LIFE AND DEATH IN IRON AGE OGULINSKO-PLAŠČANSKA VALLEY – NEW AMS ^{14}C DATES FROM BURIAL AND SETTLEMENT CONTEXTS

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Despite the long-standing importance of the Ogulin-Plaški region in past trade and communication networks, few radiocarbon dates have been reported from the area's prehistoric contexts. This article presents new accelerator mass spectrometry (AMS) radiocarbon dates from the Iapodian sites of Trošmarija, Sultanov grob, and Mala and Velika Metaljka. Radiocarbon dates from burial and settlement contexts demonstrate activity at these sites was underway by the start of the Iron Age, ca. 800 BC and continued for centuries afterward. These new radiocarbon dates contribute to our growing understanding of sociopolitical and cultural development in the prehistoric and Roman periods of the Ogulin-Plaški region.

Key words:
Iapodes, Ogulin-Plaški region, radiocarbon dating, burials, Iron Age, Roman period

When the Romans arrived on the shores of the eastern Adriatic, they were confronted with numerous indigenous groups and the reality of the long military campaign needed to subjugate them. The communities that resisted most fiercely were those living in and around the mountains and valleys of Lika and the Ogulin-Plaški region – the Iapodes. It took nearly two hundred years of sporadic fighting for Octavian and his forces to finally conquer these people and incorporate their territories into the larger province of *Illyricum* ca. 35 BC.

Despite classical accounts of these late Iron Age conflicts (e.g., Appian, Strabo) and ongoing archaeological excavation in the region since the late nineteenth century, however, many aspects of early Iapodian sociopolitical and economic organization are still not fully understood. Archaeologically, the culture remains almost entirely defined by their distinctive grave goods and burial practices. These new cultural markers are thought to have emerged at the turn of the 1st millennium BC, when Urnfield cultural influences from southern Pannonia and the Danube areas penetrated the Lika region and merged with local customs. This foreign influence, and perhaps even influx of new populations,[1] is suggested by the spread of urn cremations during this time in contrast to the earlier local style of inhumation.[2] The regional chronology of Iapodian cultural development, proposed by Drechsler-Bižić,[3] also begins during this period, when more bronze objects and the first recorded amber bead in Lika appear at the cave necropolis of Bezdanjača during Phase 1 (Fig. 2). The following Phases 2 through 7 are divided according to perceived changes in forms and quantity of grave good types (e.g., fibulae, head coverings) and decoration styles throughout the Iron Age (Fig. 2).

At various points throughout their cultural development, the Iapodes also expanded out of Lika and into the nearby Gorski Kotar and Kordun regions, as well as along the Una River in northern Bosnia. Though geographically separated from the

