005, pp. 189–218; Petitjean 2014, pp. 255–262.
[63] The biggest armies used a third line as well.
[64] *Strategikon* 3.10.
[65] *Strategikon* 12D.
[66] Syvänе 2004, pp. 121–122.
[67] *Strategikon* 20A.3, 12B.23.
[68] *Strategikon* 2.13, 3.5–13.

The *Strategikon* emphasized the role of ambushes and unexpected attacks on the unprotected flanks of the opponent and even their back, including camps. Intelligence was the main target of such forays, which were also intended to create confusion back of the enemy lines in preparation for the final attack.[69] Wolf traps and caltrops were also recommended in order to protect retreating cavalry and troops.[70] Their use was limited by the need to prepare them earlier and conceal them from the enemy.

Instructions for commanders in the *Strategikon* regarding deployment of the cavalry against the infantry called for caution when engaging large numbers of cavalrymen and emphasized the efficiency of close infantry formations in combat against the cavalry.[71] The success of a frontal charge depended mostly on the preparation and experience of both formations. Clashes of this kind were very brutal and did not last very long. If the charge broke the infantry line, the battle was over and the fleeing foot soldiers were annihilated as a rule. If the line did not break and the cavalry charge lost its impetus, the infantry gained an advantage in melee fighting. The proper preparation of a charge was of utmost importance, whether by sending in equestrian archers to loosen the formation and lower morale, or by attacking unprotected flanks and pressing the enemy.

The author of the *Strategikon* emphasized the role of the cavalry in battles where the infantry played a prime role as protection of the main forces from flanking or back attacks and chasing a retreating enemy to prevent regrouping. A relatively small cavalry unit that was initially the main commander's guard acted as a reserve in case of need.

The position and tasks of cavalry units in infantry battles depended on the terrain, the opponent and the assumed battle plan. How the cavalry was used depended on the personal experience and capabilities of the commander, the training of the riders and their morale. Cavalry in such battles could be a decisive factor, both winning and losing. It could be an incredibly efficient tool when taking advantage of its mobility, but it could also suffer beyond measure as a result of insensible maneuvers. A key element of the tactics as well as the battle plan was to provide proper conditions for action, as well as essential protection, because without the support of the main troops it was easily defeated.

Two battles from the fourth century are among the best documented Roman combat encounters. Their analysis enables a recognition of Roman cavalry tactics in this age and an evaluation of whether they were able to use riders in battle to full advantage. The first battle was fought in August 357 at Argentoratum[72] [Fig. 2]. The main written testimonies are those of Ammianus Marcellinus,[73] Libanios[74] and Zosimos.[75] The Romans commanded by Julian faced off the united forces of the Alemanni in the conclusion of Julian's year-long campaign against the tribes. The barbarians had managed to slip between two Roman armies and ravage the region of Lugdunum,[76] whereas court intrigues, instigated in Gaul mainly by one Barbation, forced Julian to fight with a depleted man force and not enough provision.[77] His preparations encompassed negotiations during which time he reinforced the positions of his army and gathered intelligence. Then the actual battle started. On the battlefield, his vanguard of light infantry and cavalry formed a cordon, behind which Julian deployed his main forces in three lines. All the cavalry was concentrated on the right side,[78] far from the river, in an area allowing easy maneuvering (according to Libanios it took position on both flanks).[79] Infantry units led by Severus stood on the left flank. Julian commanded the main forces. The main force of the Alemanni was grouped opposite the Roman infantry with

[69] *Strategikon* 2.5, 3.16, 4.
[70] *Strategikon* 4.3.
[71] *Strategikon* 12A.7, 12B.23.
[72] For a more traditional interpretation of the battle, see Narloch 2014, pp. 165–170.
[73] Amm. Marc. 16.12.
[74] Lib. *Or.* 18.
[75] Zos. 3.3.
[76] Amm. Marc. 16.11.4–5.
[77] Amm. Marc. 16.11.11–12, 16.11.14; Lib. *Or.* 18.51.
[78] Amm. Marc. 16.12.7, 16.12.21, 16.12.27.
[79] Lib. *Or.* 18.54.

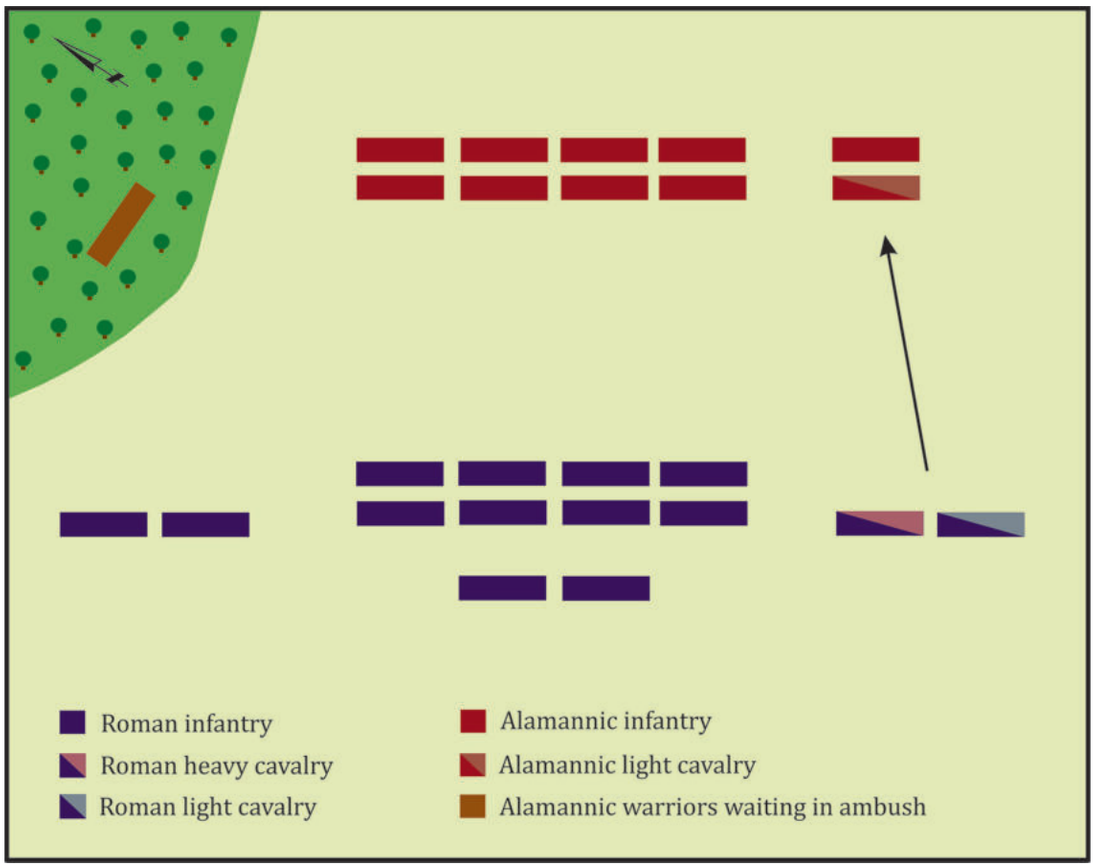

Fig. 2. Battle of Argentoratum, initial phase (drawn by A. Momot)

the barbarian cavalry and some units of light infantry on the left flank.[80] Infantry units waited in ambush on the right wing.[81] In light of this one should think that Roman strategy was entirely predictable to the barbarian warriors who concealed some infantry also on the left flank, behind their riders. The Roman heavy cavalry charged, probably following some pre-battle harassment by equestrian archers, but failed to break the barbarian formation and was forced into a shameful retreat, leaving the right flank of the main forces unprotected.[82] Indeed, the Romans probably did not even make contact. Seeing the ambush, they must have fled for their lives, because otherwise they would have been annihilated by the enemy infantry. As it was, they managed to regroup and return to the battlefield.[83]

The situation on the other flank was much more dangerous. Expecting the classic formation of the Roman cavalry on both flanks, the Alemanni had hidden a part of their soldiers in the forest in an effort to provoke an attack on a seemingly unprotected wing of their forces, after which they would envelop the enemy. The plan might have worked had the Romans not decided against positioning their cavalry also on this side because of the difficult terrain. Nonetheless, the Romans were not expecting the ambush, which was shown by their uncertain movements and the fact that Julian's reserve guard had to be sent in to support the infantry standing on this side.[84]

[80] Amm. Marc. 16.12.22.
[81] Nicasie 1998, p. 226.
[82] Amm. Marc. 16.12.38.
[83] Amm. Marc. 16.12.38–41; Zos. 3.3.4.
[84] Lib. *Or.* 18.56.

The other battle was that of Adrianople[85] [Fig. 3] at the culmination of the war with the Goths waged from AD 376 due to earlier Roman policy of treating barbarians living inside the empire.[86] This encounter was presented in ancient historiography as a tragic event in the history of the Romans, hence the scarcity of military detail in the descriptions of military nature. The main source is again the work of Ammianus Marcellinus[87] supplemented with comments by Zosimos[88] and Orosius.[89] The battle was viewed as a final settlement of the conflict with the Goths. Valens chose Adrianople as his headquarters upon returning to Constantinople after the end of the conflict with the Persians and suppressing the uprising of Queen Mavia at the end of May. He was supposed to wait for reinforcements led by Gratian,[90] but decided to enter battle based on the collected intelligence.[91] On August 9, the army marched out of camp at dawn, leaving behind *impedimenta* and the imperial insignia under the protection of legionaries.[92] Apparently, the Romans knew exactly where the army of the Goths was.[93]

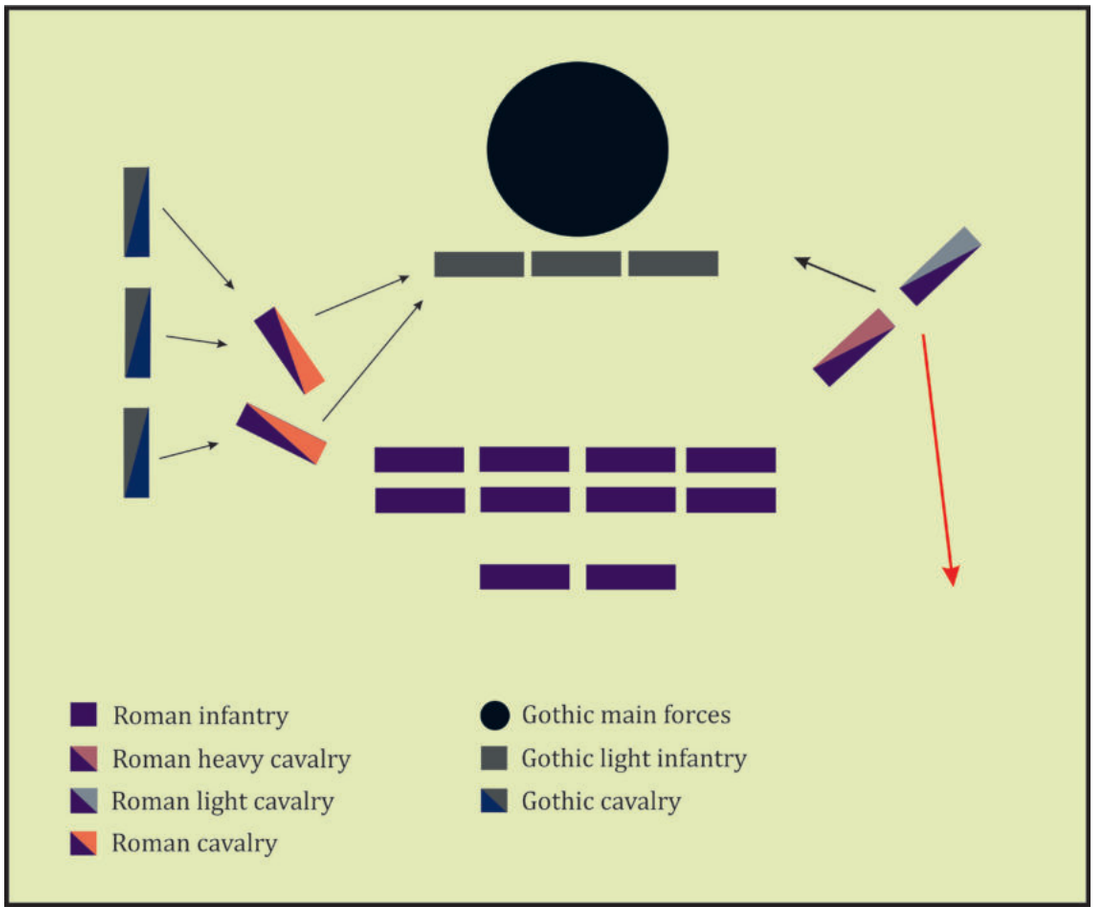

Fig. 3. Battle of Adrianople, cavalry maneuvers (drawn by A. Momot)

[85] More on this battle, see Narloch 2014, pp. 171–178.
[86] For the relations between the Romans and the Goths, see e.g. Heather 1991; Burns 1994; Barbero 2010, pp. 125–139.
[87] Amm. Marc. 21.12–13.
[88] Zos. 4.24.1.
[89] Oros. 7.33.14.
[90] Amm. Marc. 31.11.5; Zos. 4.23.5.
[91] Amm. Marc. 31.12.5–7; Zos. 4.24.1.
[92] Amm. Marc. 31.12.7; Zos. 4.24.1.
[93] Amm. Marc. 31.12.11; Nicasie 1998, p. 244; Burns (Burns 1994) is of a different opinion.

The cavalry of the Goths was absent from the battlefield, but it is hardly possible that they were surprised by the arrival of Valens's army. Indeed, the Goths knew the Romans much better than the Alemanni and the testimonies of ancient authors should be seen as clearly biased in an effort to show the barbarians as less clever than the Romans. Extended negotiations started by the Goths were meant to convince the Romans that the enemy was weak. Either Valens's soldiers were deluded into insensible action or the aim was a surprise attack of the right-wing cavalry on the fortified position of the barbarians. The attack was a disaster and the troops retreated in disarray.[94] On the other flank an ill-prepared Roman cavalry attacked the main forces of the Goths and was in turn broken up by the barbarian cavalrymen riding in from the left side;[95] the Goths then attacked the unprotected left wing of the Roman infantry. A counterattack of the main Gothic force completed the catastrophe.

The sudden appearance of the Gothic cavalry at the best possible moment of the battle can hardly be a lucky coincidence. It was not a hurried return, but a perfectly planned ambush. Their horses were rested, so they had not ridden from afar, but even if they had, they had spare horses ready at the battlefield, which again means that the ambush was planned. The success of this strategy highlights the limitations of the Roman conservative approach to military doctrine and the role of the cavalry. In both of the described battles, the cavalry was only on the lookout to charge, a limited strategy ruthlessly taken advantage of by the Goths at Adrianople.

Traditional Roman military doctrine remained enamored of the infantry despite the rise in numbers of cavalrymen, and their growing status and prestige in the fourth century. Tactics and maneuvers described in the *Strategikon*, for example, had no place in the Roman theater of war. In the two battles discussed here, the Romans displayed limited predictability, failing to match their opponents in various tactics designed to confuse the enemy. Even a manual as schematic and orderly as the *Strategikon* recommended and even expected commanders to improvise and think outside the box.[96] Time had to pass before Romans put their trust in their cavalry. In the sixth century, the number of cavalrymen increased considerably, especially under Belisarius as *magister militum*.[97] From the reign of Justinian cavalry units became more versatile in terms of arms as well as tactics. Riders could fight at close range as well as at a distance using spears and bows. Pinpointing the moment when the Roman cavalry started to move away from standardization is not easy. Actually, it may have started in the fourth century with the *cataphracti* and the *clibanarii* being charged with different tasks.[98]

The fifth and the sixth centuries also witnessed a new trend to complete the biggest possible number of riders, leading to the formation of whole armies just of cavalry. According to Olympiodoros of Thebes,[99] the first battle between mounted units alone was that between Aetius and Aspar. From the second half of the sixth century, Romans preparing for a military campaign would tend to gather cavalry units, particularly the elite formations, in order to ensure greater efficiency in battle. This strategy proved successful in the 580s in the East and then again at the end of the century in the Balkans.[100]

Summing up, the fourth century witnessed the intensification of several processes, some of which were initiated already in the first decades of the Principate. Despite the growing number of cavalry units, and the prestige inherent in the service as well as status of equestrian soldiers,

[94] Amm. Marc. 31.12.16.
[95] Amm. Marc. 31.12.2; Oros. 7.33.13.
[96] *Strategikon* 3.15, 9.4.
[97] Graetrex 1998, p. 38; Ravegnani 1998, pp. 48–62.
[98] The idea was first introduced by Mariusz Mielczarek (Mielczarek 1993, pp. 41–50) based on a comparison with the tactics of Polish cavalry in the sixteenth and seventeenth centuries.
[99] Olymp. 9.
[100] Syväne 2004, p. 41.

the Roman mounted units brought little new to the battlefield. The Romans continued to view warfare in a traditional light with the infantry retaining the position of the main force in the field. Roman commanders in battles like that of Argentoratum and Adrianople were unwilling to take on risk and apply tactics making use of the cavalry's biggest advantage, which is mobility. For these reasons, battles fought by the cavalry, either alone or as a majority force in the field, did not become common until later centuries when horse archers became a prevailing factor in warfare.

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Streszczenie

Czas zmian.
Społeczne podłoże rozwoju rzymskiej kawalerii w IV w. n.e.

Historia rzymskich jednostek jazdy to suma wielu procesów, których korzenie bardzo często sięgają pryncypatu, a w niektórych przypadkach zjawiska, które determinowały rozwój tych sił, miały miejsce w czasach republiki.

Milowym krokiem w systemowej organizacji rzymskich sił zbrojnych była reforma Oktawiana Augusta. W nowej strukturze armii gros jednostek jazdy stanowił część *auxilia*, które w założeniach miały składać się z ludzi nieposiadających rzymskiego obywatelstwa.

Niemal od pierwszych dekad pryncypatu Rzymianie coraz częściej i śmielej wykorzystywali konnicę w toczonych wojnach, co przełożyło się bezpośrednio na wzrost liczby jednostek jazdy. Jednocześnie ten rodzaj służby był chętnie wybierany przez obywateli i na przełomie II i III wieku stanowili oni większość jeźdźców w wojskach pomocniczych. Powodem tej sytuacji były lepsze warunki materialne oraz większe szanse na objęcie bardziej eksponowanych stanowisk. Tym samym rósł prestiż zarówno służby w konnicy, jak i samych jeźdźców. W III i IV wieku ludzie związani z jazdą stanowili grupę, która miała duży wpływ na politykę imperium.

Oprócz bodźców wewnętrznych na rozwój rzymskiej jazdy miała oczywiście wpływ sytuacja zewnętrzna, a głównie wrogowie, z którymi trzeba było się mierzyć, co wymuszało tworzenie coraz bardziej zróżnicowanej i elastycznej armii.

Nowe rozwiązania nie szły jednak w parze ze zmianą doktryny wojennej, która u Rzymian cały czas opierała się na piechocie. Wojska piesze stanowiły zdecydowaną większość, a kulminacyjnym momentem bitew było właśnie zderzenie się piechurów. Jazda pełniła jedynie funkcje pomocnicze, polegające przede wszystkim na ochronie flank głównych sił oraz próbach okrążenia przeciwnika.

W dwóch bitwach stoczonych w IV wieku, pod Argentoratum i Adrianopolem, które prawdopodobnie są najlepiej udokumentowanymi starciami w pierwszych czterech wiekach naszej ery, Rzymianie nie wykorzystali potencjału swojej jazdy. Ich tradycyjne podejście do roli konnicy wykluczało zastosowanie taktyki opisanej np. w *Strategikonie*, która była znana już wcześniej. Zostało to wykorzystane przez ich przeciwników.

Krzysztof Narloch
Center for Research on the Antiquity
of Southeastern Europe
University of Warsaw
k.narloch@uw.edu.pl

Saimir Shpuza

SCODRA AND THE LABEATES. CITIES, RURAL FORTIFICATIONS AND TERRITORIAL DEFENCE IN THE HELLENISTIC PERIOD

Abstract: The large-scale research project in the territory of Scodra, conducted by the Institute of Archaeology Tirana, in collaboration with the Center for Research on the Antiquity of Southeastern Europe (University of Warsaw), has broadened our knowledge of territorial occupation in the region of Scodra. The article places rural fortifications into a local context and in relation to the main cities in an effort to give a rounded view of the Hellenistic landscape of Scodra. The model of territorial organization around Scodra is a typical *polis*, very similar to models known already from the Greek world. The construction of rural fortifications corresponds in time to a long period of insecurity during most of the Hellenistic period, starting from the wars of Teuta against the Romans up to the last war of Genthios. This regional study contributes in a small way to the broader discussion of rural towers and associated installations in the territory of the Kingdom of the Ardiaei as a whole, giving in perspective a better framework of the organization of space and the relation of the Hellenistic Illyrian cities to their hinterlands.

Key words: Scodra, Meteon, Bushati, Genthios, Labeates, Ardiaei, rural fortifications, tower, Hellenistic period

Introduction

Investigations on a large scale in the territory of Scodra, conducted by the Institute of Archaeology Tirana in collaboration with the Center for Research on the Antiquity of Southeastern Europe (University of Warsaw), have contributed extensively to the study of occupation patterns in the region.[1] Many sites from the Iron Age to the Hellenistic period have been documented, most of them fortification walls, small forts or control towers, providing a much more dynamic and complex picture [Fig. 1]. The principal objective of this paper is to consider these rural fortifications in a local context and in relation to the main cities in an effort to present a rounded view of the Hellenistic landscape of Scodra. The study of the micro-region is fully justified considering the obvious importance of the territory as a strategic corridor for regional communication as well

[1] The project is directed by Prof. Piotr Dyczek and the author of this paper. It is financed by the Polish National Science Centre under the grant DEC-2014/14/M/HS3/00741. The first phase of the project, 2011–2015, was focused on geophysical prospection and trial trenches in the upper and lower city of Scodra and a relevant publication is in preparation. The second phase of the project, 2016–2020, concerns excavations and survey in Scodra and its territory. The present article is thus a preliminary review of sites from the Hellenistic period situated in this territory.

Fig. 1. General map of the territory of the Labeates and the principal sites mentioned in the text (S. Shpuza)

as an obvious point of departure for the Greeks penetrating the interior.[2] The present study contributes also in a small way to the wider discussion of rural towers and associated installations in the realm of the Ardiaei as a whole.

Substantial written sources are available for the period represented by these fortifications, which corresponds to the first Roman interventions in Illyrian affairs at a time when Macedonian monarchs exercised control not only over the Greeks, but also over areas of Illyria. The Greek and Roman authors give names of tribes and cities involved in the major military events, but with few details. Thus, one of the purposes of the present project in the territory of Scodra is to contextualize territorially the long lists of place names attested in the ancient literary sources.

[2] Beaumont 1936, p. 184.

The Labeates and their territory

Greco-Roman literary sources generally offer brief texts with little in the way of detailed information on the borders of the Illyrian tribes and their structural organization. It is difficult to draw a political map of the long list of tribes left by ancient geographers. There was little interest in these tribes owing to their peripheral position in relation to the Greek world, hence the scarcity of data available on each of these tribes. The practice of transhumant pastoralism also contributed to confused ethnic and territorial boundaries. A large part of these tribes did not have fixed settlements before the Hellenistic period and political circumstances or economic conditions dictated their rallying, always precarious, to this or that ephemeral tribal confederation.

In the case of the Labeates, there is fortunately some important literary data for determining the extent of their territory as best as possible [Fig. 1]. Describing the position of Scodra during the events of the war of Genthios against the Romans, Livy stated that the Illyrian king was the ruler of the Labeates.[3] He also referred to Lake Skadar as *lacus Labeatium*.[4] Thus, the area around the lake must have been at the very core of the territory of this tribe. Additional information from Polybius helps to enlarge this territory, for he mentions the site of Meteon in the territory of the Labeates when describing the meeting place of the envoy of Genthios and Perseus in 168 BC where the alliance against the Romans was struck.[5] Livy also records this site, "Meteon, city of the Labeates", as the place where Genthios' wife, Etleva, his two sons and Genthios' brother, Caravantius, found refuge at the end of the war.[6] This implies that the city was also part of the tribe's territory until the Roman takeover. Meteon is identified beyond any doubt with the modern village of Medun. It may also be considered as a borderline between the Labeates and the Docleatae.[7] The latter tribe occupied the area between the rivers Zeta and Morača. In the Flavian period, a colony bearing the name of Doclea was established in this area.[8] In the east, the territory of the Labeates presumably did not extend beyond the Montenegrin Alps and in the west, the Adriatic Sea acted as a natural frontier. Finally, to the south, the Taulantii, who are known to have occupied the coastal area between Lissos and Dyrrhachion, seem to have been their neighbors. These historical indications place the entire territory around the lake in the hands of the Labeates tribe.

The city of Lissos is situated in the southern part of Labeatian territory.[9] Interestingly, it never appears in connection with the tribe of the Labeates. All things considered, it should have been founded in a Labeatian context, but probably by the end of the third century BC, after Teuta's fall, the city was already organized as a proper *polis*. A similar turning away of a city from its ethnic context and its identification as a *polis* has been remarked also in the case of Olympe, a city of the *koinon* of the Amantini in south Illyria.[10] In both cases, the dissociation coincided with the occupation of some cities in Illyria by Philip V of Macedonia in 214–213 BC.[11] At Olympe, the identification as a *polis* is attested by numismatic as well as epigraphic data, whereas in the case of Lissos, the only evidence is numismatic. Stephen of Byzantium mentions another small Illyrian tribe, the Abroi, in the area around Lissos, on the frontier with the Taulantii.[12] No other authors refer to this tribe. The Taulantii were another Illyrian tribe said to occupy the territory south of the Drin River. Their territory seems to have extended up to Dyrrhachion, at least between the seventh and fifth centuries BC.[13] The city of Olcinium seems to have been on the northwestern

[3] Livy 43.19.3, 44.31.1–2.
[4] Livy 44.31.10.
[5] Polyb. 29.3.5.
[6] Livy 44.32.3.
[7] Garašanin 1976, p. 321.
[8] Plin. *HN* 3.22 (143); App. *Ill.* 16.
[9] For recent discoveries on Hellenistic Lissos, see Oettel 2014, pp. 23–39.
[10] Cabanes 2011, pp. 81–82.
[11] Papazoglou 1986, pp. 438–448; Cabanes 1988, pp. 480–487.
[12] Steph. Byz., *s.v.* Ἄβροι.
[13] Thuc. 1.24.1–2. However, writers of the first century AD such as Pliny the Elder (*HN* 3.22 [144]) and Appian (*Ill.* 16 & 24) seem to believe that the Taulantii were living near the Naro River.

frontier. Livy mentions it by this name, which is echoed also in the form Olciniatae as the name of its inhabitants.[14] In ancient sources, Olcinium appears alongside Rhizon as a station for Roman garrisons during the year 168 BC. Pliny mentions it as an *oppidum civium Romanorum*.[15] Like Lissos, it is not related to the Labeates in any of the surviving ancient sources.

Thus, the identification of the tribal boundaries of the Labeates takes on importance when considered in the light of the extreme political fragmentation dictated by the compartmentalized character of the topography that marks the history of the pre-Roman Balkan tribes. In geographic terms, the territory features important rivers, such as Drin (Oriund), Buna (Barbana), Kiri (Klausali), and Morača, as well as alluvial plains around the lake. Only Drin and Buna were navigable in antiquity; Kiri and Morača were little more than seasonal torrents. In numbers, the total area belonging to the Labeates would be 2000–2500 km^2 with around 500 km^2 being occupied by the lake.

During the third century BC the Labeates were under the dominion of the Ardiaei who had become a predominant tribe,[16] giving rise also to the last royal dynasty of the Illyrians (starting with Agron around 231 BC and ending with Genthios in 168 BC). The Ardiaei appear to have superseded in importance the Autariatae, another major Illyrian tribe, which seems to have dropped from the historical sources after the fourth century,[17] and the Taulantii and Enchelei, who had fought the Macedonian kings frequently in previous centuries. Thus, the Ardiaei seem to have absorbed smaller groups, such as the Labeates, who, to believe Pliny, preserved their identity until the early Roman period. Presenting the situation in this region during the first century AD, Pliny referred to them as a population still maintaining their name. He also lists several other tribes, like the Enedi, Rudini, Sasi, Grabaei as well as Cavi — which are mentioned also by Livy[18] — who were neighbors of the Labeates, but who do not surface in any other accounts.[19] In the end, in the new administrative organization set up by the Romans after the fall of Genthios, the whole region took the name of the Labeates.

The imposing number of Iron Age fortifications identified in the territory of Scodra, situated on most of the mountains and hills that control the territory and constructed probably by the Illyrian tribe of the Labeates, constitutes the most comprehensive evidence of settlements in pre-urban Illyria.[20] Little is known about these fortifications. Many of them are built on rocky ground and cannot therefore be excavated for a better dating, and it is likely that more may be discovered in the future. Even so, the current survey of the territory of Scodra has given sufficient data for a provisional reconstruction of the chronology, density, geographical distribution, and typology of these fortifications, enabling an understanding of their function, which is today the main research issue despite a long history of investigation. Since these fortifications belonged to non-urban communities, they must be seen as only one element of the territorial organization and it is in this close connection with all other forms of settlements that their utility should be considered.

The known examples, more or less explored from an archaeological and topographical point of view, date generally to the end of the Bronze Age and the Iron Age. This embraces a very large timespan from the eleventh to the fifth century BC. This broad chronology results as much from the long life of these sites as from their rather uncertain periodization. A series of necropolises in the plains of Scodra, in the region of Shtoj and Shkrel, as well as on the Mountains of Kakarriqi and Renci southwest of Scodra, belong to the same general period.[21] More than just exemplifying

[14] Livy 45.26.2, 45.26.13.
[15] Plin. *HN* 3.22 (144).
[16] App. *Ill.* 3; Cass. Dio, fr. 49.3 (book XII; Boissevain I, p. 181). On the territory of the Ardiaei, see Papazoglou 1963, pp. 71–86.
[17] Papazoglou 1978, pp. 87–129; Wilkes 1992, p. 140. According to Strabo (7.5.11), the Autariatae were once the greatest and the most powerful of the Illyrians. Pseudo-Aristotle ([*Mir. ausc.*] 844b, 138) describes a conflict between the Autariatae and the Ardiaei over a salt-source near their common border.
[18] Livy 44.30.7, 44.30.9; Plin. *HN* 3.22 (143).
[19] Plin. *HN* 3.22 (144).
[20] Shpuza 2014 and the references therein.
[21] Koka 2012; Kurti, Ruka, Gjipali 2014, pp. 181–190.

the characteristic material culture of the Illyrians, these tumular necropolises suggest a close relation between the communities and their territory, excluding any form of nomadism. Control over the territory must have been exercised especially through production patterns based on cattle farming as well as exploitation of agricultural resources. In view of this, the fortifications are better perceived as part of a general territorial organization in terms of agro-pastoral efficacy and economic hierarchy. In addition, they must have played an important role in the polarization of the society: as an expression of economic control they would have been perceived also as a mark of political power. Without any relation to the urban aspects, they likely played a mix of roles: political, economic, perhaps symbolic and sacral. The density of these fortifications on one hand shows the permanent control exercised by the Labeates over their territory since the Bronze Age, but on the other hand, it shows that construction was relatively easy. Rubble walls were easily built, hence their proliferation in the rural landscape[22] and because they did not require special building skills, they kept on being constructed on a continuous basis, making dating them even more difficult. Although used by small tribal communities, they were part of a larger and homogenous territorial structure of the Labeates, a point brought home by the impressive shape of some of these fortifications. None of them could have withstood an attack alone, but as part of a tribal organization system they constituted a formidable whole.

The cities

It has already been shown in previous research that none of the numerous Iron Age sites in Labeatian territory was transformed into an urban centre at the beginning of the Hellenistic period.[23] Scodra is the main city, clearly known as the city of the Labeates [Fig. 2]. It was the chief city of Genthios to believe the historical and numismatic evidence, but its status before Genthios is not known, although it was apparently part of the Ardiaeian Kingdom. Zonaras does not specify the city when speaking of the envoy of the Roman delegates sent to Agron as King of the Ardiaei.[24] It may be presumed that it was either Lissos or Scodra, because it is unlikely that the Romans would have sent delegates to unknown regions and at the end of the third century BC they were not at all familiar with the other cities north of the Adriatic. Thus, Scodra and Lissos may be both identified as the chief towns of the Ardieai from the times of Agron and Teuta. After them, there is no certainty which of the north Illyrian cities was the residence of Scerdilajdes and Pleuratos, as there are no mentions whatsoever in the literary sources.

The Hellenistic site of Scodra is very difficult to access archaeologically.[25] The only evidence of the ancient enclosure is located at the entrance to the present fortress. Well preserved until the beginning of the fifteenth century, it was visible as a fragment 16 m long, integrated into the wall built by the Venetians. Presumably nothing else survived of this Hellenistic wall, otherwise it would have also been integrated into the Venetian fortress. Nonetheless, it is very probable that the Hellenistic enceinte surrounded the whole plateau. The upper town is situated on a fairly steep hill, and consequently the city was organized in two separate parts, one on the hill and the other on the surrounding flat ground. For the moment, there is proof of fortifications in the upper town

[22] Fachard 2016, pp. 220–221.
[23] Shpuza 2014, pp. 117–123.
[24] Zonar. 8.19. It should be kept in mind that Zonaras was an eleventh–twelfth century historian, who based his work on the writings of earlier historians, mostly Cassius Dio, and consequently was prone to error, for instance, using the name Sardiaei for the Ardiaei tribe. This brings to mind the name of a city, Sardis, mentioned by Stephen of Byzantium. The inhabitants of the city were called Sardenoi. The location of this city is unknown, but the name resembles that of the medieval city of Sarda, situated in the Drin Valley, only a few kilometers southeast of Scodra. Moreover, Pliny the Elder (*HN* 3.22 [142]) and Ptolemy (*Geog.* 2.16.5 [Müller]) mention an Illyrian tribe in Dalmatia called the Sardiatoi.
[25] Dyczek, Shpuza 2014, pp. 387–398.

Fig. 2. Aerial view of the fortress of Scodra (photo M. Pisz)

and no trace of ramparts in the lower town. However, a passage from Livy, which describes the installation of the Roman army near the city walls, indicates that the lower city was also fortified.[26] The late antique wall situated on the riverside of the Drin incorporates many Hellenistic blocks,[27] which may have been part of an Illyrian fortification in the lower city. There is no sign of towers and given the topography, there was probably only one gate to the upper city, situated where the entrance of the medieval fortress is situated nowadays.

Scodra of Genthios is described in the historical sources as a city surrounded by rivers and benefiting from natural defenses.[28] Importantly, Roman sources continue to speak of the city of the Labeates despite its new role as the main residence of the Illyrian king. Here, as elsewhere in Illyria, we observe a coexistence of the ethnic element and the city throughout the Hellenistic period. It is also interesting to note that in Livy's book Genthios is named *rex Illyriorum* most of the time[29] and only once referred to as the king of the Labeates.[30] Calling Genthios "king of the Illyrians" is not quite correct on one hand, as he did not have authority over all the Illyrians, but on the other hand, naming him "king of the Labeates" suggests that his real power was in Scodra and the territory of the Labeates. It looks as if by the period of Genthios, the connection between the Illyrian dynasty and the tribe of the Ardiaei had been all but lost.

[26] Livy 44.31.6–8.
[27] Hoxha 1994, pp. 243–244; Ceka, Zeqo 1984.
[28] Polyb. 28.8.1, 28.8.3; Livy 43.20, 44.31.2–3, 44.31.12, 44.32.1, 44.32.3, 45.26.1, 45.26.11, 45.26.14; Flor. 2.13; Zonar. 9.24.
[29] Livy 40.42.1, 42.26.2, 42.29.11, 42.37.2, 43.9.5, 44.23.1.
[30] Livy 43.19.3: *et transitus ea est in Labeates, ubi Gentius regnabat*.

The defeat of Genthios at Scodra marked the end of the dynasty of the Illyrian kings. According to the ancient sources, the city was left by the praetor Anicius, who defeated Genthios, in the command of one of his generals, Gabinius.[31] The inhabitants of Scodra were required to pay to Rome half the taxes they had been giving to the king.[32] Scodra does not appear again in the ancient sources until a century later when Appian mentions the city as a frontier between the territories of Octavian and Anthony in 42 BC.[33] During the reign of Caesar in Illyricum, Scodra became an *oppidum civium Romanorum*,[34] meaning that it already had a post of Italian traders, the first step to making it possible to establish a Roman colony in the city.

Meteon was also considered as a city according to Polybius and Livy.[35] Livy in particular uses the term *urbs* when speaking of Meteon: *Meteon urbs Labeatium*. The best account of the site is given by Camillo Praschniker and Arnold Schober, who describe the preserved part of the fortification[36] [Fig. 3]. Four towers were still visible, standing at a distance of 24 m from one

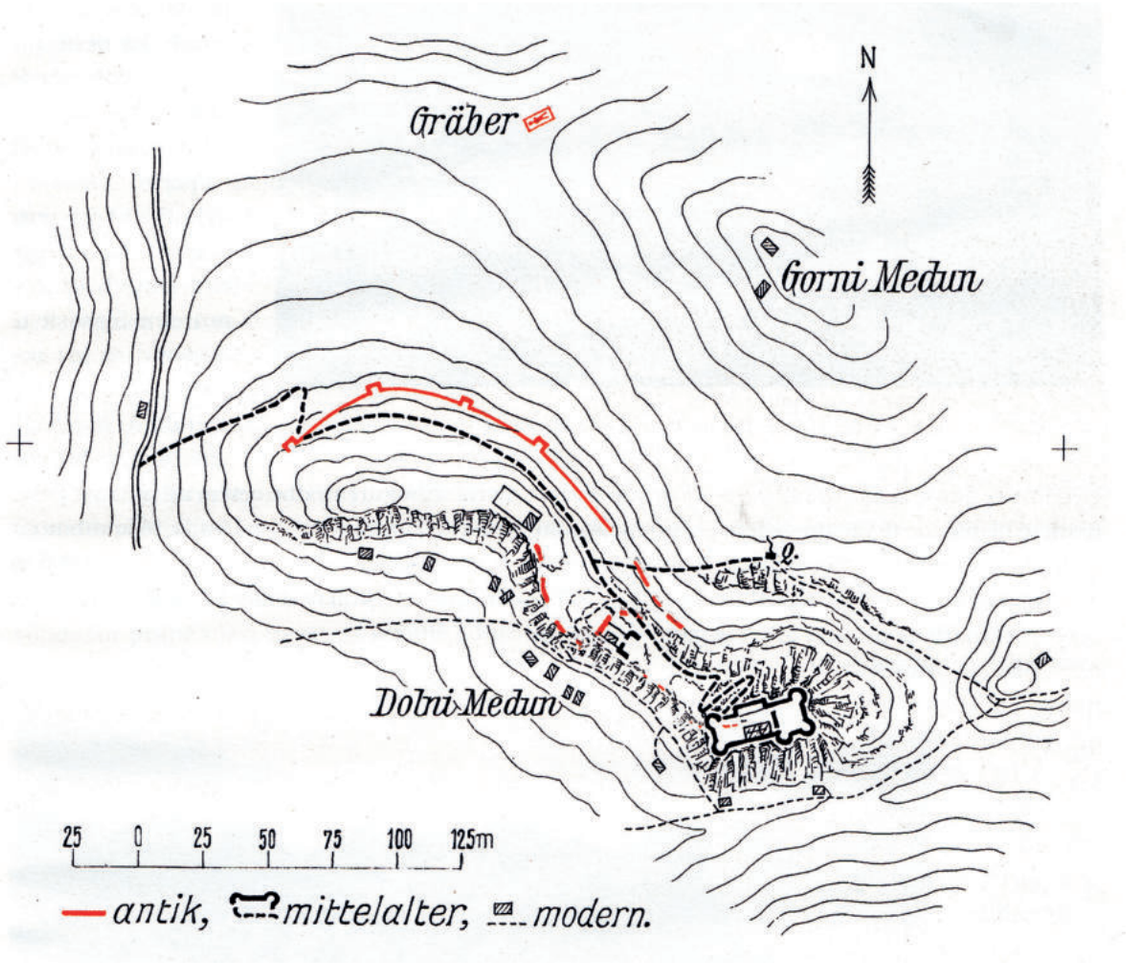

Fig. 3. Plan of the fortification of Medun (after Praschniker, Schober 1919, p. 5, fig. 7)

[31] Livy 45.26.1.
[32] Livy 45.26.14.
[33] App. *B. Civ.* 5.65.
[34] Plin. *HN* 3.22 (144).
[35] Polyb. 29.3.5; Livy 44.32.1.
[36] Praschniker, Schober 1919, pp. 3–8.

another. However, despite the monumentality of the existing fortification walls [Fig. 4], a visitor will easily see that the remains are a military fortification rather than a city. The extant walls seem to surround a rocky spot of about 0.5 ha, quite inappropriate for habitation. Probably Livy's use of the word *urbs* was not meant to signify a "city" and it would have been more proper to use the appellation *civitas*.[37] This particular case demonstrates the need for caution when analyzing literary sources as the authors seem to have had little knowledge of the urban situation in Illyria in that period. In view of this, Meteon should be considered as a stronghold in the territory of the Labeates, rather than a proper city, a statement that needs to be tested archaeologically in the future.

Fig. 4. Fortification wall at Medun (photo S. Shpuza)

Although Scodra and Medeon are the only cities mentioned by the ancient authors, archaeological exploration in the area has identified a new site, Bushati, situated on a hill 15 km south of Scodra. There is no doubt that it was in Labeatian territory, while the hill itself is a rare high point in an area otherwise consisting mostly of plains. From Bushati there is a clear view to Beltoja and Scodra in the north, as well as all the fortified sites situated on Sheldia Mountain to the east [Fig. 5].

Fig. 5. Rural fortifications situated on the Sheldia Mountain seen from Bushati (photo S. Shpuza)

[37] In his book *Strategemata* (3.6.3), Frontinus uses these two distinctive names when describing the military actions of Pyrrhus: *civitas* for the capital of an Illyrian ethnos and *urbs* for smaller localities in the area. See also Cabanes 1989, p. 60.

Judging by the topography of the hill and the visible remains of a fortification wall, the enclosure surrounded some 20 ha. In area, this corresponds to a middle-sized Hellenistic city in the region. However, considering the discovery of a Hellenistic fountain in the plain east of the foothills, the site may have at one point extended beyond the city walls.[38] Moreover, some agricultural tools from the Hellenistic period were found in the 1980s in the village of Melgusha located north of the hill[39] and a bronze figurine of Hermes (Mercury) from the first century AD surfaced in the village of Trush.[40] This makes the close relation of the fortified hill with the territory around it evident.

An analysis of the standing remains suggests that the wall was constructed on the top of hill surrounding a small valley situated on a much lower level than the fortification walls. The enceinte starts on the highest part of the hill, 195 m above sea level, and drops gradually to the lower part of the plain, 65 m above sea level. It forms a longitudinal shape oriented north–south with an inclination of around 130 m. The wall is better preserved on the western flank where it can be followed in two continuous parts, 30 m and 70 m long. Blocks observed on the surface between them show that the line of the wall continued in the western part. The situation on the eastern flank is less clear, there being very little evidence to be seen on the surface.

It is interesting to note the use of different kinds of stone for building purposes: conglomerate, limestone and sandstones. All three have been noted geologically in the hills of Bushati. Conglomerate seems to have been used for the upper part of the fortification and the dressing of the blocks shows skilled craftwork despite the difficulty of cutting this kind of stone. Sandstone seems to have been used mostly in the western part of the fortification wall.

Recent archaeological excavation in the lower part of the city revealed a gateway protected by a rectangular tower [Fig. 6]. A series of towers may have been situated in the lower part of the fortification, which was less protected naturally. The general layout of the Bushati fortification resembles a triangle and is comparable to the fortification of Zgerdheshi (Albanopolis), where most

Fig. 6. Aerial view of the excavations at the southern gate of the fortification (photo M. Lemke)

[38] Lahi 1995, pp. 231–240. Bashkim Lahi excavated the Hellenistic fountain and dug some trenches on the site of the fortification wall. He also mapped the structures visible on the surface. The plan was never published, but I am especially grateful to Lahi for giving me access to it.

[39] Dibra 1981, pp. 235–238.

[40] Lahi, Rrotani 1989, pp. 269–270.

of the towers are situated in the lower part of the fortification, too. However, careful observation of the western part of the fortification indicates that in Bushati, as in most of the other Illyrian sites, towers were replaced with a series of recesses in the line of the wall.[41]

New archaeological data suggest that the foundation of this city was contemporaneous with Scodra and Lissos, dating to the end of the fourth and beginning of the third century BC. Reporting on the war between Genthios and the Romans, Livy mentioned three cities: Bassania, Dirnium and Caravantis.[42] The latter two seem to be situated in the territory of the Cavi, but neither has been identified; indeed, the territory of the Cavi is not known. Livy fails to give more information apart from situating Bassania five miles from Lissos.[43]

Part of the ceramic assemblage from the surface in Bushati is of late antique date. Combined with Bep Jubani's information on a late antique necropolis nearby, it would suggest that the site was occupied also in the late antique period.[44] However, it seems to have been abandoned during the Roman period. As on most Illyrian sites, a demographic movement may be observed from the fortified sites to the fertile plains in the vicinity and near the bigger cities.[45] Roman-period remains were found, for example, in the village of Trush very close to Bushati, during some drainage works. They probably belong to farm complexes existing in the territory of Scodra during the Roman period.

Rural fortifications

Various terms are used to identify fortifications situated in the city hinterland: extra-urban fortifications, rural fortifications and territorial fortifications among others.[46] Two groups of structures can be distinguished among the extra-urban fortifications in the territory of Scodra: small fortresses and isolated towers. The towers are referred to as *phryktoria*, the etymology deriving from their function as signal posts using fire as light.[47] Their main characteristic is an open view over a large territory.

Situated in isolated places, these rural fortifications are preserved in much better condition than the urban ones. For example, two of the most important Hellenistic cities in the region, Scodra and Olcinium, have undergone extensive urban transformation during their history, especially in the Venetian and Ottoman periods, to the detriment of more ancient structures. For the same reason, however, extra-urban fortifications are less known, less excavated and less studied. Neither have the reasons for their construction been explored, although, generally, the building of rural fortifications testifies to a city's interest in protecting its extra-urban territory. Such concern for the *chora* starts in the fourth century BC.[48]

The fortification nearest to Scodra is Beltoja. It lies on a hill located just 2 km south of Scodra, on the way to Bushati. Archaeological excavation have revealed two phases of the fortification walls, dated by the assemblages of finds.[49] The Hellenistic phase seems to cover a very short timespan, starting from the second half of the third century BC and ending by the middle of the second century BC. The site has been damaged heavily by modern activity. The remains tell very little about the general layout of this fortification, which does not seems to have encircled the whole area.

[41] Baçe 1987, pp. 37–46.
[42] Livy 44.30.7, 44.30.9.
[43] C. Praschniker and A. Schober situated the site in the village of Pllana on the grounds of this geographical information. They found some pottery on the surface but no associated structures; see Praschniker, Schober 1919, p. 84.
[44] Jubani 1986, p. 125.
[45] Shpuza 2009.
[46] Fachard 2016, pp. 207–230.
[47] Adam 1982, p. 71.
[48] Hellmann 2010, p. 343.
[49] Lahi 1988, pp. 69–92.

Most of these rural fortifications are situated on Sheldia Mountain, situated southeast of Scodra. Starting from north to south, we can distinguish the isolated towers at Renci, Ganjolla and Spathar. The Renci tower is situated on the hills of a village of the same name [Fig. 7]. It is also known by the toponym *Qyteza*, which means "small town". The altitude is only 178 m above sea level, but the panoramic corridor in which the tower is positioned, allows it to overlook Gajtani and the Drin valley beyond to the east. One can see the towers of Ganjolla and Acrolissos on the south and Beltoja, Bushati, Scodra, Vorfa, Mokseti and Lake Skadar on the west and north.

The tower has roughly coursed, almost polygonal masonry that includes stones of massive size [Fig. 8]. The blocks underwent minimal dressing with most the effort going into the front surfaces. The walls are preserved to a height of no more than 1.5 m, so little can be said regarding the

Fig. 7. Aerial view of the tower at Renci (photo M. Pisz)

Fig. 8. The walls of the tower at Renci (photo S. Shpuza)

original elevation of the tower. The site is very rocky with no flat surfaces for building; hence, the tower was constructed on the southern hill slope, the longer base of the trapezoid plan set against natural rock and built up with some blocks. The eastern wall of the tower is the best preserved and runs for a length of 18.5 m; the western wall is less preserved and difficult to follow along its entire length, but it also seems to have incorporated natural rock into its structure.[50] The extreme part of this wall is better preserved and it can be followed for 10 m to the end of the tower. A wall 2.80 m long closes the tower on the fourth side. Considering the sloping ground on which it was constructed, the tower comprised two levels. A wall, which was 3 m long, divided the tower into two parts as well as two different levels. The upper part of the eastern wall gives the impression of an entrance gate to the tower, an idea supported also by Gjerak Karaiskaj who first published the tower.[51] However, the structure is not sufficiently well preserved for the presence of a gate to be confirmed. Inside the tower there is nothing beside natural rock; even the wall thickness cannot be established because of the resemblance of the structure to general fill. In this sense, the structure is similar to a long wall constructed on the hill slope rather than a tower.

The fortification at Ganjolla is the only one to be documented by archaeological excavations.[52] The Hellenistic tower was built on the site of a preexisting Late Bronze / Early Iron Age fortification [Fig. 9]. It is the highest point of all the fortifications on Sheldia Mountain and it has a clear view of the plain of Zadrima and the Drin River. Bashkim Lahi dates the construction of this tower to the first quarter of the second century BC and relates it to the preparations of King Genthios for the war against the Romans.[53]

Fig. 9. Aerial view of Ganjolla (photo M. Pisz)

[50] However, modern military intervention at the site cannot be excluded in view of the presence of a military base until the 1980s.

[51] Karaiskaj 1974, p. 152.

[52] Lahi 1993, pp. 201–218.

[53] Lahi 1993, p. 204.

Located in the southern part of Sheldia Mountain [Fig. 10], Spathar is a fortification very similar to that of Gajtani and Ganjolla. The wall encircles the upper part of a rocky and beyond it, on lower ground, there is a small flat pasture. The fortification lies 217 m above sea level and is known under the name of *Kalaja e Xhodetit*. Of the two phases of fortification that were distinguished, the first one corresponds to a wall 120 m long and 3 m wide [Fig. 11]. It was probably a rubble wall with no regular faces on either side, as in no place of the preserved section of the wall could a facade be observed. This wall encircles an area of 0.7 hectares, with a precipice providing natural protection in the western part.

Fig. 10. Aerial view of Spathar (photo M. Pisz)

Fig. 11. Rubble wall at Spathar (photo S. Shpuza)

In the second phase, another rampart including a tower was added to the standing fortification wall [Fig. 12]. This second wall has some more advanced technical characteristics. It is 3 m wide and 12 m long. The tower at the end of the eastern part is of rectangular shape, but with irregular dimensions: 7.90 × 6.90 × 8.50 × 8.10 m. An L-shaped wall was added to the eastern wall of the tower, creating a corridor of unknown function. Only 2–3 courses of stone blocks have been preserved, the tower walls reaching no higher than 1 m. The blocks used for the construction of this tower are much better worked than those of Renci, but more irregular than those from Ganjolla.

