

# Prilog poznavanju halštatskih pogrebnih običaja - arheobotanički nalazi tumula 13 i 14 iz Kaptola kraj Požege

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# Prilog poznavanju halštatskih pogrebnih običaja – arheobotanički nalazi tumula 13 i 14 iz Kaptola kraj Požege

## *A Contribution to the Understanding of Hallstatt Burial Customs – Archaeobotanical Evidence from Tumuli 13 and 14 at the Site of Kaptol, near Požega*

Prethodno priopćenje  
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*Nekropola Gradci iz starijega željeznog doba dio je kompleksnoga arheološkog nalazišta u blizini mjesta Kaptol kraj Požege. Tijekom 2007. godine istraživana je tumul 13, čija je starost tipološki određena prema nalazima, a smješta ga u razdoblje Ha C2/D1. Tijekom 2010. godine istražen je tumul 14 koji se datira u Ha C2 razdoblje, odnosno u drugu polovinu 7. st. pr. Kr. Tijekom istraživanja iz oba su tumula uzimani uzorci za arheobotaničku analizu čije rezultate predstavljamo u ovom radu. U tumulu 13 nađeno je 140 karboniziranih biljnih ostataka; prevladavaju različiti plodovi sakupljeni u prirodi, a najzastupljeniji je lješnjak (*Corylus avellana*). U tumulu 14 izdvojeno je 3880 karboniziranih biljnih ostataka. U nalazima dominiraju različite vrste žitarica, ali su u određenom postotku prisutni i „voćni” prilozi, prije svega plodovi divlje jabuke (*Malus sylvestris*). Prilozi biljnog podrijetla nesumnjivo su imali veliko značenje u grobnom ritualu halštata, ali za precizniju rekonstrukciju običaja trebat će dovršiti analize ostalih tumula s istog lokaliteta koje su u tijeku.*

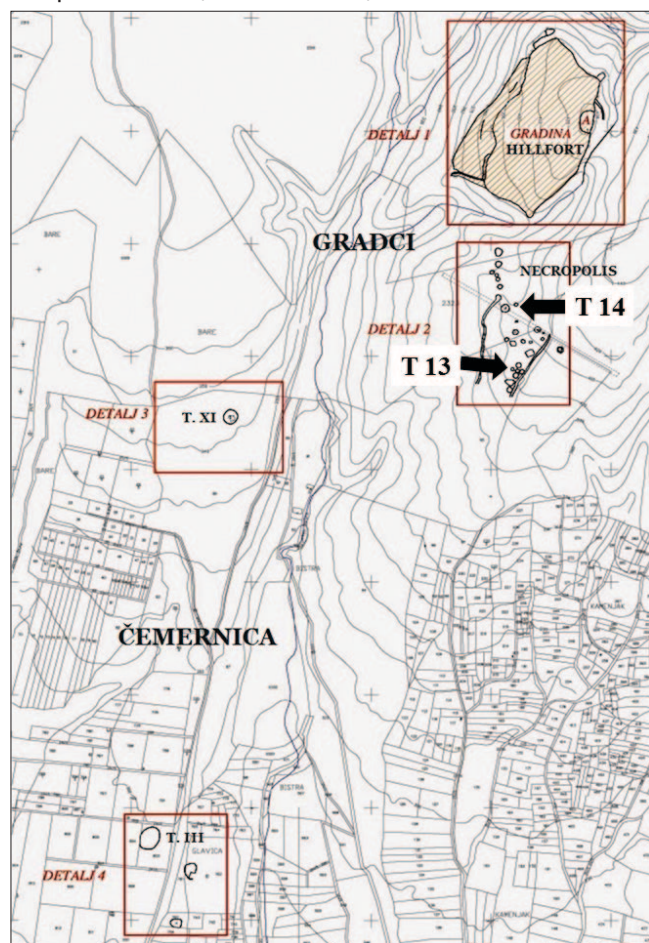
*Ključne riječi: tumul, paljevinski pogrebni običaj, halštat, arheobotanika, Kaptol – Gradci, Hrvatska*

*The Early Iron Age necropolis of Gradci is part of a complex archaeological site in the vicinity of the municipality of Kaptol, near Požega (Croatia). In 2007, tumulus 13 was excavated and, on the basis of a typological analysis of the artefacts discovered, dated to period Ha C2/D1. In 2010, tumulus 14 was explored. That one has been dated to Ha C2, that is, to the second half of the 7th cent. BC. During the excavations, samples for archaeobotanical analysis were taken from both tumuli; this paper presents the results of that analysis. From tumulus 13, 140 carbonized plant remains were recovered. Predominant among them were various fruits gathered from the environment, with greatest presence of common hazel (*Corylus avellana*). In tumulus 14, 3880 carbonized plant remains were recorded. Predominant among them were various cereal species, with a noticeable proportion of ‘fruit’ grave goods, primarily wild apples (*Malus sylvestris*). Grave goods of plant origin were undoubtedly very important in the Hallstatt grave ritual, but for a more precise reconstruction of the customs of the time we have to complete the ongoing analysis of finds from other tumuli within the same site.*

*Key words: tumulus, cremation burial, Hallstatt, archaeobotany, Kaptol – Gradci, Croatia*

