Kompleks prapovijesnih tumula Purić–Ljubanj kraj Vrbanje u Spačvanskom bazenu, županjska Posavina

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The prehistoric tumuli complex of Purić–Ljubanj near Vrbanja in the Spačva Basin, Županjska Posavina

Kompleks prapovijesnih tumula Purić–Ljubanj kraj Vrbanje u Spačvanskom bazenu, županjska Posavina

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Purić-Ljubanj consists of 116 pristine, and 1 damaged, prehistoric tumuli located in a wider ritual landscape in the Spačva Forest Basin in eastern Croatia. Five seasons of fieldwork have revealed that this tumuli complex can be confidently identified as belonging to the Late Bronze Age period, with ceramic finds that belong to the Belegiš II group. It is a place where complex depositions related to burial practices took place. A survey of the wider landscape has revealed another 15 sites with tumuli that appear to be of a similar character to Purić-Ljubanj situated in the area of Županjska Posavina in the Spačva Basin. The numbers of tumuli at each site vary from just one to 178. At Purić-Ljubanj there are 117 tumuli, three of which have been subject to excavation.

Key words: Bronze Age, Tumuli, Social Practices, Burial, Landscape, Belegiš II group

Na Purić-Ljubnju nalazi se 116 netaknutih i jedan oštećeni prapovijesni tumul. Nalazište je smješteno u ritualnom krajoliku koji se nalazi u spačvanskom šumskom bazenu na istoku Hrvatske. Pet sezona terenskog rada pokazalo je kako nalazište pripada razdoblju kasnoga brončanog doba, s keramičkim nalazima grupe Belegiš II. Ovdje su se odvijali složeni postupci depozicije vezani uz komemoraciju pokojnika. Terenskim pregledom šireg krajolika otkriveno je još 15 nalazišta s tumulima sličnog karaktera kao Purić-Ljubanj, a koji se također nalaze na prostoru spačvanskog bazena u županjskoj Posavini. Broj tumula na nalazištima varira od samo jednog do 178. Na Purić-Ljubnju nalazi se 117 tumula, od kojih su se na tri vršila istraživanja.

Ključne riječi: brončano doba, tumuli, društvena praksa, pokop, krajolik, Belegiš II grupa

INTRODUCTION

In 2008 investigations began by the Stjepan Gruber Museum, Županja, and the University of Southampton (ZSAP project) to ascertain what the mounds at the site of Purić-Ljubanj, in the Spačva Basin in eastern Croatia, may be. The mounds were of unusual character for the region and are arguably consciously placed in an otherwise entirely flat landscape. The strong possibility presented itself of the site

UVOD

U 2008. godini započelo je istraživanje u suradnji Zavičajnog muzeja Stjepana Grubera iz Županje i Sveučilišta u Southamptonu (ZSAP projekt) kako bi se utvrdilo što predstavljaju tumuli na Purić-Ljubnju. Tumuli su neobičnog karaktera za regiju i očito svjesno smješteni u ovom inače ravnom krajoliku. Postojala je velika mogućnost da nalazište predstavlja dosad nepoznat kompleks prapovijesnih

being a hitherto unknown complex of prehistoric mounds. Initial field-walking of the site in 2007 and a GPS survey suggested the presence of *c.* 104 mounds of varying sizes covering an area of 51 291 m^2. Local oral tradition suggests that one of the mounds had been subject to unsystematic excavation in the late 1920s by a group of engineers working on the construction of the Sava River levee, and that pottery had been removed. Initial walking of the site confirmed intrusive damage to the top of the second largest mound. As no other mounds had any such damage, this supported the oral history presented to us. In 2011 and 2012, analysis of GIS survey data allowed us to see that there are actually 117 mounds at Purić-Ljubanj. Excavation on three mounds has confirmed them to be burial tumuli of Late Bronze Age origin with close affiliations to the Belegiš II cultural group.

In 2011 it came to light through informants from within the local community, that there were other sites described as being of the "same nature" as Purić-Ljubanj lying in a position running south-east toward the Serbian border. The 2012 field-season saw the commencement of a programme of ground reconnaissance and a systematic GPS survey of the region which has revealed 15 sites of apparently similar character to Purić-Ljubanj; albeit of differing sizes and complexity. Exploratory test pits have been made at two sites (B and J, Map 1 and Tab. 1) to ascertain whether there was evidence of parallel construction methods or material remains. These proved positive with evidence in the form of construction layers and pottery that paralleled those discovered at Purić-Ljubanj. A comprehensive test pit survey will be carried out after a full topographic survey of selected sites; planned for 2014 and 2015.

The research aims of the ZSAP project since 2008 have been to consider: the way that the Purić-Ljubanj complex sits within the wider landscape; the impact of this on the architecture and construction processes of individual tumuli and the complex as a whole; the relationships between tumuli; and the role of material remains, in order to fully understand the society that built and used them. Work carried out thus far can only be considered as preliminary; however, it is clear that Purić-Ljubanj was a place where the *memorialisation* of the deceased took place with a complex and changing tradition throughout the time span of the tumuli so far investigated.

The burial process has long been acknowledged as something that can deepen our understanding of the wider social dynamics of later prehistory across Europe (i.e. Bradley 1984; 2002; Thomas 1991; Parker-Pearson 1999; Brück 2006; Fontijn 2008; Sørensen, Rebay-Salisbury 2009). The systematic interrogation of the Purić-Ljubanj tumuli complex and the wider Spačva Basin may be considered a step forward in addressing the cultural complexity present in the Late Bronze Age in this region.

THE GEOGRAPHIC AND ARCHAEOLOGICAL CONTEXT FOR PURIĆ-LJUBANJ

All the sites discovered by the ZSAP project, including Purić-Ljubanj, are situated in an area of the River Spačva

tumula. Početno rekognosciranje terena u 2007. i snimanje GPS točaka pokazalo je prisutnost oko 104 tumula različitih veličina na površini od 51 291 m^2. Lokalna usmena predaja svjedočila je kako je jedan od tumula bio podvrgnut nesustavnom iskopavanju kasnih 1920-ih od strane grupe inženjera koji su radili na izgradnji savskog nasipa te da je pritom uklonjen dio keramike. Početno rekognosciranje terena potvrdilo je postojanje oštećenja pri vrhu jednog od tumula, drugog po veličini. Kako ni na jednom drugom tumulu nisu primijećena slična oštećenja, čini se da činjenice potvrđuju usmenu predaju. U 2011. i 2012. godini analizom GIS podataka primijećeni su dodatni tumuli, što je podiglo njihov broj na Purić-Ljubnju na ukupno 117. Iskop na tri tumula potvrdio je kako je riječ o grobnim tumulima iz kasnoga brončanog doba koji pokazuju blisku vezu s Belegiš II grupom.

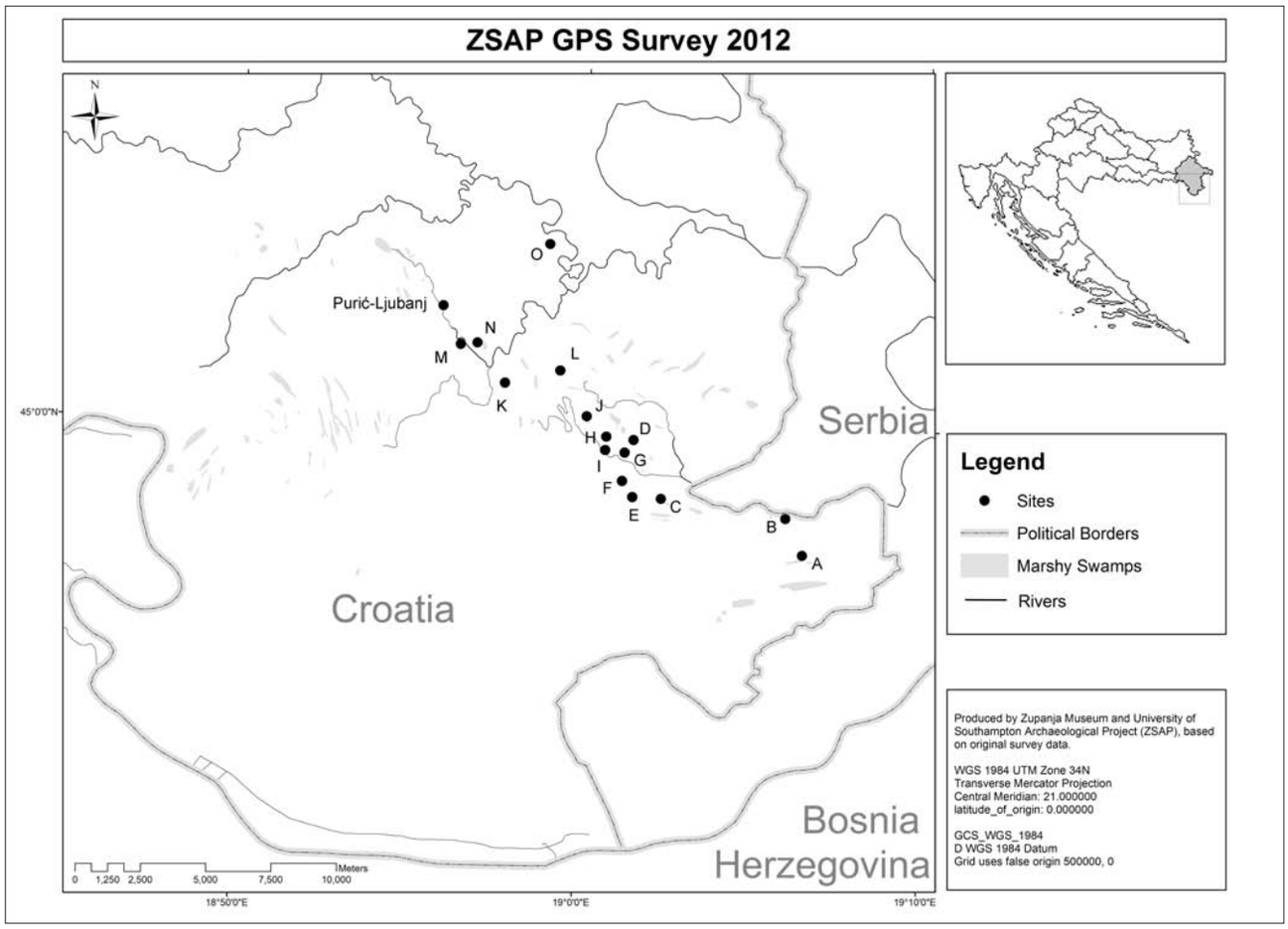
U 2011. godini, kroz suradnju sa zajednicom, izašlo je na vidjelo postojanje još nalazišta "iste prirode" kao Purić-Ljubanj, a koja su smještena jugoistočno od Purić-Ljubnja prema granici sa Srbijom. U sezoni 2012. započeo je program sustavnog istraživanja i GPS snimanja šireg područja kojim je dosad potvrđeno još 15 nalazišta pod tumulima različitih veličina i stupnja kompleksnosti. Probne sonde su iskopane na dva nalazišta (B i J, v. kartu 1 i tab. 1) kako bi se utvrdilo postoje li dokazi o metodama gradnje tumula i materijalnim ostacima sličnim onima na Purić-Ljubnju. Ovo je potvrđeno dokazima u obliku građevnih slojeva i keramičkih nalaza koji se mogu usporediti s otkrivenima na Purić-Ljubnju. Sveobuhvatnija probna istraživanja će se provesti nakon potpune topografske izmjere odabranih lokaliteta, koja će se provesti u 2014. i 2015. godini.

Istraživanja u sklopu ZSAP projekta od 2008. godine imala su za cilj utvrditi: način na koji je grobni kompleks Purić-Ljubanj smješten u širem krajoliku, utjecaj krajolika na arhitekturu i proces izgradnje pojedinih tumula i kompleksa kao cjeline, međusobne odnose između tumula te ulogu materijalnih ostataka, kako bi u potpunosti razumjeli društvo koje je ove tumule izgradilo i njima se služilo. Dosadašnja istraživanja mogu se smatrati preliminarnim, međutim, jasno je kako je Purić-Ljubanj mjesto odvijanja složenih i promjenjivih postupaka „*komemoracije*" pokojnika, u razdoblju koje predstavljaju do sada istraženi tumuli.

Razumijevanje pogrebne prakse odavno je priznato kao način unapređenja našeg razumijevanja šire društvene dinamike kasnije prapovijesti diljem Europe (Bradley 1984; 2002; Thomas 1991; Parker-Pearson 1999; Brück 2006; Fontijn 2008; Sørensen, Rebay-Salisbury 2009). Sustavno istraživanje kompleksa tumula s Purić-Ljubnja i spačvanskog bazena može se smatrati korakom naprijed u promišljanju kulturne složenosti ove regije u kasno brončano doba.

GEOGRAFSKI I ARHEOLOŠKI KONTEKST PURIĆ-LJUBNJA

Svi lokaliteti otkriveni u sklopu ZSAP projekta, uključujući i Purić-Ljubanj, nalaze se u šumi na području spačvanskog bazena u županjskoj Posavini u Vukovarsko-srijemskoj županiji na istoku Hrvatske (karta 1). Županjska Posavina zauzima prostor uz rijeku Savu na granici Hrvatske s Bosnom



Map 1 Position of cemeteries with allocated site codes (map by: Mu-Chun Wu 2012)
Karta 1 Položaj groblja s označenim šiframa nalazišta (izradio: Mu-Chun Wu, 2012.)

Basin covered with the Spačva forests in the region of Županjska Posavina in the Vukovar-Srijem County in eastern Croatia (Map 1). Županjska Posavina is situated along the Sava River at the borders of Croatia with Bosnia and Herzegovina and Serbia. The River Ljubanj, which is immediately adjacent to the western boundary of the Purić-Ljubanj, flows into the Spačva, which in turn flows into Bosut and then the river Sava; this flows into the Danube which ends its course in the Black Sea. This water course would have played an important role in east – west / north – south interaction in the Bronze Age.

Purić-Ljubanj is situated within managed forestry land; as a result of the work undertaken by the project, the site is now protected by the Croatian Ministry of Culture. Purić-Ljubanj is situated north of Vrbanja Village and south of the Zagreb – Lipovac highway in the 75th section of the Bok–Ljubanj (Sjeverno Boljkovo–Ljubanj) forest. On the west lies the river Ljubanj, on the south a forest straight clearing between the 75th and 87th section of the forest, and on the east another forest straight clearing between 75c and 76a sections of the forest.

The Spačva Forest is the largest oak forest in Croatia, and one of the largest European Oak forests, covering an area of 40 000 hectares in the interfluve of the Sava and Dani Hercegovinom i Srbijom. Rječica Ljubanj, što se nalazi sa zapadne strane nalazišta Purić-Ljubanj, ulijeva se u Spačvu, koja se pak ulijeva u Bosut koji je dio savskog toka, dok se rijeka Sava ulijeva u Dunav koji završava svoj tok u Crnom moru. Ovaj riječni sliv je u bronČano doba igrao važnu ulogu u interakciji istok – zapad i sjever – jug.

Purić-Ljubanj nalazi se na području Šumarije Vrbanja. Nakon poduzimanja radova na zaštiti lokaliteta, nalazište je zaštićeno od strane Ministarstva kulture RH. Nalazište je smješteno sjeverno od mjesta Vrbanja i južno od autoceste Zagreb – Lipovac, u 75. odijelu šume Bok–Ljubanj (Sjeverno Boljkovo–Ljubanj). Sa zapada nalazište je omeđeno rijekom Ljubanj, s juga šumskom prosjekom između 75. i 87. odijela šume, a s istoka šumskom prosjekom između šumskih odjela 75c i 76a.

Spačvanska šuma najveća je hrastova šuma u Hrvatskoj i jedna od najvećih europskih hrastovih šuma, a obuhvaća površinu od 40 000 hektara u međuriječju Save i Dunava. Spačvanski bazen iznosi oko 51 000 hektara i obuhvaća dio savske holocenske aluvijalne bosutske zaravni, koja se postupno uzdiže s južne strane rijeke Save prema jugu, a sa sjeverne prema vukovarskoj zaravni. Hrastove šume zauzimaju krajolik doline, ravnica i okolnih terasa. Središnji i najduži (40 km) vodotok je rijeka Spačva. Spačvanski bazen

ube. The Spačva Basin amounts to *c.* 51 000 hectares and includes a part of the Sava Holocene alluvial Bosut plain, which gradually rises in the south of the Sava, and northward towards the Vukovar plain. Oak forests occupy the valley landscape, plains and peripheral terraces. The central and longest (40 km) watercourse is the River Spačva. The Spačva Basin sits in an area predominately created in the Holocene and is characterised by later marsh sediments, clayey silt and clay derived from quaternary sedimentary rock (Herak 1997: 155–160). The Đakovo-Vinkovci-Vukovar Plateau stabilised in the transition from the Pleistocene to the Holocene. Meanwhile in the Slavonia-Syrmia valley a wetland-marshy environment was retained with Bosnian Rivers carrying an influx of sand and somewhat rarer gravel; the bed of the Sava was formed at this time. Between the Sava and Vinkovci plateau water was retained through floods and river flows. Peneplanation of loess from higher areas occurred and clayey silt with fine calcareous concretions became sedimented (*Osnovna geološka karta:100000, tumač za list Vinkovci L 34–98*, 1989). The resulting sub-soil found across the region is clay with a subsoil of granular ochre clay and sand with nodules of iron rich limestone caused by constant semi-flood conditions and ensuing ground water percolation.

