

## NEW RESEARCH OF MASS GRAVE NO. III AT MOHÁCS

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*In 2009, the Janus Pannonius Museum in Pécs renewed the archaeological research of the Battle of Mohács (1526) with outside partners (BERTÓK ET AL. 2020, 107–118). The goals of the initiative have been to identify the exact location of the historic clashes, reconstruct the chain of the related events, and conduct a scientific analysis of the final resting place of the soldiers who fell on the battlefield. We planned to complete the project by the upcoming 500<sup>th</sup> anniversary of the battle. In our hopes, this research has enabled an expansion of the current national memorial site where the remains of the heroes who sacrificed their lives to protect their Hungarian homeland could finally be laid to rest. The project has provided us with a fitting opportunity to summarize previous work and present the findings of the archaeological excavations conducted in 2020–2021.*

**Keywords:** Battle of Mohács, mass grave, battlefield

As a continuation of a cooperation ongoing since 2016 between the Janus Pannonius Museum (JPM), the Archaeological Institute of the Pázmány Péter Catholic University (PPKE), and the related Archaeological GIS Laboratory, the participants have been conducting battlefield research within the framework of the “Mohács 500 Research Group” since Autumn 2018. In Summer 2020, enthusiasts and public figures supporting the group decided to establish the “Mohács 500 Association for Battle and Battlefield Research” (M500). On August 29 of 2021, the number of participating research institutions grew and the initiative became international, when the Arheološki Muzej Osijek entered, with a cooperation agreement, into the collaboration that already included the JPM, the PPKE, the Danube-Drava National Park (DDNP), and the M500. However, the battlefield research project would not have been complete without a further investigation of the five known mass graves related to the battle of 1526, as none of those have ever been excavated completely. Therefore, in Autumn 2019, the Janus Pannonius Museum, leading the battlefield research project since 2009, accepted a request by the DDNP to excavate some of the mass graves in the area of the Historic Memorial Park at Mohács by the time of the battle’s upcoming 500<sup>th</sup> anniversary in 2026. The Hungarian Natural History Museum became involved in the research as a partner conducting anthropological analyses. The excavation of the mass grave identified in 1976 as No. III started in August 2020, led by Gábor Bertók; the fieldwork was subsidised by the DDNP and the National Cultural Fund of Hungary. After the grave’s surface had been cleaned and the topmost skeleton layer had been removed by archaeologists in almost a month, a workgroup led by György Pálffy from the Department of Biological Anthropology at the University of Szeged joined the project.

### RESEARCH HISTORY OF THE MASS GRAVES

The known mass graves related to the Battle of Mohács were unearthed in 1960 east of Sátorhely, although this but marked their second discovery. One can only guess when were they noticed first. So far it is certain that a trench of the “fortification complex” built along Hungary’s southern border during the Rákosi era (1945–1956) interfered with one of the graves, but there is no trace of any official record from that time reporting the find to the Janus Pannonius Museum. The museum was only notified about the discovery first in 1960, when László Papp found human bones on an alfalfa field south of the Gesztenyés road during a fieldwalk session on 6 April (PAPP 1960, 237).

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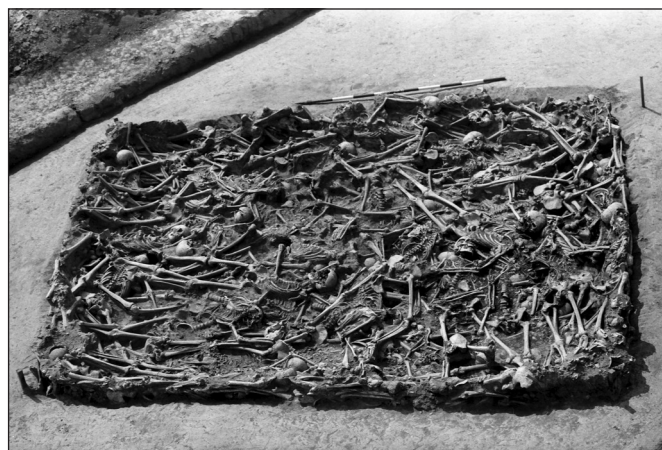
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However, as fieldwork only started in September, László Papp could not conclude the excavation of the two identified mass graves (No. I and II), despite that having been his goal (PAPP 1960, 25). Due to the size of the mass graves, he could only outline their dimensions by exposing the topmost bone layer that also contained some finds (coins and hook-and-eyes). He sank shafts by the sides of the bone assemblages to determine the graves' depth. The archaeological artefacts enabled the dating of the human remains, connecting them to the Battle of Mohács. Papp's work was assisted by anthropologists; based on the injuries observed on the uncovered bones they have concluded that the graves not only contained the remains of those fallen in battle but also of people slaughtered while guarding the Hungarian camp (PAPP 1960, 237–250). According to available records, László Papp wanted to raise a protective brick building over the bones to facilitate future excavations, yet he was forced to forgo his idea. Instead of a protective building, the graves were filled back with soil and a small mound was raised above them.

