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2694 MASS GRAVE FROM SCUPI

In memory of Lenče Jovanova

Abstract: In 2011 a mass grave with skeletal remains of approximately 200 individual bodies, was discovered during the archaeological research of a southeast necropolis of Scupi. Perceiving the significance and rarity of this find an interdisciplinary expert team was assembled during the field-research works. Event probably happened between III or early IV century known as "The Imperial Crisis" characterized by the rule of military anarchy. Most of the individuals were aged between 20 and 40 years. There is a prevalence of men with medium long skulls, tall and broad faces, strong and tall physical stature. The manner of execution and traces of ante-mortem, peri-mortem and indicators of micro-stress exposure which are present on the bones indicate that the individuals were members of the army. The position of the skeletons and the findings of injuries on the cervical vertebrae, lower jaw and the base of the skull, indicating decapitation (capitis amputatio) with caused by sharp or pointed objects.

Keywords: Mass grave, Scupi, skeleton, decapitation

Scupi, as a part of the Roman world, was not spared by the numerous unpleasant historic events happening in the Empire, especially during the periods of civil wars, dynastic conspiracies and confrontation. The fascinating discovery of the mass grave is an exact testimony that a similar event has happened in the immediate vicinity of the Roman colony of Scupi. Perceiving the significance and exceptional rarity of this find, an interdisciplinary expert team consisting of representatives from the Museum of the City of Skopje, the

Archaeological Museum of Macedonia and the Institute for forensic medicine, criminalistics and medical deontology was assembled immediately during the field-research works.

Archaeological observations

A section of a trench with an irregular semicircular shape, used as a mass grave, was discovered during the 2011 archaeological research of Scupi's south-east necropolis[1]. The burial trench is in the southern periphery of the necropolis, in an area where the terrain forms a natural depression, which had served as an open waste depot for storing the waste from the Roman necropolis during the antiquity (Fig.1,4). A shallow trench was made in the intact bedrock, and after the burial of the dead, it was backfield with soil from the depot. Skeletal remains of approximately 200 individual bodies were discovered within the researched section of the trench, although the total number of buried individuals was not identified, because the eastern end of the trench has not been researched due to a number of objective reasons. The dead were haphazardly, densely lined in several rows, laid on one or two planes with different orientation(Fig.2).

The preserved elements suggest that the dead were laid in various positions: mostly on their backs or bellies, and rarely their sides. The arms are usually laid beside the skeleton, and rarely on top of it. The legs are usually prostrated, and rarely parted. A substantial number of skeletons have their hands tied behind the backs, while in some of them the legs were also tied up (Fig,1).

The place and manner of burial, the abundance, position, orientation and mutual relation of the individual skeleton bones, especially the ones of the extremities, as well as their entwinement, are indication that the departed had met a violently caused and unnatural death, and were then buried together in a trench functioning as a shared mass grave. The skulls and extremities in most of the skeletons are not in their authentic position, indicating a violent execution, which was mostly performed by beheading/decapitation (capitis amputatio) of the victims.

There are not enough elements to determine the place of execution, although the perceived situation suggests that it has happened near the burial site. It is obvious that the decision to locate the burial trench at the periphery of the necropolis was guided by the intention to isolate them from the official part of the necropolis, indicating that the departed were social castaways, excommunicated by the community. (Fig.2)

The lack of grave finds does not only complicate the identification of the period when the event has happened, but also suggests that that dead were either

[1] Due to the limited space in this publication, we were not in position to publish the entire text by the archaeologist Lence Jovanova, which refers to the history of Skupi, and the city necropolises. The full text can be found in the exhibition catalog: L. Jovanova, F. Veljanovska, M. Velova Graorkovska, A. Stankov, *A Glance into the Dark Side of Roman History, Scupi-Tomb with Mass Burial*, Museum of the City of Skopje, December, 2017, 1-43. Some of the photographs used in this text are from the same catalog. They were taken by photographers Stanimir Nedelkovski and Gjorgji Trpeski during the field excavations.

buried unadorned or wearing only minimum clothing made of decomposable materials, stripped of all the marks, symbols or insignia of gender, profession and status, confirming their complete individual and social degradation.