Fig. 12. Wall of the Hellenistic tower at Spathar (photo S. Shpuza)

The northern part of the territory of Scodra seems to have been controlled by the sites of Kratul and Vorfa. Situated in the hill area of Boksi, Kratul watched over the Kiri valley [Fig. 13]. The fortification was of ellipsoidal shape, its western part greatly damaged today by military works. A tower stands in the eastern part. It was built of better dressed blocks compared to those used in the walls. Moreover, the fortification wall is constructed as a typical Iron Age structure with two faces and an inner rubble core, whereas the tower wall comprised two rows of stones set back-to-back. The earliest material on the site is of Iron Age date, but most of the pottery and coins, of Scodra and of Genthios, date to the Hellenistic period.[54] Thus, the wall and the tower apparently functioned during the Hellenistic period. A road paved with stone slabs, still in use today, is preserved nearby; it resembles Roman roads, but in many cases the Romans are known to have paved existing paths from the Hellenistic period.

The fortification of Vorfa is situated further north of Kratul. It lies on a rocky hill around 160 m above sea level, giving a clear view over Lake Skadar as well as Scodra, Bushati, Beltoja, Kratul, Renci, Ganjolla and Mokseti. The entire hill seems to have been protected by fortification

Fig. 13. The tower at Kratul (photo M. Pisz)

[54] Fistani 1983, pp. 113–115.

walls. However, it seems that different techniques were used for their construction [Fig. 14 a, b, c]. In the northeastern part of the hill, the wall is built of partly worked stones of huge size (1 × 0.80 × 0.80 m). The wall is 2 m wide, but only the northern face is preserved, the southern one having collapsed completely. The fragment still standing is 1.50 m high. Stones of apparently bigger size were employed in the southwestern part of the hill. The impression is that we are dealing with sizable chunks of rock integrated with the fortification wall. Smaller and better worked stones form the upper courses of the wall above the rock. There seems to be no inner face in this part of the wall. The line of the western fortification can be traced on the ground at the beginning of the slope almost without interruption toward the northern part. In this case, too, only the inner face has been preserved; the wall stands to a maximal height of 3 m and the facade is constructed of small-sized unworked stones. It is not clear whether the differences in construction techniques correspond to different phases of the site. However, the material found on the surface is of Hellenistic date.

Fig. 14. Different techniques of the fortification wall at Vorfa (photo S. Shpuza)

Control over Lake Skadar seems to have been the main interest of the Labeates. In fact, it looks like navigation on the lake was quite regular during the Hellenistic period. During the siege of Scodra by Anicius, Genthios navigated the lake hoping for more troops from his brother Caravandis.[55] Moreover, considering that the Buna was navigable and the main entrance to the Adriatic from Scodra, Illyrian *lembi* could have easily used the lake as a stationary base. Two fortifications that ensured control over the lake have been identified: Mokseti and Samobor. Mokseti is situated on a high hill with a clear view of the lake and direct visibility of Scodra and Kratuli.[56] A short section of the Hellenistic wall is preserved in the southern part of the hill [Fig. 15]. Facing it on the other side of the lake is Samobor[57] [Fig. 16], a site with a relatively well preserved fortification wall, standing to a maximum height of 2 m, including an entrance gate and a tower. The construction technique of the wall and tower is very similar to that found at Renci, that is, rough masonry of big blocks with very little dressing. Pottery and coins from the site are dated to the third–second centuries BC.[58]

Fig. 15. Hellenistic wall at Mokseti (photo S. Shpuza)

[55] Livy 44.31.11.
[56] Hoxha 2004, p. 247.
[57] The site is known since long ago, the first topographical plans being made by Nopça first and then Praschniker and Schober.
[58] Praschniker, Schober 1919, pp. 91–94.

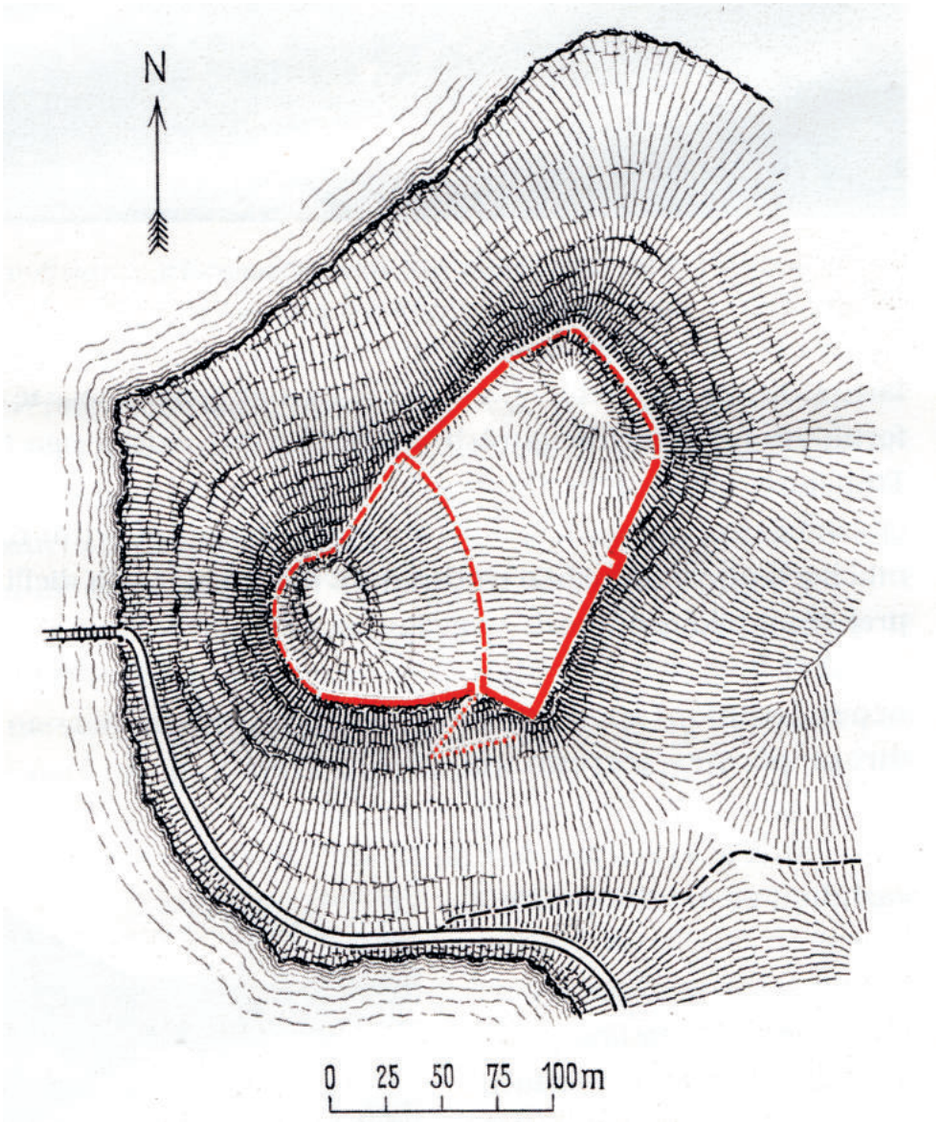

Fig. 16. Plan of the fortification of Samobor (after Praschniker, Schober 1919, p. 93, fig. 109)

Finally, there is Oblun, a fortification built on a hill situated in the Zeta plain, near the Morača river. It lies 214 m above sea level and presents two construction phases, like Ganjolla and Beltoja, one prehistoric and the other Hellenistic when a tower was added. Construction techniques again enabled a distinction between the two phases. The prehistoric structure is a rubble wall, while the Hellenistic one is built of regular trapezoidal blocs.[59] A similar site from the Hellenistic period, also equipped with a tower, is found in the same area, at Stara Gradina on the Morača river.[60] The fortification at Mali i Sumes, a wall 150 m long, lies on a hill rising 486 m above sea level, affording a clear view of the other fortified sites on Sheldia Mountain, as well as Scodra and Bushati.[61]

[59] See Dimitrijević 2016, p. 302.
[60] Dimitrijević 2014, pp. 145–150.
[61] See Lulgjuraj 2017, p. 587.

Function and chronology of the rural fortifications

The network of several signal posts and rural fortifications that the Labeates built to control their territory, maintaining visual contact between them, testify to their excellent territorial knowledge, know ledge that was rooted in ancient times considering that some of the Hellenistic rural fortifications were constructed on existing Bronze and Iron Age sites. In view of this, one can also assume that other Iron Age fortifications, which do not show any remains of Hellenistic walls, but have yielded finds of Hellenistic pottery, were used as signal posts just the same.[62] Thus, signal posts were not necessarily fortified with either towers or walls. Situated on high altitude and isolated sites, they did not play any function in military operations, their role being just signalization. It may be the case of Marshej, a site with walls apparently from the Iron Age, but with a geographical position that completes the chain of signal posts between Vorfa and Mokseti. The reoccupation of fortified places from the Iron Age can also be related to transhumance itineraries. This relation is very common in other territories, like that of the Molossians, for example, organized as an ethnos in similarity to the Labeates.[63]

A moot point that arises from an analysis of these data is whether the Labeates built their towers at the frontiers of their territory or as part of a defense system for the hinterland of the city of Scodra. It is difficult to observe the transformation from tribal territory of the Labeates to civic territory of Scodra. Generally, the establishment of cities in Illyria did not replace tribal traditions. Considering that most of the towers were in direct view of Scodra suggests that their construction was effected to protect the *chora* of the city. Their role was to house small garrisons, control the main communication roads, signal troop movements and seldom participate in military actions in order to slow down enemy movement.

The model of territorial organization around Scodra indicates an *asty* and *chora* organization typical of a *polis*. It is very similar to models already known from the Greek world as well as from south Illyria which was closer to the Greeks.[64] In the territory of Amantia, for example, the existence of *peripoloi* and *peripolarchos* is attested in the epigraphical sources. These were small mobile troops, the primary aim of which was to control the far-off limits of the territory.[65] However, we do not know at present whether Scodra and the Labeates had the same structural organization as Amantia and the Amantines.

Pending excavation in the future, the chronological overview of these fortification sites must be disappointing for now. Nonetheless, some general conclusions can be drawn regarding the territorial organization around Scodra. Considering that we are dealing with a complex and integrated system of protection of Scodra territory, it has to be taken as a given that these towers were built after the city of Scodra was established, that is, in the end of the fourth century BC, treated as a *terminus post quem* for their construction. At the other end of the spectrum, the fall of Scodra to the Roman in 168 BC can date the end of the usefulness of these fortifications. While they may have been in service until the last years of the Republic, their use must have been sporadic.

The construction of these control towers corresponds to two major political and military situations in the area. First, the building of this defensive system corresponds to a more intense period of activity of the Ardiaeian dynasty and may thus be seen as part of their military policy. However, there is no archaeological data to confirm the building activity of the Illyrian kings, regardless of whether it were military fortifications or stimulation of urban life. Historically, Polybius,[66] Strabo and Cassius Dio[67] wrote of the dynasts of Illyrian cities. The precise role of

[62] Jubani 1972; Lahi 1988; 1993; Fistani 1983; Lulgjuraj 2017.
[63] Dausse 2011, pp. 231–243.
[64] For Epirus, see for example Giorgi, Bogdani 2012 and Perna, Çondi 2017.
[65] Cabanes 1989, p. 61; Ceka, Ceka 2017, pp. 489–508.
[66] Polyb. 21.21.3.
[67] Cass. Dio, fr. 40.3 (book IX; Boissevain I, p. 117).

these dynasts is still unclear, but their existence suggests an interaction between political power and the urban framework in Illyria. Although it seems sometimes that each city had on occasion an autonomous policy within the larger framework of the Ardiaeian Kingdom.

Second, the construction of these rural fortifications ties in with a long period of insecurity during most of the Hellenistic period, starting from the wars of Teuta against the Romans to the last war of Genthios. A period of peace with the Romans during the reigns of Pleuratos and Scerdilajdes was still overshadowed by the Macedonian menace on the other side. For example, Philip V of Macedonia drove at creating a gateway to the Adriatic, causing much anxiety in the region. He threatened Apollonia and briefly captured Orikos, but then was detracted to go further north. In 213 BC, he captured Lissos and was threatening Scodra.[68] Some years later, in 209 BC, the Illyrians and the Dardanians organized some military incursions into the territory of the Orestis,[69] near Lake Ohrid, and in 208 BC Scerdilajdes and Pleuratos attacked Macedonia.[70]

The construction of isolated towers is not always in relation to the protection of the territory. Some of these structures could have been farm-towers and there is an overall tendency to demilitarize the role of the towers.[71] However, in the case of Scodra, there is no archaeological data from near these fortifications that could be related to an agricultural enterprise. Actually very little is known about agricultural activity in the area around Scodra, possibly with the exception of an open site east of the Sheldia Mountain, where the surface collection of finds suggests a non-military function.[72] The site at Mataguzi, north of Lake Skadar, may also be related to agricultural activity as it is the only site situated in the plain. Hellenistic blocks are used in the buildings on the site and an important quantity of Hellenistic pottery was found there.[73] In addition, two necropolises, one situated near Gajtan and the other one in Gostijl (Montenegro), must have belonged to communities living in the rural hinterland of Scodra.[74]

Fortifications of this kind seem to have been common to most Illyrians. Further north, similar fortifications of the Delmatae, Iapodes and Pannonians were used during the third–second centuries BC as *castella* or *oppida*. As in Scodra, they functioned as an organized system with good intervisibility between them, while they could not have ever functioned as independent strongholds.[75] No study has yet been undertaken of the territorial defense system in the territory south of Scodra, associated with Lissos, but in that case there was Acrolissos, lying higher than Hellenistic Lissos and fully capable of serving in the signalization role. It was situated in a very high place and commanded an unobstructed view of the four sides of the horizon.

The identification of these towers has contributed an important new element toward an understanding of the Illyrian fortification system in the territory of Scodra. This micro-regional study should be extended to cover a larger area, helping to understand spatial organization within the Illyrian Kingdom as well as enabling a clearer assessment of the frontiers between the Illyrian tribes. There is still much to do regarding the exploration of these rural fortifications, whether to improve the dating or to enhance the archaeological view of these very little known sites.

[68] May 1946, pp. 48–49. The sources do not tell us whether Philip V advanced north of Lissos and how long he remained in possession of this area.
[69] Livy 27.33.1.
[70] Livy 28.5.7.
[71] Morris-Papadopoulos 2005.
[72] Hoxha, Oettel 2016, pp. 215–216.
[73] Novaković 2017, p. 145.
[74] Korkuti 1967; Basler 1972.
[75] Wilkes 1992, pp. 190–192. See also his bibliography on the strongholds of the Delmatae.

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Streszczenie

Szkodra i Labeaci. Miasta, wiejskie fortyfikacje i obrona terytorialna w okresie hellenistycznym

Wiedza na temat zagospodarowania terytorialnego rejonu Szkodry została znacznie poszerzona dzięki szeroko zakrojonemu programowi badań, prowadzonemu przez Instytut Archeologii w Tiranie we współpracy z Ośrodkiem Badań nad Antykiem Europy Południowo-Wschodniej (Uniwersytet Warszawski). Z uwagi na daleko idące rozbicie polityczne przedrzymskich plemion na Bałkanach, na które wpływ miało specyficzne ukształtowanie terenu, ogromnego znaczenia nabiera próba wyznaczenia granic rdzennego obszaru zajmowanego przez plemię Labeatów. Był to teren obejmujący w sumie około 2000–2500 km^2, z czego około 500 km^2 stanowiło jezioro.

Omówienie wiejskich fortyfikacji w ich lokalnym kontekście geograficznym oraz w odniesieniu do głównych ośrodków miejskich służy możliwie pełnemu odtworzeniu krajobrazu hellenistycznej Szkodry. Wyraźnie dostrzegalna jest znacząca aktywność budowlana w okresie od IV do II w. p.n.e. Aktywność ta związana jest głównie z wojskowością, ale wynika to przede wszystkim z bardzo ograniczonego zespołu danych archeologicznych dotyczących rolnictwa czy hodowli w całym okresie hellenistycznym.

Model organizacji terytorialnej rozpoznany w rejonie Szkodry jest charakterystyczny dla typowej *polis*. Przypomina modele znane ze świata greckiego, jak również z południowej Ilirii i Epiru, pozostających w sferze greckich wpływów. Czas budowy wiejskich założeń obronnych pokrywa się z długim okresem zagrożenia obejmującym cały okres hellenistyczny od wojen królowej Teuty z Rzymianami po ostatnią wojnę Genthiosa. Niniejsze studium w mikroskali

wpisuje się w dyskusję o wiejskich wieżach obronnych i innych powiązanych z nimi konstrukcjach na terenie królestwa Ardiejów. Rezultaty tych badań stworzą lepsze ramy dla przyszłych badań nad organizacją przestrzenną oraz relacjami między hellenistyczno-iliryjskimi miastami a ich zapleczem terytorialnym.

Saimir Shpuza
Academy of Albanian Studies
Institute of Archaeology
Department of Antiquity
Sheshi Nënë Tereza 1
AL-1000, Tirana
saimirshpuza@gmail.com

Kriledjan Çipa

HIMARA IN THE HELLENISTIC PERIOD. ANALYSIS OF HISTORICAL, EPIGRAPHIC AND ARCHAEOLOGICAL SOURCES

Abstract: Ancient Himara is located on the coast of southwestern Albania, in a dominant position on a hill rising about 250 m above sea level. In the Hellenistic period, Himara was the most northwestern fortification of Chaonia and an important center according to epigraphic and historical sources. The few studies of this ancient site have been restricted to the fortification wall. The article presents new archaeological data from the survey of the site and its surroundings, in the light of a review of the historical and epigraphic sources.

Key words: Himara, Chaonia, Akrokeraunia, fortification, Hellenistic period, polygonal blocks

Introduction

Studies of the Himara Castle[1] [Fig. 1] have been limited mainly to the fortification wall in the context of research on ancient fortifications in general. For this reason, observations have been limited and sources generally repeated without any attempt at a complete synthesis. This article discusses the current state of archaeological research on this site, while reviewing the historical and epigraphic sources in chronological order to demonstrate the importance of Himara in the Hellenistic period. The main focus is on marshalling the new data on the fortification plan and a more detailed study of wall construction technique, derived from a thorough cleaning and study of the circuit made in 2015 (including a new GPS survey of the fortification). Another important element of the analysis is a review of the dating evidence, including some newly discovered graves from the presumed ancient necropolis situated outside the fortifications. The picture that emerges from the data marshaled in this article substantiates the new approach to the Himara stronghold. The picture will be filled out once new data are made available from future excavations at this ancient site.

[1] Himara Castle is the modern name for this historic center and it refers to the medieval fortification. Epigraphic sources underline Himara's importance in the Hellenistic period, thus justifying the use of the name of Himara to refer to the ancient urban center as well.

Geographical position

Ancient Himara is situated in a town of the same name in southwestern Albania, in a region corresponding in antiquity to the northern edge of Epirus and Chaonia. It lies amidst several other ancient sites, being bordered by the site of Borsh to the east. On the west, the Llogara Pass serves as a passage and at the same time as a border with the territory of the ancient town of Orikos. The Çika Range (ancient Akrokeraunia) and the Shushica River serve as a natural border with the Amantes. Panormus, or today's Porto Palermo, mentioned by Ptolemy[2] and referred to by Strabo as "a big harbor at the centre of the Ceraunian Mountains",[3] is very close to Himara [Fig. 2]. It must have served Himara as one of its harbors considering that the beaches of Spile and Livadh in the open bay below the city are exposed to winds in bad weather and hence unsuitable for sheltering vessels during marine storms.

The fortification on the north coast of Himara Bay is in a dominant position, the hill on which it was built rising to a height of about 250 m above sea level [see Fig. 1]. The hill lies in steep terrain, ascending from east to west and culminating in a precipice above the Visha stream. On the south, the fortification dominates the beaches of Livadh, Spile and Potam; on the west, the Visha stream separates it from the high hill of Skutara, while the hill of Andrehora is connected to a pass, which was the only viable route for an ancient coastal road shown in the *Tabula Peutingeriana* and *Itinerarium Antonini*. Some low hills and fields suitable for agriculture, viticulture and the cultivation of citrus groves are found in the east and southeast. The combination of sea and mountain terrain in Himara creates the perfect conditions for development of farming and fishing along with trade in the area.

Fig. 1. General view of the hill where the Hellenistic settlement is located (photo K. Çipa)

[2] Ptol. *Geog.* 3.13.2.
[3] Strab. 7.7.5.

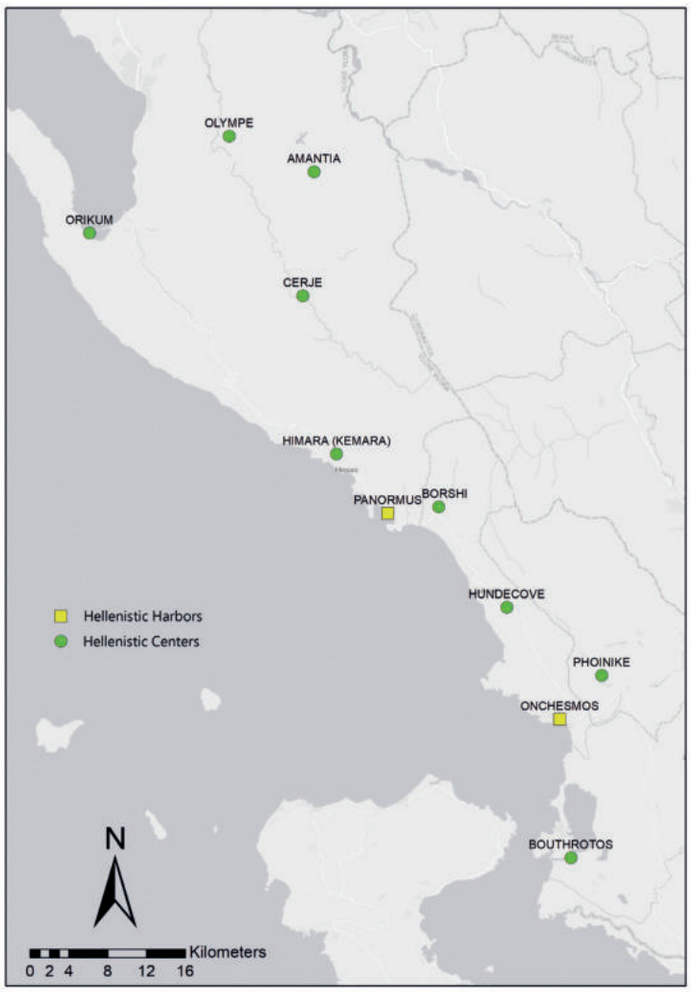

Fig. 2. General map with the localization of Himara
and the nearest centers in the Hellenistic period (K. Çipa)

History of archaeological research

A review of archaeological research helps to bring together material that has either been lost over time or is no longer stored in the original location. As with many other ancient sites in Albania, Himara was first noted and described by travellers from the early nineteenth century. François Pouqueville[4] and William Martin Leake[5] were the first to identify the ruins of this fortress with the ancient Chimera mentioned by Pliny. Leake mentioned an inscription, which is now lost. More scholarly descriptions of the fortifications were produced by archaeologists, such as Dimitrios Evangelidis,[6] Beaumont[7] and Nicolas Hammond,[8] who visited the site at the beginning of the twentieth century. They also described some structures and features within the inhabited area. Hammond noted a cistern built of antique blocks in front of the St St Sergius and Bacchus church.

[4] Pouqueville 1820, p. 13.
[5] Leake 1815, pp. 89–90.
[6] Lambrou 1913, p. 281; Evangelidis 1919, p. 281.
[7] Beaumont 1952, pp. 64, 70.
[8] Hammond 1967, p. 124.

The first reports by Albanian archaeologists date to 1950; they were collected and summarized by Dhimosten Budina in an article published in 1971, including the first plan of the fortification.[9] Only the northern part of the enclosure was taken into consideration in the discussion of the enceinte and the wall building technique. Additional information was provided by Damian Komata in an article written in 1974.[10] Neritan Ceka and Jano Koçi carried out regular archaeological excavation in 1984, but they published material pertaining only to the late Bronze Age.[11] The wall that they discovered in the northern part of the hill was 3.50 m wide[12] and followed a course which Koçi attributed to the Late Bronze Age owing to a typological similarity with the wall of Karos and the dating of the pottery assemblage.[13] The ancient fortification was also investigated by a team directed by Pierre Cabanes for the purposes of the Archaeological Map of Albania Project,[14] but the information included there was restricted by the very nature of this project. Another interesting approach is given by a brief study, which Enrico Giorgi and Julian Bogdani conducted within the framework of a broad study of the territory of Phoinike.[15] None of these works mention the ancient necropolis and they do not go into the details of the ancient fortification.

Ancient sources

With the Ceraunian Mountains considered as the northern boundary of Chaonia by Pliny and Strabo,[16] Himara becomes the most extreme fortification in the northwest of Chaonia. The only sources shedding light on the role and importance of this center in the Hellenistic period are epigraphic. Himara's name is found in the form Χεμαρίων on a lead tablet found in Dodona, dating from the end of the fourth century BC;[17] the text is addressed to the oracle by the residents of Himara inquiring whether they should settle there (οἴκησις).[18] The source confirms the presence of a substantial community on the hill where the fortification is located[19] and suggests the time when the town of Himara took shape.[20] At the end of the third century BC, Himara's name appears alongside Amantia and Phoinike on the Delphic Theorodoki lists of Epirus, all invited to participate in the Delphic games.[21] The invitation sent to Himara (*en Kemarai Thoras Thrasimachos K*)[22] and two other important cities demonstrates its political independence and its rank as a *polis*. Its absence from the earliest list of Delphic games should be seen as proof that this status of Himara refers to the Hellenistic period.

The situation of the town is unclear during the Roman period. It is not entirely clear whether Himara was included in the *koinon* of Epirus organized around Phoinike after 168 BC (*to koinon ton Epiroton ton peri Foiniken*).[23] It was made part of the province of Achaia after 27 BC, becoming part of the province of Epirus in the mid-second century AD. The first mention of Himara in a historical source comes from the turn of the first century AD; in his *Naturalis historia*, the Roman writer Pliny the Elder describes a castle in Epirus: "On the coast of Epirus the castle of Chimera, over the Ceraunian Mountains. Beneath it, the source of Royal Water, the Meandria

[9] Budina 1971, p. 280, fig. 1.
[10] Komata 1974, pp. 179–181.
[11] Koçi 1991, pp. 39–64.
[12] Jano Koçi, personal communication; the published version of his article does not contain information about the location of the wall, which can no longer be seen on the ground surface.
[13] Koçi 1991, pp. 52–53.
[14] Cabanes *et alii* 2008.
[15] Giorgi, bogdani 2012.
[16] Strab. 7.7.5; Plin. *HN* 4.1 (2).
[17] Dakaris, Kristidis, Vokotopoulou 1993, pp. 55–60.
[18] Cabanes, Drini 2016, p. 157.
[19] Cabanes, Drini 2016, p. 157.
[20] Giorgi and Bogdani translate the word οἴκησις as "city", but the meaning of this word is rather "settlement", see: Giorgi, bogdani 2012, p. 236.
[21] Anamali 1982, p. 9.
[22] Hammond 1967, p. 657.
[23] Cabanes *et alii* 2008, p. 99.

fortress ...".[24] The source of Royal Water (*Aquae Regiae fons*) is an underground stream on the southern edge of Himara Bay, flowing out on the Potami beach. Himara was apparently a *castellum* during the Roman period. Its declining importance is also evident in the fact that it was not included on the fourth century AD *Tabula Peutingeriana*. It reappeared in the sixth century AD following a restoration of the fortification in the time of Justinian. This was a time of barbarian raids and Himara was listed by Procopius of Caesarea in the form Χίμαιραι (Chimairai), incorrectly among the new castles built by Justinian in the province of Old Epirus.[25]

The fortification wall: its plan, construction technique and date

Hellenistic fortification[26]

The defensive wall, which is about 270 m long, arches to follow the ground topography, its ends closing on the edge of the precipice. It encloses an area of about one hectare. The plan is simple with the wall running around the hill and the only entrance, protected by a tower, being located on the southern side [Fig. 3]. The design calls to mind the first phases of other fortifications in the area, e.g., Olympe.[27]

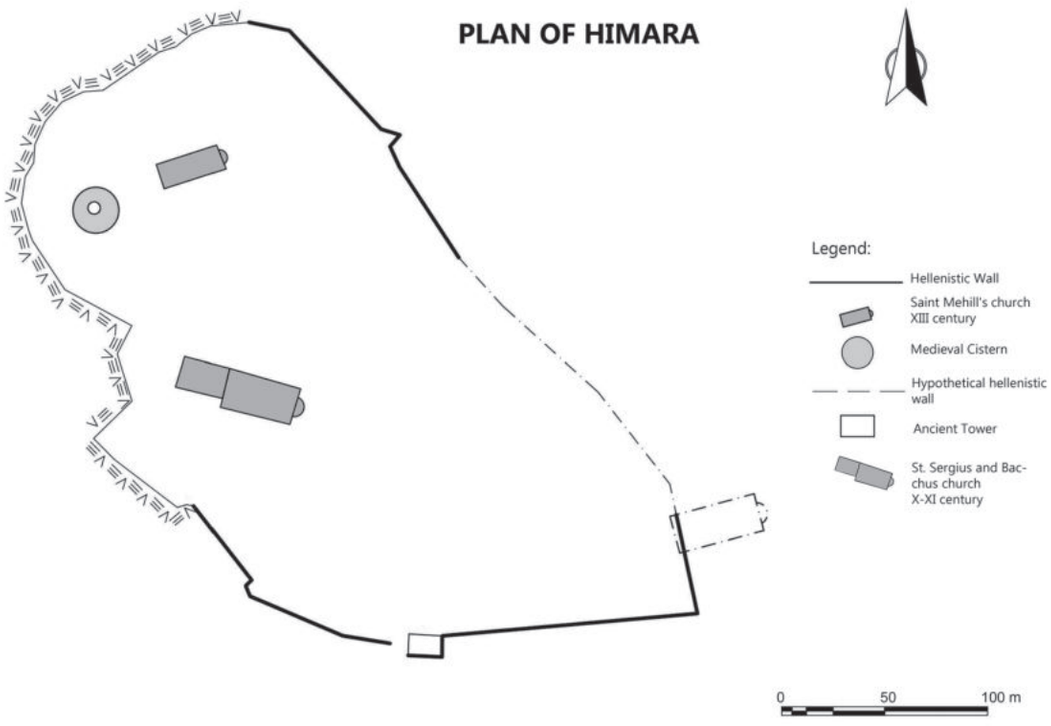

Fig. 3. Plan of Himara (after K. Çipa)

[24] Plin. *HN* 4.1 (4).

[25] Procop. *Aed.* 4.4.3; Procopius was wrong, because the fortification was not new, only restored in the times of Justinian.

[26] Following the author's verification in the field, it became obvious that Budina's plan of 1970, the only one ever made, was in need of revision regarding the eastern and southern parts. The eastern section of the wall, which could be traced in the gaps and through antique blocks reused in the medieval walls, was not represented at all, whereas the southern line of the enceinte, extending beyond the church of St. Mary of Cassiopitra to the south, was not linear. In fact, it appeared as an L-shaped corner without connection to the rest of the wall, which is apparently hypothetical and wrong, see: Budina 1971, p. 280, fig. 1.

[27] Dautaj 1981, pp. 60–65; Ceka 1975, pp. 39–40.

The northern wall began on the edge of the precipice, adapting natural rock for the foundation. The preserved line is about 30 m long, the preserved height of 2.50 m consisting of only three courses of stone blocks [Fig. 4]. The blocks of the substructure are set directly in the ground and form a footing 18–20 cm wider than the wall itself. The blocks in the upper courses are mainly trapezoidal and quadratic. The dimensions of the trapezoidal blocks range from 0.82 × 1.05 × 0.25 m to 0.90 × 0.94 × 0.45 m. The joints between them are tight. Polygonal blocks were used in just a few places. At the eastern end the wall turns southward, creating a serrated angular angle.

The wall running south extends in a straight line for about 112 m; a small part of it belongs to the medieval phase made with recycled antique blocks. The most complete part is preserved within the St Mary of Cassiopitra church as its western wall; this part is 6 m long and 2.70 m high [Fig. 5]. The wall was founded on natural rock, levelled here and extending about 20 cm beyond its base. It consists of five courses of trapezoidal blocks. Outside the church, the wall runs for 16 m and turns west at a right angle.

Fig. 4. View of the northern wall
(photo K. Çipa)

Fig. 5. The Hellenistic wall within the St Mary of Cassiopitra church
(photo K. Çipa)

The upper courses of the southern wall are the only part visible on the ground surface for a length of 24.60 m and only 16 m of the course ending in the one and only fortification tower can be observed. The courses are more irregular here than in the northwest. There is a combination of polygonal and trapezoidal blocks, the gaps between them filled with small quadrilateral and rectangular stones, as well as triangles. The construction technique in this section of the wall is irregular polygonal [Fig. 6].

The quadrilateral tower at the southwestern gate is 6.70 m wide and projects 3.80 m from the line of the wall [Fig. 7]. In size and shape, the tower resembles towers from Cerje[28] and Olympe.[29] Four courses of the ancient wall can be traced on the front side, while the corners, preserved to a total height of 4.60 m, rise in six courses of stone blocks in a technique referred to as "Epirote cornering" by Hammond.[30] The tower has undergone multiple reconstructions in different periods.

Fig. 6. View of the polygonal wall (photo K. Çipa)

Fig. 7. View of the quadrilateral tower (photo K. Çipa)

[28] Ceka 1975 , pp. 40–42.
[29] Dautaj 1981, pp. 60–65; Ceka 1975, pp. 39–40.
[30] Hammond 1967, p. 124.

Traces of plaster and brick between the joints of antique blocks demonstrate interventions in late antiquity. It is the only evidence of restorations to the fortification in Justinian's time. Considering the state of preservation of the ancient parts of the tower, including later phases of construction, its original height would have been about 7 m. The tower stands to the left of the ancient entrance, where the ground topography left the gate open to attack; on the other side the steeper terrain afforded natural protection. The gate itself was restored in medieval times, obliterating the dimensions of the ancient entrance.

Remains of the antique wall on the right-hand side of the entrance extend about 30 m westward, below modern dwellings. The wall changes direction in a curve and climbs the rock to the north, up to a point where no fortification is needed anymore.

The limited area enclosed by this fortification is difficult to reconcile with the attested importance of the ancient city in the end of the third century and the beginning of the second century BC. This suggests that the inhabited area must have lain partly outside the enceinte in antiquity.

Construction technique and fortification date

The wall construction technique is not homogeneous. The trapezoidal technique predominates; the polygonal technique appears in places and in some cases the two are combined. Currently, only the outer facade is visible; the inner side stands against the hillside, but at points where the wall is damaged, one can see two facades with a core of soil and small stones (*emplekton*) and joining transverse blocks (*diatone*). The foundation stands directly on the ground or on natural rock, forming a plinth for the wall. The interstices between the blocks were filled in with small triangular, rectangular and quadrilateral stones. The wall thickness was 3.50 m.[31] These techniques required master builders to make the blocks adhere tightly.

Influenced mostly by Scranton's study,[32] Albanian scholars have generally dated the use of the polygonal and trapezoidal building techniques in South Illyria and Epirus to the fifth–fourth centuries BC. There is no such chronological typology in fact.[33] The authors of the Archaeological Map of Albania also dated the ancient walls of the Himara castle to the fifth–fourth centuries BC, taking into consideration the irregular style of the walls and the underdeveloped architectural form.[34] The dating issue is further compromised by the absence of data from relevant archaeological excavations. Contextualizing the urban development of Himara within that of Chaonia in general could give some indications. From a typological point of view, a form of construction similar to that at Himara can be found in Çuka e Ajtoit, which does not go beyond the fourth century BC in date.[35] The other Chaonian fortifications, including also the main city of Phoinike, date from the fourth to third centuries BC.[36] In the case of Himara, the inscription found in Dodona can serve as a *terminus post quem*, confirming the presence of a substantial community in the end of the fourth century BC.[37] Thus, it seems reasonable enough to date the fortification of Himara to the end of the fourth century BC.

[31] Budina 1971, p. 280.
[32] Scranton 1941; Prendi 1974, pp. 107–127; Islami 2008, pp. 263–283; Ceka 1983, pp. 136–192.
[33] Bogdani 2007–2008, pp. 233–257.
[34] Cabanes *et alii* 2008, pp. 138–139.
[35] Islami 2008, pp. 264–278; Bogdani 2007–2008, pp. 233–252.
[36] Giorgi, Bogdani 2012, pp. 355–395.
[37] Dakaris, Kristidis, Vokotopoulou 1993, pp. 55–60.

Architectural features inside and outside the fortification wall

The main problem for any study of the internal organization of this settlement is the overlap of structures from different periods. Large-scale archaeological excavations are not easy to undertake owing to the limited free space. The ground is not scattered with pottery except for ceramic tiles and there are no ancient structures to be seen on the ground surface. Only a few architectural features have been found.

A channel running for at least 3.10 m was recorded at the western edge of the hill. It was 25 cm high and 25 cm wide. Siding with it on the southern side was a yard, 5.60 × 4.80 m in size, cut 0.65 m into the rock, with some stairs also worked into the rock. Apparently, these are traces of a building. Budina's plan also showed an ancient well near the St St Sergius and Bacchus church.[38]

Outside the ancient walls, a fragment of an Ionic freeze of the third–second centuries BC was reused in a house.[39] The freeze features lotus and meander leaves, as well as geometrical motifs [Fig. 8]. There is also the leg of a table dating to the fifth–sixth century AD[40] [Fig. 9]. Another architectural fragment of the same period is preserved in the church of St St Sergius and Bacchus. It is probably a screen from the sixth century, measuring 21 × 35 × 7 cm. Another ancient fragment turned up reused in the arch of a vault in one of the church entrances. Moreover, Evangelidis reported the use of ancient marble material in the interior of a house.[41]

Fig. 8. Fragment of an Ionic freeze reused in a house in Himara (photo K. Çipa)

Fig. 9. Leg of a fifth–sixth century AD table from Himara (photo E. Hobdari)

[38] Budina 1971, p. 280, fig. 1.
[39] Podini 2014, pp. 112, 180–181.
[40] Now in the storerooms of the Institute of Archaeology in Tirana.
[41] Evangelidis 1919, p. 281.

Localization of the necropolis

The hills and terrain around the ancient settlement are all suitable for establishing a cemetery, but direct evidence had long been missing. A field survey recently located two necropolises. Some cist tombs were identified in a stream bed about 1 km to the east of the ancient settlement. A deep deposit of sediments and alluvia, about 2 m high, from the streams of Koram and Kastane, had obscured all evidence of the burial ground.[42] The graves are rectangular, of varying dimensions, their sides and covering built of stone slabs [Figs. 10 and 11]. Some of the side slabs are 50 × 54 × 3 cm and 73 × 50 × 3 cm in size. There were no grave furnishings. The architecture resembles other Hellenistic cemeteries in the region, hence the suggested date to this period. The graves are densely distributed along the stream, indicating that the necropolis extends over a large area.

Fig. 10. Cist tomb from the Himara necropolis (photo K. Çipa)

Fig. 11. Cist tomb from the Himara necropolis (photo K. Çipa)

[42] In December 2016, erosion of the streambed, caused by extreme rainfall and digging of the sediment for construction material, revealed the remains of some cist tombs in the Vacunero locality. They were seen by the author about three months later when heavy rains had already damaged them; they may have also been looted by clandestine diggers by this time as well.

Some other graves were found 5 km away from Himara, at a locality called Kastane.[43] The graves are vaulted, very similar to the Hellenistic tombs already known from Amantia. They may have served a rural settlement in the vicinity or been the necropolis of Himara.

Ties with other ancient cities

Being a coastal site isolated from the Akrokeraune mountain range in the north and east, Himara in antiquity was oriented to the sea, which provided opportunities for commercial and cultural development in contact with the Mediterranean. Without archaeological evidence from Himara, little can be said of the city's commercial links. However, material from the excavations of 2002–2003 in the Cave of Spile, situated very close to the fortification, gives some indications.[44] The finds included imported ceramics from Greek and Italic sites.[45] Moreover, underwater investigations in the Gulf of Porto Palermo give further indications.[46] Commercial imports to the region are substantiated by finds of amphoras coming from the western coasts of the Adriatic, Corinth, as well as the Aegean and Asia Minor coasts, starting from the end of the fourth century BC.[47] Imports from Apollonia are also present.

Conclusions

Himara can be said to belong to the set of the earliest Chaonian fortifications. It appears to have been a peripheral coastal center in the northwest of Chaonia, acting as a fortified refuge for the rural settlements forming a restricted *chora* around it. It is a small micro-region or a small political-economic unit, of secondary importance compared to the major cities of Antigonea, Phoinike and Amantia. However, in the Hellenistic period it enjoyed a political and economic independence, confirmed by its presence on the list of Delphic Theorodoki. Its political independence apparently stems more from its geographic position than its economic importance. It seems that the imposition of Roman rule transformed it into a *castellum*, as described by Pliny.

Its absence from the *Tabula Peutingeriana* and *Itinerarium Antonini* is another indicator of the diminishing importance of the locality. It came back into focus for a Byzantine administration dealing with the very real threat of barbarian raids south of the Balkans. Fortified sites, such as Himara in *Epirus Vetus*, were instrumental in securing the coastal road leading from south of Epirus and to the coast of Greece against the raiders. That is why it was restored in the reign of Justinian. Traces of this restoration can be seen to a limited extent in the tower walls.

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[43] Çipa 2016, pp. 86–89.
[44] Gjipali 2007–2008, pp. 114–117.
[45] Gjipali 2007–2008, pp. 114–117.
[46] Volpe, Leone, Turchiano 2011, pp. 253–260.
[47] Volpe, Leone, Turchiano 2011, p. 258.

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Streszczenie

Hellenistyczna Himara w źródłach historycznych, epigraficznych i archeologicznych

Starożytna Himara leży w południowo-zachodniej Albanii, na nadmorskim wzgórzu wznoszącym się 250 m n.p.m. W okresie hellenistycznym był to najbardziej wysunięty na północny zachód punkt obronny w Chaonii i ważny ośrodek lokalny, o czym zdają się świadczyć źródła epigraficzne i historyczne. Nieliczne badania stanowiska ograniczone były dotychczas do ruin murów obronnych. Celem niniejszego artykułu jest przedstawienie nowych danych archeologicznych, pozyskanych w trakcie badań powierzchniowych prowadzonych wokół tego stanowiska, oraz omówienie ich w świetle znanych źródeł historycznych i epigraficznych.

Kriledjan Çipa
Regional Directorate of National Culture of Vlora
(D.R.K.K-Vlorë)
k-cipa@hotmail.com

Renata Ciołek

COLLECTION OF 48 PROVINCIAL COINS FROM NOVAE (BULGARIA), SECTOR XII. NUMISMATIC STUDY

Abstract: A hoard of provincial coins from the third century AD, coming from excavations carried out by the Antiquity of Southeastern Europe Research Center of the University of Warsaw in 2016 at the ancient site of Novae, is catalogued and studied in this paper, providing an example of coin circulation structure in the province of Lower Moesia in the early years of the reign of Gordian III. The coins were found in the substrate of a floor inside a civil building, some stuck together in a way indicative of having been packed originally in a pouch of some kind. All 48 coins in this collection were of bronze.

Key words: Novae, provincial coins, coin hoard, Nicopolis ad Istrum, Marcianopolis, Hadrianopolis, Dionysopolis, Anchialos, Deultum

A small collection of "bronze" coins was unearthed in 2016, in the course of an excavation in the Roman fortress of Novae carried out by the Antiquity of Southeastern Europe Research Center University of Warsaw. The set was made up of almost exclusively provincial issues.[1] The coins were found in the substrate of a floor of a civil building and some of the coins were stuck together, indicative of being packed together in a pouch or bag of some kind.[2] The collection counts 48 coins, all of them of bronze. One of the coins was issued in Rome in the times of the emperor Hadrian, but otherwise the collection, listed in catalog form below, is a highly interesting set of provincial issues. The term "hoard" is avoided here intentionally or used in quotation marks, because 48 coins is hardly enough to speak of a hoard in the traditional sense of the word. These coins were not of high value and may have been simply "current savings" that someone had lost. It is true that Kamen Dimitrov refers to sets of six or nine coins, found in the Novae camp, inside the so-called *thermae legionis*, as "hoards",[3] but in those cases we are dealing with silver coins and can readily assume the relatively high value of these few coins.[4]

The collection of 48 coins found in 2016 in Sector XII at Novae is interesting for a number of reasons. It revises current opinions about monetary circulation in the legionary camp of the mid-third century AD.[5] It contributes new types not listed in the published collections or corpuses: just

[1] Paper written based on the results of research within the frame of a project funded by the National Science Council, no. DEC 2016/21/B/HS3/00021. Project title: *Monetary circulation in Moesia and Illyria. The case of finds from Novae (Bulgaria) and Risan (Montenegro).*

[2] http://www.novae.uw.edu.pl/polskie/novae/novae2016.htm (accessed: April 2018).

[3] Dimitrov 2013, p. 248.

[4] It is more surprising to find four "bronze" coins from the fourth century, which were truly of little value, called a "hoard". Cf. Dimitrov 2013, p. 257.

[5] Ciołek 2017.

two coins, but it shows that there are still gaps in knowledge of Roman minting. Both coins were issued at Nicopolis ad Istrum, a mint situated nearest to the legionary camp, both are of a similar size and are surely representative of coins in circulation in the province of Lower Moesia in the early years of the rule of Gordian III when the collection in question was either hoarded away or lost.

The catalog below follows accepted standards: key data of each coin including dating, provenance (mint), type by catalog/corpus, inventory number and metrological data. Also given are descriptions of the obverse and reverse sides of the coins.

Catalog

1. Hadrian no. 1

AE sestertius	119–121	Rome	*RIC* 612b	inv. 4982 weight 25.65 g, dia. 32 × 33 mm

Obv.: IMP CAESAR TRAIAN HADRIANVS AVG laureate bust right, cuirassed.
Rev.: P M TR P COS III SC, Spes walking left, holding flowers and raising the edge of her robe.

2. Septimius Severus no. 2

AE	193–211	Nicopolis ad Istrum	*AMNG* 1309	inv. 4984 weight 13.65 g, dia. 25 × 25 mm

Obv.: AY K CEΠ CEYHPOC, laureate head right
Rev.: YΠ AY ΓAΛΛOY NIKOΠOΛITΩN ΠPOC ICTPΩ, naked Herakles to left, struggling with the Cretan bull.

3. Septimius Severus no. 37

AE	193–211	Nicopolis ad Istrum	Varbanov 2598 Moushmov 956	inv. 5008 weight 14.33 g, dia. 27 × 27 mm

Obv.: AY Λ CEΠ CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: YΠ AY ΓAΛΛOY NIKOΠOΛI ΠPO C I, Septimius Severus standing to left, in military garb, holding a globe and a spear.

4. Septimius Severus no. 39

AE	193–211	Nicopolis ad Istrum	Varbanov 2594 Moushmov 912 *AMNG* 1296	inv. 5010 weight 11.63 g, dia. 26 × 25 mm

Obv.: AY K Λ CEΠ CEYHPOC, laureate head right.
Rev.: YΠ AY ΓAΛΛ NIKOΠOΛIT ΠPOC I, Athena standing to left, helmeted, offering on an altar standing to left, holding a spear and resting her hand on a shield to her right.

5. Septimius Severus no. 41

AE	193–211	Nicopolis ad Istrum	Moushmov 941	inv. 5012 weight 11.07 g, dia. 25 × 25 mm

Obv.: AY KAI CE CEYHPOC, laureate head right.
Rev.: NIKOΠOΛIT ΠPOC ICTP, Aequitas standing left, holding a balance scale and a scepter.

6. Septimius Severus no. 44

AE	193–211	Nicopolis ad Istrum	Moushmov 1018	inv. 5014 weight 12.02 g, dia. 26 × 25 mm

Obv.: AYK Λ CE CEYHPOC, laureate head right.
Rev.: NIKOΠOΛITΩN ΠPOC ICT, Hermes standing to front, head left, holding a caduceus and a pouch, cock on the left side.

7. Septimius Severus no. 47

AE	193–211	Nicopolis ad Istrum	Varbanov 2606 or Moushmov 909	inv. 5016 weight 13.18 g, dia. 27 × 26 mm

Obv.: [……] CEYH[…], laureate head right.
Rev.: YΠ AY ΓAΛΛOY NIKOΠOΛITΩ ΠPOC I, Asklepios standing to front, holding a staff with a serpent entwined around it.

8. Septimius Severus no. 9

AE	193–211	Nicopolis ad Istrum	Type not listed in catalogs[6]	inv. 4993 weight 11.60 g, dia. 26 × 28 mm

Obv.: AY K Λ CEΠ CEYHPOC Π, laureate head right.
Rev.: YΠ CTA ΛONΓIOY NIKOΠOΛITΩN ΠPOC ICTPON, river god (Istros?) semi-reclining to left, resting on his left arm, raising an unidentified object in his right hand.

[6] Type similar to Varbanov 2762, cf. AMNG 1277. The legend on the reverse runs around the edge; on the coin from Novae, it terminates in two lines.

9. Septimius Severus no. 48

AE	193–211	Nicopolis ad Istrum	Moushmov 1001 var.[7]	inv. 4994 weight 10.44 g, dia. 24 × 27 mm

Obv.: AY K Λ CEΠ CEYHPOC, laureate head right, draped and cuirassed.
Rev.: YΠ AYP ΓAΛΛOY NIKOΠOΛIT ΠPOC ICTP, Tyche standing left, holding a rudder and a cornucopia.

10. Septimius Severus no. 28

AE	193–211	Nicopolis ad Istrum	Varbanov 2677	inv. 5029 weight 10.63 g, dia. 25 × 25 mm

Obv.: AY K Λ CEΠ CEYHPOC, laureate head right.
Rev.: YΠ AYP ΓAΛΛOY NIKOΠOΛITΩN / ΠPOC IC, Zeus standing left, holding a patera and a scepter.

11. Septimius Severus no. 45

AE	193–211	Nicopolis ad Istrum	Varbanov 2606	inv. 5016 weight 13.18 g, dia. 27 × 26 mm

Obv.: […..] CEYH[….]OC, laureate head right.
Rev.: YΠ AY ΓAΛΛOY NIKOΠOΛITΩ ΠPOC I, Asklepios standing to front, holding a staff with a serpent entwined around it.

12. Septimius Severus no. 15

AE	193–211	Marcianopolis	*SNG* Cop. 211 Moushmov 385	inv. 4996 weight 11.94 g, dia. 27 × 28 mm

Obv.: AY Λ CEΠTI CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: YΠ ΦAYCTINIANO MAPKIANOΠOΛITΩN, Homonia standing left, holding a patera and a cornucopia.

13. Septimius Severus no. 30

AE	193–211	Marcianopolis	*SNG* Cop. 211 Moushmov 385	inv. 5000 weight 14.84 g, dia. 27 × 26 mm

Obv.: AY Λ CEΠTI CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: YΠ ΦAYCTINIANOY MAPKIANOΠOΛITΩN, Homonia standing left, holding a patera and a cornucopia.

[7] Coin type similar to that listed as Moushmov 1001. The coin from Novae bears the legend here presented: AY K Λ CEΠ CEYHPOC, whereas Moushmov 1001 has the following according to the catalog: AY K Λ CEΠT CEYHP ΠEP.

14. Septimius Severus no. 20

AE	193–211	Marcianopolis	*SNG* Cop. 211 Moushmov 385	inv. 5002 weight 11.54 g, dia. 27 × 26 mm

Obv.: ΑΥ Λ CΕΠΤ CΕΥΗΡΟC, laureate bust right, draped and cuirassed.
Rev.: Υ ΦΛ ΟΥΛΠΙΑΝΟΥ ΜΑΡΚΙΑΝΟΠΟΛΙΤΩΝ, Homonia standing left, holding a patera and a cornucopia.

