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Grobovi iz kasnoga bakrenog i ranoga brončanog doba s nalazišta Osijek – Ciglana i Zeleno polje

Late Eneolithic and Early Bronze Age graves at the site Osijek–Ciglana and Zeleno polje

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Tijekom zaštitnih arheoloških istraživanja na nalazištu Osijek – Ciglana i Zeleno polje 2015. godine pronađeni su ostaci višeslojnog naselja. Izdvaja se nalaz četiriju kosturnih grobova, od kojih se jedan nalazio izdvojeno na sjevernome dijelu istražene površine, a preostala su tri grupirana 260 m južnije. Svi su pokojnici bili pokopani u zgrčenom položaju na boku. S obzirom na činjenicu da u grobovima nisu nađeni prilozi ni dijelovi nošnje pokojnika, kao ni arheološki nalazi u njihovim zapunama, grobovi su datirani na osnovi rezultata radiokarbonskih analiza kostiju pokojnika. Grob smješten na sjevernom dijelu nalazišta (grob 1) datiran je u razdoblje kasnoga bakrenog doba i pripisan kasnoklasičnoj fazi vučedolske kulture. Tri groba evidentirana na južnome dijelu nalazišta (grobovi 2, 3 i 4) datirana su u rano brončano

During the archaeological excavations at the site Osijek–Ciglana and Zeleno polje in 2015, the remains of a multi-layered settlement were found. Finds of four skeletal graves stand out, with one grave found isolated on the northern part of the excavated area, while the other three were grouped some 260 m to the south. All the bodies were laid in a crouched position on their side. Since no grave goods or parts of garment were registered in the graves and there were no archaeological finds in the grave fill, the graves are dated based on the results of the radiocarbon analysis of the inhumed bones. The grave situated on the northern part of the site (grave 1) is ascribed to the Late Eneolitihic and attributed to the late classical phase of the Vučedol Culture. The three graves recorded on the southern part of the site (graves 2, 3, and 4) were dated to the Early Bronze Age. On the basis

doba. Na temelju radiokarbonskog datuma i elemenata pogrebnog rituala, grobovi su pripisani Kisapostag kulturi. Spomenuti grobovi predstavljaju jedine kasnoeneolitičke i ranobrončanodobne nalaze s lokaliteta, a može se pretpostaviti postojanje istovremenih naselja u blizini. Analiza je ljudskih kosturnih ostataka pokazala da je u grobu 1 pokopana žena starija od 50 godina, u grobovima 2 i 4 muškarci u dobi od 35 do 50 godina, a u grobu 3 dijete u dobi od 10 do 15 godina.

Ključne riječi: *Kasno bakreno doba, rano brončano doba, kosturni grobovi, Osijek*

of radiocarbon dates and elements of the burial practice, they are attributed to the Kisapostag Culture. The mentioned graves represent the only Late Eneolithic and Early Bronze Age finds from the site, and the existence of concurrent settlements nearby can be assumed. An analysis of human skeletal remains revealed the presence of a female over 50 years of age in grave 1, males 35 to 50 years of age in graves 2 and 4, as well as a juvenile aged 10 to 15 in grave 3.

Key words: *Late Eneolithic, Early Bronze Age, skeletal graves, Osijek*

1. UVOD

U razdoblju od travnja do lipnja 2015. godine provedena su zaštitna arheološka istraživanja na lokalitetu Osijek – Ciglana i Zeleno polje, na trasi cjevovoda za transport rashladne vode za KKE Osijek 500.[1] Tom je prigodom potvrđeno postojanje višeslojnoga arheološkog nalazišta na ovome položaju, smještenog na povišenoj gredi uz obalu rijeke Drave, na istočnoj periferiji grada Osijeka. Uz ostatke naselja iz brončanog i željeznog doba te nekolicine objekata iz razdoblja antike, pronađena su i četiri kosturna groba. Kako u grobovima nije bilo priloga, a njihove su zapune bile sterilne, grobovi su datirani radiokarbonskom analizom uzoraka kosti pokojnika. Jedan je grob datiran u razdoblje kasnoga bakrenog doba, a preostala tri u rano brončano doba. Drugi objekti, koji bi pripadali spomenutim razdobljima, nisu zabilježeni na lokalitetu.

Istraživanjima je obuhvaćen koridor širine 10 m i dužine 710 m, koji se protezao od Vukovarske ulice na jugu, preko Vinogradske ulice i pruge za Luku Osijek, do naplavne zone rijeke Drave na sjeveru. Kosturni grob 1 nalazio se u sjevernom dijelu istražene površine, na vrhu grede uz Dravu. Kosturni grobovi 2, 3 i 4 bili su smješteni oko 260 m jugozapadno od groba 1, na ravnici koja se

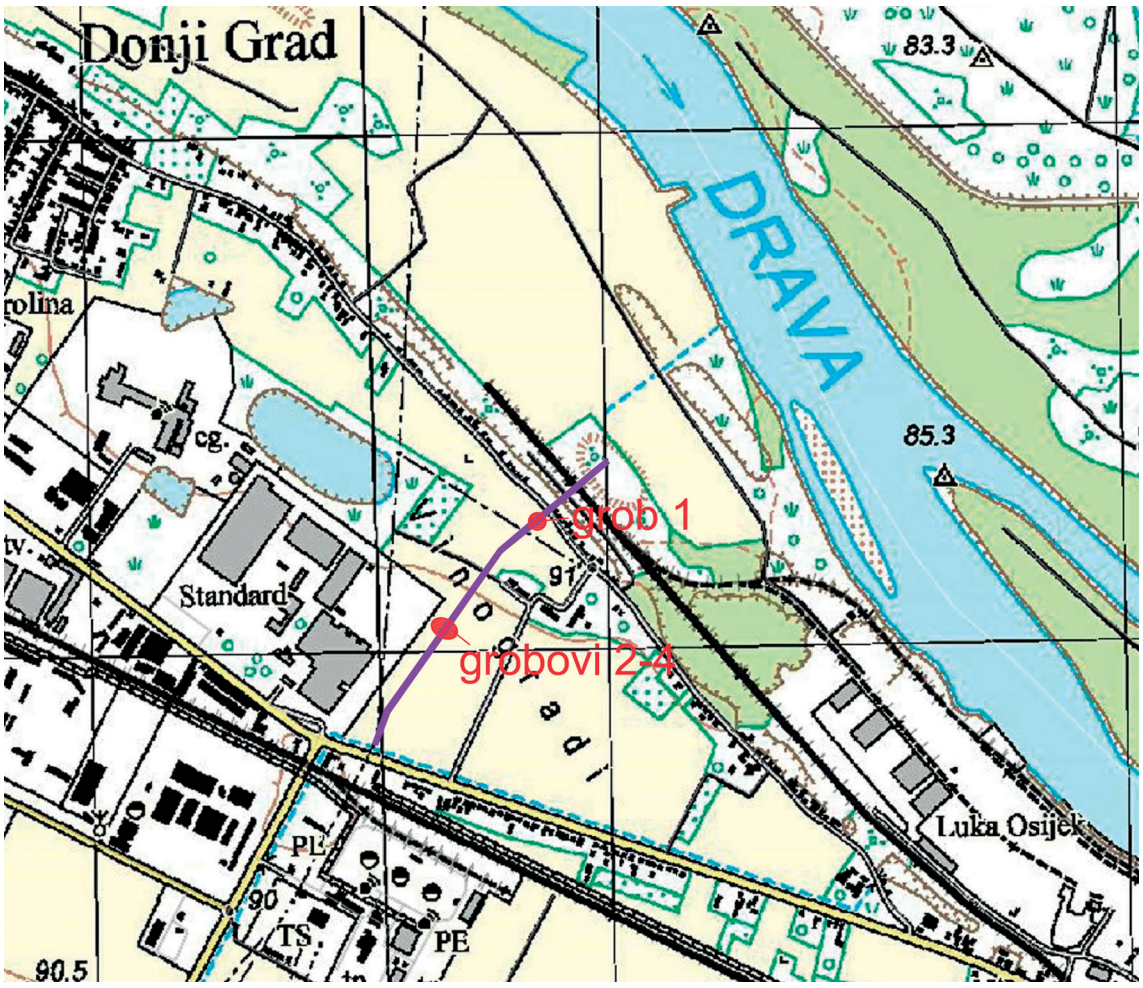
[1] Zaštitna arheološka istraživanja proveo je Hrvatski restauratorski zavod, Služba za arheološku baštinu, Odjel za kopnenu arheologiju. Voditelj je istraživanja bio A. Janeš.

1. INTRODUCTION

In the period between April and June 2015, archaeological rescue excavations were carried out at the site Osijek–Ciglana and Zeleno polje, at the pipeline route for the transportation of cooling water for KKE Osijek 500.[1] On that occasion, the existence of a multi-layered archaeological site was confirmed. The site is situated on an elevated plateau along the Drava River, in the eastern suburb of Osijek. In addition to the remains of the Bronze and Iron Age settlements, and few buildings from the Roman period, four skeletal graves were found. Since there were no grave goods in the burials, and their fills were sterile, the graves were dated based on the results of radiocarbon analysis of the inhumed bones. One grave was dated to the Late Eneolithic period, and the other three to the Early Bronze Age. Other features of these periods were not found at the site.

The excavations included a 10 m wide and 710 m long corridor, from Vukovarska Street to the south, across Vinogradska Street and the railway tracks to Luka Osijek, to a flood zone of the Drava River to the north. Skeletal grave 1 was situated on the northern part of the excavated area, on the very top of the plateau. Skeletal graves 2, 3, and 4 were located some 260 m to the southwest from grave 1, on the plain

[1] Archaeological rescue excavations were carried out by the Croatian Conservation Institute, Division for Archaeological Heritage, Department for Archaeology. The head of the excavations was A. Janeš.



Karta / Map 1. Trasa cjevovoda za KKE Osijek istražena 2015. godine, s položajem kosturnih grobova / Pipeline route for the KKE Osijek excavated in 2015 with the position of the skeletal graves (uredila / edited by M. Krmpotić).

proteže južno od povišene grede koja prati tok rijeke Drave (karta 1). Zapune su se grobova ocrtale nakon uklanjanja površinskog sloja oranja, debljine do 0,5 m na sjevernom dijelu nalazišta, odnosno sloja naplavine debljine oko 1 m na južnom dijelu. Ukopi su evidentirani na nivou zdravice.

2. OPIS GROBOVA

Kosturni grob 1

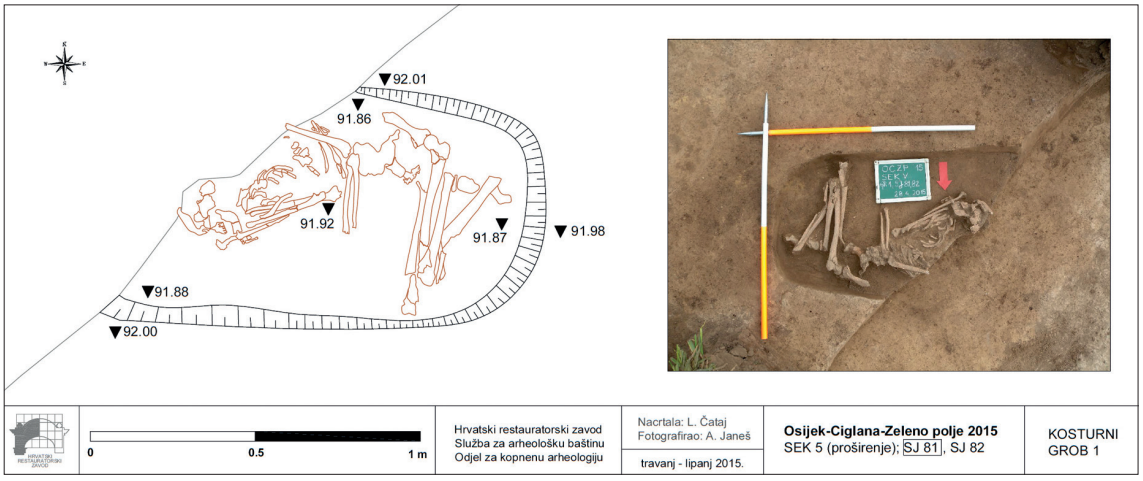
Grob se nalazio u sjevernom dijelu nalazišta, na vrhu povišene grede uz rijeku Dravu, na 92,00 mnv. Lubanja je pokojnika uočena pri uklanjanju površinskog sloja humusa debljine 0,4 do 0,5 m, uz jugoistočni rub iskopa, i manjim je dijelom uništena. Kako se ostatak kostura nalazio izvan trase istra-

south of the plateau which follows the flow of the Drava River (Map 1). The grave fills were outlined after removing the uppermost, 0.5 m thick, ploughed layer on the northern part of the site, and the about 1 m thick alluvial layer on the southern part. The burials were registered at sterile soil level.

2. DESCRIPTION OF THE GRAVES

Skeletal grave 1

The grave was situated in the northern part of the site, on the top of the plateau by the Drava River, at an altitude of 92 m. The skull of the buried individual was discovered while removing the 0.4–0.5 m thick layer of humus along the south-eastern edge of the excavated area, and was partially destroyed. Since the rest of



Slika / Fig. 1. Kosturni grob 1 / Skeletal grave 1 (izradila / drafted by L. Čataj).

živanja, iskop je proširen u dužini od 2 m i širini od 2,2 m. Grobna je raka u zapadnom dijelu uništena, a otkrivena je u dužini od 1,3 m i širini od 0,75 m, dok joj relativna dubina iznosi 0,12 do 0,15 m. Ukopana je u zdravicu, a pronađena je ispod humusnog sloja. Ukop je bio zapunjen svijetlosmeđom zemljom u kojoj nisu utvrđeni grobni prilozi niti bilo kakvi tragovi nošnje. Pokojnik je ležao na desnom boku, u zgrčenom položaju, orijentiran u smjeru zapad – istok. Donja, desna ruka bila je skvrčena u laktu, sa šakom položenom u visini brade, dok je gornja, lijeva ruka na području trbuha bila svinuta u laktu pod gotovo pravim kutom (sl. 1).

Analiza kosturnih ostataka pokojnika iz groba 1 pokazala je da ostaci pripadaju odrasloj ženskoj osobi starijoj od 50 godina. Spol je osobe određen na temelju morfoloških karakteristika lubanje i zdjelice, dok je dob procijenjena na temelju morfoloških promjena na zglobnoj ploštini bočne kosti.[2] Na ostacima je uočena osteopenija (sl. 2). Osteopenija često prethodi osteoporozi koja je sistemska bolest. Osteopenija označava smanjenu gustoću kostiju koja se očituje promjenama u masi i količini trabekularne i kortikalne kosti.[3] Smatra se da su glavni uzroci njezina nastanka starija dob,

the skeleton was outside of the excavated area, excavation was expended to the length of 2 m and width of 2.2 m. The western part of the burial pit was destroyed, and it was explored in the length of 1.3 m and a width of 0.75 m, while its relative depth was 0.12–0.15 m. It was dug through the sterile soil, and discovered under the layer of humus. The grave was filled with light brown soil in which no grave goods or any traces of garment were found. The buried individual was laid on the right side in a crouched position, oriented west to east. The lower, right arm was bent at the elbow with a fist laid near the chin, while the upper, laid over the abdominal area, was bent at the elbow almost at a right angle (Fig. 1).

The skeletal remains of the individual from grave 1 belong to an adult female older than 50 years of age. The sex was estimated based on morphological characteristics of the skull and pelvis, while age was estimated based on morphological changes of the auricular surface of the ilium.[2] The presence of osteopenia was observed on the remains (Fig. 2). Osteopenia can often lead to osteoporosis, which is a systemic disease. Osteopenia refers to low bone density evidenced by changes in the mass and quantity of trabecular and cortical bone.[3] Advanced age, diet low in calcium or rich in protein, lack of physical activity, and hormones are consid-

[2] Buikstra, Ubelaker 1994.

[3] Ortner 2003, 411.

[2] Buikstra, Ubelaker 1994.

[3] Ortner 2003, 411.

prehrana siromašna kalcijem ili bogata proteinima, nedostatak fizičke aktivnosti i hormoni. Pri radiokarbonskom datiranju ulomka kosti dobiveni su podaci o stabilnim izotopima, točnije o odnosu ugljika i dušika. Preliminarni rezultati pokazuju da se prehrana pokojnice bazirala na C3 biljkama, kao što su primjerice pšenica, ječam, riža i mahunarke. Uz to, moguće je da je mali dio prehrane činila slatkovodna riba.[4]

AMS radiokarbonska analiza, napravljena na ulomku kosti, dala je kalibrirani datum 4056+/-39 prije sadašnjosti, odnosno jednostruku standardnu devijaciju između 2832. i 2492. pr. Kr., s većom vjerojatnošću između 2632. i 2561. pr. Kr.[5] S obzirom na nedostatak grobnih priloga, prema radiokarbonskim datumima, ukop kosturnoga groba 1 može se datirati u kraj bakrenog doba, odnosno u vučedolsku kulturu. Kako pri istraživanju nije pronađen ni jedan objekt iz ovog razdoblja, može se zaključiti da se grob nalazio izvan naselja, ili na njegovu rubu, i da postoji velika vjerojatnost kako se naselje vučedolske kulture nalazilo u blizini iskopa.

Slika 2. Smanjena gustoća nadlaktične kosti žene iz kosturnog groba / Low bone density of the humerus of the female from grave 1 (snimila / photographed by P. Rajić Šikanjić).

