Ars scribendi. Writing Implements Discovered in the Legionary Fortress of Potaissa

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Abstract: Other than the already renowned 25 *tabulae ceratae* discovered at Alburnus Maior, the province of Dacia has also yielded numerous monumental or minor inscriptions, including both basic, as well as more informative graffiti. In the legionary fortress of Potaissa, besides numerous monumental inscriptions, eight *tegulae scriptae*, as well as a few ownership marks, the presence of other written documents can be deduced both from the existence of certain specialized personnel and especially from the presence of writing implements dispersed in the commandment building, the military baths and the soldiers' barracks. Thus, even though papyri, parchments or waxed tablets have not been preserved due to their perishable material, their use in the legionary fortress could be indirectly attested by the discovery of eight styli, two inkwells, three rulers, four seal boxes and six lead seals.

Keywords: *instrumenta scriptoria*, styli, inkwells, *litterati milites*, Potaissa.

Rezumat: Pe lângă deja bine cunoscutele 25 de tabulae ceratae descoperite la Alburnus Maior, în provincia Dacia s-au descoperit şi numeroase inscripţii monumentale sau minore, ce redau atât cuvinte simple, cât şi texte mai informative. În castrul legionar de la Potaissa, pe lângă numeroase inscripţii monumentale, opt *tegulae scriptae* şi câteva mărci de proprietar, prezenţa altor documente scrise poate fi dedusă din existenţa personalului specializat în scris şi mai ales din prezenţa instrumentelor de scris găsite în clădirea comandamentului, în băile militare şi în barăcile soldaţilor. Astfel, chiar dacă fragmente de papirus, de pergament sau tăbliţe cerate nu au fost descoperite, datorită materialelor perisabile din care erau făcute, utilizarea lor în fortificaţia legionară poate fi dedusă indirect prin descoperirea a opt styli, două călimări, trei liniare, patru capsule de sigilii şi şase sigilii de plumb.

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Cuvinte cheie: *instrumenta scriptoria*, *styli*, călimări, *litterati milites*, Potaissa

R. O. Fink's notable collection of Roman military records on papyrus, parchment and *ostraca*, reassessed and improved more recently by S. E. Phang and M. A. Speidel among others, shows the vast variety of the written word within the Roman army[1]. The high importance of the written documents within the legion was quintessentially determined by the need to keep a well-coordinated, disciplined military machine[2]. Nevertheless, besides reports, duty rosters, passwords for night watch and different lists, written documents also included school exercises, personal letters, and even literary texts. However, I. Haynes "emphasized that the aim is not to suggest the existence of mass literacy within the army, but rather to demonstrate that the military environment was essentially defined by writing and was accordingly highly conducive to the acquisition of writing skills"[3].

Litterati milites

Because military success often depended on the precise communication and understanding of a written order or signal, soldiers needed to have sufficient knowledge, at least in order to read a simple message. In provinces like Britannia and Germania soldiers were frequently depicted on funerary monuments either holding writing equipment in their hands or next to a servant scribe[4]. Moreover, the analysis of the Vindolanda tablets showed that besides clerks, officers and even lower-ranked soldiers were capable of writing[5]. In the province of Dacia, most of the informal inscriptions consisting in graffiti made on vessels, tiles or bricks, come from military sites and can be further attributed to the existence of a certain degree of literacy among lower-ranked soldiers as well[6]. Moreover, better skills in writing could have represented a real desideratum among soldiers given that literacy worked as a ladder of promotion to *principales*, and implicitly the best way to be

[1] Fink 1971; Phang 2007; Speidel 2018.
[2] Albana 2013, 5.
[3] Haynes 2013, 318.
[4] Speidel 1996, 57-64; A military *librarius* is depicted on his tombstone holding both a scroll, as well as a small set of wax tablets in his hands, suggesting that he was capable of writing on both of these materials: Austin 2015, 15-16.
[5] Bowman 2003, 85 apud Eckardt 2017, 120.
[6] A few writing exercises performed on tile fragments have been found within the legionary fortress of Potaissa as well: Bărbulescu 2012, 224-231.

exempted from *munera graviora*[7]. This is perhaps best illustrated by a papyrus letter dated in 107 A.D., in which a soldier praises himself that he is no longer compelled to cut stones, since he acquired the job of *librarius* in *legio III Cyrenaica* due to his ability to read and write[8]. However, it is worth mentioning that while legionary soldiers are believed to have generally been either fully literate or semi-literate, the great majority of the soldiers from the auxiliary units are envisaged as slow writers or more likely even illiterate[9].