1 Balen-Letunić 2004, 213.

2 Drechsler-Bižić 1979, 283; 1987, 399.

3 Drechsler-Bižić 1987.

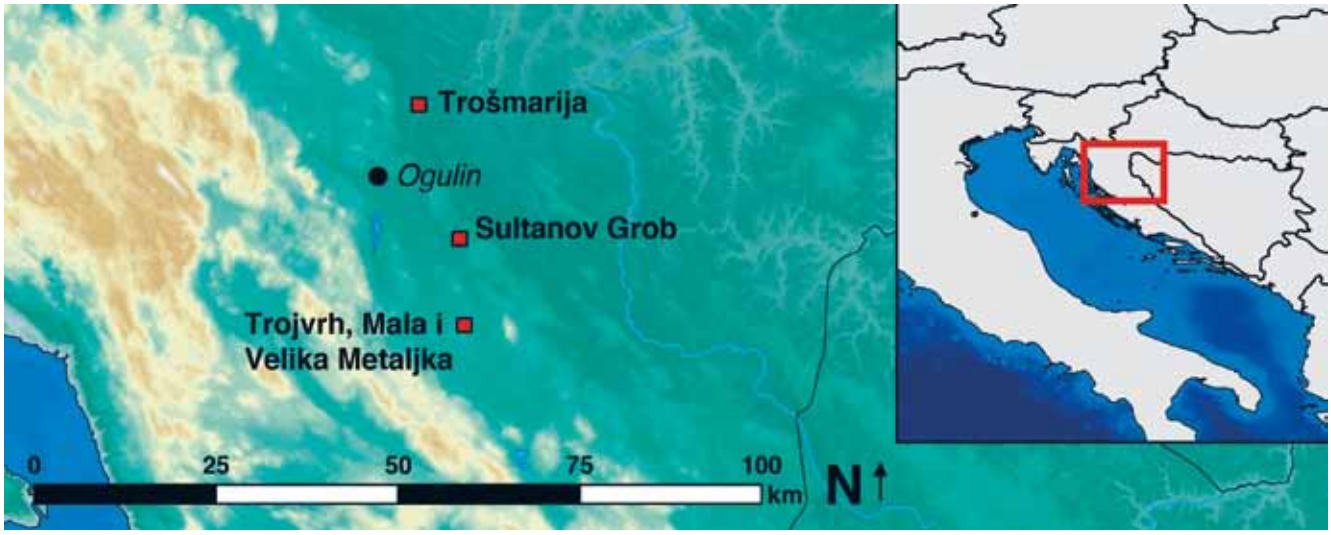

FIGURE 1. Map of study sites (ArcGIS; adapted by E. Zavodny).

Iapodian heartland in Lika proper, communities living on the "far-side" of the Velika and Mala Kapela mountain ranges in the Ogulin-Plaški area were linked to the Iapodian cultural sphere via shared material culture and mortuary rituals.[4] Important Iapodian settlements, such as *Metulum* and *Terponos*, were also located here[5] and the region served as a central node in regional trade and communication networks. Archaeological excavations since the late nineteenth century have confirmed the presence of multiple hillforts and necropoli throughout the area. More recently, ongoing excavations at the tumulus of Sultanov grob[6] and hillforts of Viničica[7] and Orišje-Gradišće[8] have contributed to our understanding of economic and sociopolitical organization in the prehistoric Ogulin-Plaški region. Still, there are very few published radiocarbon dates from important occupational and burial contexts that would help refine the timing and scope of Iapodian occupation of the region.

This paper reports, for the first time, the results of a radiocarbon dating program conducted on previously excavated materials from the sites of Trošmarija, Sultanov grob, and Mala and Velika Metaljka in the Ogulin-Plaški region (Fig. 1). New high-precision accelerator mass spectrometry (AMS) radiocarbon dates from these sites show an already active and settled regional landscape by the beginning of the Early Iron Age. Other radiocarbon dates suggest that some sites remained occupied after Roman conquest and well into Late Antiquity. These new dates highlight the more fine-grained processes of cultural change occurring in the Ogulin-Plaški region during the Iron Age and Roman period, and better contextualize the region's role within the broader Iapodian cultural sphere during this time.

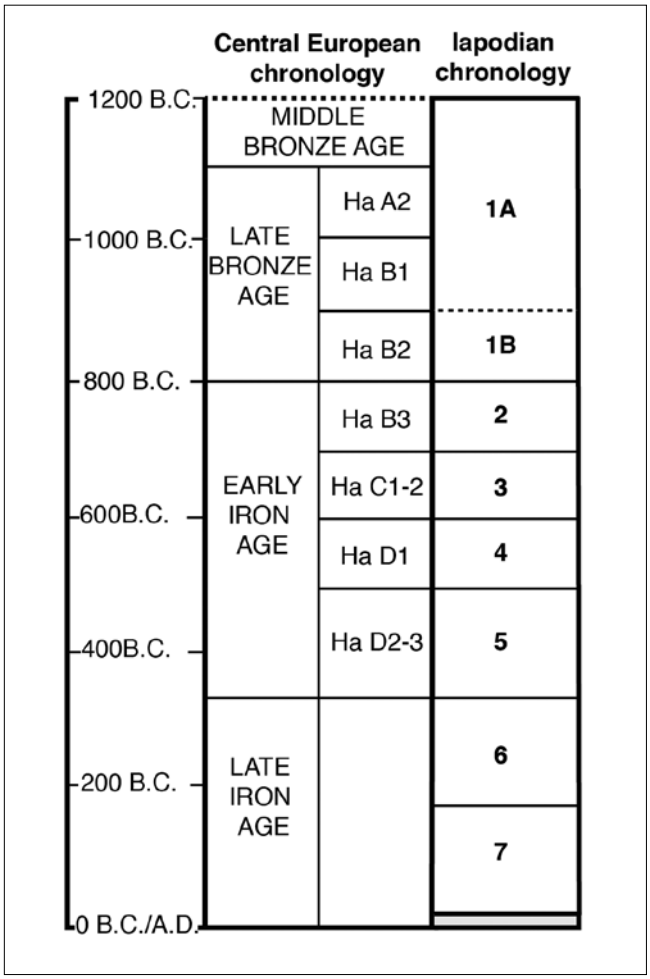

FIGURE 2. Iapodian and Central European chronologies for Late Bronze and Iron Ages (Drechsler-Bižić 1987).