Environmental conditions in Bronze Age Europe are known to have fluctuated constantly (Harding 2000: 15) and there is little previous regionally specific work from which to ascertain probable environmental and landscape conditions during the Late Bronze Age at Purić-Ljubanj. The environmental background given above cannot be extrapolated as representing the Late Bronze Age landscape which can only be fully described after appropriate environmental analysis; to be commenced in 2014. At this stage we can confidently say limestone, iron rich nodules are present across the site within the sub-strata and, in the case of Tumulus 2, were deliberately manipulated to become part of the construction process of the burial area. We can also say that the dense oak forest was not present as it stands today and that the river courses and tributaries of the Sava and Danube were present; if not following exactly the same course as today.

The area of Županjska Posavina has not been extensively explored by archaeologists. However, given its strategic position along the Sava river basin on the routes towards the ore rich Bosnian Mountains it is reasonable to suppose that this region would be rich in settlements and cemeteries related to the Late Bronze Age. So far in this region two major groups belonging to the beginning of the Late Bronze Age have been identified. These are Belegiš II and Barice-Gređani. It is understood that the Belegiš II originated in Srijem at the end of Br C2 and spans all of Br D and Ha A1 (Vinski-Gasparini 1973: 28; Tasić 1974: 241). At its western border the Belegiš II group is understood to meet the Barice-Gređani cultural group (Marijan 2010: 145; Ložnjak Dizdar 2005: 34–35, Potrebica 2003: 171).

Of these two groups, the ceramic finds from Purić-

smješten je u području uglavnom nastalom u holocenu, a karakteriziraju ga kasniji močvarni sedimenti, glineni mulj i glina nastali iz kvartarnih sedimentnih stijena (Herak 1997: 155–160). Đakovačko-vinkovačko-vukovarski plato stabilizirao se na prijelazu iz pleistocena u holocen. U međuvremenu, u slavonsko-srijemskoj dolini zadržalo se barsko-močvarno okružje, dok su bosanske rijeke donosile priljev pijeska te nešto rjeđe šljunka. U ovo vrijeme formiran je vodotok rijeke Save. Između Save i vinkovačkog platoa kroz poplave i riječne tokove zadržala se voda. Peneplenizacijom lesa iz viših područja došlo je do taloženja glinastog mulja s finim vapnenim konkrecijama (*Osnovna geološka karta 1 : 100 000, tumač za list Vinkovci L 34–98*, 1989.). Ovo je rezultiralo glinenim tlom sa slojem zdravice koji se sastoji od granula oker gline i pijeska s konkrecijama vapnenca bogatim željezom, a koje su nastale zbog podzemnih voda i stalnih polupoplavnih uvjeta na ovom području.

Ekološki uvjeti u okolišu brončanodobne Europe često su oscilirali (Harding 2000: 15), a zbog nedostatka prethodno objavljenih regionalno specifičnih podataka, teško je utvrditi točne ekološke uvjete u krajoliku tijekom kasnoga brončanog doba na Purić-Ljubnju. Gore spomenuti ekološki kontekst ne može se primijeniti i na krajolik kasnoga brončanog doba, koji će se moći bolje opisati nakon odgovarajuće analize prapovijesnog okoliša, koja će započeti u 2014. godini. U ovoj fazi možemo pouzdano reći da su vapnene, željezom bogate konkrecije bile prisutne u slojevima zdravice nalazišta te da su iste, u slučaju tumula 2, namjerno korištene u procesu izgradnje tumula. Također, možemo reći da gusta hrastova šuma nije bila prisutna u današnjem obliku dok su riječni tokovi i pritoci Save i Dunava bili prisutni, iako nisu nužno slijedili svoje današnje tokove.

Područje županjske Posavine arheološki je nedovoljno istraženo. Međutim, s obzirom na strateški položaj duž sliva rijeke Save na pravcima prema rudama bogatim bosanskim planinama, može se pretpostaviti kako će ova regija biti bogata naseljima i grobljima kasnoga brončanog doba. Do sada su u županjskoj Posavini definirane dvije glavne grupe s početka kasnoga brončanog doba. To su Belegiš II i Barice-Gređani. Belegiš II je nastao u Srijemu, krajem Br C2 i obuhvaća čitav Br D i Ha A1 period (Vinski-Gasparini 1983: 28; Tasić 1974: 241). Uz zapadnu granicu svog prostiranja grupa Belegiš II susreće se s kulturnom skupinom Barice-Gređani (Marijan 2010: 145; Ložnjak Dizdar 2005: 34–35, Potrebica 2003: 171).

Od ove dvije skupine keramički nalazi sa Purić-Ljubnja pokazuju afinitet s grupom Belegiš II. Kulturna skupina Belegiš (Belegiš I i II – Br A2/B1 – Br D/Ha A1), nastaje pri kraju srednjobrončanodobne vatinske grupe (Tasić 1974: 233–234; 2003: 192; Dizdar 1999: 34; Ložnjak 2002: 65). Grupa Belegiš II je, stoga, istovremena grupi Barice-Gređani (Br D – Ha A1). Značajno je da unatoč kronološkoj i geografskoj blizini ovih grupa Purić-Ljubnju, te iako su obje grupe kremirale ostatke svojih pokojnika, ni jedna od njih nije pokapala svoje umrle pod tumulima. Najbliže usporedbe u smislu smještanja kremiranih (ali i kosturnih) ostataka pod

Ljubanj show an affinity with the Belegiš II group. The Belegiš cultural group as a whole, both Belegiš I and II (Br A2/B1 – Br D/Ha A1), emerges at the end of the Vatin Middle Bronze Age group (Tasić 1974: 233–234, 2003: 192; Dizdar 1999: 34; Ložnjak 2002: 65). The Belegiš II is therefore contemporary to the Barice-Gređani group (Br D – Ha A1). What is notable despite the proximity of these groups chronologically and geographically to Purić-Ljubanj is that although both groups cremated the deceased, neither buried their deceased under mounds. The closest such parallels in terms of the depositional practice of placing cremated (as well as skeletal) remains under tumuli in the Late Bronze Age are in western Serbia (Zotović 1985: 35–46) and in the Glasinac area in eastern Bosnia and Herzegovina (Čović 1983: 413–433).

Based on this information, it can be suggested that Purić-Ljubanj, along with the entire spread of tumuli complexes, defines a western boundary for the Belegiš II group in Županjska Posavina. The fact that we are now witnessing yet another variant of remembering and *memorialising* the dead in this region suggests a complexity even greater than previously understood. There are many debates that remain open with regard to later prehistoric society/-ies in this region and we hope the interrogation of this landscape will contribute to explanations as to the ways of life already known for this region.

SURVEY, GEOPHISICS AND GEOREFERENCING AT PURIĆ-LJUBANJ

Clearance and Field-walking of the excavation area

In the 2008 season, an area incorporating 3 of the tumuli to be excavated was cleared of forest ground cover and made ready for survey and excavation. This area was determined by inclusion of the tumulus identified as having been unsystematically excavated in the 1920s, to be named Tumulus 1, and two adjacent tumuli (Tumulus 2 and Tumulus 3). Tumulus 1 was selected for excavation on the grounds that not only could we explore the deep past associated with it but also clarify the nature of the unsystematic excavation that has taken place and corroborate or refute local oral history with archaeological evidence; a matter of some importance to the local community. Tumuli 2 and 3 were, meanwhile, selected on pragmatic and methodological grounds. Pragmatically their close physical relationship to each other and the relative proximity of Tumulus 1 made it possible to open a single excavation area. Each of the three tumuli to be excavated were of different sizes and slightly different forms; this was thought to be a potential indicator of some difference in date or determination of social use. These decisions resulted in an excavation area of 25x100 meters. The excavation area sits at the southern end of the Purić-Ljubanj site (Fig. 1). Systematic field walking using a grid system of 2 meter squares of the cleared excavation area resulted in little evidence of past activity. There was a very light scattering of un-diagnostic pottery sherds and some charcoal. None of this material could be said to form any sort of clustering that would have any effect on our excavation strategy.

tumule u kasno brončano doba nalaze se u zapadnoj Srbiji (Zotović 1985: 35–46) te u glasinačkom području u istočnoj Bosni i Hercegovini (Čović 1983: 413–433).

Iz ovih podataka moguće je zaključiti da Purić-Ljubanj, zajedno s ostalim nedavno rekognosciranim kompleksima tumula, definira zapadnu granicu skupine Belegiš II u županjskoj Posavini. Činjenica da smo sada svjedoci još jednoj varijanti „*komemoracije*" i načina prisjećanja na mrtve u regiji, upućuje na složenost još veću nego što se prije smatralo. S obzirom na kasnije prapovijesno društvo regije i istraživanje ritualnog krajolika ostaju otvorena mnoga pitanja, a propitivanje ovog krajolika će, nadamo se, doprinijeti otprije poznatim objašnjenjima načina života u ovoj regiji.

TERENSKI PREGLED, GEOFIZIČKA ISTRAŽIVANJA I GEOREFERENCIRANJE TERENA NA PURIĆ-LJUBNJU

Čišćenje i rekognosciranje područja iskopa

U sezoni 2008. dio nalazišta na kojem se nalaze tri tumula predviđena za istraživanje očišćen je od šumskog pokrova i pripremljen za rekognosciranje i iskopavanje. Ovo područje je određeno uzimanjem u obzir tumula za koji je utvrđeno da je 1920-ih bio podvrgnut nesustavnom iskopavanju, a koji je sada nazvan tumul 1, te dva susjedna tumula, sada tumuli 2 i 3. Tumul 1 je određen za iskop ne samo kako bi se istražila njegova duboka prošlost, nego i kako bi se razjasnila priroda nesustavnog iskopavanja te arheološkim dokazima potkrijepila ili opovrgnula lokalna usmena predaja, što je lokalnoj zajednici bilo od posebne važnosti. Tumuli 2 i 3 su, u međuvremenu, odabrani na pragmatičnoj i metodološkoj osnovi. Njihov blizak fizički međuodnos i relativna blizina tumula 1 omogućili su istraživanja na jednoj cjelovitoj površini, ali također sva tri tumula predviđena za istraživanje su različitih veličina i donekle različitih oblika, što se smatralo potencijalnim pokazateljem razlike u vremenu nastanka ili razlike u njihovoj svrsi. Ove odluke rezultirale su iskopom na području 25x100 metara, koje se nalazi na južnom kraju nalazišta Purić-Ljubanj (sl. 1). Sustavno rekognosciranje pomoću sustava mreže 2x2 metra na očišćenom području iskopa rezultiralo je s vrlo malo površinskih nalaza. Pronađena je tek lagano raspršena koncentracija nedijagnostičkih ulomaka keramike i nešto ugljena. Pronađeni materijal nije formirao bilo kakve koncentracije koje bi nam pomogle u utvrđivanju strategije iskopa.

Geofizička istraživanja

Prije početka iskopavanja učinjena su četrdeset dva transekta georadarom, a u četiri transekta je izmjeren otpor geoelektrične energije kako bi se utvrdilo postojanje podzemnih struktura i drugih poremećaja (sl. 2). Georadarsko istraživanje je provedeno na dvama površinama unutar mreža od 26x20 metara i 20x10 metara, pomoću pulseEKKO PRO instrumenta s 400 V odašiljačem i antenskim setom od 500 i 200 MHz. Za georadarskih istraživanja tumul 1 je pregledan u smjeru sjever – jug, a tumuli 2 i 3 su pregledani u smjeru sjeverozapad – jugoistok. Skenirana je dubina iznosila 5 metara. Rezultati su pokazali poremećaje i jače pojedinačne anomalije na nekim dijelovima nalazišta. Zbog pore-

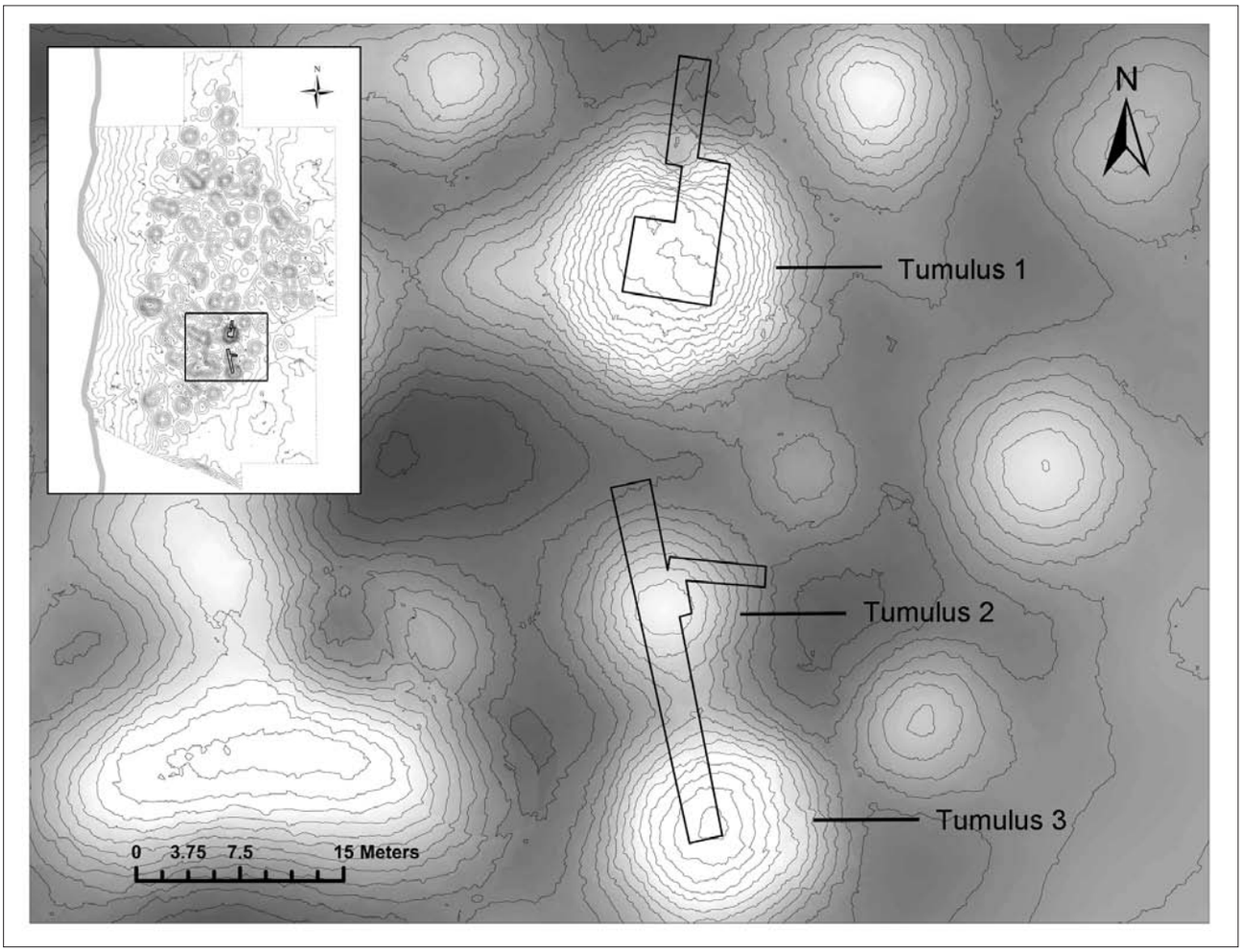


Fig. 1 Excavation area in relation to the tumuli complex of Purić-Ljubanj (figure by: Mu-Chun Wu 2012)
Sl. 1 Položaj iskopa u odnosu na ritualni kompleks Purić-Ljubanj (izradio: Mu-Chun Wu, 2012.)