## 1. UVOD

Arheološko nalazište iz starijega željeznog doba u blizini mjesta Kaptol (45°26' N, 17°43' E) u Požeškoj kotlini sastoji se od tri lokaliteta: nekropole pod tumulima Čemernica te gradinskog naselja i nekropole na položaju Gradci (Potrebica 2013) (sl. 1). Iako je ovo nalazište prvi put zabilježeno krajem 19. stoljeća, prva sustavna istraživanja provela je između 1965. i 1971. ekipa Arheološkog muzeja u Zagrebu na položaju Čemernica pod vodstvom V. Vejvode i I. Mirnika (Vejvoda, Mirnik 1973; 1991). Kulturološku i kronološku srodnost nekropola na položajima Gradci i Čemernica potvrdio je I. Mirnik poduzevši manja sondažna istraživanja tijekom rekognosciranja 1975. godine (Potrebica 2004). Prva sustavna istraživanja na lokalitetu Gradci započinju 2000. godine pod vodstvom H. Potrebice s Odsjeka za arheologiju Filozofskog fakulteta u Zagrebu i Centra za prapovijesna istraživanja (Potrebica 2002) i traju do danas. Tijekom dosadašnjih sezona definirano je dvadeset pet, a istraženo sedamnaest tumula (Potrebica 2011; 2013). Nekropola Gradci nalazi se u blizini istoimene gradine, a vjerojatno je bila okružena nekom vidljivom konstrukcijom poput fortifikacije (Potrebica 2011; 2013). Nekropola i utvrđeno naselje Gradci smješteni su pri vrhu jednog od južnih obronaka Papuka, s apsolutnom nadmorskom visinom od oko 450 m, a prema dosadašnjim spoznajama rasprostiru se na više od 10 hektara (Potrebica 2004). Lokalitet se nalazi na području borove i listopadne šume (Potrebica 2005).



Sl. 1 Kaptol s položajima lokaliteta Gradci i Čemernica te tumula 13 i 14 (prilagođeno prema: Potrebica 2013: 190)

Fig. 1 Kaptol with positions of the sites of Gradci and Čemernica, and tumuli 13 and 14 (adapted from: Potrebica 2013: 190)

## 1. INTRODUCTION

The Early Iron Age archaeological site in the vicinity of the municipality of Kaptol (45°26' N, 17°43' E), in the Požeška Valley, comprises three sites: the Čemernica necropolis with tumuli, and a hillfort settlement and necropolis at the location of Gradci (Potrebica 2013) (Fig. 1). Although the site was first recorded in the late 19<sup>th</sup> century, the first systematic excavation at the site of Čemernica was carried out between 1965 and 1971, by a team of the Archaeological Museum in Zagreb, led by Vera Vejvoda and Ivan Mirnik (Vejvoda, Mirnik 1973; 1991). The culturological and chronological affiliation of the necropolises of Gradci and Čemernica was confirmed by Mirnik, who undertook small-scale test-pit excavations during a 1975 reconnaissance campaign (Potrebica 2004). The first systematic excavation of the site of Gradci began in 2000, led by Hrvoje Potrebica of the Department of Archaeology of the Zagreb Faculty of Humanities and Social Sciences and the Centre of Prehistoric Research (Potrebica 2002), and it is still ongoing. To date, 25 tumuli have been recorded, and 17 of these have been investigated (Potrebica 2011; 2013). The necropolis of Gradci is located in the vicinity of the hillfort of the same name, and it was probably encircled by some kind of visible structure, possibly a fortification (Potrebica 2011; 2013). The Gradci necropolis and hillfort are positioned below the peak of one of the southern slopes of Papuk, at an absolute altitude above sea level of 450 m. Based on the information gathered to date, they cover an area of more than 10 ha (Potrebica 2004). The site is located in mixed deciduous and pine forest (Potrebica 2005).

The necropolis of Gradci consists of tumuli with wooden chambers of various sizes, some of which were also lined with stone (for example, in tumuli 1, 2, 6, 7, 10, 12, 14, 16 and 17). In tumuli 10 and 15, traces of dromoi have been found. Only in tumulus 13 was a cremation grave dug in a pit underneath the original ground level (Potrebica 2013). The earliest graves recorded in the whole complex of archaeological sites surrounding Kaptol have been discovered at this site, and the necropolis has been dated roughly to Ha C1–Ha D1/D2: that is, to the period between the end of the 8<sup>th</sup> cent. and the middle of the 6<sup>th</sup> cent. BC (Potrebica 2013). Here, as in the Čemernica necropolis, the deceased were cremated. However, only one ustrinum has been found by the graves under the tumuli (in tumulus 12), while in other cases the deceased were cremated away from the burial site. The floors of wooden grave chambers were often strewn with some of the incinerated material from the pyres; remains of the deceased would then be placed on that bed, either in a ceramic vessel or in some organic container (sack, wooden container, basket etc.). Grave goods would then be added to the chamber. Of these, pottery, elements of costume made of metal and bone, jewellery, weapons and horse gear have been found. The funeral would end with the chamber being closed (and in some cases encircled with a stone wall) and covered with an earthen mound.

Nekropolu u Gradcima obilježavaju tumuli s drvenim komorama, različitih dimenzija, od kojih su neke bile i obzidane kamenom, primjerice u tumulima 1, 2, 6, 7, 10, 12, 14, 16 i 17. U tumulima 10 i 15 pronađeni su tragovi dromosa. Samo u slučaju tumula 13 paljevinski je grob bio ukopan u jami ispod prvobitne razine tla (Potrebica 2013). Na ovom lokalitetu pronađene su najstarije grobne cjeline u cijelom kompleksu nalazišta oko Kaptola, a cijela se nekropola okvirno datira u razdoblje Ha C1–Ha D1/D2, odnosno od kraja 8. do sredine 6. st. pr. Kr. (Potrebica 2013). Kao i na nekropoli Čermernici, pokojnici su bili spaljivani. Međutim, uz grobove pod tumulima nađeno je samo jedno spalište (u tumulu 12), dok je u drugim slučajevima pokojnik bio spaljen na mjestu koje nije bilo mjesto ukopa. Na pod drvenih grobnih komora često bi se prosipao dio spaljenog materijala s pogrebne lomače, a na tu bi se podlogu položili ostaci pokojnika u keramičkoj posudi ili nekom drugom organskom recipijentu (vreća, drvena posuda, košara...). Potom bi se u komoru položili i grobni prilozci od kojih nalazimo keramičke posude, metalne i koštane elemente nošnje, nakit te oružje i konjsku opremu. Pokop bi završio zatvaranjem komore (u pojedinim slučajevima i izgradnjom kamenog obzida) te nasipanjem zemljanog humka.