The manner of execution by decapitation indicates that they were members of armed forces, which is also confirmed by the anthropological and forensic medicine analysis of the skeletons. Namely, the Romans regarded the execution by beheading as an exceptionally noble, uniquely decent and painless capital penalty, which was never used for sanctioning criminals. Execution was usually performed by a sword (gladius), and rarely by an axe. It should be emphasised that the successful execution by decapitation called for an exquisite cooperation of the headsman and the victim, who had to stay still and accept the death with dignity. The finds from the waste depot used to backfill the burial trench indicate that the event (the execution) probably happened between the 3rd and the early 4th century. The historic events in the Empire, especially those associated with the broader Balkans region, support this temporal identification of the said event. Almost the whole period of the 3rd century is known as 'The Imperial Crisis of the Third Century' and coincides with the time of the so-called military emperors. It is characterized by the rule of military anarchy accompanied by continuous army revolts, and by the involvement of the army which played a key factor in the quick depositions and frequent violent changes of the emperors. Most of these conflicts and turbulences have taken place exactly in the broader Balkans region, which was the battleground for the brutal and bloody clashes, while Scupi, being a major and important Roman colony, was not spared from the whirlwind of these unfortunate events. Hence, the terrible faith of the nameless soldiers from the mass grave in Scupi is a sort of a paradigm for the faith of the members of various military regiments stationed here in the various historic crisis periods in order to protect the city, but as a result of 'picking the wrong side' were executed by the victor. (Fig.3,4)

Anthropological observations

The anthropological research answered a range of questions regarding the number of buried individuals, their gender, age, physical appearance, illnesses, before death injuries and profession, as well as whether they came from the local population or were settlers.

Material and methodology

In the anthropological analysis, sex and age were determined [2]. Crania and long bones were measured[3]. Body heights were calculated[4]. Epigenetic variations[5] and paleopathological[6] traces were considered. All skeletons were photographed[7].

Number of individuals

As a result of range of past damages of the grave the skeletons are incomplete, which, inhibits the identification of the precise number of individuals buried in the mass grave. In such cases the minimum number of buried individuals is determined, and in this case they number 200 **(**Appendix 1**)**. The gender can be determined in 190 skeletons with preserved elements for gender identification. They are all of the male gender. The age of death of the departed ranges from 15 to 60 years. The average age of the group is 35.6 years (T.1).

years	Age category	n	%	n	%
15-20	juvenilis	13	6.5	13	7.7
21-30		52	26.0	52	30.8
31-40	adultus	61	30.5	61	36.1
41-50		38	19.0	38	22.5
51-60	maturus	5	2.5	5	3.0
60+	senilis				
undetermined		31	15.5		
total		200	100	169	100.0

Table 1: Frequency distribution of skeletons from mass grave 2694, Skupi, classified in age categories

2 D. Ferembach, I. Schwidecky, M. Stloukal, *Empfehlungen fur die Alters und Geschlehts Diagnose am Skelett*, HOMO XXX-2, 1978, Gottingen-Mainz.

3 R. Martin, K. Saller Lehrebuche der Anthropologie, Band I, II,1957, 1959, 429-505, 1001-1466.

4 H. Bach, *Zur Bereshnung der Korporhohe aus der langen Gliedmassenknochen weiblicher Skelette*, Anthrop. Anz, 29, 1966, 12-21. E. Breitinger, *Zur Bereshnung der Korporhoheaus der langen Gliedmassenknochen mannlicher Sk*elette, Anthrop. Anz, 14,1938, 249-274.

5 A. C. Berry, R.J. Berry, *Epigenetic Variation in the Human Cranium*, Jour. Anat.101, 1967, 361-379.

6 D. Ortner, W. G. J. Putschar, *Identification of Pathological Conditions in Human Skeletal Remains*, 1988, Washington.

7 The author of the photographs is Stanimir Nedelkovski, photographer at the Museum of the City of Skopje.

A small number (7.7%) of them were juveniles under 21 (Juvenillis, from 15 to 21 years of age). The most numerous is the adult category (from 20 to 40 years of age) comprising more than two thirds (66.9%) of the departed, while the group aged 35 to 40 is especially numerous (41%).

Almost a quarter of the individuals in the group (25.4%) were aged above 40 (mature/Maturus, from 40 to 60).