Geophysical Survey

Prior to excavation, forty two transects were made for purposes of geo-radar and four transects for geo-electricity (resistivity) in order to try and view subterranean structures or disturbances (Fig. 2). A geo-radar survey was conducted in 2 grids 26x20 meters and 20x10 meters, using the pulseEKKO PRO instrument with a 400 V transmitter and a 500 and 200 MHz antenna set. For the geo-radar survey Tumulus 1 was transected in a north-south direction while Tumuli 2 and 3 were transected in a north-western/south-eastern direction. The scanning depth was 5 metres. Results showed some areas of disturbances and stronger individual anomalies across the site. There are problems interpreting the data for Tumulus 1 owing to the disturbance caused by unsystematic excavation in the 1920s and the ensuing disturbance from wildlife; we cannot be sure that this disturbance is not the cause of the high number of individual anomalies on the eastern side of Tumulus 1. The results showed a possible subterranean structure close to Tumulus 2, as a consequence of this Trial Trench 2 (Fig. 3) was dug to a depth of 1.2 meters; only one small, undiagnostic pottery sherd and some charcoal fragments were found.

The geo-electrical (resistivity) survey was carried out

mećaja uzrokovanih iskopavanjima 1920-ih i potom nastalih oštećenja uzrokovanih šumskim životinjama, naišli smo na probleme pri tumačenju podataka za tumul 1, te nismo mogli biti sigurni da spomenuti poremećaji nisu uzrok velikom broju pojedinačnih anomalija na istočnoj strani ovog tumula. Rezultati su pokazali moguću podzemnu strukturu u blizini tumula 2, posljedica čega je bilo postavljanje probnog rova 2 na to mjesto (sl. 3). Ovaj rov iskopan je do dubine od 1,2 metra, ali su u njemu pronađeni tek jedan mali nedijagnostički ulomak keramike i nešto ugljena.

Ispitivanje geoelektričnog otpora provedeno je u četiri transekta preko tumula 2 i 3, te područja između njih. Tumul 1 nije bio predmet ovog postupka zbog prije spomenutih oštećenja. Jedan presjek je učinjen u smjeru sjever – jug, dva u smjeru sjeverozapad – jugoistok i jedan u smjeru jugozapad – sjeveroistok. Rezultati su pokazali jasniju anomaliju između tumula 2 i 3 (sl. 2), sukladno čemu je ovdje smješten probni rov 1 (sl. 3). Manja koncentracija vrlo dijagnostičke Belegiš II keramike s međusobno spojivim ulomcima (nalaz 4011, kontekst 402, sl. 4) pronađena je u sjevernom presjeku na zapadnoj strani ovog rova dajući prvi nagovještaj kasnobrončanodobnog datuma za teren. U vezi s ovom keramikom također je pronađena i koncen-

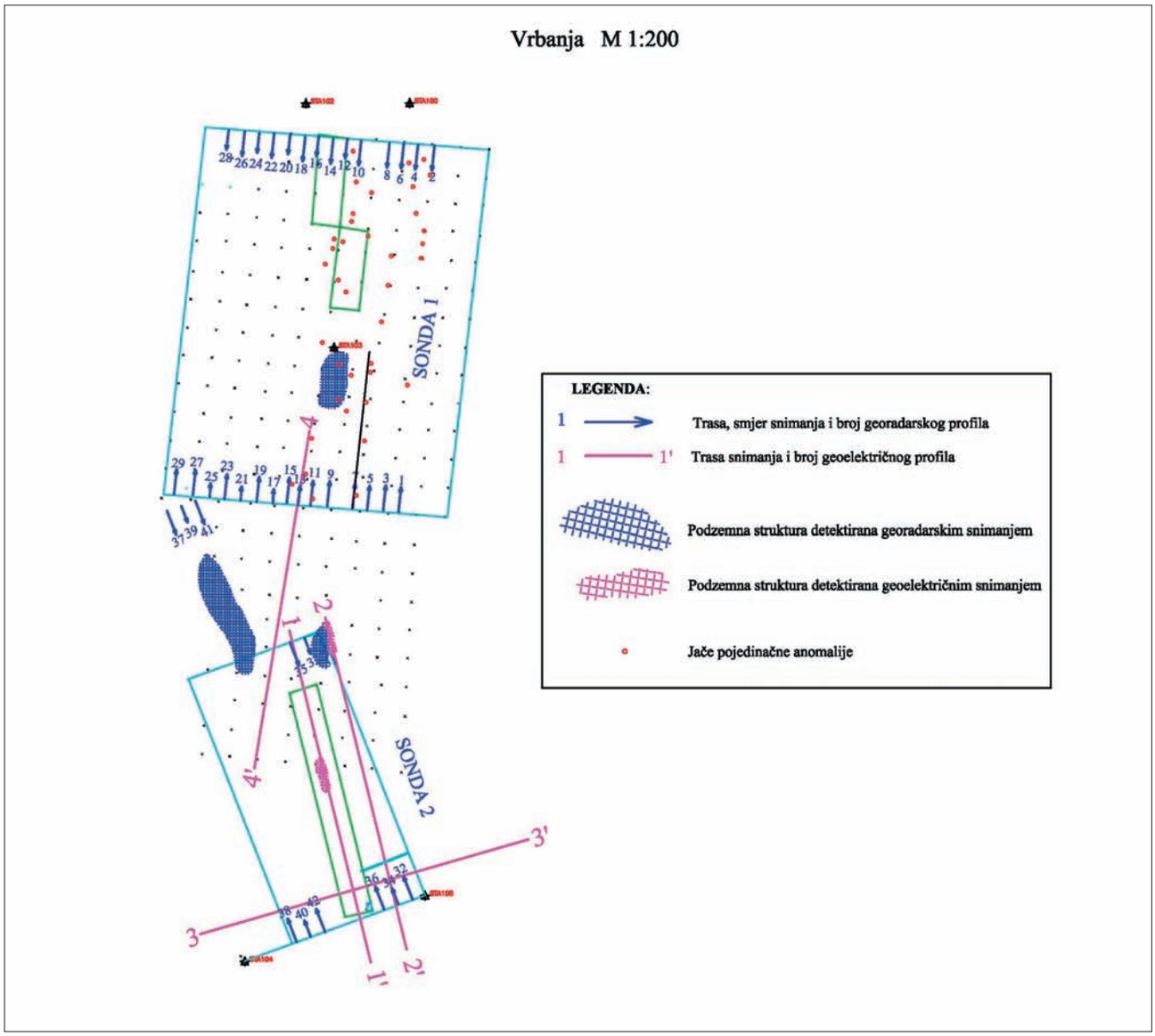


Fig. 2 Geophysics at Purić-Ljubanj (figure by: A. Malovoz 2013)
Sl. 2 Geofizička istraživanja na Purić-Ljubnju (izradila: A. Malovoz, 2013.)

by taking four transects across tumuli 2 and 3 and the area between them. Tumulus 1 was not subject to this process due to the intense disturbance of the 1920s activity. One transect was taken in a north-south direction, two in a north-western/south-eastern direction and one was taken in a south-western/north-eastern direction. The results did show a clearer anomaly between Tumuli 2 and 3 (Fig. 2), consequently a Trial Trench 1 (Fig. 3) was placed between them. A small spread of highly diagnostic Belegiš II pottery with conjoining sherds was discovered (Finds No. 4011, Context 402, Fig. 4) in the north baulk at the western side of this trench giving us our first hint as to a Late Bronze Age date for the site. A spread of cremated bone (Finds No. 4010, Context 402) was found in association with this pottery and has since been identified as being the crania fragments of a child (Laboratory of the Department of Archaeology, Croatian Academy of Arts and Sciences, Zagreb, January 2010).

tracija kremiranih kostiju (nalaz 4010, kontekst 402), za koju je u međuvremenu utvrđeno da je riječ o fragmentima lubanje djeteta (Laboratorij Odsjeka za arheologiju, Hrvatska akademija znanosti, Zagreb, siječanj 2010.).

GPS snimanja

Snimanje GPS-om potvrdilo je postojanje skupine od 104 tumula smještene uz vodotok rijeke Ljubanj, dok novija topografska snimanja totalnom stanicom podižu broj tumula na ovom nalazištu na 117. U 2012. godini provedeno je daljnje sustavno GPS snimanje kako bi se potvrdili usmeni izvještaji o novim skupinama tumula primijećenim u ostatku spačvanske šume. Ovo je do danas omogućilo kartiranje još 15 groblja (karta 1). Na svakom novootkrivenom nalazištu snimane su točke za svaki pojedini tumul. Broj tumula na pojedinim nalazištima značajno varira, u rasponu od jednog tumula na najmanjem, do 178 tumula na zasad naj-

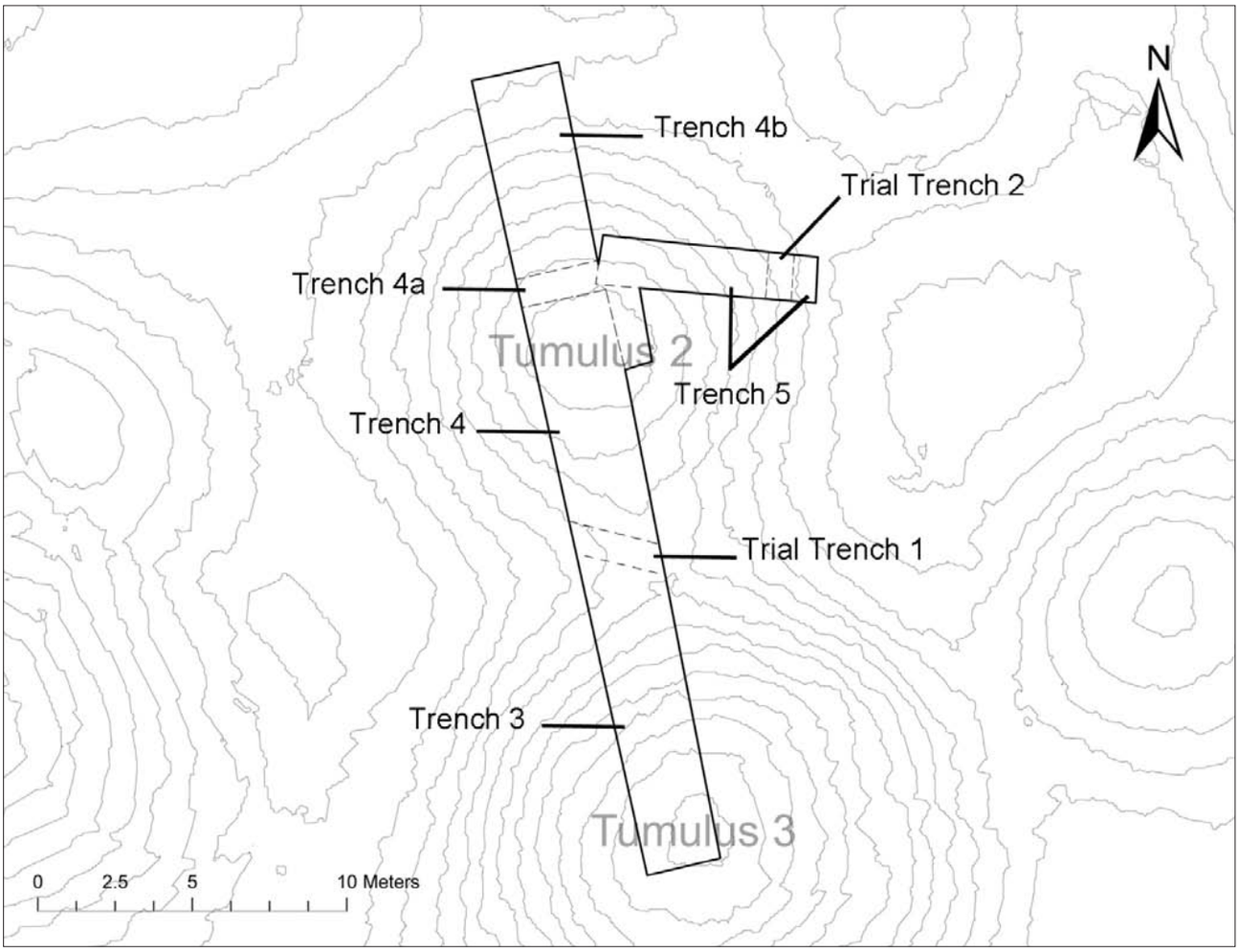


Fig. 3 Positions of trial trenches and trenches in Tumulus 2 (figure by: Mu-Chun Wu 2012)
Sl. 3 Položaj probnih rovova i sondi na tumulu 2 (izradio: Mu-Chun Wu, 2012.)

GPS Survey

The GPS survey at Purić-Ljubanj confirmed the presence of 104 tumuli positioned in a discrete cluster along the Ljubanj river bed in the Vrbanja Forest, while recent detailed total station measurements raise their number to 117. In 2012 a further systematic GPS survey was conducted in order to clarify local oral reports of more cemeteries lying across the Spačva Forest. This work has enabled 15 more cemeteries to be mapped so far (Map 1). Points were taken for each tumulus on each newly discovered site. The numbers of tumuli on each cemetery vary considerably, ranging from a single tumulus to 178 on the largest site (Tab. 1). Despite this variation the tumuli are visually very similar to those of Purić-Ljubanj. Test pits have so far been placed on two sites. They have revealed yellow-ochre, levigated clay capping consistent with that found at Purić-Ljubanj and LBA pottery and charcoal recovered at a depth commensurate with the first finds from the Purić- Ljubanj site. Further detailed topographic surveys of these sites are planned for future years.

Topographic Survey

The aim of the topographic survey was to confirm the

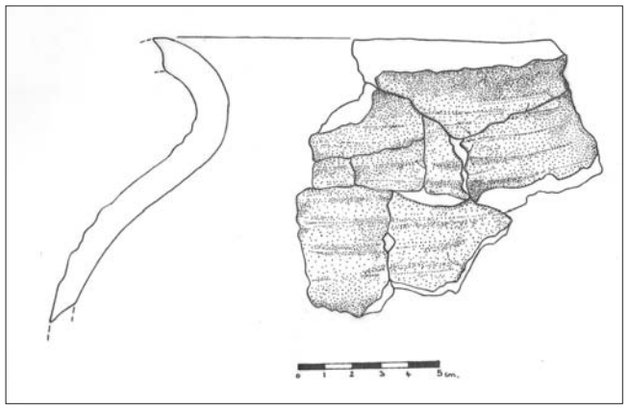


Fig. 4 Black burnished pot with channelling, Belegiš II group (drawing by: L. Waldock 2013)
Sl. 4 Posuda crne glačane površine s kaneliranjem, Belegiš II grupa (nacrtala: L. Waldock, 2013.)

većem nalazištu (tab. 1). Unatoč ovim varijacijama tumuli su vizualno vrlo slični onima s Purić-Ljubnja. Probna istraživanja dosad su provedena na dva nalazišta. Probne sonde dale su nalaze brončanodobne keramike i ugljena na dubini razmjernoj početnim nalazima s Purić-Ljubnja te tragove

Nalazište / Site	Broj tumula na nalazištu / Number of tumuli on the site	Nalazište / Site	Broj tumula na nalazištu / Number of tumuli on the site
Purić-Ljubanj	117	H	31
A	2	I	1
B	1	J	80
C	13	K	178
D	17	L	35
E	137	M	30
F	18	N	87
G	113	O	120

Tab. 1 Size range of Tumuli complexes located in the Spačva Forest to date
Tab. 1 Raspon veličina kompleksa tumula pronađenih do danas u spačvanskoj šumi

numbers of tumuli present at Purić-Ljubanj and assess their sizes, shapes and mutual relationships. The fine grained survey at a resolution of 1x1 metre grids conducted across the excavation area was linked by TheoLT to AutoCAD resulting in 3D imaging of the excavation area. The three mounds to be excavated were surveyed in a 1x1 meter resolution while the remaining tumuli were surveyed in a 2x2 meters resolution and the low ground between them was surveyed in a 3x3 meters resolution. The resulting data was then interpolated into a digital elevation model (DEM) for the cemetery and the surrounding terrain, covering 96 422 m^2 of the forest surface in and around the site (Fig. 5). The DEM also went through several different applications (ArcGIS, LandSerf, etc.) to mathematically identify the amount of tumuli. The results show that the site area has an uneven shape and covers 51 291 m^2. The site of Purić-Ljubanj consists of 117 burial mounds. The base diameters of the tumuli range from 9.38 to 30.56 meters and heights range from just 10 cm to 1.6 meters, showing that considerable variation exists. Of course, these dimensions cannot be taken to represent the original sizes of the tumuli which, being constructed entirely of clay, have been subject to significant slippage through time. Two tumuli appear to be quite different in shape with an elongated ellipsoid rather than circular base; only excavation can verify the nature of these anomalies. All other tumuli appear to be rounded in form although the survey shows that some have collapsed together giving a first impression of variability (Fig. 5).