1975 represented the next chapter in the research history of the mass graves when, as part of the preparations for the then-upcoming 450<sup>th</sup> anniversary, the establishment of a memorial site was decided on state level. The original concept was to create a park and a subterranean reception building, the latter incorporating the two known mass graves. Construction works began in Autumn, and, at the end of October, another mass grave (No. III) was discovered by archaeologist Gábor Kárpáti who monitored the mechanised earthworks. Due to weather conditions, the excavation of the newly discovered grave could not be started during the same year. The grave in question was located 19 metres southeast of the central artificial mound encompassing the two previously discovered ones. Nonetheless, construction works continued, and in February 1976 the mechanised paring of the topsoil layer revealed yet another mass grave (No. IV). This latest phenomenon was also located south of the previous ones, at a distance of 25 metres (MARÁZ 1977, 1). As the date of the memorial place's opening, scheduled to August, approached fast, the excavation campaign in Spring 1976 was conducted under the hypothesis that the approach of László Papp was correct and the bones must be left in place. Researchers were sure that the remains cannot be completely excavated in the short time at their disposal, and they justified their choice with piety (MARÁZ 1977, 2–3).

That was the situation on April 12, 1975, when Borbála Maráz and her team started to excavate the third grave, which was smaller than the first two ones. In the meantime, another, considerably larger mass grave (No. V) has been discovered in a ditch of the park's sprinkler system, about 50–60 metres north of the of the memorial park's centre. Consequently, archaeologists could work at three separate locations simultaneously, and they managed to clear the topmost bone layers and determine the depth of each grave before deadline (*Fig. 1*). Finds similar to those discovered earlier by László Papp, mostly hook-and-eyes and cord caps (MARÁZ 1976) have been discovered in the course of the campaign.



*Fig. 1. Mass grave no. III during the archaeological excavation in 1976 (photo by Borbála Maráz, photo archives of the Archaeology Department of the JPM, Inv. No. 9627)*

### ARCHAEOLOGICAL METHODS, EXPERIENCE, OBSERVATIONS, FINDS, AND THEIR SIGNIFICANCE

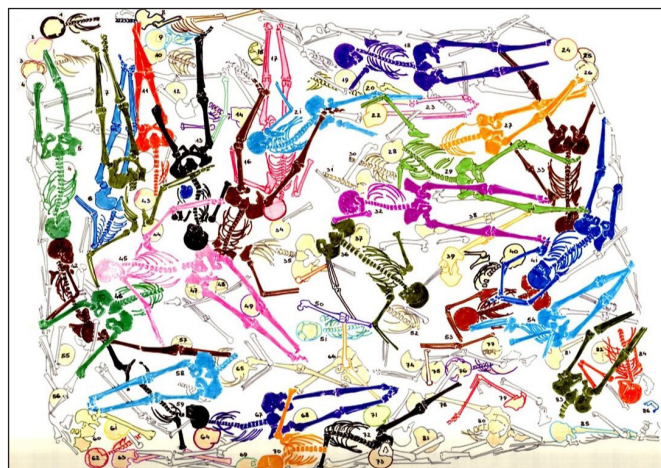
Originally, mass grave No. III, of about 3.5 × 4.5 metres, lay right under plough depth. Currently, its original depth can only be estimated based on observations made in the course of the first (partial) excavation in 1976: at the edges, the bone layer was cca. 70 cm thick. The bodies were cast into the grave in rows at some places, yet the overall picture showed the lack of any order: some people were buried face down, others in a supine position, while others lay on their sides; there were also incomplete skeletons and

bodies laying completely twisted. When the soft tissues of the piled-up bodies decayed, the mass grave collapsed and compacted. As a result, the feature's upper side today is concave, slightly deepening towards the centre. Only an insignificant amount of soil had been mixed between the bodies at the time of their internment, and the gases released during decomposition rearranged remains that previously lay in anatomic order; displaced bones filled the empty spaces, shifting between different levels in the assemblage. As a direct result of the compaction process, the remains today lay in dense strata, thus a cca. 10–15 cm thick layer might contain various bones of up to 3–5 individuals.

The recent excavation methods and goals differed fundamentally from those of the field sessions by László Papp in 1960 and Borbála Maráz in 1976. A key difference was, none of the previous excavations were aimed at removing the human remains from the graves but only exposing the upper surface and, occasionally, some sides of the bone assemblages. The exposed surfaces were documented with the most advanced techniques of the time, including manual mapping, descriptions, and black-and-white photographs. As it has already been noted above, both László Papp and Borbála Maráz deemed it important to involve anthropologists in the research to interpret the human remains and the graves themselves. During the 1960 excavation campaign, László Papp and Lajos Bartucz, while in 1976, Borbála Maráz and Zsuzsanna K. Zoffmann reached the same conclusion, namely that the injuries observed on the bones indicate that the deceased interred in the graves were mostly soldiers and civilians slain in the Hungarian camp. Zsuzsanna K. Zoffmann also cared to complete some descriptions of her results with colour drawings, identifying diverse individuals in the topmost bone layer and labelling them with separate IDs (*Fig. 2*).

