11TH INTERNATIONAL SCIENTIFIC CONFERENCE

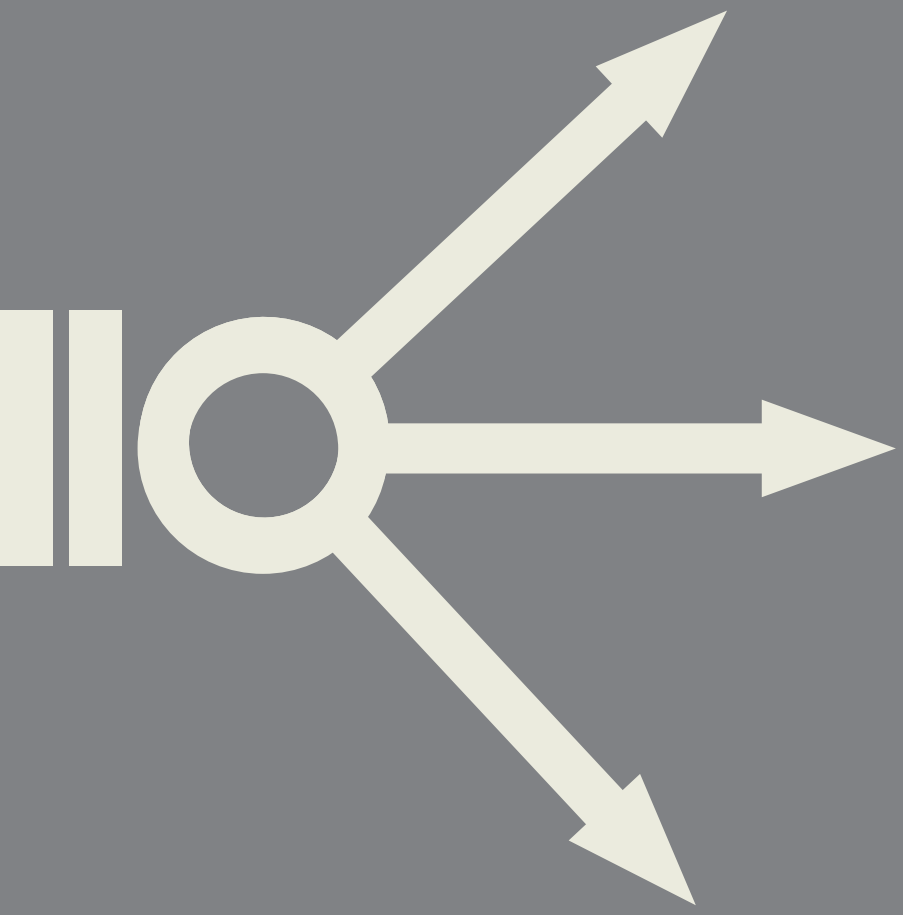
METHODOLOGY & ARCHAEOMETRY

Zagreb, 7th – 8th December 2023

12TH INTERNATIONAL SCIENTIFIC CONFERENCE

METHODOLOGY & ARCHAEOMETRY

Zagreb, 28th November 2024



PROCEEDINGS

FROM THE 11TH AND 12TH SCIENTIFIC CONFERENCE METHODOLOGY AND ARCHAEOMETRY

ISSN 2718-2916

IMPRESSUM

PUBLISHER
Faculty of Humanities and Social Sciences, University of Zagreb

FOR THE PUBLISHER
Domagoj Tončinić

EDITOR
Ina Miloglav
Faculty of Humanities and Social Sciences, University of Zagreb

DESIGN & DTP
Srećko Škrinjarić

All papers were reviewed in a double-blind peer review process in which the identity of both reviewers and authors, as well as their institutions, are respectfully concealed from both parties.

DOI
https://doi.org/10.17234/METARH.2025

ISSN 2718-2916
Faculty of Humanities and Social Sciences of the University of Zagreb

URL
https://openbooks.ffzg.unizg.hr/index.php/FFpress/catalog/series/MetArh
https://metarh.ffzg.unizg.hr/

Publishing of this e-book is supported by
Faculty of Humanities and Social Sciences of the University of Zagreb
Ministry of Science, Education and Youth of the Republic of Croatia

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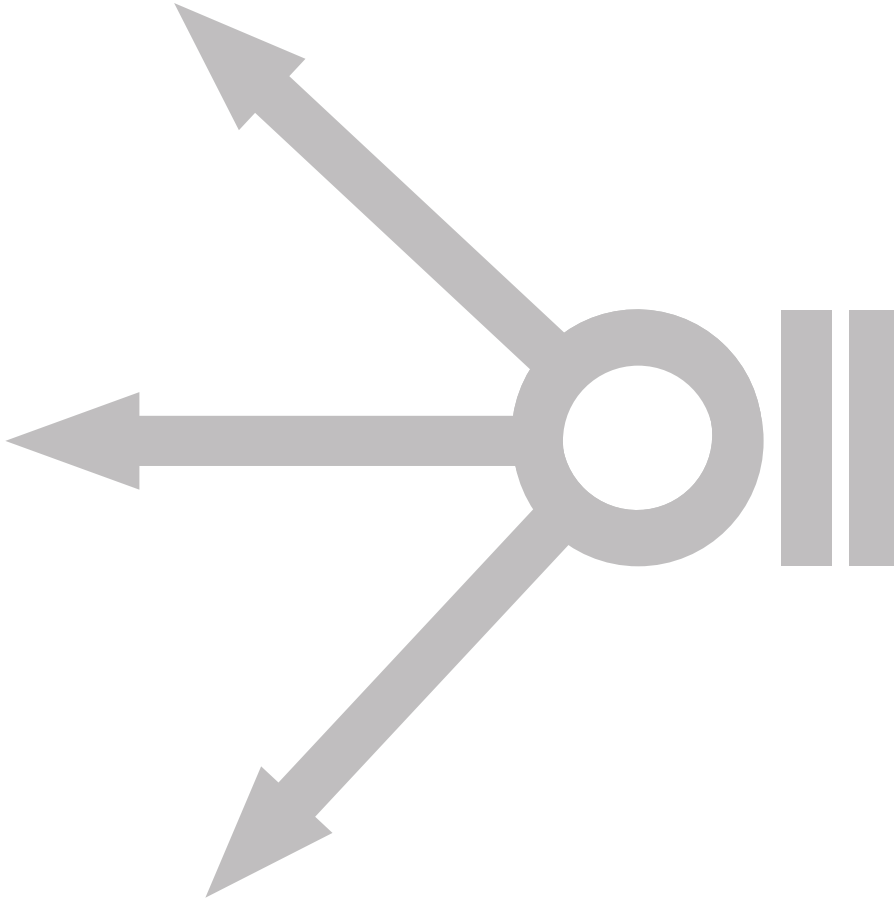

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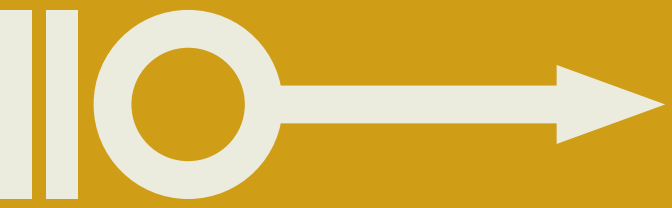

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Interpretive analysis of pottery distribution in the northern part of the late antique hilltop settlement in Lobor, NW Croatia

Petra Nikšić, Jana Škrgulja

https://doi.org/10.17234/METARH.2025.6

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Archaeological research of the multi-layered site Lobor - Majka Božja Gorska in northwestern Croatia was mostly concentrated on the church complex and the cemetery belonging to it, which damaged earlier prehistoric, antique and late antique structures. Excavations were also carried out at several positions on the northern plateau outside the church complex. During the excavation, large quantities of late antique pottery were found, which can be dated from the second half of the 3rd to the first half of the 6th century. Although late antique pottery is very fragmented, several clusters of fragments were documented on the northern plateau of the late antique hilltop settlement, between the church complex and the northern rampart. Considering that the architectural remains are few and poorly preserved due to the mentioned damaging, during the late antique pottery research, quantitative analysis of fragments, analysis of spatial distribution and comparative analysis with the contemporary sites of the Noric-Pannonian border area were used in order to interpret the organization of the northern side of the late antique settlement, which was less destroyed by construction and erosion. The results of the research provide insight into the degree of destruction of the site due to the burial of medieval and post-medieval graves and the spread of late antique pottery, as well as how well the clusters of late antique pottery finds match the few remains of late antique architecture. Certain clusters point to the existence of destroyed structures, which indicate different construction techniques within the late antique settlement. The final interpretation of the possible organization of the northern part of the late antique settlement in Lobor based on the pottery finds, shows similarities with other hilltop settlements of the Noric-Pannonian border area and probably indicates the integration of the that settlement into the mentioned area.