4 Drechsler-Bižić 1987, 393.

5 Olujić 2007; 2011.

6 Balen-Letunić, Perkić 2017; Perkić 2012.

7 Olujić 2011.

8 Čataj 2007.

SITE	LAB #	GRAVE	ELEMENT	δ^{13}C	δ^{15}N	%C	%N	C:N	UCI-AMS #	^{14}C Age (BP)	2σ cal BC (95.4%)	
Mala Metaljka	MM-01	1	cranial	-14.7	9.3	42.6	15.2	3.3	179776	2145±20	355-105	355-300 (20.1) 215-105 (75.3)
	MM-02	2	cranial	-15.9	9.2	16.8	6.1	3.2	179814	2035±15	95-20	95-20 (95.4)
	MM-03	3	cranial	-16.1	7.7	43.0	15.4	3.3	179777	2510±15	775-545	775-735 (21.9) 690-660 (16.3) 650-545 (57.1)
	MM-04	4	mandible	-19.1	8.5	41.3	14.6	.3	179779	1550±20	AD 425-560	AD 425-560 (95.4)
	MM-05	profil	cranial	-14.5	7.7	40.8	14.7	3.2	179783	2500±20	775-540	775-725 (19.5) 720-705 (0.9) 695-540 (75)
Sultanov Grob	SG-02	2	femur	-14.5	8.3	44.9	16.0	3.3	132361	2485±20	770-535	770-535 (95.4)
	SG-03A	3	L humerus	-14.4	7.6	45.4	16.1	3.3	135086	2510±15	775-545	775-737 (21.9) 690-660 (16.3) 650-545 (57.1)
	SG-05	5	cremation	-	-	-	-	-	179809	2550±15	800-595	800-755 (91.1) 680-670 (2.5) 605-595 (1.8)
Trošmarija	TR-01	Blok 1	long bone	-14.2	8.6	22.0	8.0	3.2	181719	2470±15	760-515	760-515 (95.4)
	TR-02	Blok 2	long bone	-13.2	8.3	45.0	16.2	3.3	179780	2335±20	415-380	415-380 (95.4)
	TR-05	5	R tibia	-14.5	13.3	46.0	16.4	3.3	132384	2505±20	780-540	780-730 (20.9) 696-540 (74.5)
	TR-06	6	femur	-12.1	7.4	40.8	14.7	3.3	135087	2545±15	800-590	800-750 (84.7) 685-665 (5.4) 615-590 (5.3)

TABLE 1. AMS 14C dates of human remains (made by Zavodny).

Samples and Methods

All samples came from collections curated at the Archaeological Museum in Zagreb (*Arheološki Muzej u Zagrebu;* AMZ). The author identified skeletal remains to species and element and when possible estimated the general age range and sex of human remains according to published standards.[9] Provenience and context for each sample were recreated from excavation notes and the published literature. Exceptions to this are explicitly noted during the discussion of results.

Samples for AMS radiocarbon dating were chosen solely according to material availability. Organic preservation has long been an issue in Lika due to thin compacted soils and high levels of erosion[10] and many skeletal remains have simply not survived in the centuries since their inhumation. Furthermore, as will be noted in the following discussion, some sites have been partially destroyed because of modern human activity, again making recovery of actual skeletal remains difficult. For these and other reasons, radiocarbon dates from this region are rarely published and so the benefits of sharing the results of this study with other researchers far outweigh the limitations of the data set.

Samples of human and animal bone were analyzed using standard procedures for collagen extraction at The Pennsylvania State University Human Palaeoecology and Isotope Geochemistry Laboratory as outlined elsewhere.[11] Carbon and nitrogen concentrations and stable isotope ratios were analyzed at the Yale Analyti-

9 Buikstra, Ubelaker 1994.

10 Forenbaher 1996.

11 Zavodny *et al.* 2017, 2019.

SITE	LAB #	SPECIES	ELEMENT	δ^{13}C	δ^{15}N	%C	%N	C:N	UCI-AMS #	^{14}C Age (BP)	2σ cal (95.4%)	
Mala Metaljka	MMF-04	*Bos taurus*	L tibia	-21.9	5.7	46.9	16.7	2.8	179778	1890±15	AD 65-205	65-140 (94.9) 195-205 (0.5)
Trošmarija	TR-12	*Capreolus capreolus*	mandible	-21.1	5.4	45.8	16.4	3.3	169837	2335±20	415-380	415-380 (95.4)
Velika Metaljka	VMF-02	*Bos taurus*	2nd phalanx	-21.6	4.9	21.1	7.7	3.2	181722	2570±15	800-770	800-770 (95.4)

TABLE 2. AMS 14C dates of faunal remains (made by Zavodny).

cal and Stable Isotope Center. δ^{13}C and δ^{15}N values are reported in standard ‰ notation with respect to VPDB and atmospheric nitrogen, respectively. Sample quality was evaluated with %C, %N and C:N ratios before further analysis. C:N ratios fall between 2.8 and 3.3 and reflect good preservation for stable isotope analyses[12] (see Tables 1 and 2).