"A Roman army without bureaucracy would not have been a Roman army"[10]. The existence of specialized personnel that was assigned with secretary, accounting, writing and archiving tasks was necessary in order to keep track of the great quantity of documents that were edited, used, distributed, consulted and stored within a legionary fortress. Among the specialized personnel, four *librarii*[11], one *actarius*[12], one *cornicularius*[13] and one *adiutor officii cornicullariorum*[14] are attested within the legionary fortress of Potaissa.

Although most certainly the preference for a certain writing material was dictated by local availability, the finds from Dura Europos suggest that when accessible, papyrus might have been reserved for officers' letters or formal military reports, while tablets or other materials were used for internal purposes.[15] Unfortunately however, besides a few notable exceptions, military sites usually do not meet the required environmental conditions necessary for the preservation of papyri, parchments or waxed tablets. Nevertheless, the existence of styli, wax *spatulae*, inkwells, *calami* or other *instrumenta scriptoria* can indirectly attest the use of these writing materials within the provincial armies. These can be identified in various military sites from the province of Dacia as well, including the legionary fortress of Potaissa **(Pl. I)** and portray a great variety in the art of writing, dictated by different writing materials.

Besides indirect evidence, in the province of Dacia written documents discovered in military context usually refrain to ownership

[7] Albana 2010.
[8] Speidel 2001, 56-57.
[9] Phang 2007, 300.
[10] Haynes 2013, 318.
[11] CIL III 885, 909 (= ILD 494), 7684, 7688.
[12] CIL III 7706.
[13] CIL III 887.
[14] CIL III 894.
[15] Austin 2015, 16.

marks, widely encountered on pottery and military equipment, as well as other more informative graffiti that record lists of soldier names, military functions or unit names, important events or even jokes. On some bricks discovered in the legionary fortress of Potaissa and the auxiliary fort of Gherla we notice proper writing exercises, consisting in repetitions of the alphabet[16]. A joke related to a centurion punishing soldiers with the vine-stick has been incised on a brick recovered from the *praetorium* of the governor at Apulum[17], while the text of a will was rendered on another brick discovered near the western gate of the auxiliary fort from Românaşi[18]. A votive dedication for Fortuna Redux could perhaps be read on a ceramic fragment discovered near the military baths at Slăveni[19], while the invocation of a Genius was noticed on a pottery shard in the southwest corner of the auxiliary fort from Bologa[20].

Styli

The styli discovered within the perimeter of the legionary fortress of Potaissa vary from simple forms shaped like slender rods, with one pointed end and the other flattened, to more complex ones heavily decorated with nodules, rings, hatched and multifaceted portions[21]. Out of the eight styli that were identified, three were made of iron **(Pl. II / 1-3)**, while the others were casted in bronze. The iron ones preserve simple shapes[22], only one of them having a twisted shaft[23]. The bronze ones have either a simple shape, with the shaft heavily thickened at the extremity where an iron pointed tip was mounted **(Pl. II / 4-5)**, or are heavily decorated with moldings of various shapes[24] **(Pl. II / 6-8)**.

As M. A. Speidel has finely noticed, the number of styli discovered within a military site is not necessarily edifying in establishing an approximate volume of lost documents, but rather to "remind us of

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16 Bărbulescu 2012, 228-229, no. 37; Dana 2016, 100-103.

17 IDR III/6, 165.

18 IDR App. I, LXXXII/2.

19 Tudor 1975, no. 7 = Gudea, Cosma 1992, no. 44.

20 Gudea, Cosma 1992, no. 78.

21 Out of the 8 styli identified, three come from the *thermae*: Bărbulescu *et al.* 2019, 287, pl. LXXXI/1-3, two from the commandment building: Bărbulescu et al. 2020, 214, pl. LXXXVIII/2, one from the barracks situated in the *praetentura sinistra*: Nemeti, Nemeti et al. 2017, 61, pl. XXV/4 (=erroneously identified here with the handle of a medical instrument), while two unpublished ones, that are illustrated here, were retrieved from the barracks of the *cohors I milliaria*.