#### Arheološki kontekst arheobotaničkih nalaza – tumul 13

Tumul 13 (sl. 1) nalazio se u skupini od pet tumula smještenih južno od kneževskog tumula 6. Sondiran je 2007. godine kada je utvrđeno da je zbog plitkog nasipa unutrašnja struktura teško oštećena korijenjem drveća. Ipak, pronađeno je nekoliko keramičkih ulomaka koji su upućivali da je riječ o loncima iz nekadašnjega grobnog inventara. Za razliku od većine tumula na ovoj nekropoli, tumul 13 nije sadržavao kameni obzid niti su bili vidljivi tragovi drvene konstrukcije komore (sl. 2: a). Tumul je potpuno istražen 2010. godine, a osim spomenutih keramičkih fragmenata, pronađena je grobna jama kružnog oblika promjera od oko 40 cm u jugoistočnom kvadrantu. Dno jame bilo je posuto materijalom sa spališta. U zapuni jame pronađen je globularni lonac koji je služio kao urna za spaljene kosti pokojnika među kojima je pronađena jedna mala brončana narukvica pravokutnog presjeka. Urna je bila poklopljena pliticom, a na urnu je bila naslonjena i jedna dublja plitica (sl. 2: b). Prema spaljenim kostima koje su se nalazile u urni moglo se zaključiti da se radi o jednom pokojniku, a preliminarni nalazi antropološke analize koja je provedena u okviru projekta ENTRANS upućuju da bi mogla biti riječ o djetetu. U jami oko urne pronađeno je nekoliko fragmenata različitih posuda manjih dimenzija. Jama se nalazi uz izduženi izdanak kamene podloge koji nalikuje zidu, a nije isključeno i da je svjesno upotrijebljen ili modificiran u slaganju grobne konstrukcije. Starost groba tipološki je određena prema nalazima u Ha C2 ili D1.

#### Arheološki kontekst arheobotaničkih nalaza – tumul 14

Tumul 14 (sl. 1) istražen je 2010. godine. Ispod tumula pronađena je kamena grobna konstrukcija s polukružnim

#### Archaeological context of the archaeobotanical remains – tumulus 13

Tumulus 13 (Fig. 1) was one of five tumuli located to the south of the princely tumulus 6. A test pit was opened in it in 2007 and it was established that, due to a shallow layer of earth, its inner structure was badly damaged by tree roots. Nonetheless, several pottery sherds were discovered, suggesting that they were part of what used to be grave inventory. In contrast to the majority of tumuli at this site, tumulus 13 did not contain a stone wall, nor were any traces of a wooden chamber structure visible in it (Fig. 2: a). The tumulus was investigated fully in 2010, when, on top of the abovementioned pottery sherds, a circular grave pit was discovered, around 40 cm in diameter, in its south-eastern quadrant. The bottom of the pit was strewn with material from the pyre. A globular pot was found in the fill of the pit. It had been used as an urn to hold the deceased's cremated bones. Among these, a small bronze bracelet was discovered, rectangular in cross-section. The urn was covered with a small bowl, while another, deeper, bowl was resting against the urn (Fig. 2: b). Based on the incinerated bones found in the urn, the conclusion could be drawn that they belonged to a single deceased person, and the preliminary results of the anthropological analysis made within the ENTRANS project suggest that it could be a child. Several fragments of various small vessels were discovered in the

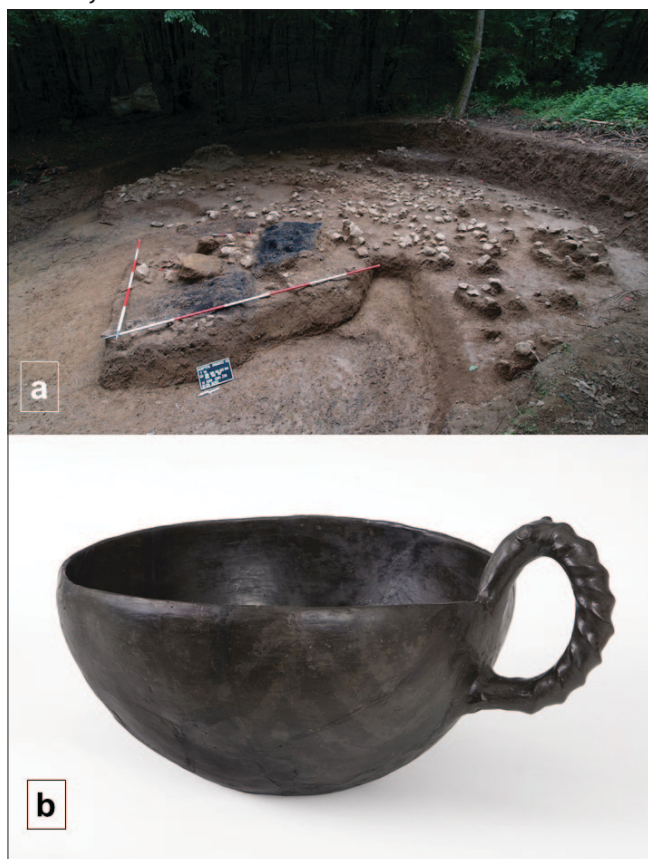


Sl. 2 Kaptol – Gradci, tumul 13: a) jama s urnom; b) urna i plitice u jami (fotografija: H. Potrebica)