The initial goal of the first field campaign in 2020 was to reconstruct the state reached by earlier excavations but with a significant difference: we did not excavate the surroundings of the bone assemblage, only cleared off the soil piled atop its surface. Careful cleaning revealed the stage reached during the 1976 excavations, and the skeletons on the surface were provided with their earlier identification (1–86) again. The next step was choosing the skeletons that lay topmost, thus were easiest to access. Having considered the work procedures applied during previous excavations and learned from their experience, the necessity to involve anthropologists from the start of fieldwork was indisputable as the task to identify and connect dislocated body parts required special expertise. It also became clear quite early on that manual mapping is unsuitable for documentation in this case. While in 1976, a single map depicting the topmost bone layer on the assemblage's cleaned upper side was enough, in our case, the number of necessary partial and survey maps could well have been in the hundreds, which would have considerably prolonged the complex and time-consuming excavation process. However, we were fortunate to have new technologies at hand, which were capable of substituting manual graphic documentation and rendering it significantly more precise, while creating a larger body of information about the feature that became irretrievably destroyed by excavation.

We have also used new methods to excavate the grave. Beside usual instruments, such as trowels, brushes, and shovels, we had a built-on-site vacuum cleaner with a storage container which significantly quickened the removal of the loosened soil (after checking) from amidst the bones. With a permission of the Hungarian Excavation Committee, the archaeologists of the JPM documented the whole excavation process of mass grave No. III by describing individuals as separate graves on forms designed for that very purpose and documenting them using digital photography. The feature was surveyed digitally; individual photos were compiled into digital surface models (DSMs) and true orthophotos in EOV (Hungary's primary projection system), which served as base for graphic (digital) interpretation in Quantum GIS on spot. In the GIS file,



*Fig. 2. Survey map of the excavated remains, 1976 campaign (by Gyöngyvér Sümeghy)*



an unique ID was assigned to each isolated phenomenon, and the database also contained descriptive data (Figs. 3–6). This structure enabled us to connect diverse parts belonging to the same individual, removed in different phases of the excavation.

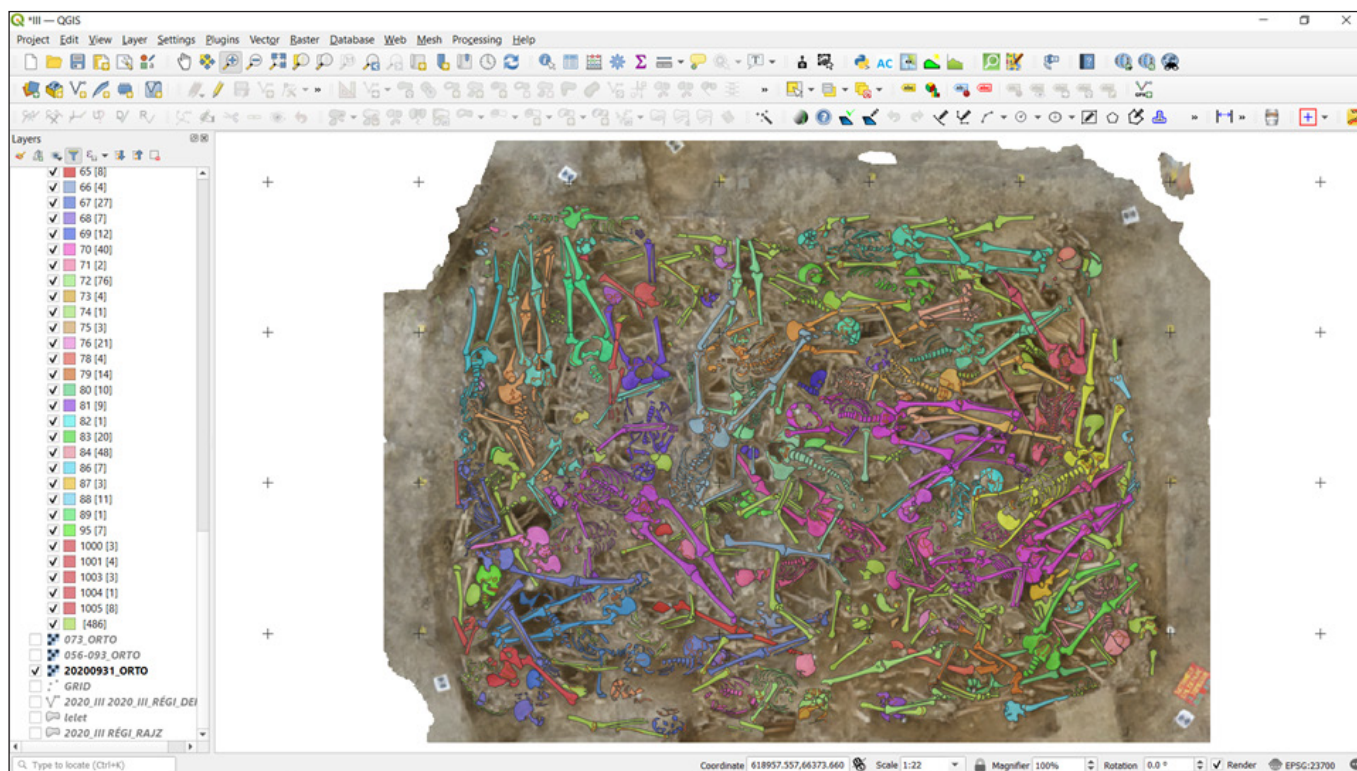


Fig. 3. A previous excavation phase of the mass grave, created in Quantum GIS. The true scale orthophotograph in the background was used as a basic data layer for digitalization. Individual bodies were digitized separately, on separate layers over the base image, distinguished by colouring. Ortophotos by Gábor Bertók and Béla Simon, drawings by Erszébet Bojtár and Zsófia Simon (October 2020)