22 Bărbulescu et al. 2019, 287, pl. LXXXI/2; Bărbulescu et al. 2020, 214, pl. LXXXVIII/2.

23 Bărbulescu et al. 2019, 287, pl. LXXXI/3.

24 Nemeti, Nemeti et al. 2017, 61, pl. XXV/4; Bărbulescu et al. 2019, 287, pl. LXXXI/1; Bărbulescu et al. 2020, 214, pl. LXXXVIII/2.

the infinite loss of records, official and private, from the Roman soldiers' everyday lives"[25]. Moreover, we should also bring into equation that besides writing on wax tablets, styli could have also been used for incising letters on pottery shards or lead tablets.

Although it is assumed that Romans preferred to use styli and waxed tablets for writing, the importance of ink has been proved by notable discoveries like the Vindolanda and Carlisle tablets[26]. Unfortunately, such finds have been preserved only in exceptional environmental conditions, thus the use of ink either on parchment, papyri or leaf tablets confectioned from locally available woods in Dacia, can only be guessed based on the inkwells that were discovered within the province. However, it is worth mentioning that although inked letters were usually reserved to these perishable materials, annotations in black ink can be observed on three of the waxed tablets that have been discovered in the Roman gold mines of Alburnus Maior[27].

Inkwells

Even though papyri and parchments have not been preserved due to their perishable material, their use in the legionary fortress seems suggested by the discovery of a few Roman inkwells. Although not necessarily an indicator of wealth and status, ink-writing was presumably more widespread in the Roman army, administration or among the elites as it implied the use of several consumables, some of which were rather expensive[28]. In Roman period, inkwells were confectioned mainly out of copper alloys or pottery, but on occasion they could also be made out of glass, bone or other organic materials. The metal ones are usually more reduced in size and have a cylindrical shape, although on occasion they can also be multifaceted, hexagonal or octagonal. The central part of the closely fitted disc-shaped lid usually has a circular opening, provided with a hinge closure system, necessary both in order to prevent the ink from drying out and from spilling whenever it was handled or transported[29].

H. Eckardt identified several main types of inkwells, in which she recognized a high level of standardization and probably a small number of workshops. Among these, we can include the workshop of Longinius Socrates[30], whose stamp was identified on an inkwell found in Dacia, at

[25] Speidel 2018, 184.
[26] Pearce 2004, 44.
[27] IDR I, III, XXIII, XXIV.
[28] Willis 2005, 100.
[29] Eckardt 2017, 30.
[30] Eckardt 2017, 63-64, fig. 4.6.

Micia[31]. The other few inkwells discovered in the province of Dacia, can be placed in four distinct categories, with different characteristics and dating. An inkwell identified among the finds discovered in the barracks of *cohors I milliaria* at Potaissa draws our particular attention. Typologically speaking, the inkwell belongs to the so-called Biebrich type[32] **(Pl. III / 1)**, primarily distinguishable by a considerable weight, especially if we compare them with those made of bronze sheet. The considerable weight of the Biebrich inkwells, occurs both due to their confectioning by casting and lathe-finishing, as well as to the use of a bronze alloy rich in lead, which would have increased the malleability of the metal in order to cast it in the mold[33]. Around 50 specimens of this type were recovered from the whole Empire. The height of these inkwells varies between 3,4 and 5,3 cm, while the diameter ranges from 2,6 - 4,3 cm. The body of the Biebrich inkwells is usually decorated with horizontal lines, at least 2-3 or more rarely a single one situated in the central part[34]. Although the superior part is missing, based on the analogies we can assume that it was initially provided with a separately molded lid, ornamented with concentric circles, central opening of the lid was closed by a hinge mechanism, decorated with a small button of semicircular, square or poppy shape[35]. A similar inkwell was once part of I. Téglás' collection as well, recovered from the Sândului Valley[36]. From a chronological point of view, these inkwells can be dated in the 1st century A.D[37].

Another inkwell type identified in Dacia is the Noll type, represented by two lids discovered in the auxiliary camp at Porolissum[38]. These inkwells are especially notable for their highly decorated lids with silver inlays, or less often gold, which render vegetal elements, usually representations of vines[39]. From a chronological point of view, they seem to have been used in the 1st and 2nd century AD[40]. A somewhat similar type, but with less decorated lids than the Noll type, is represented by two inkwell caps discovered in the auxiliary camps of Buciumi and

[31]Cvjeticanin 2004, 120, n. 16.
[32] Named after two well-preserved examples found near Biebrich, on the Rhine: Božič 2001a, 30.
[33] Eckardt 2017, 71.
[34] Božič 2001a, 30.
[35] Božič 2001b, 33-34.
[36] Bajusz 2005, 702, 30/24/1 ábra.
[37] For dating evidence see Eckardt 2017, Table 5.1.
[38] Bajusz 2004, 369-370, fig. 7-8.
[39] Noll 1988, 86.
[40] Eckardt 2017, 80.