Fig. 2 Kaptol – Gradci, tumulus 13: a) pit with urn, b) urn and small bowls in pit (photos: H. Potrebica)



kamenim popločenjem i konstrukcijom od drvenih stupova za koju se čini da je starija od samog tumula ali je iskorištena za njegovu konstrukciju (sl. 3: a). Prema sadašnjim spoznajama, na tu kamenu podlogu bila su položena tri drvena sanduka ispunjena paljevinom sa spališta, oko kojih je sazidana kamena konstrukcija na vrhu koje se nalazila urna s pliticom kao poklopcem. Unutar drvenih sanduka nije bilo drugih priloga, ali se jasno vidjelo mnogo arheobotaničkih tragova. Uz i unutar kamene konstrukcije pronađeno je nekoliko iznimnih keramičkih posuda među kojima se ističu dvije crvene posude ukrašene crnim slikanjem i crna zdjela s tordiranom ručkom koja je bila ukrašena plastično izvedenim rogovima na gornjoj strani (sl. 3: b). Ako izuzmemo dva željezna koplja položena uz jedan od drvenih sanduka, metalni su nalazi veoma rijetki i potpuno fragmentirani. Grob se datira u drugu polovinu 7. st. pr. Kr., odnosno u Ha C2 razdoblje.



Sl. 3 Kaptol – Gradci, tumul 14: a) unutrašnja struktura komore; b) zdjela ukrašena grafitnim slikanjem (fotografija: H. Potrebica)

Fig. 3 Kaptol – Gradci, tumulus 14: a) inner structure of chamber, b) bowl decorated with graphite painting (photo: H. Potrebica)

Tijekom arheološkog iskopavanja tumula 13, 2010. godine, sadržaji posuda PN 08 i PN 10 (dvije plitice otkrivene uz urnu) poslani su na arheobotaničku analizu, kao i pojedinačno sakupljeni karbonizirani biljni ostaci većih dimenzija, koje su arheolozi uočili tijekom iskopavanja grobne jame. Ukupno je dostavljeno 5,5 litara uzoraka. Iste godine istraživan je i tumul 14 te je iz drvenih sanduka uzet mješoviti uzorak, ukupno 30 litara, koji je flotiran, a frakcije su dostavljene na arheobotaničku analizu.

pit, next to the urn. The pit is positioned by an extended outcrop of a stone bed resembling a wall, which could have been deliberately used or modified when the grave structure was built. On the basis of the types of finds discovered in it, the grave has been dated to Ha C2 or D1.

#### Archaeological context of the archaeobotanical remains – tumulus 14

Tumulus 14 (Fig. 1) was excavated in 2010. Under the mound, a stone grave structure was found, consisting of a semi-circular stone pavement and a structure made of wooden poles. The structure appears to be older than the tumulus itself, but it was used when the latter was constructed (Fig. 3: a). According to the information obtained to date, three wooden boxes filled with remains from the pyre were placed on the stone surface. Around them, a stone structure was built, and an urn closed with a small bowl serving as a lid was placed on top of it. There were no grave goods within the wooden boxes, but numerous archaeobotanical remains were clearly visible. Several outstanding pottery vessels were discovered within and around the stone structure, including two red vessels decorated with black paintings, and a black bowl with a spirally twisted handle, decorated on the upper side with plastically modelled horns (Fig. 3: b). With the exception of two iron spears laid by one of the wooden boxes, metal finds were very rare and completely fragmented. The grave has been dated to the second half of the 7<sup>th</sup> cent. BC: that is, to Ha C2.

In 2010, during archaeological excavation of tumulus 13, the contents of vessels SF 08 and SF 10 (two small bowls discovered by the urn) were sent for archaeobotanical analysis, as were some individually-collected larger carbonized plant remains, recovered by the archaeologists during the excavation of the grave pit. The total volume of the sample was 5.5 litres. In the same year, tumulus 14 was investigated. There, a mixed sample was taken from the wooden boxes, 30 litres in total. It was floated, and fractions were sent for archaeobotanical analysis.

According to the literature available, of the well-known and investigated sites of the European Hallstatt cultural complex (cf. Potrebica 2013), archaeobotanical remains have only been recovered from the site of Sopron – Krautacher (Jerem, Facsar 1985; Jerem et al. 1985). Those remains, however, were recovered primarily from the settlement, and from two graves dating from the Late Iron Age (La Tène Culture).