Physical characteristics

Taking into account the average measures and indices of the skull and long bones, the buried in the mass grave belonged to the people with a medium longskull (mesocranial, 7,8), and with a medium tall and medium broad face (Fig.5). A more detailed inspection of the skull shape (Table 2) reveals that this average value conceals a mixed (heterogeneous) group with a dominance of short headed skulls (brachycranial, 46%), followed by medium-headed (32%) and lowest presence of longheaded (dolichocranial, 22%).

Martin-Saller	(8:1x100)	n	%	%
ultradololichokran	x-69.9	1	1.1	
hyperdolichokran	65.0-69.9	2	2.2	
dolichokran	70.0-74.9	18	20.0	23.3
mesokran	75.0-79.9	29	32.2	32.3
brachykran	80.0-84.9	31	34.4	44.4
hyperbrachykran	85.0-89.9	8	8.9	
ultrabrachykran	90.0-x	1	1.1	
Total		90	100.0	100.0

Table 2: Frequency distribution of the categories of the cranial index, of males from mass grave 2694, Skupi

Their physical stature was strong (robust) or very robust. A small number of individuals had an average body built. The average height of 170.8 cm characterizes the members of this group as tall. The shortest one was 164.0 cm., while the tallest was 177.0 cm. As a group they had a more or less balanced (homogenous) height, because more than two thirds belong to the category of tall, and only one third in the category of average tall. (Table 3).

category	centimeters	n	%
short	150.0-159.9		
medium tall	160.0-169.9	42	32.3
tall	170.0-179.9	88	67.7
total		130	100.0

Table 3: Frequency distribution of body height categories of males from mass grave 2694, Skupi

In order to familiarize ourselves with the physical appearance of those buried in the mass grave and make it more animate, 6 skeletons that provide the best representation of the group were selected for reconstruction. Based on their individual measures and physical stature, their physiognomies were truthfully reconstructed in three-dimensional portraits (sculptures)[8] and (drawings)[9](Fig.5,6, 15).

Palaeopathology profile of the group

A number of palaeopathological traces associated with before death (antemortem) trauma injuries, congenital anomalies and dental-pathologic changes have been identified. The infective processes and bone tumours are more rarely found. There is an especially high frequency of traumatic injuries. Half of the preserved skulls have at least one depressed or linear fracture most frequently found on the forehead (frontal bone) or the skull roof (parietal bones) (Fig.7-8). Forty of the group members had at least one fractured bone on their bodies. There is a greatest frequency of fractured ribs and vertebrae, followed by fractured upper extremities bones (mostly the forearm), and lowest occurrence of fractured lower extremities (Fig.9). There is also a presence of typical marching fractures on the feet and boxing fractures on the palms (Fig.13-14). All of this characterises the group as a one extremely exposed to violence.

Among the malformations there is a surprisingly high frequency of spinal scoliosis, usually acquired by carrying heavy burden and probably by imbalanced (unilateral) load (Fig.12). The dental pathology image of the group comprises of impacted teeth, with or without impacted milk teeth in the jaws, extra teeth, crooked frontal row, and teeth with smaller or larger dimensions.

Profession

The skeletons reveal numerous traces that could indicate the probable profession of the individuals buried in the mass grave. (Fig.7,8, 9)

Especially frequent are the signs of over compression of the intervertebral discs (Schmorl's node), loosened vertebral arches in the lumbar region (epiphysiolysis of the arch), narrowed bodies of the thoracic or lumbar vertebrae, and bulging of the articular surface of the femoral heads (Poirier's facet). (Fig.10,11)

All of this, in addition to scoliosis, indicates exposure to a burden (carrying heavy loads) since young days (Fig.12). The frequency of traumatic injuries indicates an exposure to violence, while the presence of typical fractures on the feet indicates exposure to hard training and long marches. (Fig.12)

If we have in mind that the fighting gear weighed somewhere between 22 and 40 kg., and that the army often performed the most demanding communal works, the most probable profession of the individuals buried in the mass grave would then be the military profession. (Fig.13,14)

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8 The author of the reconstructions was the academic sculptor Sretko Jovanovski.

9 The authors of the drawings are academic painters Marija Sotirovska Bogdanovska and Tino Sotirovski.

Domestic population or foreigners?

Compared to the group of men buried in the southeast and the nearby northwest necropolis in Scupi, the departed from the mass grave show similarities both in the average cranial index and in the heterogenity typical for the population of the Roman colony of Scupi (Table 4).