Kosturni grob 2

Kosturni grobovi 2, 3 i 4 evidentirani su na ravnici, južno od povišene grede koja prati tok rijeke Drave, na oko 87,7 mnv. Međusobno su smješteni u blago lučnoj liniji smjera sjeverozapad – jugoistok.

Najsjevernije je bio smješten kosturni grob 2. Pokojnik je bio ukopan u raku, izduženu u smjeru jugoistok – sjeverozapad, sačuvanih dimenzija 1,4 x 0,8 m te najveće relativne dubine 0,13 m. Zapunu je činila sivosmeđa zemlja bez arheoloških nalaza. Pokojnik je

ered to be the main factors in its appearance. During radiocarbon dating of a bone sample, data on stable isotopes was obtained, specifically on the C:N ratio. Preliminary results are indicative of a C3 diet, based on plants such as wheat, barley, rice, and legumes. In addition, this individual's diet possibly consisted of a small amount of freshwater fish.[4]

AMS radiocarbon analysis conducted on a bone fragment gave the calibrated date 4056+/-39 BP, i.e. 1 Sigma range between 2832–2492 BC, with greater probability between 2632–2561 BC.[5] Considering the lack of grave goods, the burial of the skeletal grave 1 can be dated according to radiocarbon dates at the end of the Eneolithic, i.e. to the Vučedol Culture. Since no other features from this period were found during the excavations, it can be concluded that the grave was situated outside the settlement, or on its edge, and that there is a high probability that the settlement of the Vučedol Culture is located near the excavated area.

[4] Zahvaljujemo dr. sc. Emmi Lightfoot, sa Sveučilišta Cambridge u Velikoj Britaniji na interpretaciji podataka dobivenih analizom stabilnih izotopa.

[5] Uzorak kosti pod laboratorijskim brojem UBA–29843, analiziran na Sveučilištu u Belfastu, dao je sljedeće vrijednosti za jednostruku standardnu devijaciju (68,3% vjerojatnosti): 2632.–2561. pr. Kr. (0,591), 2535.–2492. pr. Kr. (0,337), 2832.–2820. pr. Kr. (0,063), 2657.–2655. pr. Kr. (0,010) i za dvostruku standardnu devijaciju (95,4% vjerojatnosti): 2681.–2475. pr. Kr. (0,884), 2850.–2813. pr. Kr. (0,092), 2742.–2729. pr. Kr. (0,013), 2694.–2684. pr. Kr. (0,012).

[4] We wish to thank Emma Lightfoot, PhD, University of Cambridge, UK, for the interpretation of the preliminary results of the stable isotope analysis.

[5] Bone sample under the laboratory code UBA–29843, analysed at the Belfast University, gave the following 1 Sigma dates (68,3 % probability): 2632–2561 BC (0,591), 2535–2492 BC (0,337), 2832–2820 BC (0.063), 2657–2655 BC (0,010), and 2 Sigma dates (95,4 % probability): 2681–2475 BC (0,884), 2850–2813 BC (0,092), 2742–2729 BC (0,013), 2694–2684 BC (0,012).

položen u zgrčenom položaju na lijevom boku, pri čemu mu je glava orijentirana prema jugu – jugoistoku, a lijeva ruka položena preko donjeg dijela trbuha (sl. 3). U grobu nisu utvrđeni prilozi, niti ikakvi dijelovi nošnje pokojnika. Desna je strana groba devastirana kasnijim ukopom kanala, tako da kosti desne strane trupa pokojnika nisu pronađene *in situ*. Pri ukopu kanala također su presječene natkoljenične i potkoljenične kosti lijeve i desne noge pokojnika, a dislocirana je i njegova zdjelica. Dataciju je navedenog kanala teško precizno odrediti s obzirom na to kako je u njemu pronađeno samo nekoliko nekarakterističnih i kulturno neopredjeljivih ulomaka grube prapovijesne keramike. S obzirom na kvalitetu keramike i utvrđene ostatke srednjo- i kasnobrončanodobnog naselja na gredi, može se pretpostaviti kako je ranobrončanodobni grob bio devastiran u kasnijoj fazi brončanoga doba.

Analiza kosturnih ostataka pokojnika iz groba 2 pokazala je da ostaci pripadaju odrasloj muškoj osobi u dobi od 35 do 50 godina. Spol je osobe određen na temelju morfoloških karakteristika lubanje, a dob je procijenjena na temelju stupnja sraštavanja lubanjskih šavova.[6] Na kosturnim je ostacima uočeno nekoliko patoloških promjena i nemetričkih osobina. Na dva su prsna kralješka uočene blage degenerativne promjene. Degenerativne su promjene na kralježnici najčešća prisutna bolest zglobova. Na njihovu pojavu utječu dob, genetska predispozicija, mehanički stres i fizička aktivnost.[7] Na donjem je desnom prvom kutnjaku uočen apsces, koji najčešće nastaje kada se pulpa zuba izloži bakteriji, pri čemu dolazi do infekcije i stvaranja gnoja. Gnoj izlazi kroz sinus ili otvor vidljiv na kosturnim ostacima.[8] Nekoliko je zubi u donjoj čeljusti ispalo tijekom života, za što može biti odgovorno nekoliko uzroka, kao što su karijes, kamenac, apsces, velika istrošenost zubne plohe, periodontalne bolesti i trau-

[6] Buikstra, Ubelaker 1994.

[7] Waldron 2009, 28.

[8] Freeth 2000, 231.

Skeletal grave 2

Skeletal graves 2, 3, and 4 were registered on the plain south of the plateau which follows the flow of the Drava River, at an altitude of around 87.7 m. They were positioned in a slightly curved line in a northwest–southeast direction.

The northernmost was skeletal grave 2. The individual was buried in a burial pit elongated in southeast-northwest direction, with preserved dimensions 1.4 x 0.8 m and the relative depth of 0.13 m. The burial pit was filled with grey–brown soil without archaeological finds. The body was laid in a crouched position on the left side, with its head oriented to the south-southeast, and its left arm placed over the lower abdomen (Fig. 3). There were no grave goods or parts of garment found in the grave. The right side of the grave was destroyed by a later trench, so the bones of the right part were not found *in situ*. Thigh and shin bones of the right and left leg were cut during the digging of the trench, and the pelvic bones of the person were dislocated. It is difficult to determine the dating of the mentioned trench precisely, since there were only a few fragments of uncharacteristic coarse prehistoric ceramics, which cannot be culturally determined, found in its fill. On the basis of the quality of the pottery and the remains of the Middle and Late Bronze Age settlement on the plateau, it can be assumed that this Early Bronze Age grave was disturbed during the younger phase of the Bronze Age.

The skeletal remains of the individual from grave 2 belong to an adult male aged between 35 and 50 years. The sex was estimated based on morphological characteristics of the skull, while age was estimated based on the degree of cranial suture closure.[6] Several pathological changes and nonmetric traits were observed on the remains. Slight degenerative changes are present on two thoracic vertebrae. Degenerative changes on the spine are one of the most common joint diseases. Their appearance is influenced by age, genetic predisposition, mechanical stress, and physical activity.[7] An

[6] Buikstra, Ubelaker 1994.

[7] Waldron 2009, 28.

me. No i slaba higijena, prehrambene navike i fiziološki stres dovode do ispadanja zuba i zatvaranja prazne alveole.[9] Uočene su nemetričke osobine dodatne koštane pločice u lambdoidnom šavu. Riječ je o manjim ili većim ulomcima kosti nepravilnog oblika koje se mogu pronaći u svim lubanjskim šavovima.[10]

Pri radiokarbonskom datiranju ulomka kosti dobiveni su podaci o stabilnim izotopima, točnije o odnosu ugljika i dušika. Preliminarni rezultati pokazuju da se prehrana pokojnika bazirala na C3 biljkama, kao što su, primjerice, pšenica, ječam, riža i mahunarke. Uz to, moguće je da je mali dio prehrane činila slatkovodna riba.[11]

AMS radiokarbonska analiza napravljena na ulomku kosti dala je kalibrirani datum 3741+/-36 prije sadašnjosti, odnosno jednostruku standarndnu devijaciju između 2202. i 2050. pr. Kr., s većom vjerojatnosti između 2202. i 2130. pr. Kr.[12]

Kosturni grob 3

Grob se nalazio 3,6 m jugoistočno od groba 2. Pokojnik je bio položen u raku nepravilnog ovalnog tlocrta, izduženu u smjeru jugoistok – sjeverozapad, dimenzija 1,0 x 0,7 m i relativne dubine do 0,15 m. Zapunu je činila, kao i u prethodnom grobu, sterilna sivosmeđa zemlja. Pokojnik je također položen na lijevi bok u zgrčenom položaju, s glavom orijentiranom prema jugu – jugoistoku. U grobu nisu utvrđeni prilozi ni dijelovi nošnje pokojnika. Kosti su loše očuvane, a nedostaju kosti lijevog dijela trupa i lijeve ruke, kao i kosti zdjelice. Desna je ruka pokojnika položena na donji dio trbuha (sl. 4).

[9] Freeth 2000, 231.

[10] Barnes 2012, 10.

[11] Zahvaljujemo dr. sc. Emmi Lightfoot, sa Sveučilišta Cambridge u Velikoj Britaniji na interpretaciji podataka dobivenih analizom stabilnih izotopa.

[12] Uzorak kosti pod laboratorijskim brojem UBA–29844, analiziran na Sveučilištu u Belfastu, dao je sljedeće vrijednosti za jednostruku standardnu devijaciju (68,3% vjerojatnosti): 2202.–2130. pr. Kr. (0,703), 2086.–2050. pr. Kr. (0,297) i za dvostruku standardnu devijaciju (95,4% vjerojatnosti): 2279.–2250. pr. Kr. (0,064), 2230.–2220. pr. Kr. (0,015), 2212.–2033. pr. Kr. (0,921).

abscess was observed on the mandibular first molar. Abscess most often forms when tooth pulp is exposed to bacteria, causing an infection and the accumulation of pus. The pus is drained through a sinus or an opening visible on the skeletal remains.[8] Several mandibular teeth were lost during the lifetime of this individual. Ante mortem tooth loss can be caused by various factors. These include dental caries, calculus, abscess, significant occlusal surface wear, periodontal diseases and trauma, but also low hygiene, dietary habits and physiological stress. All of them can lead to tooth loss and alveolar remodelling.[9] The observed nonmetric traits are sutural ossicles situated in the lambdoid suture. These are smaller or larger bone fragments of irregular shape that can be found in all cranial sutures.[10] During the radiocarbon dating of a bone sample, data on stable isotopes was obtained, specifically on the C:N ratio. Preliminary results are indicative of a C3 diet, based on plants such as wheat, barley, rice and legumes. Additionally, this individual's diet possibly consisted of a small amount of freshwater fish.[11]

AMS radiocarbon analysis conducted on a bone fragment gave the calibrated date 3741+/-36 BP, i.e. 1 Sigma range between 2202–2050 BC, with greater probability between 2202–2130 BC.[12]

Skeletal grave 3

The grave was located 3.6 m southeast of grave 2. The body was placed in an oval burial pit, elongated in the southeast–northwest direction. The dimensions of the burial pit were 1.0 x 0.7 m, its relative depth up to 0.15 m, and it was filled with sterile grey–brown soil. The buried individual was also laid on its left side in a crouched position, with its head oriented

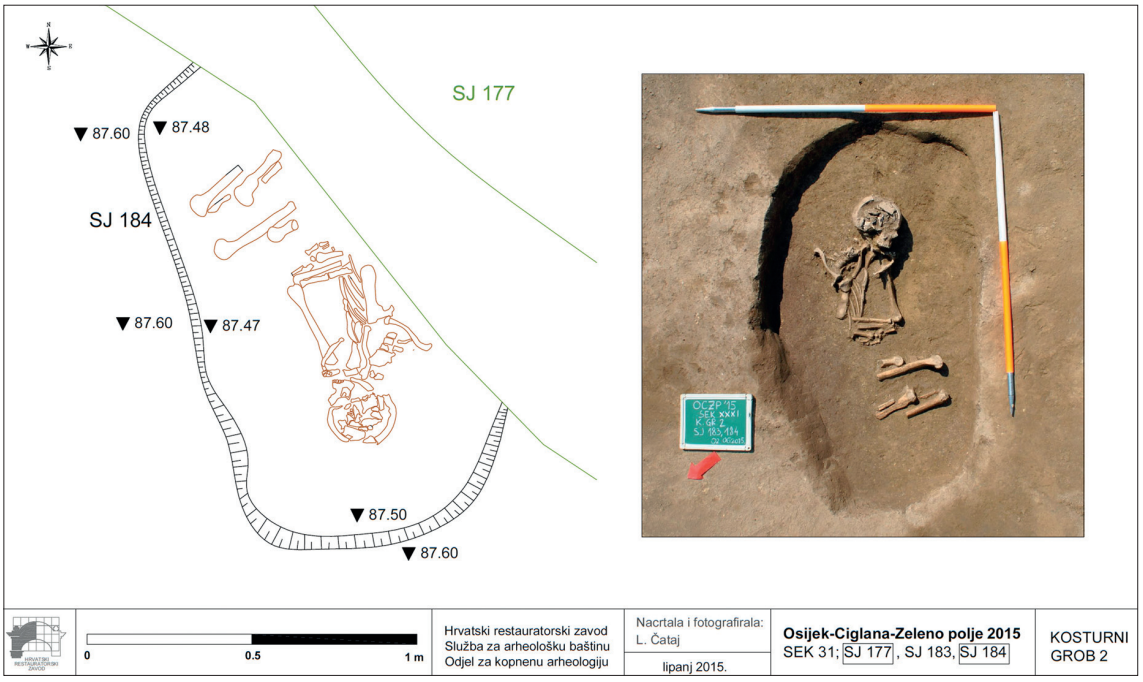
[8] Freeth 2000, 231.

[9] Freeth 2000, 231.

[10] Barnes 2012, 10.

[11] We wish to thank Emma Lightfoot, PhD, University of Cambridge, UK, for the interpretation of the preliminary results of the stable isotope analysis.

[12] Bone sample under the laboratory code UBA–29844, analysed at the Belfast University, gave the following 1 Sigma dates (68,3 % probability): 2202–2130 BC (0,703), 2086–2050 BC (0,297) and 2 Sigma dates (95,4 % probability): 2279–2250 BC (0,064), 2230–2220 BC (0,015), 2212–2033 BC (0,921).



Slika / Fig. 3. Kosturni grob 2 / Skeletal grave 2 (izradila / drafted by L. Čataj).

Analiza kosturnih ostataka pokojnika iz groba 3 pokazala je da ostaci pripadaju djetetu u dobi od 10 do 15 godina. Spol nije određen budući da se radi o djetetu, dok je dob procijenjena na temelju stupnja sraštavanja epifiza dugih kostiju i kronologije razvoja trajnih zubi.[13] Na vanjskoj je površini ulomaka lubanje uočena umjerena ektokranijalna poroznost. Njezina etiologija nije u potpunosti razjašnjena, ali se povezuje s deficitarnim bolestima, kao što su anemija prouzročena nedostatkom željeza, rahitis i skorbut.[14] Endokranijalne su lezije prisutne na zatiljnoj kosti (sl. 5). Lezije su rezultat upale i / ili krvarenja meningealnih krvnih žila, koje se pojavljaju kod različitih oboljenja, kao što su kronični meningitis, trauma, anemija, neoplazmi, skorbut, rahitis i tuberkuloza.[15]

[13] Scheuer, Black 2004.

[14] Roberts, Manchester 2005, 230.

[15] Lewis 2007, 141.

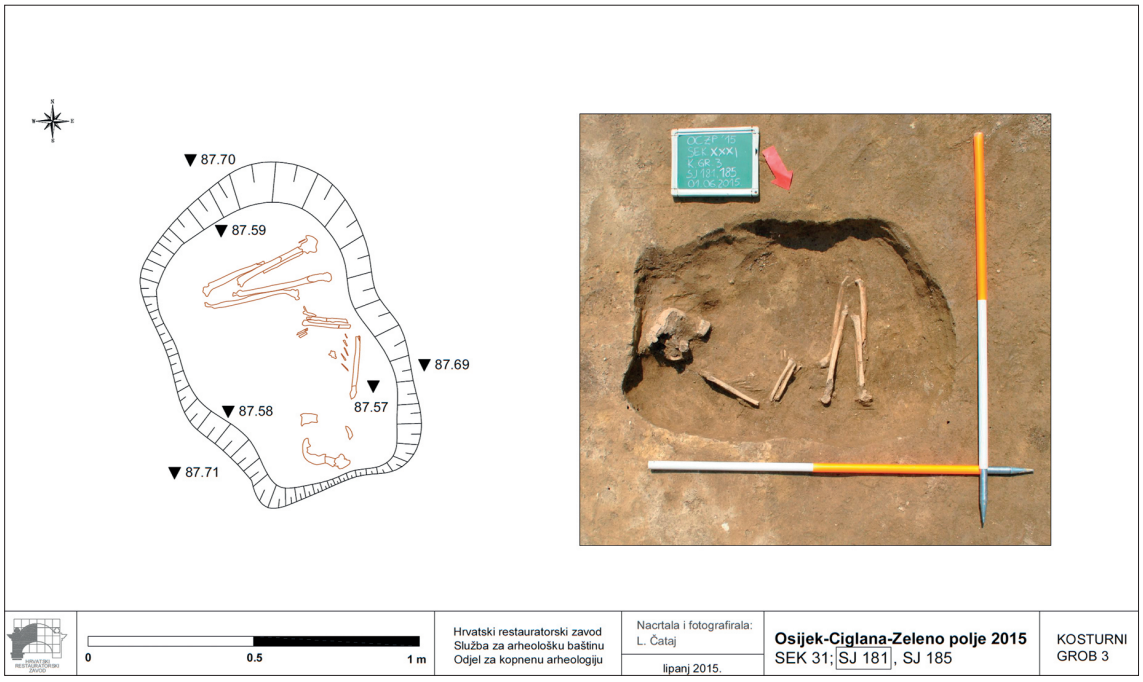
to the south–southeast. There were no grave goods or parts of garment found in the grave. The bones are poorly preserved, so those of the left part of the torso, left hand, and pelvis are missing. The right arm of the buried individual was placed over its lower abdomen (Fig. 4).