EXCAVATION METHODOLOGY AND RESULTS

Methodology

With regard to Tumulus 1 the decision was made to place two trenches (Trenches 1 and 2) that would provide a stratigraphic sequence from the centre and extending beyond the periphery of the tumulus (Fig. 6). The aim was to cover the most extensive area of damage caused in the 1920s and to determine the presence or absence of a ditch. The proximity of Tumulus 2 and Tumulus 3 allowed for the exploration of the relationship between them. To this end two slot trenches (Trenches 3 and 4) would start

pokrova od žute pročišćene gline, također u skladu s pronađenim na Purić-Ljubnju. Predstoji daljnja detaljna topografska izmjera obaju nalazišta.

Topografska izmjera

Cilj topografske izmjere bio je potvrditi broj tumula prisutnih na Purić-Ljubnju i odrediti njihove veličine, oblike i međuodnos. Detaljno snimanje pri rezoluciji od 1x1 metar provedeno je na području iskopa i povezano TheoLT-om s AutoCAD-om čime je dobivena 3D slika područja. Tri tumula na kojima se vrše istraživanja snimljena su u rezoluciji 1x1 m, ostali tumuli na nalazištu u rezoluciji 2x2 m, a prostor između tumula snimljen je u rezoluciji 3x3 m. Dobiveni podaci su interpolirani u digitalni model reljefa (DEM), kako za groblje, tako i za okolni teren, pokrivajući 96 422 m^2 šumske površine (sl. 5). DEM je također prošao kroz nekoliko različitih aplikacija (ArcGIS, LandSerf, itd.) kako bi se matematički utvrdio broj tumula. Rezultati izmjere pokazuju da se nalazište Purić-Ljubanj nalazi na području nepravilna oblika koje pokriva površinu od 51 291 m^2 i sastoji se od 117 tumula. Dimenzije promjera baznih površina tumula su u rasponu od 9,38 do 30,56 metara, dok im visina varira od samo 10 cm do 1,6 metara, pa je vidno postojanje znatnih varijacija. Naravno, ove dimenzije ne predstavljaju izvorne veličine tumula koji su građeni isključivo od gline te su s vremenom bili podložni klizanju materijala. Čini se da se dva tumula prilično razlikuju od ostalih, s izduženom, elipsoidnom, prije nego kružnom bazom, a samo iskopavanjem može se utvrditi priroda ovih anomalija. Svi ostali tumuli javljaju se u kružnom obliku, iako istraživanje pokazuje da su se neki tumuli s vremenom međusobno spojili, što ostavlja prvi dojam varijabilnosti (sl. 5).

METODOLOGIJA I REZULTATI ISTRAŽIVANJA

Metodologija

S obzirom na tumul 1 donesena je odluka da se otvore dvije sonde (sonde 1 i 2) koje bi pružile stratigrafski slijed počevši od centra do izvan ruba tumula (sl. 6). Cilj je bio pokriti područje štete nastale 1920-ih i utvrditi prisutnost ili odsutnost jarka koji bi okruživao tumul. Blizina grobnih

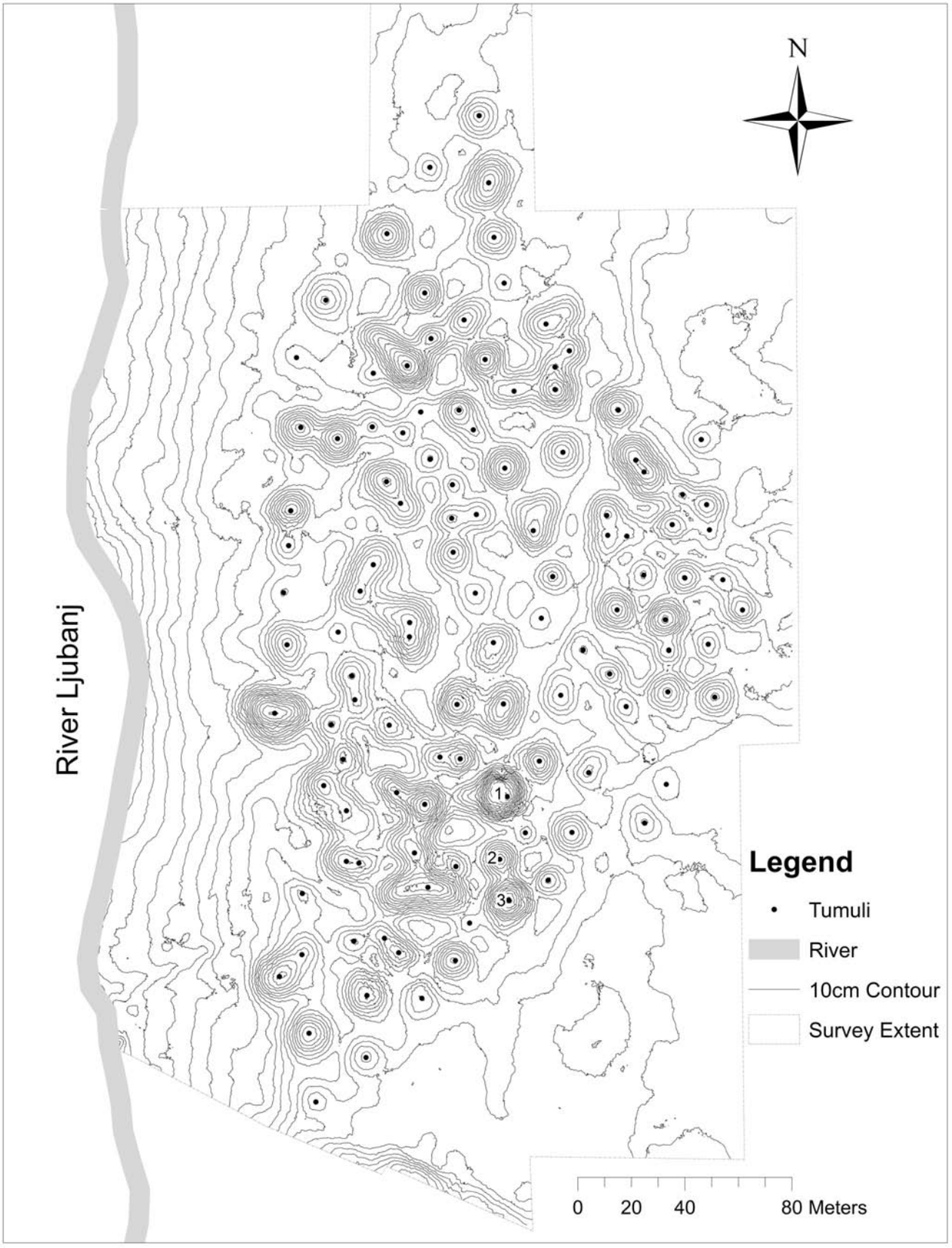


Fig. 5 Digital Elevation Model showing numbers and forms of Tumuli at Purić-Ljubanj (figure by: Mu-Chun Wu 2012)
Sl. 5 Digitalni model reljefa koji prikazuje broj i oblike tumula na Purić-Ljubnju (izradio: Mu-Chun Wu, 2012.)

at the centre point of Tumulus 2 (Trench 4) and Tumulus 3 (Trench 3) eventually uniting at the mid-point between the two tumuli thus giving a picture not only of each tumulus but of the ground between (Figs.1 and 3). The trenches were deliberately planned to run from the centre points of both Tumuli 1 and 2 to extend beyond their circumference enabling investigation of the 'heart' and 'periphery' of each tumulus and establish the presence or absence of ditches surrounding the mounds. This was an important strategy designed to establish where the building material (clay) that the tumuli are made of came from. It was consciously our aim to excavate the three tumuli simultaneously, making practices used, recording and interpretation holistic to all three tumuli in an effort to enhance final interpretation. The excavation method by single contexts within the Harris matrix was used. Where there was no specific new context to follow the ground was removed in spits varying in depth, from 5 mm to 20 cm depending on circumstances; this maintained vertical sections within each tumulus whilst maximising opportunities to explore fragile surface areas. For various reasons, i.e., to follow important features and contexts trenches were extended as thought necessary. Also, due to the slippage of baulks over the winter months some trenches had to be extended.

Excavation on Tumulus 1

Initial excavation in 2008 on Tumulus 1 revealed the extent of the damage from the 1920s disturbance. This took the form of a series of 'pits' (Context 106) of various sizes dug into the tumulus cut through the topsoil, Context 100, and the original building material of the tumulus, Context 101. This means that destruction is intermittent across the tumulus and that some areas remain completely undisturbed offering the possibility of providing much useful information. There were no finds to speak of, just a few fragments of un-diagnostic pottery and some charcoal. Excavation did provide evidence of a layer of black clay (Context 101) which continued into Trench 2 and is considered to be the main part of the 'building' material of the tumulus. Despite taking Trench 2 down to the sub-strata and out well beyond the perimeter of what appears to be the fullest extent of the

tumula 2 i 3 omogućila je istraživanje njihova međuodnosa. U tu svrhu dvije sonde (sonde 3 i 4) započete su na središnjim točkama tumula 2 (sonda 4) i tumula 3 (sonda 3) da bi se na kraju spojile u prostoru između dva tumula dajući time stratigrafski slijed, ne samo svakog od tumula, nego i terena između njih (sl. 1 i 3). Ovim je omogućeno istraživanje "srca" i "periferije" svakog tumula i utvrđivanje prisutnosti ili odsutnosti jaraka oko njih. Ova strategija osmišljena je kako bi se utvrdilo odakle potječe građevinski materijal (glina) od koje su tumuli izgrađeni. Cilj je bilo svjesno istodobno istraživanje svih triju tumula, što čini iskopavanje, bilježenje podataka i interpretaciju na sva tri tumula holističkom metodom, a sve u svrhu unapređenja konačne interpretacije. Korištena je metoda iskopavanja po kontekstima unutar Harrisove matrice. Gdje nije bilo moguće slijediti specifični novi kontekst, zemlja je, ovisno o okolnostima, uklanjana u slojevima različite dubine (od 5 mm do 20 cm), čime su ostvareni vertikalni presjeci svakog tumula i povećana mogućnost za istraživanje osjetljivih površina. Iz raznih razloga, npr. kako bi se slijedilo važne jedinice i kontekste, sonde su proširivane prema potrebi. Također, s obzirom na klizanje materijala preko zimskih mjeseci neke sonde su nužno morale biti proširene.

Istraživanje tumula 1

Početnim istraživanjem tumula 1 u 2008. godini otkriveno je u kolikoj je mjeri tumul oštećen iskopavanjima iz 1920-ih. Pronađen je niz "jama" (kontekst 106) različitih veličina ukopanih u tumul kroz površinski sloj (kontekst 100) i materijal od kojeg je tumul izgrađen (kontekst 101). Ovo

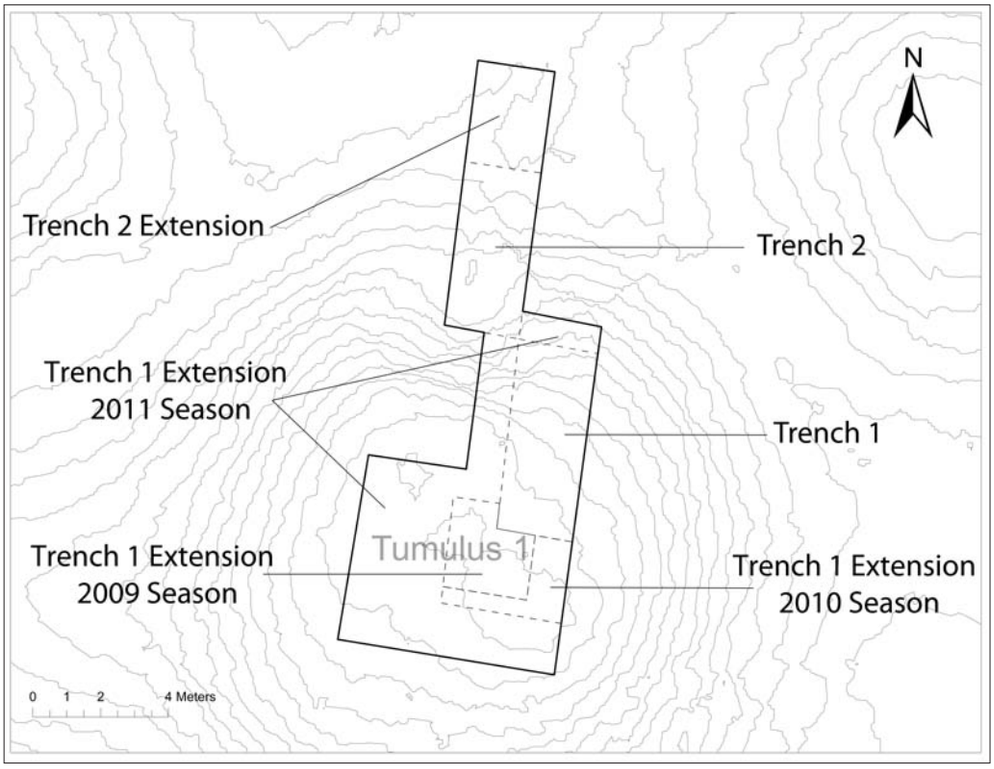


Fig. 6 Positions of trenches in Tumulus 1 (figure by: Mu-Chun Wu 2013)
Sl. 6 Položaj sondi na tumulu 1 (izradio: Mu-Chun Wu, 2013.)

black clay building material (101) no ditch was found.

In 2009 further excavation revealed firstly a layer of yellow ochre coarse-grained clay, Context 104 and immediately beneath a layer of burnt, oxidised clay (Feature 1/1, Context 103) in the very south-west corner of Trench 1. The nature of 103 strongly suggests deliberate and intense burning of the clay surface (Fig. 7) with covering of the surface only taking place once the ground was cold, or the ground would not have remained oxidised (Rye 1981: 109). Part of this Feature was carbonised matting made from organic material, potentially reed (Fig. 8). Radio Carbon dates for this matting are cal. RC 1610 – 1430 BC, 3240 ± 80 BP (OxCal calibration programme, sample number Z-4362 B673 Ruđer Bošković Institute, Laboratory for Low-level Radioactivities, 2010). Charcoal, bone fragments, microliths and undiagnostic pottery sherds were also recovered within context 103. Bone fragments (Finds No. 1027) were identified as being the well charred fragments of the diaphysis of the humerus of a child, while Finds No. 1029 were shown to be fragments of the diaphysis and of a joint surface of an adult; it was not possible to determine the sex of the person (Laboratory of the Department of Archaeology, Croatian Academy of Arts and Sciences, Zagreb, January 2010).

Finds have been limited to a few pieces of pottery of uncertain character and a concentration of charcoal which was taken as a sterile sample for further ^{14}C analysis. In addition to this, a red retouched stone (Finds No. 1039) was found that could be a piece of a honing stone. In 2011, a sub-rounded pit (Feature 1/2, Context 105), 1.2 m in diameter became visible cutting through context 103 and being beneath the building material of tumulus 101. Small fragments of bone were recovered from this feature. After exposing, je pokazalo da su oštećenja naizmjenična i da su neki dijelovi ostali posve neoštećeni, što je otvorilo mogućnost za prikupljanje mnogo korisnih informacija i iz ovog tumula. Početno istraživanje dalo je tek nekoliko ulomaka nedijagnostičke keramike i nešto ugljena. Iskopavanje je potvrdilo postojanje sloja crne gline (kontekst 101) koji se nastavio i u sondi 2 i smatra se glavnim materijalom korištenim za izgradnju tumula. Unatoč tomu što je sonda 2 iskopana do dubine zdravice te izvan dosega građevinskog materijala tumula, jarak oko tumula nije pronađen.

U 2009. godini daljnjim iskapanjem otkriven je sloj krupnozrnate oker gline, kontekst 104, a neposredno ispod njega, u jugozapadnom uglu sonde 1, nalazio se sloj pečene, oksidirane gline (jedinica 1/1, kontekst 103). Priroda konteksta 103 predstavlja namjerno i intenzivno pečenje glinene površine (sl. 7). Također je primjetno da je pečena površina pokrivena novim slojem zemlje tek kada je tlo bilo ohlađeno – u protivnom ono ne bi ostalo oksidirano (Rye 1981: 109). U kontekstu 103 pronađen je karbonizirani preplet izrađen od organskog materijala, moguće rogoza (sl. 8). Ovaj pleter je datiran u cal. RC 1610. – 1430. god. pr. Kr., 3240±80 BP (OxCal kalibracijski program, broj uzorka Z-4362 B673, Institut Ruđer Bošković, Laboratorij za mjerenje niskih radioaktivnosti, 2010.). Ugljen, ulomci kostiju, mikroliti i nedijagnostički ulomci keramike također su pronađeni u kontekstu 103. Ulomci kostiju (nalaz 1027) identificirani su kao kremirani fragmenti dijafize humerusa djeteta, dok je nalaz kostiju 1029 identificiran kao fragmenti dijafize i zglobne površine odrasle osobe čiji spol nije bilo moguće utvrditi (Laboratorij Odsjeka za arheologiju, Hrvatska akademija znanosti i umjetnosti).

