Vulović, Dragana – Miladinović-Radmilović, Nataša – Pop-Lazić, Stefan

Fifth century burial in front of the northern gate of Felix Romuliana : anthropological analysis

in: Bülow, Gerda von – Petković, Sofija (Hrsg.), Gamzigrad-Studien I. Ergebnisse der deutsch-serbischen Forschungen im Umfeld des Palastes Romuliana, 287–304.

DOI: https://doi.org/10.34780/6w33-3k86

Herausgebende Institution / Publisher:
Deutsches Archäologisches Institut

GERDA VON BÜLOW / SOFIJA PETKOVIĆ
(HERAUSGEBERINNEN)

GAMZIGRAD-STUDIEN I

ERGEBNISSE DER DEUTSCH-SERBISCHEN FORSCHUNGEN IM UMFELD DES PALASTES ROMULIANA

RGK

GERDA VON BÜLOW / SOFIJA PETKOVIĆ
(HERAUSGEBERINNEN)

GAMZIGRAD-STUDIEN I

RÖMISCH-GERMANISCHE FORSCHUNGEN

BAND 75

RÖMISCH-GERMANISCHE KOMMISSION
DES DEUTSCHEN ARCHÄOLOGISCHEN INSTITUTS ZU FRANKFURT A. M.

RÖMISCH-GERMANISCHE KOMMISSION
ARCHAEOLOGICAL INSTITUTE BELGRADE

Gamzigrad-Studien I

Ergebnisse der deutsch-serbischen Forschungen im Umfeld des Palastes *Romuliana*

HERAUSGEGEBEN VON
GERDA VON BÜLOW UND SOFIJA PETKOVIĆ

MIT BEITRÄGEN VON
MARIANNE BERGMANN, GERDA VON BÜLOW, SVEN CONRAD, GORDANA JEREMIĆ, ALEKSANDAR KAPURAN, NATAŠA MILADINOVIĆ-RADMILOVIĆ, MARK OPELT, SOFIJA PETKOVIĆ, STEFAN POP-LAZIĆ, ANA PREMK, CHRISTOPH RUMMEL, TIM SCHÜLER, BRIGITTA SCHÜTT, JANA ŠKUNDRIĆ-RUMMEL, JÁNOS TÓTH, MILOJE VASIĆ UND DRAGANA VULOVIĆ

REICHERT VERLAG • WIESBADEN • 2020

VIII,406 Seiten mit 313 Abbildungen, 16 Tabellen und 15 Tafeln

Bibliographische Information der Deutschen Nationalbibliothk

Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliographie; detaillierte bibliographische Daten sind im Internet über <http://dnb.d-nb.de> abrufbar.

ISBN: 978-3-95490-477-8

Redaktion: Hans-Ulrich Voß, Römisch-Germanische Kommission Frankfurt a. M.
Formalredaktion: Julia Hahn, Johannes Gier, Römisch-Germanische Kommission Frankfurt a. M.
Bildredaktion: Oliver Wagner, Kirstine Ruppel, Römisch-Germanische Kommission Frankfurt a. M.
Satz: Julia K. Koch, Preetz
Druck: Bonifatius GmbH Druck – Buch – Verlag, Paderborn
Printed in Germany
Printed on fade resistant and archival quality paper (PH 7 neutral) • tcf

Dem Andenken an Ulrike Wulf-Rheidt (1963–2018) gewidmet.

Inhaltsverzeichnis

Fifth Century Burial in front of the Northern Gate of *Felix Romuliana* – Anthropolgical Analysis

By Dragana Vulović, Nataša Miladinović-Radmilović, Stefan Pop-Lazić

ARCHAEOLOGICAL CONTEXT

The small northern gate or postern represents a part of the later fortification system of *Felix Romuliana* located between Towers 8 and 10 *(fig. 1)*. It was excavated before[1], however, researches of wider scope were performed for the first time in 2014, when two trenches examined the stratigraphy of this area[2]. One had the goal of investigating the structure of layers in front of the small gate entrance, while the other explored the space immediately outside the rampart for a length of 12 m *(fig. 2)*. The surface in front of the gate represents a layer of lime mortar with occasional pieces of crushed stone immersed in it, created in the period of the building of the later fortification of *Felix Romuliana*. This level slopes northwards (towards the defence ditch), hence it was registered at 186.50 m ASL in front of the gate, while it measured 185.60 m ASL at the northernmost part of the trench 1. A layer of debris created during the collapse of the upper parts of tower 8 and the northern rampart covered the mortar level. During the excavations, it was impossible to determine the original level up to which this area was covered, considering the fact that large quantities of debris were removed in the 1990s. The point from which the research began is some 60 cm above the mortar level.

Inside trench 1/2014, ca. 3 m from the northern rampart, a burial of an individual was discovered (G-1/14), simply buried into a layer of debris created above the mortar layer *(fig. 3a)*. The mortar level was penetrated ca. 30 cm deep by this burial, hence, the deceased was laid in a layer of yellow clayish ground. The deceased's body was laid on the back, oriented in west-east direction. His arms were crossed on his chest and his hands bent under the mandible. His left leg was partially bent outwards, and the right one was found broken at the diaphysis level of tibia and fibula. Judging by the context of the finding, the deceased's body was laid into a simple burial pit, without any grave construction or grave markers. It was impossible to determine the original depth of the pit since a layer had been previously removed in this area. In respect to the current terrain level, the skeleton was discovered at the depth of 0.60 m.

When the skeleton was lifted, three pieces of gold were discovered in the area of the deceased's right side *(fig. 3b)*. Those were: one solidus of the Emperor Marcianus (AD 450–457)[3], a tremissis of Emperor Theodosius II (AD 408–450)[4], and a tremissis of Aelia Pulcheria (AD 399–453)[5]. The finding of the three coins provides a firm basis for dating the burial into the period during or after the sixth decade of the 5th century AD.

HUMAN OSTEOLOGICAL MATERIAL

After examining the skeletal remains of the individual (G-1/14), we established that it was a well-preserved, though incomplete skeleton *(tab. 1)*.

1 Lalović 1998, 125.

2 This paper resulted from the projects: "Romanization, urbanization and transformation of urban centres of civil, military and residential character in Roman provinces on territory of Serbia" (No. 177007) and "Urbanization processes and development of medieval society" (No. 177021) of the Ministry of education, science, and technological development of the Republic of Serbia. Special gratitude is owed to Miro Radmilović for the post-production of the illustrations of the human osteological material *(pls I–IV)*.

3 RIC X, 523.

4 RIC X, 278.

5 RIC X, 521.

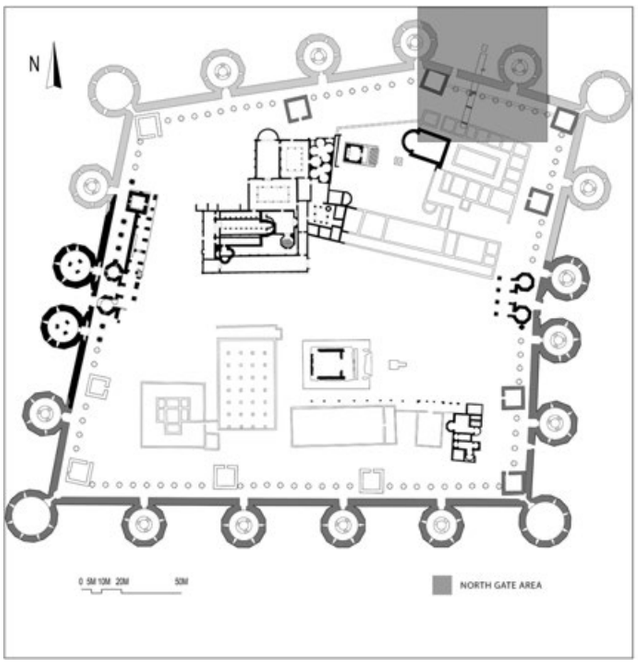

Fig. 1. *Felix Romuliana* (Gamzigrad) – Galerius' palace.