The skeletal remains of the individual from grave 3 belong to a juvenile aged between 10 and 15. The sex was not estimated since the individual is a child, while the age was estimated based on the degree of epiphyseal closure on long bones and the chronology of permanent teeth development.[13] Moderate ectocranial porosity was observed on the outer surface of the skull fragments. Its aetiology is unclear, even though it can be associated with deficiency-related diseases such as iron deficiency anaemia, rickets, and scurvy.[14] Endocranial lesions were observed on the occipital bone (Fig. 5). These lesions are caused by inflammation and/or haemorrhage of the meningeal blood vessels, occurring in chronic meningitis, trauma, anaemia, neoplasms, scurvy, rickets, and tuberculosis.[15]

[13] Scheuer, Black 2004.

[14] Roberts, Manchester 2005, 230.

[15] Lewis 2007, 141.



Slika / Fig. 4. Kosturni grob 3 / Skeletal grave 3 (izradila / drafted by L. Čataj).

Slika / Fig. 5. Endokranijalne lezije na zatiljnoj kosti djeteta iz kosturnog groba 3 / Endocranial lesions on the occipital bone of the child from grave 3 (snimila / photographed by P. Rajić Šikanjić).

Kosturni grob 4

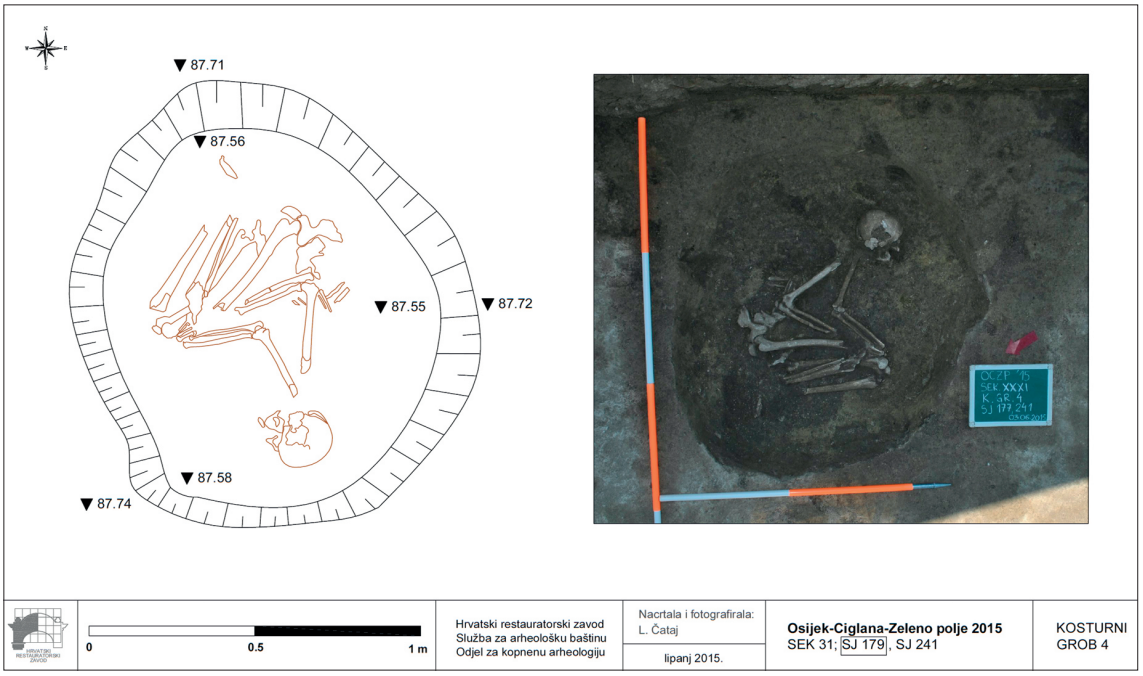
Grob je bio smješten oko 2,6 m jugoistočno od groba 3. Grobna je raka bila ovalnog tlocrta, izdužena otprilike u smjeru jug – sjever, s vrlo blagim otklonom prema jugoistoku, odnosno sjeverozapadu. Dimenzije joj iznose 1,4 x 1,2 m, a najveća relativna dubina 0,19 m. Zapuna je groba bila ista kao u grobovima 2 i 3. Pokojnik je položen u zgrčenom, gotovo čučećem položaju, na lijevom boku, glave orijentirane prema jugu i ruku položenih na koljena (sl. 6). Ni u ovo-

Skeletal grave 4

The grave was situated about 2.6 m southeast of grave 3. The burial pit was oval, elongated in almost south-north direction, with a very slight deviation to the southeast and northwest. Its dimensions were 1.4 x 1.2 m, and the maximum relative depth up to 0.19 m. The fill was the same as that in graves 2 and 3. The body was placed in a crouched, almost squatting position, on its left side, with its head oriented to the south and arms laid on its knees (Fig. 6). Grave goods or preserved parts of garment were not found in this grave as well.

The skeletal remains of the individual from grave 4 belong to an adult male aged between 35 and 50. The sex was determined based on morphological characteristics of the skull and pelvis, while the age was estimated based on morphological changes of the auricular surface of the ilium.[16] Several pathological conditions and nonmetric traits were observed on the remains. Severe degenerative changes were present on one hand bone as well as the first and second cervical vertebrae, whereas moderate changes were present on the remaining cervical and two thoracic vertebrae (Fig. 7). The

[16] Buikstra, Ubelaker 1994.



Slika / Fig. 6. Kosturni grob 4 / Skeletal grave 4 (izradila / drafted by L. Čataj).

me grobu nisu utvrđeni grobni prilozi, niti sačuvani dijelovi opreme, odnosno nošnje pokojnika.

Analiza je kosturnih ostataka pokojnika iz groba 4 pokazala da ostaci pripadaju odraslom muškarcu u dobi od 35 do 50 godina. Spol je osobe određen na temelju morfoloških karakteristika lubanje i zdjelice, dok je dob procijenjena na temelju morfoloških promjena na zglobnoj ploštini bočne kosti.[16] Na ostacima je uočeno nekoliko patoloških stanja i nemetričkih osobina. Jake su degenerativne promjene prisutne na jednoj kosti šake i prvom te drugom vratnom kralješku, dok su umjerene promjene prisutne na ostalim vratnim i dvama prsnim kralješcima (sl. 7). Glavno je obilježje degenerativne bolesti ili osteoartritisa upala i destrukcija kosti i pripadajuće hrskavice. Smatra se da su glavni uzroci nastanka povećana dob i genetska predispozicija te mehanički stres i pojačana fizička aktivnost.[17] Duž tijela obiju goljeničnih kostiju prisutna je blaga strijacija, nastala uslijed periostitisa,

characteristic features of degenerative disease or osteoarthritis are the inflammation and destruction of bone and cartilage. Advanced age and genetic predisposition, as well as mechanical stress and strenuous physical activity, are considered to be main factors in its development.[17] Slight striation is present on the diaphyses of both tibiae. It is the result of periostitis, inflammation of the periosteum, the outer membrane covering the bone. Periostitis can appear as a response of the skeletal system to a systemic, bacterial infection or as a response of the tissue to a fracture, cut, or blow.[18] Abscesses are present on maxillar canines, while several teeth in both jaws were lost ante mortem (Fig. 8). An abscess can form when tooth pulp is exposed to bacteria, causing an infection and the accumulation of pus, while ante mortem tooth loss can be a result of various individual factors, but also their interaction. Some of the factors are caries, calculus, abscess, heavy occlusal surface wear, periodontal disease and trauma, as well as a low level of hygiene, dietary habits, and physiological stress. Once the tooth falls out of its socket, soft tissue heals,

[16] Buikstra, Ubelaker 1994.

[17] Roberts, Manchester 2005, 138.

[17] Roberts, Manchester 2005, 138.

[18] Ortner 2003, 53.

Slika / Fig. 7. Jake degenerativne promjene na drugom vratnom kralješku muškarca iz kosturnog groba 4 / Severe degenerative changes on the second cervical vertebra of the male from grave 4 (snimila / photographed by P. Rajić Šikanjić).

Slika / Fig. 8. Apsces na gornjoj čeljusti muškarca iz kosturnog groba 4 / Maxillary abscess of the male from grave 4 (snimila / photographed by P. Rajić Šikanjić).

upale periosta, vanjskog sloja kosti. Periostitis može nastati kao odgovor koštanog sustava na sistemsku, bakterijsku infekciju ili kao odgovor tkiva na lom, posjekotinu ili udarac.[18] U gornjoj su čeljusti uočeni apscesi na očnjacima, dok je nekoliko zuba u obje čeljusti ispalo za života (sl. 8). Apsces može nastati kada se pulpa zuba izloži bakteriji, pri čemu dolazi do infekcije i stvaranja gnoja, dok gubitak zubi tijekom života može biti rezultat nekoliko pojedinačnih čimbenika, ali i njihova međudjelovanja. Neki od njih su karijes, kamenac, apsces, velika istrošenost zubne plohe, periodontalne bolesti i traume, ali i slaba higijena, prehrambene navike te fiziološki stres. Jednom kad zub ispadne iz svoje alveole, meko tkivo se zalječi, a potom se počinje zatvarati i prazna alveola.[19] U sagitalnom i lambdoidnom šavu prisutne su dodatne koštane pločice, manje ili veće kosti nepravilnog oblika, koje se mogu pronaći u svim lubanjskim šavovima.[20]

[18] Ortner 2003, 53.

[19] Freeth 2000, 231.

[20] Barnes 2012, 10.

and afterwards the empty socket begins to remodel.[19] Sutural ossicles are present in the sagittal and lambdoid suture. Ossicles are smaller or bigger irregularly shaped bones that can be found in all cranial sutures.[20]

Burial practice of the Early Bronze Age graves

A standardized burial practice can be noticed in the case of the three recorded Early Bronze Age graves. These are skeletal burials in which bodies were placed in the burial pit in a crouched position on their left side, with the head oriented to the south or southeast, and arms placed over the lower abdomen or on the knees. There were no grave goods placed within, and there were no preserved parts of their equipment or garments such as pins, jewellery, etc. Bodies were laid in elongated or oval burial pits, oriented in southeast-northwest direction. Based on the burials of the two adults, it can be concluded that the average length of the burial pit was around 1.4 m, while the child burial pit was of smaller dimensions. The distance between the graves is around 2.5–3.5 m, and their positions pos-

[19] Freeth 2000, 231.

[20] Barnes 2012, 10.

Pogrebni ritual ranobrončanodobnih grobova

Kod tri evidentirana ranobrončanodobna groba može se primijetiti standardiziran pogrebni ritual. Riječ je o inhumacijskim ukopima kod kojih je pokojnik bio položen u raku u zgrčenom položaju na lijevom boku, s glavom orijentiranom prema jugu, odnosno jugoistoku, ruku položenih na donji dio trbuha ili na koljena. Uz pokojnike nisu priloženi grobni prilozi, a na pokojnicima nisu sačuvani dijelovi njihove opreme ili nošnje, poput igala, nakita i sl. Pokojnici su položeni u rake nepravilnoga izduženog do ovalnog tlocrta, orijentirane u smjeru jugoistok – sjeverozapad. Na osnovi ukopa dviju odraslih osoba može se zaključiti kako je prosječna dužina rake iznosila oko 1,4 m, a grob s ukopom djeteta manjih je dimenzija. Udaljenost između grobova kreće se od oko 2,5 do 3,5 m, a njihov razmještaj vjerojatno ukazuje na ukapanje u blago zaobljenoj liniji. U blizini nisu evidentirani drugi (istovremeni) grobovi, dok pokretni arheološki materijal iz kasnijeg kanala, koji leži sjeverno uz ranobrončanodobne grobove i sječe jednog od njih, ne indicira postojanje još kojega groba, koji je ukop kanala mogao uništiti. S obzirom na nedostatak grobnih priloga i opreme pokojnika te sterilnu zapunu grobova, njihovo je datiranje bilo moguće isključivo na osnovi radiokarbonskih datuma. Analiza uzorka kosti iz groba 2 ukazuje na razdoblje starije faze ranoga brončanog doba, stupnja Re Br A1. S većom vjerojatnošću grob se može datirati u 22. st. pr. Kr. Kosturni grobovi 3 i 4 pripisani su istome razdoblju na osnovi svog položaja u istoj grupaciji s grobom 1 te primijenjenog pogrebnog rituala. Dobiveni datum okvirno odgovara radiokarbonskim datumima za kraj vinkovačke kulture, odnosno kulturnog kompleksa Somogyvar – Vinkovci i početak kulture Kisapostag.

sibly indicate burial in a slightly curved line. There were no other (concurrent) graves registered nearby. The archaeological material found in the younger trench, which is situated north along the Early Bronze Age graves partially damaging one of them, does not indicate the existence of some other grave, which could have been destroyed by the digging of this trench. Considering the lack of grave goods and equipment or garment as well as the sterile fill of the grave pits, their dating was possible only on the basis of radiocarbon dates. Analysis of the bone sample from grave 2 indicates the period of the older phase of the Early Bronze Age, i.e. Re Br A1 stage. With greater probability this burial can be dated in the 22nd century BC. Skeletal graves 3 and 4 were ascribed to the same period based on their positions in the same group with grave 1 and the same burial practice. The obtained date roughly corresponds to the dates for the end of the Vinkovci Culture, i.e. cultural complex Somogyvar–Vinkovci, and the beginning of the Kisapostag Culture.

3. KULTUROLOŠKI OKVIR

Vučedolska kultura

Vučedolska je kultura svojim prepoznatljivim umjetničkim izrazom, bogatim duhovnim životom i dostignućima, prije svega na polju metalurgije, zasigurno jedna od najvažnijih manifestacija bakrenog doba na našim prostorima. Nastala na prostoru istočnoslavonskog i srijemskog prostora, krajem klasične faze[21] počinje svoju ekspanziju, koja poprima najveće razmjere u kasnoj fazi kulture. Iako se tada razbila na niz regionalnih varijanta, bila je prisutna na području od Praga na sjeveru do južne Bosne na jugu te od jugoistočnoalpskog prostora na zapadu do rumunjskog Banata na istoku. Još početkom brončanog doba, kada je u istočnoj Slavoniji zamjenjuje vinkovačka kultura, na prostoru srednje i jugoistočne Europe egzistiraju brojne postvučedolske manifestacije.[22]

U apsolutno kronološkim okvirima vučedolsku kulturu možemo datirati gotovo u cijelo 3. tis. pr. Kr. Radiokarbonski datumi s nalazišta Vučedol u rasponu su od 3100. do 2500. pr. Kr. i pripadaju vremenu rane i klasične faze vučedolske kulture[23]. Radiokarbonski datumi s Ervenice (ulica Matije Gupca 14) u Vinkovcima u rasponu su od 2890. do 2480. pr. Kr., a oni s Damića gradine u Starim Mikanovcima smještaju se u razdoblje između 2860. i 2470. pr. Kr. te pripadaju razdoblju klasične vučedolske kulture[24]. Uz stupanj B2 vežu se i dva korigirana radiokarbonska datuma s položaja Hotel Slavonija u Vinkovcima (2668.–2467. pr. Kr. i 2632.–2408. pr. Kr.)[25]. Dva mlađa kalibrirana datuma (2630.–2470. pr. Kr. i 2580.–2450. pr. Kr.) upućuju da je život na Vučedolu, kao i na Sarvašu i u Vinkovcima, trajao i u kasnoj fazi klasične vučedolske kulture (stupanj B2), suprotno prethodno

[21] S. Dimitrijević (1979, 278) podijelio je vučedolsku kulturu u tri osnovne faze: rana ili pretklasična (A), klasična (ranoklasična B1 i kasnoklasična B2) i kasna (C) vučedolska kultura.

[22] Dimitrijević 1979; Durman 1988.

[23] Balen 2010, 111–112, tab. 8.

[24] Miloglav 2016, tab. 1.