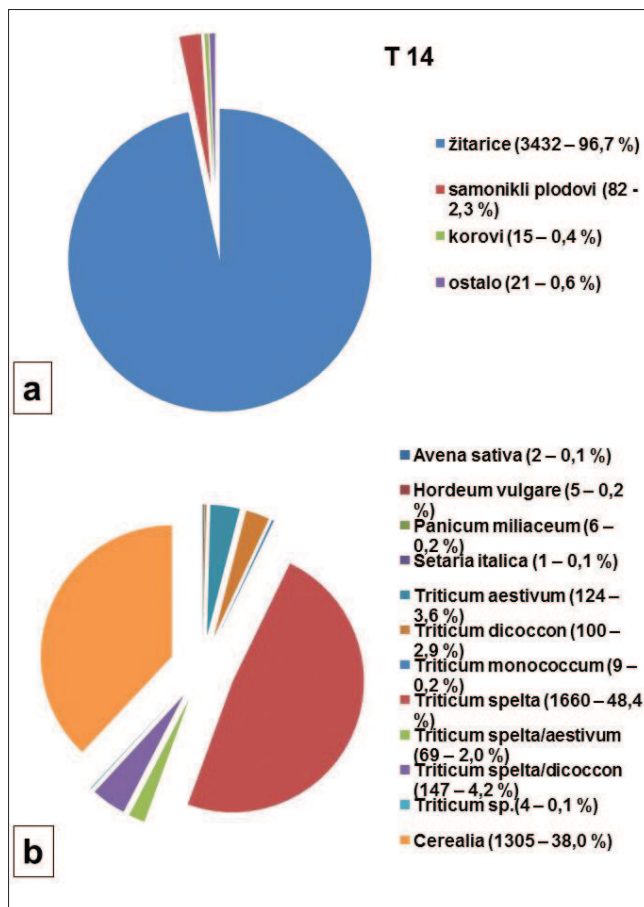
This paper presents the results of archaeobotanical analyses of two excavated tumuli, out of a total of 15, at the site of Kaptol – Gradci, from which archaeobotanical samples have been taken. To date, only the results of the analysis of samples from tumulus 1 have been published (Šoštarčić et al. 2007), while the others are still being processed and analysed. The evidence from tumulus 1 comes from an entirely atypical context, and as such it is inapplicable to the interpretation of the burial ritual. Therefore, it is our hope that the results presented here will contribute to a better understanding of burial customs in southern Pannonia.

Prema dostupnoj literaturi, od dobro poznatih i istraženih lokaliteta halštatskoga kulturnog kompleksa Europe (usporedi Potrebić 2013), postoje arheobotanički nalazi samo za lokalitet Sopron – Krautacher (Jerem, Facsar 1985; Jerem et al. 1985). Međutim, ti se nalazi odnose prije svega na naselje te dva groba iz mlađega željeznog doba (latenska kultura).

U ovom radu prezentirani su rezultati arheobotaničkih analiza dvaju od ukupno 15 istraženih tumula na položaju Kaptol – Gradci iz kojih su uzimani arheobotanički uzorci. Do sada su objavljeni samo rezultati analize uzoraka iz tumula 1 (Šoštarić et al. 2007), dok su ostali još u postupku obrade i analize. Nalazi iz tumula 1 predstavljaju sasvim netipičan kontekst i nisu primjenjivi u tumačenju grobnih rituala. Stoga se nadamo da će ovi rezultati pridonijeti boljem poznavanju pogrebnih običaja u južnoj Panoniji.

## 2. REZULTATI I RASPRAVA

Analizirano je ukupno 5,5 litara arheobotaničkih uzoraka iz tumula 13 te 30 litara iz tumula 14. U tumulu 13 nađeno je 140 karboniziranih biljnih ostataka, a identificirano ih je 97,8%, dok je u tumulu 14 nađeno 3880 karboniziranih biljnih ostataka, a identificirano 91,5% (tab. 1).



Sl. 4 Kaptol – Gradci, tumul 14. Prikaz arheobotaničkih nalaza (ukupan broj i postotak): a) pojedine biljne skupine; b) pojedine biljne svojte unutar skupine žitarica (R. Šoštarić)

Fig. 4 Kaptol – Gradci, tumulus 14. Archaeobotanical evidence (total numbers and percentages): a) individual plant groups; b) individual plant taxa within the group of cereals (R. Šoštarić)

## 2. RESULTS AND DISCUSSION

In total, 5.5 litres of archaeobotanical samples from tumulus 13, and 30 litres from tumulus 14, have been analysed. In tumulus 13, 140 carbonized plant remains were found, of which 97.8 % have been identified, while 3880 carbonized plant remains were recovered from tumulus 14, and 91.5 % of these have been identified (Tab. 1).

The predominant plant remains in tumulus 13 are diverse wild fruits, primarily remains of common hazel (*Corylus avellana*), while other fruits, such as Cornelian cherry (*Cornus mas*), elderberry (*Sambucus nigra*) and probably service tree (cf. *Sorbus domestica*), appear in very small quantities (Tab. 1). The determination of the remains of hazel, Cornelian cherry and elderberry is indisputable, while the service tree has been cited as a cf. taxon, i.e. as a species that cannot be determined with absolute certainty. Two fragments of fruit with seeds have been identified on the basis of the shape of the seed, which is shorter and more rounded in the case of service tree than in those of apple and pear (based on the comparative material in the carpological collection, still being assembled, of the Division of Botany at the Zagreb Faculty of Natural Sciences and Mathematics). Still, bearing in mind the morphological resemblance between the fruit and seed of service tree and wild apple/pear, the determination could not be established with absolute certainty.

Cereals are the dominant plant remains in the samples from tumulus 14, making up a high 96.7 % of the remains (Fig. 4), while in tumulus 13 they have not been found at all. Among the cereals, several species are present. The most numerous among them were the remains of spelt (*Triticum spelta*; Tab. 1; Fig. 4; 5: c) and a group of large-grained cereals (*Cerealia*) which could not be determined more precisely due to their fragmentation and deformation. Other cereals, such as common wheat (*Triticum aestivum*), emmer (*Triticum dicoccon*), barley (*Hordeum vulgare*; Tab. 1; Fig. 4; 5: a), millet (*Panicum miliaceum*; Fig. 5: b) etc. appear in small numbers (Tab. 1; Fig. 4). All the cereal remains are probably a reflection of their local cultivation in the vicinity of the settlement. Remains of wild fruit were also present in tumulus 14, although in small quantity (2.3 %). These were primarily remains of wild apples (*Malus sylvestris*) (Tab. 1; Fig. 4; 5: d, e), which had probably been gathered on the surrounding slopes of Papuk.