Nalazi su se sveli na nekoliko komada keramike neizvje-

Fig. 7 Deliberate burning of surface, Trench 1, Context 103 (photo by: A. Malovoz 2010)
Sl. 7 Namjerno spaljivanje površine, sonda 1, kontekst 103 (snimila: A. Malovoz, 2010.)

recording and finally lifting the surface of 103 and removing several spits of barren material surrounding Feature 1/2, undiagnostic sherds of two large vessels were lifted (Feature 1/4, Finds No. 1068, Context 104b and Feature 1/5, Finds No. 1069, Context 104b).

Excavation on Tumulus 2

Tumulus 2 is the smallest of the 3 tumuli to be excavated and lies on slightly elevated ground, squeezed between Tumulus 1 to the north and Tumulus 3 to the south (Fig. 1). The first finds from Tumulus 2 came as a result of an early trial trench (Trial Trench 1) placed following geophysics. A vessel (Finds No. 4011, Fig. 4) emerged from the south end of Trench 4 at the intersection with Trial Trench 1 (Fig. 3). This vessel is diagnostically characteristic of a Belegiš II burial urn; being manufactured of coarsely tempered, loose clay, low fired and black burnished with the characteristic fingertip channelling that emerges at this time (Forenbaher 1989: 25, 1994: 55–57; Tasić 1974: 245).

Following this context 401 emerged which, as in Tumulus 1 (Context 101), was a layer of black clay used as final building material when the tumulus was closed. Within this there were several discrete depositions of pots within shallow pits. The most notable of these was found within Feature 4/1. This was a very small, fine black burnished cup (Finds No. 4054) lying in the fill of context 406, a shallow pit, with a carefully arranged group of limestone nodules adjacent at the east side of the pot. As previously noted these limestone nodules are only found in the sub-strata across the site so the suggestion is that they were deliberately placed beside the pot. This cup is diagnostically characteristic of the Belegiš II cultural group (Forenbaher 1991: 56; Dizdar 1999: 108). The pot was incredibly friable and was therefore photographed and drawn *in situ* (Fig. 9).

After this, pottery also began to appear among the charcoal and ash spreads. The first such spread, located in the north-east end of Trench 4 was a cremation burial (Feature 4/2) a whole urn with cremated bone within (Fig. 10) which was later found to be within Feature 4/8, Context 416, a layer of deliberately burnt oxidised clay (Fig. 11). Pottery (Finds No.'s 4033, 4131, 4132, 4133, 4134 and 4135) from 4/2 is diagnostically of a Late Bronze Age date. Cremated bone was also removed from within Feature 4/2; Finds No.'s 4015, 4017, 4018. Analysis revealed fragments of the cremated crania and diaphysis of a child and a tooth root with the apex open suggesting a child of 10–12 years old at time of death (Laboratory of the Department of Archaeology, Croatian Academy of Arts and Sciences, Zagreb, January 2010).

At the same level and south of 4/2, also on the eastern side of Trench 4, another burial represented by diagnostically Late Bronze Age pottery finds No.'s 4043, 4044, 4045 and 4047 (Fig. 12) and the cremated diaphysis (Find No. 4042) of an adult of undetermined sex were found (Laboratory of the Department of Archaeology, Croatian Academy of Arts and Sciences, Zagreb, January 2010).

Fig. 8 Carbonised matting, Feature 1/1, Context 103 (photo by: J. Jones 2009)

Sl. 8 Karbonizirani preplet, jedinica 1/1, kontekst 103 (snimila: J. Jones, 2009.)

snog karaktera i koncentraciju ugljena koja je prikupljena kao sterilni uzorak za daljnju ^{14}C analizu. Uz to, pronađen je crveni retuširani kamen (nalaz 1039) koji bi mogao biti dio brusnog kamena. U 2011. godini otkrivena je poluzaobljena jama (jedinica 1/2, kontekst 105) promjera 1,2 m koja je očito bila usječena kroz pečeni sloj (kontekst 103), a nalazi se ispod građevinskog materijala tumula (kontekst 101). U njoj su pronađeni sitni fragmenti kostiju. Nakon otkrivanja, istraživanja i konačnog uklanjanja sloja 103 te uklanjanja nekoliko slojeva materijala koji okružuje jedinicu 1/2, pronađeni su nedijagnostički ulomci dviju velikih keramičkih posuda (jedinica 1/4, nalaz 1068, kontekst 104b i jedinica 1/5, nalaz 1069, kontekst 104b).

Istraživanje tumula 2

Tumul 2 je najmanji od tri istraživana tumula i leži na blago povišenom terenu, stiješnjen između tumula 1 na sjeveru i tumula 3 na jugu (sl. 1). Prvi nalazi iz tumula 2 pronađeni su u probnom rovu 1 postavljenom kao rezultat geofizičkih istraživanja. Na mjestu križanja južnog kraja sonde 4 i rova 1 (sl. 3) pronađena je posuda (nalaz 4011, sl. 4) koja nosi dijagnostička obilježja Belegiš II posude. Načinjena je od krhke keramike s grubim inkluzijama, slabo pečena, crne i uglačane površine s karakterističnim kaneliranjem koje se javlja u to vrijeme (Forenbaher 1989: 25; 1994: 55–57; Tasić 1974: 245).

Kontekst 401 javio se, kao i kontekst 101 u tumulu 1, u obliku sloja crne gline koji predstavlja završni građevinski materijal tumula. U njemu je pronađeno nekoliko zasebnih koncentracija keramike u plitkim jamama. Najistaknutija od njih je jedinica 4/1, u kojoj se nalazio jedan mali, fini, crni uglačani pehar (nalaz 4054) u zapuni plitke jame (kontekst 406) s pomno poslaganim vapnenim konkrecijama tik do pehara, s njegove istočne strane. Kako je već spomenuto, ove vapnene konkrecije mogu se pronaći u okolnim slojevima zdravice te predlažemo da su namjerno smještene uz pehar. Ovaj pehar dijagnostički je karakterističan za Belegiš II grupu (Forenbaher 1991: 56; Dizdar 1999: 108). Pehar je načinjen od vrlo trošnog keramičkog materijala, zbog čega je fotografiran i nacrtan *in situ* (sl. 9).

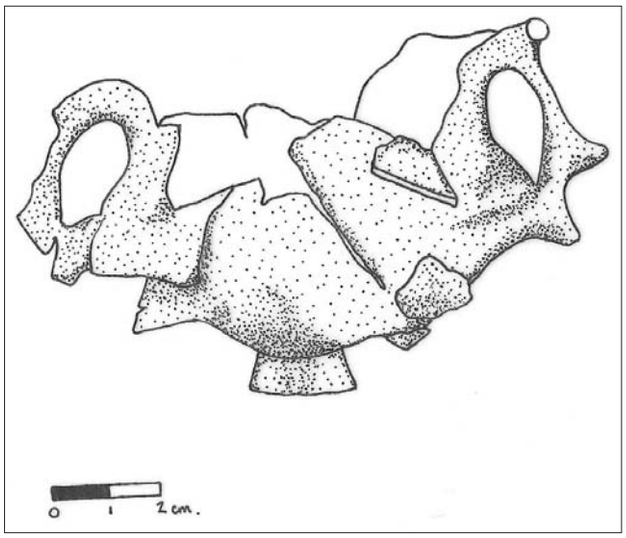


Fig. 9 Belegiš II cup drawn in situ (drawing by: L. Waldock 2013)
Sl. 9 Belegiš II keramički pehar nacrtan in situ (nacrtala: L. Waldock, 2013.)

The next feature to emerge was Feature 4/3. This lays at the south end of Trench 4 on an east-west orientation and spans the entire width of the trench; although the western side of the feature is richer in finds than the eastern side. Feature 4/3 is made up of a concentrated spread of char-

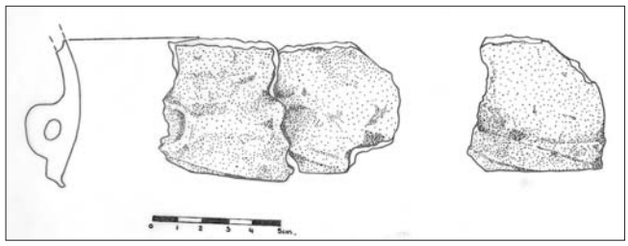


Fig. 10 Late Bronze Age bowl from Feature 4/2 (drawing by: L. Waldock 2013)
Sl. 10 Kasnobrončanodobna zdjela iz jedinice 4/2 (nacrtala: L. Waldock, 2013.)

Keramički nalazi su se također počeli javljati unutar raspršenih slojeva ugljena i pepela. Prva takva koncentracija, smještena na sjeveroistočnom kraju sonde 4 je paljevinski grob (jedinica 4/2, cijela urna s kremiranim kostima, sl. 10) za koju je poslije utvrđeno da se nalazi unutar jedinice 4/8, kontekst 416, sloj namjerno spaljene oksidirane gline (sl. 11). Keramika (nalazi 4033, 4131, 4132, 4133, 4134 i 4135) iz jedinice 4/2 dijagnostički je kasnobrončanodobnog datuma. Kremirane kosti također su pronađene u ovoj jedinici (nalazi 4015, 4017, 4018), a njihova analiza je pokazala kako je riječ o kremiranim fragmentima lubanje, dijafize i korijena zuba s otvorenim apeksom koji upućuju na grob djeteta od 10 do 12 godina u trenutku smrti (Laboratorij Odsjeka za arheologiju, Hrvatska akademija znanosti i umjetnosti).

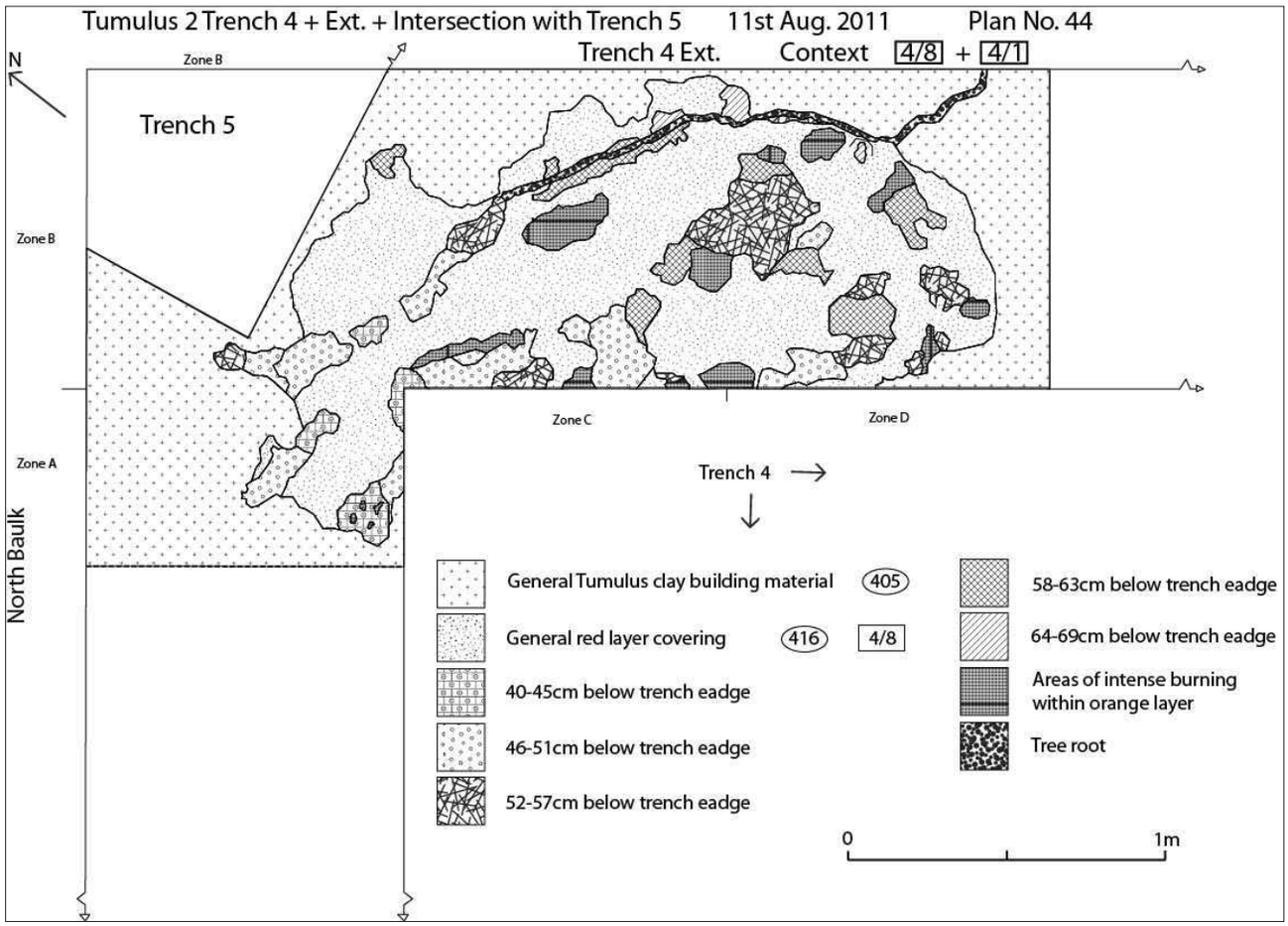


Fig. 11 Burning of clay surface Feature 4/8, Context 416 (figure by: Mu-Chun Wu 2012)
Sl. 11 Oksidirani pečeni sloj, jedinica 4/8, kontekst 416 (digitalizirao: Mu-Chun Wu, 2011.)

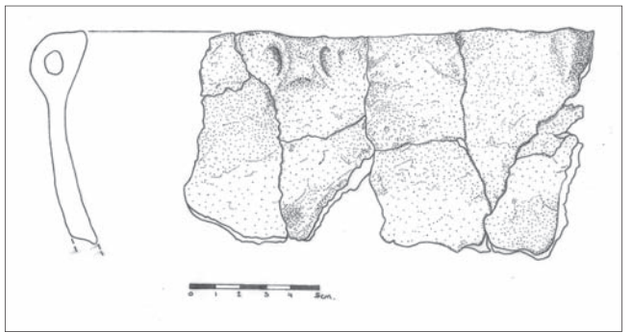


Fig. 12 Late Bronze Age vessel (drawing by: L. Waldock 2013)
Sl. 12 Kasnobrončanodobna posuda (nacrtala: L. Waldock, 2013.)

coal, ash, cremated bone, pottery and crushed, degraded pottery. Three main vessel types are present within feature 4/3: Belegiš II fine ware cups (Fig. 13), black burnished, elaborately decorated vessels with exaggerated bosses (Fig. 14), carinated bowls with everted rims (Fig. 15) and either facetting or incised parallel lines decorating the carinated neck (Forenbaher 1989: 25–30; 1990: 58–61; 1994: 54–59). Sterile charcoal samples taken from immediately under, and adjacent to the pottery recovered (Finds No.'s 4128 and 4129) were sent for analysis and gave a date of cal. BC 1390 – 1010, 2970±150 BP (OxCal calibration programme, sample no. Z-4605 B810 (Ruđer Bošković Institute, Laboratory for Low-level Radioactivities, 2010).

Beneath Features 4/8 and 4/2 earlier deposits emerged across the western side of Trench 4 (Fig. 16–17), Features 4/4a to 4/4s. The stratigraphy shows this layer precedes events associated with the oxidised layer, Feature 4/8. It would seem that these features may represent several events; only further analysis will clarify how many 'events' are represented by the 4/4 features. In a strong visual contrast to Feature

Fig. 13 Fragments of Belegiš II fine-ware cups (photo by: A. Malovoz 1013)
Sl. 13 Ulomci Belegiš II pehara (snimila: A. Malovoz, 2013.)

Fig. 14 Fragments of Belegiš II vessels (photo by: A. Malovoz 1013)
Sl. 14 Ulomci Belegiš II posuda (foto: A. Malovoz, 2013.)

Na istoj razini, južno od jedinice 4/2 na istočnoj strani sonde 4, pronađen je još jedan grob s dijagnostički kasnobrončanodobnim keramičkim nalazima 4043, 4044, 4045 i 4047 (sl. 12), te kremiranim kostima s dijafizom (nalaz 4042) odrasle osobe neutvrđenog spola (Laboratorij Odsjeka za arheologiju, Hrvatska akademija znanosti i umjetnosti).