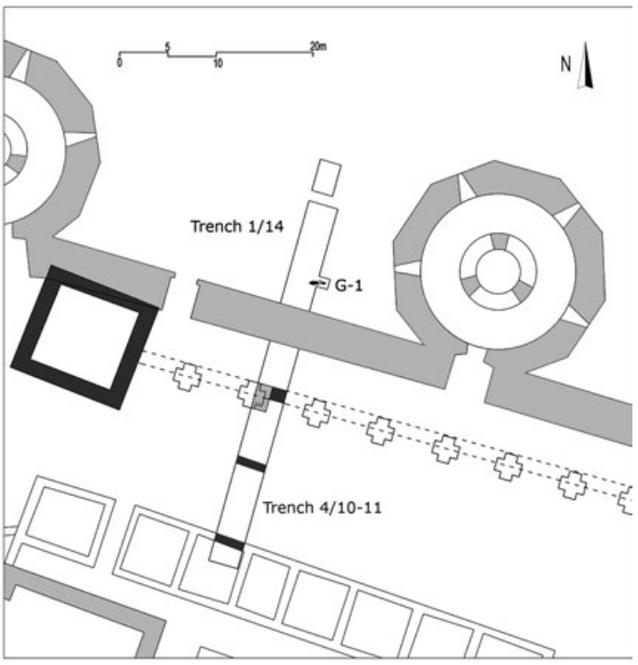

Fig. 2. *Felix Romuliana* (Gamzigrad), fifth century grave (G-1/14) – position outside the northern gate.

METHODOLOGICAL FRAMEWORK

For the sex determination of this individual, we opted for a combination of morphological and metrical methods. Special attention was given to the morphological elements of the skull (*glabella*, *planum nuchale*, *processus mastoideus*, *arcus supercilialis*, *protuberantia occipitalis externa*, *os zygomaticum*, *tubera frontale et parietale*, inclination of *os frontale* and *margo supraorbitalis*) and pelvis (*sulcus praearicularis*, *incisura ischiadica s. ischialis major,* arc compose, the aspect of *os coxae*, *corpus ossis ischii*, *foramen obturatum*, *crista iliaca*, *fossa iliaca*, *pelvis major*, *pelvis minor*, subpubic region [ventral arc, subpubic concavity and the medial aspect of the ischiopubic ramus]), and the method of work was taken from a group of European anthropologists[6], and Jane E. Buikstra and Douglas H. Ubelaker[7]. Morphological elements of the mandible were also analysed (general aspect of the mandible – *corpus mandibulae*, *ramus mandibulae*, and *angulus mandibulae*, *mentum*, *angulus mandibulae*, and *margo inferior*), on the basis of criteria established by Denise Ferembach and her co-workers[8], as well as the metrical elements relevant for the sex determination of the skeleton[9]. Metrical elements obtained, as well as indexes calculated on that basis, sometimes given separately for the right and the left side of the body, are shown in *Table 2*.

Mesiodistal and vestibulolingual diameters were measured on teeth in the manner recommended by Simon Hillson *(tab. 3)*[10]. In the analysis of the rest of the bones of the postcranial skeleton, we were also observing both morphological and metrical elements. Morphological elements that we gave attention to were the development level of: the *tuberositas deltoideae*, *tuberositas radii*, and *margo interosseus* (radius), *tuberositas ulnae* and *margo interosseus* (ulna), *linea aspera* and *tuberositas tibiae*. When it comes to morphological elements of the sacrum, we were observing the very aspect of bones, the curving of the body, and the *facies auricularis*[11]. Metrical elements have a significantly larger role in the sex determination of postcranial skeletal remains, so we dedicated special attention to them. Metrical elements obtained, as well as indexes calculated on that basis, given separately for the

6 Ferembach et al. 1980, 519–527.
7 Buikstra / Ubelaker 1994, 15–21
8 Ferembach et al. 1980, 523–525.
9 Ferembach et al. 1980, 523–525; Bass 1995, 84–85.
10 Hillson 1990, 240–242; Hillson 1996, 80–82.
11 Mikić 1978, 18–19; Bass 1995, 114.

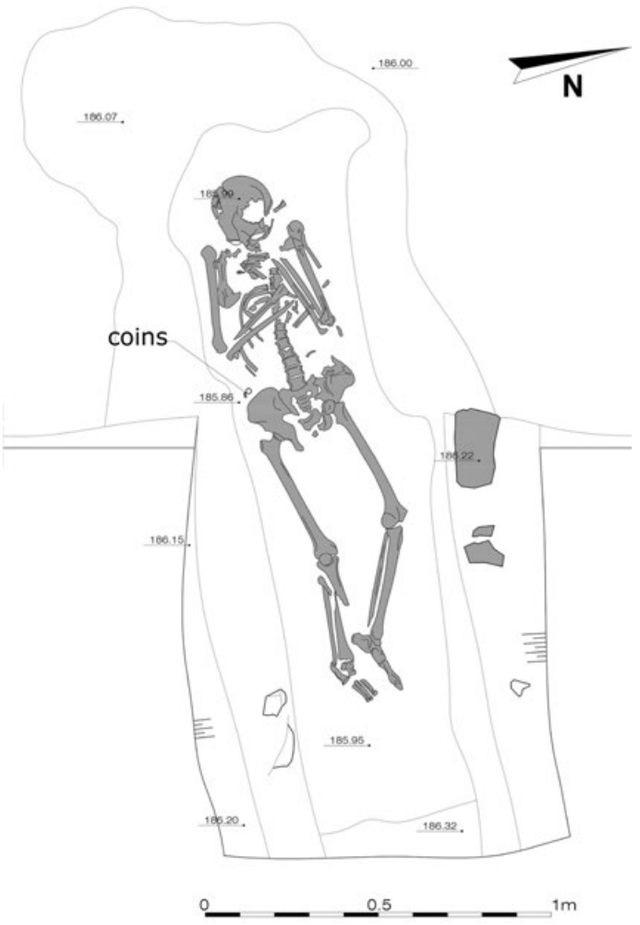

Fig. 3. *Felix Romuliana*. Grave No. 1 (G-1/14): a) skeletal remains *in situ*; b) position of the golden coins within the grave.

right and the left side of the body, are shown in *Tables 4* and *6*.

The individual age of the deceased was determined on the basis of: the degree of cranial suture obliteration (diagram by Henri V. Vallois)[12]; changes on the maxillary and mandibular teeth (we compared the changes on the occlusal surface of the dental material with the numeric classification of the wear level of the upper (occlusal) surface of the molars according to the life age defined by Don R. Brothwell[13], and changes on the occlusal surface of the dental material with the numeric classification of the wear level of the upper surface of all teeth according to the life age defined by C. Owen Lovejoy)[14]; morphological changes at the sternal ends of ribs (features observed: metamorphosis of the depth of the joint cavity, shape, edges, and configuration of the rib shaft as well as the overall state of the bone, on the basis of nine (0–8) progression phases, which comprise the period from the age of about 18 to the age of over 70)[15]; morphological changes at the medial end of the clavicle (in five progression phases, noted by Louise Scheuer and Sue Black, which comprise the period from the age of 14 to the age of 29)[16]; morphological changes

12 Vallois 1937.
13 Brothwell 1981, 72.
14 Lovejoy 1985.
15 Işcan et al. 1984a; Işcan et al. 1984b; Işcan et al. 1985.
16 Scheuer / Black 2000.