Keywords: spatial analysis, pottery, Late Antiquity, hilltop settlement, Lobor

Introduction

The archaeological site of Lobor – Majka Božja Gorska (Hrvatsko Zagorje County, northwestern Croatia) (Fig. 1) is a multi-layered site on a hill at the foot of the Ivanščica Mountain that shows traces of settlement dated to the Bronze and Iron Age, Late Antiquity and Early Middle Ages. From the Early Middle Ages until the 19th century, a large cemetery surrounded the church dedicated to the Virgin Mary, which remains an important place of pilgrimage. More than a thousand burial pits discovered so far have caused con-

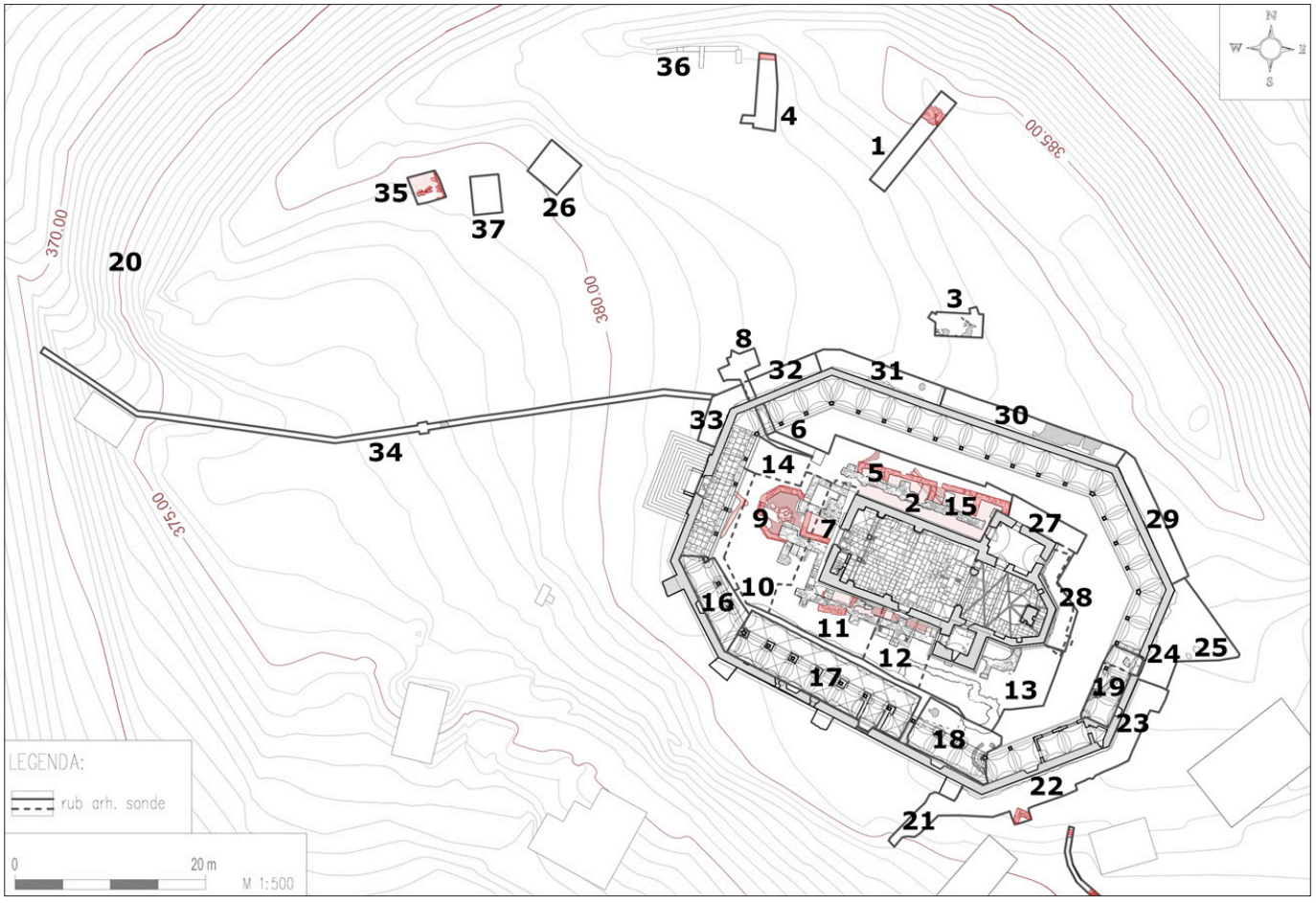

Figure 1. Plan of the Lobor – Majka Božja Gorska site with late antique architectural remains marked in red and the excavated trenches numbered 1–37 (Plan: Arheo Plan d.o.o., Modified by: P. Nikšić): 1. 1998/1; 2. 1998/2; 3. 1998/3; 4. 1998/4; 5. 2002/Dionice 1-4; 6. 2002/Prokop; 7. 2002-2003/Predvorje; 8. 2002/Vanjski šaht; 9. 2003-2005/Pročelje; 10. 2003/Pročelje, Jug 1; 11. 2003/Jug 1; 12. 2003-2005/Jug 2; 13. 2003-2005/Jug 3; 14. 2005/Pročelje kocka; 15. 2005/Sj. strana; 16. 2007/Cinktor jugozapadni kut; 17. 2008/Grobnica; 18. 2009/Jug 3 nastavak; 19. 2009/Istok; 20. 2009/Bedem; 21. 2010/Južni cinktor vanjska strana (JCVS); 22. 2010/Jugoistočni cinktor vanjska strana (JICVS); 23. Istočni cinktor vanjska strana (ICVS); 24. 2011/Istok nastavak; 25. Istok nastavak južno proširenje (INJP) 1-2; 26. 2011/6; 27. 2012/Sjever nastavak; 28. 2012/Istok; 29. 2013/Cinktor sjeveroistok vanjska strana (CVIVS); 30. 2014/Cinktor sjever vanjska strana (CSVS); 31. 2015/Cinktor sjever nastavak (CSN); 32. 2016/Cinktor sjeverozapad vanjska strana (CSZVS); 33. 2017/Cinktor zapad sjeverozapad vanjska strana (CZSZVS); 34. 2018/Zapadni kanal; 35. 2019/1; 36. 2019. Sjeverni bedem 3; 37. 2022/7.

siderable damage to the layers in which they were dug. Although the density of the burials is the highest around the church, it is not insignificant even at the edges of the site near the northern rampart.

Considering the high degree of destruction at the site, especially of the late antique layers and structures, larger parts of preserved structures were defined only in the area around and under the early Christian church complex. Other parts of the site where antique structures were identified include one or possibly two places between the early Christian church complex and the northern rampart and one place along the southeastern edge of the site. So far, all architectural remains under and around the early Christian church complex have been connected to larger public buildings that preceded it or coexisted with it. A corner of a stone building was found at the edge of the site southeast of the early Christian church complex, and a possibility was presented that it might have belonged to a second early Christian church (Filipec 2020: 299). The architectural remains of a smaller stone building besides the northern rampart northwest of the early Christian church complex are still unpublished but represent solid proof of the existence of possibly residential buildings on the northern plateau. The remains of a representative public or residential stone building with the hypocaust heating system is only known from the descriptions of M. Gorenc's field survey (Gorenc 1977-1978: 265-266).

Large quantities of pottery fragments point to the fact that there were more late antique buildings, especially those related to the residential part of the hilltop settlement, and not the church complex. Given that a significant portion of the site outside the present-day sanctuary of Majka Božja Gorska remains unexcavated, an attempt was made to interpret these unexcavated areas of the site using the spatial distribution of late antique pottery fragments from the excavated trenches. This analysis aims to suggest possibilities for further research, with an emphasis on non-invasive methods.

Materials and Methods

The spatial distribution analysis at the site of Majka Božja Gorska in Lobor is based on the density of pottery fragments. This is an established way of identifying the parts of the site that were in residential or commercial use in connection with the production, use and discarding of pottery. The spatial distribution analysis using the density of finds is one of the most common analysis of this type (Conolly & Lake 2006: 173-176). The areas with high density of finds are called clusters, which form the spatial patterning within an archaeological site called spatial clustering or density patterning (Reid Ferring 1984: 116-117). Two methods of calculation were considered for the analysis of the spatial distribution of late antique pottery fragments from the site. An attempt was made to calculate the density of pottery finds per square or cubic meter of excavated soil to determine the clusters of pottery finds within the late antique hilltop settlement from the quantification analyses of the material and its stratigraphic connection. The first method of calculating pottery density at a site per excavated area is easier and more widely used due to the availability of the necessary data. The second method of calculating pottery density at a site per excavated volume should be more accurate due to the depth variable included into the calculation (Nikšić 2022: 133). In the initial stages of the research, it seemed that the method of calculating the density per cubic meter would be more suitable. When calculating the density per square meter, the depth factor is lost, so it is possible that the clusters of pottery finds may be inaccurately positioned if the trench depth significantly varies. Despite the positive results of the trial analysis of the spatial distribution, which included trenches excavated in 2010 and 2014, together with trench 3 from 1998 (Nikšić 2022), during the continuation of the analysis, the method of determining density per cubic meter had to be abandoned due to the lack of necessary data for calculating the volume of excavated soil. Over the span of more than twenty years, which is how long the excavations at the site have been performed, there has been a significant change in the methodology of excavations and documentation. For an accurate calculation, it is necessary to three-dimensionally document the excavated trenches and/or stratigraphic units as precisely as they can be, which is not always possible due to the lack of time or the complexity of the situation at the site. The imperfection of archaeological documentation, the data collected from the site and their quantitative analyses has been recognized by archaeologists and all involved with the processing of features, finds and general archaeological data (Whallon 1984: 242; Bevan 2020: 70). The method of calculating the density of fragments per square meter was chosen for the analysis of the spatial distribution of late antique pottery finds at the site of Lobor – Majka Božja Gorska to be uniform for all research campaigns and all excavated trenches (Fig. 2). A graph showing the spatial distribution made based on the quantification by the weighing method is presented to demonstrate the differences that can occur depending on the degree of pottery fragmentation (Fig. 3). Considering that the square grid method was abandoned during the excavation of the trenches along the western façade and the southern side of the present-day church, from 2003 to 2005, due to a large number of burials and different parts of structural features, which prevented the precise placement and maintenance of the square grid (K. Filipec, personal communication, October 5, 2023), the density of pottery fragments was calculated for each separate trench. It was impossible to conduct the point pattern analysis (Hodder & Orton 1976: 30-52), which would give a more precise location of the pottery fragments within trenches or features, because of the large number of pottery fragments that could not be individually recorded as points. As it was mentioned in the introduction, the layers and the features at the site were significantly disturbed by medieval and post-medieval burials.