Sljedeća otkrivena jedinica, jedinica 4/3, nalazi se na južnom kraju sonde 4 s orijentacijom istok – zapad, a proteže se cijelom širinom sonde. Zapadna strana ove jedinice bogatija je nalazima nego istočna. Jedinica 4/3 sastoji se od koncentracije ugljena, pepela, kremiranih kostiju, keramičkih posuda te smrskane keramike. Tri glavna tipa posuda prisutna u jedinici 4/3 su: Belegiš II fini keramički pehari (sl. 13), crne uglačane, bogato ukrašene posude s naglašenim bradavičastim ispupčenjima (sl. 14), zdjele kariniranog ramena s izvučenim rubom (sl. 15) te s ukrasom fazetiranja ili urezanih paralelnih linija na vratu; za usporedbu v. Forenbaher (1989: 25–30; 1990: 58–61; 1994: 54–59). Sterilni uzorci ugljena uzeti neposredno ispod i pokraj pronađene keramike (nalazi 4128 i 4129) poslani su na analizu i dali dataciju cal. RC 1390. – 1010. god. pr. Kr., 2970±150 BP (OxCal kalibracijski program, broj uzorka Z-4605 B810, Institut Ruđer Boš-

Fig. 15 Bowl in Feature 4/3 (photo by: S. Budden 2011)
Sl. 15 Zdjela u jedinici 4/3 (snimila: S. Budden-Hoskins 2011.)

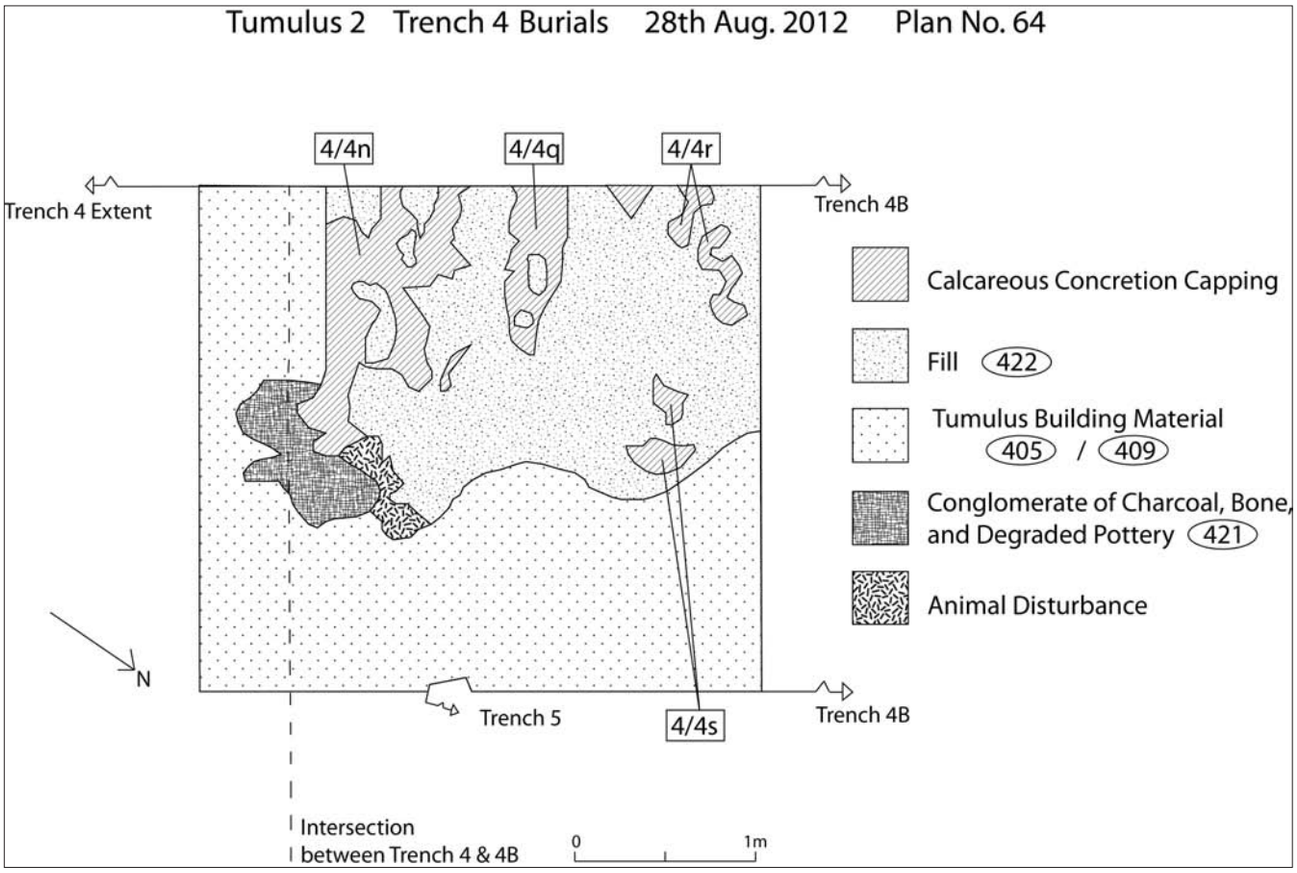


Fig. 16 Plan of Feature 4/4n (figure by: Mu-Chun Wu 2013)
Sl. 16 Tlocrt jedinice 4/4n (digitalizirao: Mu-Chun Wu, 2013.)

4/8, all the depositions associated with these features are covered with, and sometimes surrounded by compacted buff/white, limestone nodules (Fig. 18) with iron at their core. This material is used to produce a 'concrete' like substance and is only to be found in the sub-strata across the site as part of the natural geology of the region caused by ground water percolation at the transition from Pleistocene to the Holocene (*Osnovna geološka karta:100000, tumač za list Vinkovci L 34–98*, 1989). This suggests the deliberate use of this material to delineate, and potentially protect, depositions of pottery, cremated bone, ash and charcoal made during this horizon of activity. Meanwhile, the finds sit within the 4/4 features in a fill of extremely fine, sandy, ochre coloured clay, that appears to have been levigated. Fills from all Features 4/4a–s are awaiting environmental and chemical analysis.

All the pottery recovered from these features is diagnostically Late Bronze Age. The only cremated bone sample (Find No. 4118) analysed to date from these features is from Feature 4/4i, Context 414. This sample was a fragment of the diaphysis of the femur of an adult male (Laboratory of the Department of Archaeology, Croatian Academy of Arts and Sciences, Zagreb, January 2010). Finds from 4/4i represent a good example of Belegiš II ceramics (Fig. 19). Of all the 4/4 features, the burial 4/4n is the largest and most complex with deposits of charcoal, pottery, cremated bone

ković, Laboratorij za mjerenje niskih radioaktivnosti, 2010.).

Ispod jedinica 4/8 i 4/2 javili su se raniji depoziti na zapadnoj strani rova 4 (sl. 16–17), jedinice 4/4a – 4/4s. Stratigrafija pokazuje da ovaj sloj prethodi događajima povezanim s oksidiranim slojem, jedinicom 4/8. Ovaj sloj karakteriziraju nepravilni pokrovi od kalcita (sl. 18) koji ili obgrljuju ili pokrivaju kremirane kosti, pepeo, ugljen i keramiku. Oni mogu predstavljati ili jednu veliku epizodu aktivnosti ili brojne manje epizode povezane s istim ritualom depozicije. Što je točno slučaj, još je nejasno. U snažnom je vizualnom kontrastu s oksidiranim slojem 4/8, a svi prilozi povezani s ovom jedinicom su prekriveni, a ponekad i okruženi zbijenim, prljavobijelim konkrecijama vapnenca sa željezom u jezgri korištenim za izradu tvari poput "betona". Ovaj materijal može se pronaći u slojevima zdravice kao dio prirodne geologije regije nastao djelovanjem podzemnih voda na prijelazu iz pleistocena u holocen (*Osnovna geološka karta 1 : 100 000, tumač za list Vinkovci L 34–98*, 1989.). Ovo sugerira namjernu upotrebu ovog materijala za razgraničenje i potencijalno zaštitu keramičkih priloga, kremiranih kostiju, pepela i ugljena tijekom ovog horizonta aktivnosti. U međuvremenu, nalazi su smješteni unutar zapune od vrlo fine, pročišćene, pjeskovite gline oker boje. Zapuna iz jedinica 4/4a–s čeka okolišnu i kemijsku analizu.

Sva keramika pronađena u ovim jedinicama dijagnostički je kasnobrončanodobna. Jedini uzorak kremirane kosti (nalaz 4118) analiziran do danas je iz jedinice 4/4i, kontekst

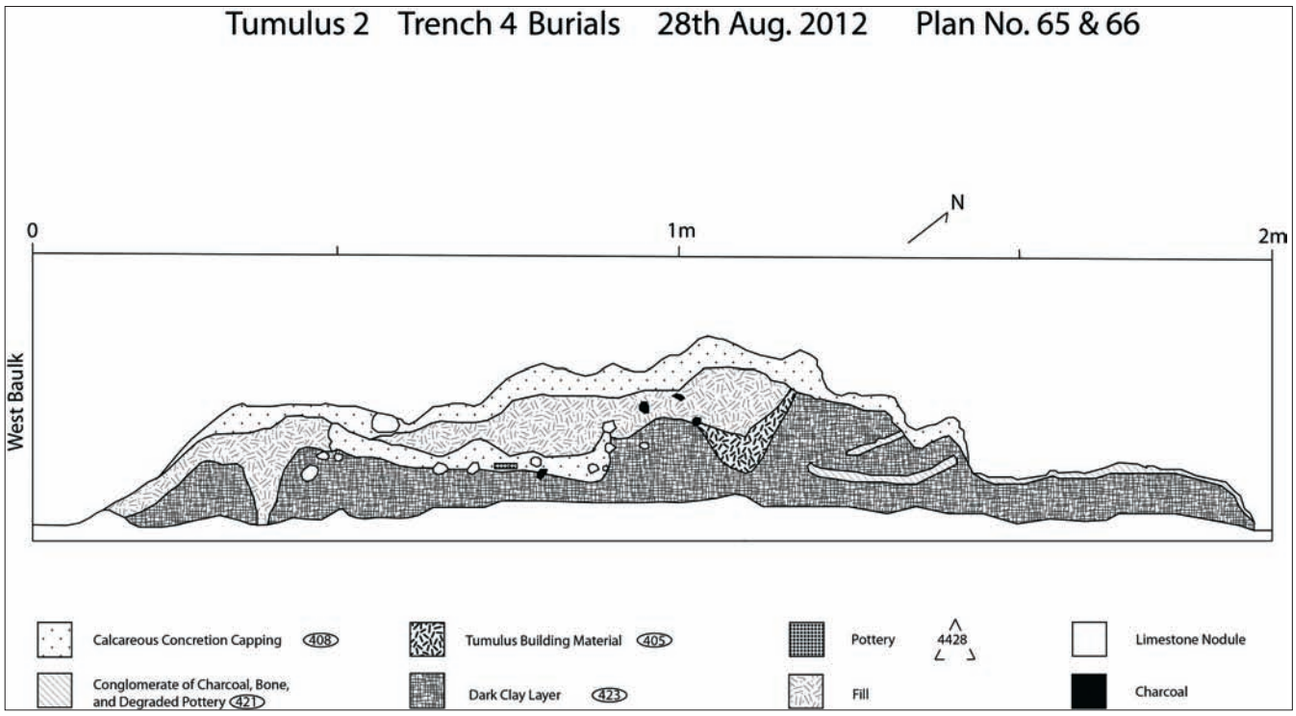


Fig. 17 Cross-section of Feature 4/4n (figure by: Mu-Chun Wu 2013)
Sl. 17 Presjek jedinice 4/4n (digitalizirao: Mu-Chun Wu, 2013.)

Fig. 18 Limestone nodules capping surrounding burial, Feature 4/4n (photo by: S. Budden-Hoskins 2012)
Sl. 18 Pokrov od vapnenih konkrecija oko grobnih priloga, jedinica 4/4n (snimila: S. Budden-Hoskins, 2012.)

and a small amount of bronze. Adjacent to the east side of 4/4n a small post hole (Feature 4/17) was found packed with pottery sherds laid horizontally and with a fill of degraded wood, ash and fine bone fragments.

Amongst the many Features located in Trench 2, also of note are: Feature 4/14 and 4/15 both uncovered in 2012. Feature 4/14 is a deposition of six, small, oxidised bright orange deposits. Of these four were made of daub (Finds No.'s 4290 A, B, C and E) and two were made of oxidised, orange pottery which became broken after deposition, in-situ, these are Finds No.'s 4290 D and F). All of these are arranged evenly in a semi-circle and may relate to an earlier feature which lay immediately beneath 4/14 where a black burnished pot with coarse fabric and a tunnel-handle placed horizontally at the shoulder of the pot that is diagnostically Belegiš II (Finds No 4106), see Forenbaher (1990: 61; 1991: 52; 1994: 55) for parallels. Feature 4/15, also uncovered in 2012, represents an event that precedes 4/8, the highly oxidised and burnt red clay layer mentioned previously. Feature 4/15 also lies on the east side of Trench 4 but is 45 cm beneath 4/8 overlaid in between with general tumuli clay, building material, Context 405. It is characterised by an area of intense burning with many charcoal deposits, some pottery and bone fragments. The pottery (Find's No.'s 4317 and 4319) was not diagnostic.

Excavation on Tumulus 3

Trench 3 was opened in 2008 extending from the centre point of tumulus 3 to trial trench 1, with the intention that it would eventually meet Trench 4 from the mid-point of tumulus 2. This was so we could explore the interiors of both tumuli and the relationship between them. As stated, this strategy would also provide evidence of the existence, or not, of ditches surrounding the tumuli.

Early on in the south-east corner a small conical pit was discovered, Feature 3/1. It was sealed with a semi-burnt, oxidised clay cap made from very fine, levigated yellow/pale orange clay, Context 301. At the base of this pit, within the fill, Context 301A there was a carefully placed, large deposition of well-charred human bone taking the form of fragments of radius bone diaphysis, femur and tibia (Find No. 3016). This was identified as 'most probably' a young adult male (Laboratory of the Department of Archaeology, Croatian Academy of Arts and Sciences, Zagreb, January 2010). No pottery of note was lifted from this feature.

Beneath feature 3/1 there was a large undisturbed area of burnt, highly oxidised, iron rich clay, Feature 3/3 (Fig. 20); this feature is of the same character as that found in both Trenches 1 (Feature 1/1) and 4 (Feature 4/8). This layer may be described as having an undulating, and in places, a broken surface (we believe through natural transforms). It lies on a west-east axis and is sub-rectangular in shape. At the south and east of the trench the surface continues into both baulks. This oxidised surface implies that, as with Tumuli 1 and 2, whatever burning activity took place was intense (c. 600 °C) and deliberate. It was left to cool completely prior to

Fig. 19 Fragments of vessels from Feature 4/4i (photo by: A. Malovoz 1013)

Sl. 19 Ulomci posuda iz jedinice 4/4i (snimila: A. Malovoz, 2013.)

414, a predstavlja ulomak dijafize bedrene kosti odraslog muškaraca (Laboratorij Odsjeka za arheologiju, Hrvatska akademija znanosti i umjetnosti). Nalazi iz 4/4i predstavljaju dobar primjer Belegiš II keramike (sl. 19). Od svih jedinica 4/4 grob 4/4n jest najveći i najsloženiji s naslagama ugljena, keramike, kremiranih kostiju te malom količinom bronce. S istočne strane 4/4n pronađena je mala rupa od stupa (jedinica 4/17) s nalazima vodoravno položenih keramičkih ulomaka te ispunom od degradiranog drva, pepela i sitnih fragmenata kostiju.

Među mnogim jedinicama iz sonde 2 ističu se i jedinice 4/14 i 4/15 otkrivene u 2012. godini. Jedinica 4/14 sastoji se od šest malih, oksidiranih, svijetlo narančastih priloga, od kojih su četiri izrađena od lijepa (nalazi 4290 A, B, C i E), a dva od oksidirane, narančaste keramike koja je naknadno, *in situ*, slomljena (nalazi 4290 D i F). Sve ovo je raspoređeno ravnomjerno u polukrugu, a može se vezati uz raniju jedinicu koja se nalazi odmah ispod 4/14 gdje je pronađena crna uglačana posuda od grubog materijala s tunelastom ručkom vodoravno smještenom na ramenu posude, dijagnostičkom za Belegiš II grupu (nalaz 4106) (Forenbaher (1990: 61; 1991: 52; 1994: 55). Jedinica 4/15, također otkrivena 2012. godine, predstavlja događaj koji prethodi prije spomenutom oksidiranom sloju 4/8. Ona se također nalazi na istočnoj strani sonde 4,45 cm ispod 4/8, pokrivena slojem gline koji predstavlja dio građevinskog materijala tumula, kontekst 405. Odlikuje ju područje intenzivnog gorenja s mnogo nalaza ugljena, nešto keramike i kostiju. Keramika (nalazi 4317 i 4319) nije bila dijagnostička.