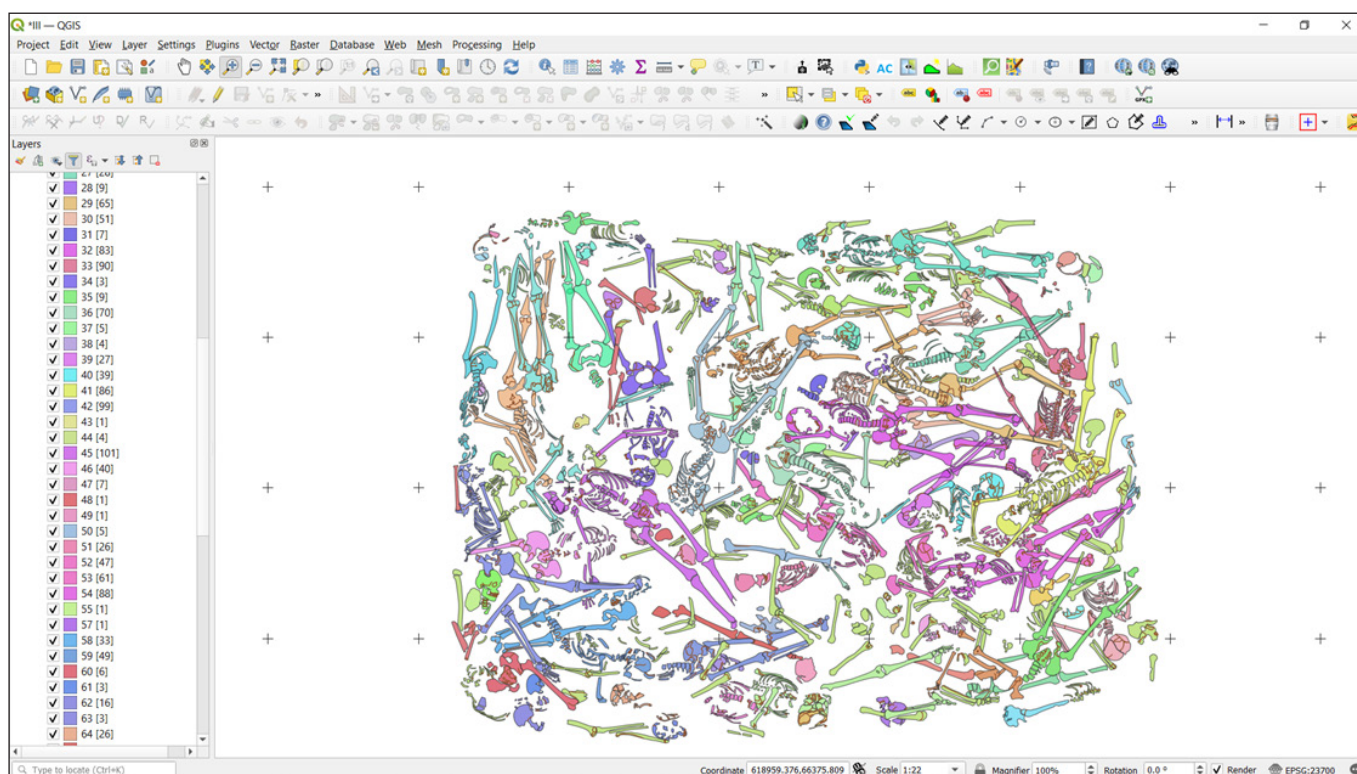


Fig. 4. The digitized layers of Fig. 3.