The height of the group is 2 centimetres over the height of the man in the southeast (167.9 cm) and northwest necropolis (167.1 cm), which have a prevalence of average tall as opposed to the lower number of tall men, so that the ratio is two thirds against one third.

site	n	8:1x100	stature
Scupi 2694	90	78.11	170.8
Scupi Southeast necropolis	110	79.3	167.9
Scupi Northwest necropolis	60	77.86	167.1
Stobi West necropolis	57	83	166.8
Marvinci Roman necropolis	17	80.8	169.7

Table 4: Comparison of the average value of the cranial indexes and body height of males from three locations in Skupi (mass grave, Southeastern[10] and Western necropolis[11]) and Central Vardar Valley (Stobi[12] and Marvinci[13])

This is an indication that the individuals buried in the mass grave might have been recruited according to their physical predispositions. The comparison with the concurrent population from the necropolises of Stobi and Marvinci in the Vardar Valley, characterized by balanced (homogenous) population with short skulls and an average height, indicates that there are significant differences and that the individuals buried in the mass grave come from the domestic, Scupi population.

It can be concluded that the members of this group came from the Scupi population. The substantial ante-mortem trauma injuries, the frequent indicators of micro-stress exposure, the signs of carrying heavy loads and intensive training from young days, indicate that the individuals buried in the mass grave are members of the army. (Fig.15)

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[10] According to the Report on the anthropological analysis carried out by M. Velova-Graorkovska.

[11] Ф.Вељановска, Антрополошки карактеристики на населението на Македонија од неолит до среден век, Скопје, 2000, 82-87.

[12] Ф.Вељановска, Антрополошки карактеристики на населението на Македонија од неолит до среден век, Скопје, 2000, 92-103.

[13] Ф.Вељановска, Античкото население од Марвинци-Валандово, Скопје, 2006, 108-122.

Forensic anthropology expertise of the mass grave

Bones are a sort of a book that only an expert in the area of physical or forensic anthropology can interpret. At the same time, the bones are a time capsule, and no matter whether the forensics anthropology is used for better understanding of present or past days bones, it can help in creating an open window of the living in the 'life' of the dead. Some of the questions that should be answered by any forensics medicine and anthropological analysis pertain to determining the pathological and traumatic injuries of the researched bones. Especially challenging are the analyses of the existing bone injuries with a traumatic origin. Bone injuries can be caused by a blunt, sharp or pointed mechanical object, projectiles from military siege-devices and firearms, and by high temperature exposure. The traumatic damages or bone injuries are divided into three groups: Injuries occurring some period before the death (ante-mortem injuries) that have healed. The second group consists of injuries occurring at or near the time of death (perimortem injuries) and they are most often linked with the cause of death. The third group consists of damages occurring after the death of the individual (postmortem injuries). Hence, in a case of existing injuries, the forensic anthropology should provide the answers to the following questions: what are the types of the injuries, what caused them, when have they occurred, whether and how they are linked with the cause of death. (Fig.16)

Most of the indicated methods, analyses and techniques were applied by the multidisciplinary team in the inspection of the skeletons from the mass grave discovered in Scupi's southeast necropolis. All three types of injuries (ante-mortem, perimortem and postmortem injuries) of interest to the forensic anthropology are present in the skeletons of the mass grave. The ante-mortem injuries occurring some period before the death consist of fractures caused by blunt hard force, and are completely healed. The changes indicating the presence of these injuries are localized at the skull and the long bones and are manifested with a thickening of the long bones and dented bones in the skull roof (Fig.16,18).

Injuries occurring at or near the death (perimortem injuries) have been recorded in most of the skeletons with sufficient bone material and state of preservation to be processed. It should be emphasized that the before death injuries were predominantly caused by sharp or pointed objects. (Fig.17,18,19,20,21)

These injuries were sustained by impaling, where the primary impact is made by the tip and additionally by the blade. This is indicated by the incisions on the ribs and the front of the thoracic vertebrae (Fig.19,24). In addition to these injuries, there are multiple cases of perimortal incisions on the frontal and the occipital bones, the femurs, the thoracic vertebrae, and shoulders, as well as fractures of the long bones, which can be linked with an involvement in a chest-to-cheats combat, thus classifying the victims as members of military regiments (Fig.16,18, 22,23,24).