Tumuli 13 and 14 differ in terms of the quantity and types of archaeobotanical evidence, and also in terms of the size of the samples taken. The only link between them is the so-called fruit grave goods, i.e. the recovered remains of wild fruit. In tumulus 13, the dominant species is hazel, discovered primarily in the urn and in another vessel, where such remains were mixed with other incinerated material from the pyre, making it indisputable that they were placed in the grave together with the remains of the deceased. On

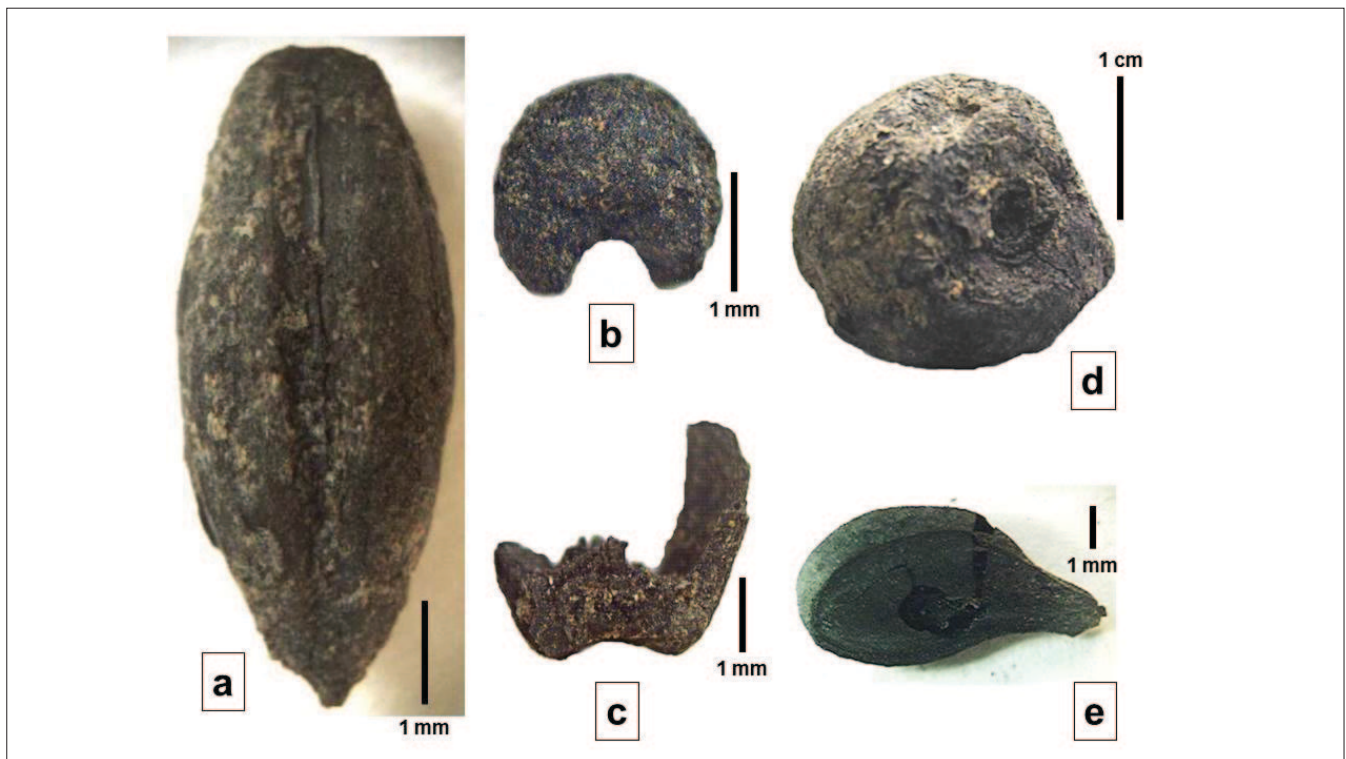
SVOJTA / TAXON	BILJNI OSTATAK / PLANT REMAIN	T 13 SJ/ SU 07; PN/SF 08; 0,5 I	T 13 SJ/ SU 07; PN/SF 10; 5 I	T 13 SJ/ SU 07; RSM/ MCM	T 13 SJ/ SU 07; Σ	T 14 SJ/SU 62; 30 I	T 14 SJ/SU 63; RSM/ MCM	T 14 SJ/SU 64; RSM/ MCM	T 14 Σ
<i>Avena sativa</i> L.	pšeno / grain					2			2
<i>Hordeum vulgare</i> L.	pšeno / grain					5			5
<i>Panicum miliaceum</i> L.	pšeno / grain					6			6
<i>Setaria italica</i> (L.) P. Beauv	pšeno / grain					1			1
<i>Triticum aestivum</i> L.	pšeno / grain					124			124
<i>Triticum dicoccon</i> Schrank.	pšeno + pljeve / grain + glume					91+9			91+9
<i>Triticum monococcum</i> L.	pšeno + pljeve / grain + glume					4+5			4+5
<i>Triticum spelta</i> L.	pšeno + pljeve / grain + glume					1164+40			1164+40
<i>Triticum cf. spelta</i> L.	pšeno / grain					456			456
<i>Triticum spelta</i> L./ <i>aestivum</i> L.	pšeno / grain					69			69
<i>Triticum spelta</i> L./ <i>dicoccon</i> Schrank.	pšeno + pljeve / grain + glume					138+9			138+9
<i>Triticum</i> sp.	pljeve / glume					4			4
Cerealia	pšeno / grain					1305			1305
<i>Cornus mas</i>	koštica / stone	3	3	7	3				
<i>Corylus avellana</i>	fragm. ploda / fruit fragment	15	108		130				
<i>Malus sylvestris</i> Mill.	plod + sjemenka + fragm. ploda / fruit + seed + fruit fragment					1+14+2	28+8+11	5+10+1	34+32+14
<i>Rubus fruticosus</i> L.	koštica / stone					2			2
<i>Sambucus nigra</i>	sjemenka / seed	1			1				
cf. <i>Sorbus domestica</i>	fragm. ploda / fruit fragment	2			2				
<i>Agrostemma githago</i> L.	pšeno / grain					2			2
<i>Bromus arvensis</i> L.	pšeno / grain					5			5
<i>Bromus secalinus</i> L.	pšeno / grain					7			7
cf. <i>Plantago lanceolata</i>	sjemenka / seed					1			1
<i>Atriplex</i> sp.	plodić / fruit	1			1				
Poaceae	pšeno / grain					16			16
cf. <i>Carex</i> sp.	plodić / fruit					3			3
cf. Fabaceae	sjemenka / seed					2			2
Indet.		3	114	7	3	321		9	330
Σ		19	140	7	140	3808	47	25	3880