It should be noted that the method of calculating the density of pottery fragments per square meter was applied to the entire spectrum of the late antique pottery, as well as the individual pottery groups that had been formed during the primary analysis of the pottery finds. The entire spectrum of late antique pottery finds was divided into seven groups: glazed pottery (**G1**), slip ware (**G2**), burnished pottery and pottery with burnished decoration (**G3**), fine reduction-fired pottery (**G4**), fine oxidation-fired pottery (**G5**), gritty pottery (**G6**) and coarse pottery (**G7**). This division has already been presented in an earlier paper (Nikšić 2022: 135, Fig. 3). These pottery

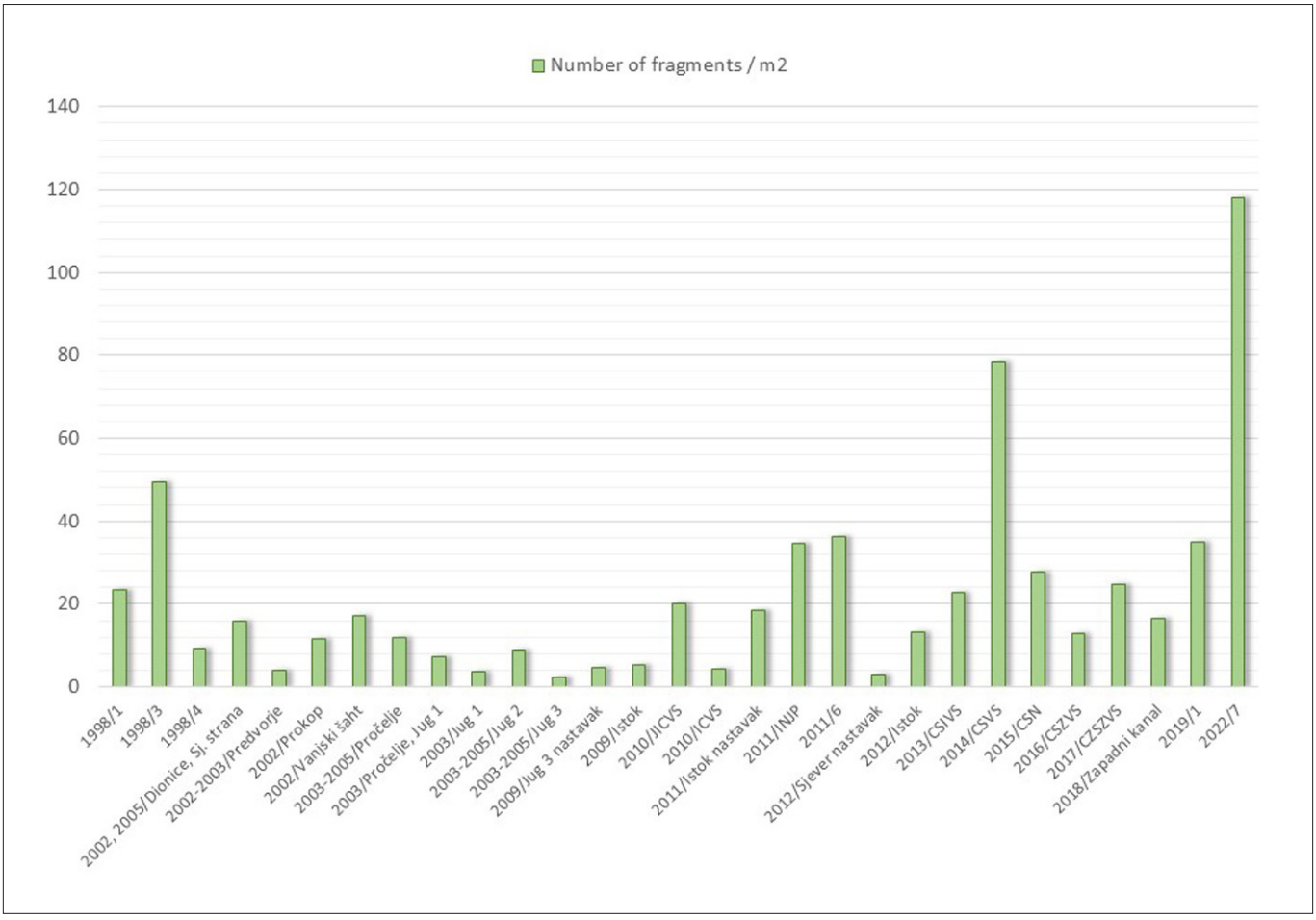

Figure 2. The number of late antique pottery fragments per square meter (Made by: P. Nikšić)

groups were initially developed for the doctoral dissertation research and the better understanding of late antique pottery production and use in Lobor (Nikšić 2023: 72-177). These groups and subgroups, their dating and distribution, as well as some representative finds, were all used for the interpretation of the various parts of the late antique hilltop settlement in Lobor. Groups 1-5 represent fine pottery with various surface treatment or coating, and groups 6 and 7 include pottery with a bigger number of smaller and larger inclusions. The main difference between gritty and coarse pottery from Lobor is in the size and distribution of limestone and quartz inclusions in the clay matrix. A large amount of evenly distributed small temper particles was used for gritty pottery, while a smaller amount of unevenly distributed temper particles of various sizes was used for coarse pottery (Nikšić 2022: 135; 2023: 164-177).

Results: The Density of Pottery Fragments Per Square Meter

By analysing the spatial distribution of the entire spectrum of late antique pottery, based on the quantification using the methods of counting and weighing fragments, three clusters of pottery fragments and a potential one were detected. Trench 3 from 1998 and trenches from 2014 and 2022 stand out. Their total values are significantly higher than those in other trenches. It should also be noted that these trenches are not as deep as those inside the enclosure wall, around the current church building. Trench 6 from 2011 should probably be considered as another cluster. It was not excavated to the natural sterile ground or bedrock. Only the two initial layers were removed: the humus layer and the layer of the levelling debris under it. Three graves were cleaned and removed, but then the excavation was stopped and never finished. This trench was excavated to prevent the

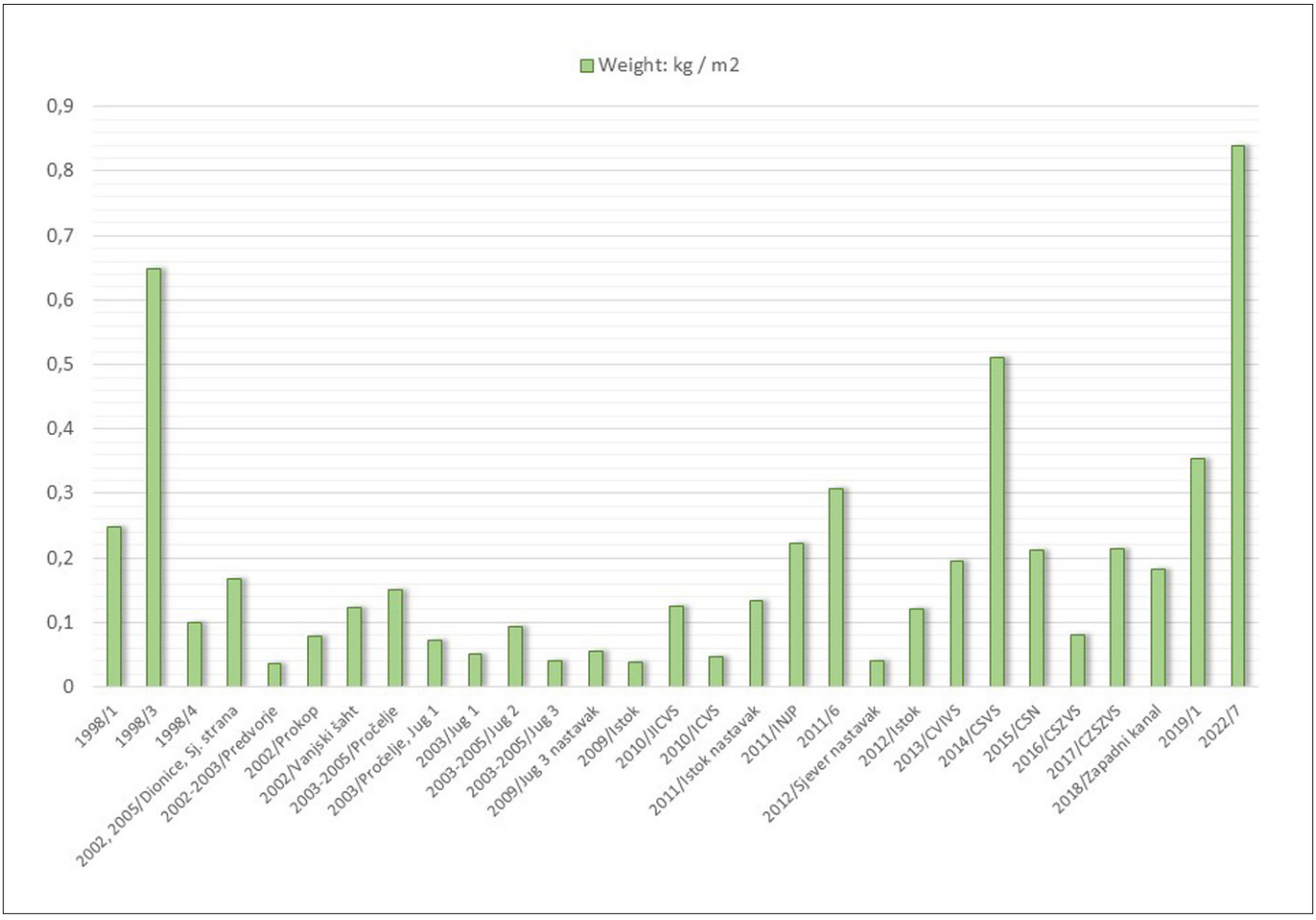

Figure 3. The weight of late antique pottery per square meter in kilograms (Made by: P. Nikšić)

devastation of that part of the site, so in fact the humus layer had already been partially removed, and a part of the data about the number of pottery fragments was lost. Therefore, we can expect a much higher value in that area than the current value of pottery fragments per square meter. All the trenches mentioned here have one thing in common. They were located on the northern plateau and along the northern rampart. It should be emphasised that, if trench 6 from 2011 is excluded, the largest number of pottery fragments per square meter was found in the trench from 2022. This refers to the total number of pottery fragments of all groups.