15. Septimius Severus no. 35

AE	193–211	Marcianopolis	*SNG* Cop. 211 Moushmov 385	inv. 5006 weight 9.97 g, dia. 26 × 25 mm

Obv.: ΑΥ Λ CΕΠΤΙ CΕΥΗΡΟC, laureate bust right, draped and cuirassed.
Rev.: ΟΥΛΠΙΑΝΟΥ ΜΑΡΚΙΑΝΟΠΟΛΙΤΩΝ, Homonia standing left, holding a patera and a cornucopia.

16. Septimius Severus no. 38

AE	193–211	Marcianopolis	*SNG* Cop. 211 Moushmov 385	inv. 5009 weight 12.91 g, dia. 26 × 26 mm

Obv.: ΑΥ Λ CΕΠΤΙ CΕΥΗΡΟC, laureate bust right, draped and cuirassed.
Rev.: ΥΠ ΦΑΥCΤΙΝΙΑΝΟΥ ΜΑΡΚΙΑΝΟΠΟΛΙΤΩΝ, Homonia standing left, holding a patera and a cornucopia.

17. Septimius Severus no. 5

AE	193–211	Marcianopolis	Moushmov 372	inv. 4986 weight 12.35 g, dia. 27 × 27 mm

Obv.: ΑΥΚΛCΕ CΕΥΗΡΟ Π, laureate bust right, cuirassed.
Rev.: Υ ΑΥ ΓΑΛΛΟΥ ΜΑΡΚΙΑΝΟΠΟΛΙΤΩΝ, Dionysus standing left, holding a thyrsus and a kantharos.

18. Septimius Severus no. 3

AE	193–211	Marcianopolis	Moushmov 381	inv. 5001 weight 11.87 g, dia. 26 × 27 mm

Obv.: ΑΥ Λ CΕΠΤΙ CΕΥΗΡΟC, laureate bust right, draped and cuirassed.
Rev.: ΜΑΡΚΙΑΝΟΠΟΛΙΤΩΝ, Kybele enthroned to left, holding a patera, left hand resting on a tympanum, flanked by lions.

19. Septimius Severus no. 29

AE	193–211	Marcianopolis	Moushmov 381	inv. 5005 weight 11.47 g, dia. 26 × 25 mm

Obv.: AY Λ CEΠTI CEYHPOC laureate bust right, draped and cuirassed.
Rev.: MAPKIANOΠOΛITΩN, Kybele enthroned to left, holding a patera, left hand resting on a tympanum, flanked by lions.

20. Septimius Severus no. 46

AE	193–211	Marcianopolis	Moushmov 381	inv. 5007 weight 12.24 g, dia. 27 × 26 mm

Obv.: AY Λ CEΠTI CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: MAPKIANOΠOΛITΩN, Kybele enthroned to left, holding a patera, left hand resting on a tympanum, flanked by lions.

21. Septimius Severus no. 34

AE	193–211	Marcianopolis	Moushmov 381	inv. 5013 weight 11.05 g, dia. 27 × 27 mm

Obv.: AY Λ CEΠTI CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: MAPKIANOΠOΛITΩN, Kybele enthroned to left, holding a patera, left hand resting on a tympanum, flanked by lions.

22. Septimius Severus no. 42

AE	193–211	Marcianopolis	Moushmov 381	inv. 5018 weight 12.14 g, dia. 28 × 28 mm

Obv.: AY Λ CEΠTI CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: MAPKIANOΠOΛITΩN, Kybele enthroned to left, holding a patera, left hand resting on a tympanum, flanked by lions.

23. Septimius Severus no. 36

AE	193–211	Marcianopolis	Moushmov 381	inv. 4985 weight 10.39 g, dia. 26 × 27 mm

Obv.: AY Λ CEΠTI CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: MAPKIANOΠOΛITΩN, Kybele enthroned to left, holding a patera, left hand resting on a tympanum, flanked by lions.

24. Septimius Severus no. 10

AE	193–211	Marcianopolis	Moushmov 394	inv. 4995 weight 9.21 g, dia. 26 × 25 mm

Obv.: AY K Λ CEΠ CEYHPOC Π, draped and cuirassed bust right.
Rev.: Y AY ΓAΛΛOY MAPKIANOΠOΛITΩN, Tyche standing left, holding a rudder and a cornucopia.

25. Septimius Severus no. 19

AE	193–211	Marcianopolis	Moushmov 394	inv. 4999 weight 10.57 g, dia. 26 × 27 mm

Obv.: AY K Λ CEΠ CEYHPOC, draped laureate bust right.
Rev.: YΠ ΦAYCTINIANOY MAPKIANOΠOΛITΩN, Tyche standing left, holding a rudder and a cornucopia.

26. Septimius Severus no. 17

AE	193–211	Marcianopolis	Moushmov 394	inv. 5015 weight 11.97 g, dia. 27 × 27 mm

Obv.: AY K Λ CEΠ CEYHPOC Π, draped and cuirassed bust right.
Rev.: Y AY ΓAΛΛOY MAPKIANOΠOΛITΩN, Tyche standing left, holding a rudder and a cornucopia.

27. Septimius Severus no. 11

AE	193–211	Marcianopolis	Moushmov 387	inv. 4997 weight 15.30 g, dia. 27 × 27 mm

Obv.: AYKΛCEΠ CEYHPOC, draped laureate bust to right.
Rev.: ΦΛ OYΛΠIANOY MAPKIANOΠOΛITΩN, Concordia in a kalathos, standing to front, head turned left, kindling a fire on an altar, holding a patera and a cornucopia.

28. Septimius Severus no. 18

AE	193–211	Marcianopolis	Moushmov 377	inv. 4998 weight 13.26 g, dia. 26 × 27 mm

Obv.: AY K Λ CEΠTI CEYHPOC ΠE, laureate bust right.
Rev.: [.....] MAPKIANOΠOΛITΩN, Zeus standing to front, head turned left, holding thunderbolts.

29. Septimius Severus no. 32

AE	193–211	Marcianopolis	Moushmov 378	inv. 5003 weight 11.08 g, dia. 26 × 26 mm

Obv.: AY K Λ CEΠTI CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: YΠ OYΛΠIANOY MAPKIANOΠOΛITΩN, figure of the emperor in a short tunic standing left, holding a globe and a scepter.

30. Septimius Severus no. 33

AE	193–211	Marcianopolis	Moushmov 368	inv. 5004 weight 11.62 g, dia. 26 × 27 mm

Obv.: AY Λ CEΠTI CEYHPOC, laureate bust right, draped and cuirassed.
Rev.: YΠ OYΛΠIANOY MAPKIANOΠOΛITΩN, Apollo standing right, nude, right arm raised above the head, holding a bow, a quiver on the right.

31. Septimius Severus no. 24

AE	211–217	Thracian Anchialos	Varbanov 244 var. *AMNG* II 483 var.	inv. 5023 weight 10.82 g, dia. 25 × 26 mm

Obv.: AY K Λ CEΠ CEYHPOC, laureate bust right, cuirassed.
Rev.: OYΛΠIANΩN AΓXIAΛEΩN, galley to left, figure of the emperor standing left, facing the oarsmen, holding a patera and a scepter.

32. Septimius Severus (Julia Domna) no. 8

AE	193–211	Nicopolis ad Istrum	Varbanov 2897 Moushmov 1033	inv. 5011 weight 13.17 g, dia. 26 × 26 mm

Obv.: IOYΛIA ΔOMNA CEB, draped bust to right.
Rev.: YΠ A AYP ΓAΛΛOY NIKOΠOΛ ΠPOC ICTP, Dionysus standing left, holding a bunch of grapes and a thyrsus, a panther at his feet on the left side.

33. Septimius Severus (Julia Domna) no. 40

AE	187–211	Nicopolis ad Istrum	Varbanov 2897 Moushmov 1033	inv. 5028 weight 12.64 g, dia. 27 × 27 mm

Obv.: IOVΛIAΔO MNA CEBA, draped bust right.
Rev.: YΠA AYP ΓAΛΛOY NIKOΠOΛ ΠPOC ICTP, Dionysus standing left, holding a bunch of grapes and a thyrsus, a panther at his feet on the left side.

34. Caracalla no. 22

AE	193–211	Nicopolis ad Istrum	Moushmov 1094	inv. 5017 weight 13.58 g, dia. 26 × 26 mm

Obv.: AY K M AYP ANTΩNINOC, laureate head right.
Rev.: / YΠ AYP ΓAΛΛOY NIKOΠOΛITΩN / ΠPOC IC, Zeus sitting left, holding a patera and a scepter.

35. Caracalla no. 14

AE	211–217	Nicopolis ad Istrum	Moushmov 1116	inv. 4989 weight 11.27 g, dia. 27 × 25 mm

Obv.: AY K M AYP ANTΩNINOC, laureate bust right, cuirassed and in paludamentum.
Rev: YΠ AYP ΓAΛΛOY NIKOΠOΛIT ΠPOC I, eagle standing left, on an altar, between two standards, holding laurel wreath in his beak.

36. Caracalla no. 26

AE	211–217	Marcianopolis	Moushmov 438	inv. 4990 weight 10.79 g, dia. 26 × 25 mm

Obv.: AY K MAP AYPH ANTΩNINOC, laureate head right.
Rev.: Y Φ OYΛΠIANOY MAPKIANOΠOΛIT, Concordia in a kalathos, standing left, holding a patera and a cornucopia.

37. Caracalla no. 25

AE	211–217	Marcianopolis	Moushmov 438	inv. 5024 weight 10.94 g, dia. 26 × 27 mm

Obv.: ANTΩNINOC ΠIOC AYΓOYCTOC, laureate head right.
Rev.: YΠ KYNTIΛIANOY MAPKIANOΠOΛIT / Ω / N, Concordia standing left, offering from a patera on an altar, holding a cornucopia.

38. Caracalla no. 13

AE	211–217	Hadrianopolis	Varbanov 3569	inv. 4988 weight 11.75 g, dia. 27 × 26 mm

Obv.: AYT K M AYR CEY ANTΩNEINOC, laureate head right.
Rev.: AΔPIANO ΠOΛEITΩN, Poseidon standing right, one leg on the prow of ship, holding a scepter and an unidentified object.

39. Caracalla no. 02

AE	211–217	Thracian Anchialos	Moushmov 2853	inv. 4987 weight 11.56 g, dia. 26 × 26 mm

Obv.: AYT M AYP ANTΩNEINOC, laureate bust right, cuirassed.
Rev.: OYΛΠIANΩN AΓXIAΛEΩN, city gate, no doors, two towers.

40. Caracalla no. 16

AE	193–211	Thracian Anchialos	Moushmov 2849 Varbanov 340 *AMNG* 528	inv. 4991 weight 12.03 g, dia. 27 × 28 mm

Obv.: AY K M AYP ANTΩNINOC, laureate bust right, draped and cuirassed.
Rev.: OYΛΠIANΩN AΓXIAΛEΩN, figure of emperor in military garb, standing left, holding a globe and a scepter.

41. Caracalla no. 21

AE	209–212	Anchialos Tracki	*AMNG* 524-2 Varbanov 408	inv. 5021 weight 13.70 g, dia. 26 × 26 mm

Obv.: AYT M AYPH ANTΩNEINOC, cuirassed laureate bust right, in paludamentum.
Rev.: OYΛΠIAN AΓXIAΛEΩN, Tyche standing left, holding a rudder and a cornucopia.

42. Caracalla (Plautilla) no. 27

AE	211–217	Nicopolis ad Istrum	Varbanov 3183 Moushmov 1153	inv. 5019 weight 12.68 g, dia. 25 × 25 mm

Obv.: Φ OYΛ ΠΛAYTIΛΛA CEB, bust right.
Rev.: YΠ AYP ΓAΛΛOY NIKOΠOΛITΩN / ΠPOC I, Athena standing left, helmeted, offering on an altar standing on the left, holding a spear and resting her hand on a shield to the right.

43. Macrinus no. 42

AE	217–218	Nicopolis ad Istrum	Type not listed in catalogs	inv. 5020 weight 14.85 g, dia. 27 × 28 mm

Obv.: AY K OΠΠEΛ CEYH MAKPEINOC, laureate bust right, draped and cuirassed.
Rev.: YΠ CTA ΛONΓIOY NIKOΠOΛITΩN ΠPOC ICTPON, equestrian figure of emperor right, hand raised, Mars striding before him, holding a trophy.

44. Heliogabalus no. 43

AE	218–222	Nicopolis ad Istrum	Type not listed in catalogs[8]	inv. 5022 weight 12.34 g, dia. 26 × 25 mm

Obv.: YT K M AYPH ANTΩNINOC, laureate bust right, draped and cuirassed.
Rev.: YΠA NOB POYΦOY NIKOΠOΛITΩN ΠPOC ICTP, Nemesis in a kalathos, standing to left, holding a balance scale and a parazonium, wheel by her foot on the left.

45. Alexander Severus no. 31

AE	222–235	Marcianopolis	*AMNG* 1043	inv. 5025 weight 10.92 g, dia. 25 × 25 mm

Obv.: AYT K M AYP CEY AΛEΞANΔPOC, laureate bust right, draped and cuirassed.
Rev.: YΠ ΦIP ΦIΛOΠAIΠΠOY MAPKIANOΠOΛITΩN, Homonia standing left, holding a patera and a cornucopia.

46. Alexander Severus no. 46

AE	222–235	Dionysopolis	Moushmov 101 *SNG* Cop. 188	inv. 4983 weight 10.87 g, dia. 26 × 24 mm

Obv.: AYT K M AYP CEY AΛEΞANΔPOC, laureate bust right, draped and cuirassed.
Rev.: ΔIONYCOΠOΛEITΩN, Zeus standing left, holding a patera over an altar and a cornucopia, Δ in right field.

47. Maximus Caesar no. 23

AE	235/6–238	Deultum	Jurukova 209 Varbanov 2461	inv. 5026 weight 8.65 g, dia. 25 × 25 mm

Obv.: C IVL VER MAXIMVS CEAS, laureate bust right, draped and cuirassed.
Rev.: COL FL PAC DEVLT, Apollo standing left, holding a branch and a lyre resting against a tripod.

48. Gordian III no. 48

AE	238–244	Hadrianopolis	Varbanov 3717	inv. 4992 weight 10.31 g, dia. 29 × 28 mm

[8] A similar coin type is known (Moushmov 1402), but here Nemesis holds a cornucopia. None of the known coins of Heliogabalus from Nicopolis ad Istrum bear a representation of Nemesis with a parazonium in her hand. Such images are found on coins issued in Marcianopolis, but our coin is indubitably from Nicopolis ad Istrum.

Obv.: AYT KM AN TΓOPΔIANOC AYΓ, cuirassed laureate bust right.
Rev.: AΔPIANOΠOΛEITΩN, Apollo striding right, shooting a bow.

Statistical data

Issuer	**Number of examples**		**%**	**Mint**	**Coins from a given mint**
Hadrian	1		2.08%	Rome	1 pc / 2.08%
Septimius Severus	30	32	66.6%	Marcianopolis	19 pcs / 39.5%
	2 (Julia Domna)			Nicopolis ad Istrum	12 pcs / 25%
				Thracian Anchialos	1 pc / 2.08%
Caracalla	8	9	18.7%	Nicopolis ad Istrum	3 pcs / 6.25%
	1 (Plautilla)			Marcianopolis	2 pcs / 4.1%
				Hadrianopolis	1 pc / 2.08%
				Thracian Anchialos	3 pcs / 6.25%
Macrinus	1		2.08%	Nicopolis ad Istrum	1 pc / 2.08%
Heliogabal	1		2.08%	Nicopolis ad Istrum	1 pc / 2.08%
Alexander Severus	2		4.1%	Marcianopolis	1 pc / 2.08%
				Dionysopolis	1 pc / 2.08%
Maximus Caesar	1		2.08%	Deultum	1 pc / 2.08%
Gordian III	1		2.08%	Hadrianopolis	1 pc / 2.08%
Total	**48**		**100%**	**7 mints**	**48 pcs / 100%**

Table 1. Number of coins in the collection: chronological structure and provenience

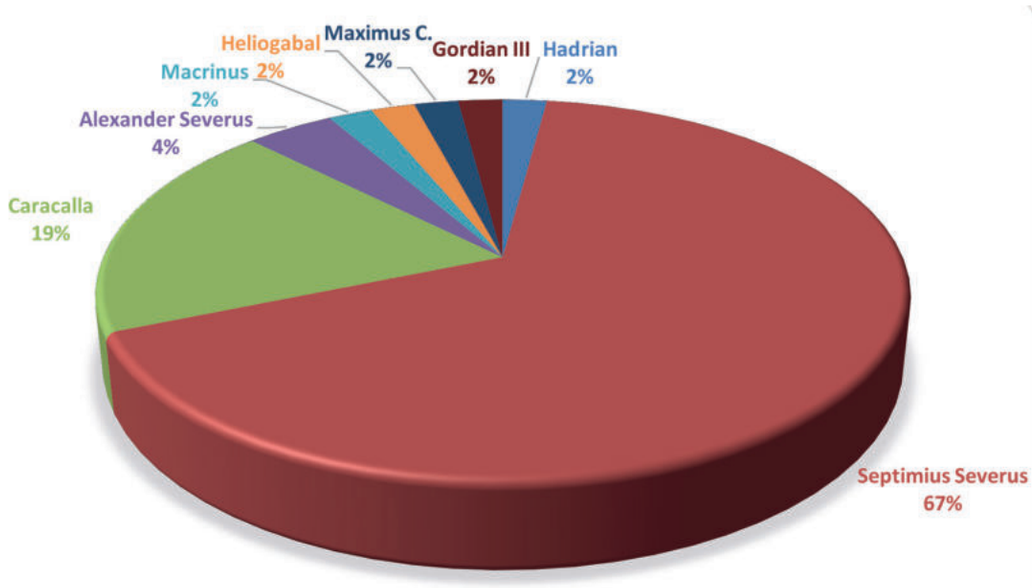

Chart 1. Percentage share of provincial coins in the collection from Novae

The chart above clearly demonstrates that coins struck in the reign of Setimius Severus constitute the core of the collection. There are 32 pieces, including two with a bust of the emperor's wife Julia Domna, making up close to 67% of the collection [Table 1; Chart 1]. Most of the Severan issues come from Marcianopolis (19 coins) with coins from nearby Nicopolis ad Istrum, including the two with a bust of Julia Domna, counting for most of the rest of the set (12). A single coin of Septimius Severus was issued at Thracian Anchialos. Another example of a coin from this mint and period was discovered in Sector IV at Novae.[9] Coins from Anchialos are seldom encountered; for example, not one is known from the *thermae legionis*.[10]

The next group in size, although definitely less numerous, is made up of issues of Caracalla [Table 1; Chart 1]: eight of the emperor and one issued for his wife Fulvia Plautilla. Thus, Caracalla's provincial "bronzes" constitute 19% of the "hoard". This percentage is substantial despite the colossal quantitative difference compared to coins of Septimius Severus. Beside this there are two "bronzes" of Alexander Severus and singular examples of issues of the emperors Macrinus, Heliogabalus, and Maximus Caesar. The most recent coin in this set is one from the early years of Gordian III, marking thus the period when the collection was deposited.

Not fitting in this "hoard" is the sestertius of Hadrian, the oldest coin in this collection, dated from the first quarter of the third century AD. It is much larger than the other coins, at least 5 mm larger from the biggest provincial piece. It is worn but the legibility of the representations on the obverse and reverse indicate that it could not have been long in circulation or else was little circulated. The question arises what makes it so special in this context. By the first half of the third century AD when this collection was put away, these sestercii from the beginning of the second century AD were no longer in circulation. Its presence in the set under consideration may thus be a total discrepancy (for instance, due to disturbed context) or it may have been a rare find by a legionary, who included it them in his savings. Its occurrence in the collection is not impossible albeit intriguing and not easy to justify form the point of view of monetary circulation.

[9] Ciołek, Dyczek 2011.
[10] Dimitrov 2013.

The share of different provincial mints in this collection is shown in Chart 2 [see also Table 2]. The most numerous group are coins from Marcianopolis: 22 coins (44%), that is, nearly half of the collection. A smaller set is made up of coins from the nearby mint of Nicopolis ad Istrum (17 coins = 35.4%), differently than in hitherto studied coinage from the legionary camp in Novae in which coins from this mint always constituted a clear majority. One could even risk generalizing this majority at 2:1 in favor of the coins from Nicopolis ad Istrum compared to those from Marcianopolis.[11] It was the case of the coin finds from the areas of the army hospital (Sector IV of the excavation)[12] and legionary baths.[13] The *valetudinarium* yielded 13 "bronzes" from Nicopolis ad Istrum and six from Marcianopolis, the *thermae legionis* 21 to 18, respectively.[14] The total from these two areas is 34 AE from Nicopolis ad Istrum to 24 from Marcianopolis, which gives us proportions that are the reverse of those established for the presently discussed "hoard".

Coins from Thracian Anchialos form the next group in terms of quantity: 4 pieces (= 8.5% [see Table 2]). Hitherto, the excavation in Sector IV had yielded just two coins of this provenance, one each of issues of Septimius Severus and Gordian III.[15] The collection in question gave one coin of Septimius Severus and three of Caracalla [see Table 1]. Other areas in Novae have not yielded any coins identified as coming from this mint.

The "hoard" included singular coins from the mints at Dionysopolis, Deultum and Rome (the latter is the sestertius of Hadrian), and two pieces from Hadrianopolis, including the youngest coin in the collection, issued in the reign of Gordian III. Issues from the reign of Gordian III, coming from the mint in Hadrianopolis, have been identified also in the legionary baths and *valetudinarium*.[16] Compared to the picture provided by a study of coin finds from the *valetudinarium*[17] and *thermae legionis*,[18] these singular issues from more distant provinces are not a surprise. One or two coins at the most were recorded there from the mints of Dionysopolis, Deultum and Hadrianopolis. The *valetudinarium* also yielded a trace representation of coinage issued by the mints at Tomis and Nice, whereas coins from the *thermae legionis* included issues from Heraklea, Odessos, Pautalia, Istros and Augusta Trajana. None of these are represented in the collection currently under study.

The collection of 48 coins from Novae is thus characterized by the presence of coins from Thracian Anchialos, or rather their quantity to be more precise, the reversed proportions of coins from the two provincial mints, Nicopolis ad Istrum and Marcianopolis, situated nearest to the legionary camp at Novae. a seldom encountered coin with a Latin legend from Deultum. A "bronze" of Alexander Severus from Deultum was noted among the coins from the baths, but not from the army hospital.

The assemblage thus demonstrates many of the characteristics of the coin supply in circulation in Moesia Inferior in the first half of the third century, even as it revises our current views on this issue regarding the legionary camps on the Lower Danube. Until now it was a given that the largest number of coins that reached the camp at Novae came from Nicopolis ad Istrum, not an unlikely thing considering that the mint was located nearest to the camp. The assemblage under study indicates an equal and even greater share of coins from the mint at Marcianopolis, which is not simply explained by a larger issuing capacity in the latter mint. Both mints were capable of striking many coins and this they did on occasion, for instance, in the reign of Septimius Severus as reflected by the finds from the "hoard". The coinage of this emperor was so richly represented that his coins continued to be circulated long after his death. Interestingly, not one of the coins of Septimius Severus found in the area of the *valetudinarium* came from Marcianopolis, while these

[11] Ciołek, Dyczek 2011, pp. 241–244.
[12] Ciołek, Dyczek 2011.
[13] Dimitrov 2013.
[14] Dimitrov 2013.
[15] Dimitrov 2013.
[16] Dimitrov 2013, pp. 247–248.
[17] Ciołek, Dyczek 2011, pp. 241–244; Ciołek 2017, pp. 49–54.
[18] Dimitrov 2013, pp. 247–248.

issues are in a definite majority in the "hoard". The coins from Marcianopolis constitute close to half of the collection. In the set of coins struck for Septimius Severus, they account for 19 of the coins to the 12 coming from Nicopolis ad Istrum, that is, close to 40% of all his coins. For the sale of comparison, the area of the *valetudinarium* did not yield any,[19] while the break up of this emperor's issues from the bath is eight for Nicopolis ad Istrum and five for Marcianopolis. Coins from the mint closer to camp are obviously in the majority, but the results are nonetheless very close.

Thus, the coin circulation structure from the mid-third century that emerges from a study of the present collection is not so much new as substantially revised. The small number of coins in the set leads the present author to think that the coins were someone's small savings rather than representing truly substantial value for the owner.

In terms of the "iconographic" structure of the collection, the presence of two coins of Septimius Severus issued for Julia Domna is intriguing. These two coins represent the same type and they seem to have been struck using the same die, although their worn surfaces make it impossible to be certain. Even so, it is interesting that they represent the same type with very similar characteristics. There are five other coins representing a single type — Pick 580, *SNG* Cop. 211, Moushmov 385 — struck for Septimius Severus in the Marcianopolis mint (see the Catalog, nos. 9–14). In this case, however, different dies were used. Thus, it seems probable that the coins with portraits of Julia Domna, so strikingly similar, were struck with the same die.

Another series of six coins representing a single type, Moushmov 381, was also struck by Septimius Severus in Marcianopolis. The reverse of one of these coins is poorly preserved, but the others, which are in better condition, do not show similarities of the dies. Their state of preservation is similar, suggesting that they were used more or less simultaneously and with similar intensity.

Two of Caracalla's coins represent the same type with Concordia offering on an altar (cf. Catalog, nos. 36–37), but the obverses and reverses are very different. Two evidently different dies for the obverse and reverse were used to strike these coins.

Another exceptional characteristic of the studied collection are series of coins of the same type [cf. Table 4], three of Septimius Severus and one of Caracalla. The coins of Heliogabalus are also quite rare in this set compared to what has been determined for the pools of provincial coins from other areas of the fortress in Novae, where at least a few dozen of these coins were noted. The question is how this changes determinations regarding monetary circulation in Lower Moesia in the first half of the third century.

Mint	**Number of coins**	**%**
Rome	1	2.08%
Marcianopolis	22	43.62%
Nicopolis ad Istrum	17	35.4%
Hadrianopolis	2	4.1%
Dionysopolis	1	2.08%
Thracian Anchialos	4	8.3%
Deultum	1	2.08%
Total	**48**	**100%**

Table 2. Percentage share of coins from particular mints in the collection

[19] Ciołek, Dyczek 2011.

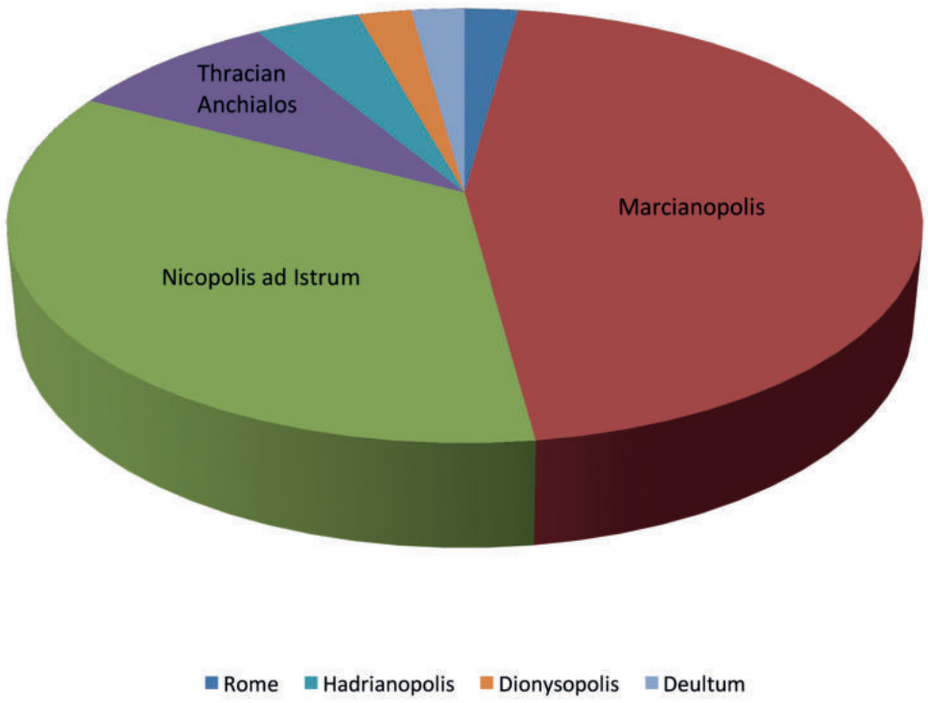

Chart 2. Percentage distribution of coins from particular mints in the collection

	Rome	Martiano-polis	Nicopolis ad Istrum	Hadriano-polis	Thracian Anchialos	Dionyso-polis	Deultum	Total
Hadrian	1							1
Septimius Severus		19	12		1			32
Macrinus			1					1
Caracalla		2	3	1	3			9
Heliogabalus			1					1
Alexander Severus		1				1		2
Maximus Caesar							1	1
Gordian III				1				1
Total	1	22	17	2	4	1	1	48

Table 3. Quantitative representation of coins from particular mints in the collection by chronological period

Characteristics \ Area	**Collection of 48 coins**	***Valetudinarium***	***Thermae legionis***
Majority of coins of Septimius Severus	X	X	X
definite majority	(X)	—	—
Second set of coins of Heliogabalus	—	—	[X]
Second set of coins of Caracalla	(X)	—	—
Second set of coins of Gordian III	—	[X]	—
Relatively many coins of Heliogabalus	(—)	X	X
Relatively many coins of Caracalla	X	X	X
Relatively many coins of Alexander Severus	—	—	[X]
Occurrence of coins of Geta	(—)	X	X
Occurrence of coins of Macrinus	(X)	X	X
numerous	—	—	[X]
Majority of coins of Nicopolis ad Istrum	—	X	X
Majority of coins of Marcianopolis	X	—	—
Occurrence of coins of Anchialos	X	X	[—]
Occurrence of coins of Deultum	X	X	—
Occurrence of coins of Hadrianopolis	X	X	X
numerous	—	—	—
Occurrence of issues of mints, 1 example each	X	X	X
Series of coins of the same type	X	—	—
Unknown types of coins	(X)	—	?
Number of existing characteristics	**12**	**11**	**11**
Characteristics specific to each collection	**(8)**	**[1]**	**[5]**

Table 4. Characteristics of the coin distribution patterns within the legionary camp at Novae in the first half of the third century based on the structure of the collection of 48 coins, coins from the areas of the *valetudinarium* and the *thermae legionis*

Key:

[ ] – characteristics specific to the collection of 48 coins from Novae

( ) – characteristics specific to selected areas of excavation within the legionary camp at Novae

Bold – characteristics common to all sets of coins

The monetary system of the Roman Empire around the middle of the third century AD, when the "hoard" was hidden, was highly specific.[20] There were three zones of circulation for "bronzes" in the Roman state: the western zone and Italy, the provinces on the middle Danube and the eastern provinces. Coins from the central mint predominated in the first of these three zones; in the second, there was a balance of coins from the mint in Rome and the provincial mints, and in the third, provincial "bronzes" were in the majority to the practical complete exclusion of coins from Rome. The province of Moesia stood on the border between the second and third zones. Coins from the Roman mint were rare here, whereas local mints were well represented. The data in Table 4 demonstrate this trend during the reign of Gordian III. The most common coin in circulation was that of Septimius Severus, whom the *legio I Italica* supported in his quest for imperial power and who implemented an active monetary policy. This is well reflected in the pool of coins discovered in the legionary camp in Novae.

The central mint could not meet the huge demand for coinage in the third century AD. Provincial mints had their work cut out for them during times of special need as when preparations were being made for important actions, particularly of a military nature, as well as events of lesser importance, such as an emperor's passage through the territory of a province. The camp in Novae, expectedly, drew its supply of coinage from the nearest mint in Nicopolis ad Istrum, but, as it turns out, an almost equal measure of coins came from Marcianopolis.[21] The Nicopolis mint alone was apparently unable to produce enough coinage to cover the needs of the local monetary market. Supplementing these two mints, which dominated the local market, were mints in Hadrianopolis, Thracian Anchialos, Deultum, as well as the occasional (one coin each) issues of mints in Dionysopolis, Perinth, Tomis, Nice, Odessos, Pautalia, Istros, Heraklea.

Circulating at the same time with the dominant issues of Septimius Severus were the coins of Heliogabalus and Caracalla, not to mention Gordian III, which is hardly surprising considering that we are dealing with the reign of this emperor. His issues must have surely supplied current coinage. Also in circulation were the coins of all of Rome's rulers from the third century AD up to the years 238–244, that is, issues of Geta, Macrinus, Diadumenian (in the *thermae legionis*), Alexander Severus and Maximus Caesar (coin from the collection, cf. Catalog, no. 47).

Finds of coins from the first half of the third century AD from Novae indicate that the fort's demand for coinage in this period was satisfied exclusively by the nearby Moesian and Thracian mints. It should be kept in mind that the pool of coins available for study is merely a small section of "living culture" and that there must have been many more coins from local mints. It also indicates that soldiers' pay in this period was made in provincial bronze coinage, especially in view of the intensity of military actions, which required money outlays even as the state treasury suffered from a shortage of silver. Hence the greater number of coins issued by Septimius Severus, who contended for the highest power with four other pretenders and whose success was assured thanks to the support of 15 legions, the *legio I Italica* included. The emperor issued a series of legionary denarius in gratitude,[22] but so far not a single coin of this type has come from the excavation in the camp in Novae.

Mint operations were very sensitive to political events taking place in Moesia. A relatively greater number of provincial bronzes from the two major mints in the region, Nicopolis ad Istrum and Marcianopolis, recorded among the finds from Sector IV, reflects the time of Heliogabal's presence in Moesia in 218.[23] Another rise in the number of provincial coins in the pool coming from Sector IV coincides with the reign of Gordian III and may be explained by the passage of troops through the Balkans in 241 on their way East. The decline of minting operations in most

[20] Cf. Fitz 1978, *passim*.
[21] Cf. Gerov 1975.
[22] Ciołek, Kolendo 2008, pp. 225–226.
[23] Schönert-Geiss 1967, p. 226.

Moesian and Thracian mints in this period is also connected with political events, primarily the specificity of the monetary system in the second half of the third century AD. The rapid and definite debasement of the silver antoniniana in this period made bronze coin issues no longer profitable. The outcome is a turn in the finds from the camp, which are for the second half of the third century limited to extremely debased silver antoniniana.[24]

In recapitulation, the collection, which was deposited in the rule of Gordian III (238–244), demonstrates many characteristics that are not typical of the most obvious structure of coins in circulation in the legionary camps on the lower Danube. The most important unique feature is the superiority of coins from Marcianopolis over those from Nicopolis ad Istrum. Next is the superior number of "bronzes" issued by Septimius Severus, which dominate the current issues completely. Another exceptional characteristic are the numerous series of the same type, as if the owner had been selecting them intentionally, although there does not seem to be any reasonable criteria, like better quality of the metal, higher value or a more interesting representation, if nothing else, behind this. These coins were not struck with one die, hence the conclusion is that they must have simply been the most common ones in circulation. Finally, there are two coin types (cf. Catalog, nos. 8 and 43) not listed in the published catalogs of coins from the Moesian and Thracian provincial mints. There is a certain gap in studies of provincial Roman minting and the two mints in question, Nicopolis ad Istrum and Marcianopolis, both important and resilient centers in certain periods, merit more detailed research into their minting operations.

Abbreviations

AMNG	*Die Antiken Münzen Nord-Griechenlands* (*ANMG*), vol. I/1: *Dacien und Moesien*, ed. B. Pick, Berlin 1898.
Jurukova	J. Jurukova, *Griechisches Münzwerk. Die Münzprägung von Deultum*, vols. I–II (= *Schriften zur Geschichte und Kultur der Antike* 8), Berlin 1973.
Moushmov	N. A. Moushmov, *Antični moneti na Balkanskija poluostrov i monetite na bălgarskite care* [Ancient coins from the Balkan Peninsula and coins of the Bulgarian czars], Sofia 1912.
RIC	*The Roman Imperial Coinage* (H. Mattingly, E. A. Sydenham, C. H. V. Sutherland, R. A. G. Carson, P. H. Webb, J. W. E. Pearce, P. M. Bruun, J. P. C. Kent), vols. I–X, London 1923–1994.
SNG Cop.	*Sylloge Nummorum Graecorum. The Royal Collection of Coins and Medals*, *Danish National Museum*, Copenhagen 1942 ff.
Varbanov	I. Varbanov, *Greek Imperial Coins*, vols. I–II, Burgas 2005–2007.

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[24] Ciołek, Dyczek 2011.

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Streszczenie

Zespół 48 monet prowincjonalnych z Novae (Bułgaria), odc. XII. Analiza numizmatyczna

W 2016 roku w Novae, podczas wykopalisk prowadzonych przez Ośrodek Badań nad Antykiem Europy Południowo-Wschodniej Uniwersytetu Warszawskiego, doszło do odkrycia niewielkiego zespołu monet „brązowych", składającego się prawie wyłącznie z emisji prowincjonalnych. Monety znaleziono w warstwie podpodłogowej budowli cywilnej, niektóre z nich były zlepione, co wskazuje, że mogły być pierwotnie opakowane, np. w sakiewce. Zespół liczy 48 monet, wszystkie „brązowe". Jedna z nich wybita została w mennicy w Rzymie za panowania cesarza Hadriana, pozostałe zaś tworzą bardzo ciekawy zbiór egzemplarzy bitych przez lokalne mennice prowincjonalne. W artykule przedstawiony został katalog monet wchodzących w skład omawianego zespołu.

Zespół ten jest ciekawy z wielu powodów. Po pierwsze rewiduje on poniekąd ustalenia, jak wyglądał obieg monetarny w obozie legionowym około połowy III wieku. Kolejną ważną sprawą są monety, których typy nie są dotychczas znane z publikowanych kolekcji czy z korpusów. Chodzi wprawdzie o dwie monety, ale wskazuje to, iż mennictwo nadal nie jest w pełni poznane. W obydwu przypadkach monety zostały wybite w Nicopolis ad Istrum, a zatem mennicy znajdującej się najbliżej obozu legionowego w Novae. Wszystkie monety, poza emisją Hadriana, są zbliżonej wielkości. Z pewnością są one reprezentacją monet będących w obiegu w prowincji Mezja Dolna na początku panowania Gordiana III, a zatem w momencie ukrycia/straty zespołu.

Renata Ciołek
University of Warsaw
Institute of Archaeology
ul. Krakowskie Przedmieście 26/28
00-927 Warszawa
renataciolek@uw.edu.pl

Michał Duch

STAMPS ON BRICKS AND TILES FROM NOVAE. OUTLINE OF CHRONOLOGY

Abstract: The First Italian legion produced building ceramics used in the construction of many buildings in the legion's camp at Novae (Bulgaria), the remains of which have been investigated by archaeologists since 1960. The paper sums up current results of research on the chronology of artifacts of this kind, giving an overall review of the course and development of studies of stamped building ceramics in Novae to date.

Key words: Novae, bricks, tiles, building ceramics, stamps, brick stamps, *legio I Italica*

The ruins of the Novae camp[1] are situated by the Danube River in the vicinity of the present-day town of Svištov in Bulgaria.[2] In Antiquity, Novae functioned as a camp for two legions; first, from the 50s of the first century AD, for the *legio VIII Augusta* (Eighth Augustan legion), and later, from the beginning of the 70s of the first century AD, for the *legio I Italica* (First Italian legion)[3] [Fig. 1]. The latter legion, which at the time it was created bore the proud name of the "phalanx of Alexander the Great",[4] was stationed in Novae for the longest time, most probably until the Hun invasion in the middle of the fifth century.[5] By the second half of the third century the process of transformation into a late Roman and early Byzantine city had commenced.[6]

Stamped ceramic building material was of interest from the start of the archaeological investigations of the camp,[7] finding reflection in provisional reports published since 1960.[8] First to publish on the stamped bricks from Novae were Jan Trynkowski,[9] Maria Tačeva,[10] Włodzimierz Pająkowski,[11] Zlatka Rakeva-Morfova,[12] Leszek Mrozewicz,[13] Andrzej B. Biernacki[14] and foremost Tadeusz Sarnowski, who is the author of the first typology of stamps from Novae, published in 1983[15] and

[1] The project was financed from a National Science Center (Poland) grant DEC-2011/03/N/HS3/00873.
[2] I would like to thank: Dr. Iwona Zych for the language correction of this text, Prof. Piotr Dyczek for providing me with the documentation material from Novae and Agata Momot for preparing the drawings.
[3] Press, Sarnowski 1990, p. 225.
[4] Suet. *Ner.* 19.2; Kolendo 1977, p. 401.
[5] Sarnowski 1999, pp. 57–63.
[6] Mrozewicz 2010, p. 117.
[7] On the history of research into the stamped bricks and tiles from Novae, see Duch 2011, pp. 73–85.
[8] On the history of research in Novae, see Dyczek 2008, pp. 31–70.
[9] [J. Trynkowski], "Stemplowane cegły i dachówki" [Stamped bricks and roof tiles], [in:] Majewski (ed.) 1964, pp. 251–257; idem [in:] Parnicki-Pudełko (ed.) 1965, pp. 184–192; idem [in:] Majewski (ed.) 1966, pp. 168–179.
[10] Tačeva 1964, pp. 44–48.
[11] Pająkowski 1975, pp. 179–194; 1979, pp. 9–27; 1981, pp. 139–189.
[12] Rakeva-Morfova 1970, pp. 33–43.
[13] Mrozewicz 1984, pp. 148–153.
[14] Biernacki 1976, pp. 133–136; 1988a, pp. 161–168; 1988b, pp. 169–172; 1992, pp. 107–112; 1994, pp. 45–49; 1995, pp. 56–61; 1996, pp. 76–80; 2003, pp. 9–21.
[15] Sarnowski 1983, pp. 17–61.

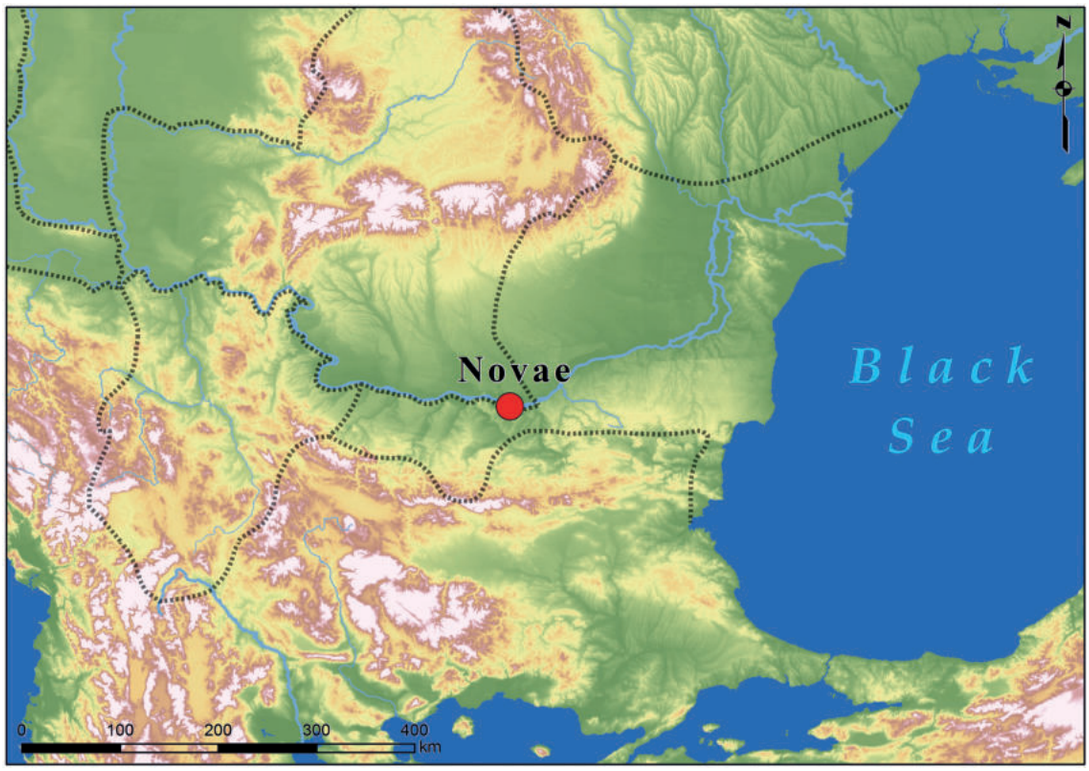

Fig. 1. Location of Novae (drawing by J. Niebieszczański)

a number of other important texts dedicated to this topic.[16] Nicolae Gudea proposed a new typology of stamp impressions of the First Italian legion, taking into account examples not only from Novae, but also from the Danubian limes.[17] Sarnowski's typology was supplemented and expanded by Marta Matuszewska in 2006,[18] without going into issues of chronology however. Discoveries in sector IV gave Piotr Dyczek[19] the opportunity to discuss *caligae* impressions on bricks,[20] as well as animal paw prints and marks on building ceramic material.[21] Rumen Ivanov's book on ceramic building material from Oescus, Novae and Durostorum[22] also deserves mention.

Most of the research on bricks and roof tiles from Novae is concentrated on the inscriptions impressed in their surfaces. This fits the general trend with regard to ceramic building material from the lower Danube area, where, as noted by Renate Kurzman, the main emphasis is on the epigraphy.[23] Techniques for the production of ceramic building material were treated exceptionally by Stanisław Medeksza[24] and Ryszard Massalski,[25] but so far there has been no petrological examination of the bricks and roof tiles from Novae. Such a study of the bricks of legions from lower Moesia found in Crimea was undertaken by Sarnowski.[26] Pending this kind of research on the bricks from Novae, the main focus should be on establishing a production chronology based on

[16] See bibliography.
[17] Gudea 2003, pp. 195–216.
[18] Matuszewska 2006, pp. 45–63.
[19] Dyczek 2008, pp. 31–70.
[20] Dyczek 2011a, pp. 105–117.
[21] Dyczek 2011b, pp. 85–108.
[22] Ivanov 2002.
[23] Kurzmann 2006, p. 140.
[24] Medeksza 1975; 1979.
[25] Massalski 1977, pp. 182–187.
[26] Sarnowski 2005, pp. 91–110.

stratified finds from the recently completed excavation of sector IV in Novae [Fig. 2].[27] The earliest occupation in this area were legionary *thermae* of impressive size constructed at the beginning of the 70s of the first century AD,[28] followed by a legionary hospital from the beginning of the second century AD, built most probably for the purposes of Trajan's Dacian Wars, and, finally, a late antique district of civil architecture including the so-called "Building with Porticoes"[29] and no lack of workshops and storehouses.[30] The sector also yielded extensive material for research, including especially large quantities of bricks and roof tiles produced for the legion, although non-military production is equally abundant.

Taken together, the full stratigraphy and bountiful material provide firm grounds for a new typology of stamps on ceramic building material from Novae. In preparation for this, the present article provides a summary of the state of research on the chronology of the already published stamp impressions on bricks and tiles from Novae, supplementing the 2011 presentation of the state of research on the subject, including chronological issues.[31] It also presents stamp impressions of already identified types and variants from sector IV (with the exception of ALBU and PCP stamps) omitted from previous publications, as well as stamps of other military units and private producers. A selection has been made of the material so as to show the most representative examples of stamps from Novae in chronological order.

The most numerous stamp impressions in question are those of the *legio I Italica* (the *legio VIII Augusta* is not represented at all, although non-military stamps from the period of its stationing at Novae are in abundance). Thus far, the chronology of the stamps from Novae in accordance with the typology introduced by Sarnowski is as follows:

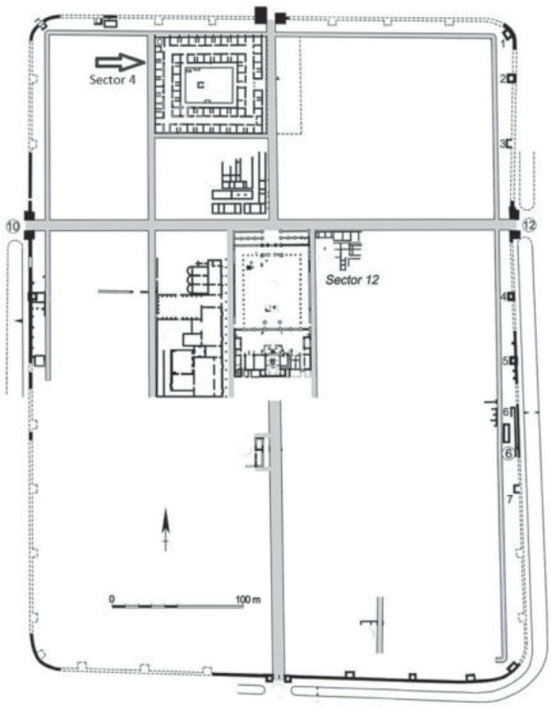

Fig. 2. Novae. Plan of the legionary fortress in the second and third centuries AD (outline by J. Kaniszewski, supplemented by T. Sarnowski, L. A. Kovalevskaja, P. Zakrzewski, P. Dyczek, M. Lemke)

[27] Lemke 2009–2010, p. 191
[28] Dyczek 2006, pp. 129–142.
[29] Dyczek 2008, pp. 54–55.
[30] Dyczek 2008, p. 63.
[31] Cf. Duch 2011, pp. 63–85.

I. ***Legio I Italica*** **stamps**

1. Flavian Times (from the early 70s to AD 96): IV 3–5, VI 27–28, VI 48, VI 52, VI 54, VI 100, VI 65, similar to VI 112 and VI 114;[32]
2. Early second century AD: VI 61,[33] VI 104–105, VI 119–122[34] [and IV 12a];[35]
3. First half of second century AD: types I–II, IV 1, IV 6, VI 9–11, VI 35, VI 114, VI 165–169;[36]
4. AD 184: type XIX;[37]
5. Fourth quarter of second – first quarter of third century AD: VI 159–164, VI 172–174;[38]
6. Early third century AD: VI 46, VI 59–60, VI 67, VI 107–111, VI 113, VI 115–118, type XII;[39]
7. AD 212–244: type V, VI 10, VI 60, VI 94–99, VI 146–154;[40]
8. Third and fourth quarter of third century AD: VI 123–124, types XI and XIII;[41]
9. AD 212–222: type VII;
10. AD 222–235: types VIII–IX;[42]
11. AD 316–317: types XVI–XVII;
12. AD 324–339: types XV and XVIII.[43]

II. Stamps of the *legio I Minervia* and *legio XI Claudia* dated to AD 101[44]

III. Military name stamps

1. Type XXIII (VETIA): no date;
2. Fourth quarter of third – first quarter of fourth century AD: type XXVII (MARC), MAX;[45]
3. Type XXX (CEMEL): no date;
4. Late AD 360s: type XXXI (RUMO(ridus));[46]
5. ALBU: no date;
6. Beginning to second quarter of third century AD: Aurelis Hegenianus[47] (or Helenianus).[48]

IV. Private producers' stamps

1. Second half of second – early third century AD: type XXV (C. Antonius Magnus);[49]
2. About 225–235: type XXXV (Aurelius Statianus);[50]
3. Type XXII (ALSOL): no date;
4. Fourth quarter of third century AD: PCP.[51]

Some of the stamps can be dated precisely as they were found on bricks discovered *in situ*. However, a sizeable group is made up of stamps without an accurate date, hence the broad chronological framework.