[25] Durman 2000, 96

3. CULTURAL FRAMEWORK

The Vučedol Culture

According to its recognizable artistic expression, rich spiritual life and achievements, especially in metallurgy, the Vučedol Culture is one of the most important Eneolithic occurrences in our region. Originating in the eastern Slavonian and Syrmian area, it began its expansion at the end of its classical phase[21], with the largest extent in the late phase of the culture. Although it disintegrated in a series of regional variants, the Vučedol Culture was present in the area from Prague in the north to southern Bosnia in the south and from the south-eastern Alpine area in the west to the Romanian Banat in the east. At the beginning of the Bronze Age, when it was replaced by the Vinkovci Culture in eastern Slavonia, numerous post–Vučedol appearances still existed in the area of Middle and South-eastern Europe.[22]

In the absolute-chronological framework, the Vučedol Culture can be dated to almost the entire 3rd millennium BC. Radiocarbon dates from the site Vučedol are in the range between 3100–2500 BC and belong to a period of the early and classical phase of the Vučedol Culture[23]. Radiocarbon dates from Ervenica (14 Matija Gubec Street) in Vinkovci range between 2890 and 2480 BC and the ones from Damića gradina in Stari Mikanovci between 2860 and 2470 BC, which puts them in the classical phase of the Vučedol Culture[24]. From Vinkovci, two corrected radiocarbon dates from the site Hotel Slavonia (2668–2467 BC and 2632–2408 BC) can be associated to the B2 stage[25]. Two younger calibrated dates (2630–2470 BC and 2580–2450 BC) indicate that life at the Vučedol site, as well as at Sarvaš and Vinkovci, lasted into the late phase of the classical Vučedol Culture (B2 stage), contrary to the earlier assumptions

[21] S. Dimitrijević (1979, 278) divided the Vučedol Cuture into three main phases: early or preclassical (A), classical (early classical B1 and late classical B2) and late (C) Vučedol Culture.

[22] Dimitrijević 1979; Durman 1988.

[23] Balen 2010, 111-112, Tab. 8.

[24] Miloglav 2016, Table 1.

[25] Durman 2000, 96

iznesenim pretpostavkama da nije bio naseljen poslije B1 stupnja[26]. Najmlađi datum iz Rudine (2340.–2030. pr. Kr.) pripada razdoblju ranoga brončanog doba[27].

Najveći broj ukopa vučedolske kulture pronađen je unutar naselja. Na eponimnom nalazištu Vučedol pokojnici u zgrčenom položaju polagani su u napuštene jame-podrume, često s velikom količinom priloga.[28] Među njima najpoznatiji su brojni grupni ukopi. Grob „bračnog para" s oba pokojnika u zgrčenom položaju i velikom količinom priloga iskopao je 1938. godine na vučedolskom Gradcu R. R. Schmidt.[29] U grobu 3, iskopanom 1985. godine na Vinogradu Streim, nalazili su se ostaci osam pokojnika (jedan muškarac, šest žena i jedna djevojčica) na dnu 4 m duboke jame, zatrpani komadima drvenog ugljena. Šest je pokojnika na lubanjama imalo udubljenja. Glava jednog pokojnika nalazila se u lesnom naboju kojim je „zapečaćena" grobnica. U grobu, datiranom između 3100. i 2750. pr. Kr., pronađeno je nekoliko cijelih posuda i životinjske kosti.[30] Osim navedenih, poznato je još nekoliko grupnih i pojedinačnih ukopa u jamama.[31] Tijekom 2006. godine istraženo je nekoliko grobova ukopanih u sloj, bez vidljive grobne rake. Ispod i oko kostura, orijentiranih jugozapad – sjeveroistok ili jugoistok – sjeverozapad, pronađeno je dosta vučedolskih nalaza. Jedan od kostura datiran je u razdoblje između 2900. i 2840. pr. Kr.[32]

Od ovoga pogrebnog rituala odstupaju ukopi pod tumulima, pronađeni u Velikoj humci pokraj Batajnice i Humci pokraj Velikog Begeja u Vojki, u kojima su pokojnici spaljeni i položeni u urne.[33]

[26] Dimitrijević 1979, 278, 303; Balen 2010, 111–112, tab. 8.
[27] Durman-Obelić 1989, tab. 1.
[28] Durman 1988, 20; Balen 2010, 115–116.
[29] Schmidt 1945, 41–44.
[30] Durman 2000, 42–56.
[31] Durman 1988, 20; Hoti 1994.
[32] Balen 2010, 115–116.
[33] Durman 1988, 20.

that it was not settled after the B1 stage[26]. The youngest date from Rudina (2340–2030 BC) belongs to the period of the Early Brozne Age.[27]

The largest number of Vučedol Culture burials was found within the settlement. At the eponymous site Vučedol, bodies in crouched position were placed in abandoned storage pits, often with numerous grave goods.[28] The best known among them are numerous group burials. A grave of a "couple", with both of the buried individuals laid in a crouched position, and with a lot of grave goods, was excavated in 1938 by R. R. Scmidt at the site Vučedol Gradac.[29] In grave 3 at Vinograd Streim, excavated in 1985, there were remains of eight buried individuals (one male, six female, and one girl) at the bottom of a 4 m deep pit, covered with pieces of charcoal. Six of the individuals had a dent on the skull. The head of one of the buried individuals was in the loess charge with which the grave was sealed. In the grave, dated between 3100–2750 BC, a few whole vessels and some animal bones were found.[30] There are some more group and individual burials in pits beside the mentioned ones.[31] Several graves dug into the cultural layer, without visible burial pits, were excavated in 2006. Under and around the southwest-northeast or southeast–northwest oriented skeletons, a lot of finds of the Vučedol Culture were discovered. One of the skeletons is dated to the period between 2900–2840 BC.[32]

Burials under burial mounds at Velika humka near Batajnica and Humka near Veliki Begej in Vojka differ from this burial practice. The bodies were burned and placed in urns.[33]

[26] Dimitrijević 1979, 278, 303; Balen 2010, 111-112, Tab. 8.
[27] Durman-Obelić 1989, Tab. 1.
[28] Durman 1988, 20; Balen 2010, 115-116.
[29] Schmidt 1945, 41–44.
[30] Durman 2000, 42–56.
[31] Durman 1988, 20; Hoti 1994.
[32] Balen 2010, 115–116.
[33] Durman 1988, 20.

Vinkovačka kultura

Za sada raspolažemo s nekoliko radiokarbonskih datuma za vinkovačku kulturu na području Slavonije. Dva uzorka iz Vinkovaca, s položaja Hotel, pronađena u poremećenom sloju s materijalom vučedolske i vinkovačke kulture, dala su rezultate 3810±140 (Z–1817) i 3830±140, odnosno kalibrirane datume 2470.–2040. pr. Kr. i 2480.–2040. pr. Kr.[34] S. Forenbaher ove uzorke pripisuje vinkovačkoj kulturi i navodi naknadno kalibrirane datume za spomenute uzorke 2455.–2140. pr. Kr. (Z–1817) i 2460.–2146. pr. Kr. (Z–1818).[35] S područja Vinkovaca potječe i jedan paljevinski grob vinkovačke kulture apsolutno datiran u 2455.–2306. pr. Kr. (3881±25).[36] Na nalazištu Josipovac Punitovački – Veliko polje I pronađeni su ostaci naselja i jedan paljevinski grob. Radiokarbonski su analizirani uzorci iz dvaju jamskih objekata te su dobiveni datumi: 2470.–2350. pr. Kr. (3926±24) i 2390.–2210. pr. Kr. (3840±40).[37] Tri uzorka s nalazišta Čepinski Martinci – Dubrava, od kojih dva iz grobova i jedan iz jame, dala su rezultate od 26. st. pr. Kr. do početka 23. st. pr. Kr.[38] Primjetno je kako se postojeći datumi za vinkovačku kulturu na području Slavonije kreću u širokome vremenskom rasponu, posebice imajući u vidu datume s položaja Hotel u Vinkovcima. Međutim, datumi za Josipovac Punitovački, dva datuma za Čepinske Martince te onaj za grob iz Vinkovaca dobro se poklapaju, ukazujući na razdoblje od sredine 25. st. pr. Kr. do 23. st. pr. Kr. U svakom slučaju, osim široko datiranih uzoraka s Hotela u Vinkovcima, nema poznatih datuma za vinkovačku kulturu na području Slavonije mlađih od 2200. pr. Kr.

Nekoliko radiokarbonskih datuma za kulturni kompleks Somogyvar – Vinkovci poznato je sa susjednog prostora, iz mađarskog dijela Baranje. Uzorci s lokaliteta

[34] Benkö *et al.* 1989, 998–999, tab. 1; Durman, Obelić 1989, 1006, tab. 1; Srdoč *et al.* 1989, 87.

[35] Forenbaher 1993, 342, 348, fig. 8.

[36] Kalafatić 2006.

[37] Hirschler 2009, 145, tab. 1.

[38] Teržan, Črešnar 2014, 664, 666, sl. 10.

The Vinkovci Culture

For now, we have several radiocarbon dates for the Vinkovci Culture in the Slavonian area. Two samples from the site Hotel at Vinkovci, found in a disturbed layer with finds of Vučedol and Vinkovci cultures, gave the results 3810±140 (Z–1817) and 3830±140, i.e. calibrated dates 2470–2040 BC and 2480–2040 BC.[34] S. Forenbaher attributes these samples to the Vinkovci Culture and cites subsequently calibrated dates for mentioned samples of 2455–2140 BC (Z–1817) and 2460–2146 BC (Z–1818).[35] From the Vinkovci area, there is also one incineration grave of the Vinkovci Culture, absolutely dated 2455–2306 BC (3881±25).[36] At the site Josipovac Punitovački–Veliko polje I, the remains of a settlement and one incineration grave were found. Samples from two pits were radiocarbon analysed and dated: 2470–2350 BC (3926±24) and 2390–2210 BC (3840±40).[37] Three samples from the site Čepinski Martinci–Dubrava, two of them from graves and one from a pit, gave the results from the 26th century BC to the beginning of the 23rd century BC.[38] It can be noted that existing dates for the Vinkovci Culture in the territory of Slavonia extend across a wide time range, especially considering the dates from the site Hotel at Vinkovci. However, dates from Josipovac Punitovački, two dates from Čepinski Martinci, and one from the grave at Vinkovci correspond well, indicating the period from the mid-25th century BC to the 23rd century BC. In any case, except the wide dated samples from Hotel at Vinkovci, there are no known dates for the Vinkovci Culture in Slavonia after 2200 BC. Few radiocarbon dates for the Somogyvar–Vinkovci cultural complex are known from the neighbouring area, the Hungarain part of Baranja. Samples from the site Nagyarpad gave calibrated dates: Bln–1634 – 2460–2444 BC, 2440–2340 BC (3885±40) and Bln–1945 – 2490–2482 BC, 2470–2310 BC (3900±60), while for the sample from the site Szava a date of 2582–2468 BC (4000±50) was

[34] Benkö *et al.* 1989, 998–999, Tab. 1; Durman, Obelić 1989, 1006, Tab. 1; Srdoč *et al.* 1989, 87.

[35] Forenbaher 1993, 342, 348, Fig. 8.

[36] Kalafatić 2006.

[37] Hirschler 2009, 145, Tab. 1.

[38] Teržan, Črešnar 2014, 664, 666, Fig. 10.

Nagyarpad dali su kalibrirane datume: Bln–1634 – 2460.–2444. pr. Kr., 2440.–2340. pr. Kr. (3885±40) i Bln–1945 – 2490.–2482. pr. Kr., 2470.–2310. pr. Kr. (3900±60), dok je za uzorak s nalazišta Szava dobiven datum 2582.–2468. pr. Kr. (4000±50).[39] Najbrojniji radiokarbonski datumi za Somogyvar – Vinkovci kulturni kompleks potječu s područja Slovenije. Riječ je o kalibriranim datumima dobivenim za uzorke s niza lokaliteta, koji datiraju kulturni kompleks Somogyvar – Vinkovci od kraja 27. st. pr. Kr. do početka 22. st. pr. Kr., pri čemu se intervali veće vjerojatnosti kreću između kraja 26. st. pr. Kr. i kraja 23. st. pr. Kr., a najviše ih je između 25. st. pr. Kr. i 24. st. pr. Kr.[40] Dendrokronološki datumi s Ljubljanskog barja ukazuju na trajanje ovog kompleksa tijekom 2. polovice 26. st. pr. Kr. i 25. st. pr. Kr.[41] Slovenski radiokarbonski rezultati odgovaraju onima s područja Hrvatske i Mađarske. B. Teržan i M. Črešnar, na osnovi svih poznatih datuma, kulturni kompleks Somogyvar – Vinkovci datiraju od 26. st. pr. Kr., s najvećim procvatom tijekom 25. st. pr. Kr. i prve polovice 24. st. pr. Kr., dok se polagano gasi tijekom druge polovice 24. st. pr. Kr. i prve polovice 23. st. pr. Kr.[42] Međutim, autori ističu kako nekoliko datuma sugerira preživaljavanje Somogyvar – Vinkovci kulturnog kompleksa do 21. st. pr. Kr.[43]

O pogrebnom ritualu nositelja vinkovačke kulture, odnosno kulturnog kompleksa Somogyvar – Vinkovci svjedoči nekolicina evidentiranih grobova. Na području samog grada Osijeka pronađena su dva paljevinska žarna groba,[44] naknadno pripisana vinkovačkoj kulturi.[45] U obližnjim Čepinskim Martincima istraženo je također nekoliko paljevinskih grobova.[46] I preostali grobovi

[39] Raczky *et al.* 1992, 43.

[40] Teržan, Črešnar 2014, 663–665, sl. 8.

[41] Velušček *et al.* 2011; Velušček 2014, 639–641.

[42] Teržan, Črešnar 2014, 665, 666, sl. 11.

[43] Teržan, Črešnar 2014, 674.

[44] Bulat 1977, 13–17, T. III: 1–2.

[45] Šimić 2001b, 24, sl. 1, sl. 2.

[46] Zahvaljujemo dr. sc. Hrvoju Kalafatiću s Instituta za arheologiju u Zagrebu na podacima za nalaze s lokaliteta Čepinski Martinci – Dubrava.

obtained.[39] The most numerous radiocarbon dates for the Somogyvar–Vinkovci cultural complex come from the Slovenian territory. These are calibrated dates obtained for the samples from the numerous sites, which date the Somogyvar–Vinkovci cultural complex between the end of the 27th century BC and the beginning of the 22nd century BC, whereas the intervals of higher probability range between the end of the 26th century BC and the end of the 23rd century BC, with the most of them between the 25th century BC and 24th century BC.[40] Dendrochronological dates from Ljubljansko barje indicate the time span between the 2nd half of the 26th century BC and the 25th century BC.[41] The Slovenian results correspond with those from the Croatian and Hungarian areas. On the basis of all the known dates, B. Teržan and M. Črešnar date the Somogyvar–Vinkovci cultural complex from the 26th century BC, with its most prosperous period during the 25th and the first half of the 24th century BC, while in the second half of the 24th and in the first half of the 23th century BC it gradually diminished.[42] However, authors point out that some dates indicate its survival to the 21st century BC. [43]

Few recorded graves testify about the burial practice of the bearers of the Vinkovci Culture, i.e. the Somogyvar–Vinkovci cultural complex. In the city of Osijek, two incineration urn graves were found,[44] later attributed to the Vinkovci Culture.[45] At the nearby Čepinski Martinci, several incineration graves were also excavated.[46] The remaining burials of the Vinkovci Culture from eastern Slavonia and western Syrmia were exclusively incineration burials as well. Urn burials were recorded at the sites Selci Đakovački,[47] Josipovac Punitovački–Veliko polje I[48], and Vinkovci–Duga ulica.[49] Incinera-

[39] Raczky *et al.* 1992, 43.

[40] Teržan, Črešnar 2014, 663–665, Fig. 8.

[41] Velušček *et al.* 2011; Velušček 2014, 639–641.

[42] Teržan, Črešnar 2014, 665, 666, Fig. 11.

[43] Teržan, Črešnar 2014, 674.

[44] Bulat 1977, 13–17, T. III: 1–2.

[45] Šimić 2001b, 24, Fig. 1, Fig. 2.

[46] We wish to thank Hrvoje Kalafatić, PhD, The Institute of Archaeology, Zagreb, for the information about the findings from the site Čepinski Martinci-Dubrava.

[47] Kalafatić, Hršak 2007.

[48] Hirschler 2009, 149, Fig. 5, Fig. 8, T. 9: 3, 4.

[49] Kalafatić 2006.

vinkovačke kulture s područja istočne Slavonije i zapadnog Srijema isključivo su paljevinski. Po jedan žarni grob zabilježen je na nalazištima Selci Đakovački,[47] Josipovac Punitovački – Veliko polje I[48] i Vinkovci – Duga ulica.[49] Također, paljevinski su grobovi registrirani u okolici Bjelovara na lokalitetu Drljanovac[50] te na području oko ušća Save u Dunav, na nalazištima Rospi Ćuprija[51] i Belegiš – Gradac.[52] Kosturni su grobovi u sklopu vinkovačke kulture, odnosno kulturnog kompleksa Somogyvar – Vinkovci vrlo rijetki. N. Tasić navodi nalaz dvaju kosturnih grobova na nekropoli Gradac u Belegišu, koji su se nalazili u blizini paljevinskih grobova vinkovačke kulture. Pokojnici su bili položeni u zgrčenom položaju, a u jednom od kosturnih grobova pronađen je vrč tipičan za ovu kulturu.[53] Na osnovi nalaza s nekropole Gradac u Belegišu, M. Garašanin je zaključio kako su u vinkovačkoj kulturi primjenjivana oba načina sahranjivanja: paljevinski i kosturni, pri čemu su u kosturnim grobovima pokojnici polagani u zgrčenom položaju na lijevom boku, dok su kod paljevinskih ukopa ostaci pokojnika stavljani u žare.[54]

Na području Mađarske ravni grobovi Somogyvar – Vinkovci kulturnog kompleksa prilično su rijetki. Dva su paljevinska groba poznata iz Keszthelyja, a postoji mogućnost da materijal s lokaliteta Ajka, Csabrendek i Monostorapati potječe iz uništenih grobova.[55] Jedina su dva kosturna groba evidentirana u južnoj Transdanubiji, na nalazištu Kaposujlak. Mlađa je muška osoba pokopana u zgrčenom položaju na lijevom boku u raku na dnu jarka, dok su ostaci ženske osobe pronađeni u nepravilnom položaju u većoj jami.[56] Razmatrajući poznate grobne

[47] Kalafatić, Hršak 2007.