Clusters of glazed pottery fragments (**G1**) are like the clusters of the total number of fragments **(Fig. 4).** The largest number of fragments was found in the same four trenches mentioned above. The largest number of glazed ware fragments per square meter was found in the trench excavated in 2022, compared to other trenches, and a potential cluster also appeared in trench 6 from 2011, which could be confirmed by completing the excavation in that trench.

The situation with clusters is somewhat different in the group of slip ware (**G2**) **(Fig. 5).** Although it was present in the previously mentioned trenches, it also appeared in the excavation from 2002 and the trench from 2013, where the quantities are comparable to those from trench 3, excavated in 1998. The largest cluster was recorded in the trench from 2014, where this group exceeds the amount found in the trench from 2022, which is a slight difference compared to the group of glazed pottery.

As for the group of burnished pottery and pottery with burnished decoration (**G3**), it was found in larger quantities almost exclusively on the northern plateau in trench 3 from 1998 and even more in the trench from 2014 (Fig. 6). Although pottery fragments with burnished decoration were found in other trenches as well, the quantity

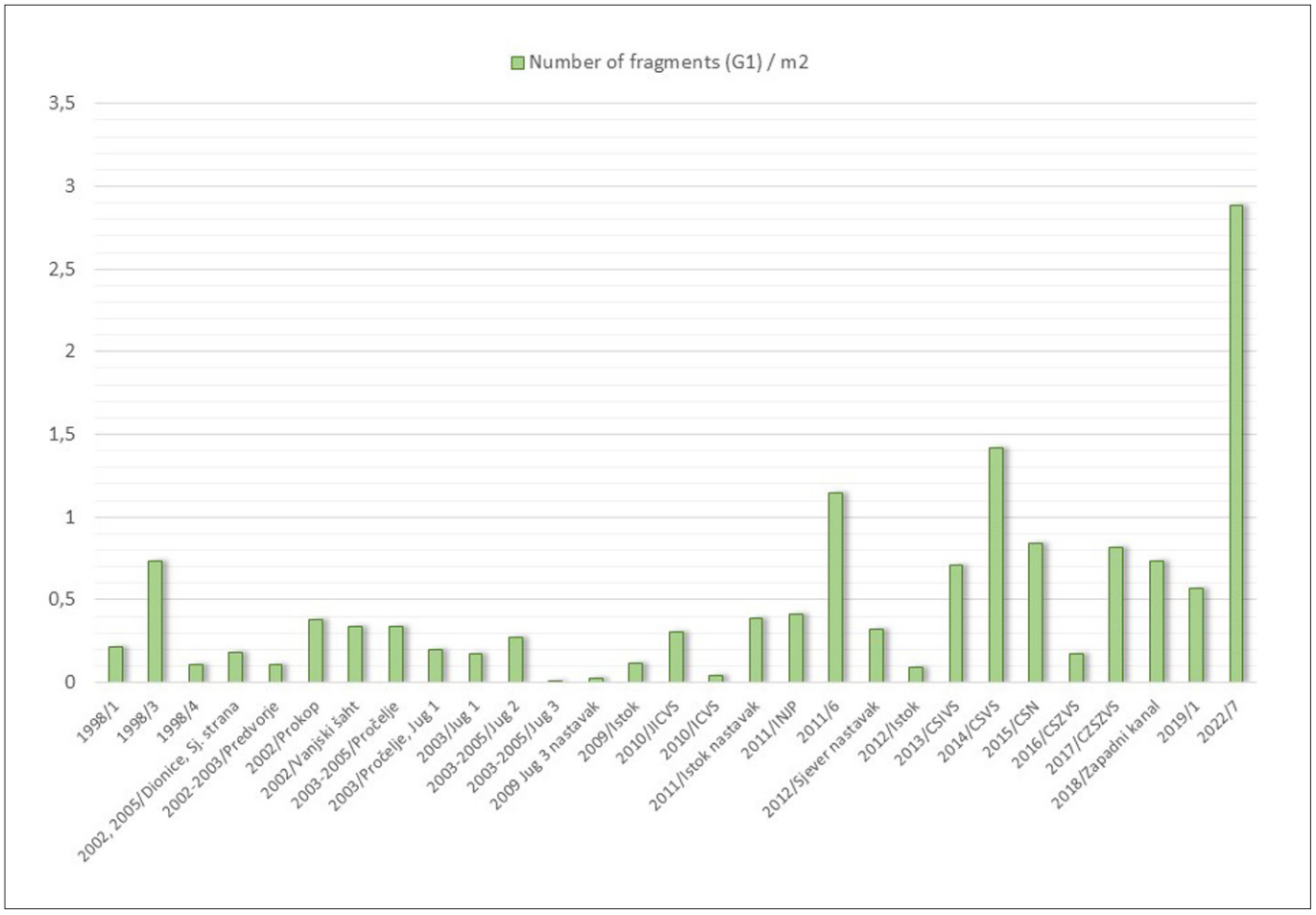

Figure 4. The number of late antique glazed pottery fragments (G1) per square meter (Made by: P. Nikšić)

is almost insignificant in comparison with the two mentioned trenches.

The situation with fine reduction-fired pottery (**G4**) is even more pronounced in favour of the trench from 2014 where the only cluster of this group of pottery was detected (Fig. 7). The number of fine reduction-fired pottery fragments from trench 3 from 1998 and trench from 2022 can also be highlighted but keeping in mind that the amount is seven times smaller than in the trench from 2014.

The spatial distribution of the fragments of fine oxidation-fired pottery (**G5**) is like the spatial distribution of the entire late antique pottery spectrum, although the biggest number of fragments of this group was found in the trench from 2014 **(Fig. 8).** Besides that, two more clusters were recorded in trench 3 from 1998 and the trench from 2022. The quantity is somewhat smaller in the other trenches.

When it comes to coarse pottery fragments, the spatial distribution is somewhat more uniform, and the density for both groups is again the highest in the trench from 2022, with the fact that the density of real coarse pottery fragments (**G7**) is twice higher than the density of gritty pottery fragments (**G6**). The trench from 2022 represents the main cluster of coarse pottery fragments. Smaller clusters of gritty pottery fragments were recorded in trench 3 from 1998, in the southern extension of the eastern trench from 2011 and in the trench from 2014. The densities in trench 6 from 2011 and trench 1 from 2019 have slightly lower values than them **(Fig. 9).** The situation is similar with the real coarse pottery fragments, but the proportions are somewhat different (Fig. 10). The main cluster in the trench from 2022 stands out much more compared to the other trenches, and smaller clusters were established in trench 3 from 1998, trench 6 from 2011 and trench 1 from 2019. No cluster appeared in the trench from 2014 regarding this group,