GRAVE NO. 1 (G-1/14)						
CRANIAL SKELETON						
frontal bone	50–75%	right and left zygomatic bone	100%			
right and left parietal bone	both 75–100%	hyoid bone	25–50 %			
occipital bone	75–100%	right and left *maxillae*	50–75%			
right and left temporal bone	75–100%	mandible	100%			
left malleus bone	100%	33 fragments of skull	1.2–4.7 cm in length			
sphenoid bone	50–75 %	14 fragments of skull base	1.8–2.7 cm in length			
POSTCRANIAL SKELETON						
right humerus		P.E.	P1/3	M1/3	D1/3	D.E.
left humerus		P.E.	P1/3*	M1/3	D1/3	D.E.
right and left radius		P.E.	P1/3	M1/3	D1/3	D.E.
right ulna		P.E.	P1/3	M1/3	D1/3	D.E.*
left ulna		P.E.	P1/3	M1/3	D1/3	D.E.
right femur		P.E.	P1/3	M1/3	D1/3	D.E.*
left femur		P.E.*	P1/3	M1/3	D1/3	D.E.
right tibia		P.E.	P1/3	M1/3*	D1/3	D.E.
left tibia		P.E.	P1/3	M1/3	D1/3	D.E.
right and left fibula		P.E.*	P1/3	M1/3	D1/3	D.E.
33 bone fragments of postcranial skeleton		*0.40–2.70 cm in length*				
right and left clavicle		100%				
right and left scapula		50–75% (+10 bone fragments 2.40–4.20 cm in length)				
manubrium		1 bone fragments 1.50 cm in length				
corpus sterni		25–50 %				
sacrum		<25%				
right ilium	75–100 % →100%	left ilium	75–100 %			
right ischium	75–100 % →100%	left ischium	75–100 %			
right pubis	50–75 %	left pubis	75–100 %			
11 bone fragments of hip bones		2.10–3.20 cm in length				
cervical vertebrae		C1, C2, C3, C4, C5, $_{1/2}$C6, C7 (corpus)				
thoracic vertebrae		Th1–Th4, but Th5–Th11 only corpuses				
lumbal vertebrae		decomposed L1–L4				
73 fragments of vertebrae		1.00–4.50 cm in length				
126 ribs fragments		0.70–11.40 cm in length				
right and left *os scaphoideum*		right and left talus				
right and left *os lunatum*		right and left calcaneus				
right and left *os triquetrum*		right and left *os naviculare*				
left *os pisiforme*		left *os cuneiforme mediale*				
left *os trapezium*		left *os cuneiforme intermedium*				
left *os trapezoideum*		right and left *os cuneiforme laterale*				
right and left *os capitatum*		right and left *os cuboideum*				
right and left *os hamatum*		right and left I metatarsal				
right and left I metacarpal		right and left II metatarsal				
right and left (without D.E.) II metacarpal		right and left III metatarsal				
right and left III metacarpal		right IV metatarsal				
right and left IV metacarpal		right and left V metatarsal				
right and left (D.E.*) V metacarpal		7 phalanges of feet				
21 phalanges of hands						

Table 1. *Felix Romuliana*. The list of preserved bones. * – damaged part of bones.

GRAVE NO. 1 (G-1/14)			
CRANIAL SKELETON (CM)			
PRIMAL CRANIAL MEASURMENTS		**ORBITS***	
Maximum cranial length (g-op)	17.10	Orbital height	–
Maximum cranial breadth (eu-eu)	15.50	Orbital breadth (mf-ec)	–
Basion/bregma height (ba-b)	–	Orbital Index	–
Cranial Index	90.64 hyperbrachycrany	**MAXILLA**	
Cranial Length-Height Index	–	Maxilloalveolar length (palatal length) (pr-alv)	–
Cranial Breadth-Height Index	–	Maxilloalveolar breadth (palatal breadth) (ecm-ecm)	6.05
Mean Height Index	–	Maxilloalveolar Index	–
Approximate Cranial Size	–	**PALATE**	
Porion-bregma height	–	Palatal breadth	3.90
Basion-porion height	–	Palatal length	–
Mean Porion-Height Index	–	Palatal Index	–
Index of Flatness of the Cranial Base	–	**MANDIBLE**	
Minimum frontal breadth (ft-ft)	10.00	Mandibular length	10.50
Fronto-Parietal Index	64.52 stenometopic	Bicondylar breadth (cdl-cdl)	12.30
Bazion-prostion length	–	Bigonial breadth (go-go)	10.30
Bazion-nasion length	–	Height of ascending ramus	6.55
Prognathic Index	–	Minimum breadth of ascending ramus	3.30
FACIAL SKELETON		Height mandibular symphysis (gn-idi)	3.60
Total facial height (n-gn)	–	Thickness of mandibular body	1.10
Upper facial height (n-alv)	–	Height of mandibular body	3.30
Facial width (bizygomatic breadth) (zy-zy)	–	Mandibular Index	85.36
Total Facial Index	–	Mandibular Body Robusticity Index	33.33
Upper facial Index	–	Mandibular Ramus Index	50.38
NOSE		Frontomandibular Index	97.09
Nasal height (n-ns)	–		
Nasal breadth (al-al)	–		
Nasal Index	–		

Table 2. *Felix Romuliana*. Cranial measurements and indices.

GRAVE NO. 1 (G-1/14)					
ODONTOMETRIC DATA (cm)					
TEETH OF MAXILLA	**MD diameter**	**BL diameter**	**TEETH OF MANDIBLE**	**MD diameter**	**BL diameter**
11	0.75	0.75	**31**	0.40	0.60
12	0.55	0.60	**32**	0.50	0.65
13	0.70	0.80	**33**	0.70	0.80
14	0.65	0.85	**34**	0.60	0.70
15	0.50	0.90	**35**	0.70	0.80
16	–	–	**36**	1.10	1.00
17	0.90	1.10	**37**	1.00	1.00
18	0.80	0.90	**38**	0.95	0.90
21	0.80	0.75	**41**	0.45	0.60
22	0.60	0.65	**42**	0.50	0.60
23	0.75	0.80	**43**	0.60	0.80
24	0.65	0.85	**44**	0.60	0.70
25	0.65	0.85	**45**	0.70	0.80
26	1.00	1.05	**46**	1.10	1.00
27	0.95	1.10	**47**	1.00	1.00
28	–	–	**48**	–	–

Table 3. *Felix Romuliana*. Odontometric examination of teeth. Bones marked with * have two measurements, upper is for the right, and lower is for the left side of the body.

on the joint surface of the pubic symphysis (on the basis of a model where the metamorphosis of the surface of the pubic symphysis is divided into ten chronological phases during the ageing process, starting from the age of 18 up until the age of over 50[17]; and the sacroiliac region (on the basis of a model classified into eight phases, from the age of 20 to the age of 60+, where a great deal of attention was focused on observing the position, edge lipping, and porosity of the bones in this region)[18].

Dental and paleopathological analyses were also conducted; epigenetic characteristics were noted as well (26 epigenetic variations were observed on the cranial and eleven on the postcranial part of the skeleton)[19], and also a macroscopic examination of entheses on muscle and ligament insertions was performed *(tab. 7)*.

Body stature was calculated on the basis of formulas established by Mildred Trotter and Goldine C. Gleser *(tab. 5)*[20].

RESULTS OF THE ANTHROPOLOGICAL ANALYSIS

The anthropological analysis showed that bones discovered in Grave 1 belong to a male individual with an age at death of ca. 35 years and a body stature of 169 ± 5 cm *(fig. 3; pls I–IV; tabs 1–7)*.

Palaeopathological analysis

On the cranial skeleton, an osteoma was noted on the left parietal bone in the vicinity of the lambdoid suture, with a perimeter of 0.3 cm, as well as meningitic changes, the so-called granular foveolas, on the left and the right parietal bone in the vicinity of the coronal and sagittal suture, with dimensions of 0.2–1 cm.

When it comes to paleopathological changes on the postcranial skeleton, there was a series of diseases present: osteoarthritis (on hand phalanges, metacarpal bones, vertebra, and the lower end of the right fibula), degenerative arthritis *(hallux rigidus)* (fusion of I left metatarsal and I proximal phalanx, *pl. I,3–5*), Schmorl's defect (on the thoracic vertebrae 11 and 12 as well as the lumbar verterbraes 1–5 and on two vertebral body fragments (dimensions: 0.6–2.3 cm), collapsed bodies of three thoracic

17 Todd 1920; Todd 1921a; Todd 1921b.
18 Lovejoy et al. 1985.
19 Hauser / De Stefano 1989; Đurić-Srejić 1995, 238–260.
20 Trotter / Gleser 1952.