Istraživanje tumula 3

Sonda 3 otvorena 2008. godine proteže se od sredine tumula 3 do probnog rova 1, s namjerom da se na kraju spoji sa sondom 4 koja kreće od sredine tumula 2. Ovo je učinjeno kako bi se istražila unutrašnjost obaju tumula i njihov međuodnos te kao što je rečeno, kako bi se pronašli dokazi

being covered with the overlying layer of black/brown clay or else it would not have remained oxidised (Budden 2002: 31). The degraded remains of a collapsed pot with fragments of well burnt human bone, ash and charcoal (Feature 3/2) were the first element of 3/3 to be uncovered. As excavation progressed it was clear that 3/2 belonged within 3/3 and represented a burial within 3/3. The fill of 3/2, Context 307, having disclosed calcined bone including a fragment of diaphysis which has been analysed and is thought to belong most probably to a female adult (Laboratory of the Department of Archaeology, Croatian Academy of Arts and Sciences, Zagreb, January 2010). After completely exposing 3/3 it was removed and the ground beneath was completely clean. The trench was taken down to the sub-strata of chalky yellow clay (Context 312) with no other earlier layers being found. The only significant event in Trench 3 after the removal of 3/3 was the discovery of an irregular pit on the northern edge of the tumulus, Feature 3/5. This pit turned out to be 1.5 m deep and 1.6 m in diameter; no finds were recovered.

PRELIMINARY SYNTHESIS OF PURIĆ-LJUBANJ

Research to date has shown that Purić-Ljubanj is a place where complex social activities related to commemoration of the deceased took place in the Late Bronze Age. These ac-

o postojanju ili nepostojanju rovova oko tumula.

Već na početku istraživanja u jugoistočnom kutu sonde pronađena je mala stožasta jama, jedinica 3/1. Ova jama bila je zapečaćena nagorenim, oksidiranim glinenim pokrovom izrađenim od vrlo fine, pročišćene, žutonarančaste gline, kontekst 301. Pri dnu ove jame, unutar zapune (kontekst 301A) nalazila se pažljivo položena veća koncentracija kostiju, identificirana kao pougljenjeni fragmenti radijusa dijafize, femura i tibije (nalaz 3016), koji najvjerojatnije pripadaju mladom odraslom muškarcu (Laboratorij Odsjeka za arheologiju, Hrvatska akademija znanosti i umjetnosti). U ovoj jedinici nije bilo značajnijih keramičkih priloga.

Ispod jedinice 3/1 pronađen je dosad na nalazištu površinom najveći, izrazito oksidirani sloj željezom bogate gline, jedinica 3/3 (sl. 20). Ova je jedinica istog karaktera kao oksidirani slojevi u sondi 1 (jedinica 1/1) i 4 (jedinica 4/8), te se može opisati kao valovita, na mjestima oštećena površina (vjerujemo da su oštećenja prirodnog postanka). Smještena je na osi istok – zapad te je pravokutnog oblika. Na jugu i istoku površina se nastavlja i pod zidove sonde. Ova oksidirana površina upućuje na to da je gorenje, kao i u tumulima 1 i 2, bilo intenzivno (oko 600 °C) i namjerno te da je površina ostavljena da se ohladi u potpunosti prije nego što je pokrivena slojem crnosmeđe gline, u protivnom ne bi ostala oksidirana (Budden 2002: 31). Degradirani ostaci urušene posude s fragmentima kostiju, pepela i ugljena (jedinica 3/2) predstavljali su prvi otkriveni dio jedinice 3/3. Nastavak istraživanja pokazao je da jedinica 3/2 predstavlja grob

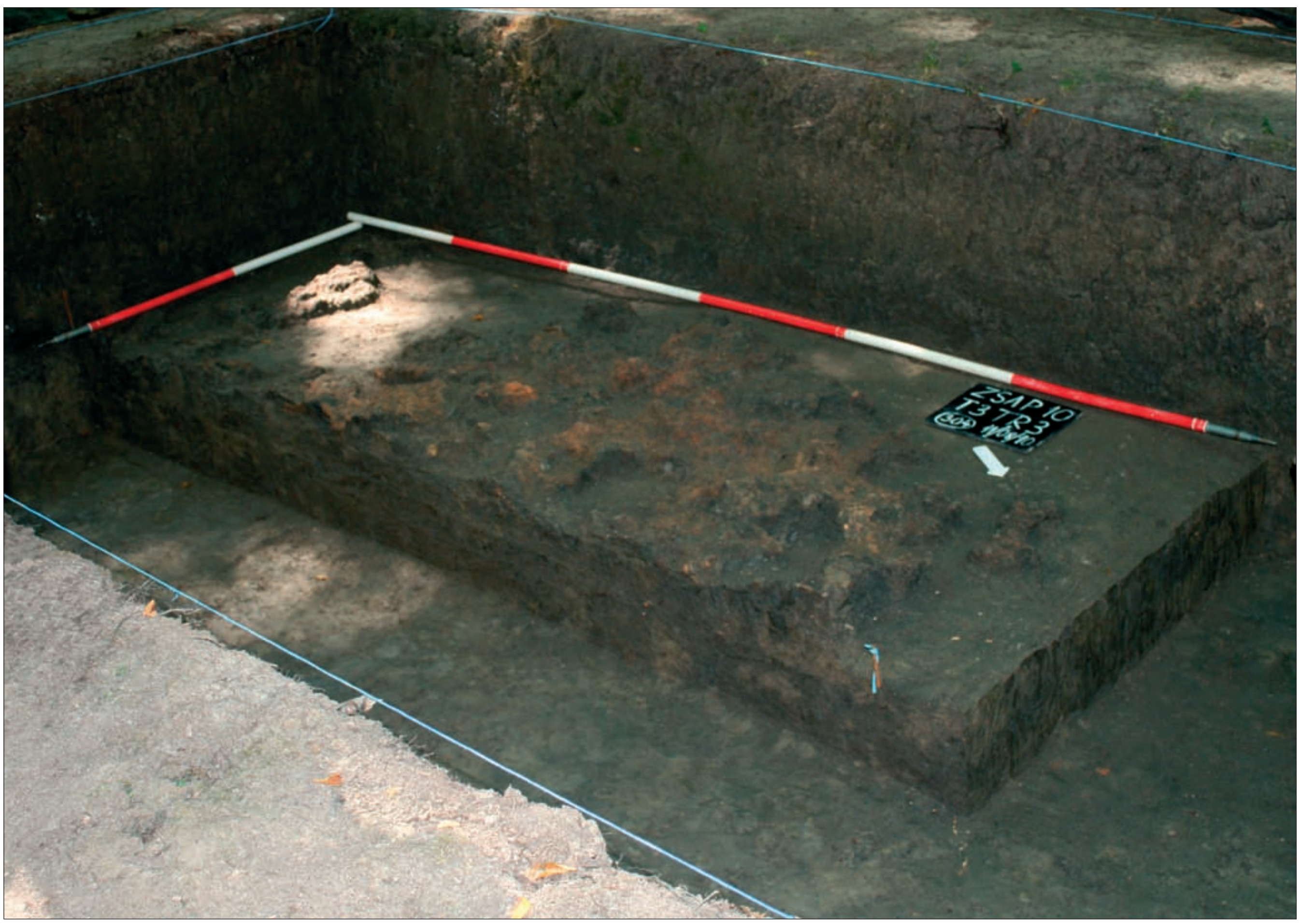


Fig. 20 Cross-section of Feature 3/3 (photo by: S. Budden-Hoskins 2010)
Sl. 20 Presjek jedinice 3/3 (snimila: S. Budden-Hoskins, 2010.)

tivities take a number of forms that appear to vary through time; this variation while most clearly seen in Tumulus 2, is also evident between the tumuli suggesting a degree of flexibility within social norms of the time.

Tumuli 1 and 3 appear at first to be of very similar character to Tumulus 2 with stratigraphic layers following similar sequences. In all three cases clay was used to build substantial mounds on which the final events of the burial ritual were performed thus creating Feature 1/1 (Tumulus 1), Feature 4/8 (Tumulus 2), and Feature 3/3 (Tumulus 3). Each mound would require significant inputs of labour and organisation; in the case of Tumuli 1 and 3 it would seem this labour was aimed at a single significant event. The situation for Tumulus 2 is somewhat different as we will see below. Meanwhile, in all three cases there was preparation of the burning area, which sits centrally just below the final clay surface of each mound. Fuel, potentially of some value (Budden 2002: 28), would have to be dry and plentiful to create the burnt surfaces within which depositions were placed. That the fires were 'managed' is evidenced by the oxidised surfaces which would require plenty of air into the fire setting and for the ground to be cold before the final act of 'closing' the tumuli could occur. With no evidence to suggest re-burning on any of the pottery sherds the suggestion is that the cremated bone was placed within suitable pots or containers after cremation of the deceased and transferred to Purić-Ljubanj for the final burial performance. In each case there is evidence of key depositions that implies the oxidised burnt surfaces as being central to this highly visual ritual event.

In Tumulus 1 the key event left traces in the form of an intense area of burning within a rectangular setting covered with carbonised 'matting' (Feature 1/1, Fig. 8). This matting along with attached charcoal has been previously noted as dating to 1610 – 1430 BC. The cremated bone recovered was identified as belonging to a child and an adult, both of unidentified sex. In Tumulus 2 there are two key depositions within the aforementioned burning event both located within Feature 4/8. First, Feature 4/2 is represented by a whole urn containing cremated remains that suggests at least one child aged 10–12 years of age. This is placed within a particularly intense area of burning. A second burial within 4/8 is a Belegiš II urn containing the cremated diaphysis of an adult of undetermined sex also close to the area of intense burning; suggesting that in this case the burial ceremony was again related to more than one individual. Meanwhile, in Tumulus 3 the collapsed burial urn and cremated bone (Feature 3/2) in the south baulk again testify to the association between these deliberately oxidised surfaces and the memorialisation of the deceased; in this case identified as "most probably" a young male. What is interesting is the mixed sex and age of the cremated remains across the three tumuli. In all three cases a highly visual performance, potentially visible for some distance, took place. It seems unlikely that such a highly visual performance was socially desirable unless there was a perceived need to engage an audience. The reasons for this can be numerous. There is little doubt

smješten unutar jedinice 3/3. Zapuna jedinice 3/2, kontekst 307, sadržavala je kremirane kosti uključujući i ulomak dijafize koji najvjerojatnije pripada ženskoj odrasloj osobi (Laboratorij Odsjeka za arheologiju, Hrvatska akademija znanosti i umjetnosti). Nakon istraživanja i uklanjanja jedinice 3/3, u sondi 3 nije bilo nalaza. Sonda je snižena do razine zdravice s vapnencem bogatim žutom glinom (kontekst 312) bez tragova prijašnjih slojeva. Jedini značajan događaj u sondi 3 nakon uklanjanja jedinice 3/3 bio je otkriće nepravilne jame na sjevernom rubu tumula, jedinica 3/5. U ovoj jami dubine 1,5 m i promjera 1,6 m, nije bilo nalaza.

PRELIMINARNA SINTEZA PURIĆ-LJUBNJA

Dosadašnja su istraživanja pokazala da je nalazište Purić-Ljubanj mjesto odvijanja složenih društvenih aktivnosti vezanih uz komemoraciju pokojnika u kasno brončano doba. Ove su aktivnosti provođene u nekoliko oblika koji s vremenom variraju. Ove varijacije, najočitije u slučaju tumula 2, također su primjetne i između tumula što upućuje na stupanj fleksibilnosti unutar društvenih normi u to vrijeme.

Tumuli 1 i 3 na prvi se pogled čine vrlo sličnog karaktera tumulu 2, sa stratigrafskim slojevima koji slijede sličan raspored. U sva tri slučaja glina je korištena za izgradnju ovećih tumula na kojima su se izvodili završni pogrebni rituali. Na ovaj su način nastale jedinice: 1/1 (tumul 1), 4/8 (tumul 2) i 3/3 (tumul 3). Svaki je tumul zahtijevao značajne radne i organizacijske napore, a kod tumula 1 i 3 čini se da je ovaj rad bio usmjeren na jedan glavni događaj. Situacija u tumulu 2 nešto je drugačija, kao što ćemo vidjeti u nastavku. U međuvremenu, u sva tri slučaja pri vrhu tumula nalaze se površine na kojima su gorjele vatre, smještene neposredno ispod završnih građevnih slojeva humaka. Drvno gorivo, moguće od značajne vrijednosti (Budden 2002: 28), moralo je biti suho i većih količina kako bi nastale pečene zemljane površine unutar kojih su smješteni prilozi. Da su ove vatre zahtijevale svjestan napor, svjedoče oksidirane površine koje su iziskivale dosta zraka za vrijeme gorenja, te hlađenje prije čina pokrivanja tumula završnim slojem zemlje. Pošto nema dokaza koji bi upućivali na ponovno pečenje ulomaka keramike, predlažemo da su kosti nakon kremiranja pokojnika stavljane u prikladne posude te prenošene na Purić-Ljubanj zbog završne pogrebne ceremonije. U svakom od slučajeva dokazi u vidu ključnih priloga upućuju na to da su oksidirane površine bile bitan dio ovih vizualnih ritualnih događaja.

U tumulu 1 ključni događaj ostavio je tragove u vidu područja intenzivnog gorenja pravokutnog oblika prekrivenog karboniziranim pleterom (jedinica 1/1, sl. 8). Ovaj pleter s pripadajućim ugljenom je, kako je prethodno navedeno, datiran u 1610. do 1430. god. pr. Kr. Utvrđeno je da su kremirane kosti iz ove jedinice pripadale djetetu i odrasloj osobi, obje nepoznatog spola. U tumulu 2, dva ključna nalaza pronađena unutar spomenutog područja gorenja smještena su unutar jedinice 4/8. Prvi, jedinica 4/2 predstavlja cijelu žaru koja sadrži kremirane ostatke barem jednog djeteta u dobi od 10 do 12 godina starosti. Ona je smještena unutar osobito intenzivnog područja gorenja. Drugi pokop unutar 4/8 predstavlja Belegiš II žara koja sadrži kremirane ulomke dijafize odrasle osobe neutvrđenog spola, a također je

that death is a destabilising experience at an individual, familial and kinship level; and even beyond. Such performances as took place at Purić-Ljubanj may be suggested to be about securing and stabilising social bonds for the living as much as about memorialising the deceased at a time of potential instability (Goldhahn 2008: 57; Fontijn 2008: 92).

Beyond the phenomenon of the deliberately burnt clay surfaces differences begin to appear between the three tumuli. In Tumulus 1 several spits of barren material lay beneath the burial activity (Feature 1/1) followed by a pit (Feature 1/2) with a few fine flakes of cremated bone and an even earlier deposition of two non-diagnostic Bronze Age pots in the south-west corner of the Trench. In Tumulus 3, the situation is even more barren with no activity at all beneath the oxidised surface of Feature 3/3, and only an empty pit at the northern most edge of Trench 3. The major difference between the tumuli occurs within Tumulus 2; here there are significant amounts of pottery spread across the whole of Trench 4. In context 401, the black clay overlying the burial burning event (Feature 4/8) there are a number of individual depositions of pottery within small, shallow pits with charcoal, bone and ash, for example the fine-ware Belegiš II 'cup' located in Feature 4/1. It is interesting that in many cases the pottery deposited is of a 'domestic' character. These events may be contemporary with 4/8 or, given the evidence of shallow pits, slightly later deposits into the 'closed' tumuli. This would suggest continued social importance attached to Tumulus 2 after the main burial event took place. The pottery recovered from 4/8 itself has been discussed and is typical of the Belegiš II group (Fig. 9, 13–14 and 19).