Romita[41], which can be placed chronologically at the end of the 2nd century AD.

The most common encountered type at Potaissa is however the inkwell with the body decorated with incised lines and the opening shaped like a keyhole, provided with a hinge closure system. Such a lid was recovered from the barracks of the *cohors I milliaria* **(Pl. III / 3)**, while specimens identical in shape are known both from the *cannabae* and in the settlement **(Pl. III / 2)**[42]. However, the specimen from the *cannabae* seems to have had the lid made of a bronze and copper alloy, wrapped in a silver foil, while the one in the settlement was made of a thicker bronze sheet, which adds a plus weight compared to the other two specimens. It is not excluded that at least some of them were provided with a closing button in the shape of a human mask, presumably representing the goddess Minerva or Medusa, glued to the lid or inserted directly into the opening[43]. This typology is often found in the North Danube provinces and dates to the middle of the 3rd century A.D[44].

Notable differences between the dimensions of the metal inkwells recovered from the legionary fortress of Potaissa,as well as from the auxiliary forts of Porolissum, Buciumi and Romita and a ceramic one discovered in the civilian settlement of Micăsasa[45], raise questions regarding the exact functionality of these inkwells. If metal ones had a capacity of 21-59 ml, an amount that could be enough for a user from a few days to a month, the ceramic ones could reach a capacity of 352 ml[46]. It should be borne in mind that due to the narrow opening of the ceramic inkwells were usually not glazed on the inside; therefore, the paste that these inkwells were confectioned of is usually a less porous one[47]. Thus, one of the main arguments that was offered to explain the considerable differences between the dimensions of ceramic and metal inkwells, considered the higher degree of permeability of pottery, which would have absorbed more ink than metal inkwells. Other explanations took into account the possibility of their use by people who consumed larger amounts of ink in a relatively short time (archivists and scribes)[48], coincevably even by several scribes at once, or perhaps the use of ceramic

41 Bajusz 2004, 370, fig. 9-10.
42 Both unpublished.
43 Eckardt 2017, 86.
44 Eckardt 2017, 87.
45 Rusu-Bolindeţ, Botiş 2018, 136, no. 361.
46 Eckardt 2017, 111.
47 Willis 2005, 97.
48 Božič, Feugère 2004, 36.

inkwells for storing ink, which was then poured into smaller metal inkwells, easier to handle and transport[49].

Finally, perhaps some of the stone palettes, as well as spoon probes that were discovered within the legionary fortress of Potaissa[50] were used not only for preparing different ointments, but also for grinding down dried ink sticks, prior to mixing it with water and gum[51].

Rulers[52]

A well-polished rectangular bone item, resembling a modern ruler, was discovered in the E room, located on the western side of the commandment building of the legionary fortress **(Pl. III / 4)**. The piece has one side flat, the other with a slightly convex surface, displaying a circular cutout at one of its extremities. Similar bone objects have been discovered within the province of Dacia at Apulum[53], as well as in the auxiliary camps of Ilişua[54], Răcari[55] and Cioroiu Nou[56]. Two other bone plates with finely polished surface come from the same room and could have had the same functionality as the piece provided with the circular appendix **(Pl. III / 5-6)**.

The exact functionality of these objects is rather enigmatic, but their close association with writing implements, especially in funerary contexts, remains rather undeniable[57]. In an article dedicated to bone objects of this type discovered in southern Dacia, Gabriela Filip interprets them as *tesserae* and attributes their presence in the military milieu due to their use in transporting payments to soldiers, by sealing money bags, after checking the weight and purity of the coins[58]. Presumably, the two sides of the bone plates were inscribed with details regarding the date and the identity of the one that performed the check (*nummularius* or more often one of his slaves)[59].The absence of any actual inscription engraved on the surface of the *tesserae* was attributed to letters painted in ink, which would have had easily erased in time.