[32] Dyczek 1997, p. 44; Duch 2012, pp. 259–282.
[33] Sarnowski 1987, p. 110.
[34] Recław, Żelazowski 2008, p. 58.
[35] This stamp was not included in Sarnowski's typology (Sarnowski 1983), but it was published by Matuszewska (2006). It has been dated by J. Recław and J. Żelazowski to the beginning of the second century AD (Recław, Żelazowski 2008, p. 58).
[36] Dyczek 2000, p. 95; Sarnowski 1983, p. 61; Biernacki 1995, pp. 56–57; Biernacki 1996, p. 76; Duch 2011, p. 82.
[37] Sarnowski 1983, p. 61.
[38] Sarnowski 1983, p. 61.
[39] Sarnowski 1983, p. 61; Dyczek 2000, p. 95.
[40] Sarnowski 1983, p. 61; Biernacki 1988b, p. 169; Duch 2011, p. 83.
[41] Sarnowski 1983, p. 61.
[42] Sarnowski 1983, pp. 55–56.
[43] Sarnowski 1985, p. 117.
[44] Sarnowski 1987, pp. 118–122.
[45] Based on three specimens (inv. nos. 07-02c, 28-01c, 37-02c) from dated stratigraphic contexts in sector IV.
[46] Sarnowski 1985, pp. 107–127.
[47] Żelazowski 2012, p. 162.
[48] *AE* 2012, no. 1266.
[49] Tomas 2007, p. 36.
[50] Tomas, Sarnowski 2007, p. 232.
[51] Inv. nos. 39-00c and 29-12c from stratigraphic contexts in sector IV.

Of the bricks and roof tiles from Flavian-age Novae[52] [Fig. 3], stamps nos. 1–4 were used by legionaries producing tiles to cover the roof of the bathhouse. These tiles were later reused in the construction of the hospital which was constructed on the ruins of the bathhouse. Some specimens have been preserved in their entirety. They feature two lines in the upper part of the inscription above the letters G and I. Stamps nos. 5–9 are distinguished by a characteristic frame in the form of a *tabula ansata* decorated with a leaf. Stamps nos. 24–28 from this group with the characteristic ligature of the letters LEGIITAL were found foremost on building material originating from the central heating system structure of the legionary baths.

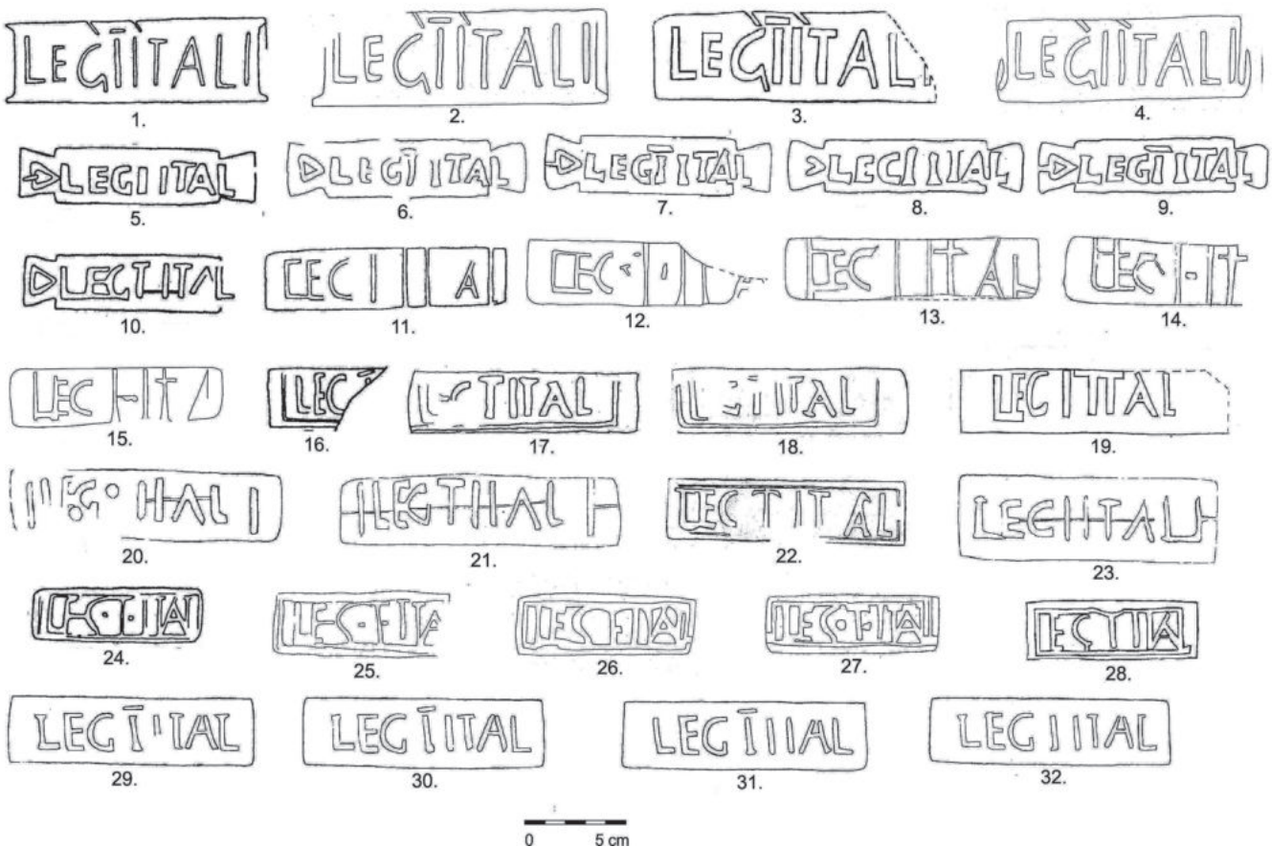

Fig. 3. Stamps from Flavian times (Duch 2012, pp. 259–282)

[52] Duch 2012, pp. 259–282.

A large group is made up of stamps dated to the beginning of the second century [Fig. 4], which are connected to the initial period of the construction of the legionary hospital.[53] These are mainly simple stamps, lacking any decorative elements, placed within a rectangular frame. The abbreviations visible on the stamps are limited to the inscription LEG I ITAL and LEG I ITALI, without providing any additional information. Such characteristic letters as G, T and A are distinguishing features of the majority of the stamps from this group.

Fig. 4. Stamps from the early second century AD (after Recław, Żelazowski 2008, p. 61, fig. 5)

[53] For this group of stamps and its chronology, see Recław, Żelazowski 2008, pp. 53–63.

Yet another group consists of stamps dated generally to the first half of the second century [Fig. 5]. The most characteristic stamps are those in the shape of a ship (nos. 10–20), interpreted as liburnas. The stamps testify to the ties the *legio I Italica* had with a river fleet; they are also confirmation of the existence of a river port in the vicinity of Novae.[54] The text on the stamps is slightly more extensive than in the case of the previous group as it contains the inscriptions LEG I ITAL (nos. 5–20), LEG I ITALI (nos. 3–4), LEG I ITALIC (no. 2) and LEG I ITALICAE (no. 1).

Fig. 5. Stamps from the first half of the second century AD
(1. Sarnowski 1983, I 1 [pl. II]; 2. Sarnowski 1983, II 1 [pl. II];
3. Sarnowski 1983, IV 1 [pl. II]; 4. Sarnowski 1983, IV 6 [pl. II];
5.–7. Sarnowski 1983, VI 9–11 [pl. II]; 8. Sarnowski 1983, VI 35 [pl. III];
9. Sarnowski 1983, VI 114 [pl. V]; 10.–14. Sarnowski 1983, VI 165–169 [pl. VI];
15. Inv. no. 11-02c; 16. Inv. no. 08-02c; 17. Inv. no. 11-02c;
18. Inv. no. 15-01c; 19. Inv. no. 27-08c; 20. Inv. no. 31-08c)

[54] Sarnowski, Trynkowski 1986, pp. 536–541.

Of special interest is a stamp bearing the name of the Consul L. Cossonius Eggius Marullus dated to AD 184 [Fig. 6]. This artifact is unique not only for Novae but also for all of the Lower Moesia province.[55]

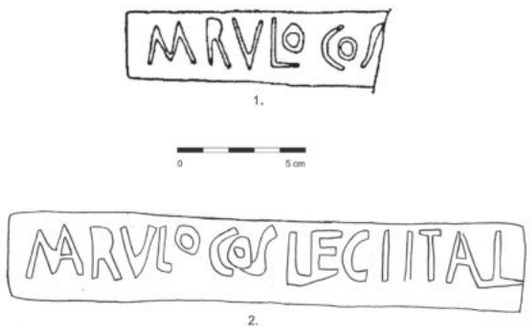

Fig. 6. Consular stamp from AD 184
(1. Sarnowski 1983, XIX 1 [pl. VII]; 2. Inv. no. 17-83c, first published in Press [ed.] 1985, p. 102, fig. 19, prepared by M. Duch and A. Momot)

The stamps dated to the fourth quarter of the second–first quarter of the third century Ad [Fig. 7] have a very interesting framing in the shape of a *planta pedis* (nos. 1–7) and a legionary eagle[56] (nos. 8–11).

Fig. 7. Stamps from the fourth quarter of the second–first quarter of the third century AD
(1.–3. Sarnowski 1983, VI 159–161 [pl. VI]; 4. Inv. no. 16-96c;
5. Sarnowski 1983, VI 162 [pl. VI]; 6. Sarnowski 1983, VI 164 [pl. VI];
7. Sarnowski 1983, VI 163 [pl. VI]; 8.–9. Sarnowski 1983, VI 173–174 [pl. VI];
10. Sarnowski 1983, VI 172 [pl. VI]; 11. Inv. no. 40-00c)

[55] Sarnowski 1983, p. 55; Kurzman 2006, p. 130.

[56] Sarnowski 1983, p. 61.

Stamps from the beginning of the third century AD [Fig. 8] show significant similarities to earlier stamps, especially those from Flavian times [Fig. 3, nos. 29–32]. These are for the most part simple stamps without decoration, placed within a rectangular frame.[57]

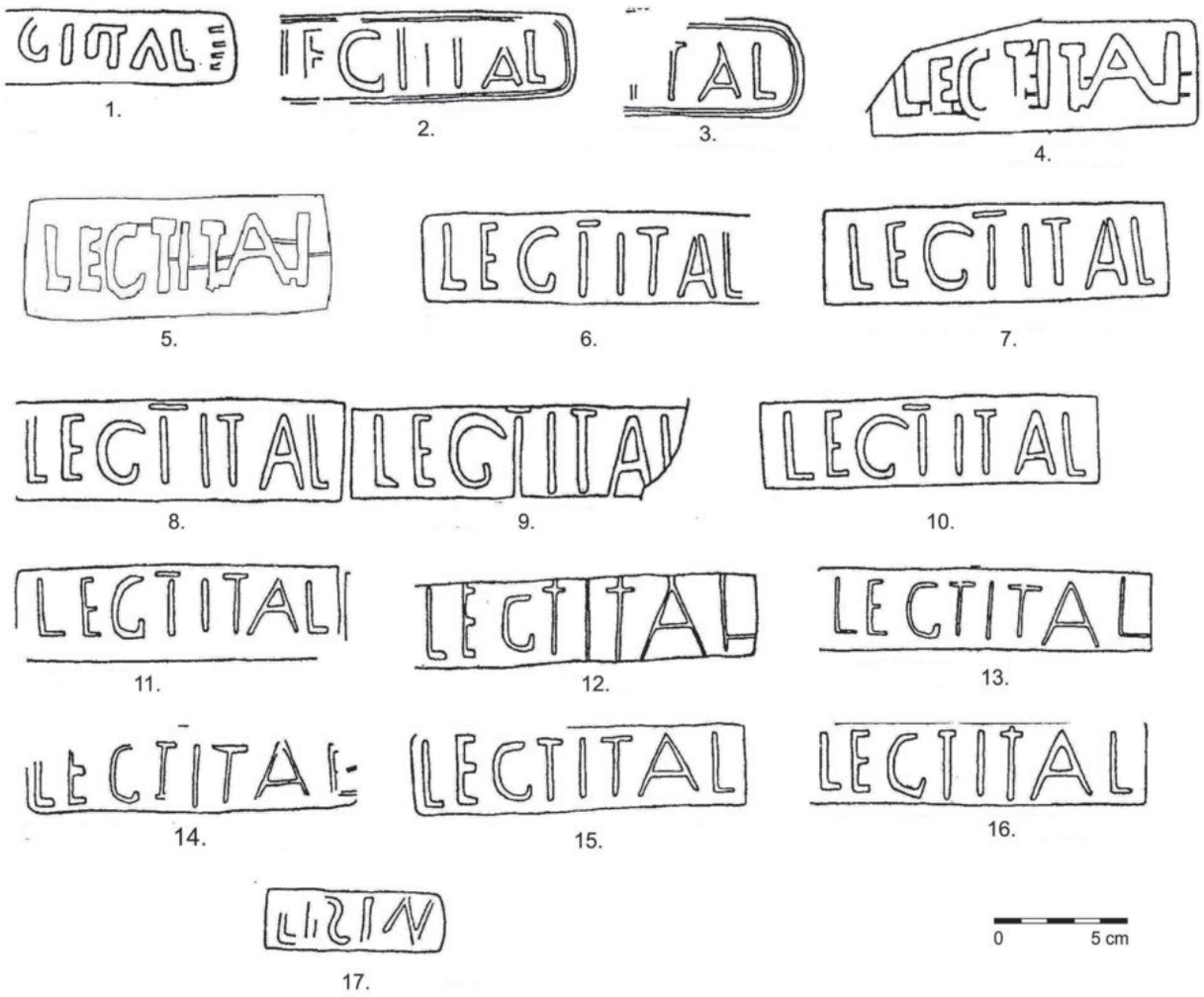

Fig. 8. Stamps from the early third century AD
(1. Sarnowski 1983, VI 46 [pl. III]; 2.–3. Sarnowski 1983, VI 59–60 [pl. III];
4. Sarnowski 1983, VI 67 [pl. IV]; 5. Inv. no. 10-13c;
6.–12. Sarnowski 1983, VI 107–113 [pls. IV–V];
13.–16. Sarnowski 1983, VI 115–118 [pl. V]; 17. Sarnowski 1983, XII 1 [pl. VII])

[57] Sarnowski 1983, p. 61.

A group of stamps [Fig. 9] was dated to AD 212–244, having been discovered on ceramic tiles forming the floor of one of the legionary bathhouse pools.[58] This stamp variant has not been observed in any of the earlier archaeological layers.

The form of stamp impressions dated to AD 212–222 [Fig. 10, nos. 1–6] is more developed than in the case of stamps presented above. Sarnowski read this text as follows: LEG(ionis) I ITAL(icae) ANT(oninianae). The letters ANT appear in ligature. During the reigns of Caracalla and also of Elagabalus, the *legio I Italica* bore the cognomen *Antoniniana*, which is attested epigraphically.[59]

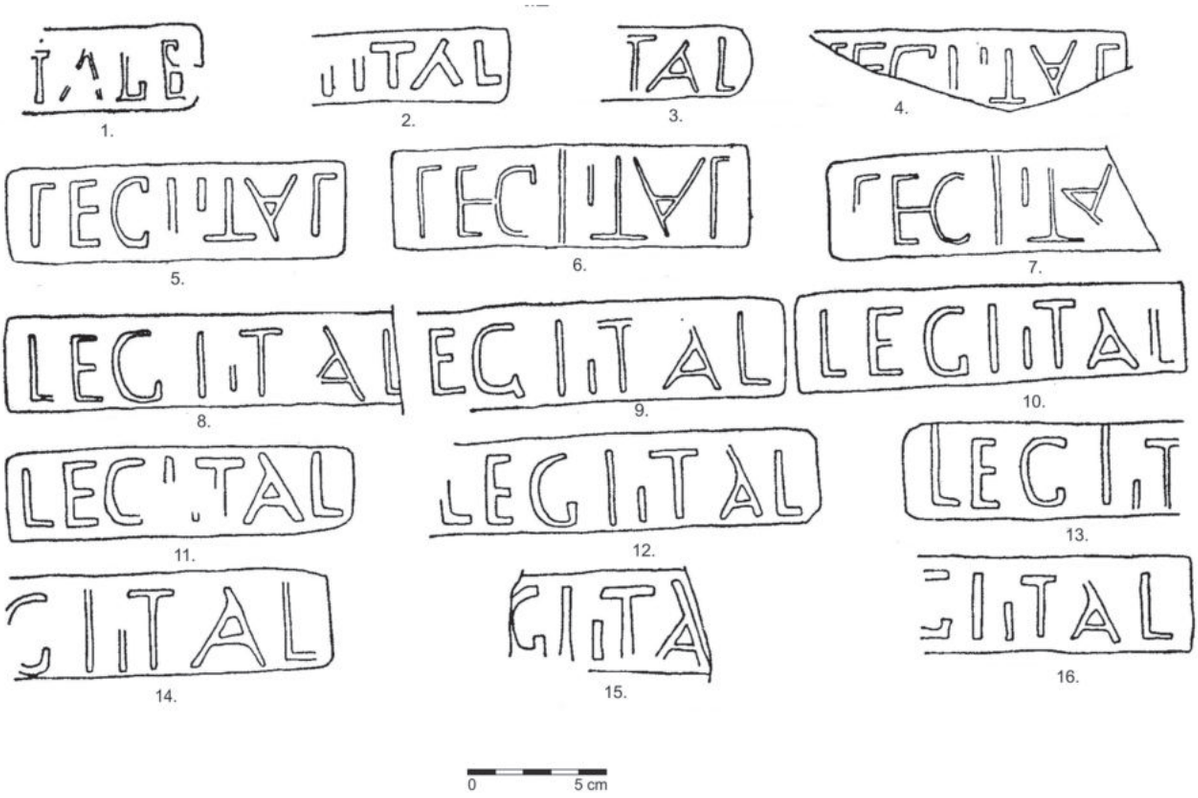

Fig. 9. Stamps from AD 212–244
(1. Sarnowski 1983, V 1 [pl. II]; 2.–7. Sarnowski 1983, VI 94–99 [pl. IV];
8.–16. Sarnowski 1983, VI 146–154 [pl. VI])

[58] Biernacki 1988b, p. 169; Mrozewicz 1984, p. 150.
[59] Sarnowski 1983, p. 55.

The stamps dated to AD 222–235 [Fig. 10, nos. 7–9] are similar to the ones just discussed. They are read as *legionis I Italicae Alexandrianae*.[60]

Stamps from third quarter of the third and fourth quarters of the third century AD [Fig. 11] are without decoration, placed within a rectangular frame. The text on the stamps contains the inscriptions LEG I ITAL (nos. 1–4) and LEG I (nos. 5–7).

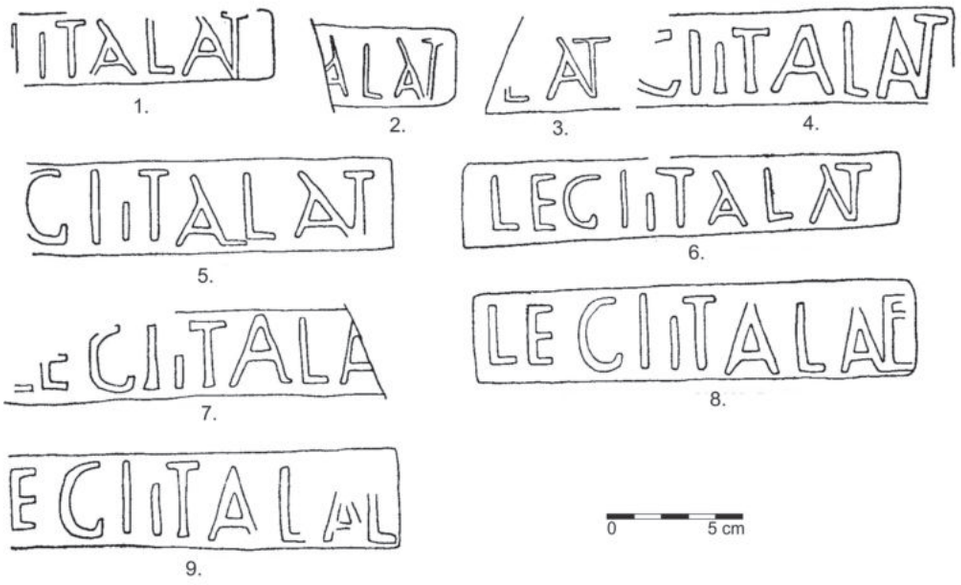

Fig. 10. Stamps from AD 212–235
(1.–7. Sarnowski 1983, VII 2–8 [pl. VI]; 8.–9. Sarnowski 1983, VIII 1–2 [pl. VI])

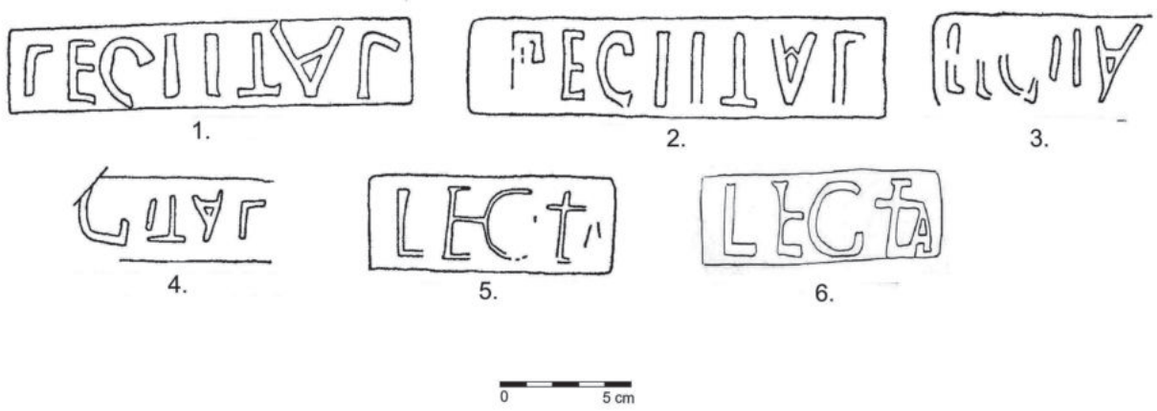

Fig. 11. Stamps from the third and fourth quarter of the third century AD
(1.–2. Sarnowski 1983, VI 123–124 [pl. V]; 3.–4. Sarnowski 1983, XI 1–2 [pl. VII];
5. Sarnowski 1983, XIII 1 [pl. VII]; 6. Inv. no. 17-95c)

[60] Sarnowski 1983, pp. 55–56.

Stamps dated to AD 316–317 [Fig. 12, nos. 3–5] and AD 324–339 [Fig. 12, nos. 1–2, 6–16][61] were discovered mostly on bricks used for the reconstruction of the western gate, and also the western and southern fortifications. These bricks produced in the fourth century were of a worse quality than those produced in the first to third centuries. This explains why the letters impressed on bricks from the fourth century are much more massive, being almost twice as big as those from the previous centuries. Had the same size of the stamps been retained as was used, for example, in the third century on clay which was of a much poorer quality and not as flexible, the stamp might have been illegible.[62] According to Sarnowski, we should interpret these inscriptions as follows:

LE P I FIGV CRT V: LE(gionis) P(rimae) I(talicae) FIGV(lina) C(oho)RT(tium) V (quinque) (or C(o)H(o)RT(ium) V (quinque));

LEG I ITA FI C ∞: LEG(ionis) I (primae) ITAL(icae) FI(glina) C(ohortis) ∞ (milliariae).[63]

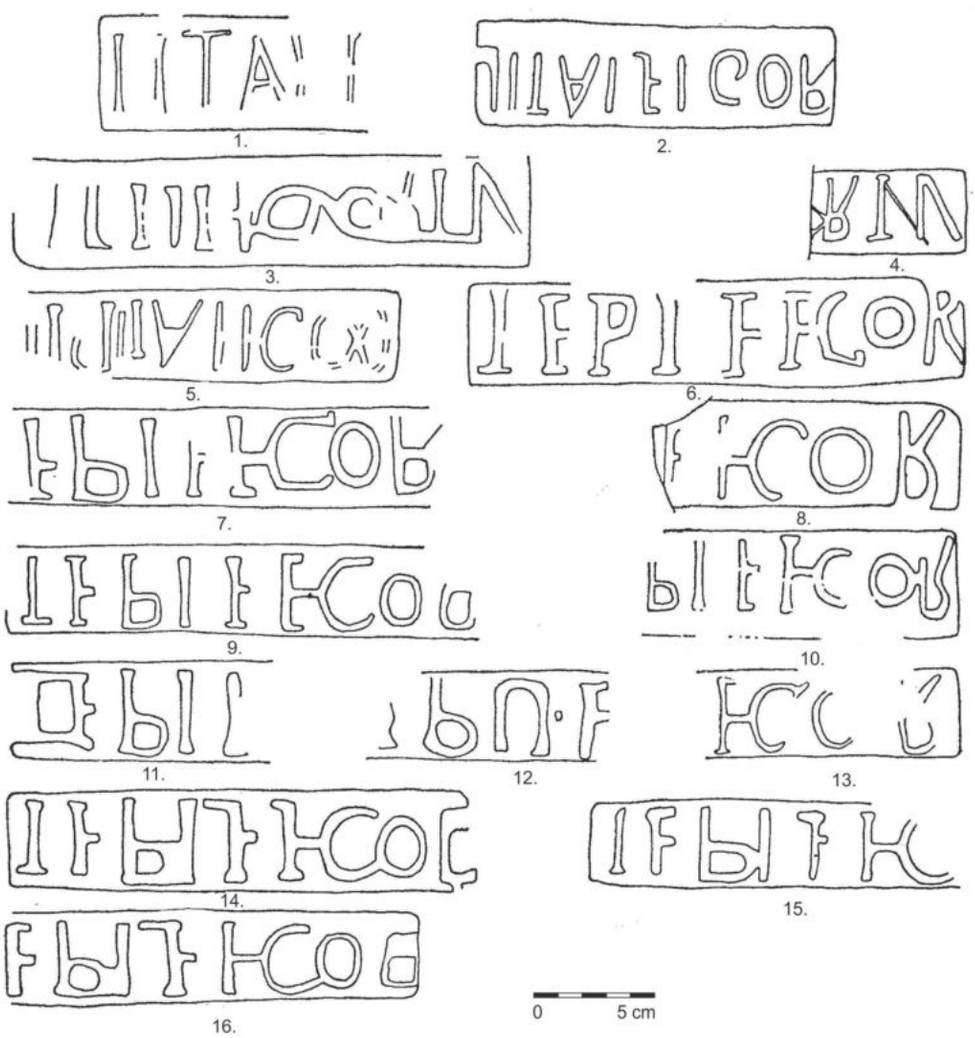

Fig. 12. Stamps from AD 316–339
(1.–2. Sarnowski 1983, XV 1–2 [pl. VII]; 3.–4. Sarnowski 1983, XVI 1–2 [pl. VII];
5. Sarnowski 1983, XVII 1 [pl. VII]; 6.–16. Sarnowski 1983, XVIII 1–11 [pl. VII])

[61] Sarnowski 1985, p. 117.
[62] Sarnowski 1985, p. 110.
[63] Sarnowski 1985, p. 127.

Stamps of the *legio I Minervia* and *legio XI Claudia* [Fig. 13] have also been found in Novae. Both legions appear to have been producing tiles for the legionary hospital roof[64] and for the covering of the canal in sector XII.[65] The few types and variants recorded indicate the short-lived nature of this production. According to Sarnowski, assigned detachments of both legions were stationed in Novae in AD 101.[66]

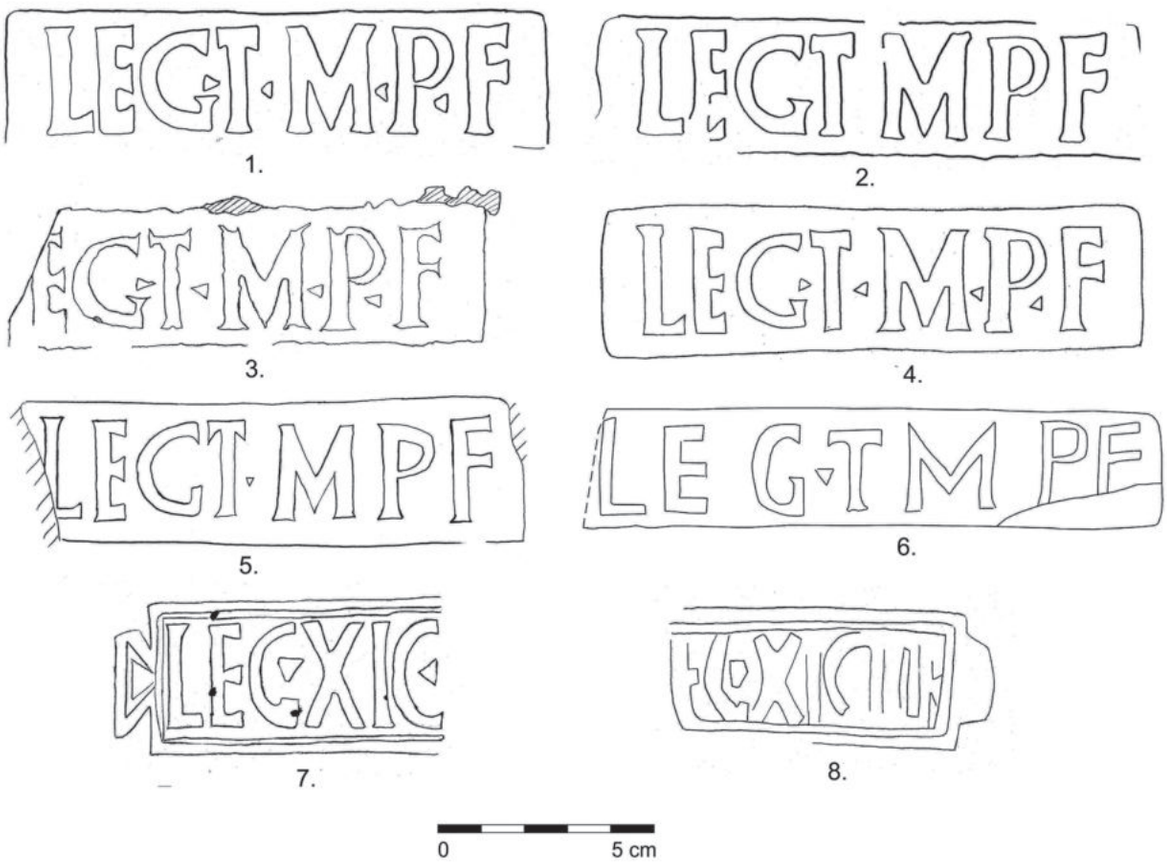

Fig. 13. Stamps of the *legio I Minervia* and *legio XI Claudia*
(1. Inv. no. 13-96c; 2. Inv. no. 10-96c;
3. Inv. no. 135-00c; 4. Inv. no. 05-15c;
5. Inv. no. 13-00c; 6. Inv. no. 37-01c;
7. Inv. no. 89-12c; 8. Inv. no. 56-12c;
all stamps prepared by A. Momot)

Stamp impressions with a name are another interesting group of inscriptions on bricks and roof tiles. In most cases, it is difficult to determine whether these named stamps list civilian contractors, producers of roof tiles for the needs of the legion in Novae or soldiers involved in the production of ceramic building material for the camp. Tiles and bricks with stamps containing

[64] Sarnowski 1987, pp. 107–122.
[65] Lemke 2013, pp. 193–194.
[66] Sarnowski 1987, pp. 118–122.

the names MARC, MAX, VETIA, CEMEL, ALBU [Fig. 14] refer to the names of soldiers involved in the production of ceramic building material. This is confirmed by the discoveries from Oescus, where roof tiles with the stamps FIR, MAX, PROCU, VETIA were found together with the stamps of the *legio I Italica*.[67] Perhaps the same is true of the recently discovered stamp, which Jerzy Żelazowski has read as *Aurelius Hegenianus*[68] or *Helenianus*[69] [Fig. 14, no. 12].

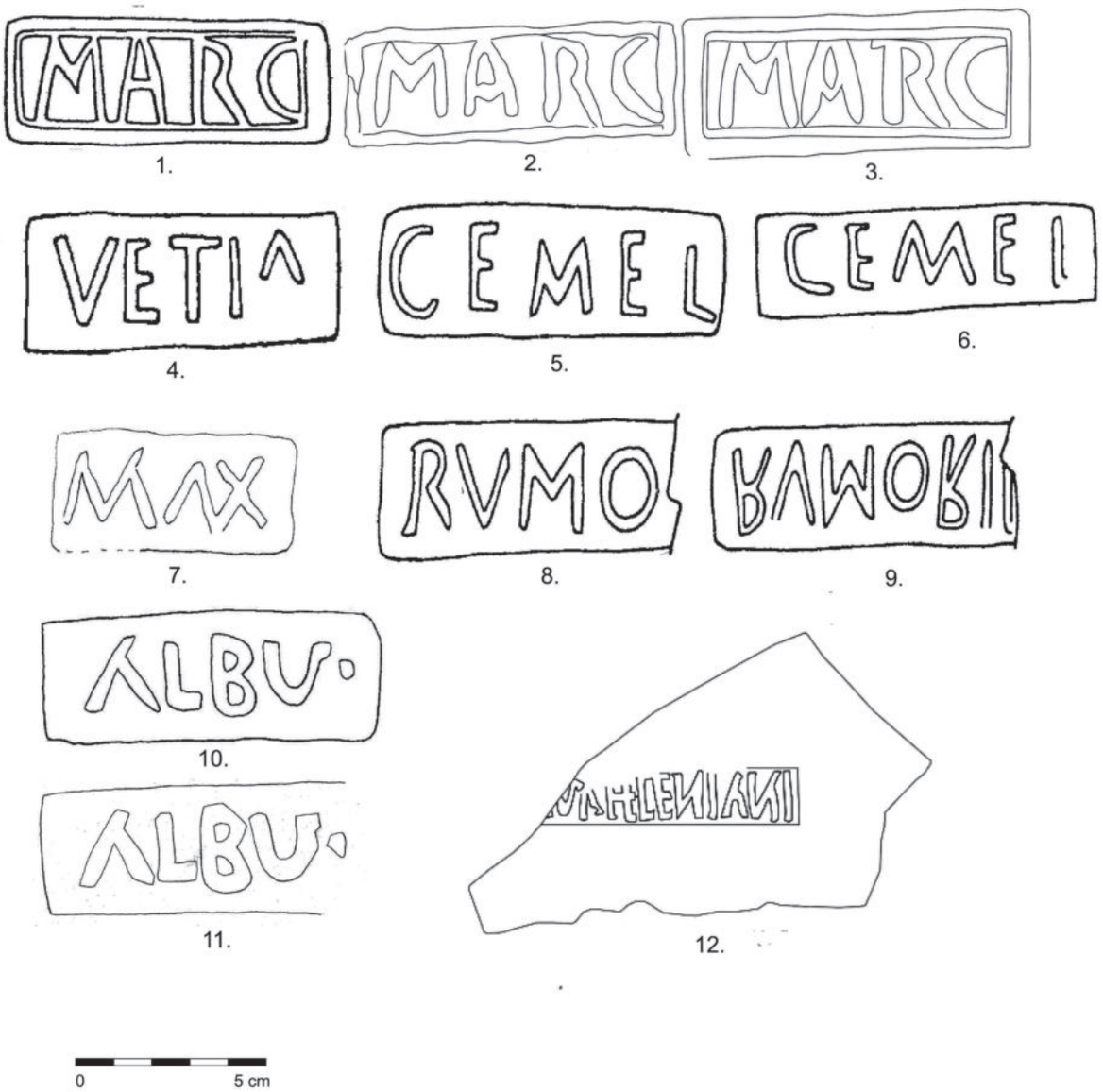

Fig. 14. Military stamps with the *nomen*
(1. Sarnowski 1983, XXVII 1 [fig. 18]; 2. Inv. no. 07-02c; 3. Inv. no. 28-01c;
4. Sarnowski 1983, XXIII 1 [pl. VII]; 5.–6. Sarnowski 1983, XXX 1–2 [fig. 18];
7. Inv. no. 37-02c; 8.–9. Sarnowski 1983, XXXI 1–2 [fig. 18]; 10. Inv. no. 75-03c;
11. Duch 2017, p. 239, fig. 3; 12. Żelazowski 2012, fig. 1;
nos. 2–3 and 10–11 prepared by A. Momot)

[67] Ivanov 1981, p. 42.
[68] Żelazowski 2012, pp. 159–165.
[69] *AE* 2012, no. 1266.

The situation is quite different in the case of the stamps of Caius Antonius Magnus, Alexandros Sol(…), Aurelius Statianus and a stamp L COEL PRIMI [Fig. 15]. These were producers of ceramic building material connected with the military in some way, as they supplied places primarily in the vicinity of military camps. Caius Antonius Magnus [Fig. 15, nos. 1–4] was a local producer of ceramic building material. The bricks he produced were discovered in Novae, Svištov (4 km west of Novae), Dimum, Ostrite Mogili (a vicus near Novae).[70] His activities are dated to the second half of the second–beginning of the third century AD.[71] In sector IV at Novae, so far only four bricks from Antonius' brickyard have been found, and even these were discovered in the late stratigraphic layers. One interpretation of this modest distribution in Novae is that he was a private producer who did not deliver material to the military camp.[72] According to Sarnowski, Antonius represented someone's interests (an *actor*) and leased land, which might have belonged to the state, the emperor or a private person.[73] Another interpretation of C ANTON MAG was put forward by Jerzy Żelazowski, who deduces that it was a name of a soldier working in a brickyard rather than a private producer.[74]

Alex(andros) Sol(…) [Fig. 15, no. 9] known only from Greek stamps, was another ceramic building material producer from Lower Moesia. It is also possible that bricks stamped with the inscription ALSOL [Fig. 15, nos. 7–8] should be connected with this producer rather than with the *ala Solensium*.[75] This would seem all the more possible as thus far this cavalry unit has not been noted in any other sources.[76] ALSOL stamps have been excavated primarily in the territory west of Novae.[77] ALSOL stamps have also been discovered in the vicinity of Pliska, where imperial property was located in Antiquity. This led Sarnowski to put forward the supposition that Alexandros Sol(…) was a land tenant within the imperial dominium.[78]

In two inscriptions from Novae dated to the turn of the second century AD and dedicated to *Deus Aeternus*, Aurelius Statianus appears together with Elius Alexander.[79] According to Tadeusz Sarnowski and Agnieszka Tomas, who based their opinion on the analysis of a military diploma with the name of Aurelius Statianus,[80] he was a veteran born in the vicinity of Nicopolis ad Istrum. In Sarnowski's and Tomas's opinion, the stamped bricks with the inscription [A]VREL(ius) [STAT(ianus)] discovered in Novae [Fig. 15, no. 6] were produced by the same person. The researchers assumed that M. Aurelius Statianus leased land somewhere near Novae and was involved in the production of ceramic building material. There is no convincing evidence that Statianus supplied his products to meet the demand for construction material of the legionaries in Novae. The scant amount of brick finds signed with his *nomen* and *cognomen* may indicate a short production period; interestingly, however, they are quite widespread geographically, having been found in Dimum, Novae and Sexaginta Prista; strangely enough, these are all military locations, but there were civilians nearby who might also have been his customers. The example of Statianus is fascinating as it shows a veteran who developed skills acquired in the army in his later lifeas a civilian.[81]

[70] Sarnowski 1994, p. 22; Rakeva-Morfova 1970, p. 39; Majewski (ed.) 1961, p. 83, fig. 15; Pająkowski 1973, p. 124; Karadimitrova 2004, p. 119, figs. 40–41.
[71] Tomas 2007, p. 36.
[72] Inv. nos. 25-70c, 41-77c, 37-06c, 155-06c: the first two are surface finds of unknown origin.
[73] Sarnowski 1994, p. 21; According to B. Gerov, C. Antonius Magnus was associated with the family of Antonius, who were tenants of *portorium publicum Illyrici*; see Gerov 1980, pp. 122–123, note 23.
[74] Żelazowski 2015, p. 253.
[75] Biernacki 1992, p. 107. Gerov (1977, p. 308) put forward the idea that ALSOL stamps should be linked to *ala Solensium*. This hypothesis was adopted by Sarnowski (1988, p. 75) after which he came to the conclusion that this may in fact refer to a producer of ceramic building material, cf. Sarnowski 1994, p. 22.
[76] There are no inscriptions from the third century attesting to this military unit.
[77] Sarnowski 1988, p. 74.
[78] Sarnowski 1994, p. 23.
[79] *ILNovae*, nos. 3–4.
[80] *RMD* IV, no. 311.
[81] Duch 2017, pp. 212–213.

Bricks of a producer identified with the stamp L COEL PRIMI were discovered in Novae [Fig. 15, no. 5] and in a few places on the Danube without a precise localization in the museum documentation.[82]

According to those who discovered the RUMORID(us) stamps [Fig. 14, nos. 8–9], these late antique artifacts should be identified with Flavius Rumoridus, who was the dux of the Moesia II province during Valens's reign.[83]

The ceramic material marked with the PCP stamp belonged in all probability to a private producer [Fig. 15, nos. 10–11]. It was discovered in Ostrite Mogili (approximately 2 km from Novae) and in Novae, in sector XII, within a glass furnace;[84] material from sector IV comes from a stratigraphic context, the date of which intimates that this brick-maker was producing in the years between AD 271 and 285.[85] It should be noted that the area belonging to the *castra* started to be occupied by civilian residents from the mid-third century AD.[86]

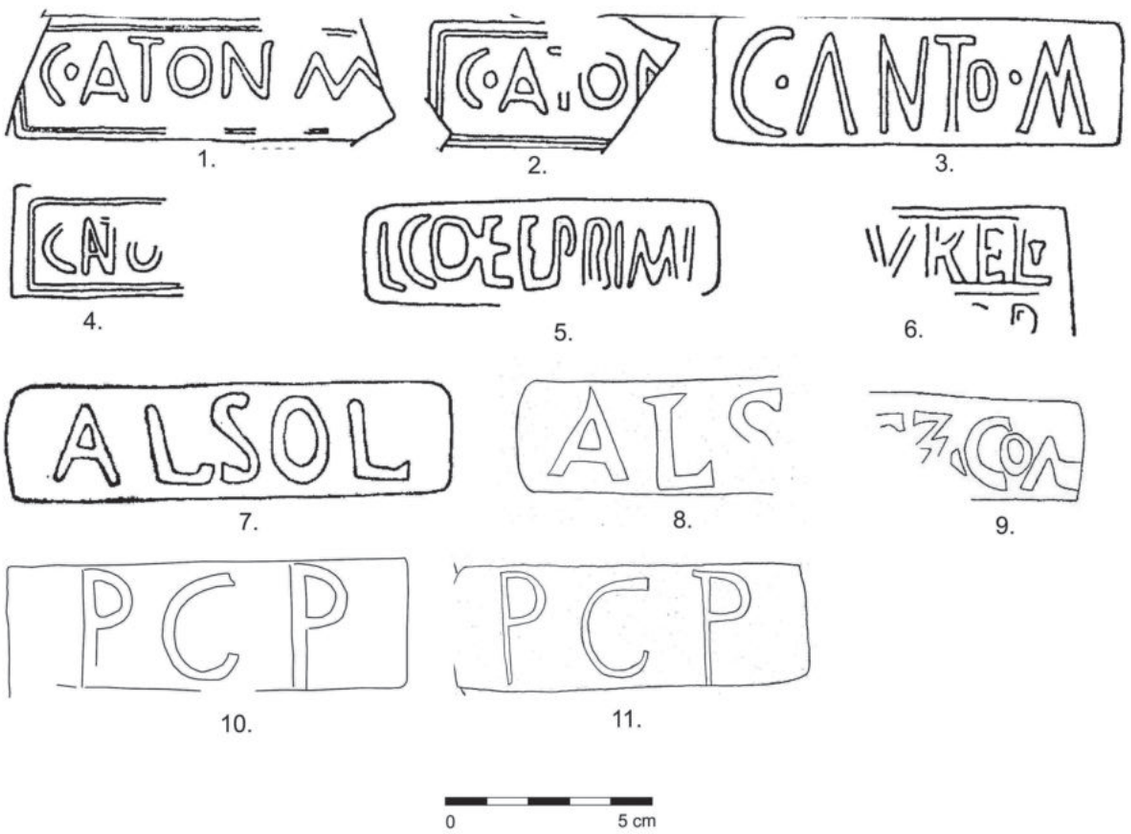

Fig. 15. Private producers' stamps
(1.–4. Sarnowski 1983, XXV 1–4 [fig. 18]; 5. Sarnowski 1983, XXVI 1 [fig. 18];
6. Sarnowski 1983, XXXV 1 [fig. 18]; 7. Sarnowski 1983, XXII 1 [pl. VII];
8. Inv. no. 22-12c; 9. Inv. no. 80-13c; 10. Inv. no. 39-00c; 11. Inv. no. 29-12c;
nos. 8–11 prepared by M. Duch)

[82] Sarnowski 1983, p. 61.
[83] Sarnowski 1985, pp. 107–127; Torbatov 2012, p. 166.
[84] Inv. nos. 30-12c, 29-12c.
[85] Duch 2017, p. 209.
[86] Dyczek 2008, pp. 31–70.

This article contains a short summary of 59 years of research on the chronology of bricks and tiles from Novae as reflected in numerous publications, which have been listed in the bibliography. The existing typologies of Novae stamps were prepared on the basis of the material discovered in the legionary *principia* and to a lesser extent based on the material from sector IV (Sarnowski's typology). This was supplemented by material from excavations conducted in sector X, where in 1970 the remains of a bathhouse dated to the second and third centuries AD and a bishop's residence from late antiquity were found (Matuszewska's typology). The completed excavation in sector IV with its full stratigraphy presents the greatest research potential. Based on both the published and unpublished stamped bricks and roof tiles from Novae, a new typochronology of these artifacts could be proposed. Petrological analyses of the stamped building ceramics from Novae would be the next step in research and it would certainly be worthwhile to take a closer look at the cutaway forms of roof tiles to see whether their shape at Novae underwent evolution and if so, whether it could influence the dating of unstamped ceramic material.[87]

Abbreviations

AE	*L'Année épigraphique*, ed. M. Corbier, P. Le Roux, S. Dardaine.
ILNovae	*Inscriptions latines de Novae*, ed. V. Božilova, J. Kolendo, L. Mrozewicz, Poznań 1992.
RMD	*Roman Military Diplomas*, vol. IV, London 2003.

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[87] Research of this type is being successfully carried out in England (Warry 2006, pp. 43–49).

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Streszczenie

Stemple na cegłach i dachówkach z Novae. Zarys chronologii

Stemplowana ceramika budowlana z Novae jest obiektem intensywnych badań już od 1960 roku. Jak dotąd opracowano dwie rozbudowane typologie tych zabytków (Sarnowski 1983; Matuszewska 2006). Powstały one w oparciu o materiał odkryty przede wszystkim w komendanturze legionowej oraz na odcinku IV, na którym jeszcze w latach osiemdziesiątych badano pozostałości tzw. Willi z Portykami (typologia Sarnowskiego). Obraz ten został uzupełniony o materiał pochodzący z wykopalisk z odcinka X, gdzie od roku 1970 badane są pozostałości łaźni datowanej na II–III w. i rezydencji biskupiej z IV w. (typologia Matuszewskiej). W 2010 roku zakończono badania na odcinku IV, a tym samym eksplorację szpitala legionowego i łaźni z czasów Flawiuszy, dzięki temu znana jest już jego pełna stratygrafia. Zatem w materiale pochodzącym z odcinka IV drzemie obecnie największy potencjał badawczy. Na podstawie opublikowanego i nieopublikowanego materiału tegularnego z odcinka IV warto w przyszłości zaproponować nową typologię, uporządkowaną przede wszystkim chronologicznie. Dlatego autor niniejszego artykułu dokonał wstępnego podziału materiału tegularnego oraz zaproponował roboczą wersję nowej typologii, która stanowić będzie punkt wyjścia do dalszych uzupełnień oraz modyfikacji. W artykule nie ujęto wszystkich znanych odcisków stempli z Novae, a w przypadku odcisków legionu I Italskiego uwzględniono tylko te, które są już chronologicznie umocowane. W ten sposób pierwsza grupa to stemple legionu I Italskiego. Druga grupa to stemple innych jednostek wojskowych produkujących ceramikę budowlaną na potrzeby Novae. Grupa trzecia obejmuje tzw. wojskowe stemple imienne, a ostatnia (czwarta) — odciski stempli najprawdopodobniej prywatnych producentów. Każda z tych grup została podzielona chronologicznie. W ten sposób najliczniejszą grupę pierwszą podzielono na czternaście podgrup chronologicznych, grupę drugą na dwie podgrupy, trzecią na sześć, a czwartą na cztery.

Autor zwraca także uwagę, że przyszłością badań nad stemplowaną ceramiką budowlaną z Novae będą z pewnością analizy petrologiczne. Warto również przyjrzeć się przekrojom wypustów dachówek i zastanowić się, czy w Novae ich kształt ulegał ewolucji i czy ma to wpływ na datowanie nieostemplowanego materiału ceramicznego.

Michał Duch
Adam Mickiewicz University in Poznań
Institute of European Culture
micduc@amu.edu.pl

Marian Mocanu
George Nuțu

LATE ROMAN RED SLIP WARE FROM AEGYSSUS*

Abstract: Red-slipped ceramics of the late Roman period are part of the assemblage recorded during intermittent archaeological research at the archaeological site of Aegyssus/Tulcea in the second half of the twentieth century. A typological review of the pottery coming from this research (roughly in 1971–1998), combined with statistical data, is the main purpose of this paper. Altogether 121 diagnostic ceramic fragments from the fort of Aegyssus have been classified by geographical provenance: North African (12 fragments), Asia Minor (88 fragments) and Pontic (28 fragments), demonstrating the presence of products from all three major areas of production of late Roman Red Slip Ware. The share of each is dependent in equal measure on historical factors and on objective limitations imposed by the chosen research methodology.

Key words: Red Slip Ware, Aegyssus, Scythia, Late Antiquity

Introduction

Ancient Aegyssus is located northeast of the city of Tulcea, encompassing the area of the "Parcul Monumentul Independenței" and its vicinity [Figs. 1–2]. The rocky massif with the ancient city is the highest point overlooking the lower run of the Danube. The settlement of the Roman and early Byzantine periods overlaps an earlier indigenous settlement.

Aegyssus was, above all, an important garrison for troops — the *legio V Macedonica* and the Roman fleet of the Danube (*classis Flavia Moesica*) — securing this border region of the Roman Empire. In the second half of the third century AD, it was the seat of an auxiliary unit, the *cohors II Flavia Brittonum*. During the late Roman and early Byzantine periods, the fort rose to a position of importance in the defensive system of Scythia, becoming the seat of some military units from the *legio I Iovia* as well as a cavalry unit (*cuneus equitum armigerorum*). In the sixth century, it became a bishopric, as evidenced by the *Notitiae episcopatuum*, and is listed by Procopius of Caesarea among the castles rebuilt by the Emperor Justinian in Scythia.[1]

Archaeological excavations have contributed to a better understanding of the development of the city, particularly in late antiquity. The intramural area was investigated repeatedly, but the archaeological results were seldom published [Fig. 3]. The extramural parts have been levelled and destroyed by public works on various occasions ever since the nineteenth century. The process

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[1] For an overview, see Lungu 1996, p. 47; Päffgen, Nuțu 2017, pp. 277–278; Nuțu 2018, pp. 201–206.