GRAVE NO. 1 (G-1/14)			
POSTCRANIAL SKELETON (CM)		**POSTCRANIAL SKELETON (CM)**	
SCAPULA*		CLAVICLE*	
Spine length	– –	Maximum length	13.30 13.90
Length of supra- spinosus line	– –	Circumference at middle of bone	 3.40 3.35
Glenoid cavity length	4.00 3.80	Claviculohumeral Index	42.22 44.84
Maximum length	– –	Robustness Index	25.56 24.10
Maximum breadth	– –		
Scapular Index	– –		

Table 4. *Felix Romuliana.* Measure and indices of postcranial skeletons.

GRAVE NO. 1 (G-1/14)	
Stature (cm) – calculation based on the length of	
Humerus	169 ± 5
Radius	173 ± 5
Ulna	176 ± 5
Femur	162 ± 4
Tibia	169 ± 4
Fibula	164 ± 4
Medium stature	169 ± 5

Table 5. *Felix Romuliana*. Stature.

vertebra (most probably due to osteoarthritis), spondylosis on the cervical vertebraes 5 and 7 (stage 0–1, according to B. R. Brothwell), osteoporosis (present on the bodies of two cervical vertebrae), aortic aneurysm (erosion of bodies of three thoracic vertebra, laterally on the left side), osteochondritis dissecans (on the left glenoid cavity, 0.3 cm long), spontaneous necrosis on the medial condyle of the right knee (posteriorly, in the vicinity of *lig. cruciatum posterius*; irregular elongated shape, dimensions: 1 × 1.55 cm, *pl. IV,4*), premature calcification of costal cartilage (on several ribs, *pl. I,2*)[21], osteomyelitis (on two hand phalanges), developmental skeletal anomalies (*os acromiale* on the left scapula *(pl. IV,1.2)* and *os trigonum* on the right talus), healed bone fractures (one rib, the left ulna (in the lower third of the body, *pl. II,1.4*), and the left pubic and sciatic bone (the fracture was followed by osteomyelitis, which spread on the right pubic bone as well; it is possible that it also caused the dislocation of the I sacral vertebra, *pls II,2.3; III*).

Dental analysis

The dental analysis showed that the following teeth are present: 11, 12, 13, 14, 15, 17, 18, 21, 22, 23, 24, 25, 26, 27, 31, 32, 33, 34, 35, 36, 37, 38, 41, 42, 43, 44, 45, 46, and 47 *(tab. 3)*. Tooth 16 was lost antemortem *(pl. I,1)*. First degree abrasion (in the enamel) was noted on teeth 17 (→ second degree), 18, and 38, second degree (exposed dentine) on teeth 13, 14, 15, 23, 24, 25, 26, 33, 34, 35, 37, 43, 44, 45, 46, and 47, and third degree (bare dentin up to pulp cavity) on teeth 11, 12, 21, 22, 26, 31, 32, 36, 41, and 42. Enamel hypoplasia was present in medium degree. Parodontopathy was present in small to medium degree. Calculus was present in small degree. As for jaw and dental arch anomalies, there was hypodontia of teeth 28 and 48 as well as the rotation of teeth 33 and 43. Caries was present on teeth 15 (distal caries, with diameter 0.30–0.45 cm) and 26 (mesial caries, with diameter ca. 0.3 cm – due to the location, precise measuring was not possible). Occlusion type: tête-à-tête.

Epigenetic characteristics

When it comes to epigenetic characteristics, there were foramina noted in the supraorbital region (one opening on both sides; there was a small canal running parallel to the foramen above the right orbit) on the cranial skeleton, while on the postcranial skeleton there was a visible *facies articularis superior atlantis bipartita* (slightly doubled).

Analysis of the macroscopic examination of entheses

The macroscopic examination showed distinct entheses on muscle and ligament insertions: ribs, both clavicles, both scapulae, both humeri, both radii, both ulnae (olecranon of the right ulna is also slightly separated), both femora (muscle tendons along the lineae asperae are more pronounced; Poirier's facets can be noted on both femora *(pl. IV,3)*; minor spicules are also visible on the right femur), both tibiae, and both fibulae (*membrana interossea*

21 Ontell et al. 1997, 576.

GRAVE NO. 1 (G-1/14)			
POSTCRANIAL SKELETON (CM)			
HUMERUS*		**FEMUR***	
Maximum length	31.50 31.00	Maximum length	41.10 41.60
Maximum diameter midshaft (a/m pr.)	2.20 2.10	Bicondylar (physiological) length	40.80 41.40
Minimum diameter midshaft	1.75 1.80	Subtrochanteric a-p diameter	2.50 2.60
Maximum diameter of the head	4.40 4.30	Subtrochanteric m-l diameter	3.20 3.20
Least circumference of the shaft	7.10 6.90	A-p mid-shaft diameter	2.80 2.80
Biepicondylar width	6.10 6.05	M-l mid-shaft diameter	2.90 2.90
Articular width	4.20 4.20	Maximum diameter of the head	4.30 4.30
Robusticity Index	22.54 22.26	Circumference of the midshaft	8.40 8.50
Cross-Section Index	79.54 85.71	Bicondylar width	7.50 7.50
Radiohumeral Index	78.41 79.35	Collo-diaphyseal angle (♂:130–144°; ♀:110°)	126º 128º
RADIUS*		Condylo-diaphyseal angle	82º 79º
Maximum length	24.70 24.60	Robusticity Index	13.97 13.77
Physiological length	23.50 23.50	Pilastric Index	96.55 96.55
A-p mid-shaft diameter	1.15 1.20	Platymeric Index	78.12 platymeric 81.25 platymeric
M-l mid-shaft diameter	1.55 1.50	**TIBIJA***	
Least circumference of the shaft	3.70 3.80	Maximum length	35.80 35.80
Maximum distal breadth	3.20 3.20	Physiological length	33.90 33.90
The Length-Thickness Index	15.74 16.17	A-p diameter (nut. foramen)	3.20 3.15
Cross-Section Index	4.89 5.11	M-l diameter (nut. foramen)	2.30 2.30
The Length-Breadth Index	13.62 13.62	Circumference at the nutrient foramen	8.50 8.30
ULNA*		Proximal breadth	7.10 6.90
Maximum length	26.80 rec. 26.50	Distal breadth	5.00 5.10
Physiological length	23.60 23.40	Least circumference of the shaft	7.00 7.10
Least circumference of the shaft	3.40 3.70	The Length-Breadth Index	19.55 19.83
Caliber Index	14.41 15.81	Platycnemic Index	71.87 eurycnemic 73.01 eurycnemic
		FIBULA*	
		Maximum length	34.00 34.30
		Least circumference of the shaft	3.10 3.00
		The Length-Width Index	9.12 8.75

Table 6. *Felix Romuliana*. Measurments and indices of postcranial skeletons.