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[49] Eckardt 2017, 112.
[50] Bărbulescu 2019, 285, nr. 2, pl. LXXX/2.
[51] Eckardt 2017, 28-29.
[52] Recently published in Bărbulescu et al. 2020, 213-214.
[53] Ciugudean 1997, pl. XXVIII/8 – 9.
[54] Protase et al. 1997, 27, pl. LXXXIII/1.
[55] The items were discovered within the commandment building: Filip 2018, no. 2-4, fig. 3/1-3.
[56] Filip 2018, no. 1, fig. 3/4.
[57] Božič 2002, fig. 2; Small, Small 2007, 168, fig. 16; La Fragola 2015.
[58] Filip 2018.
[59] Mainardis 2001, 166; Cinti 2005, 296-297.

Indeed, similar anepigraphic objects have often been included in the category of labels such as *tesserae nummulariae*, used to authenticate the contents of money bags[60], but more recent studies argue for the classification of these objects in the category of *instrumenta scriptoria.* Glynn J. C. Davis analyzes the bone plaques discovered at Londinium and mentions in this context other possible interpretive theories that have been advanced in the last 15 years regarding the functionality of these items[61]. G. J. C. Davis concludes that bone spatulas with well-defined, sometimes perforated head, are a distinct category from *tesserae nummulariae*, which although are of similar shapes, have much smaller proportions. On one hand, the perfectly straight edges of these objects, as well as their dimensions that correspond largely to the width of wax tablets, represent plausible arguments for using these items as rulers (*regulus*)[62]. On the other hand, the fact that not all of them are perfectly flat but show longitudinal traces of wear that can be observed on the entire surface, suggests the repeated rubbing of these objects on its length[63]. In this sense, other possible functionalities include polishing the surface of a waxed tablet by shaving material excess on its surface or even smoothing a papyrus or parchment. These theories seem rather plausible, taken into consideration the close association of these bone objects with *instrumenta scriptoria*. The connection between these objects can be noticed both archaeologically and iconographically, in Roman sculptural art[64] or mural painting[65]. Therefore, whether they are labels, rulers or smoothing tools for parchment, the bone rectangular objects discovered in the commandment building of the legionary fortress of Potaissa must be related to writing. Moreover, the archaeological context could offer further clues in this regard, considering that all three bone rulers were discovered in the E room, located on the extremity of the western side of the commandment building. Both the E room and the corresponding E' room on the opposite side, are believed to have served as *scholae* or *tabularia*[66].

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[60] Deschler-Erb 1998, 153-154, Kat. Nr. 1968-1974, Taf. 28; Hrnčiarik 2012, XI.1.

[61] Davis 2016; For an exhaustive list of bibligraphic references regarding the various functionalities assigned to these bone items, see also Prévot 2010, 540, n. 2.

[62] For examples of writing *ad lignum* on waxed wooden tablets see: Prévot 2010, 541.

[63] H. Eckardt also mentions that these objects "could have functioned as line guides for both reading and writing": Eckardt 2017, 33.

[64] Zimmer 1982, 181; Boeselager 1989, 227.

[65] La Fragola 2015, fig. 4.

[66] Bărbulescu et al. 2020, 58-59; For the possible purpose of these rooms as *scholae* see also Nedelea 2020.

According to a typology realized by D. Božič and M. Feugère in 2004, "the ruler" from Potaissa would fall into type II, dating from the second half of the 2nd century – 3rd century A.D.[67] Unlike the previous type, these pieces were provided with a circular appendix, which usually has the same width as the plate, being sometimes perforated. "Rulers" of this type are also easily distinguishable by a considerable length, which varies between 16 and 19 cm, compared to 13-14.5 cm attributed to earlier pieces. A workshop for manufacturing type II rulers was discovered in the Gallo-Roman *villa* from "La Perte" Cuperly (Marne), enabling us to better understand the process of manufacturing these items[68]. Based on the "rulers" discovered in this workshop, Ph. Prévot noticed that the average width of these rulers corresponds to subdivisions of *pes monetalis*, varying between *digitus* (1,85 cm) and *uncia* (2,46 cm)[69]. Thus, the average width of the ruler from Potaissa would correspond to approximately one *uncia*.

Seals and seal boxes

Two lead seals bearing the imprint of the Vth legion Macedonica and other four anepigraphic ones, recovered from the commandment building[70] **(Pl. IV / 6-7)**, the military baths[71] **(Pl. IV / 5)** and the barracks of the *cohortes quingenariae*[72], were probably used for sealing official correspondence or for authenticating products marketed for the legion.