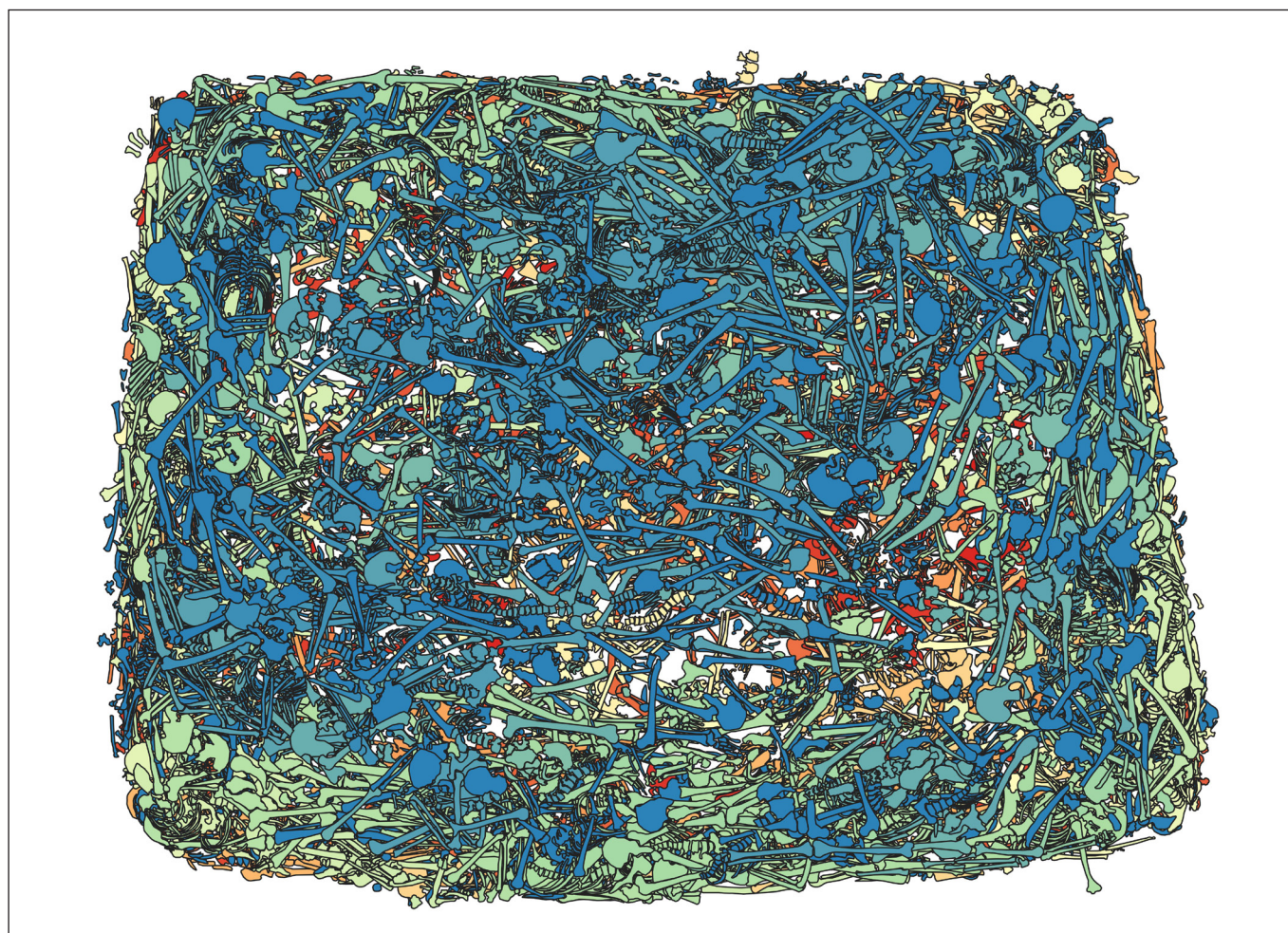
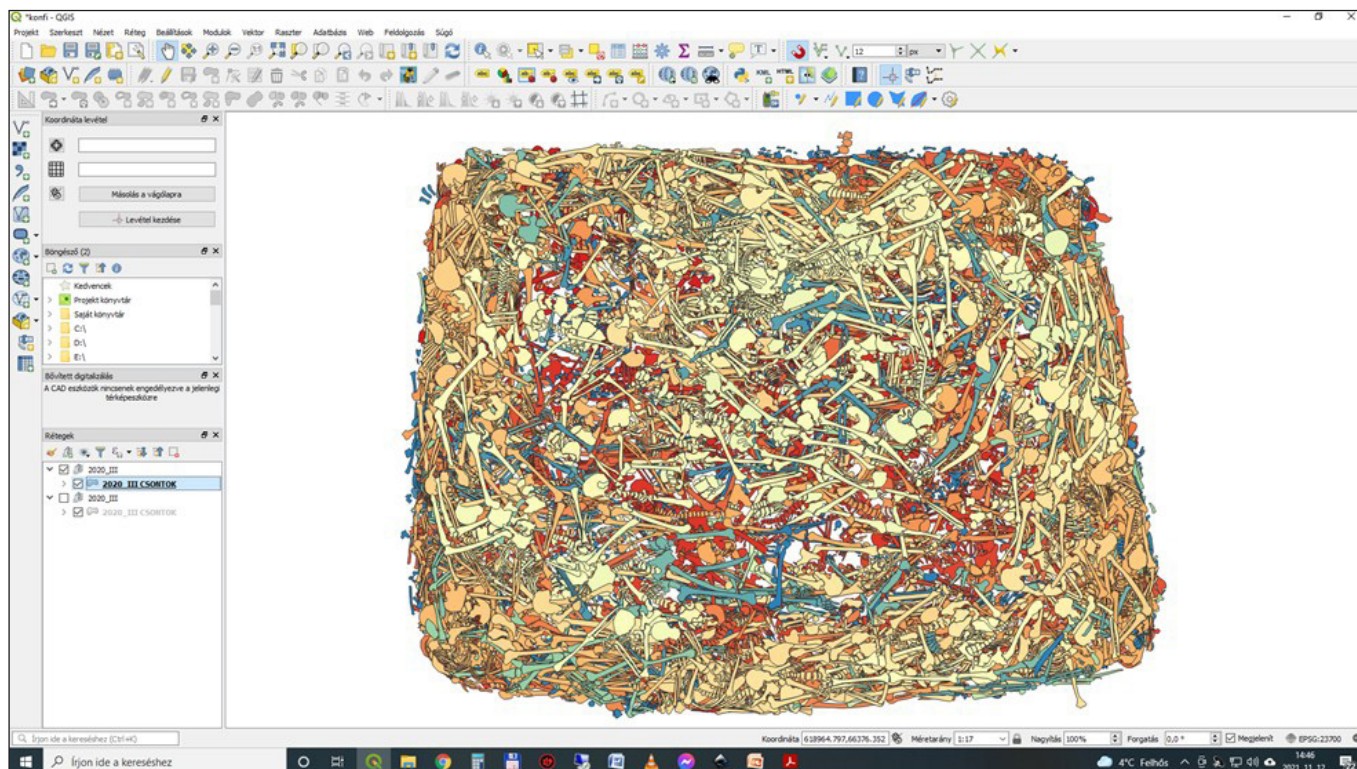