Most notable in terms of difference between Tumulus 2 and the other two excavated tumuli are the events beneath 4/8. These are represented by earlier and highly complex depositions of charcoal, cremated bone, pottery and some bronze located in Features 4/4 a–s. These features are completely different in character to the later layers represented by 1/1, 4/8 and 3/3. Deposits lay within and beneath compacted, iron-rich limestone nodules that form an almost 'concrete' container for the burial items. This material must be selected and sorted in some way in order to achieve this final effect. If dug and used 'as is' there would be considerable amounts of yellow ochre clay and grainy grits which are present in the sub-soil. Instead the compacted surfaces are creamy-white often with exceptionally large limestone nodules included. Additionally, often overlying or acting as fill within these concretions, levigated yellow-ochre clay is used; another deliberate manipulation of natural materials in order to make a burial 'setting'. This shows a determination to meet a socially desirable outcome with regard to how these deposits should be laid down and begs the question as to why it was deemed desirable to redeposit these materials from the landscape in such a complex manner. It may be suggested that the burial deposits were being kept safe or hidden; we have to bear in mind that at this stage of events there is no covering mound to fulfil this task. Other than one small post hole there is, as yet, no evidence of post

smještena blizu područja intenzivnog gorenja, što upućuje na to da je u ovom slučaju pogrebni ritual bio opet povezan s više od jednom osobom. U međuvremenu, u tumulu 3 urušena grobna urna i kremirane kosti (jedinica 3/2) na južnoj strani sonde, opet svjedoče o povezanosti ovih namjerno oksidiranih površina i čina prisjećanja na pokojnika, u ovom slučaju riječ je o, najvjerojatnije, mlađem muškarcu. Zanimljivo je da kremirani ostaci unutar sva tri tumula pripadaju osobama različitih spolova i dobi. Na sva tri humka održavane su vizualno upečatljive ceremonije, možda vidljive i sa prilične udaljenosti. Čini se malo vjerojatno da bi takve vrlo vizualne izvedbe bile društveno poželjne, da nije postojala potreba da se privuče gledateljstvo. Razlozi za to mogu biti brojni. Nema sumnje da je smrt destabilizirajuće iskustvo na osobnoj, obiteljskoj i razini srodstva, pa čak i šire. Izvedbe kakve su održavane na Purić-Ljubnju mogle bi se smatrati načinom da se osiguraju i učvrste društvene veze među živima, isto koliko i načinom prisjećanja na pokojnika, u trenucima potencijalne nestabilnosti (Goldhahn 2008: 57; Fontijn 2008: 92).

Izvan fenomena namjernog pečenja glinenih površina počinju se javljati razlike između tri humka. U tumulu 1, ispod pogrebnih aktivnosti (jedinica 1/1) nalazio se sloj građevinskog materijala, ispod kojeg se nalazila jama (jedinica 1/2) s nekoliko sitnih ulomaka kremiranih kostiju te još raniji prilozi u obliku dvije nedijagnostičke brončanodobne posude u jugozapadnom uglu sonde. U tumulu 3 ispod oksidirane površine, jedinice 3/3, nalazi se građevni materijal tumula u kojem nema tragova ikakvih ranijih događaja, sve do razine zdravice na sjevernom rubu sonde 3 gdje se javila tek jedna prazna jama. Najveća razlika među tumulima vidljiva je na primjeru tumula 2. Duž čitave sonde 4 pronađene su značajne količine keramike. U kontekstu 401, sloju crne gline koji prekriva epizodu gorenja (jedinicu 4/8) nalaze se zasebni prilozi keramike smješteni u male, plitke jame sa nalazima ugljena, kostiju i pepela, kao, na primjer, nalaz Belegiš II amforice u jedinici 4/1. Zanimljivo je da je u mnogim slučajevima riječ o keramici naseobinskog karaktera. Ovi prilozi mogu biti gotovo istovremeni s 4/8 ili, na što upućuju plitke jame, nešto kasnije priloženi u već gotov tumul. Ovo bi moglo značiti nastavak društvenog značaja koji se pridavao tumulu 2, nakon što je glavni pogrebni događaj već bio održan. Keramika pronađena u 4/8 već je spomenuta, a tipična je za Belegiš II grupu (sl. 9, 13–14 i 19).

Najveću razliku između tumula 2 i ostalih dvaju istraženih tumula pokazuju događaji ispod 4/8, predstavljeni ranijim i složenim prilozima ugljena, kremiranih kostiju, keramike te nešto bronce u jedinicama 4/4 a–s. Ove su jedinice potpuno drugačijeg karaktera od onih u kasnijim slojevima koje predstavljaju jedinice: 1/1, 4/8 i 3/3. Prilozi se nalaze unutar i ispod zbijenih, željezom bogatih vapnenih konkrecija koje čine gotovo "betonski" spremnik za grobne priloge. Ovaj materijal morao je biti posebno izabran i razvrstan kako bi se postigao konačan učinak. Da je bio samo izvađen i korišten kakav se nalazi u prirodi, u njemu bi se nalazile znatne količine žuto-oker gline i zrnatih inkluzija prisutnih u zdravici. Umjesto toga, ove su zbijene površine kremasto-bijele boje sa često iznimno velikim inkluzijama vapnenih

holes to form a structure within which these deposits would otherwise have been secure.

Additionally, in Tumulus 2 Feature 4/3 represents yet more divergence from Tumulus 1 and Tumulus 3. Feature 4/3 is characterised by an intensive spread of pottery, charcoal, ash, well burned bone fragments and degraded, crushed pottery throughout. Feature 4/3 runs in an east-west direction across the entire width of Trench 4. Within it, a particularly intense deposition of pottery, Feature 4/3a (Find No. 4209) includes Belegiš fine-ware in the form of small cups; highly oxidised carinated bowls with everted rims which are incised with fine parallel lines; and urns that are black burnished and have tunnel-handles and pronounced pointy protrusions. All of this pottery is strongly characteristic of the Late Bronze Age Belegiš II cultural group. The disturbed stratigraphy of this area of Tumulus 2 suggests that this feature may be a later intrusion into the tumulus; possibly happening parallel to the deposits made in context 401. We cannot be completely clear about this until the final layers of Trench 4 are removed in 2014.

It is interesting in the case of all three tumuli that natural materials are taken, altered and deposited in such a way as to make a visual performance. It cannot be dismissed that colour symbolism may play a part in these performances. While the earlier burials in Tumulus 2 do not see the drama of a fire, nonetheless the separation of material and the stark white the burials would have presented is of note. Gage et al. (1999: 109–126), Jones and Bradley (1999: 112–114) and Chapman (2002: 49) have all drawn on colour theory to emphasise the important role of colour symbolism in prehistory. While making 'concrete' coverings for burials may be seen in pragmatic terms of keeping a burial safe, or even secret, we should not dismiss the idea that at Purić-Ljubanj the white coverings may have had more to do with colour symbolism than these other pragmatic concerns. Also, it is of note that it is not necessary to select only black clay for the final building material of the tumuli; there is mixed river clay across this whole plain; again a colour distinction seems to have been made for a social rather than pragmatic reasons.

The landscape surrounding Purić-Ljubanj has been shown through the survey to be predominately flat with only slight rises in terrain. Purić-Ljubanj so far represents the first example of building mounds, thus quite radically altering this landscape in the Late Bronze Age. This raises questions as to the wider purposes of this decision. It can be considered that at Purić-Ljubanj, although Belegiš II pottery was deposited, it was done in a manner that was remarkably different to the other known Belegiš II cemeteries in the region (Tasić 1974: 242–46). It seems, therefore, that for some reason it became important to the people of Purić-Ljubanj to make a place of remembrance that would be highly visible in the landscape. To this end, it would seem, they chose an area of slightly higher, and drier, terrain on which the mounds were built.

Even though Purić-Ljubanj sits in the same geographic

konkrecija. Ovi pokrovi, također, često imaju za zapunu ili su prekriveni pročišćenom žuto-oker glinom, što predstavlja još jedan primjer namjernog korištenja materijala iz prirode u svrhu pogrebne prakse. Ovo upućuje na odluku za postizanje društveno poželjnog ishoda s obzirom na prilaganje materijala i nameće se pitanje zbog čega se premještanje materijala iz krajolika na ovako složen način smatralo poželjnim. Može se pretpostaviti da se na ovaj način nastojalo zaštititi ili sakriti grobne priloge, pogotovo zato što u ovoj fazi izgradnje tumul koji bi ispunio taj zadatak još nije dovršen. Također, osim jedne manje rupe od stupa, zasad nema nalaza rupa od stupova koji bi upućivali na postojanje strukture unutar koje bi prilozi bili zaštićeni.

Osim toga, u tumulu 2 jedinica 4/3 predstavlja još veći raskorak između ovog tumula i tumula 1 i 3. Jedinicu 4/3 karakterizira intenzivna koncentracija keramike, ugljena, pepela i spaljenih kostiju te degradirane, lomljene keramike. Jedinica 4/3 proteže se u smjeru istok – zapad preko cijele širine sonde 4. Unutar nje, osobito intenzivna koncentracija keramičkih priloga, jedinica 4/3a (nalaz 4209) uključuje finu Belegiš II keramiku u obliku malih pehara, vrlo oksidirane karinirane zdjele s izvučenim obodom i urezanim finim paralelnim linijama, te crne uglačane urne s tunelastim ručkama i naglašenim bradavicama. Sve je to posuđe snažno obilježje kasnoga brončanog doba i kulturne grupe Belegiš II. Poremećena stratigrafija ovog dijela tumula 2 sugerira da je ova jedinica možda naknadno ukopana u tumul, moguće istodobno kad i prilozi iz konteksta 401. Ne možemo reći sa sigurnošću sve dok se u 2014. godini ne istraže posljednji slojevi u sondi 4.

Zanimljivo je da su u slučaju sva tri tumula korišteni materijali izvađeni iz prirode, koji su potom u izmijenjenom obliku deponirani na vizualno upečatljiv način. Ne može se odbaciti pretpostavka da je simbolika boje igrala ulogu u ovim događajima. Dok raniji ukopi u tumulu 2 nisu doživjeli dramu vatre, u ovoj fazi valja primijetiti odvajanje materijala te bijelom bojom označene ukope. U svojim djelima Gage et al. (1999: 109–126), Jones i Bradley (1999: 112–114) te Chapman (2002: 49) pozivali su se na teoriju boje kako bi naglasili važnu ulogu simbolike boje u prapovijesti. Dok se na odluku o oblaganju grobova kalcitnim pokrovima može gledati kao na pragmatičan način u smislu njihove zaštite ili čak skrivanja, ne bismo trebali odbaciti ideju da su na Purić-Ljubnju bijeli pokrovi možda imali više veze sa simbolikom boje nego ovakvi pragmatični razlozi. Također valja napomenuti da odabir isključivo crne gline za završni građevinski materijal tumula ponovno upućuje na odabir vođen prije društvenim nego pragmatičnim razlozima, pošto je glina na cijelom području ove ravnice miješana.

Snimanje okolnog terena potvrdilo je da je krajolik u kojem je smješteno nalazište Purić-Ljubanj ravan i ispresijecan nižim gredama. Purić-Ljubanj predstavlja prvi pronađeni primjer izgradnje tumula na ovom području u kasno brončano doba i time radikalnog mijenjanja krajolika. Ovo otvara pitanja što je uvjetovalo ovu odluku i koja je njezina šira svrha. Na nalazištu Purić-Ljubanj prilagana je keramika Belegiš II grupe, ali to je učinjeno na način koji se znatno

area as Barice-Gređani all the evidence strongly suggests that Purić-Ljubanj's affinities lie with the Belegiš II culture rather than with the contemporary Barice-Gređani group. Therefore, we suggest that Purić-Ljubanj not only represents the western most boundary of the Belegiš II group in Županjska Posavina, but also its regional variation. This variation is characterised by the deposition of cremated human remains and accompanying grave goods under mounds rather than in flat cemeteries. This may be an influence from western Serbia and the Glasinac area in eastern Bosnia and Herzegovina where a tradition of mound building occurs from the Early Bronze Age and through to the Late Bronze Age. How this possible cultural transference of social practices came into being remains to be explored.

In summary: work at Purić Ljubanj has determined that activity on the site is Late Bronze Age and that the mounds are the result of social practices related to the commemoration of the deceased. The three tumuli currently subject to excavation, contain the cremated remains of children and adults of different sexes. These remains are accompanied by depositions of Late Bronze Age pottery, dense spreads of charcoal, ash, and crushed pottery all distributed within clear horizons of activity. There are also depositions of single individual pots within small pits. A modest amount of bronze has so far been recovered from one burial: Feature 4/4n Trench 4, Tumulus 2. The deliberate manipulation of elements of the landscape: i.e., the use of limestone nodules material only found in the surrounding subsoil; levigated clay of a specific ochre colour to make caps and linings of pits; and the deliberate burning and oxidising of clay surfaces to define and delineate the physical manifestation of special social events is particularly intriguing. This suggests social distinctions are being made that are not to do simply with pragmatic concerns but with securing stability, tradition and identity for the future.

FUTURE DIRECTIONS

It is intended that a large scale survey of the Spačva Basin in the region of Županjska Posavina will continue in order to locate the full spread of similar cemeteries. Given the differences that are shown to exist with regard to the size and shapes of tumuli within the cemetery at Purić-Ljubanj, and the differences discovered through excavation between Tumuli 1 and 3, and Tumuli 2 it would be profitable to strategically select more tumuli to be subject to excavation at Purić-Ljubanj. It is also acknowledged that our excavation strategy of digging slot trenches has only been successful up to a point and that all three tumuli subject to excavation should be fully opened to ascertain the complete story belonging to each of them. It is also important to locate a settlement that can be confidently assigned to the Purić-Ljubanj cemetery in order to gain a full understanding of this group of people.

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razlikuje od poznatih grobalja ove grupe u regiji (Tasić 1974: 242–246). Čini se, stoga, da je zajednicama sa Purić-Ljubnja, iz nekog razloga, postalo važno napraviti mjesto sjećanja koje će biti vrlo vidljivo u krajoliku. U tom smislu, čini se da su izabrali gredu – površinu nešto višeg i sušeg terena na kojoj su tumuli izgrađeni.

Iako se Purić-Ljubanj nalazi na istom zemljopisnom području kao i istodobna skupina kulture žarnih polja Barice-Gređani, dokazi upućuju na to da Purić-Ljubanj pokazuje afinitet prema Belegiš II grupi. Stoga predlažemo da Purić-Ljubanj ne predstavlja samo zapadnu granicu ove grupe na području županjske Posavine nego i njezinu regionalnu varijantu. Ovu varijantu karakterizira prilaganje kremiranih ostataka i popratnih grobnih priloga ne u ravnim grobljima, nego pod tumulima. Ovo bi moglo upućivati na utjecaj s područja zapadne Srbije i glasinačkog područja istočne Bosne i Hercegovine gdje kroz cijelo brončano doba postoji tradicija izgradnje tumula. Kako je moglo doći do ovakvoga kulturnog prenošenja društvene prakse, tek treba istražiti.

Da sažmemo, istraživanjima na Purić-Ljubnju utvrđeno je kako su aktivnosti na nalazištu kasnobrončanodobne, da su tumuli rezultat društvenih praksi vezanih uz komemoraciju pokojnicima te da tri tumula na kojima se trenutačno vrše iskopavanja sadrže kremirane ostatke djece i odraslih osoba obaju spolova. Ovi su ostaci popraćeni nalazima kasnobrončanodobne keramike te većim koncentracijama ugljena, pepela i razlomljene keramike, a sve ovo raspoređeno je unutar jasnih horizonata aktivnosti. Tu su i nalazi pojedinačnih posuda unutar malih jama. Skromna količina bronce dosad je pronađena tek u jednom ukopu, jedinici 4/4n, sondi 4, u tumulu 2. Namjerno manipuliranje elementima krajolika, odnosno korištenje vapnenih konkrecija koje se mogu pronaći u slojevima zdravice, korištenje pročišćene gline oker boje u svrhu pokrivanja i oblaganja jama te namjerno paljenje i oksidiranje glinenih površina kako bi se definirali i razgraničili fizički oblici posebnih društvenih događaja, posebno je zanimljivo. Ovo bi moglo upućivati na to da su društvene odluke donošene ne samo na pragmatičnoj osnovi nego i da bi se osigurala stabilnost, tradicija i identitet za budućnost.

BUDUĆE SMJERNICE

Opsežno rekognosciranje područja spačvanskog bazena u županjskoj Posavini će se nastaviti kako bi se pronašla sva slična groblja. S obzirom na razlike koje postoje u vezi veličine i oblika tumula unutar groblja na Purić-Ljubnju, kao i razlike otkrivene za vrijeme istraživanja između tumula 1, 2 i 3, bilo bi potrebno strateški odabrati još nekoliko tumula koji bi se istražili na ovom nalazištu. Dosadašnja strategija iskapanja po sondama pokazala se donekle uspješnom, ali nameće se zaključak da bi bilo potrebno u potpunosti otvoriti tumule, kako bi se otkrila cijela priča svakog od njih. Također je važno pronaći naselje koje bi se moglo pouzdano pripisati ovom groblju kako bi se dobila potpuna slika o skupini ljudi s Purić-Ljubnja.

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