Seal boxes discovered in the *principia* **(Pl. IV / 1-2)** and the military baths **(Pl. IV / 3-4)** feature among the archaeological discoveries that can be directly linked to the use of *papyri*, parchments, or wax tablets within the legionary fortress[73]. The purpose of these small bronze boxes had been completely clarified based on an integral find, having the mass of wax kept intact, in which the seal had been imprinted[74]. Laboratory

[67] Božič, Feugère 2004, 40.
[68] Prévot 2010.
[69] Prévot 2010, 556.
[70] Fodorean, Mărincean 2020, 107, no. 2, fig. 3a-b = Bărbulescu et al. 2020, 210, no. 7, pl. LXXXVII/17; Bărbulescu et al. 2020, 210, no. 8-9, pl. LXXXVII/18-19.
[71] Fodorean, Mărincean 2020, 108, no. 3, fig. 4 a-b.
[72] Nemeti, Nemeti et al. 2017, 63, pl. XXXIX/6 = Fodorean, Mărincean 2020, 107, no. 1, fig. 2 a-b.
[73] For an exhaustive analysis and bibliography regarding these finds see Irina Nemeti, *Seal Boxes from Potaissa* in the present volume.
[74] Bărbulescu 2015, 185-187; In a review of the monograph devoted to the seal boxes found at Augusta Raurica, T. Derks confided that although the true character of these objects was already known in the 1880s, he felt rather confused upon discovering his first seal box during an archaeological excavation conducted in the 1980s: Derks 2010, 722. This situation reflects the poor state of knowledge that existed for a long period of time regarding these objects. At the time of the discovery of the seal box from Potaissa, the functionality of these

analyses revealed that both the mass of wax, as well as the base of the box contained traces of textile fibers coming from a linen cord, with 1 mm in thickness. Moreover, the analyses determined the exact composition of the seal box, which contained beeswax, a little resin and oils. Thus, it could be established that the holes visible on the bottom were used for "sewing" the seal box on a rolled paper (papyrus or parchment) or for securely attaching two or more wax tablets held together by a string, in the same way that a seal box was attached to a wax tablet discovered at Panopolis, in Egypt[75]. Nevertheless, it is not excluded that they were also used for other purposes that have nothing to do with writing, given that at Trier and Kalkreise seal boxes had been attached to leather bags containing coins[76], while a seal box with enameled lid, discovered at Wood Burcote, in Britannia, housed a denarius of Trajan[77].

objects was either neglected, or considered to be rather enigmatic, generating many erroneus determinations.

[75] Devijver, Harrauer, Worp 1985, 19-21.

[76] Furger et al. 2009, 22-23.