The finding that sparked the greatest interest during the analysis was the discovery of injuries on the cervical vertebrae, the lower jaw

and the base of the skull, indicating decapitation (Fig.25,33). The injuries are mostly localized in the area of the fourth, fifth and sixth cervical vertebra, and the lower jaw branches. All of these injuries were dealt by a sharp blade from a mechanical tool, by swinging the blade and cutting the bones. The localization of the injuries indicates that the tool acted on the neck region from back to front or sideways. In the cases of decapitation, the only active part of the tool was the blade, while in all of the remaining cases it is possible that the tool had entered the body with its pointed end first. Based on the available skeleton finds, decapitation has been positively identified in 68 of the cases. It should also be emphasized that a number of skeletons are missing their cervical vertebrae, which is another indirect indicator of a probable decapitation. (Fig. 25,26,28)

The prevailing causes of death are: decapitation, injuries of the neck organs and structures, injuries of the chest cavity organs, and injuries of the brain and the spinal cord. The death by decapitation suggests a possible execution of a larger part of the group.

The localization of the injuries in the neck and chest area is an indication of possible injuries of vital organs, which leads to the conclusion that the intention of the perpetrator or perpetrators was to deal certain death to the victims.

The skeletons of the group have no traces of injuries that could indicate previous torture, because the injures are grouped together and cannot be found on several body regions. Hence, it can be concluded that most of the victims were executed by decapitation or stabbing, while some of them died of previously sustained fatal injuries in a chest-to-chest combat. (Fig.29,30,31,32,33)

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2694 МАСОВНИ ГРОБ СКУПИ

У 2011 години на светлост дана изашло је једно изузетно и несвакодневно откриће -масовни гроб са око 200 сахрањених индивидуа. Приликом археолошких истраживања Југоисточне Некрополе Скупи код Скопља, откривен је део рова у полукружној форми, употребљен као гроб за масовно сахрањивање. Покојници су били немарно, густо поређани у неколико редова, у различитим правцима и у различитом положају. Код значајног броја скелета евидентирано је везивања руку на леђима, као и везивање ногу. Локација и начин сахрањивања, бројност и њихов положај упућују на насилну смрт т.ј. погубљење, које је у већини случајева извршено одсецањем главе или декапитацијом (capitis amputatio). Манир егзекуције са декапитацијом упућује да су покојници били припадници неке војске, што је било потврђено и преко антрополошких и форензичних анализа скелета.

Налази отпадне депоније изнад самог рова упућују да се овај историјски догађај десио вероватно у периоду III или почетком IV века, познат као Период кризе у царству и поклапа се са временом т.з. војних царева. Антрополошка истраживања показују минимални број 200 покојника. Сви покојници били су мушког пола. Узраст у којој су покојници преминули је у распону од 16 до 60 година. Просечни век старости износи 36.3 година. Према просечним мерама и индексима краниума ови покојници имају мезокране лобање (78.8). Већином су били робусне или веома робусне телесне грађе, а просек од 170.8 см. ставља групу у категорију високог телесног раста. Од антрополошких типова били су најзаступљени Медитераниди и Динаро-медитераниди. Бројност трагова трауматских повреда указује нам на изложеност насиљу, а појава типичних фрактура је од напорне борбе и дугог марширања. Ако имамо у виду да је борбена опрема имала масу од 22 до 40 кг., онда за вероватну професију ових покојника можемо сматрати да је била војничка служба.

Форензично-антрополошка експертиза: На скелетима присутне су све три врсте повреда од интереса за форензичку антропологију (антемортем, перимортем и постмортем). Повреде које су настале од оштрог предмета, као и од врха оружја пре саме смрти могу се довести у везу са учешћем у непосредној борби, а самим тим и припадности жртава војним формацијама. Оно што се у току анализе издвојило као веома интересантно сазнање су повреде на вратним пршљенима, доњим вилицама и на бази лобање и сви заједно указују на декапитацију. Повреде вратних пршљенова најчешће су локализоване на четвртом, петом и шестом пршљену. Сигурна декапитација била је утврђена код 68 скелета. Као могући узрок смрти преовлађују: декапитација, повреда вратних органа, повреда органа грудног коша, као и повреде великог мозга и кичмене мождине. Локализација повреда у пределу врата и грудног коша упућује на то да су извршиоци овог дела хтели сигурну смрт жртава. Трагови повреда који би указали на могућу тортуру нису откривени, јер трагови повреде су локализовани и нису били распоређени на више регија. Можемо закључити да су жртве биле погубљене са декапитацијом или убодом оштрице и да су један део њих претходно задобили смртоносне повреде у директној борби и као последица тога умрли.