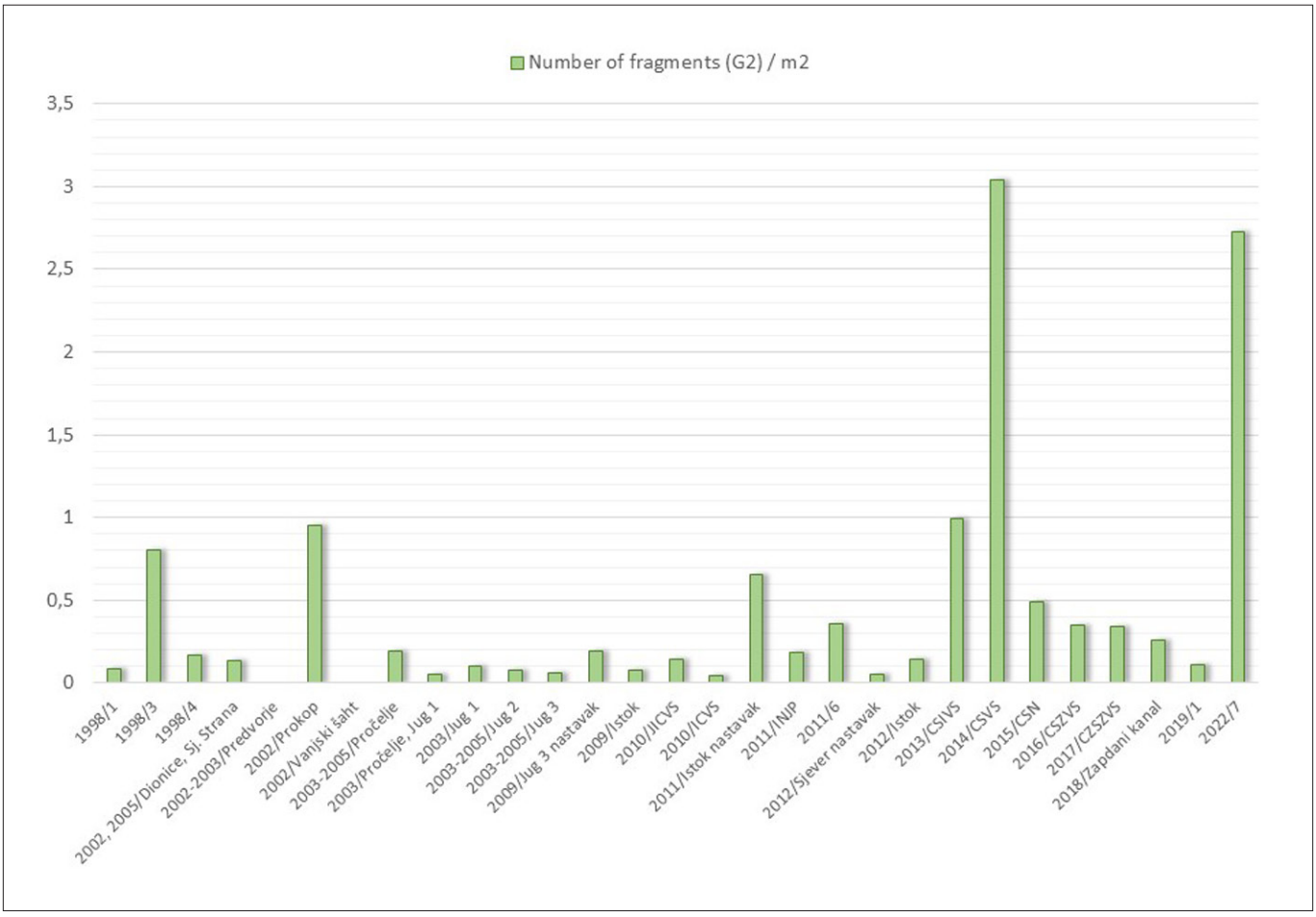

Figure 5. The number of late antique slip ware fragments (G2) per square meter (Made by: P. Nikšić)

and the southern extension of the eastern trench from 2011 shows a slight decrease in density but still stands out from the other trenches.

Discussion: Pottery Clusters as Indicators of the Spatial Organization

Construction activities at the site of the present-day shrine of Majka Božja Gorska in Lobor, which took place mostly within the Baroque enclosure wall, make it almost completely impossible to connect the found pottery fragments with the remains of architecture. Given that it is the area of the late La Tène fortified settlement and the late antique hillfort, where it seems that at least three wooden or masonry public buildings have been erected in those periods, before the construction of the early Christian church complex, it was not to be expected that a large amount of pottery fragments would be found within closed archaeological contexts. However, the amount of pottery fragments in the trenches between the church and the enclosure wall is still not insignificant. Despite that fact, the pottery cannot be connected with the early Christian church complex, which represents the largest construction project at the site, and which is assumed to have been built between the middle of the 5th and the first quarter of the 6th century. There are no pottery finds from the area of the early Christian church complex that can be attributed with certainty to that period. Part of the late antique pottery fragments found south of the present-day sanctuary may have been deposited there during the construction of the Baroque enclosure wall. That part of the site had a steep slope that had to be filled in to create a level surface for the construction, but it is not entirely clear from where the earth was removed. On the other hand, the density and weight values and the number of fragments of late antique pottery in the trenches excavated in that area are even below average, which means that even with the filling, no significant amount of pottery

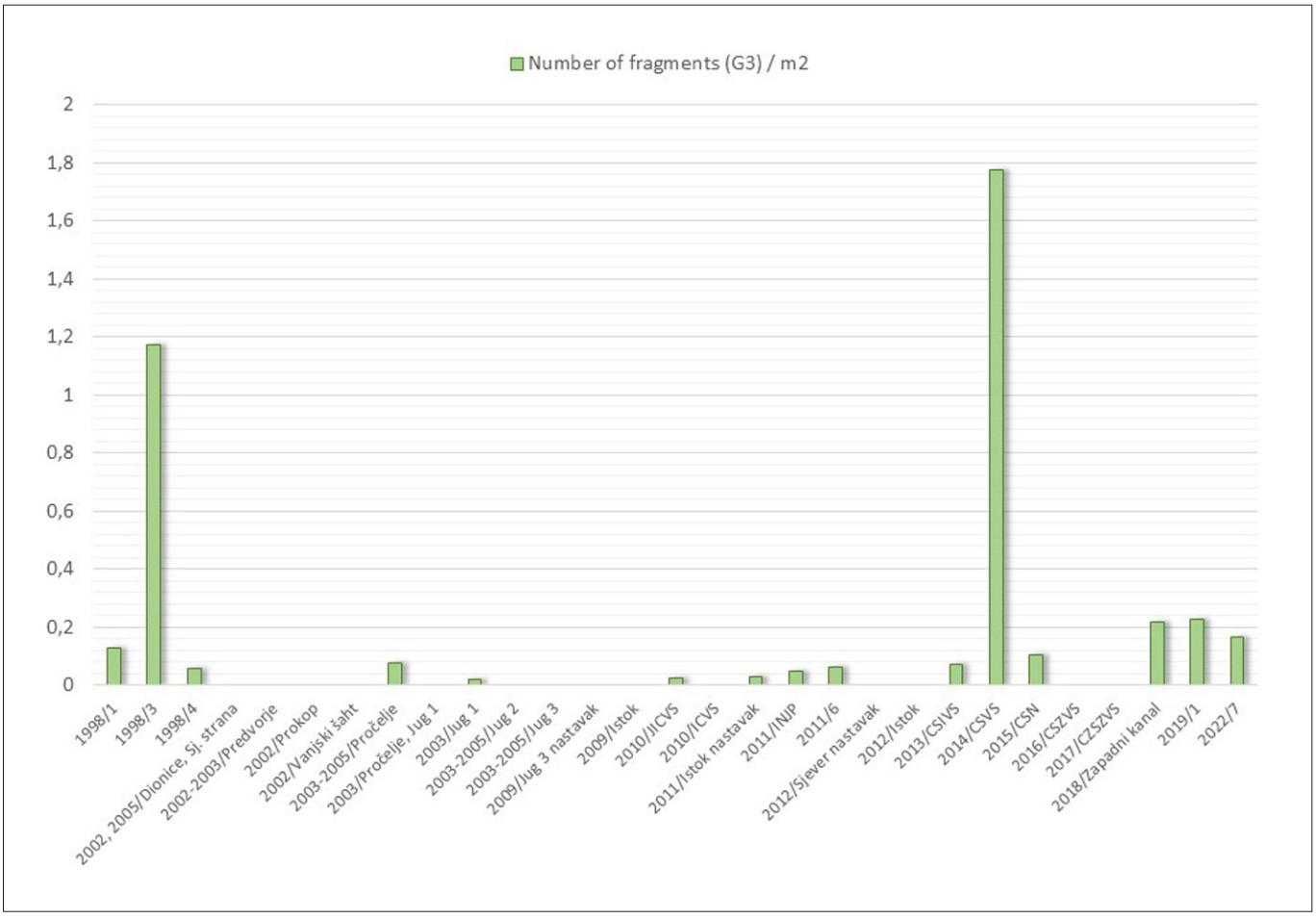

Figure 6. The number of late antique pottery fragments with burnished decoration (G3) per square meter (Made by: P. Nikšić)

fragments was recorded there. This situation, therefore, fully corresponds to the theory that there was one public building or more of them in that area, mostly unrelated to the preparation and consumption of food and drink, and not a residential part of the settlement.

The clusters of late antique pottery fragments were found, as it was mentioned earlier, on the northern plateau between the early Christian church complex and the northern rampart, as well as along the northwestern rampart on the edge of the western plateau, or more precisely, in trench 3 from 1998 and trenches from 2014 and 2022. Although there were indications that the residential part of the settlement could have been located on the southern terraced slopes, which was the conclusion reached after a field survey of that part of the hillfort in the second half of the 20th century (Gorenc 1977-1978: 265-266), the analysis of the density of pottery fragments per square meter and their spatial distribution does not confirm that conclusion. The large amount of late antique pottery fragments from the northern side of the site proves that at least part of the residential area of the settlement was there, although the architectural remains are minimal. The residential area in the northern part of the site is further confirmed by the finds of kitchenware. There has been some speculation that the pottery fragments could have migrated from one part of the site to the other due to erosion. This is certainly true for the southern part of the site, but is impossible for the northern part, which is higher in altitude. Therefore, it is not possible that the northern part of the site was later filled up with soil from some other part to such an extent that this would significantly affect the amount of pottery fragments. Despite the fact that the northern side of the settlement is not so favourable for habitation due to the influence of the mountain climate, mainly strong, cold winds, the clusters of late antique pottery fragments support the theory that the raising of the earthen ram-