Fig. 5 a–b. The final phase of the mass grave’s survey map in 2021. The red-yellow-blue colour scale indicates the point in the course of the excavation when a body was removed (red: removed at an early, blue: at a late phase).



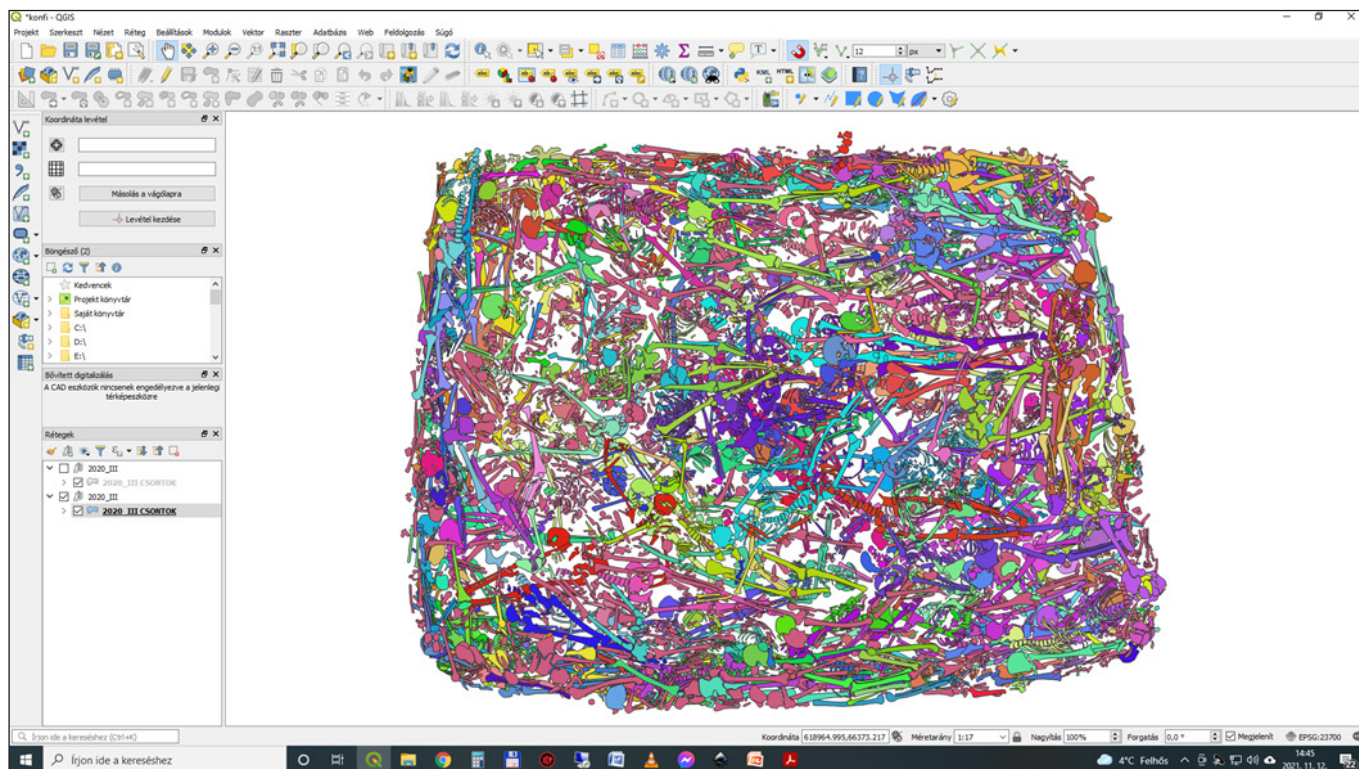


Fig. 6. The final phase of the mass grave's survey map in 2021. Colours are added for illustrative purposes only.