[48] Hirschler 2009, 149, sl. 5, sl. 8, T. 9: 3, 4.

[49] Kalafatić 2006.

[50] Majnarić-Pandžić 1981, 37.

[51] Todorović 1956, 40–41.

[52] Trbuhović 1956, 147–149.

[53] Tasić 1974, 190, 192; 1983, 48; 1984, 24–25.

[54] Garašanin 1983, 473.

[55] Kiss, Kulcsar 2007, 108–109.

[56] Somogyi 2002; Zoffmann 2002, 59.

tion graves were also registered near Bjelovar at the site Drljanovac,[50] and in the area around the confluence of the Sava and Danube rivers at the sites Rospi Ćuprija[51] and Belegiš–Gradac.[52] Skeletal graves are very rare in the Vinkovci Culture, i.e. Somogyvar–Vinkovci cultural complex. N. Tasić mentions two skeletal graves at the cemetery Gradac in Belegiš, which were situated near the incineration burials of the Vinkovci Culture. The bodies were laid in a crouched position, and in one grave there was a jug typical for this culture.[53] Based on the finds from the cemetery at Gradac in Belegiš, M. Garašanin concluded that both burial rites were practiced in the Vinkovci Culture; incineration and skeletal, wherein the bodies in skeletal graves were placed in a crouched position on the left side, while in incineration graves the remains were placed in urns.[54]

In the Hungarian area, flat graves of the Somogyvar–Vinkovci cultural complex are quite rare. Two incineration graves are known from Keszhtely, and there is a possibility that finds from the sites Ajka, Csabrendek, and Monostorapati come from destroyed graves.[55] The only two skeletal burials were registered in southern Transdanubia, at the site Kaposujlak. A young male was buried in a crouched position on his left side at the bottom of the trench, while the remains of a female were found in an irregular position in a bigger pit.[56] Considering the known grave burials of the Somogyvar-Vinkovci cultural complex, G. Kulcar noted that skeletal burials are rare in Slavonia and Syrmia and she connected them with the northward influences of the migrants along the rivers Drina, Danube and Tisza.[57] Known finds indicate that the dominant rite in the area of the Vinkovci Culture in Slavonia and Syrmia was incineration burial in urns. Certainly there were different burial practices in the area of the Somogyvar–Vinkovci cultural complex, wherein

[50] Majnarić-Pandžić 1981, 37.

[51] Todorović 1956, 40–41.

[52] Trbuhović 1956, 147–149.

[53] Tasić 1974, 190, 192; 1983, 48; 1984, 24–25.

[54] Garašanin 1983, 473.

[55] Kiss, Kulcsar 2007, 108–109.

[56] Somogyi 2002; Zoffmann 2002, 59.

[57] Kulcsar 2009, 274.

ukope Somogyvar – Vinkovci kompleksa, G. Kulcsar je istaknula kako su u Slavoniji i Transdanubiji kosturni grobovi rijetki te ih je povezala s utjecajima ili migracijama prema sjeveru duž Drine, Dunava i Tise.[57] Poznati nalazi za sada svakako ukazuju na to kako je paljevinski ukop u žarama bio dominantan pogrebni ritual vinkovačke kulture na području Slavonije i Srijema. Svakako, na području kulturnog kompleksa Somogyvar – Vinkovci prisutni su različiti pogrebni rituali, pri čemu se mogu nazrijeti određene regionalne varijante.[58] U tome smislu, pokapanje u paljevinskim žarnim grobovima mogla bi biti karakteristika prostora Slavonije i Srijema.

Kisapostag kultura

Nakon završetka života kulturnog kompleksa Somogyvar – Vinkovci, na području njegove rasprostranjenosti nastupaju značajne promjene uslijed kojih dolazi do formiranja niza novih kulturnih manifestacija. Na prostoru Transdanubije i u sjevernom dijelu Slovenije razvija se Kisapostag kultura. Slični nalazi iz zapadnog dijela Hrvatske pripisani su tzv. protolicenskoj fazi licenskokeramičke kulture,[59] dok se na jugoistočnom području formira vatinska kultura.[60] U sjeveroistočnom dijelu Hrvatske izrazito su rijetki nalazi koji se mogu pripisati postvinkovačkom horizontu. U literaturi se spominje nekropola Kisapostag kulture u Lugu u Baranji. Istraživali su je mađarski arheolozi, a materijal, pohranjen u Mađarskoj, ostao je neobjavljen.[61] Ulomak karakteristično ukrašenog lonca Kisapostag kulture pronađen je na Pristaništu u Osijeku.[62] Dijelovi keramičkih posuda, dekoriranih na način specifičan za Kisapostag kulturu, evidentirani su i na đakovačkom području (lokalitet Kuševac – Grabrovac), a budući da su

[57] Kulcsar 2009, 274.

[58] Kulcsar 2009, 269.

[59] Marković 2003.

[60] Tasić 2004, 28, 30–31; Ložnjak Dizdar 2007, 315, 321.

[61] Patay 1938, 40; Vinski–Gasparini 1956, 24; Bulat 1970, 65; Minichreiter 1987, 60; Šimić 2012, 202.

[62] Šimić 2001b, 25, sl. 3.

some regional differences can be noticed.[58] Therefore, the burial in the incineration urn graves could be characteristic of the Slavonian and Syrmian territory.

The Kisapostag Culture

After the end of Somogyvar–Vinkovci cultural complex, there were significant changes in its distribution area, due to which a number of new cultural instances were formed. In Transdanubia and the northern part of Slovenia, the Kisapostag Culture developed. Similar finds from the western part of Croatia are ascribed to the so–called "proto–Litzen phase of the Litzenpottery Culture",[59] while in the south-east area, the Vatin Culture was formed.[60] In the north-eastern part of Croatia, finds which can be attributed to a post–Vinkovci horizon are extremely rare. In the literature, there is a mention of a cemetery of the Kisapostag Culture at Lug in Baranja. It was excavated by Hungarian archaeologists, and the material, stored in Hungary, was not published.[61] A fragment of a characteristically decorated pot of the Kisapostag Culture was found at Pristanište in Osijek.[62] Fragments of the ceramic vessels ornamented in the style specific for the Kisapostag Culture were also registered in the Đakovo area (site Kuševac–Grabrovac), and since they were found in a closed context together with Transdanubian encrusted pottery, it can be

[58] Kulcsar 2009, 269.

[59] Marković 2003.

[60] Tasić 2004, 28, 30–31; Ložnjak Dizdar 2007, 315, 321.

[61] Patay 1938, 40; Vinski–Gasparini 1956, 24; Bulat 1970, 65; Minichreiter 1987, 60; Šimić 2012, 202.

[62] Šimić 2001b, 25, Fig. 3.

pronađeni u objektu zajedno s transdanubijskom inkrustiranom keramikom, može se zaključiti kako pripadaju kasnoj fazi kulture.[63] Materijal Kisapostag obilježja pojavljuje se na području sjeverne Hrvatske sve do Posavine na jugu, o čemu svjedoče nalazi s lokaliteta Palež kod Gornjeg Slatinika na južnim obroncima Dilja,[64] kao i nalazišta s područja Slavonskog Broda. Na području brodske Tvrđave, na položajima Hotel – Stožerna vojarna i Oružni trg, istražen je dio naselja Kisapostag kulture s ukopanim, odnosno poluukopanim objektima,[65] dok su u sjeveroistočnom dijelu grada ostaci naselja ove kulture evidentirani na lokaciji Preljev P3 uz potok Glogovnicu.[66] Pregledom pokretnoga arheološkog materijala iz Novigrada na Savi, pohranjenog u Muzeju Brodskog Posavlja, također su ustanovljeni ulomci posuda Kisapostag kulture. Reevaluacijom nalaza, objavljenih kao licenska keramika, ustanovljena je prisutnost keramike Kisapostag karakteristika na još nizu nalazišta sjeverne Hrvatske.[67] Na području su Požeške kotline ovakvi nalazi zabilježeni na lokalitetu Klasje kod Pleternice,[68] a u okolici Našica u Vučjaku Feričanačkom.[69] Ostali nalazi Kisapostag kulture, odnosno „protolicenske faze", evidentirani su u sjeverozapadnom dijelu Hrvatske. Među njima se ističe materijal iz Rađinca kod Čazme, gdje su utvrđeni ostaci jednoslojnog naselja s ukopanim objektima.[70] Spomenuti materijal Z. Marković pripisuje protolicenskoj

[63] Martinec 2002; Marković 2003, 127; Črešnar 2010, 116–117.

[64] Istraživanja na lokalitetu Palež provela je tvrtka „Geoarheo", a pokretni su nalazi pohranjeni u Muzeju Brodskog Posavlja. Ovom prilikom zahvaljujemo višim kustosima Arheološkog odjela Muzeja Brodskog Posavlja L. Miklik Lozuk i J. Lozuku na podacima i mogućnosti uvida u materijal s lokaliteta Palež, Slavonski Brod – Tvrđava i Novigrad na Savi.

[65] Istraživanja na prostoru Tvrđave u Slavonskom Brodu proveo je Muzej Brodskog Posavlja. Istraživanja je vodio J. Lozuk, a provedena su 2003. godine na Oružnom trgu i 2008. godine na položaju Hotel – Stožerna vojarna. Riječ je o dijelovima istoga ranobrončanodobnog naselja Kisapostag kulture.

[66] Maljković 2012.

[67] Črešnar 2010.

[68] Majnarić–Pandžić 1977, 69, sl. 2; Črešnar 2010, 125.

[69] Marković 1994, 120; 2003, T. 6: 3; Črešnar 2010, 125.

[70] Štrk 1984.

concluded that they belong to the late phase of the culture.[63] Material with Kisapostag characteristics appears in northern Croatia, and as south as Posavina, as evidenced by the finds from the site Palež near Gornji Slatinik on the southern slopes of Dilj Mountain,[64] as well as the sites from the area of Slavonski Brod. In the area of Tvrđava at Slavonski Brod, at locations Hotel/Stožerna vojarna and Oružni trg, a part of a settlement of the Kisapostag Culture with dugout and semi-dugout buildings was excavated,[65] while in the north-eastern part of the city, remains of the settlement of this culture were registered at location Preljev P3, by the Glogovnica Creek.[66] When reviewing the archaeological finds from Novigrad na Savi, stored at the Brodsko Posavlje Museum, fragments of Kisapostag vessels were also identified. Re-evaluation of the finds published in the literature as Litzen pottery revealed the occurrence of pottery with Kisapostag characteristics at a number of sites in northern Croatia.[67] In the Požega basin, such finds were recorded at the site Klasje near Pleternica,[68] and around Našice at Vučjak Feričanački.[69] Other finds of the Kisapostag Culture, i.e. the "proto–Litzen phase" were registered in the north-western part of Croatia. Among them, finds from Rađinci near Čazma stand out, where the remains of a single layer settlement with dugout buildings were found.[70] Z. Marković ascribes them to the proto–Litzen phase within his classification of Litzen pottery in northern Croatia, wherein this phase would be contemporaneous with

[63] Martinec 2002; Črešnar 2010, 116–117; Marković 2003, 127.

[64] Excavations at the site Palež were carried out by "Geoarheo", and removable finds are stored at the Brodsko Posavlje Museum. We wish to thank the senior curators of the Archaeology Department L. Miklik Lozuk and J. Lozuk for information and the possibility of insight into the archaeological finds from sites Palež, Slavonski Brod-Tvrđava, and Novigrad na Savi.

[65] Excavations at the site Tvrđava in Slavonski Brod were carried out by the Brodsko Posavlje Museum. The head of the excavations was J. Lozuk, and they were carried out in 2003 at Oružni trg, and in 2008 at Hotel/Stožerna vojarna. At these locations, parts of the same Early Bronze Age settlement of the Kisapostag Culture were found.

[66] Maljković 2012.

[67] Črešnar 2010.

[68] Majnarić–Pandžić 1977, 69, Fig. 2; Črešnar 2010, 125.

[69] Marković 1994, 120; 2003, T. 6: 3; Črešnar 2010, 125.

[70] Štrk 1984.

fazi u sklopu svojega stupnjevanja licenske keramike u sjevernoj Hrvatskoj, pri čemu bi ova faza bila vremenski paralelna ranoj i klasičnoj Kisapostag kulturi.[71] M. Črešnar materijal iz Rađinca svrstava u ranu fazu Kisapostag kulture i zaključuje kako se prva i druga faza ove kulture na području Slovenije mogu izjednačiti, ne samo kronološki već i kulturno, s protolicenskim stupnjem Z. Markovića.[72]

Postojeći nalazi Kisapostag karakteristika s područja sjeverne Hrvatske, kao i oni proizašli iz novijih istraživanja na prostoru slovenskog dijela Štajerske i Prekmurja,[73] svjedoče da granicu rasprostranjenosti Kisapostag kulture treba pomaknuti južno od rijeka Rinye i Drave, koje se kao njezine granice navode u mađarskoj literaturi.[74] U područje rasprostiranja Kisapostag kulture treba uključiti i prostor sjeverne Hrvatske, na istoku otprilike do granice sa Srijemom (karta 2). U Srijemu se nakon vinkovačke kulture pojavljuju nalazi rane vatinske kulture, što je posljedica drugačijeg kulturnoga razvoja. Točna granica između Kisapostag kulture i rane vatinske kulture za sada se ne može preciznije odrediti, no svakako je treba očekivati na prostoru istočne Slavonije. Premda vrlo oskudni, nalazi Kisapostag obilježja za sada su jedini iz postvinkovačkog horizonta na prostoru sjeverne Hrvatske te se na trenutačnom stanju istraženosti može zaključiti kako vinkovačku kulturu na ovome prostoru nasljeđuje kultura Kisapostag. Kontinuitet između kulturnog kompleksa Somogyvar – Vinkovci i Kisapostag kulture dokazuju nalazi s više lokaliteta smještenih uz južnu obalu Balatona, a također i s prostora slovenskog Prekmurja gdje su na nekoliko lokaliteta oko Murske Sobote registrirane obje kulturne pojave.[75]

[71] Marković 2003, 127–128.

[72] Črešnar 2010, 123, 127.

[73] Guštin 2005; Stankovič 2009, 139–150, T. 81–112; Črešnar 2010; Kerman 2011a, 23–27, kat. br. 1–132; Kerman 2011b, 22–27, 131, kat. br. 1–326; Teržan, Črešnar 2014, 666–674.

[74] Kiss 2003, 148; Bondar 2005, 94; Bondar, Kiss 2007, 206.

[75] Honti *et al.* 2002, 34–35; Honti *et al.* 2004, 9–10, 13, 15, 41; Honti *et al.* 2007, 8–9, 16, 51, 62; Teržan, Črešnar 2014, 667–668.

the early and classical Kisapostag Culture.[71] M. Črešnar classifies the material from Rađinac to the early phase of the Kisapostag Culture and concludes that the first and second phases of this culture in Slovenia can be equated with proto–Litzen stage of Z. Marković, not only chronologically but also culturally.[72]

Known finds with Kisapostag characteristics from northern Croatia and those found in recent researches in the area of Slovenian Styria and Prekmurje,[73] testify that the boundary of the Kisapostag Culture has to be moved to the south of Rinya and Drava rivers, which are mentioned as a boundary of this culture in Hungarian literature.[74] The area of northern Croatia, all the way to the border with Syrmia to the east, should also be included as a part of the distribution area of the Kisapostag Culture (Map 2). In Syrmia, finds of the early Vatin Culture occurred after the Vinkovci Culture, which is the result of a different cultural development. An exact border between the Kisapostag Culture and the early Vatin Culture cannot be precisely determined for now, but one can expect it in the area of eastern Slavonia. Although very scarce, finds with Kisapostag characteristics are for now the only ones from a post–Vinkovci horizon in northern Croatia. At the present state of research, it can be concluded that the Kisapostag Culture succeeded the Vinkovci Culture in this area. Finds from a number of sites situated along the southern shore of Lake Balaton, and those from Slovenian Prekmurje, where both of the cultural appearances were registered at the same sites around Murska Sobota, prove the continuity between Somogyvar–Vinkovci cultural complex and the Kisapostag Culture.[75]

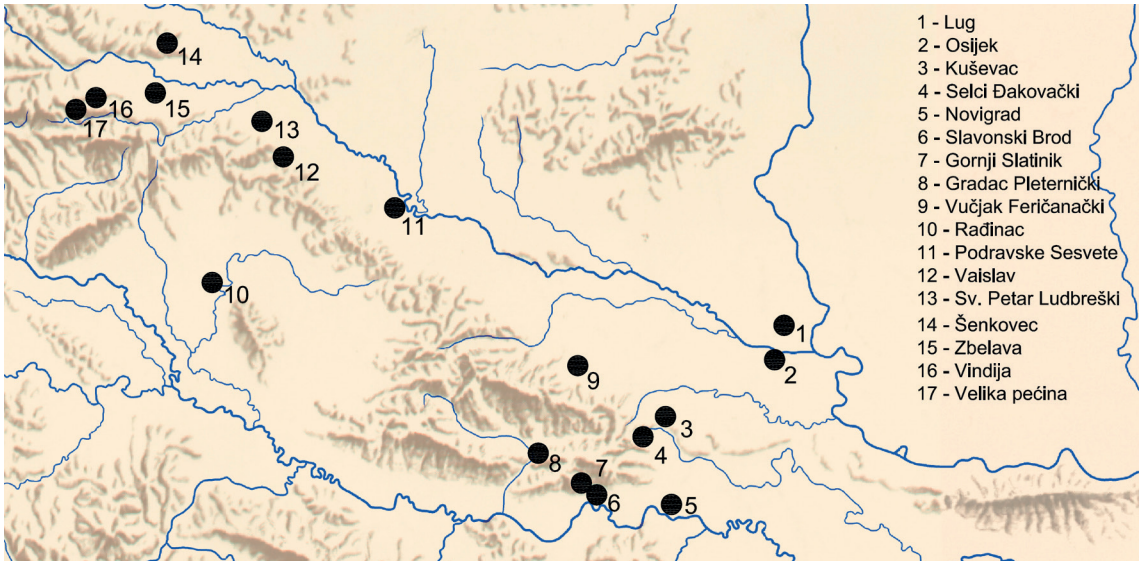
[71] Marković 2003, 127-128.