GRAVE NO. 1 (G-1/14)			
POSTCRANIAL SKELETON (MUSCLES AND LIGAMENTS)			
RIBS			
Mm. levatores costarum		*lig. costotransversarium laterale*	
RIGHT AND LEFT CLAVICLE			
m. deltoideus	*lig. costoclaviculare*	*lig. conoideum*	*lig. trapezoideum*
RIGHT AND LEFT SCAPULA			
m. deltoideus	*m. triceps brachii – Caput longum*	*lig. conoideum*	
RIGHT HUMERUS			
m. subscapularis	*m. pectoralis major*	*m. latissimus dorsi*	
m. teres major	*m. deltoideus*	*m. pronator teres*	
m. flexor carpi radialis	*m. palmaris longus*	*m. flexor carpi ulnaris*	
m. flexor digitorum superficialis	*m. brachioradialis*	*m. extensor carpi radialis longus*	
m. extensor carpi radialis brevis	*m. extensor digitorum*	*m. extensor digiti minimi*	
m. extensor carpi ulnaris	*m. supinator*	*m.triceps brachii – Caput laterale*	
m. anconeus			
LEFT HUMERUS			
m. subscapularis	*m. pectoralis major*	*m. latissimus dorsi*	
m. teres major	*m. deltoideus*	*m. pronator teres*	
m. flexor carpi radialis	*m. palmaris longus*	*m. flexor carpi ulnaris*	
m. flexor digitorum superficialis	*m. brachioradialis*	*m. extensor carpi radialis longus*	
m. extensor carpi radialis brevis	*m. extensor digitorum*	*m. extensor digiti minimi*	
m. extensor carpi ulnaris	*m. supinator*	*m. teres minor*	
m.triceps brachii – Caput laterale	*m. anconeus*		
RIGHT AND LEFT RADIUS			
m. biceps brachii	*m. pronator teres*	*m. supinator*	
RIGHT AND LEFT ULNA			
m. brachialis	*m. flexor digitorum superficialis*	*m. pronator teres*	
m. supinator	*m. pronator quadratus*	*m. biceps brachii*	
RIGHT FEMUR			
m. gluteus minimus	*m. piriformis*	*m. adductor magnus*	
m. iliopsoas	*m. quadratus femoris*	*m. gluteus maximus*	
m. vastus lateralis	*m. pectineus*	*m. vastus medialis*	
m. adductor brevis	*m. adductor longus*	*m. gastrocnemius – Caput mediale*	
m. popliteus	*lig. cruciatum posterius*	*lig. cruciatum anterius*	
lig. iliofemorale	*lig. pubofemorale*		
LEFT FEMUR			
m. gluteus minimus	*m. piriformis*	*m. iliopsoas*	
m. quadratus femoris	*m. gluteus maximus*	*m. vastus lateralis*	
m. pectineus	*m. vastus medialis*	*m. adductor brevis*	
m. adductor longus	*m. gastrocnemius – Caput mediale*	*m. popliteus*	
lig. cruciatum posterius	*lig. cruciatum anterius*	*lig. iliofemorale*	
lig. pubofemorale			
RIGHT AND LEFT TIBIA			
m. quadratus femoris	*m. soleus*	*m. flexor hallucis longus*	
meniscus medialis – anterior end	*lig. cruciatum posterius*	*lig. tibiofibulare posterius*	
RIGHT AND LEFT FIBULA			
lig. tibiofibulare posterius	*m. soleus*		

Table 7. *Felix Romuliana*. Entheses on postcranial skeleton.

cruris is also pronounced) *(tab. 7)*. As for other occupational stress markers, squatting facets are visible on the left tibia. A central facet is visible on both talii (the size of the one on the right talus is 1.2 × 1.2 cm, and on the left 1.3 × 1 cm). Also, dislocations of both ankle joints can be noted, whose consequences are also visible on the calcanei (*facies articularis talaris anterior*, *facies articularis talaris media*, *facies articularis talaris posterior*, *facies articularis calcanea anterior*, *facies articularis calcanea media*, and *facies articularis calcanea* are dislocated), and the sustentaculum talii on both calcanei are extremely prominent *(pl. IV,5.6*).

Other observations

On the left clavicle on the posterior side in the middle of the body, there was a shallow depression, size 0.4 × 1.1 cm. The concave articular surfaces of both ossa lunata, to which the ossa capitata lean, were double. On the posterior side of the right femur, there were two, and on the left only one nutritive opening. On the anterior side of both tibiae, the body is flattened and levelled beneath the tuberositas tibiae.

DISCUSSION AND CONCLUSION

While researching the northern gate of the later fortification in *Felix Romuliana* in 2014, a single, isolated grave – grave 1 – was discovered in the vicinity of Tower 8 *(figs 1–3)*. The discovery of three golden coins, the solidus of the Emperor Marcianus (AD 450–457), and two tremisses, one of Theodosius II (AD 408–450) and the other of Aelia Pulcheria (AD 399–453), gave firm indication on the time of the burial, which can be reliably dated into the period during or after the sixth decade of the 5th century AD *(fig. 3b)*. Graves broadly dated into the second half of the 5th century AD were so far discovered only in one area in *Felix Romuliana*: within tower 19[22]. One of the graves discovered then was constructed with brick. During this period, the northern gate area was probably not in use – as indicated by the layer of crumbled debris formed above the mortar layer in front of the gate. If this interpretation is correct, we could assume that, during the second half of the 5th century AD, this part of *Felix Romuliana* (outside the northern gate) had already been abandoned for a long while for all other activities except for individual burials.

The fact that the deceased was laid to rest in a simple rectangular pit, without any grave construction or grave marker, could indicate that the burial was conducted in a hurry in an area separated from the centre of social activities within the fortification. It is hard to fathom which circumstances could have led to this, considering that the character of the social community which certainly existed in *Felix Romuliana* in the second half of the fifth century is largely unknown. The only proof that it even existed are two burials and separate mobile findings[23].

The finding of the three golden coins allows for the supposition that the deceased was a wealthier and, on that basis, maybe even a prominent person in his community. The most reliable pieces of information on this individual were provided by the anthropological analysis.

The detailed anthropological analysis of the bones of this gracile man, aged ca. 35, enabled us to partially reconstruct his life, i. e. showed us his medical condition, habits he had in life, and his occupation *(pls I–IV; tabs 1–7)*. Unfortunately, it wasn't possible to determine the direct cause of death of this individual, something that is usually difficult to verify from skeletal remains.

While analysing changes on the bones, we noted very prominent entheses, especially on muscle and ligament insertions of the femur *(pl. IV; tab. 7)*. Also, trochanter spicules and so-called Poirier's facets were noted on femora *(pl. IV,3.4)*. All these changes indicate that the individual in question was a horseman[24]. When it comes to horsemen, the analysis of foot bones, especially ankle joints, can also be very useful. Namely, dislocations of ankle joints are very common in horsemen, just as it happened in this case *(pl. IV,5.6)*. The ankle joints suffer great pressure during military exercises and also in wartime. Additional strain is induced by e. g. carrying heavy military equipment, spins and swift changes of direction during combat, jumping over obstacles, jumping from great heights, jumping off a horse, etc.[25]. Furthermore, it was interesting to note the appearance of an *os acromiale* in this individual *(pl. IV,1.2)*. Namely, the appearance of an *os acromiale* is increasingly brought into connection with some type of mechanical stress or strenuous exercises in the use of weapons,

22 Petković 2006, 38–39.

23 Pop-Lazić 2016, 243.

24 Bikić / Miladinović-Radmilović 2016, 175.

25 Petković / Miladinović-Radmilović 2014, 110; Miladinović-Radmilović / Vulović 2016, 169.

especially long bow, i. e. with archery. The aetiology of this occurrence remains unclear. There are two hypotheses – in the first, the *os acromiale* is caused by mechanical stress on the acromion during growth period; and in the second, its development is affected by genetic factors[26]. In confirmation of the first hypothesis, a great frequency of OA was noted in two skeletal series of English archers from the 15th and 16th century; it is believed that the cause of the anomaly is related to strenuous exercises in the use of the weapon, use of bow and arrows, which prevented the fusion of the acromion[27]. On the other hand, evidence of a great frequency of OA in the black population indicates some genetic causes[28]. Troy D. Case and co-workers[29] point out a third hypothesis, which combines genetic predisposition with mechanical stress. Another point contributing to the conclusion that the deceased was a warrior, archer, and horseman, is the appearance of squatting facets on the lower end of the left tibia. With men, squatting facets are usually the consequences of them not using furniture, squatting instead while resting and eating. They are often present on soldiers who spend a lot of time in military campaigns, in tents, without appropriate furniture. Changes which are the consequence of dorsal flection of the foot can be seen, aside from tibiae and talii, on femora and patellae as well. Moreover, certain foot bones can have widenings of certain joint surfaces (especially talii and calcanei)[30], as we can see in this case.

A considerable number of paleopathological changes were also noted on the osteological material. The most interesting ones are healed bone fractures (one rib, left ulna [in the lower third of the body, *pl. II,1.4*], left pubic and sciatic bone *[pls II,3; III]*), and *hallux rigidus* on the left foot *(pl. I,3–5)*. The fracture of the pubic and sciatic bone of the left wing of the ilium was followed by osteomyelitis (which spread on the right pubic bone as well). Bones were covered with newly formed tissue and purulent fistulas *(pl. III)*. This type of fractures can occur due to the direct impact of force on the pelvic region when falling or jumping from a certain height – which is most probably the case here; moreover, when it comes to people with more gracile constitution, it can be due to severe mechanical stress (for example, abrupt and intense marches) and sport-induced injuries[31]. Isolated fractures of the ulna, in our case the left ulna, are most commonly the consequence of a direct blow to the forearm during a self-defensive arm movement that is used in order to protect the head and the neck from the blow[32]. Some authors call this injury the "nightstick fracture", and the fracture usually occurs in the lower two thirds of the ulna.