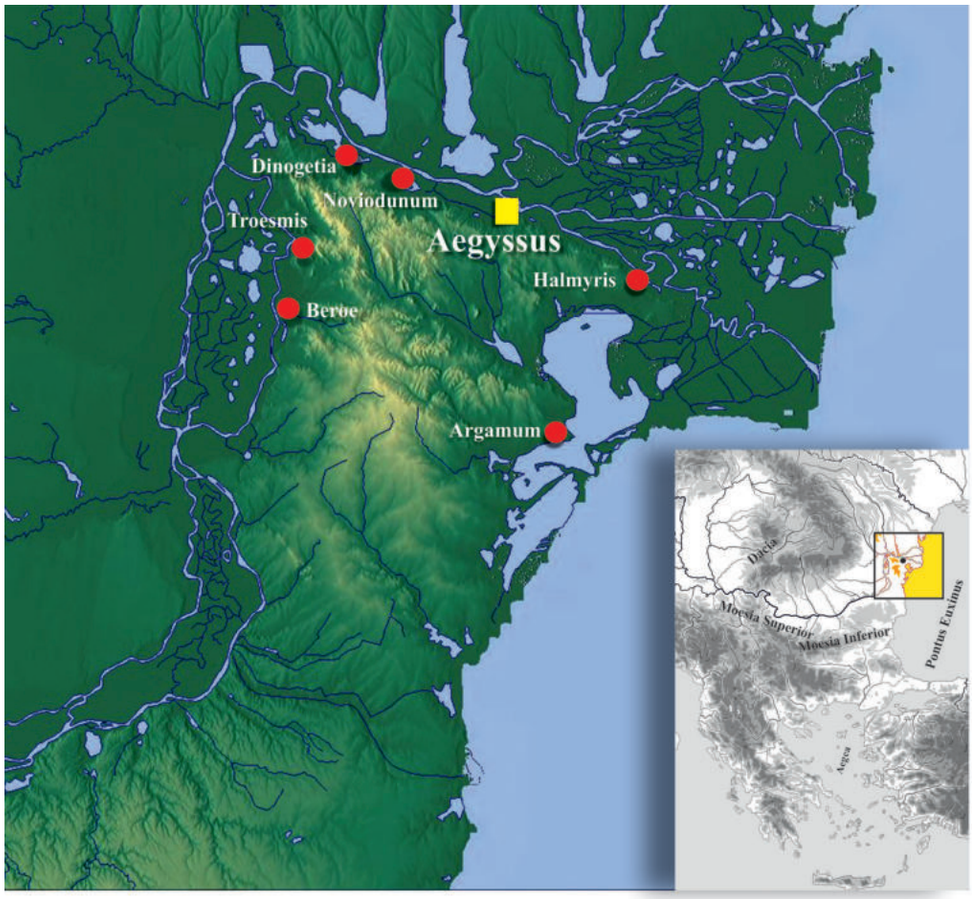

Fig. 1. Main Roman cities in North Dobruja

Fig. 2. Aerial view of Aegyssus: in the foreground,
the Roman baths sector with the old and new trenches

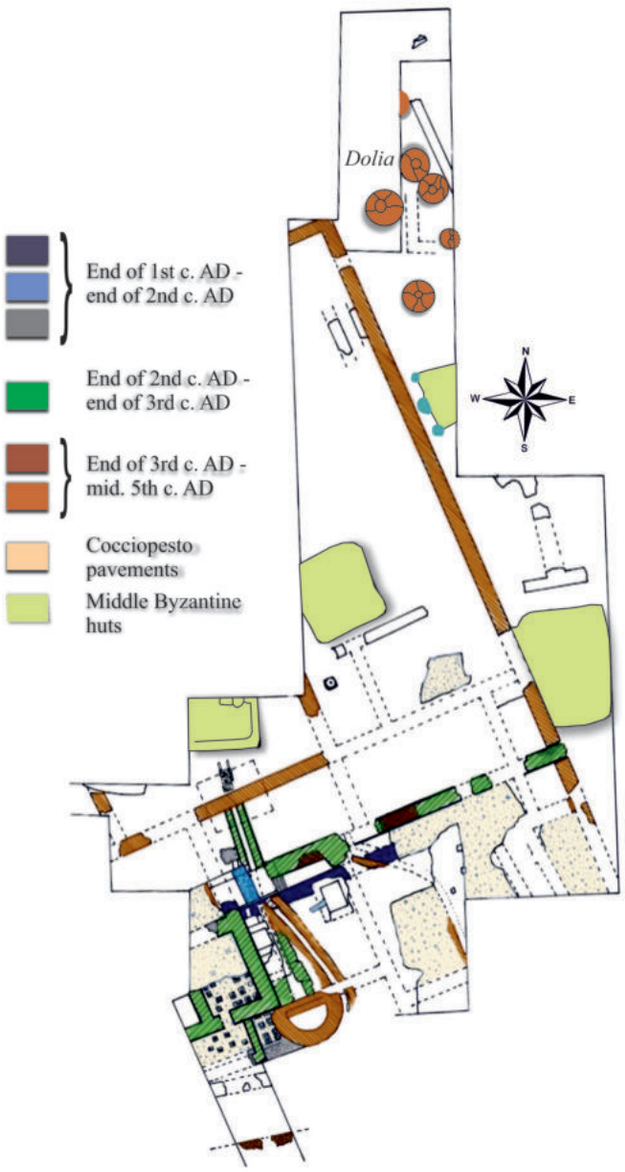

Fig. 3. Layout of the Roman baths sector,
main archaeological unit excavated up to the present

of destruction continues today, necessitating salvage archaeology in the *extra muros* parts of the settlement. The presentation of excavation results, even if only from a restricted area, helps to understand the overall habitation patterns on the site.

Salvage fieldwork first took place in the 1910s, but the results were not published and the archaeological material has largely been lost. Test trenches were dug again in 1959 and regular excavations started in 1971, continuing until 1998. The current excavations, which started in 2015, are carried out on an annual basis, financed from a grant of the Tulcea Municipality.[2]

[2] Päffgen, Nuțu 2017, pp. 277–278.

Pottery

Several articles on the finds from Aegyssus, pottery included, have been published in recent years. The research presented in this article is based on the published results encompassing ceramics from the area of the "Parcul Monumentul Independenței"; finds from fieldwork in other parts of the city of Tulcea are referred to only in passing.[3]

The first to publish pottery from Aegyssus was Andrei Opaiț. In 1987, he presented a deposit of amphorae (119 pieces) discovered in 1976, typologically divided into three types, set within a chronological frame starting with the end of the first century BC and ending in the early first century AD.[4] References to the *vasa escaria* (tableware) from the old excavations are found in a book published by Andrei Opaiț in 1996: ceramics produced in the Black Sea littoral, now known as Pontic Red Slip ware,[5] Asia Minor ware from the Phocaea workshops[6] and pottery imported from North African workshops.[7] These findings were later recapitulated in a book published in the *BAR* series.[8]

Hellenistic material from old fieldwork was discussed in an article by Vasilica Lungu.[9] The main focus was on amphorae with stamped handles, but pottery from the civil settlement next to the fort as well as from the pre-Roman necropolis identified on Nalbelor street was also mentioned. A find of particular merit is a Campanian bowl, originating from a tomb discovered in 1989,[10] the earliest attestation of Italic imports to Aegyssus and to the West Pontic region in general.[11]

Closing this presentation of published works on the *vasa escaria* are two recent contributions on Roman fine wares from Aegyssus, discovered during salvage archaeological research at 62 Gloriei Street, about 200 m south of the ancient fortifications.[12] They present Western sigillata along with African Red Slip, Pontic sigillata and Pontic Red Slip, and Çandarli ware.[13]

Methodology

The ceramic evidence in this study originates from regular archaeological fieldwork conducted at Aegyssus between the 1970s and the mid-1990s. The pottery itself is in the stores of the Museum of History and Archaeology in Tulcea. A representative sample consisted of 121 ceramic fragments. They were classified by production workshop (Pontic, Asia Minor, North African), then by type and date as indicated by parallels, identical or merely similar, known from other archaeological sites in the West Pontic and other regions of the Roman Empire. This classification enabled a statistical analysis of the late Roman tableware from Aegyssus [Fig. 4].

The limitations on this methodology are obvious and objective in nature (see the conclusions below), hence new research on material from resumed excavations at the site (which started in 2015), following the same methodology, may yet revise the present findings.

[3] Baumann 1973–1975, pp. 213–231.
[4] Opaiț 1987, pp. 145–155.
[5] Opaiț 1996, p. 135.
[6] Opaiț 1996, p. 137.
[7] Opaiț 1996, p. 139.
[8] Opaiț 2004.
[9] Lungu 1996, pp. 47–102.
[10] Lungu 1996, p. 58, no. 16.
[11] Mocanu 2016, p. 121. See also Baumann 2011, p. 205.
[12] Nuțu, Costea 2010, pp. 147–162; Nuțu, Mihailescu-Bîrliba, Costea 2014, pp. 133–138.
[13] Nuțu, Costea 2010, p. 156.

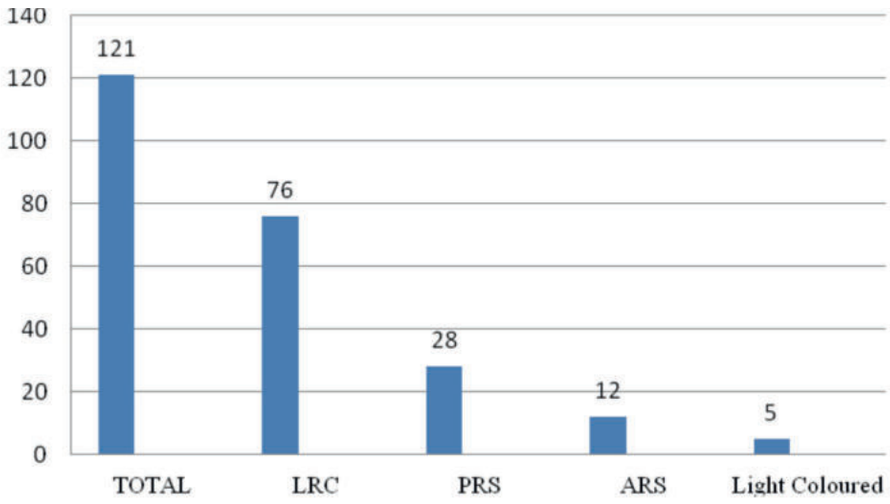

Fig. 4. Workshops identified as the place of production of the *vasa escaria* from Aegyssus

North-African ware

African red slip wares have been attested at a significant number of archaeological sites from the late Roman period in the West Pontic region and shares of tableware of this kind in the 5–10% range are generally accepted today[14] [Fig. 5a/1–3]. In 2012, 19 specific North African forms were inventoried, most of them dating to the fifth–sixth centuries AD.[15] At Aegyssus, in the old excavations, 12 of the 121 ceramic fragments studied for this paper were from North Africa. Surprisingly for sites in the West Pontic area, Hayes Form 76 turned out to be the most common (5 fragments), followed by Hayes Form 87 (3 fragments). Late forms of vessels from the African workshops were represented by three fragments belonging to Hayes Forms 103 and 104, which are both unusual for the late Roman sites in this geographic region. To be noted is the complete absence of Hayes Form 99, which is the most widely used bowl from the North African workshops to be produced in the province of Scythia. A single sherd belonged to a Hayes Form 91 bowl.

Hayes Form 76 [Fig. 6/1]
A large bowl relatively similar in shape to Hayes Form 67, which is the much better known bowl from this region. It has a flat base, rounded body in the lower part and a wide rim extending at an oblique angle, much wider than in Hayes Form 67. The wall inside is nearly vertical, heavily thickened, but low. Some specimens have incisions made on the outer surface of the rim. Diameters are between 25 and 35 cm. This type of dish was distributed mainly in the Mediterranean basin, being quite rare in the Black Sea littoral. A base presumed to represent Hayes Form 76 is reported from the Bosporan Kingdom.[16] Opaiț knew of another five finds of this type, the only ones from the Pontic area, found at Aegyssus. The suggested date for this form is AD 425–475,[17] coinciding with J. W. Hayes's chronology.[18]

[14] Mocanu 2012.
[15] Mocanu 2012, pp. 327–328.
[16] Smokotina 2014, p. 73, fig. 3/12.
[17] Opaiț 1985, p. 158, fig. 4/11.
[18] Hayes 1972, p. 124.

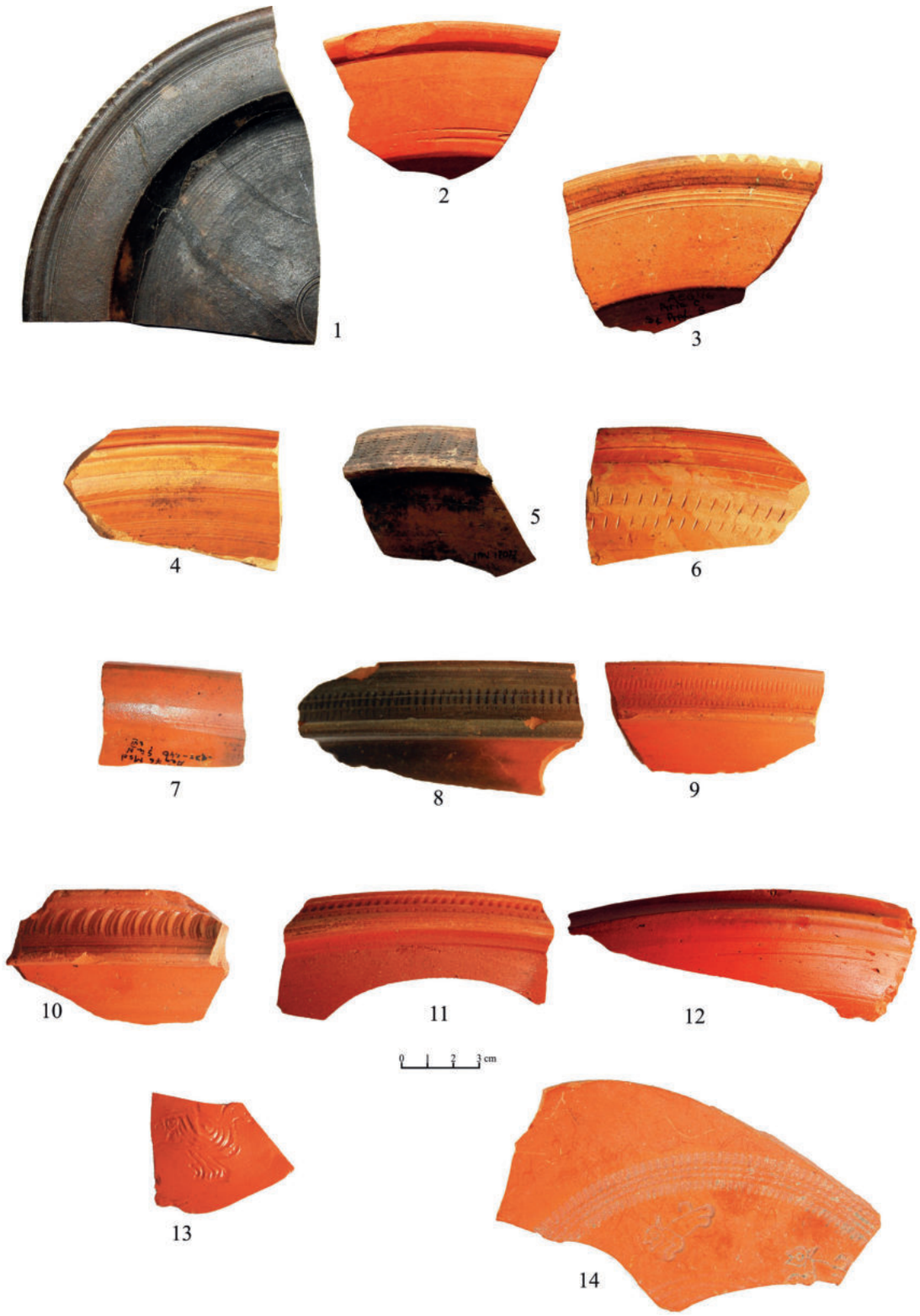

Fig. 5a. 1–3 — African Red Slip; 4–6 — Light Coloured; 7–14 — LRC

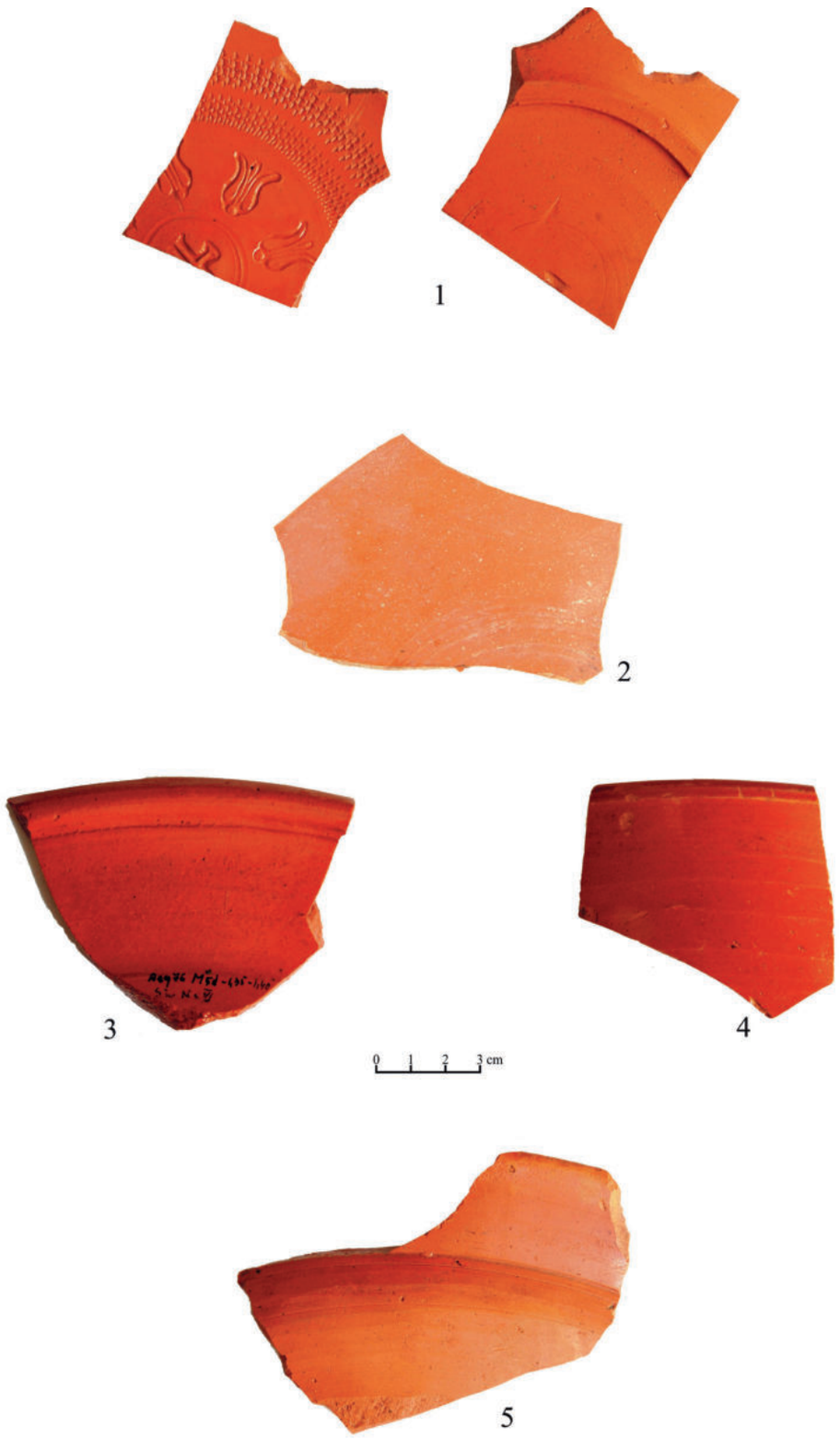

Fig. 5b. 1–2 — LRC; 3–5 — Pontic Red Slip

Hayes Form 87 [Fig. 6/2–3]
Middle-sized or large dish/bowl with a slightly rounded bottom on a short circular foot, curved bottom edges, vertical or oblique rim, triangular in cross-section. The diameters of these vessels are between 25 and 40 cm. The fabric and the slip of the wares meet the specific characteristic of North African workshops. There are three variants: A – nearly vertical rim, undercut by an external groove; B – rim similar to that of variant A, but angled instead of vertical, a groove on the inside marking the junction with the vessel body; C – rim flaring out at the top. The three

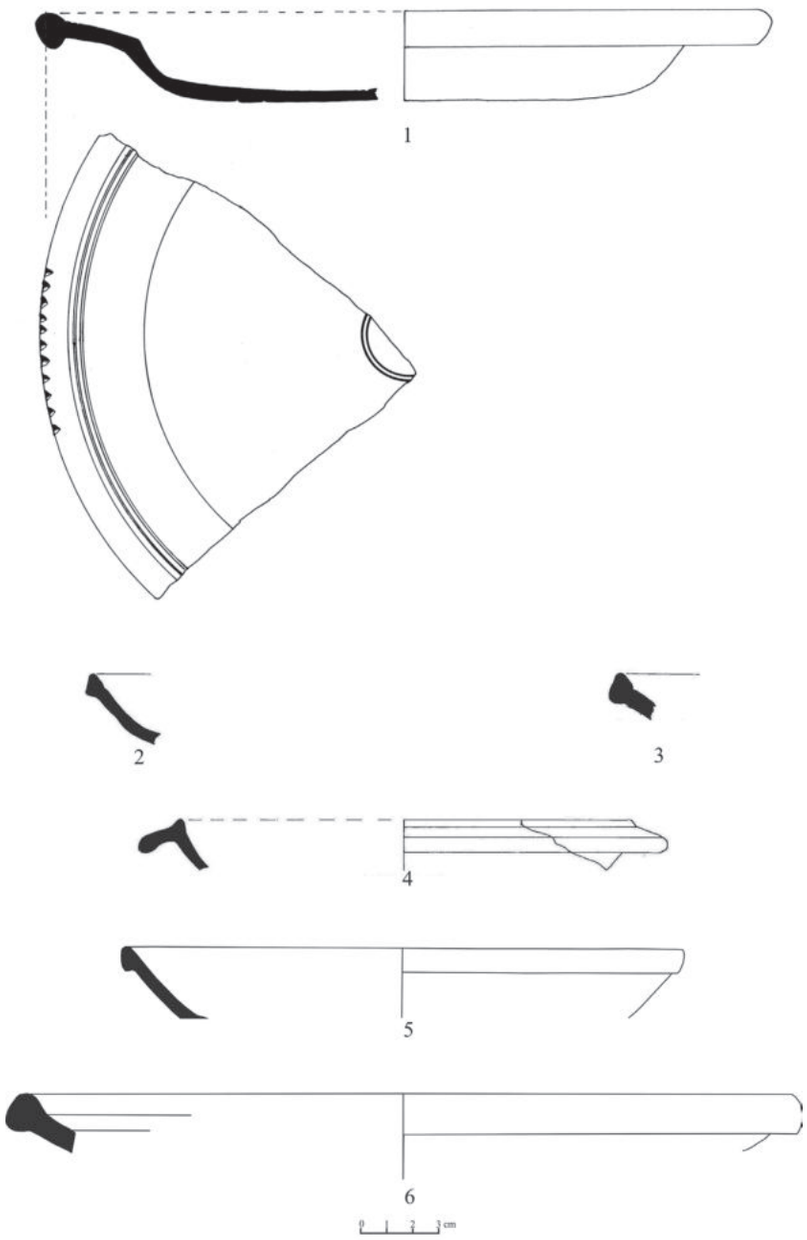

Fig. 6. African Red Slip
1 — H76; 2–3 — H87; 4 — H91; 5 — H103; 6 — H104

ceramic fragments discovered at Aegyssus belong to variant B. In Dobruja, this form was attested at Topraichioi,[19] in levels 9 and 11 at Halmyris (variants A and B),[20] at Capidava (variant B)[21] and (L)Ibida (all three variants).[22] The chronological range of this form is from the second half of the fifth century to the beginning of the sixth century, with the amendment that the find from habitation level 11 at Halmyris dates to the second half of the sixth century AD.

Hayes Form 91 [Fig. 6/4]
A single tiny sherd, possibly variant A/B of the form, was discovered in the old excavations at Aegyssus. Hayes form 91 is a small or middle-sized bowl with flat base and very short circular foot, strongly rounded walls in the lower third, vertical rim extending the body, and a more or less horizontal handle. The diameter of these bowls does not exceed 20 cm. The fabric is of good quality, with limestone inclusions and red-brown colour. The slip is of exceptional quality, often glossy, especially on the outer surface of the bowl, its colour close to that of the fabric. Until now, Hayes Form 91 was considered exotic in the late Roman settlements of the West Pontic area, the major area of diffusion being the western basin of the Mediterranean. Hayes Form 91 variant C has been recorded so far at Histria in the *Basilica episcopalis* (three finds)[23] and at (L)Ibida.[24] Some other unpublished finds belonging to Hayes Form 91 were also discovered at Halmyris. Variant A can thus be reported from the northern Black Sea littoral.[25] The chronological range specific to Hayes Form 91 variant A is between the middle and the end of the fifth century.[26]

Hayes Form 103 [Fig. 6/5]
Two ceramic fragments are attributed to Hayes Form 103 variant B. These are large bowls with slightly rounded bottom and circular foot, steep walls imparting an almost vertical form on the upper body starting halfway up. At the top, the wall thickens into a hanging rim. Rim diameters are between 25 cm and 35 cm. The presence of this type of bowl in West Pontic is sporadic. In Dobruja, the form was identified in occupational level 10 at Halmyris (variant B),[27] at Capidava[28] and the Tropaeum Traiani (variant A).[29] This kind of bowl is specific to the sixth century.[30]

Hayes Form 104 [Fig. 6/6]
A single ceramic fragment discovered at Aegyssus is identified as Hayes Form 104, variant A. It is a large dish/plate with circular foot, gently sloping walls and thickened rim of oval section. The diameter varies between 25 cm and 50 cm. Characteristics of variant A include a vertical rim and a base that is larger compared to successive variants. The form has been attested in West Pontic at a relatively large number of late Roman sites: in a seventh century habitation level VI/A at the Tropaeum Traiani (variant C),[31] in habitational levels 9, 10 and 11 at Halmyris (all three variants),[32] at Capidava (variants B and C)[33] and (L)Ibida (all three variants).[34] The dating is in the sixth and the first two decades of the seventh century.

[19] Opaiț 1985, p. 158, fig. 4/9.
[20] Topoleanu 2000, pp. 73–74, pl. 18/151–152.
[21] Opriș 2003, pp. 145–146, pls. 50/339 & 54/340.
[22] Mocanu 2011, p. 228, pl. 2/1–3.
[23] Mușețeanu, Bâltâc 2007, pp. 208–209, pl. 75/29–31.
[24] Mocanu 2011, p. 228, pl. 2/4.
[25] Smokotina 2014, p. 71, fig. 3/10.
[26] Hayes 1972, p. 144.
[27] Topoleanu 2000, pp. 76–77, pl. 19/163.
[28] Opriș 2003, pp. 140–150, pl. 53/348–349.
[29] Gămureac 2009, p. 267, pl. 13/113.
[30] Hayes 1972, pp. 159–160.
[31] Bogdan-Cătăniciu, Barnea 1979, p. 189, fig. 167/2.2.
[32] Topoleanu 2000, pp. 77–78, pl. 19/164–170.
[33] Opriș 2003, p. 149, pls. 53/345 & 54/346; Covacef 1999, pp. 154, 157, pl. 11/4.
[34] Mocanu 2011, pp. 228–229, pl. 2/5.

Asia Minor Light Coloured Ware

Light Coloured Ware from Asia Minor has been known for the better part of two decades but almost nothing on the subject has been published in Romania [Fig. 5a/4–6]. Both Opaiţ and Florin Topoleanu considered this kind of tableware discovered at Halmyris as being of Knidian origin.[35] It is extremely rare in the West Pontic region, being distributed mainly in the Aegean. At least five ceramic fragments have now been classified in the assemblage from Halmyris: three of Form 1 and two of Form 2 (see below).

Form 1 [Fig. 7/1]
Bowl/platter with horizontal rim, somewhat thickened at the edges, and steep walls. Low base. The upper rim surface bears either roulette decoration or incised concentric circles. Some wares feature a stamped pattern in the centre, sometimes combined with concentric rouletted circles arranged around it. Stylistic similarities can be observed with Hayes Forms 2 and 5 produced in Phocaean workshops. In the Athenian Agora, the form is dated to the end of the fifth century.[36] In Dobruja, three pieces came from the 5th century occupational levels 8 and 9 at Halmyris.[37]

Form 2 [Fig. 7/2]
Plate/bowl with straight, nearly vertical rim, the outside surface sometimes decorated with two or three bands of rouletted decoration. Steep walls above a low base. This ware exhibits similarities with Hayes Form 3 plates, variants B and C, produced in the Phocaean workshops. Three similar fragments discovered in the Athenian Agora were dated to the second part of the fifth century and the beginning of the sixth century.[38] In Dobruja, two fragments were discovered at Halmyris, but without specifying the context and chronological frame;[39] another two fragments were found in the fortification of Topraichioi, dated to the last quarter of the fifth century.[40] A fragment comes from a similar chronological context in Aegyssus.[41]

Phocaean Red Slip (LRC)

The Pontic area was one of the main diffusion regions for ceramics produced in the Phocaean workshops, especially from the mid-fifth century and throughout the sixth century. From a quantitative point of view, this type of ware held a monopoly on the local market, exceeding 80% of the total fine pottery assemblage in almost all the settlements. At Aegyssus, of the 121 ceramic fragments studied, 76 finds were produced in West Asia Minor workshops. Of the ten known forms, six are present in the studied sample. Hayes Form 1 is represented by eight specimens of the first three specific variants, Hayes Form 2 is attested by six ceramic fragments assigned to variants A and C. As expected, the ware is represented overwhelmingly by Hayes Form 3. All variants except for A and H were recorded at Aegyssus. Hayes Forms 4, 5 and 8 are attested by one find each [Figs. 5a/7–14 and 5b/1–2].

Hayes Form 1 [Fig. 7/3]
A bowl that can vary in size with a concave base provided with a ring foot and rounded walls. The rim is not offset from the body. Hayes saw it as an evolution of the late form 4 from the Çandarli

[35] Opaiţ 1991a, p. 166, fig. 45/308, 311; Topoleanu 2000, p. 55, pl. 12/68.
[36] Hayes 2008, p. 250, fig. 43/1434.
[37] Opaiţ 1991a, p. 166.
[38] Hayes 2008, p. 250, fig. 43/1430–1432.
[39] Opaiţ 1991a, p. 166, fig. 45/312–313.
[40] Opaiţ 1991b, p. 230, fig. 41/4, 5.
[41] Opaiţ 1985, p. 155, fig. 2/10.

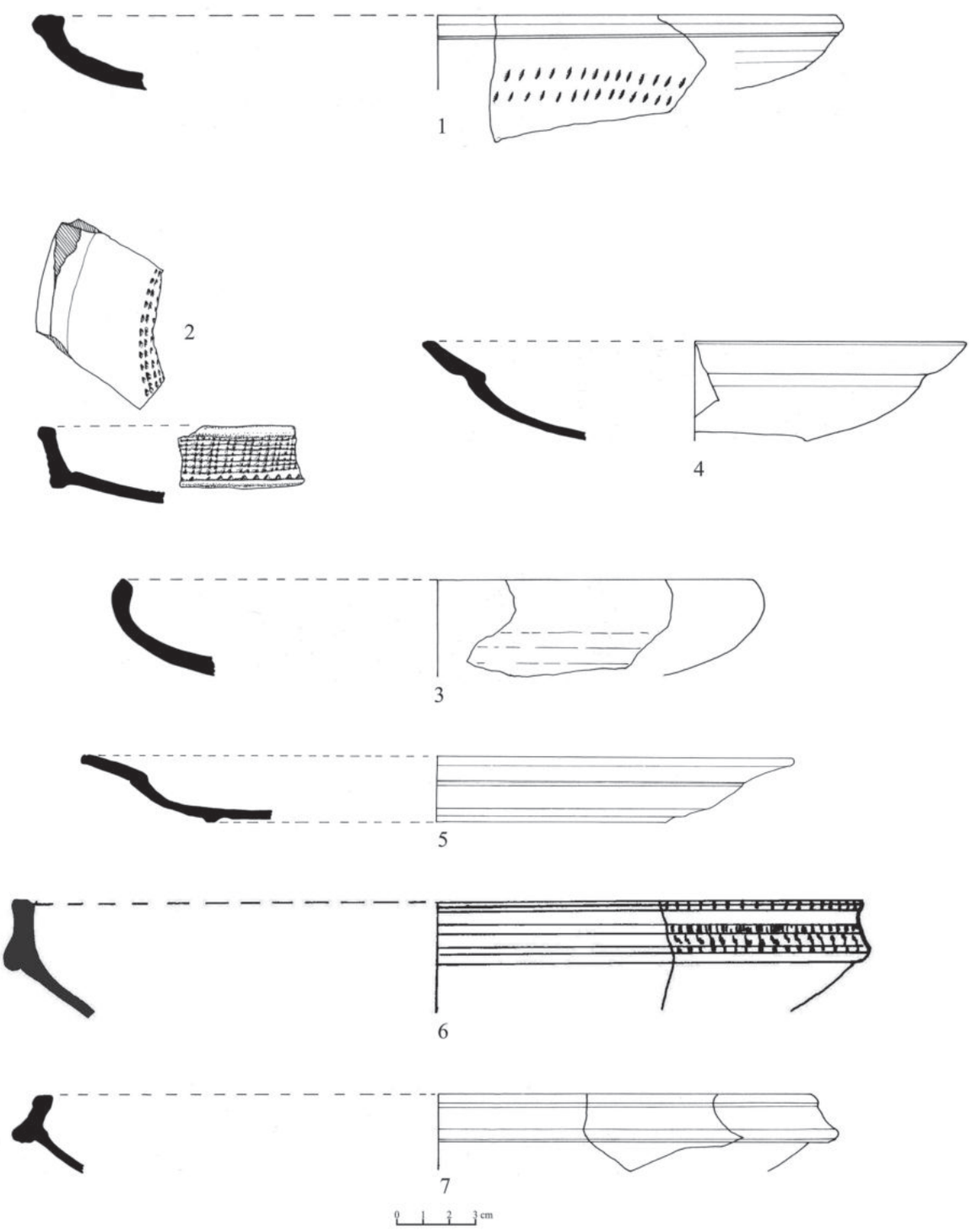

Fig. 7. Light Coloured / LRC
Light Coloured: 1 — Form 1; 2 — Form 2
LRC: 3 — H1; 4–5 — H2; 6–7 — H3

workshops.[42] No less than four variants of this form have been identified, differing mainly in how oblique the rim is and the size of the foot. Variant A is identical in shape to Hayes Form 4 bowls from Çandarli, having a high ring base and a strongly incurving rim. In variant B, the foot becomes massive, but sensibly shorter, and the rim is not so strongly incurving. Variant C has features similar to those of variant B, except for the rim that is almost straight and thickened toward the top so that it becomes oval in section. Bowls of this variant can have decoration on the outer surface of the rim, either rouletted or painted, as is the case of some of the Dobruja finds (especially painted black). At Aegyssus, of the eight fragments of bowls discovered in the old excavations, two represented variant A, two others variant B, and four variant C.

Bowls of Hayes Form 1 are found at numerous sites in the Aegean and the Mediterranean, in coastal North African and in the Pontic region. In Roman Dobruja, this type of bowl has been found in contexts between the end of the fourth and the fifth centuries at Topraichioi[43] and in similar archaeological contexts at Halmyris.[44] Two ceramic fragments belonging to form variants B and D were discovered at (L)Ibida, in contexts dated to the first part of the fifth century.[45]

Hayes Form 2 [Fig. 7/4–5]
Plate/bowl with flat bottom on a short and thick ring base, heavily rounded walls and an outward-flaring rim offset from the body with a top-side groove. If Form 1 shows an undeniable influence of the Çandarli workshops, Form 2 has no correspondence with products of workshops in the Pergamon area. Of the three variants proposed by Hayes in 1972 and dated between the end of the fourth century and the first part of the fifth century,[46] two have been identified at Aegyssus: variant A (two finds) and C (four finds). Variant A has a distinctive, outward-oriented, wide and oblique rim, set off from the body by a deep groove. The groove is missing from variant C with its oblique rim. The ring base of this variant is short and it is not as thick as the two previous variants. These bowls were very common in the late Roman settlements of Dobruja: variant B was discovered in the fifth habitation level at the Tropaeum Traiani[47] and variant A in the seventh habitation level at Halmyris.[48] The form was also recorded at Capidava.[49]

Hayes Form 3 [Figs. 7/6–7 and 8/1–4]
Plate/bowl with approximately flat bottom on a more or less prominent ring base, oblique or rounded body walls and vertical rim, rectangular or triangular in section, furnished with an outside ledge of varying width depending on the variant. The rim can have rouletted decorated on the outer surface, the ornament disposed in one or more bands. In some variants, the rim was painted, the color being either white or black as a rule. The vessels also had stamped decoration (*in solea*). Six of the eight variants specific to this form were identified at Aegyssus:

Variant B (6 finds). Generally large-sized bowls with a high vertical rim, rectangular in section, oblique walls, flat bottom on a base of large diameter ensuring stability. Incised lines decorate the outside of the rim in some cases. Attested in the Tropaeum Traiani,[50] Halmyris,[51] Capidava[52] and (L) Ibida.[53] This variant was dated to the second half of the fifth century.

Variant C (15 fragments). Large plate/bowl with a high vertical rim, but slimmer than the previous variant and slightly bulging on the outside: the walls are curved and the base is flat on a low foot. Some fragments feature roulette decoration on the outside of the rim, disposed in one or

[42] Hayes 1972, p. 325.
[43] Opaiț 1996, p. 137, pl. 56/11, 13.
[44] Topoleanu, p. 45, pl. 2/14–18.
[45] Mocanu 2011, p. 232, pl. 2/10.
[46] Hayes 1972, pp. 327–328, fig. 66.
[47] Bogdan-Cătăniciu, Barnea 1979, p. 187, fig. 160/2.
[48] Topoleanu 2000, p. 46, pl. 2/19.
[49] Opriș 2003, p. 150, pl. 54/354.
[50] Bogdan-Cătăniciu, Barnea 1979, p. 187, fig. 160/2.
[51] Topoleanu 2000, pp. 48–49, pl. 3/23–26.
[52] Opriș 2003, p. 151, no. 355 (not illustrated).
[53] Mocanu 2011, pp. 232–233, pl. 3/13–15.

more bands. Some fragments bear traces of black paint on the upper and outer rim. This variant is very common in late Roman settlements in Dobruja, in contexts dated to the second half of the fifth century. The most important sites yielding this ware are Halmyris,[54] Histria[55] and (L)Ibida.[56] The variant was also attested at archaeological sites in the Balkans and the Aegean, in contexts from the second half of the fifth century.[57]

Variant D (10 fragments). Bowls/plates relatively similar to those of the previous variant, but with considerably smaller diameters, fitted with a shorter rim, the lower part of which is more pronounced and more strongly profiled outwards. Rouletted decoration appears in one or two bands on the rim of some specimens. In Dobruja, this variant is less widespread than the previous one, being attested only in Halmyris[58] and (L)Ibida.[59] It is dated to the second half of the fifth century.

Variant E (13 fragments). Plates/bowls (diameter generally 20–30 cm), vertical rim, sometimes decorated either with roulette or painted black or white decoration. The walls are rounded, the bottom flat on a small ring base. Along with variant C, it is the most widespread variant of Hayes Form 3, present at virtually all of the late Roman settlements from the territory of Dobruja. The chronological range is between the end of the fifth century and the first decades of the sixth century.

Variant F (10 fragments). Generally, like variant E in shape, the main difference being a shorter rim, sometimes decorated with roulette decoration. After the top variants C and E, this is the commonest one at late Roman sites in Dobruja, including Halmyris[60] and (L)Ibida,[61] as well as Tropaeum Traiani,[62] Capidava[63] and Histria.[64] The plates and bowls in question are found in archaeological contexts from the first half of the sixth century.

Variant G (five fragments). Variant with a short and fairly thick vertical rim, separated from the body with a groove. Less attested in the region than variants C, E and F, they appear in contexts dated to the first half of the sixth century at Halmyris,[65] Histria[66] and (L)Ibida.[67]

Hayes Form 4 [Fig. 8/5]
Plates with rounded walls, ring base and rim similar to Hayes Form 3, variant A, but of much smaller size. Considered a predecessor of Hayes Form 3, variant A, dating from the first half of the fourth century. At Aegyssus, the form was represented by a single ceramic fragment. Parallels from Dobruja are known only from Halmyris[68] and (L)Ibida.[69]

Hayes Form 5 [Fig. 8/6]
Middle-sized or large plate/bowl, with a horizontal rim, concave in the upper part, curved walls, and flat base on a short circular foot. Fragments from the old excavations at Aegyssus belong to variant A of this form. It is present in the "*Extra muros* North I" sector at (L)Ibida[70] and at Halmyris, where the eight fragments from occupational levels 9–11[71] represent variant B. The dating range coincides with that proposed by Hayes.[72]

[54] Topoleanu 2000, pp. 49–50, pl. 4/27–34.
[55] Muşeţeanu, Bâltâc 2007, p. 204, pl. 74/2–3.
[56] Mocanu 2011, pp. 233–235, pls. 3–4/18–29.
[57] Böttger 1991, p. 164, pl. 50/710; Abadie-Reynal, Sodini 1992, pp. 19–20, fig. 4/68–76.
[58] Topoleanu 2000, p. 50, pl. 4/35–38.
[59] Mocanu 2011, pp. 235–236, pl. 4/40–43.
[60] Topoleanu 2000, pp. 51–52, pl. 5/47–52.
[61] Mocanu 2011, pp. 238–239, pls. 6–7/67–74.
[62] Bogdan-Cătăniciu, Barnea 1979, p. 189, fig. 167/2.
[63] Opriş 2003, p. 151, no. 363, pl. 54/163.
[64] Muşeţeanu, Bâltâc 2007, pp. 205–206, pl. 74/4–13.
[65] Topoleanu 2000, p. 53, pl. 6/57–61.
[66] Muşeţeanu, Bâltâc 2007, p. 206, pl. 74/15–16.
[67] Mocanu 2011, pp. 239–240, pl. 7/81–84.
[68] Topoleanu 2000, p. 56, nos. 73–74, pl. 8/73–74.
[69] Mocanu 2014, p. 157, fig. 4/31.
[70] Mocanu 2014, p. 158, fig. 4/32.
[71] Topoleanu 2000, p. 58, pls. 9/84–87 & 10/88–89.
[72] See Hayes 1972, p. 339, fig. 70, form 5.

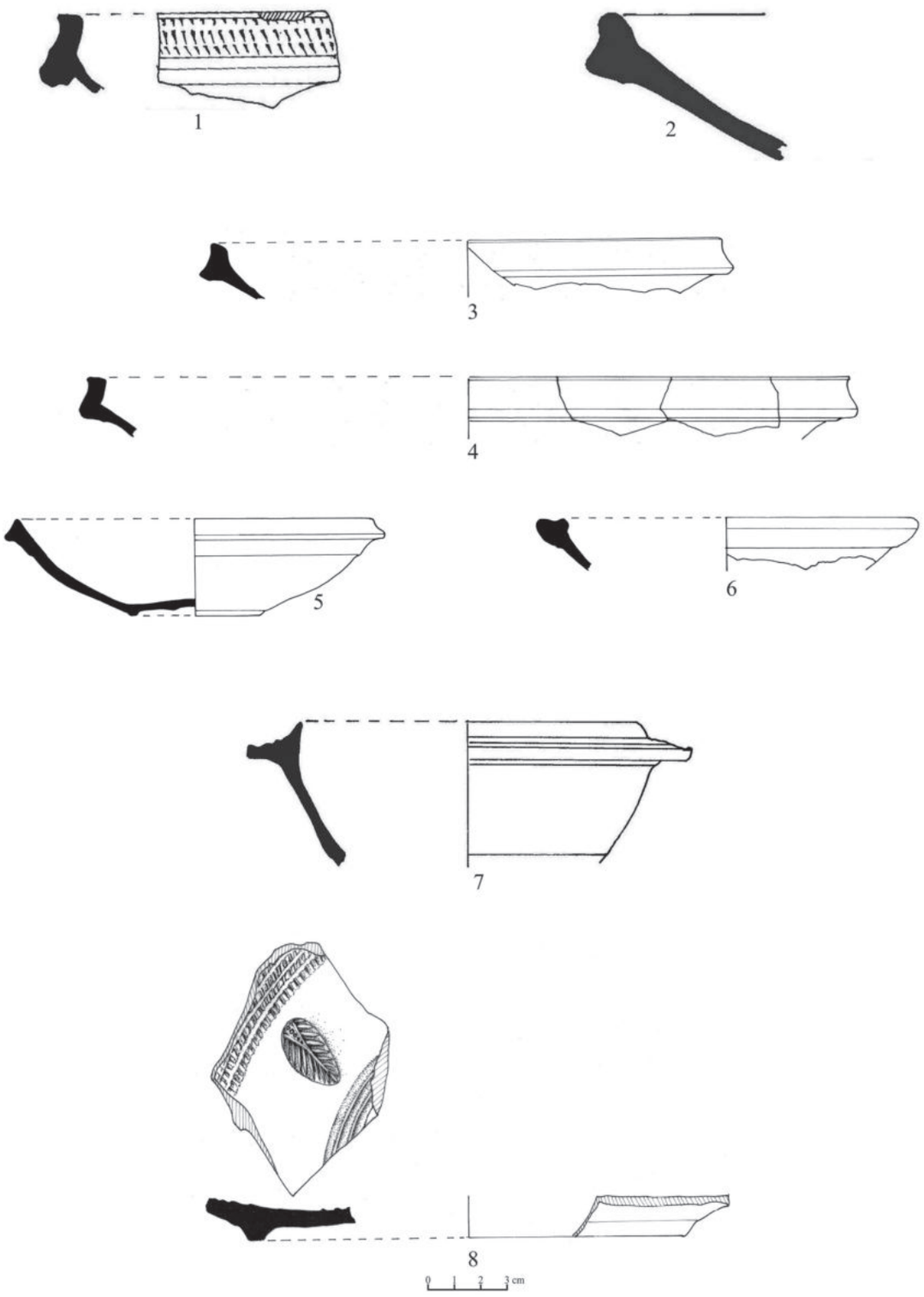

Fig. 8. LRC
1–4 — H3; 5 — H4; 6 — H5; 7 — H8; 8 — stamped decoration

Hayes Form 8 [Fig. 8/7]
Middle-sized bowl with a horizontal and strongly rounded rim. The walls are oblique or rounded, and the bottom is flat. The base is annular and high. The diameter of these bowls does not exceed 20 cm. The upper surface of the rim is decorated with some concentric incised grooves, but there is no stamped decoration. At Aegyssus, a single fragment of extremely small size can be attributed to this form. In Dobruja, fragments of Hayes Form 8 were identified at (L)Ibida[73] and Halmyris, in contexts falling in the second half of the fifth century and first half of the sixth century.[74]

Pontic Ware

The tradition of workshops producing tableware was continued in the Pontic region into the late Roman period. Unlike Asia Minor or North African pottery, Pontic pottery was identified relatively late as a stand-alone group, perhaps because not a single workshop has yet been recognized in this region.[75] Suffice it to say that the West Pontic area is a marginal space for the diffusion of this type of tableware.

The assemblage identified from Aegyssus, 28 fragments, remains one of the most numerous groups of late Pontic wares in the West Pontic region. The vessels represented two distinct forms: six finds belonged to Form 1 and no less than 22 fragments to Form 3 [Fig. 5b/3–5].

Form 1 [Fig. 9/3]
The form comprises middle- and large-sized bowls with a flat base, steep walls and small rim. In the Black Sea littoral, it is found in the North Pontic region, e.g., at Tanais, where it is dated between the mid-fourth and mid-fifth century. Examples of this form are also present in settlements in the eastern and southern parts of the Black Sea, where they are dated to the same chronological period.[76] In Dobruja, bowls of this form were discovered at Halmyris, in occupational levels 7–9, dated to the end of the fourth and the first half of the fifth century.[77] A similar vessel was discovered at Histria in habitation level III/A,[78] thus being of the same chronology as the finds from Halmyris. Two more finds were discovered in the fortified *horreum* in Topraichioi.[79]

Form 3 [Fig. 9/4]
Large plates with rounded walls, wide, oblique or straight rim, sometimes with incised decoration on the upper surface. The diameters of these vessels are about 30 cm. Three fragments are known from (L)Ibida[80] and one from Halmyris, dated to the second half of the fourth and beginning of the fifth century.[81] In the North Pontic region, numerous fragments were discovered at Tanais, in contexts dating to the mid-fifth century.[82] These plates were also widespread in the East and South Pontic region.[83] An important feature of this form is the incised pre-firing decoration of the upper surface of the rim and the two concentric circles stamped centrally on the floor of the bowl.

[73] Mocanu 2011, p. 240, pl. 8/90–92.
[74] Topoleanu 2000, pp. 59–60, pl. 10/94–97.
[75] Opaiț 1985; Domżalski 2000; Arsen'eva, Domżalski 2002; Smokotina 2015.
[76] Domżalski 2012, p. 6, fig. 3/1–6.
[77] Opaiț 1991a, p. 165, nos. 301–303, fig. 44/301–303.
[78] Suceveanu 1982, p. 85, no. 3, fig. 7/3.
[79] Opaiț 1991b, p. 230, pl. 42/2–3.
[80] Mocanu 2011, pp. 229–230, nos. 6–8, pl. 2/6.
[81] Opaiț 1991a, p. 165, no. 300, pl. 44.
[82] Arsen'eva, Domżalski 2002, p. 426, fig. 8/270–443.
[83] Domżalski 2012, p. 7, fig. 6.