[72] Črešnar 2010, 123, 127.

[73] Guštin 2005; Stankovič 2009, 139–150, T. 81–112; Črešnar 2010; Kerman 2011a, 23–27, kat. br. 1–132; Kerman 2011b, 22–27, 131, kat. br. 1–326; Teržan, Črešnar 2014, 666–674.

[74] Kiss 2003, 148; Bondar 2005, 94; Bondar, Kiss 2007, 206.

[75] Honti *et al.* 2002, 34–35; Honti *et al.* 2004, 9–10, 13, 15, 41; Honti *et al.* 2007, 8–9, 16, 51, 62; Teržan, Črešnar 2014, 667–668.



Karta / Map 2. Nalazi materijala Kisapostag obilježja na prostoru sjeverne Hrvatske / Finds with Kisapostag characteristics on the territory of northern Croatia. (izradila / drafted by M. Krmpotić).

Za sada ne raspolažemo ni jednim radiokarbonskim datumom za Kisapostag kulturu, odnosno „protolicensku fazu" s područja Hrvatske. Slična je situacija i na prostoru Mađarske, gdje se njezina apsolutna datacija uglavnom bazira na relativno kronološkom odnosu sa susjednim kulturnim pojavama. Na toj je osnovi početak Kisapostag kulture u Mađarskoj apsolutno datiran oko 2100. pr. Kr., a njezin kraj oko 2000. pr. Kr., kada bi počinjala kultura transdanubijske inkrustirane keramike. Međutim, neki noviji radiokarbonski datumi za Kisapostag kulturu s područja Transdanubije ne uklapaju se u ovaj okvir. Analizirani uzorci s naselja Vörs – Mariaasszonysziget dali su kalibrirane datume u rasponu od 2010.–1870. pr. Kr. do 1740.–1630. pr. Kr.[76] S druge strane, kalibrirani radiokarbonski datumi za dva groba faze Bonyhad I s istoimenog lokaliteta, koja se veže uz stariju fazu Kisapostag kulture, znatno se bolje uklapaju. Riječ je o uzorcima kostiju iz kosturnih grobova BBQ242-243, analiziranima u više navrata, koji ukazuju na okvirno razdoblje 21. – 20. st. pr. Kr.[77] Više radiokarbonskih datuma za naselja Kisapostag kulture na području Slovenije ukazuju na razdoblje od 23. st. pr. Kr. do 17. st.

For now, we do not have a single date for the Kisapostag Culture or the "proto–Litzen phase" from Croatia. A similar situation is noticed in the Hungarian territory as well, where the absolute chronology of the culture is mostly based on its relative–chronological relation with the neighbouring cultural instances. According to that, the beginning of the Kisapostag Culture in Hungary is absolutely dated around 2100 BC, and its end around 2000 BC, when the Transdanubian encrusted pottery culture began. However, recent radiocarbon dates for the Kisapostag Culture in Transdanubia do not fit into this framework. Analysed samples from the settlement Vörs–Mariaasszonysziget gave the calibrated dates in the time span from 2010–1870 BC to 1740–1630 BC.[76] On the other hand, calibrated radiocarbon dates for two graves of the Bonyad I phase, which is connected to the older phase of the Kisapostag Culture, from the mentioned site, fit much better into the temporal framework. These are bone samples from the skeletal graves BBQ242–243, which were analysed several times and indicate roughly the period of the 21st and 20th century.[77] More radiocarbon dates for the settlements of the Kisapostag Culture in Slovenia indicate the period from the 23rd century BC to

[76] Kiss 2012, 203.

[77] Kiss *et al.* 2015, 31–32, Fig. 11–12.

[76] Kiss 2012, 203.

[77] Kiss *et al.* 2015, 31–32, Fig. 11–12.

pr. Kr., pri čemu se ovaj raspon može suziti na vrijeme od 22. st. pr. Kr. do 19. st. pr. Kr., s većom vjerojatnošću od početka 21. st. pr. Kr. do početka 19. st. pr. Kr.[78]

Do sada nema objavljenih grobova iz postvinkovačkog horizonta ranoga brončanog doba s područja sjeverne Hrvatske. Za grobove iz Luga u Baranji ne navode se nikakvi podaci, čak niti radi li se o paljevinskim ili kosturnim grobovima. Jedini nalaz, koji bi se tek okvirno mogao smjestiti u ovo razdoblje, navodni je grob iz Sigeteca u Podravini. Riječ je o slučajnom nalazu bodeža sa zaobljenom pločicom s četiri zakovice, koji navodno potječe iz kosturnoga groba.[79] Grobni ukopi Kisapostag kulture nisu poznati ni s prostora Slovenije. U mađarskoj su Transdanubiji zabilježeni i paljevinski i kosturni grobovi, pri čemu nedostatak priloga u kosturnim grobovima otežava njihovo kulturno opredjeljivanje. U kosturnim su grobovima pokojnici polagani u raku u zgrčenom položaju na boku, najčešće bez ikakvih priloga osim ponekad priložene posude.[80] Poznata su manja biritualna groblja Kisapostag kulture iz okolice Balatona, istražena tijekom gradnje autoceste M7. Na lokalitetu Ordacsehi – Cseréföld istražena su, osim dvanaest paljevinskih, i tri kosturna groba ove kulture.[81] Groblje se protezalo u smjeru sjeverozapad – jugoistok, a činile su ga tri skupine grobova, od kojih je kod najsjevernije primjetan smještaj grobova u zaobljenoj liniji.[82] U kosturnim su grobovima pokojnici bili položeni u zgrčenom položaju, na lijevom boku, orijentirani u smjeru istok – zapad (grobovi 385 i 400), odnosno sjeveroistok – jugozapad (grob 404). Pokojnik u grobu 404 položen je u izrazito zgrčenom, gotovo čučećem položaju, i jedini nema grobnih priloga. U preostala dva kosturna groba, uz dijelove nošnje pokojnika, bio je uz pokojnika priložen po jedan keramički

[78] Črešnar 2010, 122–126, sl. 7; Teržan, Črešnar 2014, 672–673, sl. 12.

[79] Willvonseder 1937, Taf. 49: 10; Vinski-Gasparini 1973, 31, 184, tab. 6: 12.

[80] Kiss 2003, 149.

[81] Honti *et al.* 2002, 20, 35; Somgyi 2004; Kiss, Kulcsar 2007, 110.

[82] Somogyi 2004, 349, 358, tab. 3.

17th century BC, wherein this span can be narrowed to the time from 22nd century BC to 19th century BC, with higher probability from the beginning of the 21st century BC to the beginning of the 19th century BC.[78]

There are no published graves from the post–Vinkovci horizon of the Early Bronze Age from northern Croatia so far. There is also no information about burials found at Lug in Baranja, not even if they were incineration or skeletal graves. The only find which could be roughly dated in this period is a supposed grave from Sigetec in Podravina; a stray find of a dagger with the rounded hilt plate with four rivets, which was allegedly found in a skeletal grave.[79] Graves of the Kisapostag Culture in Slovenia are also not known. In Hungarian Transdanubia, incineration and skeletal graves were recorded, and the lack of grave goods in skeletal burials complicates their cultural attribution. In skeletal graves, bodies were laid in the grave pit in a crouched position, usually without any grave goods, excluding the sporadic vessel.[80] Small biritual cemeteries of the Kisapostag Culture are known in the area of Lake Balaton, excavated during the construction of highway M7. At the site Ordacsehi–Cseréföld, three skeletal and twelve incineration graves of this culture were excavated.[81] The cemetery stretched out in the northwest–southeast direction, and consisted of three groups of graves, in the northernmost of which an aliment of graves in a slightly curved line can be noticed.[82] In the skeletal graves, bodies were laid in a crouched position on the left side, oriented east–west (graves 385 and 400) or northeast–southwest (grave 404). The individual buried in grave 404 was placed in an extremely crouched, almost squat position, and was the only one without grave goods. In two other skeletal graves, in addition to elements of garment, one ceramic vessel was enclosed. The arms of the buried individuals were usually in front of the

[78] Črešnar 2010, 122–126, Fig. 7; Teržan, Črešnar 2014, 672–673, Fig. 12.

[79] Willvonseder 1937, Taf. 49: 10; Vinski–Gasparini 1973, 31, 184, Tab. 6: 12.

[80] Kiss 2003, 149.

[81] Honti *et al.* 2002, 20, 35; Somgyi 2004; Kiss, Kulcsar 2007, 110.

[82] Somogyi 2004, 349, 358, Tab. 3.

vrč. Ruke su pokojnika položene najčešće pred licem, međutim, u grobu 400 desna se ruka nalazi prekrižena preko donjeg dijela trbuha, a lijeva na prsima.[83] Na obližnjem položaju Ordacsehi – Major pronađena su četiri žarna groba Kisapostag kulture, odnosno faze kasna Kisapostag – rana inkrustirana keramika te pet kosturnih grobova s pokojnicima u zgrčenom položaju Kisapostag kulture.[84] Pokojnik iz kosturnoga groba 25 položen je također na lijevi bok, glave orijentirane na jugoistok i ruku savijenih ispod glave.[85] Na položaju Ordacsehi – Bugaszeg istraženi su ostaci naselja i nekoliko grobova kasne faze Somogyvar – Vinkovci kulturnog kompleksa i Kisapostag kulture.[86] Registrirani su i paljevinski i kosturni grobovi Kisapostag kulture, među ostalim i dvojni kosturni grob u kojem su oba pokojnika ležala na lijevom boku u zgrčenom položaju, s rukama ispod glave, bez grobnih priloga.[87] Tijekom zaštitnih istraživanja na trasi autoceste M7, na lokalitetu Balatonboglar – Berekre-dűlő također su evidentirani zgrčeni kosturni grobovi Kisapostag kulture, pri čemu se ističe ukop pokojnika s bogatim grobnim prilozima keramičkih posuda.[88] Također, istraženo je manje biritualno groblje Kisapostag kulture na lokalitetu Balatonlelle – Kenderföld, u kojem su grobovi uglavnom orijentirani sjever – jug ili jug – sjever. Dio grobova nije sadržavao priloge, međutim, u jednom grobu, oštećenom kasnijim ukopom u razdoblju antike, uz lubanju je pronađena manja posuda Kisapostag kulture koja svjedoči o njegovoj kulturnoj pripadnosti.[89] Na nalazištu Vörs – Papkert B, među više stotina kosturnih grobova datiranih od kasnoavarskog do ranoarpadskog razdoblja, evidentirano je i deset kosturnih grobova Kisapostag kulture.[90] Pokojnici leže ponovno u zgrčenom

face, but in grave 400, the right arm was laid over the lower abdomen, and the left one was on the individual's chest.[83] At the nearby site Ordacsehi–Major, four urn graves of the Kisapostag Culture, i.e. of its late Kisapostag – early encrusted pottery phase, and five skeletal graves of the Kisapostag Culture with bodies in a crouched position, were found.[84] The individual buried in skeletal grave 25 was placed on the left side, with its head oriented to the southeast and the arms bent below the head.[85] At the site Ordacsehi–Bugaszeg, the remains of a settlement and few graves of the late phase of the Somogyvar–Vinkovci cultural complex and the Kisapostag Culture were excavated.[86] Both incineration and skeletal graves were recorded, among others a skeletal grave with two buried individuals, both laid on the left side in a crouched position, with their arms beneath the head, and without any grave goods enclosed.[87] During the rescue excavations on highway M7, at the site Balatonboglar–Berekre–dűlő, crouched skeletal graves of the Kisapostag Culture were discovered, including a burial with a rich assemblage of ceramic vessels.[88] A smaller biritual cemetery of the Kisapostag Culture was also excavated at the site Balatonlelle–Kenderföld, with graves mostly oriented in the north–south or south–north direction. Some of the graves did not have any grave goods, but in one grave, damaged by a burial from the Roman period, a smaller vessel of the Kisapostag Culture was found close to the skull, which confirms its cultural attribution.[89] At the site Vörs–Papkert B, among hundreds of graves dated from the Late Avar period to the Early Arpad period, ten skeletal graves of the Kisapostag Culture were recorded.[90] Bodies were again laid in a crouched position on the side, with their arms placed in front of the head.[91] At the site Bonyhad, situated in the south-eastern

[83] Honti *et al.* 2002, T. X: 4; Somogyi 2004, 350, 371, tab. 4, 377, tab. 10, 378, tab. 400.

[84] Bondar *et al.* 2001, 114.

[85] Bondar *et al.* 2001, T. I: 3.

[86] Honti *et al.* 2002, 35.

[87] Honti *et al.* 2002, 15, T. VII: 3.

[88] Honti *et al.* 2002, 30, 36.

[89] Honti *et al.* 2004, 15, 54, T. XXI: 2.

[90] Bondar 1989, 33; Költo *et al.* 1992, 302–303.

[83] Honti *et al.* 2002, T. X: 4; Somogyi 2004, 350, 371, Tab. 4, 377, Tab. 10, 378, Tab. 400.

[84] Bondar *et al.* 2001, 114.

[85] Bondar *et al.* 2001, T. I: 3.

[86] Honti *et al.* 2002, 35.

[87] Honti *et al.* 2002, 15, T. VII: 3.

[88] Honti *et al.* 2002, 30, 36.

[89] Honti *et al.* 2004, 15, 54, T. XXI: 2.

[90] Bondar 1989, 33; Költo *et al.* 1992, 302–303.

[91] Honti 1996, 49.

položaju na boku, s rukama položenima ispred glave.[91] Na lokalitetu Bonyhad, smještenom u jugoistočnome dijelu Transdanubije, istraženo je veće birituálno groblje ranog i srednjega brončanog doba. U sjeverozapadnom je dijelu groblja izdvojena skupina kosturnih grobova, orijentiranih u smjeru sjeverozapad – jugoistok, u kojima su pokojnici također ležali sa zgrčenim nogama, ruku položenih preko trbuha. Prilozi u grobovima bili su vrlo skromni te je, osim nekoliko primjeraka spiralnog nakita, pronađen samo jedan vrč cilindričnog vrata, karakterističan za Kisapostag kulturu.[92]

Poznati podaci jasno ukazuju na birituálnost u Kisapostag kulturi. Premda su paljevinski grobovi češći, nisu rijetkost ni kosturni. Kako bi objasnila pojavu različitih pogrebnih običaja, Sz. Honti pretpostavila je kako se različiti rituali mogu vezati uz različite faze kulture, vežući pritom kosturne ukope uz starije razdoblje.[93] V. Kiss i G. Kulcsar također navode kako su kosturni grobovi rijetki u mlađoj fazi. S obzirom na nalaze bogato opremljenih kosturnih grobova na lokalitetima Balatonakali i Vörs – Battyanidisznolegelő iz mlađe faze kulture, ove autorice pretpostavljaju kako je u mlađoj fazi kosturni ukop prakticiran samo pri pokapanju bogatih pojedinaca visokog statusa.[94] U prilog ovoj teoriji svjedoče i nalazi s groblja mlađe faze Kisapostag kulture Ordacsehi – Csereföld. Naime, na groblju nije ustanovljena vremenska distanca između paljevinskih i kosturnih grobova,[95] a imajući u vidu opremu pokojnika, očito je kako je ona u kosturnim grobovima bogatija, posebice u metalnim predmetima,[96] osim ako ovakva situacija nije rezultat različitih pogrebnih rituala. O prakticiranju kosturnog ukopa tijekom starije faze Kisapostag kulture svjedoče i nalazi s lokaliteta Bonyhad. U najstarijoj fazi, Bonyhad I, pojavljuju se

[91] Honti 1996, 49.

[92] Kiss *et al.* 2015, 31, Fig. 10.1.–2.

[93] Honti 1996, 49.

[94] Kiss, Kulcsar 2007, 111.

[95] Somogyi 2004, 351.