Fig.1. Mass grave burial, panoramic view from the south.

Сл.1. Масовни гроб, панорамски поглед са јужне стране.

Fig.2. Various positions of the skeletal bones.

Сл.2. Различити положаји скелетних налаза.

Fig.3. Skeleton with hands tied behind the backs and legs also tied up.

Сл.3. Скелет са везаним рукама и ногама.

Fig.4. Intermingling of the skeletal bones

Сл.4. Мешање скелетних костију

Fig.5. Cranium 31 (anfas and profile).

Сл.5. Краниум 31 (анфас и профил).

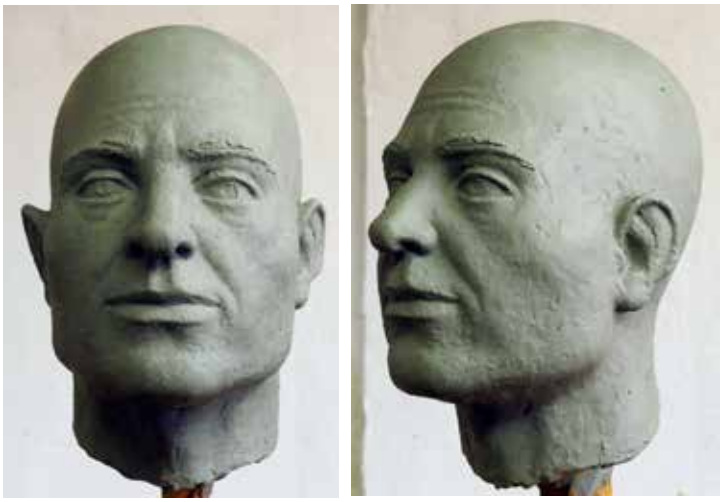

Fig.6. Three-dimensional portrait cranium 31 (anfas and profile).

Сл.6. Тридеминзионални портрет краниума 31 (анфас и профил).

Fig.7. Skeleton 35.

Сл.7. Скелет 35.

Fig.8. Skeleton 40.

Сл.8 .Скелет 40.

Fig.9. Fractured lower extremity bone (femur), skeleton 153.

Сл.9. Фрактура доњег дела бутне кости, скелет 153.

Fig.10. Skeleton 26 (Poirier facet).

Сл.10 . Скелет 26 (Poirier facet) .

Fig.11. Skeleton 20 (Schmorls node).

Сл.11. Скелет 20 (Schmorls node).

Fig.12. Spinal scoliosis, skeletons 16 and 20.

Сл.12, Сколиоза кичме, скелет 16 и 20.

Fig.13. Marching fracture, skeleton 157.

Сл.13. Марш фрактура, скелет 157.

Fig.14. Boxing fractures on the palms, skeleton 61.

Сл.14. Бокс фрактура шаке, скелет 61.

Fig.15. Three dimensional reconstruction, cranium27.

Сл.15. Тродимензионална реконструкција, краниум 27.

Fig.16. Cranium 8, Cut on the upper ridge of the right eye cavity.

Сл.16. Краниум 8, Посекотина горње ивице на десној очној шупљини.

Fig. 17. Cranium 1, transversal cut of the occipital bone

Сл.17. Краниум 1, трансверзална посекотина потиљачне кости

Fig. 18. Cranium 100, cut on the right side of the frontal bone

Сл.18 .Лобања 100, посекотина на десној страни фронталне кости

Fig. 19. Cranium 3, defect of the frontal bone caused by a pointed object

Сл.19. Лобања 3, дефект фронталне кости узрокован шиљатим предметом

Fig. 20. Cranium 29, cut on the canine on the upper right maxillary bone

Сл.20. Лобања 29, посекотина на очњаку на горњој десној максиларној кости

Fig. 21. Skeleton 23, completely cut off body of the first thoracic vertebra, and incisions on the body of the second thoracic vertebra.