While studying available scientific resources, we noticed that in cases where people fell off a horse pelvic injuries occur in a smaller percentage, while the bones of the head and upper extremities were injured most often; there was no data, however, on how often the ulna gets injured[33]. Considering that there were no fractures on the iliac bone, or on the sacrum, we could not determine with precision to which injury type the fracture of the sciatic and pubic bone of this individual belongs or how those fractures of the pelvic bone and ulna occurred. One possible scenario could be that, for example, in a direct combat with the enemy, in order to protect his head and neck, he made a self-defence movement with his left arm which suffered a blow; hence, he lost his balance and fell from a high spot. Thus, he broke the left wing of his ilium, one rib, and injured his left foot.

Finally, we may conclude with great probability that the individual buried in grave 1 (G-1/14) was a warrior, archer, and horseman, a man well respected in his community. However, whether he had to be buried with haste due to imminent danger from the enemy or urgent evacuation is, unfortunately, hard to say.

26 Yammine 2014, 611.

27 Stirland 1996; Fiorato et al. 2007.

28 Sammarco 2000; Case et al. 2006; Hunt / Bullen 2007.

29 Case et al. 2006.

30 Miladinović-Radmilović 2015, 87–88.

31 Bertolini et al. 2011; Hill et al. 1996; Kelly et al. 2000; Hill et al. 2001; Rommens et al. 2015, 102.

32 Dymond 1984, 408; Burić-Srejić 1995, 313.

33 Sorli 2000, 60; Moss et al. 2002, 413.

BIBLIOGRAPHY

Bass 1995
W. M. Bass, Human Osteology, A Laboratory and Field Manual. Special Publ. Missouri Arch. Soc. 2 (Columbia, MO 1995).

Bertolini et al. 2011
F. M. Bertolini / R. B. Vieira / L. H. A. De Oliveira / R. P. Lasmar / O. De Oliveira Junior, Pubis Stress Fracture in a 15-year-old Soccer Player. Revista Brasileira de Ortopedia 46,4, 2011, 464–467.

Bikić / Miladinović-Radmilović 2016
V. Bikić / N. Miladinović-Radmilović, Vojnik ili sveštenik: slučaj groba sa Beogradske tvrđave (Soldat oder Priester: das Grab auf der Festung Belgrad). In: N. Miladinović-Radmilović / S. Vitezović (eds), Bioarchaeology in the Balkans. Methodological, comparative and reconstructive studies of lifes in the past. Papers of the Bioarchaeological section of The Serbian Archaeological Society. Serbian Archaeological Society, Blago Sirmijuma (Belgrade, Sremska Mitrovica 2016) 159–183.

Brothwell 1981
B. R. Brothwell, Digging up bones (London, Oxford 1981).

Buikstra / Ubelaker 1994
J. E. Buikstra / D. H. Ubelaker, Standards for data collection from human skeletal remains. Arkansas Archeological Survey Research Series 44. (Fayetteville, AR 1994).

Case et al. 2006
D. T. Case / S. E. Burnett / T. Nielsen, Os acromiale: Population differences and their etiological significance. Homo 57, 2006, 1–18.

Dymond 1984
I. W. D. Dymond, The treatment of isolated fractures of the distal ulna. Journal Bone and Joint Surgery 66-B,3, 1984, 408–410.

Đurić-Srejić 1995
М. ЂУРИЋ-СРЕЈИЋ, Увод у физичку антропологију древних популација (Einführung in die physische Anthropologie alter Populationen) (Belgrade 1995).

Ferembach et al. 1980
D. Ferembach / I. Schwidetzky / M. Stloukal, Recommendations for age and sex diagnosis of skeletons. Journal Human Evolution 7, 1980, 517–549.

Fiorato et al. 2007
V. Fiorato / A. Boylsto / C. Knüsel, Blood Red Roses. The Archaeology of a Mass Grave from the Battle of Towton AD 1461 (Oxford 2007).

Hauser / De Stefano 1989
G. Hauser / G. F. De Stefano, Epigenetic Variants of the Human Skull (Stuttgart 1989).

Hill et al. 1996
P. F. Hill / S. Chatterji / D. Chambers / J. D. Keeling, Stress fracture of the pubic ramus in female recruits. Journal Bone and Joint Surgery 78-B,3, 1996, 383–386.

Hill et al. 2001
R. M. F. Hill / C. M. Robinson / J. F. Keating, Fractures of the pubic rami. Epidemiology and five-year survival. Journal Bone and Joint Surgery 83-B,8, 2001, 1141–1144.

Hillson 1990
S. Hillson, Teeth. Cambridge manuals arch. (Cambridge 1990).

Hillson 1996
S. Hillson, Dental Anthropology (Cambridge 1996).

Hunt / Bullen 2007
D. R. Hunt / L. Bullen, The frequency of os acromiale in the Robert J. Terry Collection. Internat. Journal Osteoarch. 17, 2007, 309–317.

Işcan et al. 1984a
M. Y. Işcan / S. R. Loth / R. K. Wright, Metamorphosis at the sternal rib end: A new method to estimate age at death in males. Am. Journal Physical Anthr. 65, 1984, 147–156.

Işcan et al. 1984b
M. Y. Işcan / S. R. Loth / R. K. Wright, Age estimation from the rib by phase analysis: White males. Journal Forensic Scien. 29, 1984, 1094–1104.

Işcan et al. 1985
M. Y. Işcan / S. R. Loth / R. K. Wright, Age estimation from the rib by phase analysis: White females. Journal Forensic Scien. 30, 1985, 853–863.

Kelly et al. 2000
E. W. Kelly / S. R. Johnson / M. E. Cohen / R. Shaffer, Stress Fractures of the Pelvis in Female Navy Recruits: Analysis of Possible Mechanisms of Injury. Military medicine 165,2, 2000, 142–146.

Lalović 1998
A. Lalović, Arheološka istraživanja na Gamzigradu – Romulijani u 1996 i 1997. Godini (Archäologische Untersuchungen in Gamzigrad – Romuliana 1996 und 1997). Razvitak 38,200, 1998, 123–129.

Lovejoy 1985
C. O. Lovejoy, Dental Wear in the Libben Population: Its Functional Patterns and Role in the Determination of Adult Skeletal Age at Death. Am. Journal Physical Anthr. 68, 1985, 47–56.

Lovejoy et al. 1985
C. O. Lovejoy / R. S. Meindl / T. R. Pryzbeck / R. P. Mensforth, Chronological metamorphosis of the auricular surface of the ilium: A new method for the determination of skeletal age at death. Am. Journal Physical Anthr. 68, 1985, 15–28.

Miladinović-Radmilović 2015
Н. МИЛАДИНОВИЋ-РАДМИЛОВИЋ, Чучеће фасете на скелетним остацимаса средњовековне некрополе на локалитету Мокрањске стене у: Мокрањске стене, културна баштина Неготинске Крајине. In: A. Капуран / А. Булатовић (eds), Музеј Крајине (Неготин 2015) 87–101.
Squatting facets on skeletal remains from medieval cemetery at Mokranjske Stene, in: Mokranjske Stene, cultural heritage of Negotinska Krajina. In: A. Kapuran / A. Bulatović (eds), The Krajina Museum (Negotin 2015) 87–101.

Miladinović-Radmilović / Vulović 2016
Н. МИЛАДИНОВИЋ-РАДМИЛОВИЋ / Д. ВУЛОВИЋ, Антрополошка анализа скелета са раносредњовековне некрополе Батајница – Велика Хумка. у: П. Шпехар / Н. Стругар Бевц, Батајница – Велика хумка. Раномађарска некропола (2016) 162–177.
Anthropological analysis of skeletons from the necropolis Batajnica – Velika humka. In: P. Špehar / N. Strugar-Bevc (eds), Batajnica – Velika humka. Early Magyar Necropolis (2016) 162–177.