[96] Somogyi 2004, 373–380, tab. 6–13.

part of Transdanubia, a larger birituál cemetery from the Early and Middle Bronze Age was excavated. In the north-western part of the cemetery, there was a group of skeletal graves, oriented in the northwest–southeast direction, in which the bodies laid with their legs drawn toward the torso and their arms placed on the abdomen. Grave goods were rare and, besides several pieces of spiral ornaments, only one jug with a cylindrical neck, characteristic for the Kisapostag Culture, was found.[92]

Known data clearly indicates birituality in the Kisapostag Culture. Although incineration graves are more common, skeletal burials are not rare. To explain the appearance of different burial practices, Sz. Honti assumed that different practices can be associated with different phases of the culture, wherein skeletal burials were linked with the older period.[93] V. Kiss and G. Kulcsar also state that skeletal graves are rare in the younger phase. Considering the finds of richly equipped skeletal graves at sites Balatonakali and Vörs–Battyanidisznolegelő, from the younger phase of the culture, these authors presume that in the younger phase skeletal burial was practiced only when burying wealthy individuals of a higher status.[94] Finds from the cemetery of the younger phase of the Kisapostag Culture at Ordacsehi–Csereföld confirm this theory. Namely, the temporal distance between incineration and skeletal graves was not established,[95] and when considering the assemblages it is obvious that they were richer in skeletal graves, especially regarding metal objects,[96] unless this situation was not a result of different burial practices. Finds from the site Bonyhad also testify the skeletal grave practice during the older phase of the Kisapostag Culture. In the oldest phase, Bonyhad I, there were skeletal graves with the rare finds of ornaments in graves, and only in one case with the enclosed ceramic vessel. These graves are dated in the framework between 21st and

[92] Kiss *et al.* 2015, 31, Fig. 10.1.–2.

[93] Honti 1996, 49.

[94] Kiss, Kulcsar 2007, 111.

[95] Somogyi 2004, 351.

[96] Somogyi 2004, 373–380, Tab. 6–13.

kosturni grobovi sa skromnim nalazima nakita u grobu, a tek u jednom slučaju s priloženom posudom, apsolutno datirani okvirno u razdoblje 21. – 20. st. pr. Kr. U kasnijim fazama, koje se vežu uz mlađu fazu Kisapostag kulture te kulturu transdanubijske inkrustirane keramike (Bonyhad 2–5), dominira paljevinski ukop.[97]

4. REZULTATI

Grob kasnoga bakrenog doba

Kosturni grob 1 bio je bez priloga te se njegova kulturna pripadnost vučedolskoj kulturi temelji na radiokarbonskoj analizi uzorka kosti, koja datira grob 1 između 2681. pr. Kr. i 2475. pr. Kr. (84,3% vjerojatnosti) te se uklapa u datume dobivene za kasni klasični stupanj vučedolske kulture (B2). Ovaj je grob ujedno i jedini nalaz koji možemo pripisati vučedolskoj kulturi. Arheološka istraživanja provedena na lokalitetu Osijek – Ciglana i Zeleno polje nisu otkrila tragove naselja vučedolske kulture pa možemo pretpostaviti da je ukop groba 1 bio izvan naselja iako do sada nisu otkrivene izdvojene vučedolske nekropole.

Zgrčeni su ukopi tipični za ovu kulturu, a većina objavljenih grobova obilovala je prilozima, koji su olakšali njihovo datiranje. Ipak, brojni su primjeri zgrčenih ukopa bez priloga, na kojima nisu provedene radiokarbonske analize i čija kulturna pripadnost nije posve jasna. Na položaju Vinograd, Streim J. Brunšmid je 1897. godine otkrio petnaest zgrčenih ukopa, s glavama postavljenima na istok.[98] Izuzev nekoliko raštrkanih ulomaka keramike i životinjskih kostiju, grobovi su bili bez priloga.[99] Na području grada Vinkovaca od 1950-ih do danas otkriveno je više od trideset zgrčenih ukopa bez priloga, čija kulturna pripadnost još nije razriješena, a vjerojatno pripadaju starčevač-

[97] Kiss *et al.* 2015, 31.

[98] Navedenim su se ukopima u novije vrijeme bavile kolegice A. Solter i dr. sc. J. Balen iz Arheološkog muzeja u Zagrebu, kojima se ovom prilikom zahvaljujemo na podacima. Rezultati njihovih istraživanja i provedenih radiokarbonskih analiza u postupku su objave.

[99] Hoerns 1903, 266–268.

20th century BC. In later phases, which are related to the younger phase of the Kisapostag Culture and the Transdanubian encrusted pottery culture (Bonyhad 2–5) incineration burial predominates.[97]

4. RESULTS

Late Eneolithic grave

Skeletal grave 1 did not have any grave goods, so its cultural affiliation to the Vučedol Culture was based on the radiocarbon analysis of a bone sample, which dates grave 1 between 2861–2475 BC (84.3% probability) and corresponds with dates for the late classical stage of the Vučedol Culture (B2). This grave is also the only find which can be attributed to the Vučedol Culture. Archaeological excavations carried out at the site Osijek–Ciglana and Zeleno polje did not reveal any traces of a Vučedol Culture settlement, so it can be assumed that the burial of grave 1 was outside the settlement, although separate Vučedol cemeteries were not found for now. Crouched burials are typical for this culture, and most of the published graves were abundant with grave goods, which facilitate their dating. However, examples of crouched burials without grave goods are numerous, and radiocarbon analysis on them was not conducted. Hence, their cultural determination is not clear. At the site Vinograd Streim, in 1897, J. Brunšmid found fifteen crouched burials with heads oriented to the east.[98] Except for a few fragments of ceramic and animal bones, the graves were without grave goods.[99] Over thirty crouched burials without grave goods have been found at Vinkovci since the 1950-s to present. Their cultural affiliation was not determined, and they presumably belong to

[97] Kiss et al. 2015, 31.

[98] Colleagues A. Solter and J. Balen, PhD, curators from the Archaeological Museum in Zagreb, dealt lately with the mentioned burials. We wish to thank them for the information. The results of their research and conducted radiocarbon analysis are yet to be published.

[99] Hoerns 1903, 266–268.

koj ili vučedolskoj kulturi.[100] Ovdje moramo navesti i grob pronađen na nalazištu Osijek – Ciglana i Zeleno polje prilikom zaštitnih arheoloških istraživanja na trasi plinovoda Belišće – Osijek provedenih 2006. godine. Istraživanja su se odvijala na povišenoj gredi, oko 300 m sjeverozapadno od trase istražene 2015. godine. Pokojnik je bio položen u grobnu raku u zgrčenom položaju, u smjeru jugoistok – sjeverozapad, također bez grobnih priloga. Kako nisu provedene radiokarbonske analize, njegova kulturna pripadnost još ostaje nepoznata.[101]

Na području Osijeka tragovi vučedolskog naselja pronađeni su tijekom gradnje artiljerijske kasarne u Donjem gradu.[102] U široj su okolici vučedolski nalazi prikupljeni pri terenskim pregledima ili manjim istraživanjima na nekoliko lokaliteta: Aljmaš – Ulica Matije Gupca, Čeminac – Okrugla zemlja, Dalj – Lisova skela i Ciglana, Daljska planina – Velika straža, Erdut – Veliki Liman i Veliki Varod, Ivanovac, Josipovac – Dalagaj, Klisa – Ekonomija, Kozarac, Lug – Gradina, Nemetin – Suvatovo i Samatovci – Pusta.[103] Na višeslojnom prapovijesnom lokalitetu Aljmaš – Podunavlje zaštitna su se arheološka istraživanja odvijala tijekom nekoliko godina, a otkriveni su ostaci sopotske, badenske, kostolačke, vučedolske, daljsko-bjelobrdske i vatinske kulture.[104] Na nalazištu Sarvaš – Gradac u višegodišnjim su istraživanjima otkriveni bogati slojevi badenske, kostolačke i vučedolske kulture.[105] Tijekom zaštitnih istraživanja vezanih uz gradnju autoceste Beli Manastir – Osijek – Svilaj otkriveno je i višeslojno nalazište Josipovac – Verušed s kasnoeneolitičkim horizontima badenske, kostolačke i vučedolske kulture.[106]

[100] Dimitrijević 1979: 285; usmeno priopćenje M. Krznarić Škrivanko. Radiokarbonske analize na navedenim kosturima su u planu, ali još nisu obavljene zbog nedostatka financijskih sredstava. Veliku zahvalu na podacima s istraživanja u Vinkovcima dugujemo kolegici M. Krznarić Škrivanko iz Gradskog muzeja Vinkovci.

[101] Skelac 2007, 69.

[102] Schmidt 1945, 146.

[103] Marković 1994, karta 14; Balen 2010, 120-123; Šimić 2012.

[104] Šimić 2001; 2006; 2012, 133.

[105] Schmidt 1945, 127–131; Balen 2005.

[106] Filipec *et al.* 2009, 47.

the Starčevo or Vučedol cultures.[100] Here, we must mention a grave found at the site Osijek–Ciglana and Zeleno polje during the rescue excavations on the gas pipeline route Belišće – Osijek in 2006. Excavations were carried out on a plateau some 300 m northwest of the route researched in 2015. A body was placed in a grave pit in a crouched position, in southeast-northwest direction, also without grave goods. Since radiocarbon analysis was not conducted, its cultural affiliation is still unknown.[101]

In Osijek, traces of a Vučedol settlement were found at Donji grad during the construction of an artillery barracks.[102] In the wider area, Vučedol finds were collected during field surveys or smaller excavations at several sites: Aljmaš–Ulica Matije Gupca, Čeminac–Okrugla zemlja, Dalj–Lisova skela and Ciglana, Daljska planina–Velika straža, Erdut–Veliki Liman and Veliki Varod, Ivanovac, Josipovac–Dalagaj, Klisa–Ekonomija, Kozarac, Lug–Gradina, Nemetin–Suvatovo and Samatovci–Pusta.[103] At the multi-layered prehistoric site Aljmaš–Podunavlje, rescue archaeological excavations were conducted for several years, and the remains of Sopot, Baden, Kostolac, Vučedol, Dalj–Bijelo Brdo and Vatin cultures were discovered.[104] At the site Sarvaš–Gradac during excavations which have been carried out for several years, rich cultural layers of the Baden, Kostolac and Vučedol cultures were found.[105] During the rescue excavations associated with the construction of the highway Beli Manastir – Osijek – Svilaj, the multi-layered site Josipovac-Verušed with Late Eneolithic horizons of the Baden, Kostolac and Vučedol cultures was discovered.[106]

[100] Dimitrijević 1979: 285; information from M. Krznarić Škrivanko. Radiocarbon analysis on the mentioned bones is planned, but has not yet been carried out due to a lack of financial resources. We owe great gratitude to colleague M. Krznarić Škrivnko, curator form the Vinkovci Town Museum for information about excavations at Vinkovci.

[101] Skelac 2007, 69.

[102] Schmidt 1945, 146.

[103] Marković 1994, Map 14; Balen 2010, 120–123; Šimić 2012.

[104] Šimić 2001; 2006; 2012, 133.

[105] Schmidt 1945, 127–131; Balen 2005.

[106] Filipec *et al.* 2009, 47.

Grobovi ranoga brončanog doba

Očigledne su sličnosti u pogrebnom ritualu kod triju kosturnih grobova, pronađenih na lokalitetu Osijek – Ciglana i Zeleno polje koji su, na osnovi radiokarbonskog datuma za uzorak kosti iz groba 2, pripisani ranome brončanom dobu. Dobiveni datum poklapa se s mlađim datumima za vinkovačku kulturu i najstarijima za Kisapostag kulturu. Premda u grobovima nisu evidentirani prilozi ili dijelovi nošnje, karakteristike grobnog rituala daju smjernice za utvrđivanje njihove kulturne pripadnosti.

Premda dobiveni radiokarbonski datum ukazuje na mogućnost pripadnosti triju nađenih grobova u vrijeme pretkraj vinkovačke kulture, imajući u vidu da neki datumi ukazuju na njezino moguće trajanje do u 21. st. pr. Kr.,[107] pogrebni ritual kod osječkih je ukopa uvelike različit od ustaljenoga grobnog rituala, prakticiranog u okviru vinkovačke kulture. Na osnovi poznatih podataka može se zaključiti kako nositelji vinkovačke kulture, odnosno kulturnog kompleksa Somogyvar – Vinkovci prakticiraju paljevinski ukop pokojnika, pri čemu su ostaci pokojnika polagani u žare.[108] Kosturni grobovi u okviru kulture su rijetki, zabilježeni na tek dva nalazišta, pri čemu spomenuti kosturni grobovi s jednog (Belegiš – Gradac) nisu nikada objavljeni, dok oni s drugog nalazišta (Kaposujlak) ne predstavljaju karakteristične grobne ukope, već je vjerojatno riječ o pokopu ubijenog neprijatelja, odnosno ritualnom ukopu.[109] Stoga je teško, na temelju do danas poznatih podataka, ranobrončanodobne grobove iz Osijeka pripisati vinkovačkoj kulturi.

S druge strane, datum za kosturni grob 2 iz Osijeka u potpunosti se poklapa s kalibriranim radiokarbonskim datumom dobivenim za uzorak ugljena iz poluzemunice M na lokalitetu Orehova vas, koja je sadržavala karakterističan materijal Kisapostag kulture, a okvirno i s onim za uzorak pšeničnog zrna, pronađenog na dnu vatrišta u istoj

[107] Teržan, Črešnar 2014, 674.

[108] Kalafatić 2006, 23.

[109] Zoffmann 2002, 59.

Early Bronze Age graves

There are obvious similarities in the burial practice of the three skeletal graves found at the site Osijek–Ciglana and Zeleno polje, which have been ascribed to the Early Bronze Age, based on the radiocarbon dates for the bone sample from grave 2. The obtained date concurs with the younger dates for the Vinkovci Culture and the oldest ones for the Kisapostag Culture. Although there were no grave goods or other finds in the graves, the characteristics of the burial practice provide guidance for determining their cultural attribution.

Although obtained radiocarbon dates indicate a possibility that the three documented graves belong to the period at the end of the Vinkovci Culture, considering that some dates suggest its possible duration in the 21nd century BC,[107] the burial practice of the graves in Osijek is fundamentally different from the usual burial practice of the Vinkovci Culture. Based on the known data, it can be concluded that the bearers of the Vinkovci Culture, i.e. the Somogyvar–Vinkovci cultural complex, practiced an incineration burial with the remains laid in urns.[108] Skeletal graves are rare in this culture, and they were recorded only at two sites, wherein the mentioned skeletal burials at one (Belegiš–Gradac) were never published, while those at the second site (Kaposujlak) do not represent typical grave burials, but probably a burial of a killed enemy or ritual burial.[109] Therefore, it is difficult to attribute the Early Bronze Age graves at Osijek to the Vinkovci Culture on the basis of the known data.

On the other hand, the date for skeletal grave 2 from Osijek fully corresponds with a calibrated radiocarbon date from a charcoal sample from semi-dugout dwelling M at the site Orehova vas, which contained characteristic material of the Kisapostag Culture, and roughly with those for a grain sample found at the bottom of a fireplace in the same pit dwelling.[110] Finds from Orehova vas, as those from Rogoza (Slivnica) and the older layers at the site Pod Kotom–jug,

[107] Teržan, Črešnar 2014, 674.

[108] Kalafatić 2006, 23.

[109] Zoffmann 2002, 59.

[110] Grahek 2014, 254–255, Fig. 14.1.5.–14.1.7.

zemunici.[110] Nalazi s Orehove vasi, kao i oni iz Rogoze (Slivnica) te starijih slojeva nalazišta Pod Kotom – jug, pripadaju starijoj fazi Kisapostag kulture u Sloveniji.[111] Istovremeno se grobovi iz Osijeka, prema prakticiranom ritualu, dobro uklapaju u sliku pogrebnih običaja starije faze ove kulture u mađarskoj Transdanubiji.[112] Tijekom zaštitnih istraživanja u južnom dijelu Transdanubije posljednjih je 15-ak godina istraženo više groblja s kosturnim ukopima Kisapostag kulture, od kojih je, na žalost, objavljeno samo ono s lokaliteta Ordacsehi – Csereföld. Groblje je Dunaujvaros sadržavalo, osim jednoga kosturnog groba, isključivo paljevinske ukope, a i nalazi se na rubnom području rasprostranjenosti Kisapostag kulture te sadrži i materijal kultura Nagyrev i Vatya.[113] Poznati kosturni ukopi Kisapostag kulture s prostora Transdanubije pokazuju niz sličnosti s pogrebnim ritualom ranoga brončanog doba na Zelenom polju u Osijeku. Neke sličnosti mogu se nazrijeti u organizaciji groblja, uspoređujući osječke grobove sa sjevernom skupinom grobova s lokaliteta Ordacsehi – Csereföld, gdje je primjetno ukopavanje pokojnika u zaobljenoj liniji. Sličnost se očituje i u položaju groblja u smjeru sjeverozapad – jugoistok. Rake ovalnog tlocrta nešto veće od dužine zgrčenog pokojnika, kakve su zabilježene u Osijeku, evidentirane su i na prostoru Transdanubije. Sličnosti se mogu primijetiti i u položaju pokojnika. Naime, u sva tri groba sa Zelenog polja pokojnici su položeni u zgrčenom položaju na lijevom boku, a na osnovi dostupnih podataka može se zaključiti kako je ovaj položaj bio uobičajen i kod kosturnih ukopa Kisapostag kulture u Transdanubiji. Izrazito zgrčeni položaj pokojnika iz groba 4 u Osijeku ima analogiju s položajem pokojnika u grobu 404 s lokaliteta Ordacsehi – Csereföld. Različitosti su primjetne u položaju ruku pokojnika. U osječkim su grobovima ruke položene preko donjeg dijela trbuha, ili se nalaze na koljenima, dok su u

[110] Grahek 2014, 254–255, sl. 14.1.5.–14.1.7.