Сл.21. Скелет 23, потпуно одсечено тело првог грудног пршљена и резови на телу другог грудног пршљена.

Fig. 22. Skeleton 144, cut on the right clavicle external end, caused by a sharp instrument

Сл.22. Скелет 144, посекотина на спољашњем крају десне кључне кости, настала оштрим инструментом

Fig. 23. Skeleton 26, rib incision from a sharp instrument

Сл.23. Скелет 26, рез на ребру од оштрог инструмента

Fig. 24. Skeleton 100, cuts on both femurs

Сл.24. Скелет 100, посекотине на обе бутне кости

Fig. 25. Skeleton 30, complete cut off of body of the seventh cervical vertebra and the superficial articular faucets of the first thoracic vertebra.

Сл.25 .Скелет 30, потпуно пресечен тело седмог вратног пршљена и површински зглобни кракови првог торакалног пршљена.

Fig. 26. Skeleton 31, complete cut off of body of the third cervical vertebra, and left articular faucet of the fourth cervical vertebra.

Сл.26 . Скелет 31, потпуно пресечен део тела трећег вратног пршљена и леви зглобни део четвртог вратног пршљена.

Fig. 27. Skeleton 21, complete cut off of body, left superior articular surface and spinal process of the fourth cervical vertebra.

Сл.27. Скелет 21, комплетан одсечак тела, лева горња зглобна површина и кичмени наставак четвртог вратног пршљена.

Fig. 28. Skeleton 141, complete cut off of body, arch and superficial articular faucets of the fifth cervical vertebra.

Сл.28. Скелет 141, потпуно одсечено тело, лук и површински зглобни кракови петог вратног пршљена.

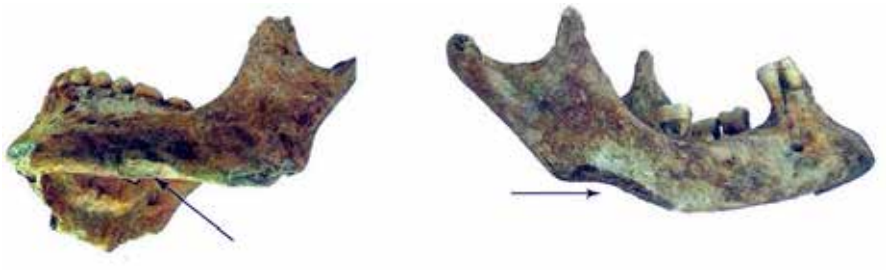

Fig. 29. Skeleton 72, cut on the lower edge on the left mandible

Сл.29. Скелет 72, посекотина на доњој ивици са левој страни мандибуле

Fig. 30. Skeleton 65, ramus and angle of right side of mandible are completely cut off.

Сл.30 . Скелет 65, рамус и угао десне стране мандибуле су потпуно одсечени.

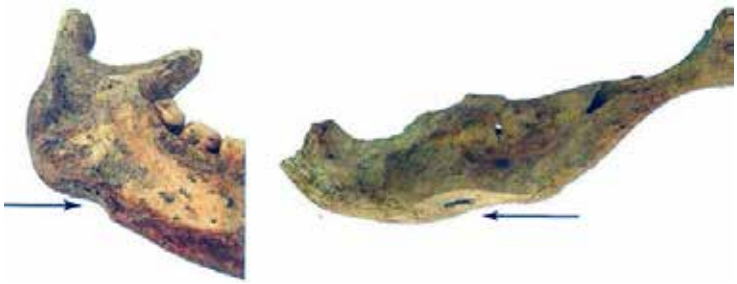

Fig. 31. Skeleton 17, cut on the left lower jaw angle

Сл.31 Скелет 17, посекотина на левом углу доње вилице

Fig. 32. Skeleton bb, cut on the lower edge on the right mandible body

Сл.32 Скелет бб, посекотина на доњој ивици тела са десној страни мандибуле.

Fig. 33 . Skeleton 16, cuts on the right mandible bone, the mastoid process, the lower surface of the first cervical vertebra, the dens and left surface of the second cervical vertebra resulted from a sharp instrument force.

Сл.33. Скелет 16, посекотине на десној страни мандибуларне кости, мастоидном наставку, доњој површини првог вратног пршљена, зглобовима и левој површини другог вратног пршљена настале су услед оштрог деловања инструмента.