Mikić 1978
Ž. Mikić, O antropološkoj metodologiji terenske obrade skeletnih nalaza (Zur anthropologischen Methodologie der Skelettfunde im Gelände). Godišnjak Centra za balkanološka ispitivanja ANUBiH 16 / 14, 1978, 3–44 (201–242).

Moss et al. 2002
P. S. Moss / A. Wan / M. R. Whitlock, A changing pattern of injuries to horse riders. Emergency Medicine Journal 19, 2002, 412–414.

Ontell et al. 1997
F. K. Ontell / E. H. Moore / J-A. O. Shepard / D. K. Shelton, The Costal Cartilages in Health and Disease. RadioGraphic 17,3, 1997, 571–577.

Petković 2006
S. Petković, Study of Stratigraphy of Cultural Layers of Late Roman Romuliana; Case Study: South Tower of West Gate of Later Fortification. In: M. Vasić (ed.), Felix Romuliana. 50 Years of Archaeological Excavations. Papers from the International Conference, Zaječar, 27th–29th October 2003 (Belgrade, Zaječar 2006) 29–45.

Petković / Miladinović-Radmilović 2014
S. Petković / N. Miladinović-Radmilović, Military Graves from the Late Roman Necropolis at Slog in Ravna (Timacum Minus). Starinar N. S. 64, 2014, 87–130.

Pop-Lazić 2016
S. Pop-Lazić, Felix Romuliana / Gamzigrad in the fifth century – Results of the recent research. In: I. Bugarski / O. Heinrich-Tamáska / V. Ivaniševic / D. Syrbe (eds), GrenzÜbergänge: Spätrömisch, frühchristlich, frühbyzantinisch als Kategorien der historisch-archäologischen Forschung an der mittleren Donau. Akten des 27. Internationalen Symposiums der Grundprobleme der frühgeschichtlichen Entwicklung im mittleren Donauraum, Ruma, 4–7.11.2015 (Leipzig 2016) 231–245.

RIC X
J. P. C. Kent, The Roman Imperial Coinage X (RIC X). The Divided Empire and the Fall of the Western Parts AD 395–491 (London 1994).

Rommens et al. 2015
P. M. Rommens / S. O. Dietz / C. Ossendorf / P. Pairon / D. Wagner / A. Hofmann, Fragility Fractures of the Pelvis: Should they Be Fixed? Acta Chirurgiae Orthopaedicae et Traumatologiae Čechoslovaca 82, 2015, 101–112.

Sammarco 2000
V. J. Sammarco, Os acromiale: Frequency anatomy and clinical implications. Journal Bone and Joint Surgery 82, 2000, 394–400.

Scheuer / Black 2000
L. Scheuer / S. Black, Developmental Juvenile Osteology (London 2000).

Sorli 2000
J. M. Sorli, Equestrian injuries: a five year review of hospital admissions in British Columbia, Canada. Injury Prevention 6, 2000, 59–61.

Stirland 1996
A. Stirland, Patterns of trauma in a unique medieval parish cemetery. Internat. Journal Osteoarch. 6, 1996, 92–100.

Todd 1920
T. W. Todd, Age changes in the pubic bone: I. The male white pubis. Am. Journal Physical Anthr. 3, 1920, 285–334.

Todd 1921a
T. W. Todd, Age changes in the pubic bone: II. The pubis of the male Negro-white hybrid; III. The pubis of the white female; IV. The pubis of the female Negro-white hybrid. Am. Journal Physical Anthr. 4, 1921, 1–70.

Todd 1921b
T. W. Todd, Age changes in the pubic bone: VI. The interpretation of variations in the symphyseal area. Am. Journal Physical Anthr. 4, 1921, 407–424.

Trotter / Gleser 1952
M. Trotter / G. C. Gleser, Estimation of stature from long bones of American whites and Negroes. Am. Journal Physical Anthr. 10, 1952, 463–514.

Vallois 1937
H. V. Vallois, La durée de la vie chez l'homme fossile. L'Anthropologie 47, 1937, 499–532.

Yammine 2014
K. Yammine, The Prevalence of Os Acromiale: A Systematic Review and Meta Analysis. Clinical Anatomy 27,4, 2014, 610–621.

REFERENCES OF ILLUSTRATIONS

Figs 1; 2; 3b: B. Popović. – *Fig. 3a:* S. Pop-Lazić. – *Pl. I–IV:* N. Miladinović-Radmilović.

ABSTRACT

During the research on the northern gate of the later fortification in *Felix Romuliana* in 2014, an isolated grave of a without hindrance buried individual was discovered in the vicinity of Tower 8. The deceased was laid to rest in a simple rectangular grave, oriented along the west-east axis. The individual was lying on his back with his arms crossed on his chest and hands bent under the mandible. Along the right side of the individual, three golden coins were discovered, one solidus of the Emperor Marcianus (AD 450–457), and two tremisses, one of Theodosius II (AD 408–450) and the other of Aelia Pulcheria (AD 399–453). These findings provided firm indication on the time of the burial, which can be reliably dated into the period during or after the sixth decade of the 5th century. An anthropological analysis showed that a gracile male individual with an age at death of 35 years was buried in this grave. A great number of palaeopathological changes were noted on the osteological material: bone fractures, anomalies in skeleton development, joints diseases, so-called spontaneous osteonecrosis, changes on bones caused by circulation disorders, infective bone inflammations, etc. Dental analysis showed the presence of hypoplasia, parodontopathy, calculus, hypodontia, abrasion, caries, and *ante mortem* loss of teeth. Also, distinctive entheses on muscle and ligament insertions were noted on the bones.

ZUSAMMENFASSUNG

Bei der Untersuchung des nördlichen Tores der späteren Befestigungsanlage in *Felix Romuliana* im Jahr 2014 wurde in der Nähe von Turm 8 ein isoliertes, ungestörtes Grab eines Individuums entdeckt. Der Verstorbende wurde in einer einfachen rechteckigen Grabgrube, die West-Ost orientiert war, beigesetzt. Die Person lag auf dem Rücken, die Arme auf der Brust verschränkt und die Hände unter dem Unterkiefer gebeugt. Entlang der rechten Körperseite wurden drei Goldmünzen entdeckt, ein Solidus des Kaisers Marcianus (450–457 n. Chr.) und zwei Tremisses, einer von Theodosius II. (408–450 n. Chr.) und der andere von Aelia Pulcheria (399–453 n. Chr.). Diese Funde lieferten einen genauen Hinweis auf den Zeitpunkt der Bestattung, der zuverlässig in die Zeit während oder nach dem sechsten Jahrzehnt des 5. Jahrhunderts datiert werden kann. Eine anthropologische Analyse ergab, dass eine grazile männliche Person mit einem Sterbealter von 35 Jahren in diesem Grab bestattet worden war. Am osteologischen Material wurden zahlreiche paläopathologische Veränderungen festgestellt: Knochenbrüche, Anomalien in der Skelettentwicklung, Gelenkerkrankungen, so genannte spontane Osteonekrosen, Veränderungen an Knochen durch Durchblutungsstörungen, infektöse Knochenentzündungen usw. Die zahnärztliche Analyse zeigte das Vorhandensein von Hypoplasie, Parodontopathie, Zahnstein, Hypodontie, Abrasion, Karies und Zahnverlust *ante mortem*. Außerdem wurden an den Knochen ausgeprägte Enthesen an Muskel- und Bänderansätzen festgestellt.

(Übersetzung: J. Gier)

Plate I. *Felix Romuliana*. Grave No. 1 (G-1/14): 1) antemortem loss of teeth, abrasion, and caries on maxillae; 2) premature calcification of costal cartilage; 3–5) degenerative arthritis *(hallux rigidus)* (shown from different angles).