Tumač kratica: SJ – stratigrafska jedinica; KV – kvadrant; PN – posebni nalaz/posuda; RSM – rukom skupljeni materijal izvan uzoraka; K-Ž – kultivirana biljka – žitarica; SP – samonikli plod iz prirode; KR – korovna ili ruderalna biljka

Acronyms: SU – stratigraphic unit; QU – quadrant; SF – special find/vessel; MCM – manually collected material non included in the sample; C-C – cultivated plant – cereal; WF – wild fruit from the environment; WR – weed and/or ruderal plant

Tab. 1 Kaptol – Gradci. Pregled karboniziranih arheobotaničkih nalaza iz tumula 13 (T 13) i tumula 14 (T 14)

Tab. 1 Kaptol – Gradci. Overview of carbonized archaeological evidence from tumulus 13 (T 13) and tumulus 14 (T 14)



Sl. 5 Kaptol – Gradci. Karbonizirani biljni ostaci iz tumula 14: a) ječam, zrno (*Hordeum vulgare*); b) pljevičasti pir, fragment osi klasa i baza pljeva (*Triticum spelta*); d) jabuka, plod (*Malus sylvestris*); e) jabuka, sjemenka (fotografija: N. Šaić)

Fig. 5 Kaptol – Gradci. Carbonized plant remains from tumulus 14: a) barley, grain (*Hordeum vulgare*); b) millet, grain (*Panicum miliaceum*); c) spelt, chaff fragment and glume base (*Triticum spelta*); d) apple, fruit (*Malus sylvestris*); e) apple, seed (photos: N. Šaić)

U tumulu 13 prevladavaju različiti plodovi iz prirode, prije svega ostaci lješnjaka (*Corylus avellana*), dok se drugi plodovi, poput drenjina (*Cornus mas*), crne bazge (*Sambucus nigra*) te vjerojatno oskoruše (cf. *Sorbus domestica*) pojavljuju u vrlo malim količinama (tab. 1). Determinacija ostataka lješnjaka, drenjina i crne bazge jest neupitna, dok je oskoruša označena kao cf. svojta, tj. kao vrsta koja se ne može potvrditi s potpunom sigurnošću. Dva fragmenta ploda sa sjemenkama determinirana su na osnovi oblika sjemenke koja je kod oskoruše kraća i okruglastija od sjemenki jabuke i kruške (prema komparativnom materijalu iz karpološke zbirke u nastajanju Botaničkog zavoda Prirodoslovno-matematičkog fakulteta, Zagreb). No, s obzirom na morfološku sličnost između plodova i sjemenki oskoruše i divlje jabuke/kruške, nije bilo moguće ovaj nalaz potvrditi s potpunom sigurnošću.

U nalazima iz tumula 14 dominiraju žitarice koje predstavljaju visokih 96,7% nalaza (sl. 4), dok u tumulu 13 uopće nisu nađene. Pojavljuju se različite vrste žitarica, ali najbrojniji su nalazi pljevičastog pira (*Triticum spelta*; tab. 1; sl. 4; 5: c) i grupe krupnozrnih žitarica (*Cerealia*) koje zbog fragmentiranja i deformacija nije bilo moguće preciznije taksonomski odrediti. Ostale se žitarice poput krušne pšenice (*Triticum aestivum*), dvoznog pira (*Triticum dicoccon*), ječma (*Hordeum vulgare*; tab. 1; sl. 4; 5: a), prosa (*Panicum miliaceum*; sl. 5: b) i dr. pojavljuju u malom broju (tab. 1; sl. 4). Sve ove vrste žitarica vjerojatno odražavaju lokalni uzgoj u blizini naselja. U tumulu 14, u malom postotku, pojavljuju se i ostaci samoniklih plodova (2,3%) i to prije svega divlje jabuke (*Malus*

the basis of the condition of the recovered hazel remains, we can assume that, during the cremation, hazelnuts were placed in some kind of vessel which decreased the influx of air during the burning (cf. Sievers, Wadley 2008). Among the scarce fruit grave goods present in tumulus 14, the most numerous are remains of wild apples. Given that these are remains of carbonized fruits and seeds, they were most probably also present on the pyre. But other wild fruits, such as Cornelian cherry, elderberry, blackberry (*Rubus fruticosus*) and service-tree fruit, can also be used to produce alcoholic drinks (Zohary, Hopf 1988), and it cannot be excluded that the small quantity of their remains originates from such grave goods.