The exact number of individuals identified during the first two excavations seasons (2020 and 2021) cannot be established at the moment, yet it certainly exceeds three hundred. The archaeological documentation was based on the individual IDs first assigned to individual phenomena (complete and partial bodies) during the 1975–1976 campaigns, as we continued the same numbering in 2020 and 2021. Body parts occasionally overlapped and/or were superimposed by other remains, which made it impossible to remove all remains of an individual in one go. Furthermore, we have also observed identifiable yet unrelatable partial bodies. As a consequence, the numbering of individuals and the number of individuals awaiting extraction became disconnected. In almost all cases, we had to give up the removal of an individual's remains to clear off overlapping bones. Therefore, archaeologists handling and expanding the GIS database and written documentation have been engaged in a continuous dialogue with anthropologists and archaeologists removing and classifying the human remains, comparing the excavation's present state with previous ones, thus aiding the interpretation of skeletal parts waiting to be removed.

The majority of the finds recovered from the grave were small artefacts related to clothing. Most of these were hook-and-eyes and cord caps made of copper alloy, large numbers of which have also been recovered by previous excavations. As László Papp noted, many „eyeglasses-like, paired copper clasps”, that served for fastening pieces of attire have been collected from the excavated mass graves, occasionally with bits of linen corroded to them (PAPP 1961, 101). These clasps were made of wire, bent into shape and hammered flat. Altogether 18 pieces in varying shapes and dimensions have been recovered during the 2020 excavation, and 62 more in 2021 (Fig. 7).



Fig. 7. Different type hook-and-eyes recovered from mass grave no. III (photo by Kornélia Pápay)





Fig. 8. Remains of a linen fabric corroded to a hook-and-eye (photo by Kornélia Pápay)



Fig. 9. A bullet from the mass grave (photo by Márk Haramza)



Fig. 10. A golden coin (forint) in situ (photo by Máté Szabó)

Textile remains have been discovered in the lower layers of the bone assemblage in relatively large quantities (Fig. 8). Thread remains were observed on some hook-and-eyes; besides, smaller cloth remains and a scrap made of sewn-together leather and linen pieces were found amidst the lesser textile finds. Diamond-shaped needle or awl impressions were observed on a piece of cloth of several leather and linen layers sewn together. The thread used for stitching the pieces together is still visible in the perforations, as is the knot where the sewing started. Material analysis identified most fibres as phytogenic (bast), made mainly of flax or hemp.<sup>5</sup>

We must also mention the three lead objects recovered from amongst the bones; they can most likely be identified as projectiles (Fig. 9). Two of them are 10–12 mm in diameter and slightly deformed, while the third, of larger calibre, had been deformed considerably (its precise calibre can only be estimated after conservation). A golden coin of King Matthias I of Hungary, found next to the ankle of skeleton No. 260, is also worth noting (HUSZÁR 1979, 109; UNGER 1997, 543) (Fig. 10).<sup>6</sup>

## GRAVES AND BATTLE

Considering available evidence, namely, the areas with clusters of military finds that may be connected with the battle in 1526, options for the event's exact place are limited. So far, the only research project investi-

<sup>5</sup> We are grateful to Kornélia Pápay, a conservator of the Janus Pannonius Museum, who aided our work through the analysis of textile remains. The structural analysis of woven linen remains and complex cloth pieces is still underway, and shall be published later on with the archaeological find material recovered from the grave.

<sup>6</sup> We thank Zsombor Györfy-Villám for his help with identifying the coin.

gating the topic with methods of modern battlefield archaeology is that of the JPM, started in 2016, based on metal detector-aided surveys and the mapping of findspots (BERTÓK ET AL. 2020, 107–118).

One of the main goals of that project was to survey an approximately 60–70 km<sup>2</sup> large area between Mohács, Dályok, Majs, and Nagynyárád, as that was a favourite in most reconstruction hypotheses on the location of the Battle of Mohács (Fig. 11). As a result, in the vicinity of Majs, the surveys have identified a site which may correspond to the description by István Brodarics (where the only point that cannot be fitted with known data is the name of the settlement, “Kis falu”): there are traces of a settlement, with finds datable to the Late Mediaeval or Early Modern period; one end of the past village is connected to a line of hills bordering plains; viewing the landscape from north or northwest, a church built upon a hill was possibly visible above or beyond the village; and the area is also a battlefield, a military find concentration spot with mostly lead projectiles that fit to this epoch but can also be dated to other periods (BERTÓK – HARAMZA – NÉMETH 2020; NÉMETH 2021).

The site, encompassing approximately 1.5–2 km<sup>2</sup>, is relatively far from the mass graves, at a distance of about 4 km in a straight line. Based on the available results of our extended but unfinished survey, the land between the two sites is empty of military finds. It must be noted that recently, we have completed the survey of a roughly 1 km<sup>2</sup> large area around the known mass graves, and have not found any military finds there either.

Having considered the above, of the three existing theories concerning the identity of the deceased in the graves, namely:

- they fell during the main battle,
- they fell defending the Hungarian camp,
- they were captives, who were systematically executed following the battle,

the least likely seems to be the first one, namely that the graves contain the remains of soldiers fallen in battle. One would be pressed hard to find reasons why the officials of the Ottoman army tasked with burying the dead would have dragged about 2000 bodies for several kilometres (or only 500 metres) from the battlefield.