[111] Teržan, Črešnar 2014, 671.

[112] Honti 1996, 49; Kiss, Kulcsar 2007, 111.

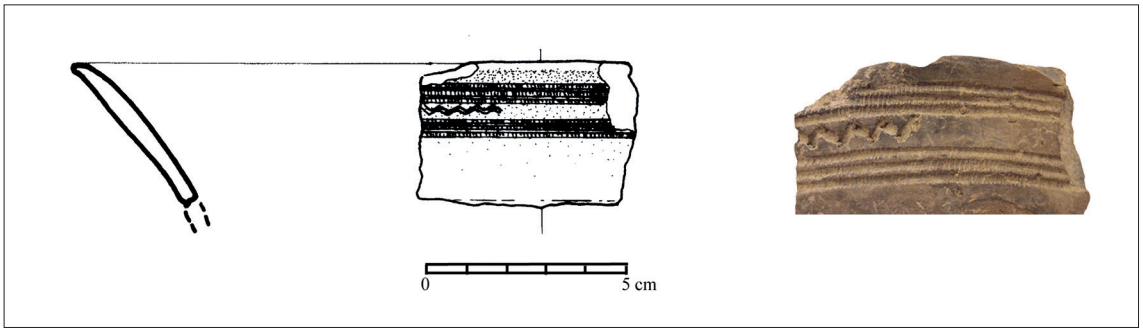
[113] Szathmari 1983.

belong to the older phase of the Kisapostag Culture in Slovenia.[111] At the same time, according to the burial practice, graves from Osijek fit well into the picture of funeral customs of the older phase of this culture in Transdanubia.[112] During the rescue excavations in southern Transdanubia in the last 15 years, several cemeteries with skeletal graves of the Kisapostag Culture were excavated, of which unfortunately only the one at the site Ordacsehi–Csereföld was published. In addition to one skeletal grave, the cemetery Dunaujvaros contained exclusively incineration burials. It is situated at the border of the distribution area of the Kisapostag Culture and contains finds of the Nagyrev and Vatya cultures as well.[113] Known skeletal burials of the Kisapostag Culture from Transdanubia show a number of similarities with the burial practice of the Early Bronze Age at Zeleno polje in Osijek. Some similarities can be noticed in the organization of the cemetery, comparing graves from Osijek with the northern group of graves at the site Ordacsehi–Csereföld, where the burial in a curved line is noticeable. Another similarity is the orientation of the cemeteries in the northwest–southeast direction. Oval grave pits slightly larger than the length of the crouched bodies, as those at Osijek, were also documented in Transdanubia. Similarities can also be noticed in the position of the bodies. Namely, in all three graves at Zeleno polje, the bodies were laid in a crouched position on their left side, and on the basis of the available data it can be concluded that this position was usual in skeletal burials of the Kisapostag Culture in Transdanubia. The extremely constricted position of the body in grave 4 at Osijek has an analogy in the position of the individual buried in grave 404 at the site Ordacsehi–Csereföld. Differences are noticeable in the position of the arms. In the graves at Osijek the arms were placed over the lower abdomen or on the knees, while in the excavated graves from the Balaton area they are usually by the head. There were no grave goods in the burials at Zeleno polje, similar to many skeletal graves of the Kisapostag Culture in Transdanubia. All the graves at

[111] Teržan, Črešnar 2014, 671.

[112] Honti 1996, 49; Kiss, Kulcsar 2007, 111.

[113] Szathmari 1983.



Slika / Fig. 9. Ulomak posude Kisapostag kulture nađen u srednjobrončanodobnom objektu / Fragment of a vessel of the Kisapostag Culture found in the Middle Bronze Age structure (snimila i izradila / drafted and photographed by M. Krmpotić).

istraženim grobovima s područja Balatona najčešće u visini glave. U grobovima sa Zelenog polja nema grobnih priloga, kao često ni u kosturnim grobovima Kisapostag kulture u Transdanubiji. Svi su osječki grobovi orijentirani jug / jugoistok – sjever / sjeverozapad, dok u regiji oko Balatona nisu uočene takve pravilnosti. Na lokalitetu Bonyad pak svi su grobovi jednako orijentirani, ali u suprotnom smjeru od osječkih. Nedostatak priloga i bogatije opreme pokojnika u osječkim grobovima može se objasniti kronološkim razlozima budući da su grobovi datirani u stariju fazu Kisapostag kulture, u kojoj nisu zabilježeni bogati kosturni grobovi niti na prostoru Transdanubije.

Na osnovi iznesenih zapažanja može se zaključiti kako tri ranobrončanodobna kosturna groba s nalazišta Osijek – Ciglana i Zeleno polje pripadaju nositeljima Kisapostag kulture, na što ukazuju radiokarbonski datum i elementi pogrebnog rituala. Tijekom dosadašnjih istraživanja provedenih na ovom lokalitetu nisu zabilježeni ostaci naselja ranoga brončanog doba. Međutim, u istraživanjima provedenim 2015. godine pronađen je ulomak keramičke posude Kisapostag kulture (sl. 9) u zapuni mlađeg, srednjobrončanodobnog objekta, zajedno s brojnim ulomcima keramičkih posuda starije faze Belegiš kulture i inkrustiranom keramikom, kakva se pripisuje daljsko-bjelobrdskoj kulturnoj grupi. Analogije za spomenuti ulomak mogu se pronaći na nalazištima Kisapostag kulture u mađarskoj Transdanubiji, primjerice, na naselju Bala-

Osijek were oriented in the south/southeast–north/northwest direction, while such regularity was not observed in the Balaton area. At the site Bonyhad, all the graves were equally oriented, but in the opposite direction from those in Osijek. The lack of grave goods and richer equipment in graves at Osijek can be explained by chronological reasons, since these graves are dated to an older phase of the Kisapostag Culture, when there were also no rich skeletal graves in Transdanubia.

On the basis of the presented observations, it can be concluded that the three Early Bronze Age graves at the site Osijek–Ciglana and Zeleno polje belong to the bearers of the Kisapostag Culture, as indicated by the radiocarbon dates and the elements of the burial practice. During former research conducted at this site, traces of an Early Bronze Age settlement were not recorded. However, during excavations in 2015, a fragment of a vessel of the Kisapostag Culture was found (Fig. 9) in the fill of a younger, Middle Bronze Age structure, together with numerous fragments of ceramic vessels of the older phase of the Belegiš Culture and encrusted pottery which is attributed to the Dalj–Bijelo Brdo cultural group. Analogies for the mentioned fragment can be found at the sites of the Kisapostag Culture in Hungarian Transdanubia, for example at the settlement Balatongyörök.[114] The found fragment possibly indicates the existence of a nearby settlement of the Kisapostag Culture at the site Osijek–Ciglana and Zeleno polje at an unknown location.

[114] Torma 1972, 19, 23, T. 4: 2, T. 6: 13.

tongyörök.[114] Pronađeni ulomak vjerojatno ukazuje na postojanje obližnjeg naselja Kisapostag kulture na lokalitetu Osijek – Ciglana i Zeleno polje na još neubiciranoj lokaciji.

Usporedni nalazi za ranobrončanodobne kosturne grobove iz Osijeka poznati su za sada ponajviše iz dijela Transdanubije oko Balatona, tj. sa samo jednog dijela područja rasprostranjenosti Kisapostag kulture, te ne pružaju reprezentativnu sliku pogrebnih običaja njezinih nositelja. Može se pretpostaviti postojanje određenih regionalnih različitosti u pogrebnom ritualu u okviru kulture, posebno s obzirom na to kako su na istim grobljima zastupljeni i paljevinski i kosturni grobovi, pri čemu su kod kosturnih ukopa na istome groblju prisutne i različite varijacije položaja, orijentacije i drugih elemenata rituala. Istovremeno, neki nalazi, poput grobova s lokaliteta Bonyad, upozoravaju i na moguće kronološke razlike.

Comparative finds for the Early Bronze Age skeletal graves at Osijek are known, for now, mostly from the part of Transdanubia around Lake Balaton, i.e. only from one part of the distribution area of the Kisapostag Culture, so they do not provide a representative picture of the burial practices of its bearers. Some regional differences in burial practice of this culture can be assumed, particularly considering the fact that at the same cemeteries both incineration and skeletal graves are represented, within different variations of position, orientation, and other elements of burial practice in case of the skeletal graves. At the same time, some finds, like graves from the site Bonyhad, could also suggest possible chronological differences.

Antropološka analiza

Na ljudskome je kosturnom materijalu iz četiri groba napravljena antropološka analiza. Budući da je pregledani uzorak brojčano malen, a i grobovi pripadaju različitim vremenskim razdobljima i kulturama, vrlo je teško načiniti zaključke o demografskoj slici i zdravstvenom stanju populacije kojoj su pripadali pokojnici. Unatoč tomu, ipak je moguće donijeti neke okvirne podatke o istraživanom kosturnom materijalu.

U grobu 1 prisutni su ostaci odrasle osobe ženskoga spola, starije od 50 godina. U grobovima 2 i 4 ostaci pripadaju muškarcima u dobi od 35 do 50 godina, dok su u grobu 3 ostaci djeteta u dobi od 10 do 15 godina. Kod svih su osoba uočene patološke promjene, a kod oba muškarca i nemetričke osobine.

Kod osobe u grobu 1 uočena je prisutnost osteopenije, odnosno stanja smanjene gustoće koštane mase. Budući da se smanjenje gustoće koštane mase pojavljuje u starijoj

Anthropological analysis

Anthropological analysis was carried out on human skeletal remains from the four graves. As the analysed sample is small and the burials are associated with different chronological periods and cultures, it is difficult to reach conclusions about the demographic profile and health status of the population the deceased belonged to. However, some basic data on the analysed skeletal remains can be gained.

In grave 1, the remains belong to an adult female older than 50 years of age. In graves 2 and 4, the remains are of males aged between 35 and 50, while in grave 3, they belong to a juvenile aged between 10 and 15. Pathological changes were observed in all individuals, in addition to both males displaying nonmetric traits.

The female in grave 1 had osteopenia, a condition characterised by low bone density. As low bone density is associated with advanced age, its presence in an individual older than 50 is expected.

[114] Torma 1972, 19, 23, T. 4: 2, T. 6: 13.

životnoj dobi, njezina je prisutnost u osobe starije od 50 godina očekivana.

Ektokranijalna poroznost, koja je uočena na ulomku lubanje djeteta iz groba 3, najčešće se povezuje s deficitarnim bolestima, kao što su anemija, rahitis i skorbut, no može se pojaviti i kod drugih bolesti, poput trauma, neoplazmi i tuberkuloze. U arheološkim populacijama djeca su skupina unutar zajednice koja je najpodložnija bolestima i stanjima prouzročenim neprimjerenom prehranom, što objašnjava i ovaj slučaj.

Periostitis u obliku blage strijacije, uočene na goljeničnim kostima muškarca iz groba 4, može se okarakterizirati kao nespecifična infekcija budući da kod osobe nisu uočene druge lezije. U ovom je slučaju periostitis vjerojatno nastao kao lokalizirani odgovor tkiva na infekciju nastalu zbog loma, reza ili udarca. Budući da se goljenična kost nalazi blizu površine kosti pa je tako podložnija traumi, ujedno je i najzahvaćenija kost u tijelu.

Kod oba muškarca uočene su degenerativne promjene na kralježnici: kod osobe iz groba 2 one su blaže, dok su kod osobe iz groba 4 jačeg intenziteta. Kako su za promjene odgovorni starija dob, ali i fizička aktivnost, vjerojatno se kod obojice muškaraca, zbog njihove relativno mlađe dobi, može govoriti da su promjene nastale uslijed fizičke aktivnosti.

Prisutnost apscesa i gubitka više zubi tijekom života, prisutnih kod oba muškarca, govore u prilog prehrani bogatoj ugljikohidratima i neprimjerenoj oralnoj higijeni. Podaci o prehrani potvrđeni su i preliminarnim rezultatima analize stabilnih izotopa.

Ectocranial porosity observed on a skull fragment of the child from grave 3 is most commonly related to deficiency diseases such as anaemia, rickets, and scurvy, but it can appear in other conditions like trauma, neoplasms, and tuberculosis. In archaeological populations, children are part of the population most affected by diseases and inadequate diet, which explains this case.

Periostitis in the form of slight striation observed on the tibiae of the male from grave 4 can be described as a nonspecific infection, since no other lesions were present on this individual. In this case, periostitis is likely a localised response of the tissue to an infection caused by a fracture, cut, or impact. As the tibia is situated near the skin it is more exposed to trauma, thus being the most commonly affected bone in the body.

Both males exhibit degenerative changes in the spine: the individual from grave 2 in slight form, and the individual from grave 4 in severe form. Considering that advanced age and physical activity cause these changes, given the relatively young age of both men, it can be assumed the changes are the result of physical activity.

The presence of abscess and ante mortem tooth loss in both males attests to a diet rich in carbohydrates, and inadequate oral hygiene. Dietary information is confirmed by the preliminary results of stable isotope analysis.

5. ZAKLJUČAK

Evidentan je problem kulturnog opredjeljivanja kosturnih grobova koji, osim kostiju samog pokojnika, ne sadrže nikakve druge arheološke nalaze, pa takvi grobovi često

5. CONCLUSION

There is an evident problem of cultural attribution of the skeletal graves which, except for the skeletons of the buried individuals, do not contain any other archaeological finds, so such

ostanu neobjavljeni. Premda se ne može tvrditi kako je radiokarbonsko datiranje potpuno pouzdano, jedina je mogućnost određivanja starosti ovakvih grobova. Na osnovi radiokarbonske analize, grobovi s lokaliteta Osijek – Ciglana i Zeleno polje pripisani su razdoblju kasnoga bakrenog, odnosno ranoga brončanog doba. Između ukapanja pokojnika tijekom bakrenog doba i triju pokojnika u ranome brončanom dobu postoji vremenska distanca od vjerojatno nešto više od 400 godina. Stoga ne iznenađuje nepostojanje kontinuiteta pogrebnog mjesta. Radiokarbonski datumi i zapaženi elementi pogrebnog rituala omogućili su pripisivanje bakrenodobnoga groba vučedolskoj kulturi, a brončanodobnih kulturi Kisapostag. Nedostatak drugih nalaza vučedolske kulture na lokalitetu ukazuje na ukop groba izvan naselja, što odudara od uobičajenog načina pokopavanja pripadnika ove kulture unutar naselja. Važan je nalaz triju kosturnih grobova Kisapostag kulture, koji su prvi ranobrončanodobni kosturni grobovi zabilježeni na području sjeverne Hrvatske, a izuzev neobjavljenih grobova iz Luga, i jedini koji se mogu pripisati ovoj kulturi. Pokapanje pokojnika vučedolske kulture i kulture Kisapostag na položaju Ciglana i Zeleno polje ukazuje kako su u blizini vjerojatno smještena i naselja ovih kultura.

Dobiveni podaci o stabilnim izotopima ukazuju na istovrsnu prehranu pokojnika tijekom obaju razdoblja, baziranu na C3 biljkama. Rezultati antropološke analize upućuju na relativno dugi životni vijek pokojnice sahranjene tijekom kasnoga bakrenog doba. Kosturne ostatke iz ranoga brončanog doba predstavljaju kosti djeteta sahranjenog u kosturnom grobu 3 i ostaci dvojice muškaraca u dobi 35 do 50 godina u grobovima 1 i 4. Promjene na kostima djeteta upućuju na neprimjerenu prehranu, dok su na kostima obojice muškarca primijećene degenerativne promjene kralježnice, vjerojatno zbog fizičke aktivnosti, a prisutnost apscesa i gubitak više zubi svjedoče o prehrani bogatoj ugljikohidratima i neprimjerenoj oralnoj higijeni.

graves often remain unpublished. Although it cannot be stated that radiocarbon dating is absolutely reliable, it is the only possibility of determining the age of these graves. Based on radiocarbon analysis, the graves are attributed to the Late Eneolithic and Early Bronze Age periods. Between the burial of the individual during the Eneolithic, and those in the Early Bronze Age, there is a time span of probably more than 400 years. Therefore, the lack of continuity at the burial place does not surprise. Radiocarbon dates and noticed elements of burial practice enabled the attribution of the Eneolithic grave to the Vučedol Culture, and the Bronze Age graves to the Kisapostag Culture. The lack of other finds of the Vučedol Culture at the site indicates a grave burial outside the settlement, which differs from the traditional burial practice of the bearers of this culture inside settlements. The finds of three skeletal graves of the Kisapostag Culture are important, since they are the first Early Bronze Age skeletal graves found in northern Croatia, and, except for the unpublished burials at Lug, the only ones that can be attributed to this culture. The graves of the Vučedol and Kisapostag cultures at the site Ciglana and Zeleno polje indicate that the settlements of these cultures are probably located somewhere in the vicinity.

The obtained data on stable isotopes indicates a similar diet based on C3 plants during both periods. Results of the anthropological analysis show a relatively long lifespan of the female individual buried during the Late Eneolithic. Skeletal remains from the Early Bronze Age are represented by the child buried in grave 3 and two males aged 35-50 in graves 1 and 4. Changes on the remains of the juvenile individual indicate inadequate diet, whereas degenerative changes of the spine observed on both males are likely related to physical activity. The presence of abscess and ante mortem tooth loss confirms a diet rich in carbohydrates and a low level of dental hygiene.

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