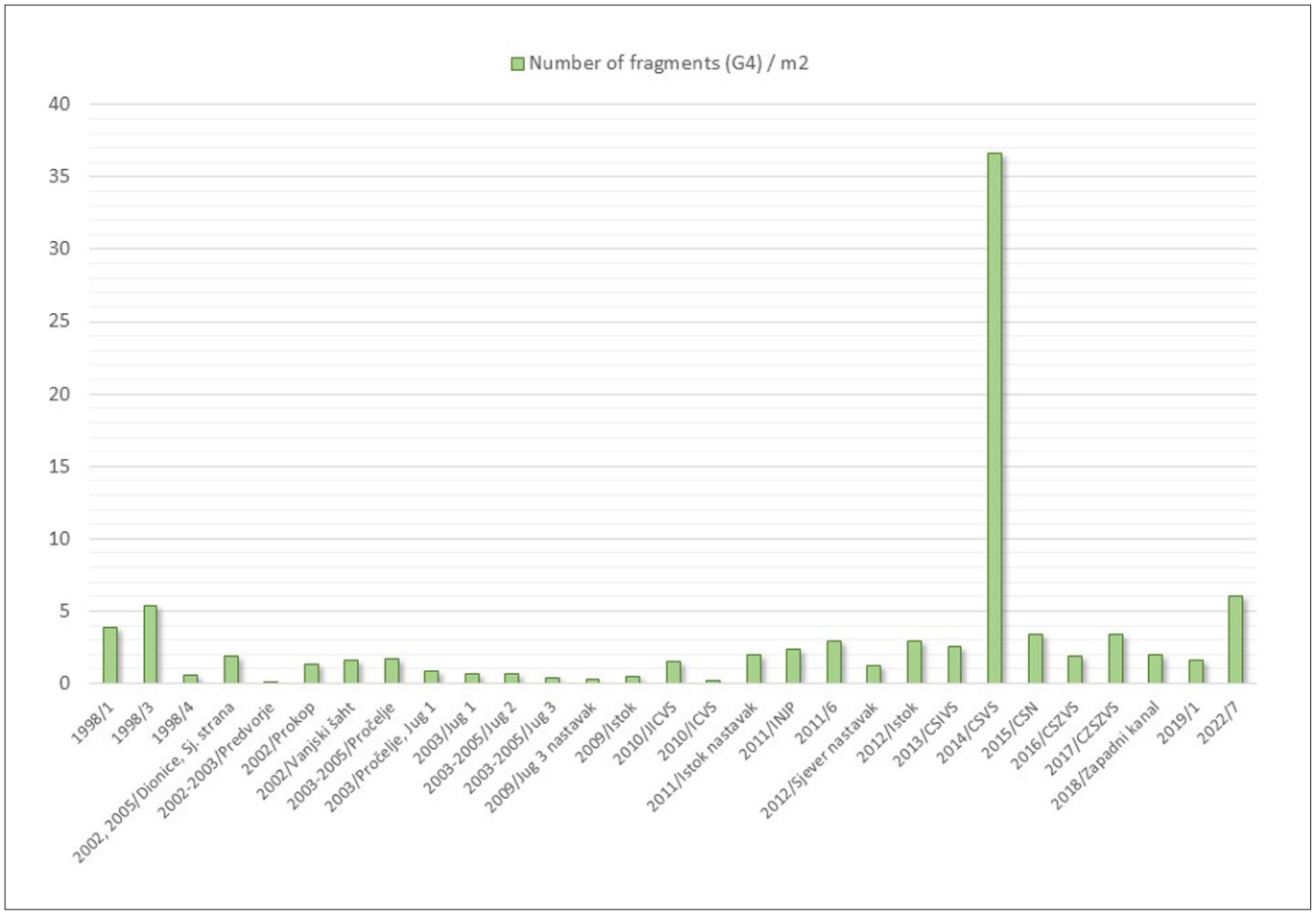

Figure 7. The number of late antique fine reduction-fired pottery fragments (G4) per square meter (Made by: P. Nikšić)

part and the construction of a stone wall on top of it provided enough shelter from the direct adverse influences of the weather so that long-term living there was possible. The walled up north entrances of the early Christian church complex and the Baroque enclosure wall testify that the north wind was a problem for the inhabitants of Lobor (Filipec 2008: 61).

The values of the density of late antique pottery fragments from three main clusters, along with the presumed real value from the cluster in trench 6 from 2011, are followed by the density values from trench 1 from 1998, trench 1 from 2019, the southern extension of the eastern trench from 2011, and the trenches excavated in 2013, 2015, 2017 and 2018. As it can be seen from the plan, those trenches are on the northern plateau next to the rampart, in case of the trench 1 from 2019, and on the northern plateau on the outer side of the enclosure wall, close to the trench from 2014, with a confirmed cluster of fine reduction-fired pottery. Considering its position within the settlement, only the eastern trench from 2011 stands out. It is the easternmost trench excavated inside the settlement, or at least the part of the settlement that was on the inner side of the ramparts. Although there is a possibility that a part of the early Christian cemetery was located there in the 6th century (Filipec 2020: Fig. 1), it is probable that earlier than that, a residential part of the settlement was in that area near the northeastern gate. When the finds from these trenches are combined with the previously established clusters of late antique pottery fragments, it seems that the northern and western plateau were used as the residential area that followed the northern rampart (Fig. 11).

The closest analogy for this kind of spatial organization is at the fortified hilltop settlement in Rifnik where the late antique houses were located between the rampart

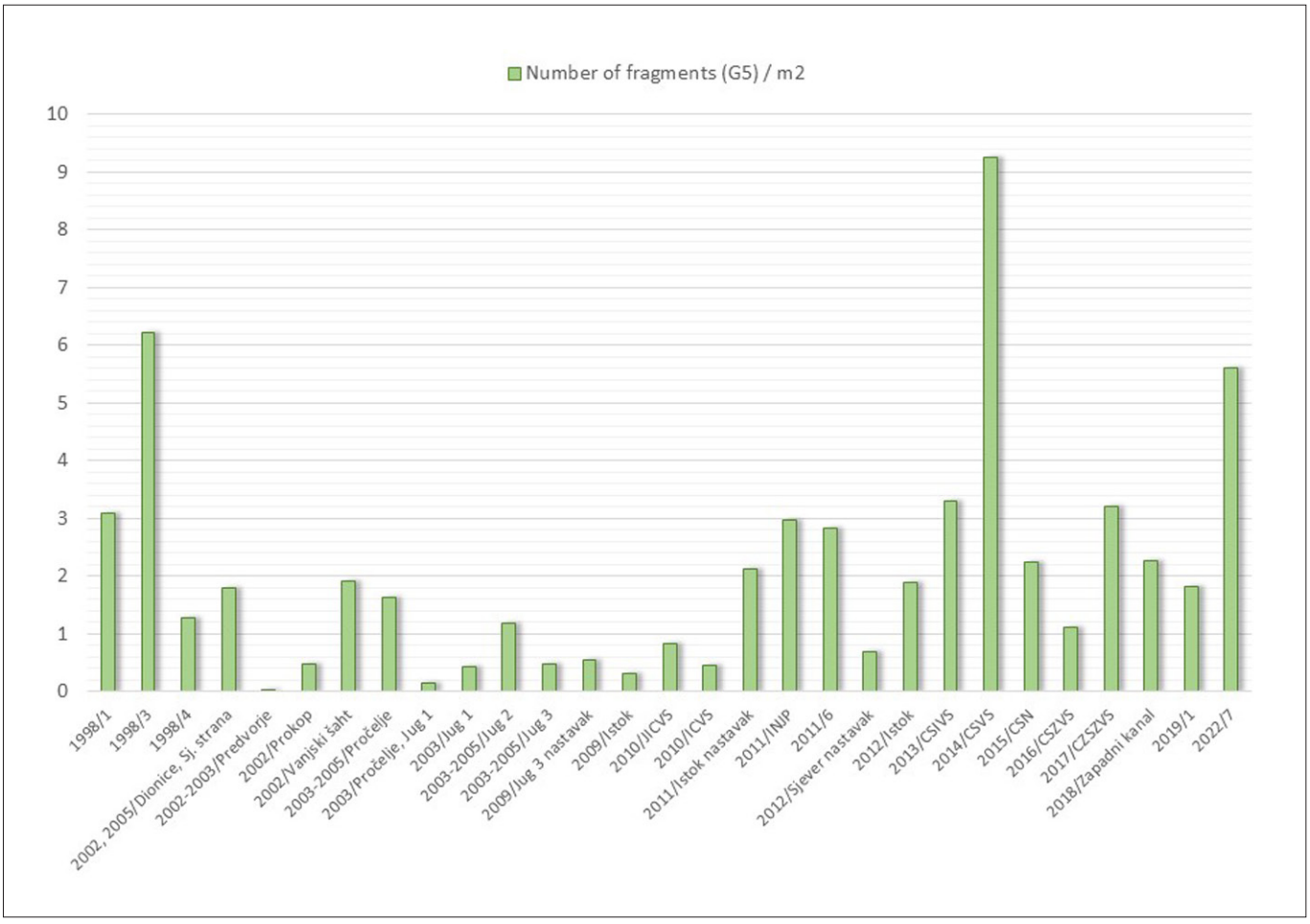

Figure 8. The number of late antique fine oxidation-fired pottery fragments (G5) per square meter (Made by: P. Nikšić)

and the church. Two irregular rows of houses were defined, one attached to the rampart, and the other more towards the church (Bausovac 2011: 265, Att. 1). Considering the find of the stone building next to the northern rampart in Lobor, as well as the probable house debris on the northern plateau, a similar organization of housing is to be expected at the site Lobor – Majka Božja Gorska. The organization of the residential part of the settlement depends highly on the configuration of the terrain, the size of the building and the building density. In some hilltop settlements, the houses were scattered within the empty space between larger church and civil buildings, as can be seen in the plan of Ajdovski gradec above Vranje near Sevnica (Knific 1994: 212-217, Fig. 4), Tonovcov grad near Kobarid (Ciglenečki et al. 2011: Fig. 1.7) and the important early Christian center in Hemmaberg (Ladstätter 2003b: Fig. 2, 4). As the remains of such larger buildings were not detected north and west of the early Christian church complex in Lobor, the organization like the one in Rifnik is more likely. Similar spatial organization can be seen in the hilltop settlement in Duel where the houses are attached to the northern rampart, and there is empty space between the houses and the church (Glaser 1996: Fig. 35). The existence of the bishop's house or another more luxurious residential building on the south side of the hilltop settlement in Lobor is so far just a hypothesis based on the old field survey (Gorenc 1977-1978: 265-266). That part of the site was mainly destroyed during the construction of modern houses, which now serve as vacation homes with extensive gardens, and the area is not available for archaeological research.