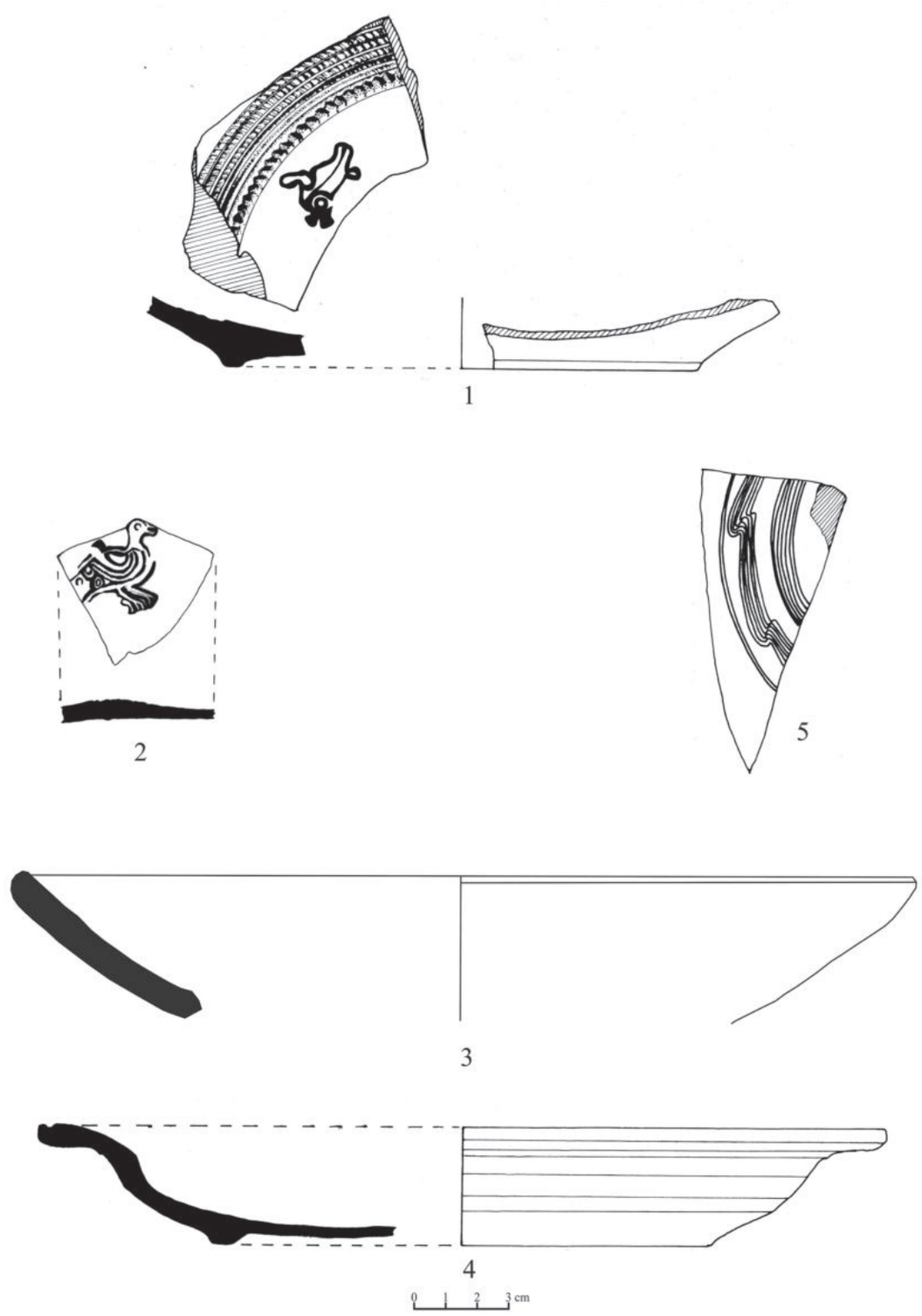

Fig. 9. LRC / Pontic Red Slip
LRC: 1–2 — stamped decoration
Pontic Red Slip: 3 — Form 1; 4 — Form 3; 5 — stamped decoration

Concluding remarks

The 121 late Roman ceramic diagnostic fragments discovered at Aegyssus between 1971 and 1998 can be provenanced to the following main geographical regions of the Roman Empire [Fig. 10]:

- North Africa: 12 pieces identified from this region, the most common form being Hayes 76, a new fact for the late Roman sites in the West Pontic region.
- Asia Minor, represented by the vast majority of the pottery used at Aegyssus in the second half of the fifth century and during the first half of the sixth century. Of the 76 ceramic fragments, 59 represent six of the eight variants of Hayes Form 3, the rest of the attested forms being Hayes 1, 2, 4, 5 and 8. At this stage of research, the absence of Hayes form 10 is notable. It could indicate that the fortification was abandoned by the end of the sixth century. A similar situation was observed at (L)Ibida, where this form is extremely rare,[84] but at Halmyris it is well documented; based on this evidence, Topoleanu concluded that this fortification survived until the mid-seventh century.[85]
- Black Sea region, the last geographical area identified in the assemblage found at Aegyssus. No fewer than 28 fragments represented Pontic workshops, making Aegyssus the site with the largest percentage of Pontic tableware from the late Roman period in the West Pontic region.

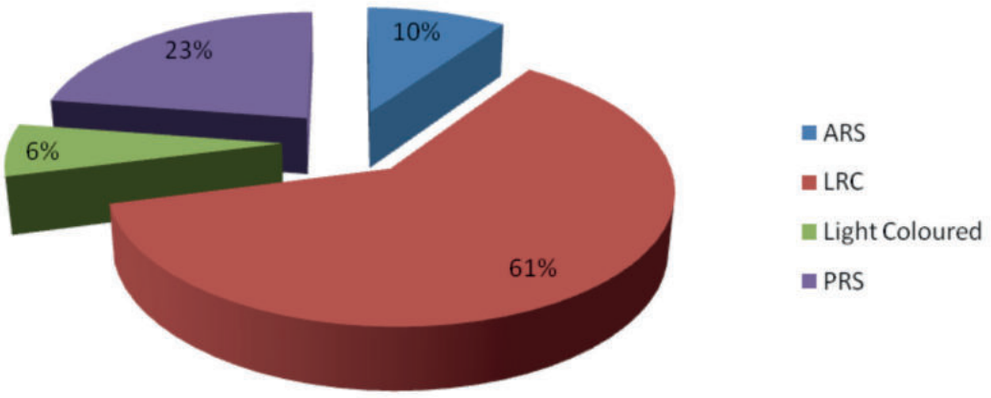

Fig. 10. The share of different pottery workshops in the assemblage of tableware from Aegyssus

Compared to other late Roman sites in Dobruja, the pottery assemblage from Aegyssus shows certain peculiarities. Phocaean production is known to exceed 80% of the share of tablewares from the period between the mid-fourth and the mid-seventh century in this geographical region, but in Aegyssus it represents only 61% of all of the pottery. The share of Light Coloured Ware and North-African pottery is within the limits known for this region, respectively 6% for pottery produced in the Aegean and 10% for ARS.

Another flagrant discrepancy concerns the Pontic Red Slip category. The diffusion of the type is believed to be the greatest in the northern Black Sea littoral starting from the Danube Delta in the north, in the Crimean Peninsula, and the eastern and southern areas of the Black Sea. In the case of the late Roman settlements from Dobruja, the percentage of this pottery type is between

[84] Mocanu 2011.
[85] Topoleanu 2000, p. 60.

5% and 10%, whereas in our assemblage Pontic Red Slip reaches 23%. However, it is hard to assume that these anomalies are somehow historically determined at Aegyssus. More likely, the studied sample was not complete, part of the material from the old excavations at Aegyssus having been lost over the years.

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Streszczenie

Późnorzymska ceramika typu Red Slip Ware z Aegyssus

Późnorzymska ceramika type Red Slip Ware jest kategorią szeroko reprezentowaną w zespołach znalezisk pochodzących z badań wykopaliskowych prowadzonych z przerwami w drugiej połowie XX w. na stanowisku Aegyssus/Tulcea. Głównym celem niniejszego artykułu jest przedstawienie tej kategorii ceramiki w ujęciu typologicznym, z uwzględnieniem danych statystycznych.

Do badań wykorzystano jedynie znaleziska z dawnych badań (w latach 1971–1998). W sumie opracowano 121 diagnostycznych fragmentów pochodzących z fortu Aegyssus, określając ich pochodzenie z trzech regionów geograficznych: północnej Afryki (12 fragmentów), Azji Mniejszej (88 fragmentów) oraz Pontu (28 fragmentów). Wskazuje to na obecność ceramiki z trzech głównych ośrodków produkcji późnorzymskiej Red Slip Ware. Proporcje poszczególnych rodzajów odzwierciedlają w równym stopniu uwarunkowania historyczne, jak i obiektywne ograniczenia narzucone przez wybraną metodologię badań.

Marian Mocanu
The Eco-Museum Research Institute
History & Archaeology Museum
Progresului 32, 820009
Tulcea, Romania
marian1054@yahoo.com

George Nuțu
The Eco-Museum Research Institute
History & Archaeology Museum
Progresului 32, 820009
Tulcea, Romania
nutugrg@yahoo.com

George Nuțu

CAST IN GLASS: AN INTAGLIO FROM HALMYRIS*

Abstract: The glass intaglio from Halmyris, a site in the north-eastern part of the province of Moesia Inferior, is apparently the first glyptic find made of glass paste discovered in northern Dobruja. The subject represented on the device is common: a satyr with a typical *pedum*/*lagobolon* and a bunch of grapes. The article discusses the dating of the piece, the intaglio production process, parallels for the representation and iconographic deviations from the classical model.

Key words: Moesia Inferior, Halmyris, glass intaglio, satyr with *pedum*, early Roman period

The extremely rich and varied archaeological material from Halmyris, a site near Murighiol in Tulcea county, includes a rare example of Roman glyptic art of the finest artistry. To date, the only other gem of the kind discovered in the region is a silver ring furnished with an almond-shaped bezel fitted with a carnelian gemstone decorated with the image of a standing Mars facing left, wearing a typical Corinthian type helmet, holding a spear in his left hand and a shield in the right.[1] Indeed, the number of glyptic finds from the region around the mouth of the Danube mouth is small[2] compared to the finds from the southern regions of Dobruja[3] and generally Moesia Inferior.[4]

According to Mihail Zahariade in charge of the excavations at Halmyris, the gem in question was a stray find discovered south of the road from Murighiol to Dunavățul de Sus, in front of the first *vallum* belonging to the late Roman fortress. This area coincides with the so-called "civil settlement", a large habitation site enclosing the fortress from the east, south and west. For the past few decades, the civilian settlement of Halmyris was connected with the early Roman *vicus classicorum*, the existence of which is attested in 10 epigraphic documents discovered in the late Roman enclosure walls of the fortress.[5] However, chance discoveries of archaeological material over the years have demonstrated a long evolution of the civilian settlement through the late sixth century AD.[6]

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[1] Covacef, Zahariade 2009, p. 479, no. 5, pl. 3/1.

[2] Simion 2005–2006, pp. 173–182.

[3] Covacef, Chera 1977, pp. 191–202.

[4] Dimitrova-Milčeva 1980; Dimitrova-Milčeva 1987, pp. 193–208.

[5] Suceveanu, Zahariade 1986, pp. 109–120; Suceveanu *et alii* 2003; Zahariade, Alexandrescu 2011. According to Florian Matei-Popescu (2016, p. 219), the votive altars were transported from Noviodunum to Halmyris.

[6] Nuțu 2011, pp. 171–199.

The gem [Fig. 1] is oval in shape with bevelled sides and a flat upper face. The cross-section resembles Henig's *Flat 2*[7] / Guiraud *P2* form.[8] The material is a translucent glass paste[9] and the process of production probably involved moulding. The translucency of the paste suggests that a dark substance was used to glue the gem to a ring bezel to achieve a marked contrast.[10] According to one idea, natural water-sensitive resins were used to glue gems to bezels. It would explain why so many glyptic products were found in the drainage of Roman baths.[11]

The image rendered on the device consists of a satyr walking/running to the left, slightly bent in front, holding a bunch of grapes in his right hand and the crook (*pedum* or *lagobolon*) in his left hand raised above his head. The figure may also suggest a dancing satyr, a common image on many gems.[12] The bottom end of the intaglio was chipped. The dimensions of the gem are 14 × 12 mm and 2 mm thick; the image measures 11 mm in height. Based on the general shape and on the small cracks noted on the sides, the gem was undoubtedly set in a ring, now lost. The find belongs to the collection of the Eco-Museum Research Institute in Tulcea, History & Archaeology Museum (inv. no. 50915).

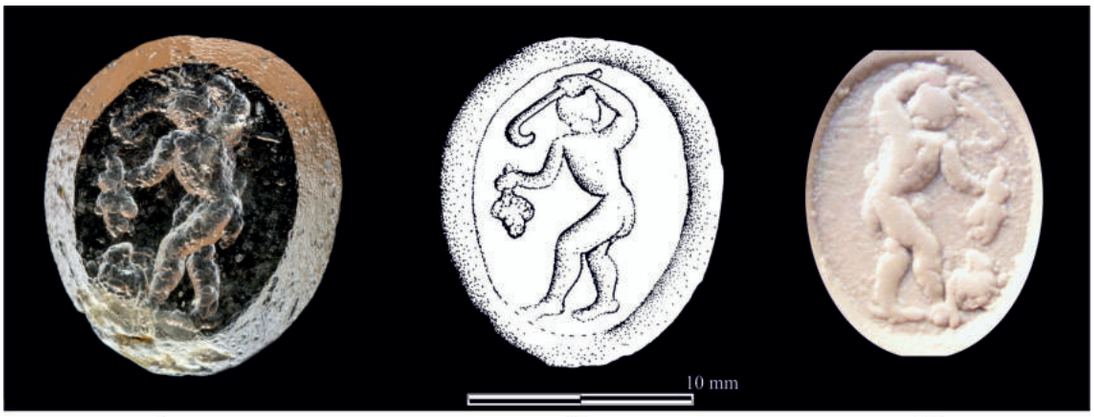

Fig. 1. The glass intaglio from Halmyris: A. photo; B. drawing; C. impression

The *pedum* and the bunch of grapes are typical of satyr representations. Satyrs have been linked to idyllic country life; they were associated with abundance and good things, and they were symbols of joviality and sexual pursuit. In glyptics, their representation comes in a variety of forms; gems bearing their image were discovered in all the Roman provinces without clustering in any specific region. They were immensely popular as Dionysus's companions. Joyce argued that

[7] Henig 1974, fig. 1.
[8] Guiraud 1988, p. 29, fig. 9.
[9] The intaglio was examined under an Optika SZR 10 stereo zoom microscope, which is ideal for laboratory research because of its outstanding optical properties. A large number of microscopic bubbles and some flaws of the glass casting process were revealed.
[10] Or the item itself had a gold foil, see Spier 1992, p. 145.
[11] Zienkiewicz (1986, p. 118) stated this clearly when analysing the large number of gemstones retrieved from the drainage of the internal bath building of the Second Augustan Legion at Caerleon. The presence of an extremely rich assemblage of 88 gemstones in the *frigidarium* drain was explained by the fact that the stones "were held in their rings only by some sort of adhesive — we may suppose by a natural resin or bitumen — and were not firmly clasped in any way by the ring itself".
[12] As, for example, an unprovenanced gem of glass paste depicting a dancing satyr from Bulgaria: Dimitrova-Milčeva 1980, p. 59, no. 118.

Romans "loved their satyrs" and that the representations on intimate objects, like the gemstones set in fingerings, were meant to designate the owner and to disseminate the image itself.[13] Finds from Britannia show a variety of representations on many types of stones.[14] Thus, the subject is common in Roman glyptic art, but close parallels for the Halmyris intaglio are few to say the least.

Most gemstones with this representation were made of semiprecious stones. Glass paste as used in the Halmyris gem is recorded less frequently. The great demand for gems noted by scholars in the late Republican and early Imperial period must have had as a direct consequence difficulties in obtaining semiprecious stones, thus prompting lucrative fraud: false gemstones being made of glass paste.[15] Not coincidentally, a growing demand revived glass gem production in the late eighteenth and nineteenth centuries[16] based on imprints taken from ancient intaglios. This process was simple and inexpensive, and it required no artistry, the basics of moulding replacing the technique of carving in relief. A mould (of clay or more seldom of a copper alloy) would be made from an ancient gemstone[17] and the less successful glass gems would have been finished by cutting.

Intaglios have their roots in Classical Greece and they grew increasingly popular in the Roman period, when a large spectrum of colours and motifs was employed, including cast-glass gems with bands of different colours or layered glass imitating *niccolo*.[18] In this respect, the Borowski collection of ancient glass gems is a wonderful example of the variety of these minor arts.[19] However, the quality of glass gems is in many cases distinctly inferior [Fig. 2] to that of the stone-made pieces, mainly because of crude moulds and air bubbles within the glass paste.[20]

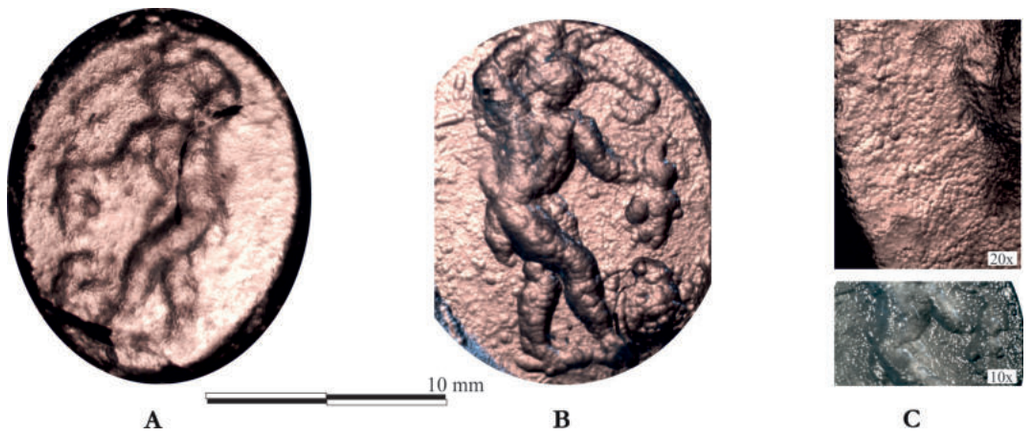

Fig. 2. The glass intaglio from Halmyris:
A. microscopic view of the glass paste — positive;
B. microscopic view of the details — negative;
C. microscopic images of details, magnification 10/20 ×
(trinocular stereo zoom microscope Optika SZR-10)

[13] Joyce 2002, pp. 120, 123.
[14] Henig 1974, p. 95.
[15] Smith 1888, p. 2; Sena Chiesa 1966, pp. 5–7.
[16] Henig 1994, p. 384.
[17] See, for example, a copper alloy mould for glass gems from Gallia Belgica: Guiraud 1988, p. 32, fig. 11/d; also, Johns 1996, pp. 78–79. The evolution of various techniques is presented in detail by Zwierlein-Diehl 2007, pp. 326–328.
[18] Bernheimer 2002, pp. 229–230.
[19] Bernheimer 2002, pp. 227–271. See also the paste intaglios from the Sa'd collection from Gadara (Jordan): Henig, Whiting 1987, p. 38, nos. 397–406.
[20] Guiraud 1988, p. 58.

Parallels

Some details of the Halmyris paste representation are unique, but this is due to the production process. Obtaining a perfect mould for casting a paste intaglio is not an easy task and many of the known examples are crude, presenting serious deviations from the "classical" type. An image carved in a carnelian gemstone set in a gold ring found at Jászberény-Csegelapos (Szolnok district) in the *Barbaricum* is a close parallel to the Halmyris gem. The ring was part of a hoard of 44 precious object that included a denarius issued by Antoninus Pius, but it was in itself earlier, coming from the first century AD. The representation consists of a dancing (or running?) satyr in profile, to the left, holding a *pedum* in the right hand and a bunch of grapes in the left.[21] Another series of moulded glass gems (mainly *niccolo*) comes from Gallia, from contexts ranging from the first century AD to third century AD.[22] The running or dancing pose can be observed on other gemstones, too, as in the case of two finds from Republican Rome now in the Thorvaldsen Museum collection.[23]

Other examples of intaglios are illustrative of the original model used to cast the Halmyris paste. The excavations at Elms Farm in Heybridge, a late Iron Age and Roman settlement, brought to light an intaglio (11 × 9 mm), made of onyx, with a "blue upper face on a dark ground (*niccolo*)" showing a satyr walking to the right and holding the typical *pedum* in the right hand and a bunch of grapes in the left hand. Exceptionally, the backside of the intaglio bears the graffito EYTY (Eutyches), probably the name of the artisan.[24] It is a fairly close parallel for the Halmyris gem, but the satyr's image is reversed and it shows him standing. An ancient gem similar to the Elms Farm intaglio and probably from the same period is set in the Enger reliquary in Berlin.[25] There are other examples, too, like the one housed in the Römisch-Germanisches Museum in Cologne.[26]

Discussion

As only two intaglios have been discovered at Halmyris in almost 40 years of research, it is difficult to draw any conclusions about the local glyptics on these grounds. The silver finger ring set with a carnelian gemstone depicting the God of War, Mars, in full body armour, holding a shield and spear, is easily associated with the military units assigned to this frontier post. Moreover, the context of the discovery suggests a military connection, because *Domus* II seems to have been a command building in a part of the local garrison.[27] Wherever a clear archaeological context was available, gemstones depicting the martial gods were related to the Roman army. There are examples from various provinces; suffice it to mention here a banded agate gemstone discovered at Aelia Capitolina/Jerusalem that was connected with the army[28] and a series of gemstones from the baths of the Second Augustan Legion at Caerleon[29] and from the Roman fort at Housesteads, on Hadrian's Wall.[30]

However, the gemstone discussed in this paper may be connected with the Bacchanalia, with abundance, sexual desire and a taste for idyllic rural life. No wonder, if we think of sailors[31] who lived in the *vicus classicorum* or, generally, the civilian settlement, whose voyages on water made them wish for a safe return home. However, this claim must be regarded with caution, since gemstones reflect personal preferences and shed light on personal taste.

[21] Gesztelyi 2000, pp. 42–43, no. 32.
[22] Guiraud 1988, pp. 115–116, nos. 263–268, pl. 18.
[23] Fossing 1929, p. 76, nos. 374, 376, pl. 5.
[24] Henig 2015, no. 487.
[25] Kornbluth 2011, p. 251, fig. 12.
[26] Krug 1981, p. 230, no. 317, pl. 112.
[27] Covacef, Zahariade 2009, p. 479, no. 5, pl. 3/1.
[28] Peleg 2003, pp. 56–57, figs. 1, 7.
[29] Zienkiewicz 1986, p. 135, nos. 43–46, pl. 11.
[30] Henig 2009, p. 470, nos. 423, 425, fig. 14.22.
[31] A red jasper gemstone with the image of a satyr as a device was found at Vindolanda in a typical military milieu, see Greene 2006, p. 97, no. 35.

Last but not least, the glass gem from Halmyris does not fall into either of the two groups distinguished for Gaul by Hélène Guiraud (colour paste or *niccolo* imitations).[32] Its translucent paste is uncommon and, even if the motif may be traced to the first–second centuries AD, a general dating through the third century cannot be ruled out, at which time their production ceased in general.

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[32] Guiraud 1988, pp. 58–59.

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Streszczenie

Odlane w szkle: intaglio z Halmyris

Przypadkowo znalezione odlane w szkle oczko pierścienia z Halmyris to zapewne jedyne dotychczas znane znalezisko gliptyki z pasty szklanej pochodzące z północnej Dobrudży. Tematem przedstawienia jest dość powszechne przedstawienie satyra trzymającego typowe *pedum*/*lagobolon* oraz kiść winogron. Artykuł omawia analogie do tego przedstawienia, datowanie przedmiotu, proces produkcji oraz odstępstwa od klasycznych wzorców ikonograficznych.

George Nuțu
The Eco-Museum Research Institute
History & Archaeology Museum
Progresului 32, 820009
Tulcea, Romania
nutugrg@yahoo.com

Paweł Lech
Elżbieta Sroczyńska

FINDS OF HELLENISTIC MOULD-MADE BOWLS FROM POLISH EXCAVATIONS IN TANAIS. SEASONS 2014–2017[1]

Abstract: The paper presents a detailed catalogue of mould-made relief bowls (so called Megarian bowls) coming from Polish excavations in trench XXV, located in the western part of the ancient Greek town of Tanais (Russia). Of the nine sherds found between 2014 and 2017, eight have been identified as vessels produced in Asia Minor; three of these probably came from the workshop of the "Monogramist". Decoration includes both floral and geometrical motifs. Small, drilled holes on four fragments of Megarian bowls suggest that the vessels were repaired in antiquity.

Key words: Megarian bowls, Hellenistic pottery, Tanais, Black Sea, mould-made pottery, relief decoration, repairs

The so-called "Megarian" bowls are one of the most interesting examples of late Hellenistic pottery made in moulds. These hemispherical vessels were used for drinking and as such were a principal piece of the tableware used during *symposia*. Vessels of this kind were a cheaper alternative for similar bowls made of metal or glass. They were richly decorated with a number of different relief motifs: figural, plant, scales and long petals. "Megarian" bowls are fairly common finds with a developed classification and dating, which make them an important late Hellenistic chronological indicator.[2] Extensive in-depth study of the decoration, fabric, vessel shape, color and kind of slip as well as producer's signatures allow individual pieces to be attributed to specific workshops. Several production centers have been identified,[3] the most important among these being the Attic centers concentrated around Athens,[4] the centers in Asia Minor, e.g., Delos, Pergamum, Ephesus[5] and Miletus[6] and the workshops in the Northern Black Sea littoral [Fig. 1].[7] The latter are of greatest significance for the material presented in this article, which comes from Polish excavations in Tanais (Russia) carried out by the Institute of Archaeology and the Center for Research on the Antiquity of Southeastern Europe of the University of Warsaw within the

[1] Archaeological excavations of the University of Warsaw in Tanais are funded from the resources of the Polish National Science Centre, decision 2016/21/B/HS3/03423. A heartfelt thanks to Dr. Marcin Matera and Assist. Prof. Tomasz Scholl from the University of Warsaw for supporting this project.
[2] Rotroff 1982, pp. 1–5.
[3] Paczyńska 2000, pp. 159–160.
[4] Rotroff 1982.
[5] Laumonier 1977.
[6] Kossatz 1986; 1990.
[7] Loseva 1962.

Fig. 1. Black Sea and Aegean Sea

frame of the archaeological mission of the Museum-Reserve Tanais headed by S. M. Iliašenko. In 1996–2014, the Polish project was directed by Dr. Tomasz Scholl;[8] since 2015 the work has been conducted by Dr. Marcin Matera. The excavation is focused on trench XXV located in the western part of ancient Tanais.

"Megarian" bowls are a common find in the northern Black Sea littoral and are well studied.[9] Hellenistic mould-made bowls from Tanais have been presented by D. B. Šelov[10] and more recently by K. Paczyńska.[11] The material presented in this article consists of nine sherds discovered between 2014 and 2017. Identification of the provenance of these pieces contributes to a reconstruction of ancient commercial networks and potential trade routes.

[8] Scholl 2014, pp. 190–192.

[9] On finds of "Megarian" bowls in the Northern Black Sea littoral, see: Bouzek 1990; Vnukov, Kovalenko 1998; Grzegrzółka 2010.

[10] Šelov 1969.

[11] Paczyńska 2000; 2005.

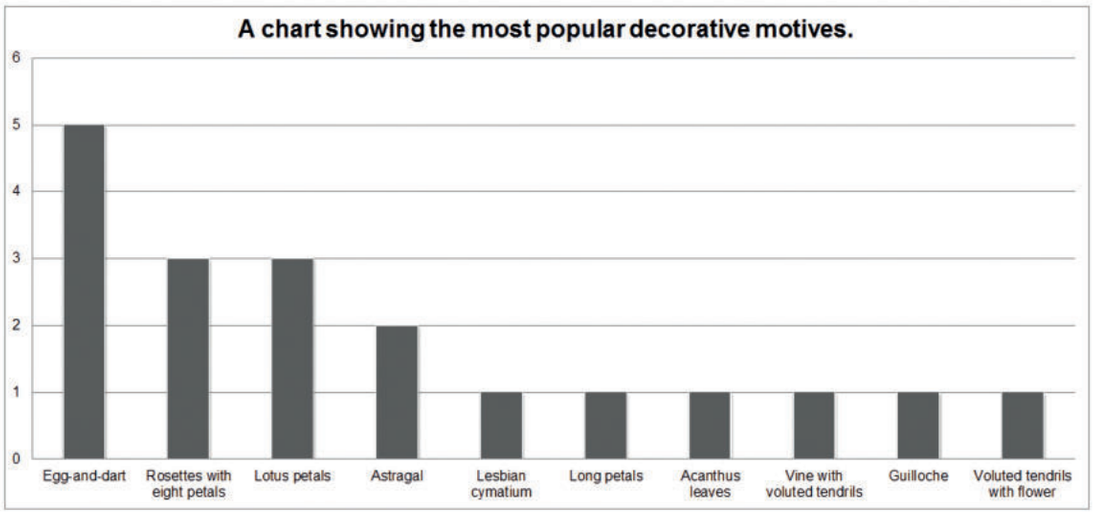

Fig. 2. Selection of the most popular decorative motifs

Quantitatively speaking, imports of bowls from the Asia Minor workshops are clearly superior.[12] Eight of the nine sherds from this collection (89%) were identified as produced in the area of Asia Minor. Of these three came probably from the workshop of the "Monogramist", which is dated to the third quarter of the second century BC and which is thought to be one of the Ionian (probably Ephesian) centers of production.[13] Pergamum was another center of production from which "Megarian" bowls came to Tanais. Both of these centers are located on the Aegean coast and are around 1600 km away from Tanais.

The decoration in this set is varied, including both floral and geometrical motifs (but no figural ones). The most popular plant motifs are rosettes with eight petals, lotus petals and a variety of voluted tendrils. Among geometrical motifs one should mention the egg-and-dart, astragal (round bead-shape form separated by vertical bars), guilloche and Lesbian cymatium [Fig. 2]. A close look at this decoration is crucial for identifying the production center and date of this material.

Four sherds in this set (44%) bear evidence of repairs in the form of round drilled holes, about 0.2 cm in diameter. Paired holes of this kind are usually considered as proof of value, indicating that users were prepared to repair broken luxury pieces of ceramics. Tanais has already yielded many such examples, but without remains of any lead clamps (bars) or other connectors used to join the pieces together. "Megarian" bowls would have been repaired for a variety of reasons: economical, aesthetic, functional and sentimental.[14] The repaired vessels were certainly less useful than unbroken bowls, but were still an alternative for a new purchase. Traces of such repairs may be evidence of prolonged use, impairing the credibility of this kind of pottery as a chronological indicator.[15]

[12] Paczyńska 2000, pp. 163–164; Šelov 1969.
[13] Grzegrzółka 2010, pp. 26–27.
[14] Południkiewicz 2014, p. 142.
[15] Bilde, Handberg 2012, pp. 461–462.

Catalogue

The order of presentation is by inventory number.

T.XXV.14.92p: bowl, body wall fragment [Fig. 3a–b]
Description: h. 5.1 cm, w. 3.1 cm, wall thickness 0.4 cm
Fine-grained, well-levigated clay (Munsell 2.5YR 5/6 red). Remains of a slightly lustrous slip on the inside (Munsell 10R 4/6 red) and outside, fired unevenly to give a range of color (Munsell 10R 5/8 red to 2.5Y 3/2 very dark grayish brown). Mineral inclusions in the form of small, medium dense silvery mica.
Small drilled repair hole (dia. 0.2 cm), on the first band, between the rosettes.
Decoration: Ornaments in three registers. From the top: eight-petal oval rosettes with clearly marked relief dot center; egg-and-dart (evenly arranged); preserved part of a motif, probably a lotus leaf. Registers separated by thin relief lines.
Parallels: Laumonier 1977, p. 188, no. 175, pl. 41; p. 138, no. 945, pl. 31; p. 207, no. 5805, pl. 47; p. 94, no. 5914, pl. 20; egg-and-dart decoration: Paczyńska 2000, pp. 162, 166, no. T 63 III – I N 26.
Origin and dating: Ionia/Ephesus, possibly workshop of the "Monogramist", dating to third quarter of the second century BC based on parallels.

Fig. 3a–b. T.XXV.14.92p: body wall fragment of a bowl (photo P. Lech; drawing N. E. Bespalaja)

T.XXV.15.19p: bowl, body wall fragment [Fig. 4a–b]
Description: h. 2.5 cm, w. 2.8 cm, wall thickness 0.25–0.4 cm
Fine-grained, well-levigated clay (Munsell 2.5Y 6/1 gray). Slightly lustrous slip (Munsell 2.5Y 2.5/1 black) inside and outside. White mineral inclusions, probably limestone (medium size, very low density).
Small drilled hole (dia. 0.25 cm) on the relief line between the first and the second register of decoration; second repair hole (dia. 0.25 cm) on the lower right break.
Decoration: Ornaments in three registers. From the top: eight-petal rosettes, shorter on the vertical and horizontal axis, longer on the diagonal; egg-and-dart (very evenly arranged); narrow band of astragal. Registers separated by thin relief lines.
Parallels: Pattern of rosettes made of eight petals with a point in the center: Grzegrzółka 2010, pp. 185, 323, no. 304; arrangement of regiters, rosettes and egg-and-dart pattern: Laumonier 1977, p. 207, no. 5805, pl. 47. Probably from the same mould as fragment T.XXV.15.20p.
Origin and dating: The scheme of the decoration, the motifs and flat relief suggest an Asia Minor workshop. The light grey clay with lustrous dark black slip may suggest a Pergamum provenance.

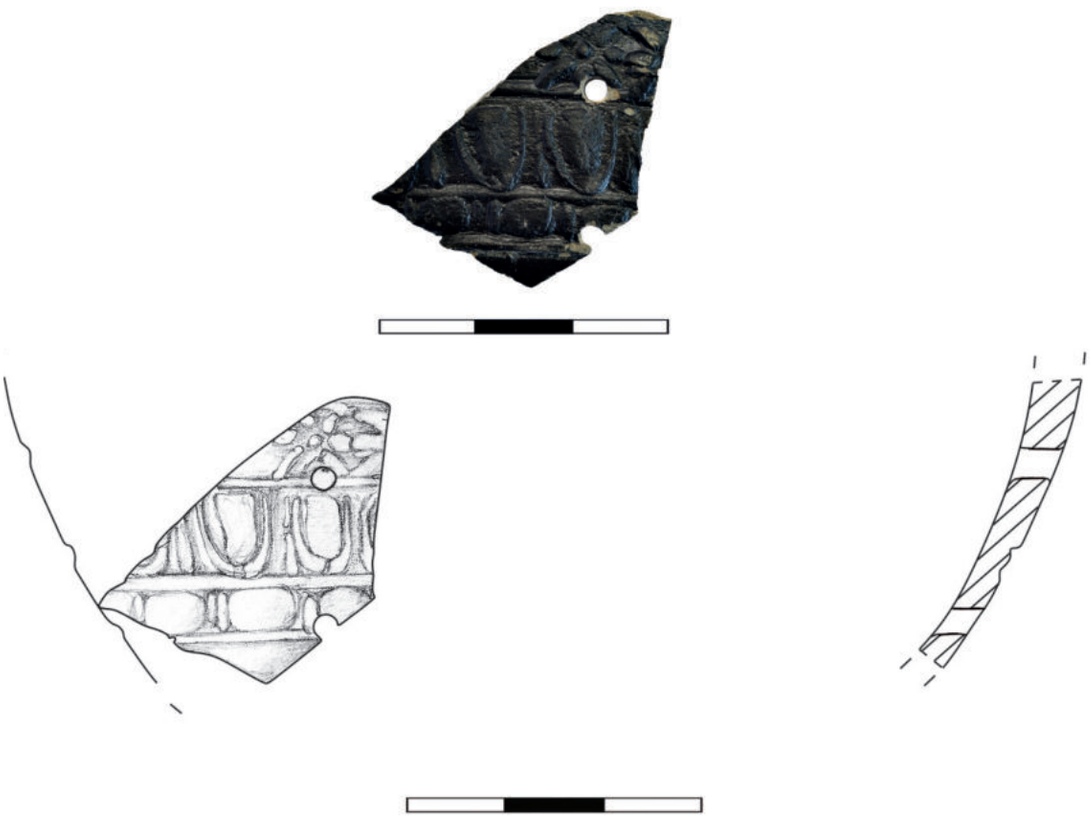

Fig. 4a–b. T.XXV.15.19p: body wall fragment of a bowl (photo P. Lech; drawing A. Miernik)

T.XXV.15.20p: bowl, fragment of the upper half [Fig. 5a–b]
Description: h. 6.9 cm, w. 6.7 cm, wall thickness 0.2–0.5 cm, rim dia. 13.0 cm
Fine-grained, well-levigated clay (Munsell: 2.5Y 5/1 to 6/1 gray). Dull slip (Munsell: 2.5Y 2.5/1 black) on the inside and outside. White mineral inclusions, probably limestone (small size, very low density).
Three drilled holes attesting to repairs made during the use-life of the vessel. One (dia. 0.25 cm) located between the registers of rosettes and egg-and-dart, a second (dia. 0.25 cm) on the lower left break and a third (dia.0.25 cm) on the lower right break.
Decoration: Ornaments in four registers. From the top: eight-petal rosettes, shorter on the vertical and horizontal axis, longer on the diagonal, placed below the rim; egg-and-dart pattern (very evenly arranged); narrow band of astragal; preserved part of a lotus leaf. Registers separated by thin relief lines, doubled above the eight-petal rosettes.
Parallels: Pattern of rosettes made of eight petals with a point in the center: Grzegrzółka 2010, pp. 185, 323, no. 304; arrangement of registers, rosettes and egg-and-dart pattern: Laumonier 1977, p. 207, no. 5805, pl. 47. Probably from the same mould as fragment T.XXV.15.19p.
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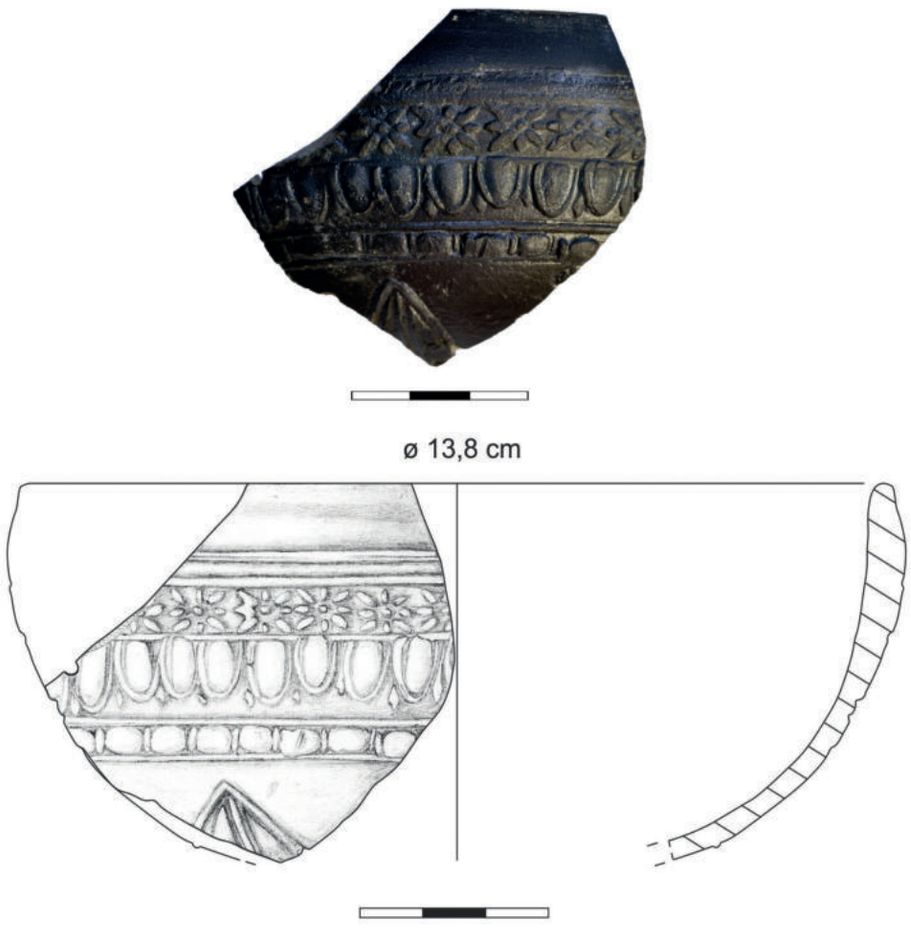

Fig. 5a–b. T.XXV.15.20p: fragment of the upper half of a bowl (photo P. Lech; drawing A. Miernik)

T.XXV.15.46p: bowl, body wall fragment [Fig. 6a–b]
Description: h. 2.6 cm, w. 3.6 cm, wall thickness 0.3 cm
Fine-grained, well-levigated clay (Munsell: 2.5YR 6/8 light red). On both surfaces there are visible traces of a slightly lustrous and unevenly fired slip inside (Munsell 10R 4/6 red) and outside (Munsell 2.5YR 4/6 red to 2.5Y 3/1 very dark gray). White mineral inclusions, probably limestone (small size, medium density).
Decoration: One register of ornament: a vegetal calyx formed of two acanthus leaves alternating with a lotus petal, the tip of one acanthus leaf flopping down to the right.
Parallels: Laumonier 1977, p. 137, no. 664, pl. 31; p. 134, no. 375, pl. 30; p. 134, no. 917, pl. 30; Grzegrzółka 2010, pp. 35, 241, no. 1; pp. 97, 280, no. 108; pp. 134–135, 300, no. 191b.
Origin and dating: Ionia/Ephesus, possibly workshop of the "Monogramist", dating to third quarter of the second century BC based on parallels.

Fig. 6a–b. T.XXV.15.46p: body wall fragment of a bowl (photo P. Lech; drawing A. Miernik)

T.XXV.15.68p: bowl, fragment of the bottom and lower part of the body [Fig. 7a–b]
Description: h. 4.8 cm, w. 5.4 cm, wall thickness 0.4–0.6 cm, bottom dia. 8.0 cm
Fine-grained, well- levigated clay (Munsell 5YR 6/6 reddish yellow). Lustrous, mettalic slip inside and outside (Munsell 10R 2.5/1 reddish black). White mineral inclusions, probably limestone (small size and low density). Bottom flat, round, without base ring.
Decoration: One register of long petals on the body. One of the petals with an evident semicircular attachment. Plain flat bottom.
Parallels: Shape of long petals: Bouzek, Jansova 1974, p. 67, no. 91; Künzl 2002, pp. 61–62, no. B 53; Laumonier 1977, p. 118, no. 4682, pl. 27; p. 364, no. 4704, pl. 88.
Origin and dating: Mould-made bowls with long petals as decoration were produced from 150 BC.[16] This kind of decoration is characteristic of the Ionian workshops as well as the workshops in the Northern Black Sea littoral (Loseva 1962, p. 205; Šurgaja 1962, pp. 118–120). The provenance in the case of this vessel cannot be determined for lack of exact parallels.

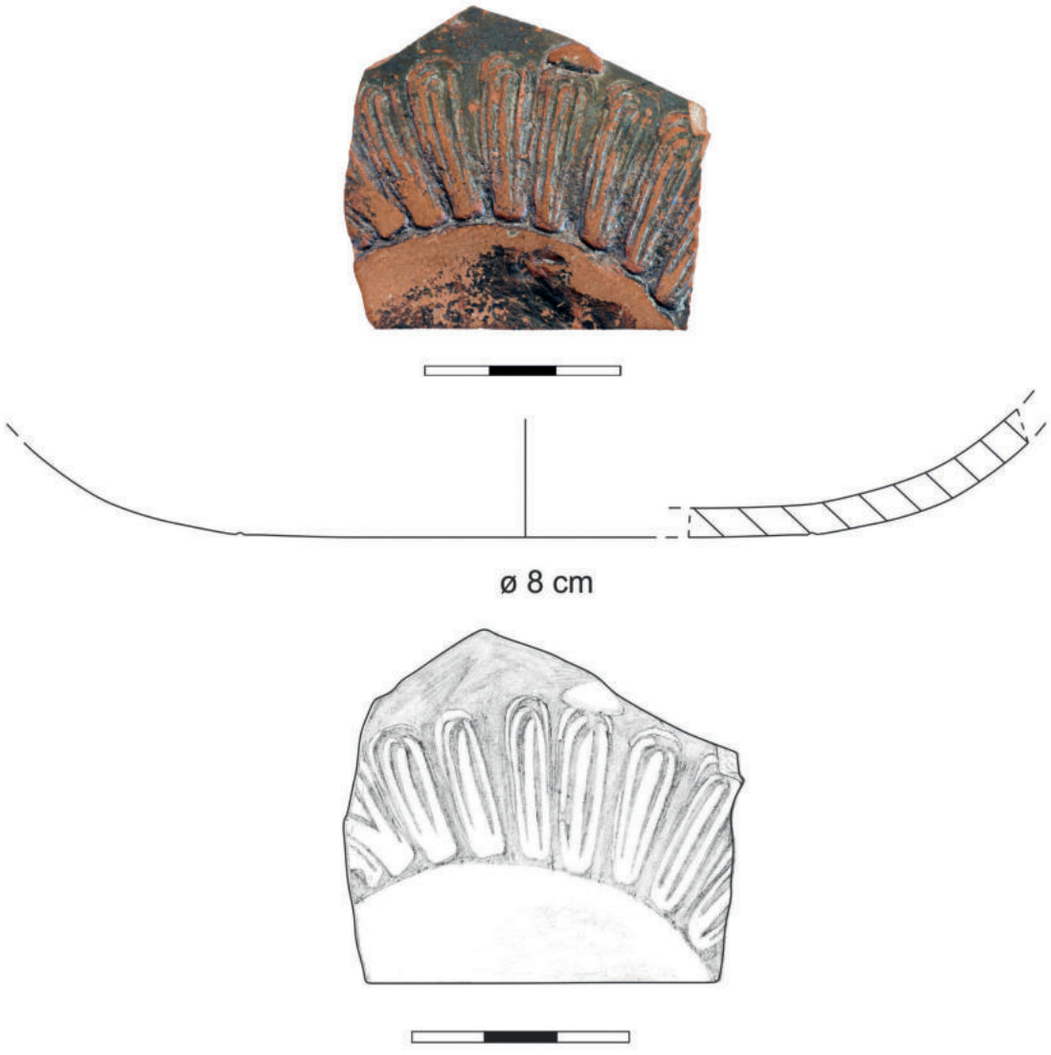

Fig. 7a–b. T.XXV.15.68p: fragment of the lower part of a bowl (photo P. Lech; drawing A. Miernik)

[16] Hellstrom 1965, p. 21.

T.XXV.16.5p: bowl, fragment of the upper part [Fig. 8a–b]
Description: h. 3.7 cm, w. 3.75 cm, wall thickness 0.3–0.4 cm, rim dia. 11.0 cm
Fine-grained, well-levigated clay (Munsell 2.5 YR 5/4 reddish brown). Slightly lustrous slip on the inside (Munsell 7.5 YR 2.5/1 black) and outside (Munsell 7.5 YR 3/1 very dark gray). White mineral inclusions, probably limestone (small size and density).
Decoration: Ornament in two registers. Upper register decorated with a band of guilloche (*chevrons œillés*) pointing to the left. Below it, sandwiched between relief lines, a slightly wider band of a scrolling vine with voluted tendrils.
Parallels: Guilloche: Laumonier 1977, p. 156, no. 175, pl. 35; guilloche and clay color: Laumonier 1977, p. 153, no. 1088, pl. 34; scrolling vine with voluted tendrils: Laumonier 1977, p. 160, no. 1281, pls. 36 and 125; Paczyńska 2009, p. 123, no. 12 T.05.XXV.42p; guilloche and clay color, slip color: Paczyńska 2000, p. 167, no. T 57 VI N357; scrolling vine with voluted tendrils and slip color: Grzegrzółka 2010, pp. 177, 320, no. 285.
Origin and dating: Ionia/Ephesus, possibly workshop of the "Monogramist", dating to the middle and second half of the second century BC based on parallels (all the parallels in Laumonier 1977 come from this workshop).

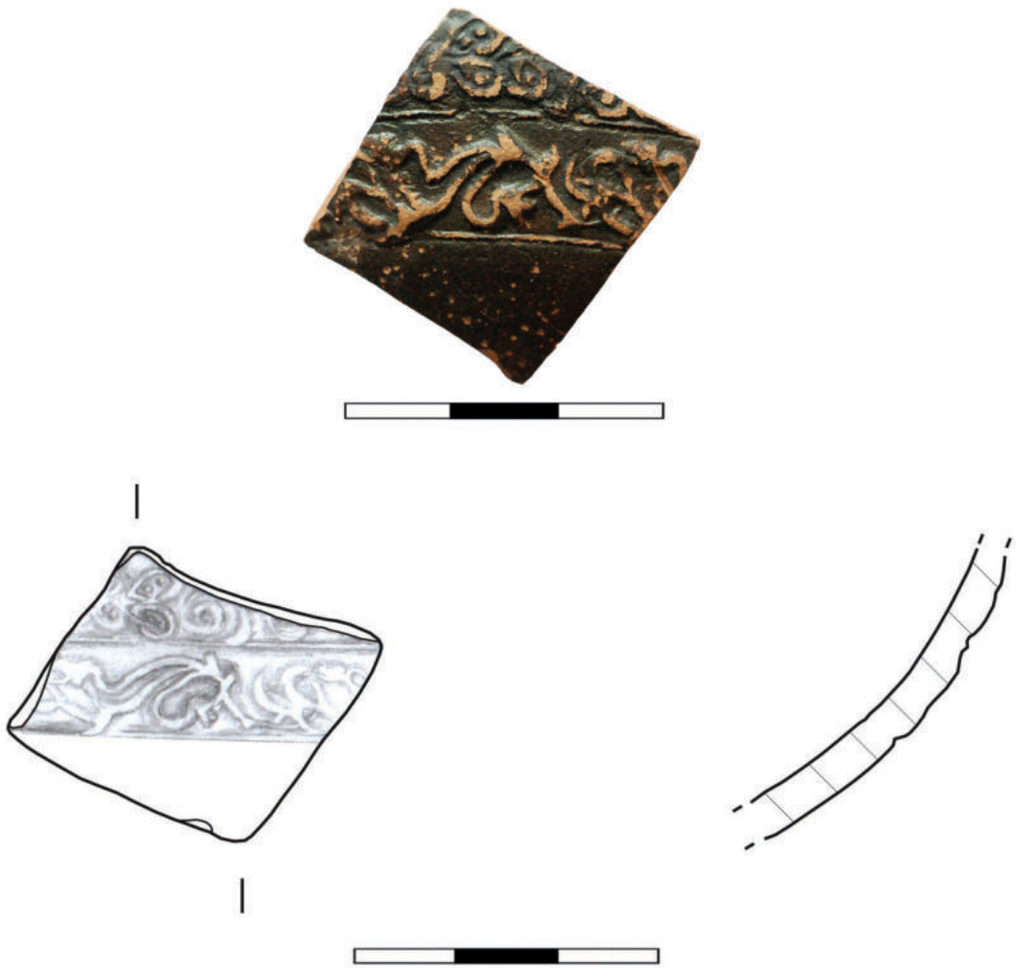

Fig. 8a–b. T.XXV.16.5p: body wall fragment of a bowl (photo P. Lech; drawing A. Miernik)

T.XXV.16.25p: bowl, fragment of the upper part [Fig. 9a–b]
Description: h. 3.4 cm, w. 3.2 cm, wall thickness 0.35–0.5 cm, rim dia.17.0 cm
Fine-grained, well-levigated clay (Munsell 2.5Y 5/1 gray). Slightly lustrous slip inside and outside (Munsell: 2.5Y 2.5/1 black). White mineral inclusions, probably limestone (small size and density). A convex, oval unslipped surface observed centrally in the top section is interesting technological evidence of the firing process. The vessel was stacked too close to another vessel or the kiln wall.
Decoration: One register of ornament. A band of egg-and-dart (evenly arranged) with a thin relief line above.
Parallels: Egg-and-dart as the first register just below the rim, colors of clay and slip: Grzegrzółka 2010, pp. 170, 315, no. 269; egg-and-dart as the first register just below the rim: Laumonier 1977, p. 208, nos. 1828, 8368, 8390, 8411, pl. 47 (workshop of the "Monogramist"); Laumonier 1977, p. 216, nos. 3015, 8559, pl. 47 (workshop of PRSPIR); Laumonier 1977, p. 218, no. 5909, pl. 48 (workshop of PRSPIR).
Origin and dating: Ionia, dated to the middle and second half of the second century BC based on parallels.