Considering the archaeological finds recovered from the known battlefield and mass grave No. III, the two lead projectiles of 11–12 mm in diameter represent the most important connection between the two. The relationship between mass grave No. III and the Battle of Mohács in 1526 is unanimously accepted today, thus one can safely state that all finds were interred during the days following the battle. They were either stored in ammo pouches hanging from belts or stuck in the bodies of executed wounded soldiers. It must be noted though that by their dimensions (10–15 mm in diameter) the bullets were of the same calibre as almost two-thirds of the ones recovered from the battlefield near Majs (BERTÓK, HARAMZA & NÉMETH 2021, 134, Figs. 9–10). This observation also makes the hypothesis that smaller calibre bullets found on the battlefield were not yet in use in 1526 void (PAP ET AL. 2019, 242).<sup>7</sup>

This leaves us with the two significantly more probable possibilities regarding the character of the graves. By the end of Autumn 2020, based on skeletons observed or removed during the first phase of the excavations, the team of almost a dozen anthropologists from the University of Szeged formulated a general preliminary opinion that most of the bodies in the burial pit were rather young (18–40 year-old) males, with a small proportion of adolescent boys, older men, and a few women amongst them. We have recorded the traces of a brutal slaughter, numerous fatal bone injuries, features indicating unique circumstances of decomposition, and that the bodies had been interred without any regard to human dignity. In the first weeks of the excavation we worked on sections where the ratio of younger victims amongst the removed skeletons was higher. This confirmed the hypothesis by Zsuzsanna K. Zoffmann, published in her study “*Anthropological analysis of the mass graves of the Battle of Mohács fought in 1526, excavated in 1976* (in Hungarian: *Az 1526-os mohácsi csata 1976-ban feltárt tömegsírjainak embertani vizsgálata*)”: based on the extensive head injuries and the large proportion of youngsters (perhaps squires or servants left behind),

<sup>7</sup> For a summary on the chronological problems concerning the calibre of the projectiles, cf. BERTÓK – HARAMZA – NÉMETH 2020, 127–131.



the people buried here were most likely victims from the Hungarian encampment, massacred by Ottoman soldiers. The “camp theory” has already been proposed by László Papp in 1960, who reached a similar conclusion based on the lack of battle-related archaeological finds (pieces of arms and armour, projectiles, horseshoes etc.)(PAPP 1960; K. ZOFFMANN 1982). However, there is a third, previously ignored possibility: a mass execution after the battle, an event recorded by both Hungarian and Ottoman sources (PAPP 1962). Both the memoirs of Brodarics and contemporary Ottoman records note that Suleiman the Magnificent prohibited the taking of prisoners and, on the third day after the battle (31 August 1526), he ordered the execution of approximately two thousand prisoners in the course of a triumphal *divan* (BRODARICS 1983).

Owing mostly to the lack of battle-related archaeological finds, László Papp considered the deceased buried in the first two mass graves in the memorial park to be victims from the Hungarian camp. Based on her results of the anthropological analysis of the topmost bone layers in graves No. III, IV and V, Zsuzsanna K. Zoffmann was of the same opinion, as she observed several cases of head injury on people likely unprotected by helmets and a high proportion of juveniles. Zsuzsanna K. Zoffmann recorded and published countless fatal perimortem injuries in her study in 1982, accepting the possibility that these injuries occurred during battle (whilst the defenders of the Hungarian camp were massacred). She also admitted to be uncertain in a few cases about how some multiple cuts could have been made (K. ZOFFMANN 1982).

The excavation of mass grave No. III in the Historic Memorial Park at Mohács in Fall 2020 has provided us with an entirely new opportunity compared to the partial excavations in 1960 and 1976. The removal of bones enabled us to detect lesions that were difficult or impossible to observe before. These lesions included cut-related injuries that were challenging or unmanageable to make in a battle, like multiple parallel cuts on cervical vertebrae and mandibles indicating a transection of the spinal chord at the jugular section. These injuries were detected on the bases of and beneath the skulls, on jawbones and vertebrae previously hidden by overlapping remains. Since bone remains were not removed either in 1960 or 1976, neither Lajos Bartucz nor Zsuzsanna K. Zoffmann had the possibility to observe and study these injuries. By the early days of December 2020, the time when we started to prepare mass grave No. III for the winter, almost every anthropologist working at the site came across injuries that, although could have been suffered during battle, more likely attested the beheading of defenseless, kneeling victims from above or behind. In some cases we could reconstruct that the executioner smote multiple times, sometimes cutting through the jugular section of the spine and sometimes shattering the skull base, or both. In several cases, the victim was probably already dead when suffered additional blows in the brutal bloodbath.

On recent results of the research of the Battle of Mohács see (in Hungarian):

<https://www.mohacs.btk.mta.hu/publikaciok>

<https://abtk.hu/hirek/1561-a-mohacs-1526-2026-rekonstrukcio-es-emlekezet-kutatasi-program-konyvek>

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