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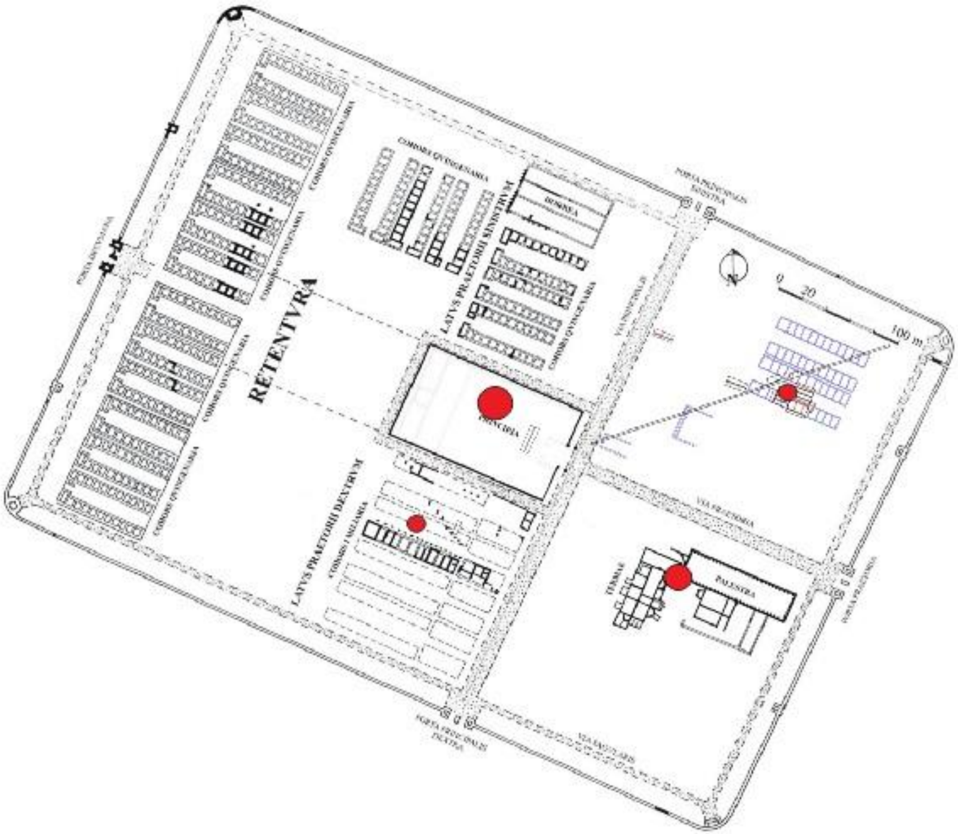
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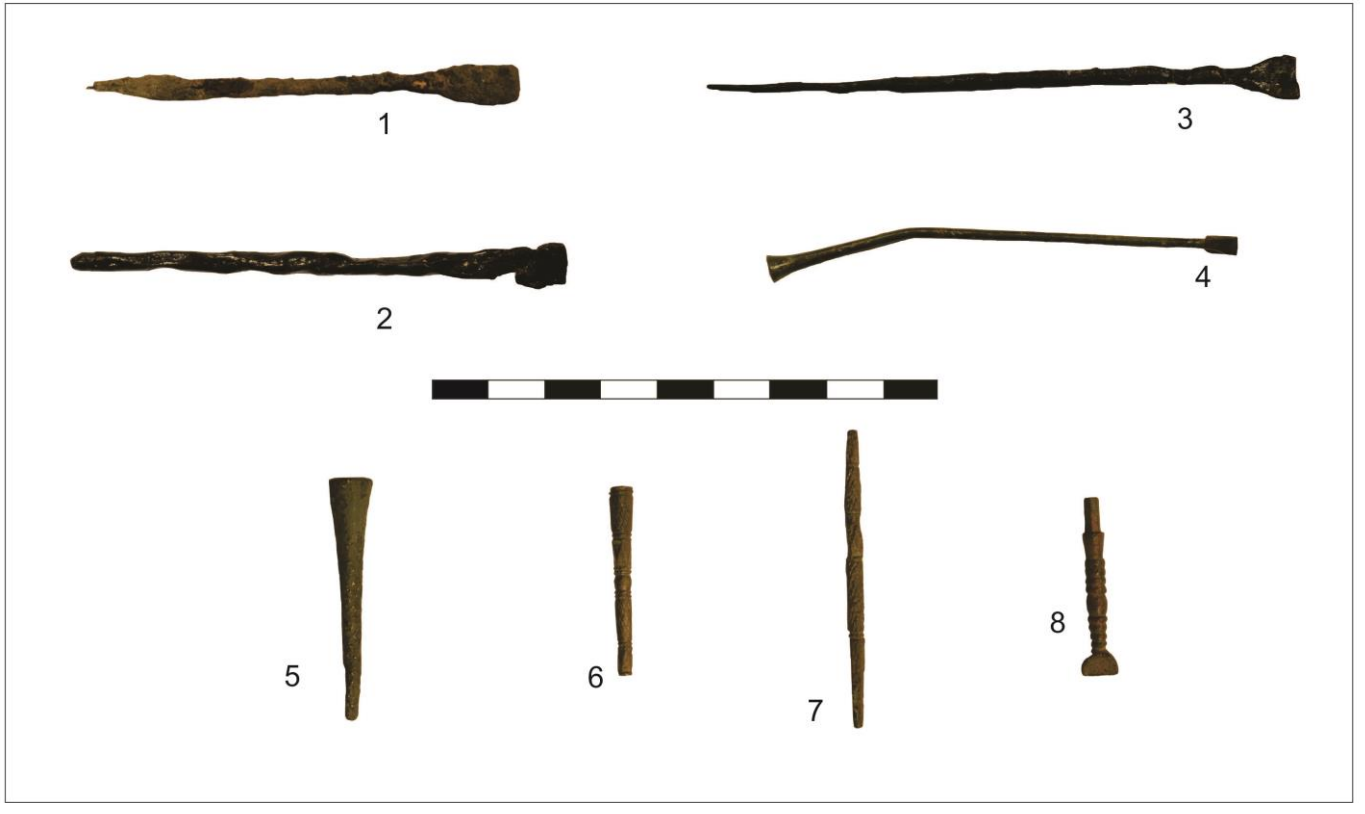
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