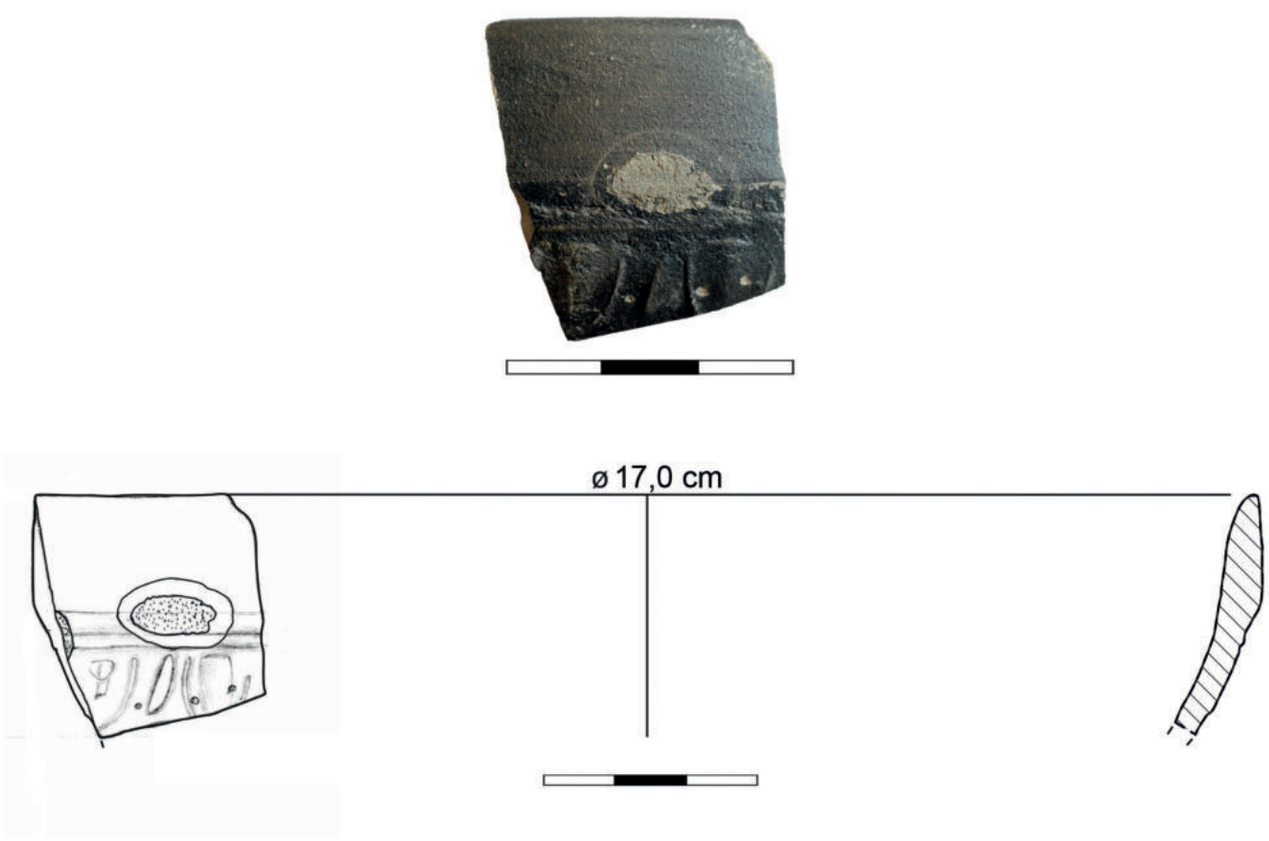

Fig. 9a–b. T.XXV.16.25p: fragment of the upper part of a bowl (photo P. Lech; drawing A. Miernik)

T.XXV.17.12: bowl, fragment of the upper part [Fig. 10a–b]
Description: h. 4.33 cm, w. 4.0 cm, wall thickness 0.3–0.4 cm, rim dia. 17.0 cm
Fine-grained, well-levigated clay (Munsell 2.5Y 6/6 light red in the center and Munsell 7.5YR 7/4 pink to 7/6 reddish yellow closer to the surface). A dull weathered slip on the outside (Munsell 2.5Y 2.5/1 black), slightly more glossy on the inside (Munsell 2.5Y 4/6 red). White mineral inclusions, probably limestone (small size and density), and fine-grained mica (small size, big density). A small drilled repair hole (dia. 0.25 cm) close to the rim edge; another drilled hole (dia. 0.3 cm) on the lower break. Both holes were drilled from the inside.
Decoration: Ornament in two registers. A twisted-cord impression at the top, above a wide band of Lesbian cymatium, diagonally articulated, sandwiched between relief lines.
Parallels: Lesbian cymatium and clay: Grzegrzółka 2010, pp. 119, 292, no. 156; Lesbian cymatium: Rogl 2014, p. 117, fig. 3.
Origin and dating: Micaceous orange-beige clay is characteristic of Ephesian workshops. Parallels are generally connected with the Ionian/Ephesus workshops. The estimated date based on parallels is the second century BC.

Fig. 10a–b. T.XXV.17.12: fragment of the upper part of a bowl (photo P. Lech; drawing A. Miernik)

T.XXV.17.125p: bowl, fragment of the upper part [Fig. 11a–b]
Description: h. 3.9 cm, w. 2.3 cm, wall thickness 0.2–0.4 cm, rim dia. 12.0 cm
Fine-grained, well-levigated clay (range from Munsell 2.5YR 7/6 light red to 2.5YR 6/4 light reddish brown). Slightly lustrous slip, uneven on the inside (ranging from Munsell 2.5YR 7/4 light reddish brown in the lower part to 2.5Y 4/6 red in the upper part) as well as on the outside (from Munsell 2.5Y 3/1 very dark gray in the upper part to 2.5Y 4/6 red, the closest color, in the lower part). White mineral inclusions, probably limestone (small size and very small density), and fine-grained mica (small size and very small density).
Decoration: Ornament in two registers. At the top, a band of egg-and-dart (unevenly arranged) with a thin relief line above. Below, a floral motif preserving the upper part of a flower with four petals and another unidentifiable motif to the right.
Parallels: Egg-and-dart pattern, rim shape, clay, slightly lustrous slip in two colors on the outer surface (red in the lower part and black in the upper): Grzegrzółka 2010, pp. 50–51, 258, no. 19; floral decoration: Courby 1922, figs. 87, 3 and 88; rim shape: Vnukov, Kovalenko 1998, p. 68, figs. 5 and 6.
Origin and dating: Estimated dating based on parallels in the second half of the second century BC. An identified parallel is connected with the Ionian workshops.

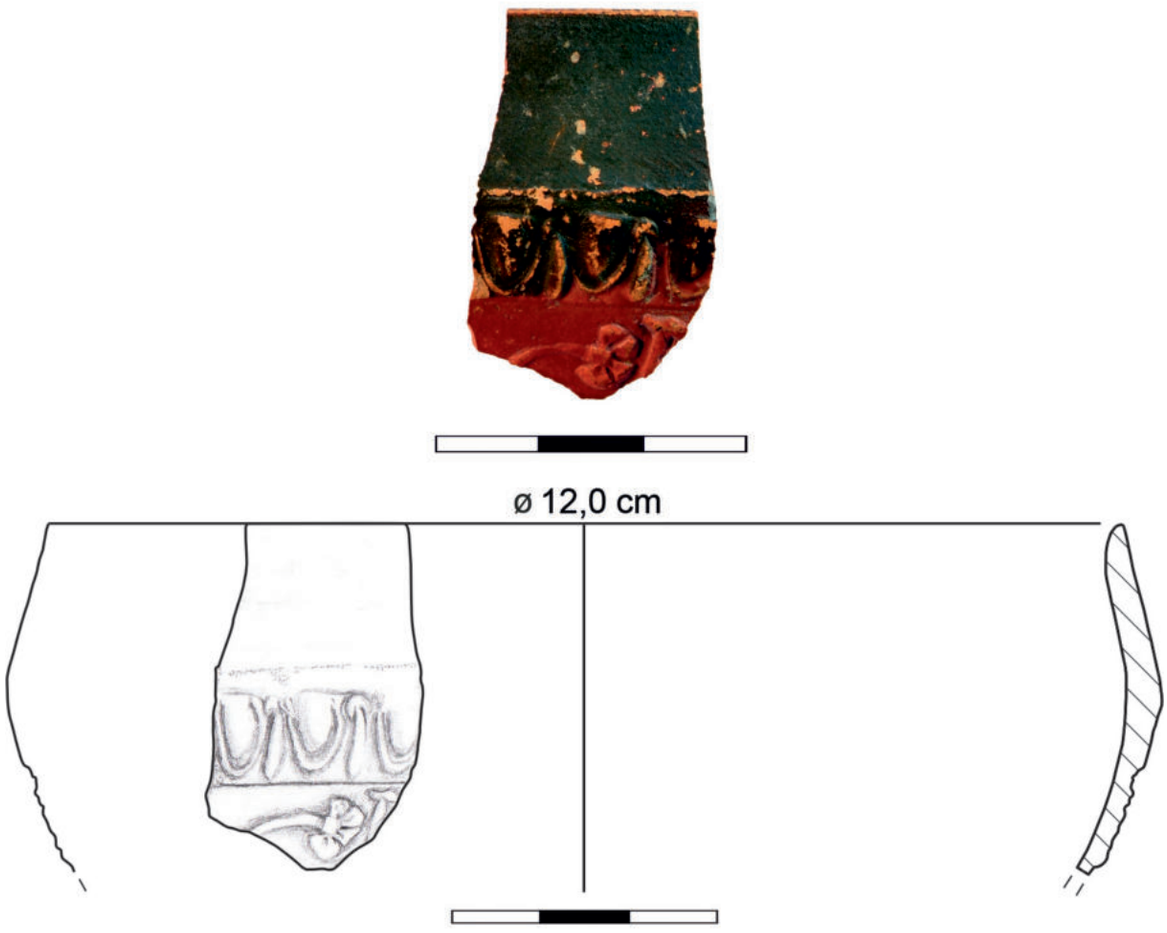

Fig. 11a–b. T.XXV.17.125p: fragment the of upper part of a bowl (photo P. Lech; drawing A. Miernik)

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Streszczenie

Znaleziska czarek megaryjskich z polskich wykopalisk w Tanais — sezony 2014–2017

Artykuł stanowi katalog fragmentów tzw. czarek megaryjskich, pochodzących z wykopalisk prowadzonych przez polską misję archeologiczną w Tanais w latach 2014–2017. W trakcie czterech sezonów odkryto łącznie dziewięć fragmentów naczyń odciskanych w formach, z czego osiem to czarki megaryjskie, a przynależność jednego fragmentu (T.XXV.15.68p) trudno określić ze względu na brak dokładnej analogii, jakkolwiek zdobiący go motyw podłużnych płatków (ang. *long petal*) jest typowy również dla czarek. Większość znalezisk pochodzi z warsztatów z Azji Mniejszej (Jonia/Efez), trzy fragmenty mogły powstać w pracowni tzw. „Monogramisty". Cztery fragmenty noszą ślady późniejszej obróbki — nawiercono w nich niewielkie otwory (0,2–0,25 cm średnicy), prawdopodobnie w celu naprawy.

Paweł Lech
Polish Centre of Mediterranean Archaeology
University of Warsaw
pawel.lech.1989@gmail.com

Elżbieta Sroczyńska
elzbieta.sroczynska@wp.eu

Małgorzata Daszkiewicz
Ewa Bobryk
Manja Wetendorf

EXPERIMENTAL ARCHAEOLOGY: TO WHAT EXTENT IS IT POSSIBLE TO RECONSTRUCT ANCIENT POTTERY FORMING TECHNIQUES?

Abstract: Identifying a vessel as either coil-built and wheel-finished or wheel-thrown frequently has significant cultural and historical implications. The authors therefore conducted an experiment in a potter's workshop, using various techniques to produce 60 vessels from ceramic bodies made of the same clay tempered with quartz grains, crushed granite or grog. After having been fired in a laboratory furnace at 900°C in air, the vessels were then broken into 600 pieces and subjected to accelerated alteration processes (soil-conditioned). Next, an experiment to see, if specific forming techniques could be identified macroscopically, was carried out with the help of a group of archaeologists. The results of their macroscopic assessments (which were erroneous in many cases) gave rise to the following question: can standardised laboratory analysis be applied to identify the forming technique used for a given sherd (a sherd rather than a vessel, as various techniques were often used in forming a single vessel)?

Model tests were carried out to examine the hypothesis that vessel-forming techniques correlate to the relative density of sherds. A He-pycnometer was used to ascertain bulk density, whilst the density index was calculated from the apparent density (estimated by hydrostatic weighting) to bulk density ratio. In addition, Reflectance Transformation Imaging was used to try and identify evidence of forming, and an assessment was made of how forming technique and temper affected pore patterns in planes perpendicular and parallel to the vessel's main axis.

Key words: ancient pottery, forming technique, shaping technique, coiling, handmade, wheel-made, experimental archaeology

Introduction

Deciding whether a vessel was formed by coiling and then wheel-finished or formed using the innovative technique of wheel-throwing often carries significant cultural and historical implications. Therefore, when trying to determine the forming technique used in a pottery vessel's manufacture, as with all types of analysis, the aim should be to achieve results with the smallest possible error. In reality, in most cases the analysed material consists of ceramic sherds of various sizes rather than complete vessels. Consequently, identifying pottery vessel forming techniques based on macroscopic observation of the features of the inner vessel surface only — as is usually done by archaeologists — can sometimes be difficult and, therefore, may be erroneous.[1] But is it enough to divide pottery into only two groups (handmade and wheel-made) when recording descriptions

[1] E.g. interpretation of rilling, see Doherty 2015, p. 73.

of excavated sherds? Changes in ethno-economic-chronological aspects might be reflected in changes in forming techniques, but this would require recognising more than only hand- and wheel-made methods of vessel forming. It should also be remembered that several techniques may have been used to make a single vessel: the pot may have been coil-built, with the coils joined and thinned using a paddle and anvil (working with a wooden paddle on the outer face of the vessel and a stone or ceramic anvil on the inside) and its rim shaped on something serving as a potter's wheel.[2] How can we recognise such procedures from only a small fragment of a vessel, or even from a whole vessel? Generally, it is virtually impossible to tell if a vessel was coil-built or formed from a single lump of clay, and thus conclude that it was a *handmade* pot.

To recognize the forming method and techniques used in pottery manufacturing by ancient potters we usually need ethnographic studies and experimental forming of vessels. The possibilities of recognising forming techniques by comparing ancient sherds with experimentally made vessels have been the subject of studies such as that by Roux and Courty,[3] who examined pottery surface features and microfabrics under a polarizing microscope. The results of these studies have shown that the debate concerning the adoption of particular forming methods and techniques should be continued. It is especially important to find macroscopic parameters for recognising forming techniques. Ancient ceramics are the most common artefacts found during excavation, and archaeologists need a quick means of describing a large number of sherds in a short time, with laboratory tests being reserved only for selected samples. Because similar traces (parallel striations) occur on vessels that have been wheel-thrown and wheel-shaped (on a fast wheel), a different macroscopic parameter is needed to distinguish particular methods and techniques. This could be a considerable help in studying special relationships in terms of socio-economic changes over various cultures and periods.

We must, however, ask ourselves whether it is possible to determine forming and shaping techniques accurately, and solely on the basis of macroscopic analysis of vessel walls and fresh fracture surfaces. An experiment was carried out in order to try and answer this question. In the experiment, various techniques were used by the authors at a pottery workshop in Velten [Figs. 1 & 2] to produce 60 vessels from ceramic bodies comprising the same clay tempered with quartz grains, crushed granite or grog. The vessels were fired in a laboratory furnace at 900°C in air, then broken into 600 pieces and subjected to accelerated alteration processes (soil-conditioned). Next, a team of archaeologists was asked to take part in an experiment designed to ascertain whether particular forming techniques could be identified macroscopically. The macroscopic assessment was erroneous in many cases: generally, forming by coiling with wheel-finishing was not distinguished from wheel-throwing. This means that forming techniques as described by Roux and Courty[4] could not be recognised and nor could moulding or the paddle and anvil technique. The results of this experiment prompted the following question: can standardised laboratory analysis be applied to identify the forming technique used for a given sherd (a sherd rather than a vessel, as a single vessel was often formed using various techniques)? At the same time, the authors decided to evaluate/create a method for ancient pottery analysis that would not be based on the study of images, like analysis of thin-sections or polished sections,[5] or analysis using X-rays and xeroradiography, as proposed by S. H. Doherty[6] (which, notably, yields very good results). In addition to this, tests were also conducted to see, if forming and shaping techniques could be identified by analysis of pore texture (image analysis).

[2] Observations of potters at work in Mexico (M. Daszkiewicz and G. Schneider) and in Ecuador (G. Schneider) have shown that a sherd from an old pot, manually rotated with one hand, could serve as a substitute for a potter's wheel.

[3] Roux, Courty 1998.

[4] Roux, Courty 1998.

[5] E.g. Ther 2016; Daszkiewicz, Bobryk, Schneider 2010.

[6] Doherty 2015.

Fig. 1. Wheel-thrown vessel made on a fast wheel (upper image) and on a slow wheel (wheel-head operated with one hand – lower image). M. Wetendorf and M. Daszkiewicz at the Malenz ceramic workshop in Velten (Brandenburg, Germany) (photos G. Schneider)

Fig. 2. Various forming and shaping techniques:
a and b = wheel-shaping on a fast wheel, forming from coils (technique 2);
c = wheel-shaping on a slow-wheel (technique 2 = coils are laid without rotative kinetic energy, bonding of coils and thinning with rotative kinetic energy);
d = handmade from coils;
e = handmade by pinching;
f = moulding on a fast wheel.
M. Wetendorf at the Malenz ceramic workshop in Velten (Brandenburg, Germany)
(photos G. Schneider)

The analysis presented in this article was carried out on ceramics made from various clays or bodies.[7] However, the authors have used the term "clay" in all of the theoretical descriptions as well as in descriptions of archaeological pottery that cannot be reliably identified as having been made from a body.

Forming and shaping: methods and techniques[8]

The term **"vessel forming"** is used to mean "making a vessel begin to exist", in other words, constructing a specific form of vessel using clay. The term **"vessel shaping"** means creating a vessel's shape or silhouette[9] (e.g. not all bowls have identical proportions, angles, rims). The term "shape", as used by the authors of this article, does not include vessel decoration. In the case of wheel-thrown vessels, the forming and shaping processes take place simultaneously.

Forming and shaping methods can be divided according to whether the use of rotative kinetic energy (RKE for short) is used or not. Various shaping techniques can be identified within each of the shaping methods. The same shaping methods (or techniques) can be applied to pots built using various forming techniques.

The term **"hand-making"** vs **"wheel-making"** corresponds to the distinction between clay-fashioning techniques made by Valentine Roux[10] based on the source of energy (muscular energy as opposed to rotative kinetic energy) used to create a rough vessel form; in other words, the distinction between a roughout produced without the use of RKE as opposed to with RKE.

The following modes of **pot-making (forming and shaping)** can be distinguished based on the forming and shaping methods and techniques used:

1) hand-making = forming and shaping a vessel **without the help of rotative kinetic energy**.
This excludes all manner of rotating stands; the vessel is rotated solely with the use of the hands; vessels can be formed from one clay lump or from coils (successive courses of coils are laid and bonded, and the vessel walls are thinned applying discontinuous pressure; shaping techniques: pinching, paddle and anvil [Fig. 3].
2) orbiting[11] = the vessel is both **formed and shaped using the orbiting technique**.
Forming (from coils or one piece of clay) takes place without the help of rotative kinetic energy; the vessel is built and shaped by the **potter moving around the stationary vessel (PRKE)**; this technique is used to this day in central Africa, in Sudan and in Yemen [Fig. 4].

[7] Nowadays, a wide range of materials is used to make ceramics. However, for thousands of years the principal materials used in the production of ancient ceramics were clay raw materials (clay minerals, mixtures of aluminosilicates, silicates, quartz and carbonates). Quartz ceramics (e.g. Egyptian faience and Islamic quartz pottery) were the only type not made from these raw materials, and these represent only a small percentage of ancient pottery. Archaeological ceramics can be made from: clay — raw materials suitable for pottery making without any special treatment; a ceramic body (or just "body" for short) — raw materials requiring processes such as levigation or the addition of temper; or paste — in contrast to clay or body, this is a mass in which the content of clay raw materials is less than 20–40% (for example, quartz ceramics are made using a paste). Some authors refer to "body" using the term "paste"; however, in this instance this is not the correct term.

[8] The classification presented in this article is based on new evidence from ethnographic ceramic studies and differs slightly from the classification outlined at the archaeometric conference in Bochum (Daszkiewicz, Bobryk, Schneider 2010).

[9] Shape is not infrequently used as a synonym for form, but this is an incorrect use of terminology (see Hamer, Hamer 1975).

[10] Roux 2017, p. 104.

[11] This method was described as "durch Umrunden gedreht" (Daszkiewicz, Bobryk, Schneider 2010), but the authors have chosen to adopt the term "orbiting" after P. M. Rice (Rice 1987, p. 143).

3) wheel-making = forming and shaping or only shaping a vessel **with the help of rotative kinetic energy**.

3a = wheel-making by shaping on a **slow wheel**;[12]

3b = wheel-making by **shaping on a fast wheel** [Fig. 5].

Wheel-made pottery can be subdivided further by technique:

3-1 wheel-throwing[13] = forming and shaping of the vessel is done simultaneously from one clay lump applying continuous pressure;

3-2 wheel-shaping = forming by pinching from one clay lump or by coiling; shaping is done with the application of discontinuous or continuous pressure.

Wheel-shaping of coiled vessels can be divided into several techniques according to how the superimposed coils have been laid and bonded and how the walls of the vessel have been thinned:[14]

- technique 1 = coils are laid and bonded applying discontinuous pressure, without the help of RKE; thinning is done with the help of RKE [Fig. 6];
- technique 2 = coils are laid applying discontinuous pressure, without the help of RKE; RKE is used in bonding the coils and thinning the vessel walls;
- technique 3 = in contrast to technique 2, coils are laid and bonded and the vessel walls are thinned with the help of RKE, after which the wheel is stopped and the next coil is added [Fig. 7].

4) moulding = forming and shaping simultaneously; techniques: slipcasting or hand-pressing (e.g. relief sigillata bowls) with or without the help of rotative kinetic energy (the mould is turned on a wheel whilst pressing the clay or is kept stationary).

Fig. 3. Handmade. Shaping using the paddle and anvil technique, Laos 1994 (photo G. Schneider)

[12] Differences between slow and fast wheels are connected with the number of revolutions per minute of the wheel-head regardless of how it is set in motion (electric-wheel, kick-wheel, stick-wheel or hand-wheel).

[13] Wheel-thrown vessels are not necessarily made on a fast wheel. Experiments done by Wetendorf and Daszkiewicz have shown that wheel-throwing was also possible using a manual wheel-head operated by one hand. S. K. Doherty reports that not only was it possible "to create thrown pottery at speeds lower than the suggested 50–150 r.p.m." but also "at the speed of 20 r.p.m." (Doherty 2015, p. 109). Doherty suggests that "such terms as fast and slow wheel need to be readdressed, if they should exist as a distinction at all". Using RTI (see section on the RTI technique) on the experimental pottery produced by the authors of this article made it possible to distinguish vessels that had been wheel-shaped on a fast wheel from those shaped on a slow wheel, therefore the authors suggest that the terms "slow" and "fast" should not be rejected.

[14] The description of the first two techniques is generally the same as that proposed by V. Roux and M.-A. Courty (Roux, Courty 1998, p. 748).

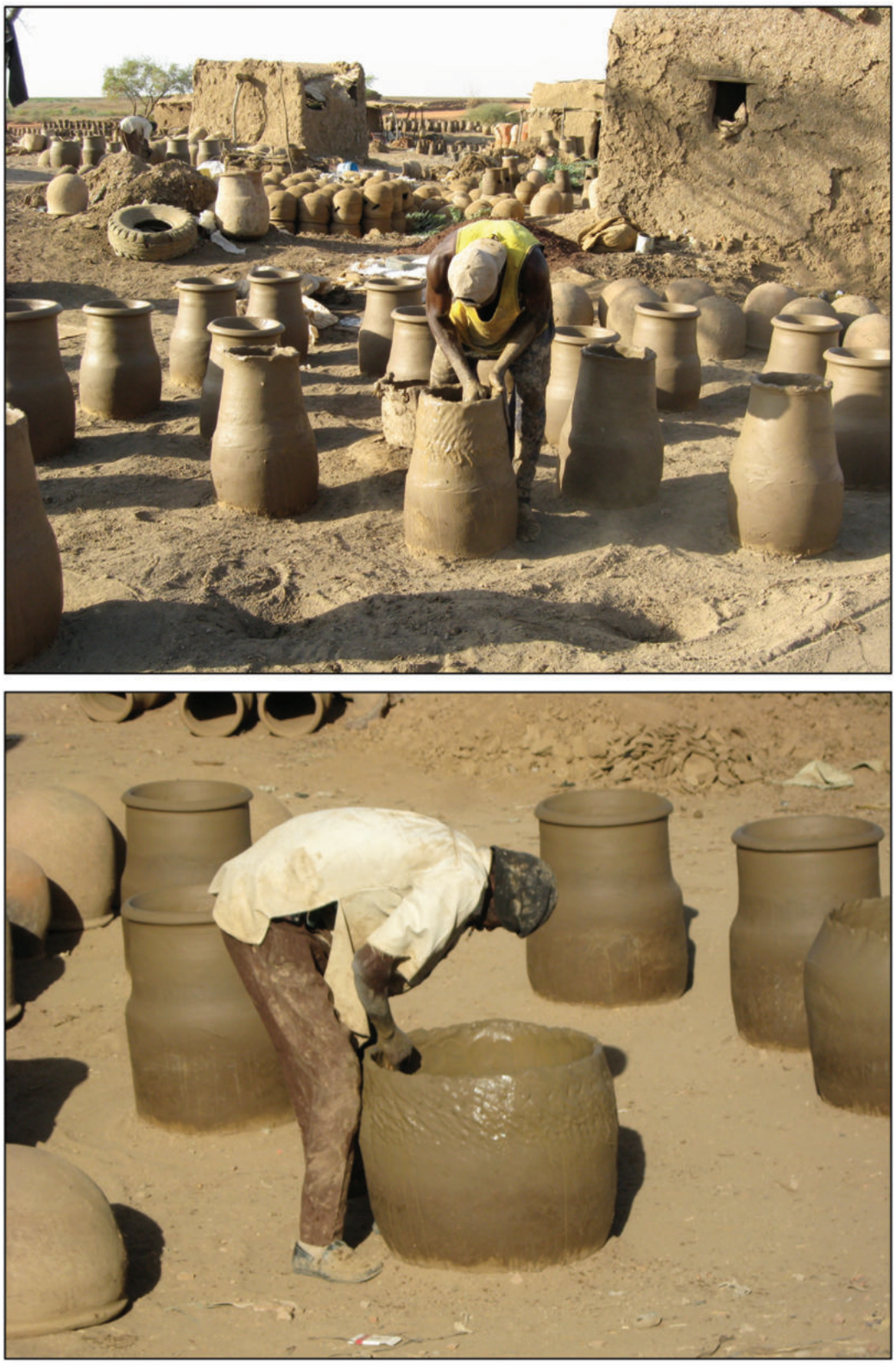

Fig. 4. Orbiting. Potters move around a fixed vessel during both the forming and shaping process. Two pottery workshops at a pottery centre in Wad Medani. Sudan 2008 (photos M. Daszkiewicz)

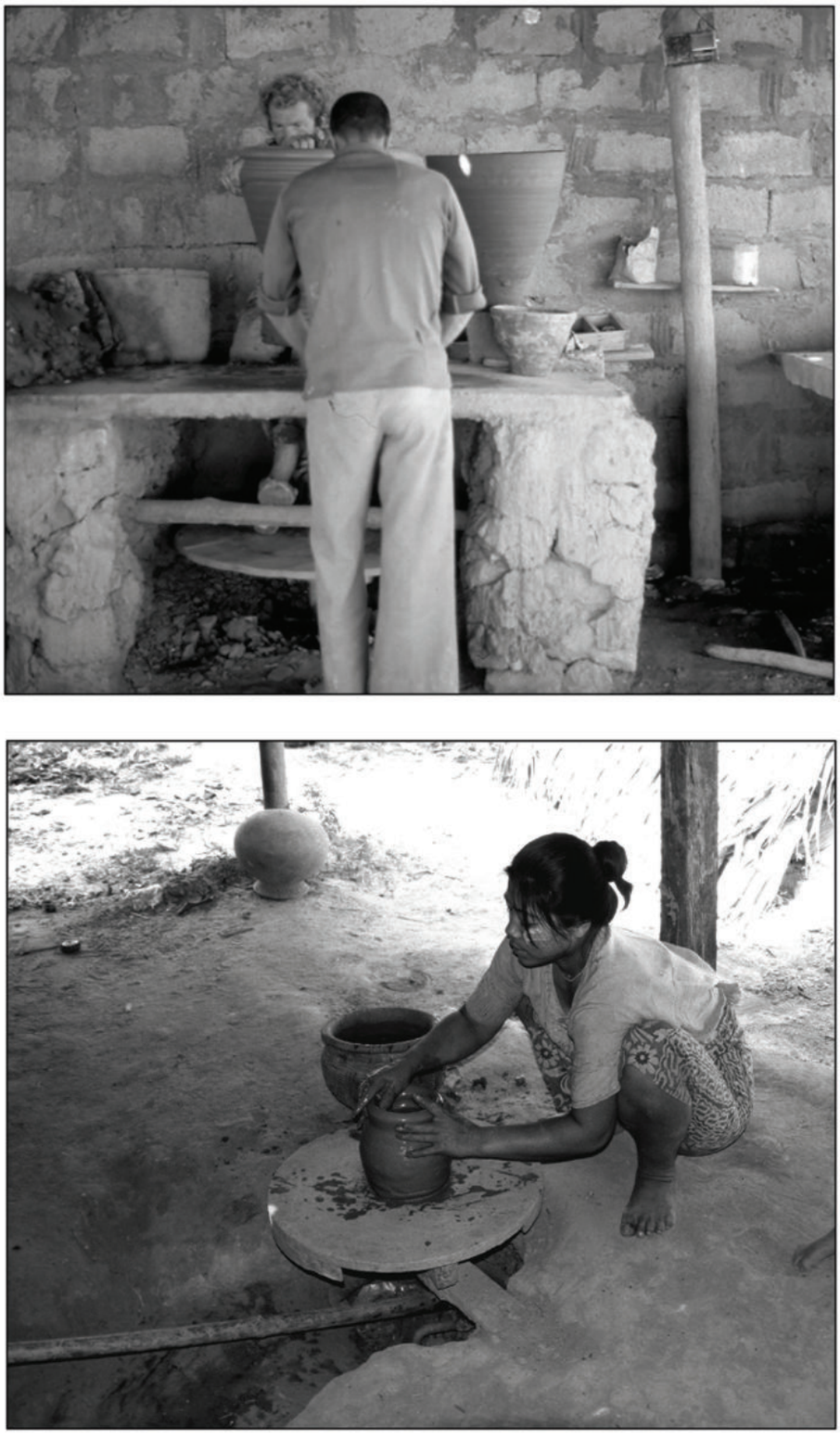

Fig. 5. Wheel-thrown. Kick wheel (upper image, Syria 1984),
wheel turned with a stick applied to the underside
(lower image, Laos 1994) (photos G. Schneider)

Fig. 6. Wheel-shaped. Coiling: the vessel is built of coils, which are bonded by applying discontinuous pressure, without the help of rotative kinetic energy; thinning and shaping is done with the help of rotative kinetic energy. Hand-operated turntable. Laos 1994 (photos G. Schneider)

Fig. 7. Wheel-shaped. Coiling: coils are laid and bonded on the wheel and the vessel walls are thinned with the help of rotative kinetic energy, after which the wheel is stopped and the next coil is added. Wad Medani, Sudan 2008 (photo M. Daszkiewicz)

Reconstruction of forming technique by pore texture analysis (FTPT)

Theoretically, information concerning forming methods and techniques should be fixed in the structure and texture of pores after the firing of a pottery vessel. However, it has been discovered that vessels such as Roman kitchenware from Novae with the same parallel striations (wheel-thrown vessels) and made from a similar raw material have totally different pore distributions: pores are elongated and parallel to the vessel wall or slightly elongated in a net pattern.[15] This discovery provided the impetus for a study on developing a method to estimate the original forming technique by macroscopic (or binocular) observation of pores (FTPTS = Forming Technique by Pore Texture and Structure analysis).[16] FTPT is based on the analysis of pores (shapes, orientation, pattern, size, distribution within the vessel wall) in two dimensions: in the plane perpendicular to the axis of the vessel and in the plane parallel to the axis of the vessel [Fig. 8]. The texture

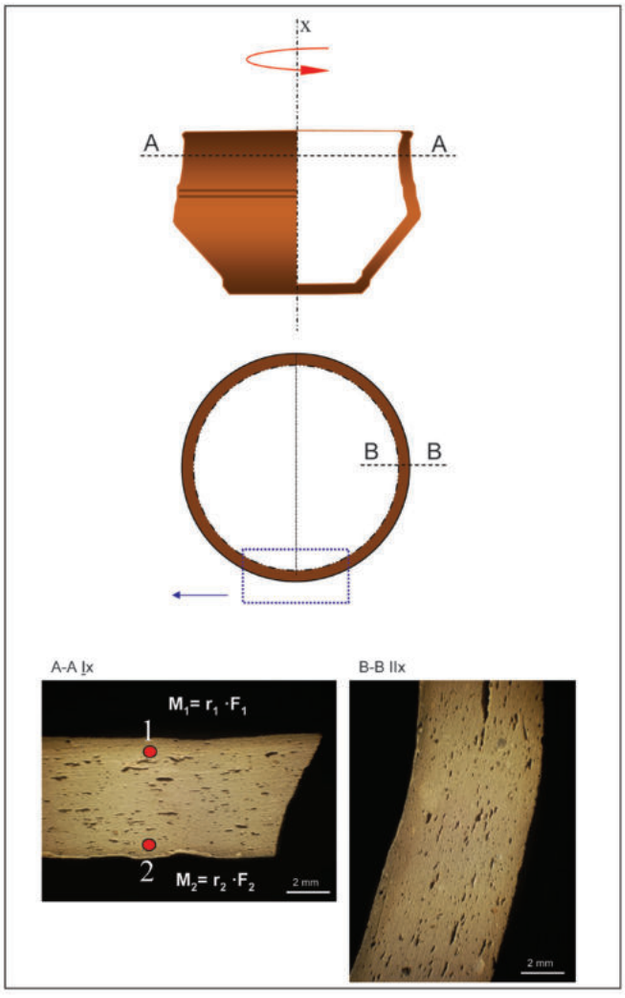

Fig. 8. Pore distribution in a wheel-made vessel. At point 2 pores will be thinner than at point 1 or will disappear due to fact that $M_2 > M_1$. x = axis of vessel; A–A = plane perpendicular to axis of vessel; B–B = plane parallel to axis of vessel; M_1 = moment of force in point 1; M_2 = moment of force in point 2; F_1 and F_2 = pressure exerted by the potter's hand; r_1 and r_2 = radius

[15] Baranowski, Daszkiewicz 2009.
[16] Daszkiewicz, Bobryk, Schneider 2010.

and structure of pores should be correlated to the vectors of forces occurring during the forming process (the forming process of the vessel as well as the forming process of the coils [Fig. 9]). To date, in addition to theoretical background studies, experimental firing of wheel-thrown and coiled vessels has been carried out. The results of experimental work have been compared with the Roman Imperial period wheel-made pottery from Brandenburg. A preliminary study has been done on eight pottery sherds found in Brandenburg (sites: Görlitz and Briesnig).[17] This study shows that these vessels were formed using the wheel-throwing technique as well as the wheel-shaping technique [Fig. 10]. Comparison of the results of FTPT analysis and provenance studies[18] has shown that most probably these few wheel-thrown vessels were not made locally.

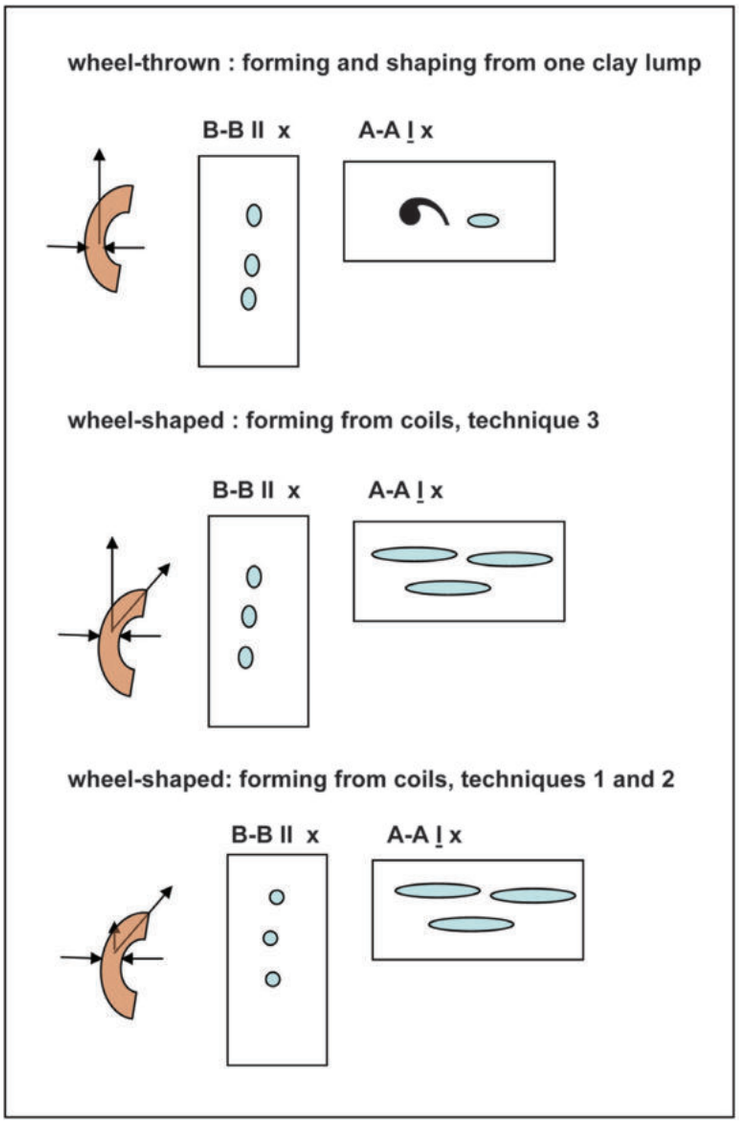

Fig. 9. Theoretical texture and structure of pores correlated to the vectors of forces occurring during the forming process

[17] Samples provided for analysis by M. Meyer and M. Hegewisch.
[18] Daszkiewicz, Schneider 2011.

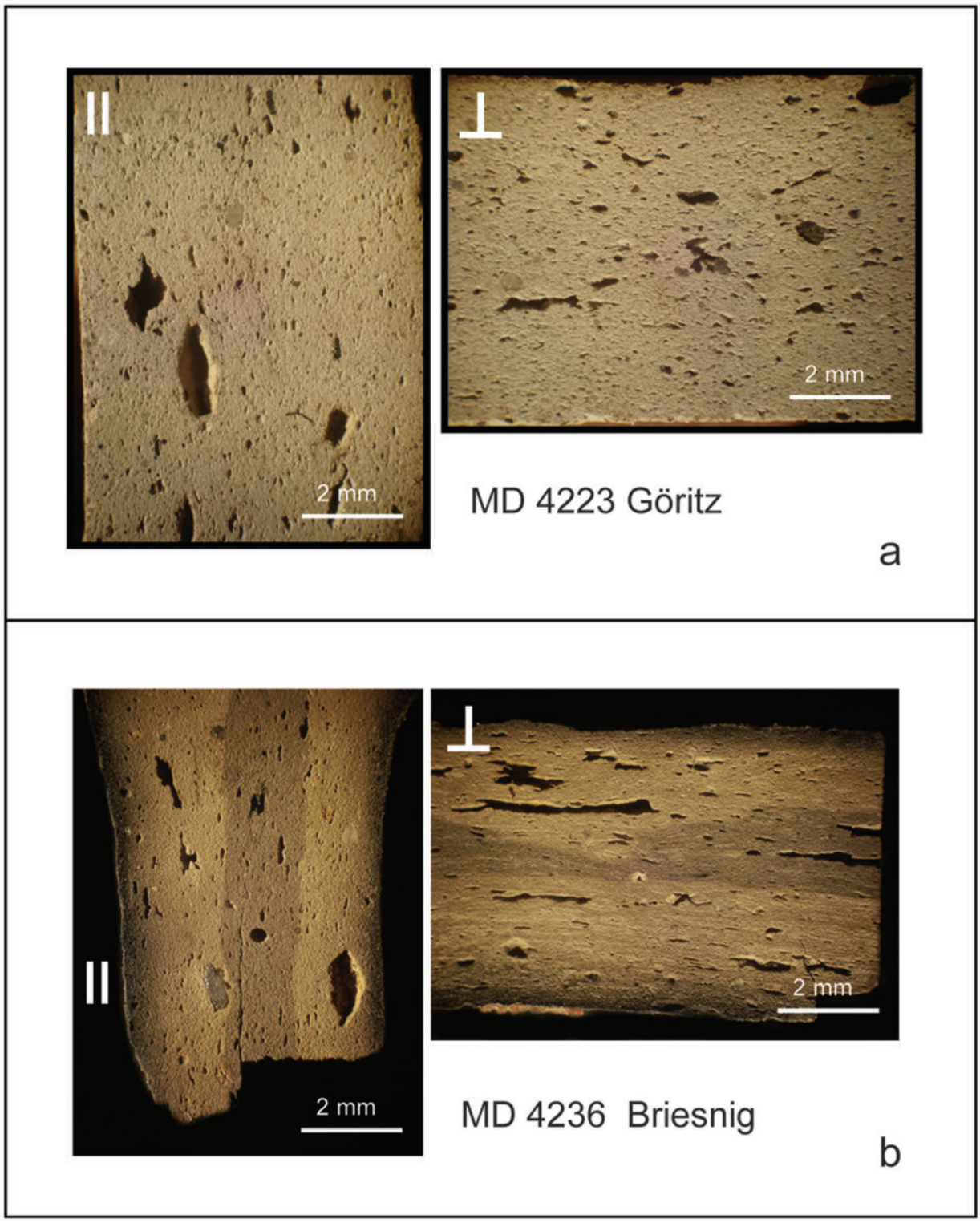

Fig. 10. Pore texture analysis:
a — wheel-thrown vessel;
b — wheel-shaped vessel formed from coils (samples from Brandenburg, Germany)
(photos E. Gałaj)

Reconstruction of forming technique by density index estimation (FTDX)

With some exceptions, ceramic materials are invariably porous to some extent. Ceramic clay bodies, no matter how carefully prepared, are impossible to produce free of pores (it should be remembered that totally removing air from a clay body exacerbates problems with forming). Air or gases are entrapped between and within the grains of the body, or they may fill pores within the structure, which results in the external volume of the body being much greater than the actual volume of the material of which it is composed. Thus, the body has an apparent density which is simply the ratio of the total weight to the external volume. This means that if a material has a porous texture it will necessarily have a low apparent density because a considerable portion of the volume will be occupied by the lightweight air in the pores. Values of apparent density and bulk density (true density) are similar only for a material in which there are few pores. The porosity of materials may be influenced by: the shape, size and grading of the particles, the nature of the material and the relative position of the particles. A fact often overlooked is that if all other things are equal, a clay body with large sized sand particles will have lower porosity than a body composed of pure clay. But this changes during firing, as in high temperatures small-particle materials fuse more rapidly than coarser-grained bodies. In the case of the same raw material, the porosity of the clay body is influenced by the method used in the material's manufacture, and the porosity of the resultant ceramics are greatly influenced by the method/technique used in the forming and firing process. This means that when using the same raw material, body preparation method and firing temperature, a considerable reduction/increase in porosity can be achieved by employing a specific shaping technique. This is reflected by changes in relative density. Analysis of modern ceramic products, such as contemporary stoneware dinnerware formed from the same plastic mass by wheel-throwing and by casting in gypsum moulds, shows differences in relative density (density index) and apparent density, in the relation of open-total-closed porosity and in microstructure (volume, size and distribution of pores) connected with the forming technique.[19] Is it possible to recognize and reconstruct ancient forming techniques by estimation of relative density? Model tests were carried out to confirm or refute the hypothesis that ancient vessel-forming techniques correlate to the relative density (density index) of sherds. Bulk density was determined using a He-pycnometer. The density index was calculated from the apparent density (estimated by hydrostatic weighting) to bulk density ratio. In addition, image analysis by Reflectance Transformation Imaging was used to identify evidence of forming seen on vessel surfaces, and to assess how forming technique and temper affected pore patterns in a plane perpendicular and parallel to the vessel's main axis observed in cut sections. Various ancient ceramics were also analysed independently of the model tests.

Procedure for hydrostatic weighing: samples were boiled in distilled water for two hours so that all open pores were fully saturated with water; the samples were then cooled to room temperature and weighed twice: in the first instance the samples were weighed immersed in water, and in the second the wet samples were weighed in air; after having been dried to a constant mass in a dryer at 105°C and cooled to room temperature in a desiccator, the samples were then weighed for a third time in air. This process yielded three values: ms – mass of dry sample; mw – mass of wet sample weighed in air; mww – mass of sample weighed in water (with pores saturated by boiling in water). The values of physical ceramic properties were then calculated.

Procedure for the He-pycnometer (Accupyc 1340): powdering in agate mortar, 0.040 mm sieve, drying 48 h at 130°C, 1 cm^3 sample chamber; weighing of sample (sample not smaller than 0.5 g), 50 cycles per sample, time of measurement 2–3 h.

[19] Wodnicka, Zych, Gołek 2010.

Procedure for sample preparation for model tests and experimental pottery manufacturing: specimens for model tests as well as vessels (bowls and pots) were produced from the same two clays: an iron-rich clay low in calcium (Rheinzabern-595) and from a clay low in calcium and low in iron (Weltzow clay). Specimens were prepared from a plastic mass with distilled water as the make-up water and were formed using two techniques. The plastic mass was prepared manually and rolled out to the appropriate thickness using a wooden roller (equivalent of coiling). The specimen was then cut out using a cutter made of glass or formed by hand in a porcelain mould. The third variety of specimen was made from granules pressed into shape using a hydraulic press (5 MPa — this type of preparation in model tests is deemed to equate to the increase in density of vessels turned on a fast wheel). All specimens were dried on blotting paper. No temper was added to the Rheinzabern clay briquettes, whilst briquettes made of Weltzow clay had either no temper or were tempered with quartz grains, grog or crushed granite respectively. The same recipes were used to prepare the ceramic bodies from which pottery vessels were then made. The laboratory-made specimens were fired at 400, 600, 700, 800, 900, 1000, 1100 and 1200°C (an average of 20 specimens were fired at each temperature) and density, open porosity and water absorption were determined for each specimen. K-H analysis was then carried out at the same temperatures. K-H analysis was also conducted on sherds of the experimental pottery and their bulk density was determined using a He-pycnometer.

Results of FTDX analysis

At the time this article was submitted for publication, only specimens and vessels without added temper had been analysed. As expected, specimens made of the same ceramic body, formed using the same technique, fired in the same conditions (atmosphere, heating rate, soaking time at the peak temperature) and cooled in the same conditions had the same open porosity (Po), water absorption (N) and apparent density (dv) values. In the case of dv, the coefficient of variation (cv%) is below 1% and up to 3% for Po and N. For example, 21 specimens formed by coiling have an average dv of 1.65 g/cm^3 and this estimate has a cv of 0.85%. Sintering behaviour, as predicted, varied depending on how the specimen had been formed. Specimens attained their maximum apparent density after firing at 1150°C. Pressed specimens (= wheel-thrown) had the highest dv (dv = 2.31 g/cm^3), while handmade specimens had the lowest (2.13 g/cm^3). Maximum dv values are correlated with the method used to prepare the ceramic body (plastic mass versus pressed granules). In contrast, the density index (relative density) is correlated with the forming technique at each firing temperature, though the difference between coil-built and handmade specimens is small. Because ancient pottery was fired at various temperatures and because of the need to standardise the analytical procedure, the authors deemed it optimal to estimate the relative density of vessels when refired at 1200°C. Table 1 shows the apparent density, open porosity and water absorption values as well as the bulk density and relative density of various experimental vessels made at the workshop in Velten from Rheinzabern-clay. Estimates were made for each vessel using sherds removed from below the rim, from the body and the base. As predicted, base sherds can be analysed to ascertain the method used in preparing the ceramic body, but naturally they should not be used for the analysis of forming techniques.[20]

This analysis is best carried out on body sherds, either alone or in combination with rim sherds. The results obtained from analysis of experimental vessels and laboratory specimens were compared with the results obtained from an analysis of ancient pottery. The analysis was carried out on Roman Imperial period pottery found in Olbia (samples provided by E. Schultze) and in Brandenburg (samples provided for analysis by M. Meyer and M. Hegewisch) and Roman pottery found

[20] It is interesting that although in any individual vessel the base always has the highest relative density, this density differs depending on the particular forming technique used.

Vessel			after refiring at 1200°C					Experimental vessels made at the workshop in Velten from Rheinzabern-clay (R-0)
type	No.	part	dv [g/cm³]	Po [%]	N [%]	dHe [g/cm³]	dv/dHe [%]	
jar	2	bottom body rim	1,84 1,81 1,82	0,9 1,0 0,9	0,5 0,5 0,5	2,57 2,57 2,57	71,5 70,3 70,8	R-0-T1 wheel-made **wheel-thrown, fast wheel**
bowl	39	bottom body rim	1,58 1,37 1,44	1,0 1,0 1,6	0,6 0,7 1,1	2,56 2,56 2,56	61,8 53,5 56,4	R-0-T2 wheel-made **wheel-thrown, slow wheel**
jar	5	bottom body rim	1,79 1,52 1,60	0,8 1,4 1,1	0,5 0,9 0,7	2,56 2,56 2,56	69,8 59,2 62,5	R-0-T3 wheel-made **wheel-shaped, fast wheel** **wheel forming (coiling technique 3)**
jar	6	bottom body rim	1,72 1,42 1,51	0,9 3,8 0,9	0,5 2,7 0,6	2,56 2,56 2,56	67,1 55,5 59,2	R-0-T4 wheel-made **wheel-shaped, slow wheel** **wheel forming (coiling technique 3)**
jar	8	bottom body rim	1,67 1,45 1,55	0,9 1,8 1,1	0,5 1,2 0,7	2,56 2,56 2,56	65,1 56,7 60,4	R-0-T6 wheel-made **wheel shaped, slow wheel** **hand forming (coiling technique 1)**
bowl	41	bottom body rim	1,59 1,29 1,52	1,2 1,1 1,0	0,7 0,8 0,6	2,56 2,56 2,56	62,2 50,4 59,5	R-0-T5 wheel-made **wheel-shaped, slow wheel** **hand forming (one clay lump)**
jar	10	bottom body rim	1,61 1,31 1,51	0,7 1,1 1,1	0,4 0,9 0,8	2.56 2.56 2.56	62,9 51,2 58,9	R-0-T7 hand-made **hand forming and hand shaping** **(one clay lump)**

Tab. 1. Physical ceramic properties, bulk density (He density) and relative density of experimental vessels. Po = open porosity, N = water absorption, dv = apparent density

Project	Sample No.	N [%]	Po [%]	dv [g/cm³]	d [g/cm³]	dv/d x 100% [%]
wheel-made						
	wheel-thrown					
Olbia	ES-KOZ-30	9,6	19,3	2,02	2,62	**77,1**
Olbia	ES-Koz-81	11,4	22,0	1,93	2,53	**76,3**
Olbia	ES-Koz-86	10,9	21,6	1,97	2,66	**74,0**
Olbia	ES-AK-21	14,0	26,7	1,91	2,65	**72,1**
Olbia	ES-AK-19	13,1	25,1	1,91	2,69	**71,2**
Aguntum	MD 4968	9,1	19,6	1,95	2,56	**76,2**
Aguntum	MD 4935	11,9	25,0	1,84	2,59	**71,2**
Aguntum	MD 4944	13,1	27,5	1,83	2,61	**70,2**
Aguntum	MD 4943	11,9	25,3	1,87	2,66	**70,2**
Brandenburg	MD 4215	7,6	14,1	1,86	2,33	**79,9**
Brandenburg	MD 4223	11,0	21,0	1,91	2,61	**73,1**
Brandenburg	MD 4227	14,5	25,7	1,78	2,46	**72,5**
Brandenburg	MD 4224	13,6	23,8	1,75	2,44	**71,8**
Brandenburg	MD 4214	12,1	21,8	1,81	2,58	**70,3**
	wheel-shaped (forming by coiling)					
Brandenburg	MD 4235	14,3	24,7	1,73	2,53	**68,5**
Brandenburg	MD 4236	13,9	21,6	1,55	2,38	**65,1**
Brandenburg	MD 4222	20,4	33,2	1,63	2,54	**64,3**
Aguntum	MD 4961	13,6	28,5	1,81	2,71	**66,9**
Aguntum	MD 4936	16,1	33,3	1,74	2,62	**66,5**
Aguntum	MD 4941	14,4	29,7	1,77	2,67	**66,4**
Aguntum	MD 4946	15,3	29,3	1,62	2,50	**64,7**
Aguntum	MD 4940	18,4	35,9	1,59	2,65	**60,1**
hand-made						
Aguntum	MD 4939	18,7	35,8	1,55	2,55	**60,9**
Aguntum	MD 4955	23,7	41,7	1,35	2,50	**53,8**
Aguntum	MD 4942	23,6	40,5	1,32	2,55	**51,7**
Aguntum	MD 4945	23,9	41,1	1,31	2,55	**51,2**
Aguntum	MD 4934	27,7	47,8	1,25	2,48	**50,2**
Aguntum	MD 4937	33,7	52,5	1,04	2,40	**43,1**

Tab. 2. Physical ceramic properties, bulk density (He density) and relative density of archaeological vessels

at the Roman site Aguntum in Austria (samples submitted for analysis by M. Auer), see table 2. There is a close correlation between the results of model tests and experimental vessels and the results obtained from analysis of ancient pottery. Figure 11 shows the relative density ranges for ancient pottery and experimental pottery.