The available archaeobotanical evidence from the site of Sopron – Krautacher (Jerem, Facsar 1985; Jerem et al. 1985) was recovered primarily from the settlement, and as such it cannot be directly compared to this context, nor can the archaeobotanical remains from the graves at Sopron – Krautacher, since they originate from the Late Iron Age (La Tène Culture). Still, it is worth mentioning that, among the remains recovered from the graves, there was a large quantity of plums (*Prunus domestica*) which were placed in the graves, while the majority of other remains consisted of elements of natural vegetation.

Although the archaeobotanical remains from tumuli 13 and 14 differ, for the time being it is difficult to establish

*sylvestris*) (tab. 1; sl. 4; 5: d, e) koji su vjerojatno sakupljeni u okolici, na obroncima Papuka.

Tumuli 13 i 14 međusobno se razlikuju u količini i vrsti arheobotaničkih nalaza, ali i u količini uzimanih uzoraka. Jedinina poveznica su tzv. voćni prilozci, tj. prisutnost ostataka plodova iz prirode. U tumulu 13 najbrojniji su lješnjaci koji su u najvećoj mjeri pronađeni u urni i drugoj posudi gdje su izmiješani s drugim spaljenim materijalom s lomače i nesumnjivo su u grob dospjeli s ostacima pokojnika. S obzirom na stanje nalaza za pretpostaviti je da su tijekom kremacije lješnjaci bili u nekoj vrsti posude koja je tijekom gorenja smanjila dotok zraka (usp. Sievers, Wadley 2008). U tumulu 14 najbrojniji od malobrojnih voćnih priloga su ostaci divljih jabuka. S obzirom na to da je riječ o ostacima karboniziranih plodova i sjemenki, najvjerojatnije je također riječ o plodovima koji su se nalazili na pokojnikovoj lomači. No, od ostalih divljih plodova poput drenjina, crne bazge, crne kupine (*Rubus fruticosus*) i oskuruše mogu se spravljeti i alkoholna pića (Zohary, Hopf 1988), pa nije isključeno da ti malobrojni ostaci potječu i od takve vrste priloga.

Dostupni arheobotanički nalazi s lokaliteta Sopron–Krautacher (Jerem, Facsar 1985; Jerem et al. 1985) odnose se prije svega na naselje, pa nisu direktno usporedivi u ovom kontekstu, kao ni arheobotanički nalazi iz dva groba lokaliteta Sopron–Krautacher, jer potječu iz mlađega željeznog doba (latenska kultura). Ipak, od nalaza iz tih grobova vrijedi istaknuti veću količinu ostataka šljiva (*Prunus domestica*) – voćni prilozci, dok većinu ostalih nalaza čine uglavnom elementi prirodne vegetacije.

Iako se arheobotanički nalazi iz tumula 13 i 14 međusobno razlikuju, u ovom je trenutku teško reći da li je riječ o različitim varijantama grobnog rituala, ili je riječ o sličnom ritualu koji u grobu ilustriraju različiti ostaci zbog različitih vanjskih čimbenika. Uz različite uvjete sačuvanosti arheobotaničkih ostataka, na to može utjecati i činjenica da se u grob sa spališta transportira tek dio spaljenih ostataka. Jedinu poveznicu čine voćni prilozci, pa će trebati pričekati završetak analiza ostalih tumula kako bi se vidjelo postoji li obrazac koji se ponavlja ili je pogrebni ritual visoko individualiziran.

### ZAKLJUČAK

Arheobotanički nalazi iz halštatskih tumula 13 i 14 međusobno se razlikuju: u tumulu 13 dominiraju voćni prilozci, a u tumulu 14 žitarice, uz vrlo malu količinu voćnih priloga. Žitarice vjerojatno odražavaju lokalnu proizvodnju biljne hrane, dok su voćni prilozci sakupljeni u prirodi, u okolici naselja. Biljni prilozci nesumnjivo su imali veliku važnost u pogrebnom ritualu prapovijesnih stanovnika i analiza preostalih tumula dat će detaljniji uvid te omogućiti njihovo bolje razumijevanje.

Ovaj rad financirala je Hrvatska zaklada za znanost projektom (IP-2014-09-1234): Pogrebni običaji starijeg željeznog doba u južnoj Panoniji – raskrižja identiteta (BC-CrossId).

whether they are results of different variants of the burial ritual, or of a similar ritual illustrated by different remains as a consequence of different external factors. In addition to different states of preservation of the archaeobotanical remains, the difference could also be a result of the fact that only a part of the incinerated remains was transported from the pyre to the grave. The only link between the two tumuli is fruit placed in the graves, so we have to wait for the completion of the analyses of other tumuli to see whether there is a reoccurring pattern or whether the burial ritual was highly individualized.

### CONCLUSION

The archaeobotanical evidence from the Hallstatt tumuli 13 and 14 differs: in tumulus 13, fruit remains are the predominant grave goods, while in tumulus 14 these are cereals, accompanied by a very small quantity of fruit remains. The cereals probably reflect local production of plant food, while the fruit present in the graves was collected in the environment, in the settlement's surroundings. There is no doubt that plants as grave goods played an important role in the burial ritual of the prehistoric inhabitants of the region. The analysis of the remaining tumuli will provide a clearer insight and enable a better understanding of their role.

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Tamara Levak Potrebeca

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