Although a black layer that consisted of soil with soot and charcoal, which was found next to the sacristy and north wall of the present-day church building, formed a smaller part of the stratigraphy of the trench from 2002, a significant amount of pottery fragments was found in

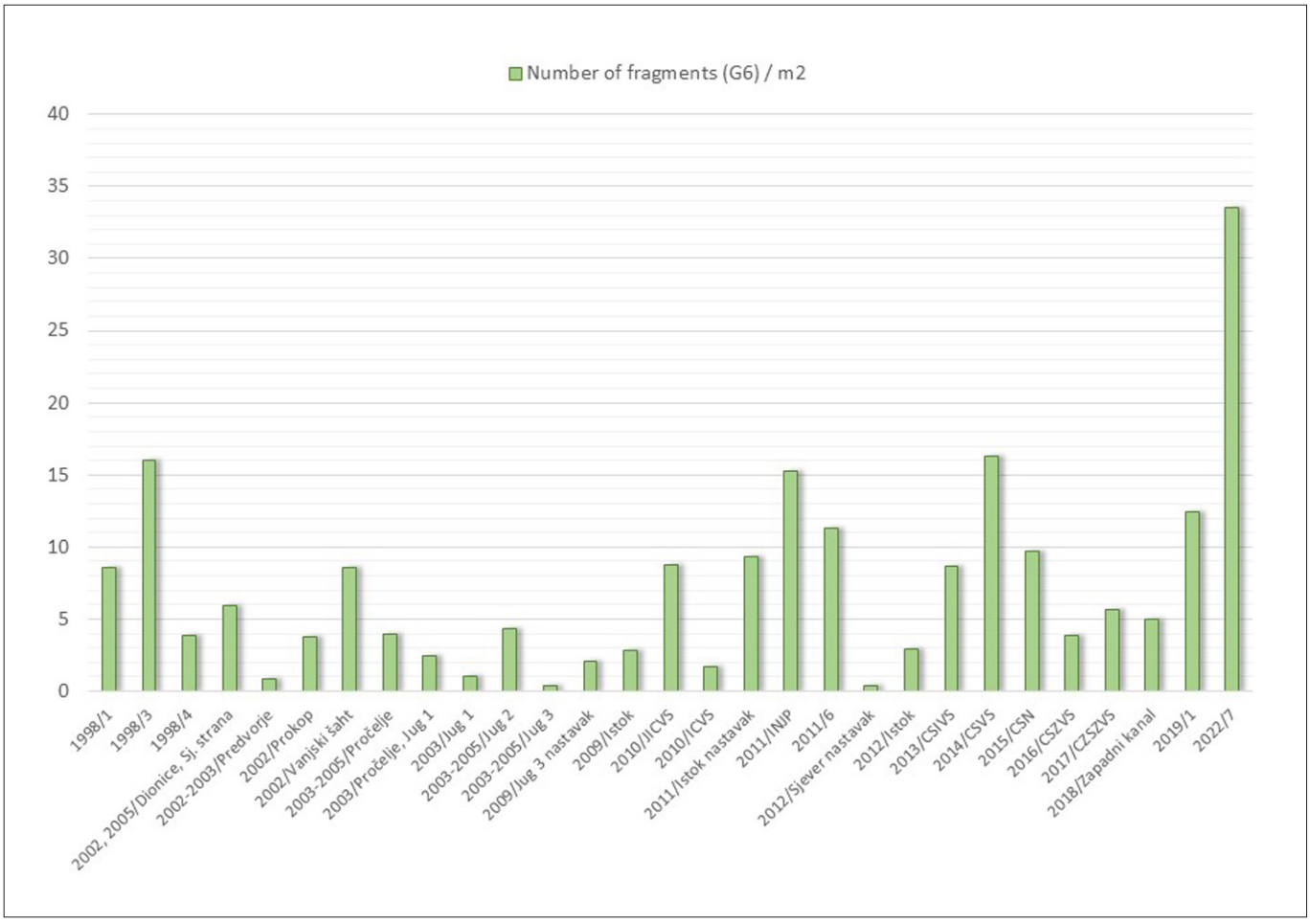

Figure 9. The number of late antique gritty pottery fragments (G6) per square meter (Made by: P. Nikšić)

it. It should also be noted that the pottery found there has a lower degree of fragmentation than the pottery found on other parts of the site. That black layer is mostly associated with the burning and destruction of a late antique building that stood on the site of the early Christian church complex. Pottery fragments found there, especially glazed pottery, confirmed the dating of the destruction of that building around the middle of the 5th century, after which there are no more pottery fragments that could be dated to the second half of the 5th or the 6th century. On the other hand, it is not possible to connect the demolition of an older building and the construction of an early Christian church complex on that site based on the pottery finds. The theory that a religious building had been located there for most of the existence of the hilltop settlement, but before the early Christian church complex was built, was not undoubtedly confirmed by the pottery finds. The fragments of kitchenware, as well as tableware, were found in the before mentioned black layer. In fact, all previously defined pottery groups were found, and the spectrum of pottery finds in the black layers does not differ from the pottery spectrum in other stratigraphic units at different parts of the site. The black layer was not defined only near the present-day church building, where previous late antique building remains were identified, but also in several other place inside the trench from 2002. More precisely, it was defined inside the enclosure wall and outside of it in an external shaft. A late antique arrowhead of a long-lasting form, with a square cross section, was found in that shaft (Filipec & Bunčić 2021: cat. no. 17). Similar arrowheads were found in the fortified hilltop settlement in Kuzelin, which is located around 25 km south of Lobor. Those arrowheads were dated to the second half of the 4th and the beginning of the 5th century (Sokol 1998: 23-25). Considering the fact that only few arrowheads were found inside and around the late antique hilltop settlement in Lobor, which is in line with the general absence of weap-

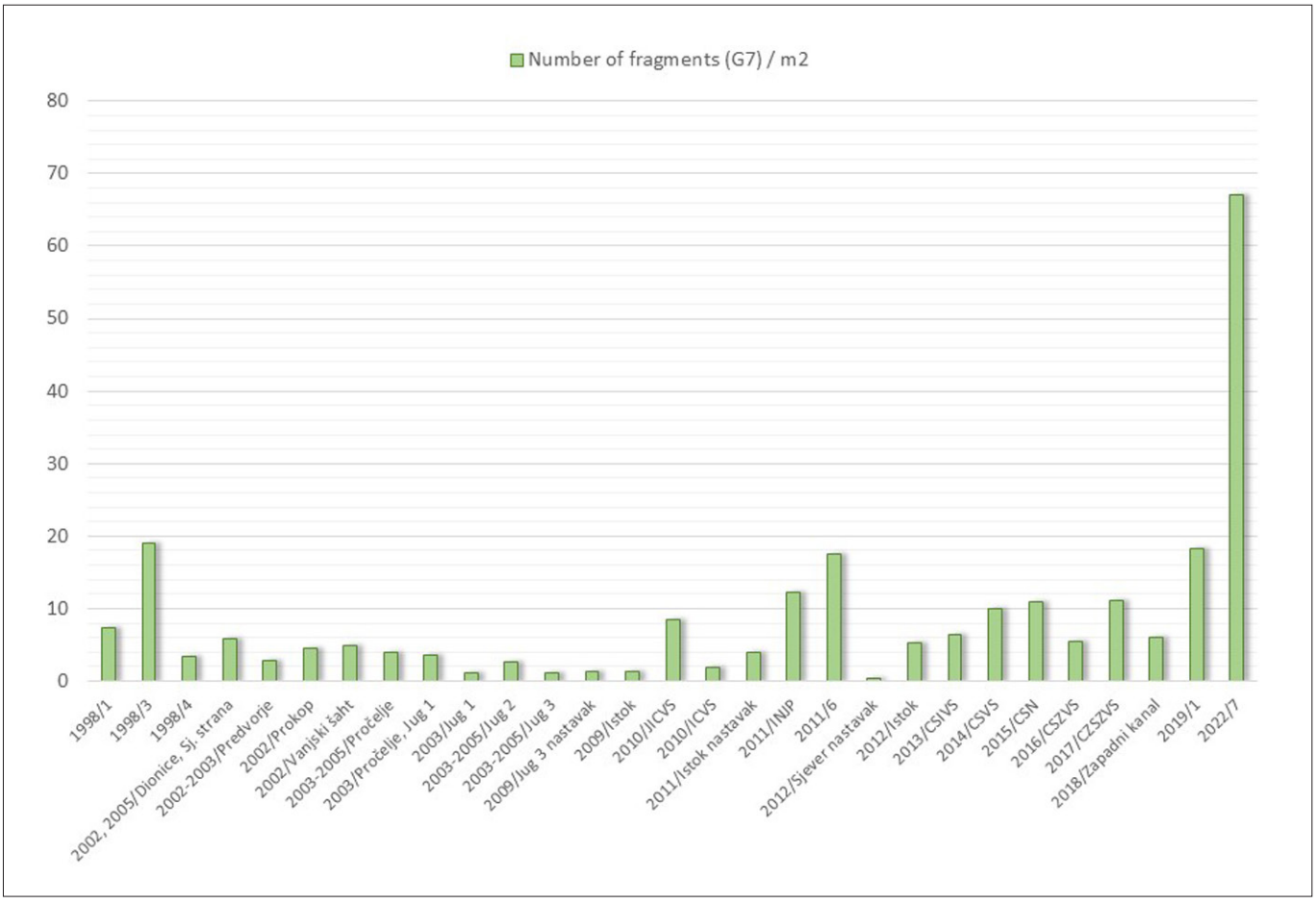

Figure 10. The number of late antique coarse pottery fragments (G7) per square meter (Made by: P. Nikšić)

ons from the settlement, this arrowhead from the black layer may indicate towards a controlled destruction of a pagan temple during the change in religious customs connected to the probable arrival of a new population group at the end of the 4th century. This practice is known from other Noric-Pannonian sites (Walsh 2016: 231-235). In that case, the kitchenware and the tableware found in the black layer, partially beneath the early Christian church complex, could belong to offerings left to a pagan deity.