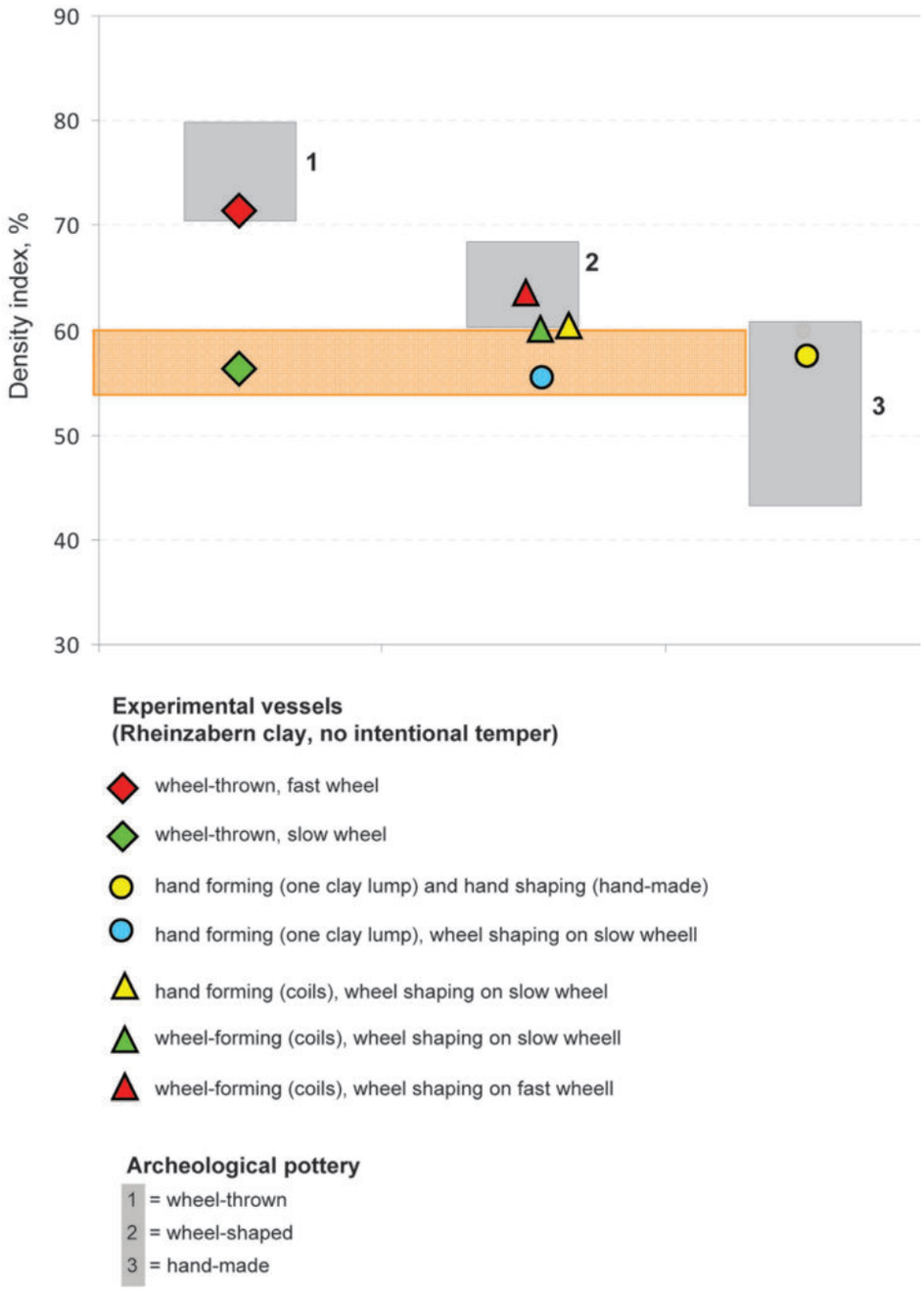

Fig. 11. The relative density ranges for ancient pottery and experimental pottery. Grey column = pottery identified by archaeologists as: 1 — wheel-thrown; 2 — questionable (after pore analysis identified as coiling); 3 — handmade. Experimental vessels: all markers represents average values. Slow wheel refers to a wheel head moved with one hand

Reconstruction of shaping method/technique using reflectance transformation imaging (RTI) technique

The RTI technique for interactively displaying objects under varying lighting conditions to study surface phenomena can be a very useful tool in identifying pottery vessel-shaping methods and techniques based on observation of the features of the inner vessel surface. An automated sphere, with 57 diode LED for registration of images was used to observe the surfaces of experimentally built vessels. Figures 12–14 show examples of potters' fingerprints on the inner surfaces of wheel-thrown (fast and slow wheel) vessels, of a wheel-shaped vessel formed from coils (slow wheel) and of handmade vessels (formed from one clay lump and from coils). It is impossible to reconstruct forming techniques. Wheel-shaping on a slow wheel results in the same fingerprints regardless of the forming technique used. Furthermore, wheel-shaping on a slow wheel results in the same fingerprints as those noted on wheel-thrown vessels made on a slow wheel. These prints do, however, differ markedly from those left on vessels made on a fast wheel (wheel-thrown and wheel-shaped).

General conclusions

1. Estimating forming techniques by pore analysis requires cut-sections to be made in two planes. These cut-sections should be long enough so that the observed pores yield a representative result. As with all visual methods (image analysis), this is subject to significant personal error and not all ancient forming/shaping techniques can be recognised.
2. Estimation of physical ceramic properties (open porosity, water absorption, apparent density) and bulk density can provide information about the preparation of the body and the forming techniques.
3. Body preparation includes de-airing, which is very individual to each potter. It is a very time-consuming process and as such is less susceptible to random problems. This can be analysed by estimation of physical properties at a temperature representing the end of sintering.
4. Relative density (density index) is correlated with forming/shaping techniques, but not all ancient techniques can be recognised by such standardised estimation.
5. The base of the vessel can be used for body preparation analysis, but should not be used for forming technique analysis.
6. The RTI technique is a very good tool, adding new insights to information obtained from observation of vessel surfaces through close-up digital photographs.
7. Shaping techniques (shaping on a slow or a fast wheel, shaping without rotative kinetic energy) can be easily recognised by observation of potters' fingerprints using RTI (but forming techniques cannot be easily recognised).
8. Optimal results in the reconstruction of ancient forming and shaping techniques are achieved using two types of analysis: FTPTS with RTI or FTDX with RTI.

No relative density estimates were made for pots with burnished surfaces. The hypothesis that burnishing has a significant impact on the relative density of pottery is currently being tested.

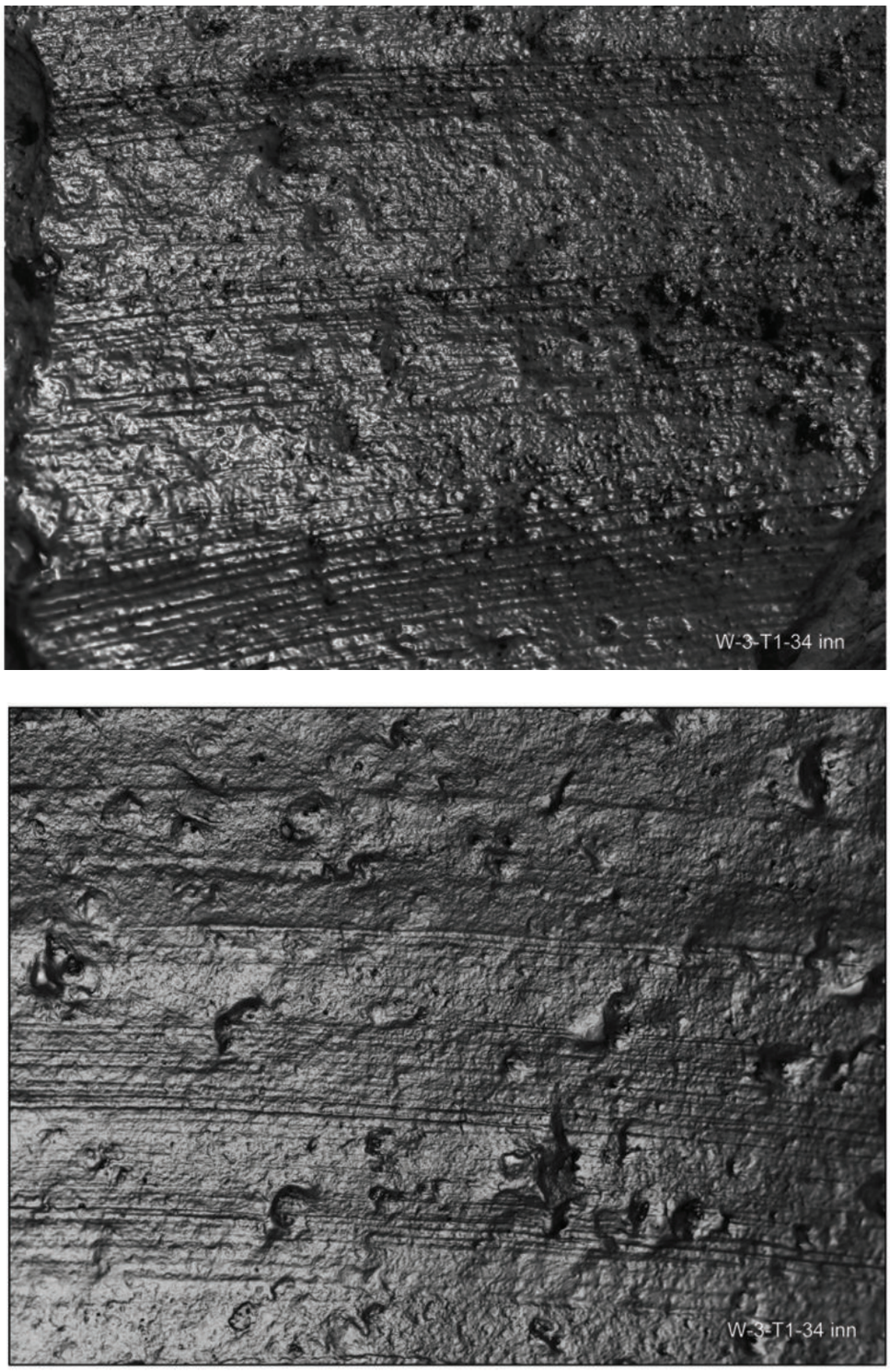

Fig. 12. Images of the inner surface of a wheel-thrown (fast wheel) experimental vessel prepared from Weltzow clay tempered by crushed ceramic fragments (grog). RTI registration and generation of data for analysis by M. Baranowski for ARCHEA

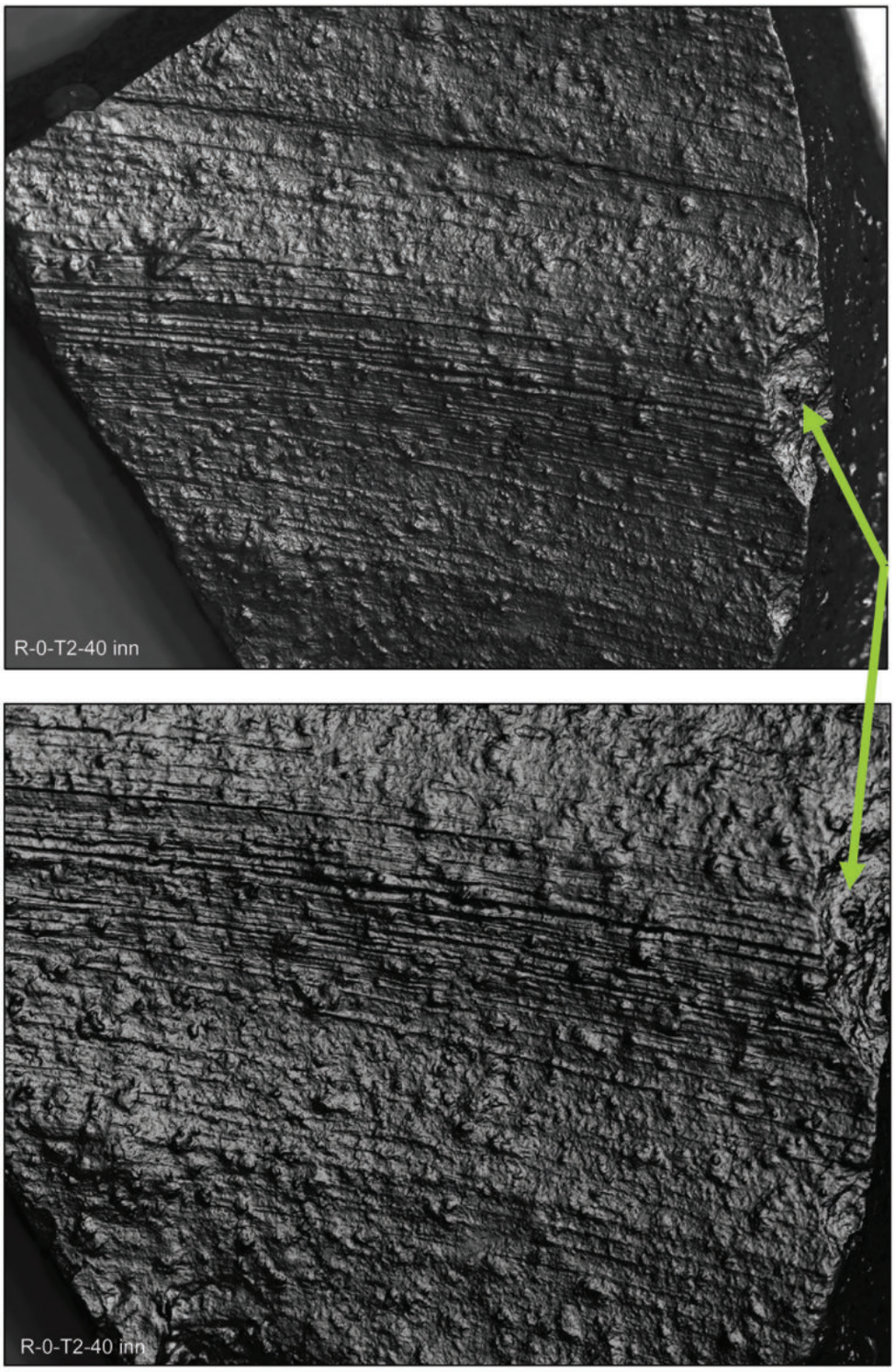

Fig. 13. Images of the inner surface of a wheel-thrown (slow wheel) experimental vessel prepared from Rheinzabern clay.
RTI registration and generation of data for analysis by M. Baranowski for ARCHEA

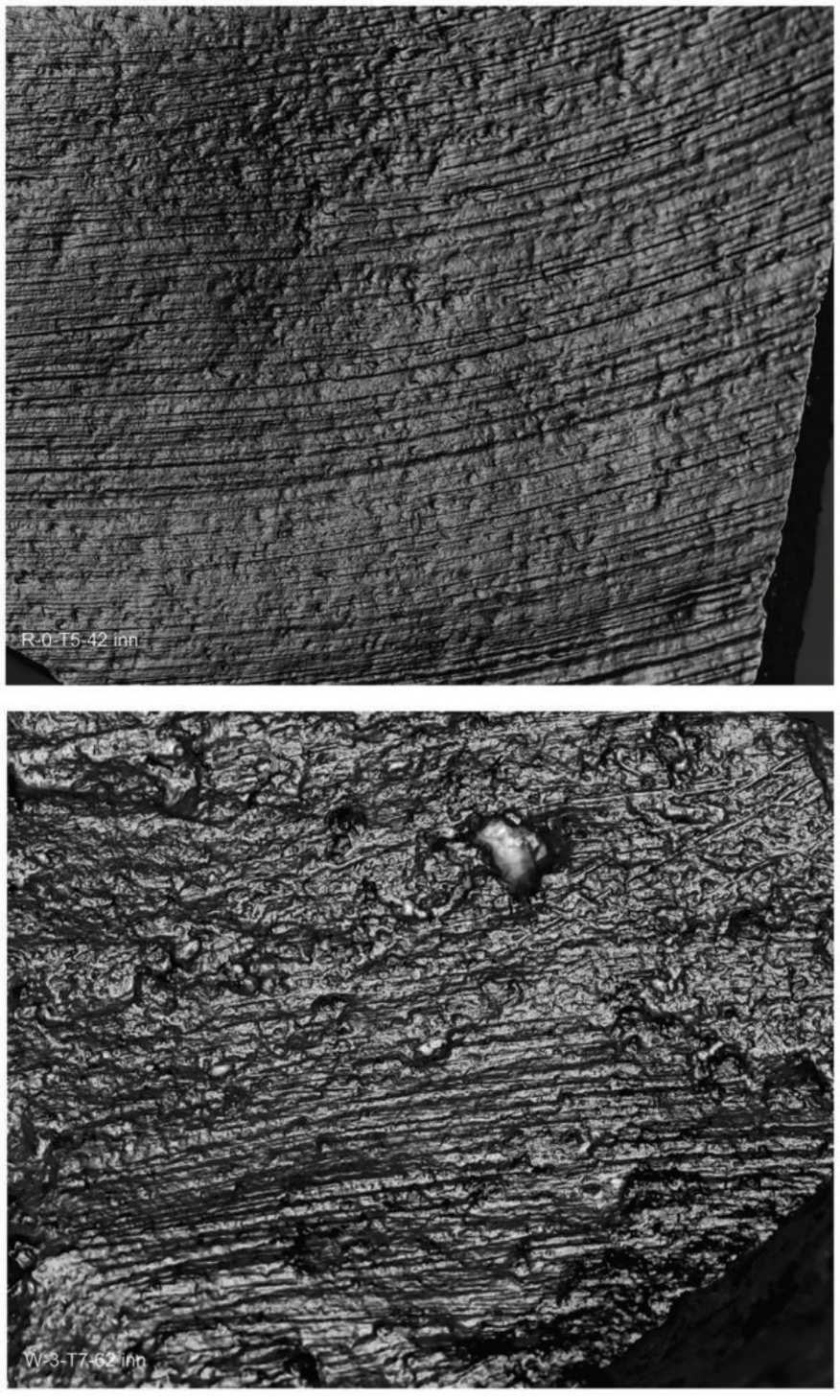

Fig. 14. Images of the inner surface of experimental vessels. Upper image: vessel hand-formed (from one lump of clay), wheel-shaped, slow wheel, Rheinzabern clay. Lower image: handmade vessel: hand-forming and hand-shaping (from one lump of clay), Weltzow clay tempered by crushed ceramic fragments (grog). RTI registration and generation of data for analysis by M. Baranowski for ARCHEA

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The authors would like to thank Manuela Malenz (Malenz Töpferei in Velten, Brandenburg, Germany) for the use of her pottery workshop to produce experimental ceramic vessels. The authors are also grateful to Gerwulf Schneider for his stimulating presence during the experimental vessel forming and for compiling a photographic record of the forming and shaping process.

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Streszczenie

Archeologia eksperymentalna: na ile możliwe jest odtworzenie starożytnych technik formowania ceramiki?

W artykule przedstawiono możliwosci i ograniczenia trzech metod w analizie technik formowania ceramiki zabytkowej. Pierwsza z metod jest metodą obrazową polegająca na obserwacji tekstury oraz struktury porów w przekrojach wykonanych w płaszczyźnie równoległej i prostopadłej do osi naczynia (FTPTS analiza). Druga metoda polega na określeniu stopnia zagęszczenia czerepu (FTDX analiza). Oparta jest ona na założeniu, że różny sposób wykonania naczynia manifestuje się różnym jego zagęszczeniem. Metoda ta jest dużo bardziej czasochłonna i wymaga oznaczenia zarówno gęstości pozornej, jak i właściwej. Trzecia z metod polega na analizie śladów na powierzchni naczynia z zastosowaniem techniki RTI. Przeprowadzone eksperymenty wykazały, że optymalne wyniki daje połączenie dwóch technik: FTPTS z RTI albo FTDX z RTI.

Małgorzata Daszkiewicz
Freie Universität Berlin
Excellence Cluster 264 TOPOI
Hittorfstr. 18, 14195 Berlin, Germany /
ARCHEA
ul. Ogrodowa 8 m. 95, 00-896 Warszawa, Poland
m.dasz@wp.pl

Ewa Bobryk
Warsaw University of Technology
Faculty of Chemistry
ul. Noakowskiego 3, 00-664 Warszawa, Poland
bobryk@ch.pw.edu.pl

Manja Wetendorf
PhD candidate
Excellence Cluster 264 TOPOI
Hittorfstr. 18, 14195 Berlin, Germany
manja.wetendorf@gmail.com

Renata Ciołek

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***Faros. Grčki, grčko-ilirski i rimski novac*,**
in collaboration with Damir Doračić, Ivana Zamboni and Maja Bonačić-Mandinić,
vol. III (= *Biblioteka Knjiga Mediterana* 99), Split 2017

The newest study of the issues of Greek colonies in Illyria, by Croatian numismatists Jasna Jeličić Radonić, Hermine Göricke-Lukić and Ivan Mirnik, in collaboration with Damir Doračić, Ivana Zamboni and Maja Bonačić-Mandinić, was published in Split in 2007 as a volume commemorating Zdenka Dukat, a Croatian archaeologist and numismatist who spent a lifetime working at the Archaeological Museum in Zagreb. She penned many important and valued books, including volumes on Illyrian coins from Croatia. The reviewed book *Faros. Grčki, grčko-ilirski i rimski novac* treats on the coin finds from the island of Hvar, known as Pharos in Greek.

The publication consists of 16 articles on a variety of topics, starting from coins struck on the island of Pharos, through of a review of the history of research and studies of coins from other Greek centers, to finds of Roman and early Byzantine coins. It is richly illustrated with quality prints, which is a welcome change from the standard of just a few years ago, although one would appreciate a bar scale or any other reference, like a ruler, in the photos. Size and weight are of significance in the case of Illyrian coins and these have been given in the list of illustrations. Nonetheless, the quality of the printed images compensates for these inconveniences.

The introductory article by Hermine Göricke-Lukić, "Nove spoznaje o ostavi grčkog novca iz Škudljivca na otoku Hvaru" (pp. 15–53, English summary: "The hoard of Greek coins from Škudljivac on the island of Hvar", pp. 55–57) reconsiders one of the most interesting hoards of Graeco-Illyrian coins in the present reviewer's opinion. The collection found on the island of Hvar, which contained bronze Illyrian coins, including 47 coins from Heraklea, dated to 330–320 BC, triggered interest in the coinage of Illyrian Heraklea and supplied one of the most important arguments in favor of Illyrian mints operating already in the fourth century BC. Göricke-Lukić analyzes the stylistic and typological traits of particular coins from the mints of Pharos and Illyrian Heraklea, determining the mutual connections on the grounds of a detailed study of the dies. A review of all the coins from the hoard has supplemented Josip Brunšmid's typology from 1898, which is still an important source for the study of Graeco-Illyrian coins despite the more than a hundred years that have passed since its publication. Göricke-Lukić was able to identify

new types not present in concern Brunšmid's typology based on a detailed review of the whole set of coins from Pharos and Illyrian Heraklea in the hoard. She believes that the issues of Issa were not, as Brunšmid thought, restruck by Pharos but the other way round. New data from the present study indicate the prevalence of *hemilitria* in the hoard and reveal the presence of one example of a *trias*. Göricke-Lukić was able also to identify all the phases of development of the Pharos mint, presenting a relative chronology (as well as absolute dates) for particular con types. She relates the issues to the rule of successive Syracusan tyrants in this part of Illyria, an obvious and essential approach, but it is her interpretation of the IONIO issues, for which the hoard is so well known, that is the most interesting and noteworthy. She argues that having reached maturity at this time, Ionios had thrown off the yoke of the Dionysii, tyrants of Syracuse, and embarked on the organization of his own domain. She also admits to difficulties in the interpretation of two coins from the hoard that had been restruck twice.

The fourth-century-BC issues of the Pharian mint are the subject of another article by Zdenka Dukat and Jasna Jeličić Radonić "Emisije farske kovnice u 4. st. pr. Kr." (pp. 64–106, English summary: "Issues of the Pharian mint in the 4th century BC", pp. 107–111). This presentation of coins of Pharos and Illyrian Heraklea, including one with the stamp ΔI, coming from excavations complements the above-mentioned article on the hoard from Škudljivac. Coins with the ΔI mark were thought to be struck in the mint of a city with a name starting with these two letters, which has never been identified and remains the object of debate, as does its exact localization. The current theory is that it was a mint on Pharos, specifically in the modern city of Hvar, which used to mark coins with the ΔI stamp. The main interest of these coins lies in the fact that they always restruck issues from other mints, most frequently coins of the Pharian mint of the type with the head of Zeus / goat. The point is that in this case entirely new dies were prepared, including the two letters, and the process covered all the stages of a regular coin issue except for the preparation of the blanks themselves. Coins already in circulation on the island were used instead. This conclusion derives from the observation that the obverse of Pharian coins usually bears the ΔI mint stamp, that is, the goat, above which one notes either two letters (ΔI) or three when a M is added (ΔIM). The ΔI stamp has also been observed, although definitely less often, on coins of the IONIO. One coin from the Zagreb collection was restruck three times: a Pharos coin of the head of Zeus / goat type was first restruck with an image referring to the IONIO type, and then with the ΔI stamp. Occasionally, ΔI appears also on coins of Illyrian Heraklea. Coins with such a minting story, ending in restriking with the ΔI mark have been found mostly on the Pharos island and the abundance of Pharian coins that were restruck also indicates production on the spot. The research propose to view ΔI as a mark of an autonomous center located on Pharos, which lost its independence about the mid-fourth century BC. P. Nisiteo and S. Ljubić had suggested a south Illyrian city ΔIMΑΛΩΣ (Dimalus) as the producer of coins with the ΔI stamp, whereas P. Visonà had argued for ΔI identifying the denomination of the coin, *dichalcon*, instead of being an abbreviation consisting of the first letters of the mint. Visonà proposed a reduction in the weight of Pharian issues in the end of the fourth century BC, intended to adapt the coins to the new lighter type after the reform of the third century BC, but his argument is not convincing as there is no evidence from Illyria for coin denominations to be marked with letters. However, assuming his theory would require a revision of ideas concerning the coins from the Pharian mint in general, because the hypotheses about different denominations were not correct. It would mean that the lighter coins of the Zeus / goat type were struck after the reform, which introduced the markings, that is, in the third century BC and not in the fourth century BC as hitherto accepted. I do not think that there is sufficient proof for Visonà's theory for now.

Dukat and Jeličić Radonić propose a relative chronology for the studied issues. Coins struck with the ΔI stamp occur in the first phase of the Pharos and Illyrian Heraklea minting. In the

opinion of the researchers, this indicates a local Illyrian dynasty ruling the two cities. Pharos was shortly subordinated by Ionios king of Issa, an event reflected in the coins of Pharos with his name, such as those from the Škudljivac hoard. Two series of the IONIO type distinguished by Dukat and Jeličić Radonić, reflect political change in their opinion, namely, the new situation that followed independence from Syracuse. New coin issues from this phase attested to the renewed autonomy of the local Illyrian dynasty. It may be concluded that Ionios built his realm on the ruins of the kingdom of the Sicilian tyrants, starting from Issa and then moving to Pharos. Rendić-Miočević has even suggested that Ionios reached Korkyra (Korčula), a fact that certain elements appearing on the IONIO coins could suggest. This expansion must have taken a fairly stormy course in the opinion of the two researchers, giving reason for the deposition of the Škudljivac hoard. One might agree with the conclusion about the skills of this ruler and his subordination of a large territory under his rule, but one should first look at the distribution of coins with the IONIO mark. The numismatic material holds interesting information on the political situation of the period in this part of the Balkans, as well as the political trends current among the Illyrian dynasts. Assuming that Ionios was indeed an Illyrian ruler, we find that he is known solely from these particular issues of coins with the IONIO stamp from the second half of the fourth century BC. This gives an important indication for the rule of king Ballaios, whose case thus turns out not to be an isolated one: local chieftains getting rich (from piracy presumably) and expanding into new territories, introducing their own coinage on the local market.

Dukat and Jeličić Radonić have also taken upon themselves a study of 14 bronze coins of Dionysius the Elder from Syracuse from the excavation in Stari Grad ("Novac Sirakuze u doba Dionizija Starijeg", pp. 115–127, English summary: "Coins of Syracuse in the era of Dionysius the Elder", pp. 129–131). These coins were in circulation together with the silver coins of Corinth and Dyrrhachium in the late fifth through mid-fourth century BC, and, by all appearances, with contemporary local coinage. This observation is important in view of the current belief that nearby Issa was not colonized until the rule of Dionysius the Younger, that is, until 343 BC. The only way to explain the presence of coins of Dionysius the Elder among the local coinage is to agree that the Syracusan tyrants exerted their influence into the region already during his rule.

The excavations on the island of Hvar yielded also a set of 24 bronze coins from Dyrrhachium (Jasna Jeličić Radonić, "Novac Dirahija", pp. 132–143, English summary: "Coins of Dyrrhachium", pp. 145–147) and 14 coins from Illyrian Heraklea (Jasna Jeličić Radonić, "Novac ilirske Herakleje", pp. 148–159, English summary: "Coins of Illyrian Heracleia", pp. 161–165). The latter collection is of particular significance as the sources for this Greek colony are scarce indeed; it is mentioned solely as a Hellenistic harbor town in the *Periplus* of Pseudo-Skylax (Ch. 22) and there are a few coins preserved, altogether 366 before the present 14 according to this reviewer's count. Coins with the legend HPAKΛE (and abbreviated versions) have been recorded all along the Dalmatian coast and, primarily, on the island of Hvar, which entitles one to think that the colony was situated on the island, most likely in the vicinity of the town of Hvar according to the results of recent research. Branko Kirigin rejects this idea in favor of modern Trogir or Zadar as the location of ancient Heraklea. It is generally assumed that Illyrian Heraklea struck coins in the fourth century BC; in style and metrology, these coin draw upon the products of the Pharian mint and that of the neighboring island of Issa, which is dated to the fourth century BC as well. Some researchers would point specifically to the years immediately before the middle of the fourth century BC as the time for the working of the Heraklea mint. Moreover, the IONIO and ΔI type coins were restruck using Heraklean coins, which could suggest a collapse of the colony's autonomy and very likely a complete destruction of the city. No younger coins of Illyrian Heraklea are known and the written sources are silent after that.

Jeličić Radonić is also the author of an extensive article on the issues of all the Pharian mints from the third century BC ("Emisije farske kovnice u 3. st. pr. Kr.", pp. 166–201, English summary: "Issues of the Pharian mint in the 3rd century BC", pp. 202–207). These were bronze coins struck on Pharos and by King Ballaios. A single type of coin with the legend ΦA (in three variants) was in circulation in the second half of the third and second century BC. The reverse bore a kantharos, the obverse a male head, "mladolika glava" ("head of a youth" – transl. RC), that has yet to be identified conclusively. The head bore no ornaments and appeared in several versions, from a well executed image to a fairly barbarous representation, making interpretation difficult at best. Considering that no other type was struck on Pharos in the said period and in view of the booming development of Greek mints in this age, one would expect large numbers of these coins in many different variants. And yet finds of coins from Pharos have yet to be satisfactorily counted and data on Pharos minting to be collected for study. It would appear that the count of type VIIII recorded coins does not exceed 200, hardly a staggering quantity considering the timeframe involved.

The poor state of preservation of the coins, as shown by the photographic record presented in the paper, makes a study of the dies and the links between them difficult at best. The Pharos mint could not have operated in 219 BC when the Roman army razed the city to the ground and not before 229 BC when Agron stationed his army there. They had to be issued in large quantities between 229 BC and 219 BC, during the rule of Demetrius, who was literate and who needed money to pay his mercenaries. The quality of the representations worsened after that, in the second century issues. Jeličić Radonić is of the opinion that the representations of the head of Ballaios and the iconography of Pharian coins indicate ties between the two issues and their parallel circulation. Citing D. Rendić-Miočević, she supports the view that the coinage of Ballaios cannot be attributed to a single king considering the variety of extant portrait heads. She also speaks of coins with a kantharos and a portrait head of Ballaios. The present reviewer finds this interpretation somewhat surprising. On one hand, the immense variety of the portrait representations is emphasized and, on the other hand, similarities are sought between the coins said to be from Pharos ad the coinage of Ballios. The variety of portrait representations of Ballaios is indeed considerable and were we to follow this line of reasoning, it would turn out that Ballaios's coinage was struck by many different rulers, hundreds of them as a matter of fact. However, Illyrian coinage of the period is not excessively proficient in execution, starting from the metal alloy, through the craftwork of the engravers, to the actual striking of the coins. The age of the ruler is also an issue to be considered. Ballaios appears to have lived a long life and during his lifetime not only did the political situation change and the monetary system evolve, but the ruler himself aged over the years. These two aspects should not be connected here in this reviewer's opinion. The reviewer also needs to flag the conclusion that coins with a "barbarous" portrait ("barbarski portret") are younger than those with the well executed version of the image. The huge hoard from Risan, which counts 4566 coins, contains most probably one of the last, if not the last coins produced in the Rhizon mint as attested by the archaeological record (layer of burning denoting destruction of the city). There is just a few percent of these "barbarous" coins in the hoard. The present reviewer refers to these coins as simply Illyrian, seeing no reason not to call them by name. The coins from the hoard were for the most part struck rather efficiently and there is little to speak of their "barbarization".

It is the opinion of the author of the article that Ballaios's activity peaked in the times of Agron. According to her, it is then that the ruler's portrait appears on the coins from Pharos. The conclusion about the good relations with neighboring Illyrian chieftains derived from the presence of a coin of Mithylos on the island is also somewhat surprising. Only four coins of this king, who ruled presumably about 270 BC, are known and there are absolutely no grounds for thinking that Mithylos struck his coinage solely for the purpose of bestowing gifts upon friendly Illyrian

dynasts. Would it not be economically more justifiable to consider the distribution of these coins to be the result of regular commercial contacts?

Jeličić Radonić evidently places Ballaios's stay on the island with the times of Agron. And yet there is much to say that in the times of Agron Ballaios was already in Kotor Bay. She also suggests that the portrait head on coins with a kantharos on the reverse was that of Demetrius of Pharos. The portrait with a long pointed nose was indeed a representation that may be considered as depicting a notable person, most certainly no Illyrian divinity, hence quite possibly Demetrius, who was an educated man and a good strategos, courageous but ill-advised to believe Polybius (III 18, 1–13, 19). Thus, the author's suggestion in this respect is quite likely.

The monograph in question include also information on finds of coins of Issa, Arpi and Sikion on the island of Hvar (Z. Dukat, J. Jeličić, "Novac grčkih gradova — Issa, Arpi, Sikion" / "Coins of Greek cities — Issa, Arpi, Sikyon", p. 208), an overview of the collection of Greek and Graeco-Illyrian coins from the storeroom of the Dominican monastery at Stari Grad (Z. Dukat, I. Mirnik, "Grčki i grčko-ilirski novac numizmatičke zbirke dominikanskog samostana u Starom Gradu", pp. 235–247, English summary: "Greek and Graeco-Illyrian coins in the Numismatic Collection of the Dominican monastery at Stari Grad", pp. 248–249, including many images of top quality), and a study and catalogue of Roman coins found in the territory of Pharos (H. Göricke-Lukić, "Nalazi rimskog novca u Starom Gradu", pp. 250–252, English summary: "Finds of Roman coins in Stari Grad", pp. 291–293; Z. Dukat, I. Mirnik, "Katalog rimskog novca s arheoloških istraživanja Pharosa" / "Catalogue of Roman coins from archaeological researches into Pharos", pp. 253–272; M. Bonačić-Mandinić, "Ostava kasnoantičkog novca s lokaliteta 'Remetin vrt'" / "Late Roman coin hoard from the archaeological site of Remeta Garden", pp. 273–287; Z. Dukat, I. Mirnik, "Katalog rimskog novca numizmatičke zbirke dominikanskog samostana u Starom Gradu" / "Catalogue of Roman coins from the Numismatic Collection of the Dominican priory in Stari Grad", pp. 288–289). Of utmost significance are the metal laboratory analyses of the coins excavated in Pharos (D. Doračić, I. Zamboni, "Analiza elementnog sastava grčkog i grčko-ilirskog novca s arheoloških istraživanja Pharosa", pp. 215–225, English summary: "Elemental composition analysis of Greek and Graeco-Illyrian coins from the archaeological excavations in Pharos", pp. 227–233). This analysis will be the basis of comparative studies once the elemental composition analysis of the coins of Ballaios from Risan has been completed.

In conclusion, the volume is interesting in its subject matter and very nicely published with many photographs of good quality, the conclusions are often provocative and in many cases acceptable in part, if not in whole. The most recent dating of the reign of King Ballaios has been assumed (260/250–230/229 BC), but in a few points I am not entirely clear on the interpretation of the coins of this ruler (I have presented my doubts above). Last but not least, none of the critical remarks above can take away from the importance of this volume. Its publication is extremely commendable and personally appreciated by this reviewer, for the data new and old that it marshals open the way to a dialogue between researchers on the history of Illyria. It illustrates explicitly and highlights the role of coin finds for reconstructing the history of Illyria and the Illyrian ruling dynasties, especially this little known or entirely unknown ones.

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в	v
г	g
д	d
е	e
ж	ž
з	z
и	i
й	j
к	k
л	l
м	m
н	n
о	o
п	p
р	r
с	s
т	t
у	u
ф	f
х	h
ц	c
ч	č
ш	š
щ	šč (rosyjski); št (bułgarski)
ъ	ă (bułgarski)
ы	y (rosyjski)
ь	’
э	e (rosyjski)
ю	ju
я	ja
ђ	đ (serbski)

ѓ	g’ (macedoński)
љ	lj (serbski)
њ	nj (serbski)
ћ	ć (serbski)
ќ	k’ (macedoński)
џ	dž (serbski)

ZASADY ODMIANY NAZW GEOGRAFICZNYCH (DOTYCZY TEKSTÓW POLSKICH)

1. Nazwy geograficzne starożytne greckie (np. Rhizon) i łacińskie (np. Novae) prosimy podawać zawsze w wersji nieodmiennej. Mimo że jest to czasami wbrew duchowi polszczyzny, taka zasada pozwoli uniknąć sytuacji typu Serdica – Serdiki.

2. Nazwy geograficzne współczesne prosimy podawać w tradycyjnej wersji polskiej, o ile taka istnieje; np. Warna (nie Varna), Konstanca (nie Constanţa). W sytuacji, gdy polska nazwa tradycyjna różni się znacznie od nazwy obcej, można tę drugą podać w nawiasie; np. Aluta (Olt).

3. Wszystkie nazwy geograficzne współczesne, zarówno tradycyjne polskie, jak i obce, zasadniczo odmieniamy, z zachowaniem „zdrowego rozsądku”. Tak więc pisać będziemy: Warna – Warny – w Warnie, Aluta – Aluty – nad Alutą, a także Svištov – Svištova – w Svištovie, Hârşova – Hârşovy – w Hârşovie, Iskăr – Iskăru – nad Iskărem. W przypadkach, gdy nazwa niechętnie poddaje się polskiej odmianie – zwłaszcza nazwy zakończone na -n, np. Gigen (analogicznie do Bonn, Essen, Xanten), oraz nazwy dwuczłonowe, np. Malăk Preslavec – należy pozostawić ją nieodmienną (w Gigen, w pobliżu Malăk Preslavec).

4. Formę tradycyjnej nazwy polskiej można znaleźć w: Henryk Batowski, *Słownik nazw miejscowych Europy środkowej i wschodniej XIX i XX wieku*, Warszawa 1964.

ILUSTRACJE

1. Każda ilustracja zawarta w artykule musi być przywołana w tekście.
2. Odnośniki do ilustracji podajemy w tekście, w nawiasach kwadratowych; np. [Fig. 1], [Figs. 2–3] (w tekstach angielskich), [Ryc. 1], [Ryc. 2–3] (w tekstach polskich), [Abb. 1], [Abb. 2–3] (w tekstach niemieckich) itp.
3. Każda ilustracja musi mieć podpis objaśniający jej zawartość. Podpisy do ilustracji prosimy przesyłać jako listę na końcu artykułu (po bibliografii).
4. Podpis ilustracji musi zawierać informację o jej wykonawcy. Autorzy artykułów odpowiedzialni są za uzyskanie wszelkich pozwoleń i praw potrzebnych do publikacji nadsyłanych przez siebie materiałów.
4. Każdą ilustrację prosimy nadsyłać w osobnym pliku. Nazwy plików powinny być numerami figur przywołanych w tekście.

Zdjęcia
Prosimy przesyłać oryginalne pliki z aparatu cyfrowego (formaty TIFF, JPEG, RAW etc.) w maksymalnej posiadanej rozdzielczości.

Skany
Slajdy powinny być skanowane w rozdzielczości 2400 dpi i zapisywane w formacie TIFF.
Rysunki w tuszu etc. powinny być skanowane w rozdzielczości 1200 dpi, jako RGB (kolor) lub GREYSCALE (cz.-b.) i zapisywane w formacie TIFF.

Rysunki
Ilustracje (plany, mapy, rysunki zabytków etc.) wykonane w formie elektronicznej prosimy przesyłać w oprogramowaniu, w jakim zostały wykonane, czyli Corel (do wersji X3) lub Ilustrator (AI). W przypadku korzystania z programów takich jak Autocad czy Archicad należy zapisać pliki dla formatu np. Corela.
Dodatkowo prosimy o przesłanie tych samych ilustracji w formie plików PDF lub JPG, które posłużą do wglądu.
Prosimy nie przesyłać rysunków w formie plików JPG lub PDF jako materiału ilustracyjnego, jeżeli posiadają Państwo ich wersję w programach graficznych.

Parametry dla rysunków w Corelu i Ilustratorze
Minimalna grubość linii: 0,1 mm.
Stosowana kolorystyka: CMYK, w przypadku koloru czarnego C=0 M=0 Y=K K=100.
W przypadku stosowania kilku odcieni szarości, różnice pomiędzy nimi powinny wynosić min. 10 %.
Czcionka Arial; przy miarce: 6 pt, w innych opisach na planach: 7–9 pt.

GUIDELINES FOR *NOVENSIA* AUTHORS

Novensia editors have prepared the present information on the review procedure and guidelines for preparing articles and materials for publishing in the periodical. All efforts by prospective authors to follow these guidelines will greatly facilitate editorial work and quicken the publishing process.

REVIEW PROCEDURE

In *Novensia* we publish only original, independent works that do not infringe any existing copyrights. Therefore, the authors may be requested to provide a declaration regarding these matters. The *Novensia* editorial board will also, if necessary, contact the authorities of any given scientific institution stated as an affiliation by the prospective author for their opinion on the originality of the works provided. We also do a bibliographic redundancy check in the available Polish and international databases.

For each proposed article, the editorial board selects two reviewers from the group stated in the edition notice (p. 4) and our webpage (http://www.novae.uw.edu.pl/english/novensia.htm).

The reviewers do not know the identity of the author ("double blind review").

The reviewers are required to sign a declaration stating there is no conflict of interests and to provide a written review, with a clear indication allowing the scientific article to be published.

Only two positive reviews will open the way for publication in *Novensia*.

GENERAL GUIDELINES

1. Texts should be submitted in standard font (Times New Roman, Garamond etc.) – 12 pt text, 10 pt footnotes.
2. Texts should be submitted as text documents (DOC files) and as a PDF file.
3. Illustrations need to be submitted separately; do not paste them in the text file.
4. Each article should have an abstract and keywords (in English) and summary (in Polish for texts not in Polish, in English for texts in Polish).
5. Authors are requested to provide their institutional affiliation.

FOOTNOTES

Footnotes at the bottom of the page should include, beside relevant text, bibliographic references following the model below:

> Last Name year of publication: page range.
>
> e.g. Kolendo 2008, pp. 120–121.

Notes

1. Semicolons should be used to separate reference items in footnotes. For a number of works by the same author use either:
   Eck 2001; Eck 2003a
   or:
   Eck 2001; 2003a

2. All footnote references need to be listed as a full bibliographic reference at the end of the article.

LIST OF BIBLIOGRAPHIC REFERENCES

A list of bibliographic references follows the text of the article.

Each item on the list begins with:

Last name year of publication —

Followed by:

1. Book

F. Last name, *Title*, place of publication.

e.g. Parnicki-Pudełko 1990 — S. Parnicki-Pudełko, *The Fortifications in the Western Sector of Novae*, Poznań.

2. Book in series

F. Last name, *Title* (= *Name of series* number in series), place of publication.

e.g. Kunisz 1987 — A. Kunisz, *Le trésor d'antoniniens et de folles des 'Principia' de la légion de Novae (Bulgarie)* (= *Studia Antiqua* 10), Warsaw.

3. Article/chapter in collective work

F. Last name, "Title of article/chapter", [in:] *Title of collective work*, ed. F. Last name, place of publication, page range.

e.g. Dyczek 2005 — P. Dyczek, "On the genesis of Roman legionary hospitals", [in:] *Limes XIX, Proceedings of the XIXth International Congress of Roman Frontier Studies, Pécs, Hungary, September 2003*, ed. Z. Visy, Pécs, pp. 871–881.

4. Article/chapter in collective work published in a series

F. Last name, "Title of article/chapter", [in:] *Title of collective work*, ed. F. Last name (= *Name of series* number in series), place of publication, page range.

e.g. Kolendo 2008 — J. Kolendo, "Novae during the Goth raid of AD 250/1 (Iordanes, *Getica* 101–103)", [in:] *A Companion to the Study of Novae*, ed. T. Derda, P. Dyczek, J. Kolendo (= *Novae. Legionary Fortress and Late Antique Town* 1), Warsaw, pp. 117–131.

5. Article in periodical

F. Last name, "Title of article", *Title of periodicał* number of periodical, page range.

e.g. Lemke 2009 — M. Lemke, "Stone projectiles from Novae", *Novensia* 20, pp. 209–219.

6. Article (item) in encyclopedia

F. Last name, "Title of article (item)", *Title of encyclopedia* volume number (optional), place of publication, page or column range.

e.g. Cermanović-Kuzmanović 1976 — A. Cermanović-Kuzmanović, "Risinium", *The Princeton Encyclopedia of Classical Sites*, Princeton, p. 760.

Notes

1. Items by the same author published in one year need to be identified by successive letters of the alphabet (e.g. 1998a, 1998b, 1998c etc.), listed in alphabetical order of titles.
2. Multiple authors need to be cited in the order on the title page, separated by commas. For more than three authors, list name of first author only and add *et alii*.
3. For book titles in English capitalize all words; in article titles in English capitalize only proper names.
4. For repeated citing of popular series (e.g. *CIL*) and encyclopedias (*RE*) list relevant abbreviations; write out in full if cited only once.
5. In case of titles in other than congress languages include translation into the language of the article, in square brackets [ ].
6. Pages (columns) should be preceded by the relevant abbreviation in the language of the article (PL: s., kol.; ENG: p./pp., col./cols; DE: S., Sp., etc.).
7. Page ranges should be given with 'en dash' (see pt. 9 below) without spaces, e.g. 22–35.
8. For multiple publication place names use 'en dash' (see pt. 9 below) with spaces, e.g. Warsaw – Cracow – Wrocław.
9. 'En dash" — key combination Ctrl + "–" (from the number keyboard).
10. Internet citations should provide full URL in footnotes as well as bibliography. Please provide access dates in each case. If a hard-copy version exists, do not cite electronic version.

TRANSLITERATION RULES FOR PROPER NAMES IN THE CYRILLIC ALPHABET

Proper names (geographical names, personal names and last names) in the Cyrillic alphabet should be transliterated according to the following rules:

Cyryllic alphabet	transliteration
а	a
б	b
в	v
г	g
д	d
е	e
ж	ž
з	z
и	i
й	j
к	k
л	l
м	m
н	n
о	o
п	p
р	r
с	s
т	t
у	u
ф	f
х	h
ц	c
ч	č
ш	š
щ	šč (Russian); št (Bulgarian)
ъ	ă (Bulgarian)
ы	y (Russian)
ь	’
э	e (Russian)
ю	ju
я	ja
ђ	đ (Serbian)
ѓ	g’ (Macedonian)
љ	lj (Serbian)
њ	nj (Serbian)
ћ	ć (Serbian)
ќ	k’ (Macedonian)
џ	dž (Serbian)

ILLUSTRATIONS

1. Illustrations included with an article need to be cited in the text.
2. References to figures are given in the test in square brackets; e.g. [Fig. 1], [Figs. 2–3] (in English), [Ryc. 1], [Ryc. 2–3] (in Polish), [Abb. 1], [Abb. 2–3] (in German) etc.
3. Provide captions for figures describing content. List of figure captions can be appended at the end of the article (after the list of bibliographic references).
4. Include credit information. Authors are responsible for obtaining all relevant copyright permissions required for the legal publication of submitted materials.
5. Submit illustrations as separate files identified by the number of the figure as cited in the text of the article.

Photographs
Photographs should be submitted as original digital files (TIFF, JPEG, RAW etc.) in maximum available resolution.

Scans
Scan transparencies in 2400 dpi resolution and submit as TIFF files.
Ink drawings etc. should be scanned in 1200 dpi, as RGB (color) or GREYSCALE (black/white) in TIFF format.

Drawings
Digitized figures (plans, maps, drawings of objects etc.) should be submitted as files of the original software in which they were done, that is Corel (not higher than X3) or Ilustrator (AI). For Autocad and Archicad software, files should be saved in Corel format, for example.
Submit all illustrations of this kind additionally as PDF or JPG files for inspection.
Avoid submitting JPG or PDF files of figures prepared in one of the graphic software programs.

Parameters for figures drawn using Corel or Illustrator software
Minimum line thickness: 0.1 mm.
Color: CMYK, for black C=0 M=0 Y=K K=100.
For shades of gray, the difference should be at least 10%.
For legends, Arial font; next to scale: 6 pt, other parts of the legend: 7–9 pt.