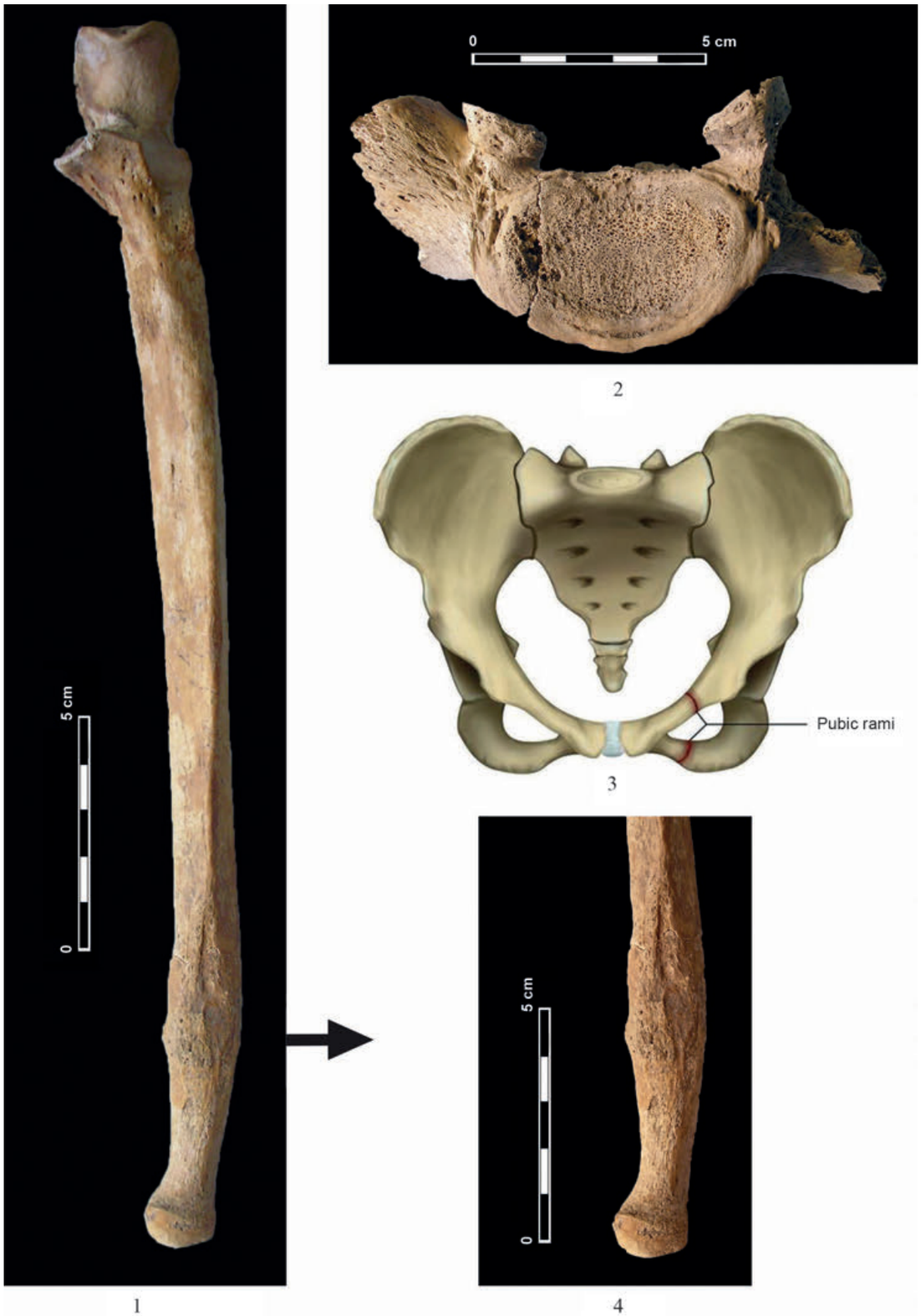

Plate II. *Felix Romuliana*. Grave No. 1 (G-1/14): healed bone fractures – 1) left ulna; 2) dislocation of the I sacral vertebra; 3) fracture point of the left wing of the ilium; 4) left ulna (detail).

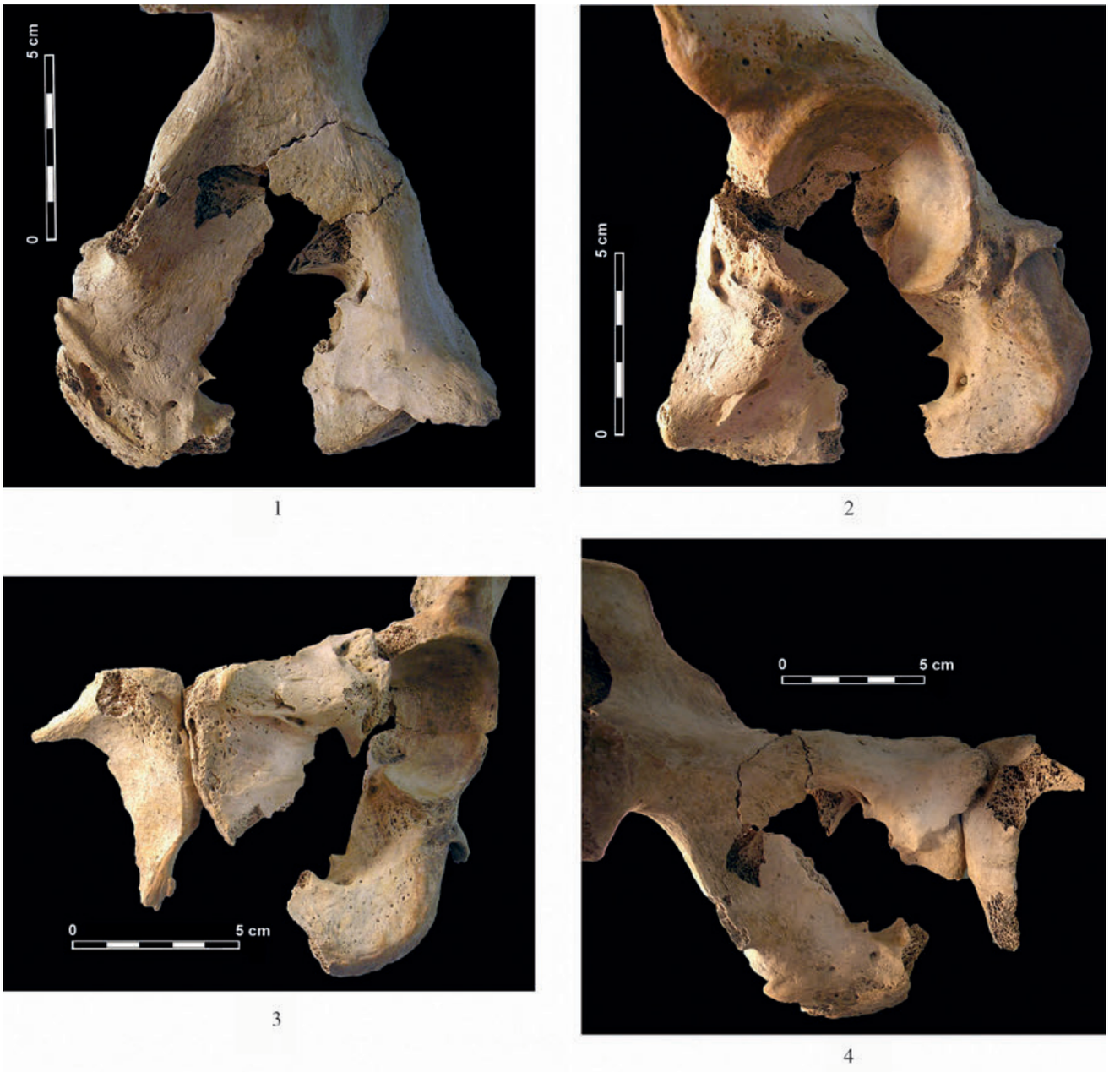

Plate III. *Felix Romuliana*. Grave No. 1 (G-1/14): 1–4) healed bone fracture of the left pubic and sciatic bone (followed by osteomyelitis, which spread on the right pubic bone as well).

Plate IV. *Felix Romuliana.* Grave No. 1 (G-1/14): 1 and 2) *os acromiale* on the left scapula (shown from different angles); 3) *Poirier's facets* on femora; 4) spontaneous necrosis on the medial condyle of the right knee; 5) dislocated *facies articularis* on talii; 6) dislocated *facies articularis* on calcanei and prominent *sustentaculum tali*.