Two other late antique buildings within the hilltop settlement in Lobor were partly excavated, mainly because the only well-preserved late antique building there is the baptistery building. Other late antique buildings at the site, including the early Christian church, were heavily damaged by later interventions, such as construction work and burials. These two building were to a lesser extent within the excavated trenches, so it is difficult to speculate about their purpose, especially when considering the pottery fragments found there. One of them was a wooden building west of the early Christian baptistery building, mostly underneath the Baroque enclosure wall. The other one was a stone building outside of the enclosure wall in the southeastern part of the site. None of these structures can be associated with the clusters of pottery fragments, and the density of fragments per square meter values in the trenches where the buildings were found are very similar, with variations depending on the degree of fragmentation. The difference, however, is that the pottery fragments found in front of the facade of the present-day church are less fragmented and of a wider range, considering the previously formed pottery groups, so perhaps they can be connected to a wooden building or other structures that were in the area before the construction of the early Christian church complex. On the other hand, it seems

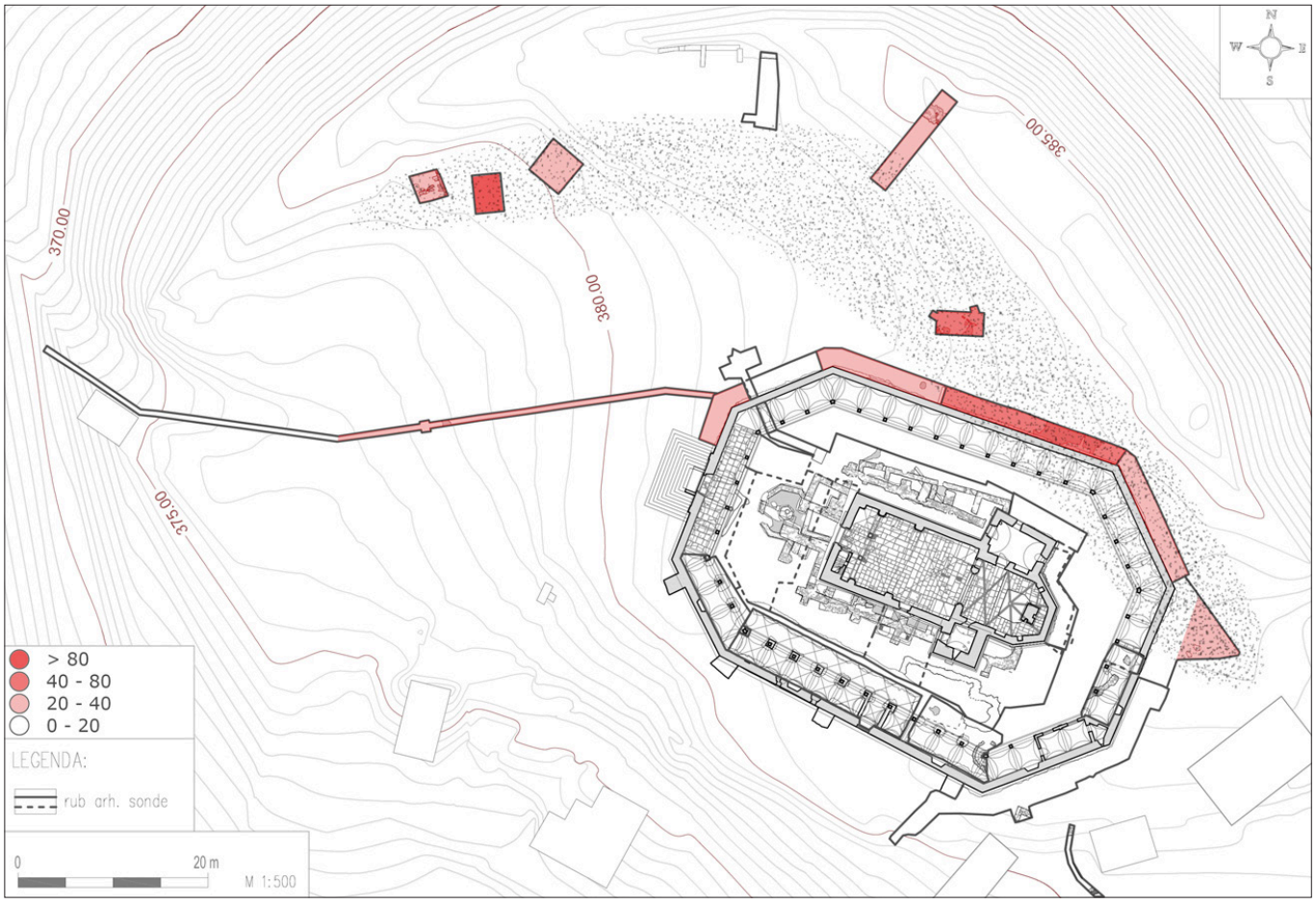

Figure 11. Color-coded plan of the site Lobor – Majka Božja Gorska (density of pottery fragments per square meter) with the proposed area of the residential part of the settlement on the northern and partly western plateau (Plan: Arheo Plan d.o.o., Modified by: P. Nikšić)

that the highly fragmented pottery found in the south-east trench from 2010 outside of the enclosure wall had no connection to the stone building, which is interpreted as a possible second church within the hilltop settlement in Lobor (Filipec 2020: 299).

During the excavation campaign in 2019, a part of a late antique stone building with the earthen flooring was defined in trench 1 next to the northern rampart. The part that was excavated was partially destroyed by the medieval burial pits. Despite this, inside the building, as well as in the trench immediately next to it, which was excavated in 2022, a considerable amount of pottery fragments was found. In addition, it was noticed that the glazed vessels from those trenches differ in the most part from typical examples of the 3rd and 4th century. There are no fragments painted with slip, and the glaze is of lower quality. These vessels can probably be attributed to the later phase of life in the hilltop settlement and should be dated to the 5th century. At the same time, the largest cluster of pottery fragments from Lobor is associated with this building, and it can be said that this is the only place where large quantities of pottery were found in close correlation with architectural remains from the late antique period and definitively confirm the residential purpose of this part of the site.

Another smaller cluster of pottery fragments can perhaps be connected with the layer of ruins of a late antique rural-type structure in trench 3 from 1998. No stone walls were found there, but a large amount of burnt daub. A wide range of pottery that can be dated from the 3rd to the 5th century was found in that trench. Given the presence of tableware and kitchenware, it is quite possible that it was a residential building whose remains was mostly destroyed by the medieval burial pits, which were densely dug in that area.

Given the smaller quantities of late antique pottery in the area of the early Christian church complex and on the northern part of the late antique rampart, which was only sporadically excavated, the pottery cannot be connected with Christian activity within the settlement or with the presence of the army. Aside from the small sections of the northern rampart, no military buildings or features were defined. It seems that all pottery found so far should be connected to the residential part of the settlement, which was mainly used by the civilian population. Although at some hilltop settlements certain groups of pottery can be related to the presence of certain groups of people, like the military in the case of Rifnik (Bausovac and Pirkmajr 2012: 3, Fig. 2), no such connection was made for any of the pottery groups from Lobor. The typical late antique pottery with Christian symbols present at many Noric sites of the same period (Ladstätter 2003a: 309, Abb. 9), was not found in the hilltop settlement in Lobor. The pottery found in Lobor so far therefore cannot be related to Christian activities. The only feature that stands out and does not seem to be connected to civil residences are the stratigraphic units 2+7 in the trench from 2014, where the clusters of fine reduction-fired pottery with and without the burnished decoration were found. Since the vessels found there were mainly jugs and beakers, this feature is certainly in correlation with a private or commercial drinking facility. Taking all the data available from the excavations and the pottery analysis, it can only be confirmed that the residential area of the late antique hilltop settlement in Lobor with minor commercial features existed on the northern part of the site from the middle of the 3rd until the middle of the 6th century.

Conclusion

According to the above-mentioned facts, it can be concluded that most of the residential buildings and buildings in which kitchenware and tableware were used were located on the northern plateau of the late antique hilltop settlement in Lobor. That part of the settlement faces the strong north wind that often blows from the mountain. It seems that the reinforced earthen rampart and the stone wall built on top of it in Late Antiquity nevertheless enabled the construction of houses and relatively favourable living inside by the rampart. A small part of the late antique stone building with an earthen flooring was found in that area, more precisely by the rampart northwest of the early Christian church complex. Considering the position of grave 50 and the finds from destroyed late antique graves north and east of the early Christian church complex (Filipec 2020: 292-293, Fig. 1-2), it is possible that a part of the residential buildings on the northern plateau was already removed in Late Antiquity, after the construction of the early Christian church complex, in order to create space for the cemetery. Since the outer boundary of the late antique cemetery has not been established, it cannot be said whether it could have damaged potential buildings by the rampart, but it destroyed perhaps wooden structures in the position where a large cluster of reduction-fired fine pottery fragments with and without burnished decoration was found, which was mostly used for drinking. Given the character of the vessels, it is possible that it was not a residential area but a drinking place by the still existing pagan temple in the second half of the 4th and first half of the 5th century. Based on the results of the spatial distribution analysis of pottery fragments, it is suggested that, in addition to the previously mentioned buildings, there may have been other structures, likely of a residential nature, adjacent to the northern rampart, which remain to be researched and excavated.

Acknowledgements

The research of late antique and early medieval pottery from the archaeological site of Lobor - Majka Božja Gorska was conducted with the financial support of the Croatian Science Foundation as part of the projects Lobor – Early Medieval Center of Power (LearlyCoP IP-2016-06-6622), DOK-2018-09-5720 and Terra nullius – on the border and behind the border from the 8th to the 12th century (TerraNullbord IP-2022-10-9121). We would like to thank our PhD supervisor and LearlyCoP and TerraNullbrod project manager, Dr. Krešimir Filipec for the pottery finds and the documentation provided, as well as his support and supervision.

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