Cremated human bone from Sultanov grob (SG-05) was processed according to modified protocols.[13] The calcined bone was mechanically cleaned with an XACTO® blade and sonicated in deionized water twice for 30 minutes each to remove external contaminates. The sample was then etched in .25N HCl for one hour at 80°C before being rinsed in deionized water repeatedly and ground into 0.25 to 1 mm pieces. The sample was soaked overnight in 1M room-temperature acetic acid, dried at 70°C for ~24-48 hours, and then crushed into fine powder. Fourier transform infrared spectroscopy (FTIR) measurements were taken on the sample before graphitization to verify that the bone was calcined.[14] Calculated crystalline index values confirmed that the sample was calcined and suitable for AMS radiocarbon dating.

Radiocarbon samples were sent to the Keck Carbon Cycle AMS facility at UC Irvine. Results were corrected for isotopic fractionation[15] and then calibrated with IntCal20 and OxCal v.4.4.2.[16] Calibrated AMS radiocarbon dates from Sultanov grob, Trošmarija, and Velika and Mala Metaljka are presented in Tables 1 and 2 and Figure 3. Results are contextualized with archaeological data in the following sections.

Site Descriptions and Results

Sultanov grob

Sultanov grob, or the 'Sultan's Tomb,' is an earthen tumulus located at the eastern foot of the Velika Vinčica hillfort near the village of Skradnik. Modern construction and farming have reduced the circular tumulus to approximately 45 m in diameter and roughly two m high.[17] Excavations in 1988[18] and again in 2001[19] recovered nine inhumation burials and one cremation. Human remains from Graves 2, 3, and 5 were dated for this study.

The single cremation, Grave 5, was in an urn placed within a larger box-like construction of rocks near the center of the tumulus.[20] Decorative motifs on the urn are similar to other urns that date to the late 9th and 8th centuries, suggesting the cremation was buried sometime during the Bronze-Iron Age transition, or Phases 1B and 2 of the regional chronology.[21] The cremated remains themselves date to 795-590 cal BC, though it is mostly likely that the burial occurred between 795-750 cal BC (78% probability). This date is in agreement with the typological assignment of the urn. Given the central location of grave 5 it seems that construction of the tumulus started at the very beginning of the Early Iron Age. Burials from Graves 2 (770-540 cal BC) and 3 (775-545 cal BC) were interred later but still during the Early Iron Age period. Skeletal remains from other burials were not available for radiocarbon dating, but grave goods including amber, fibulae, various metal finds, and ceramics indicate that Sultanov grob remained in use until the 1st century BC.[22]

Trošmarija

The modern village of Trošmarija is located northeast of the town of Ogulin (see Fig. 1). A prehistoric earthen tumulus and flat necropolis here were first noted, and then later excavated, at the beginning of the twentieth century by Brunšmid of the AMZ. Not much documentation from these primary campaigns survives, and farming activity and road construction over the years has partially destroyed the tumulus. In the 1950s, a small excavation of the flat necropolis found that only one grave survived *in situ,* with a decorated belt clasp dating to Phase 6 (Fig.2) of the Iapodian cultural chronology.[23]

In the 1980s, the AMZ spearheaded another excavation of the tumulus, resulting in the discovery of a small number of preserved inhumation graves.[24] The limited artifacts from these

12 DeNiro 1985; van Klinken 1999.
13 Starkovich *et al.* 2013, 504, 506.
14 Starkovich *et al.* 2013, 507-508.
15 Stuiver, Polach 1977.
16 Bronk Ramsey 2009; 2020; Reimer *et al.* 2020.
17 Perkić 2012, 58.
18 Balen-Letunić 1988.
19 Perkić 2012.
20 Perkić 2012, 59.
21 Balen-Letunić, Perkić 2017, 78.
22 Balen-Letunić, Perkić 2017, 78.
23 Drechsler-Bižić 1970, 248; 1987, Sl. 25.
24 Balen-Letunić 1988.

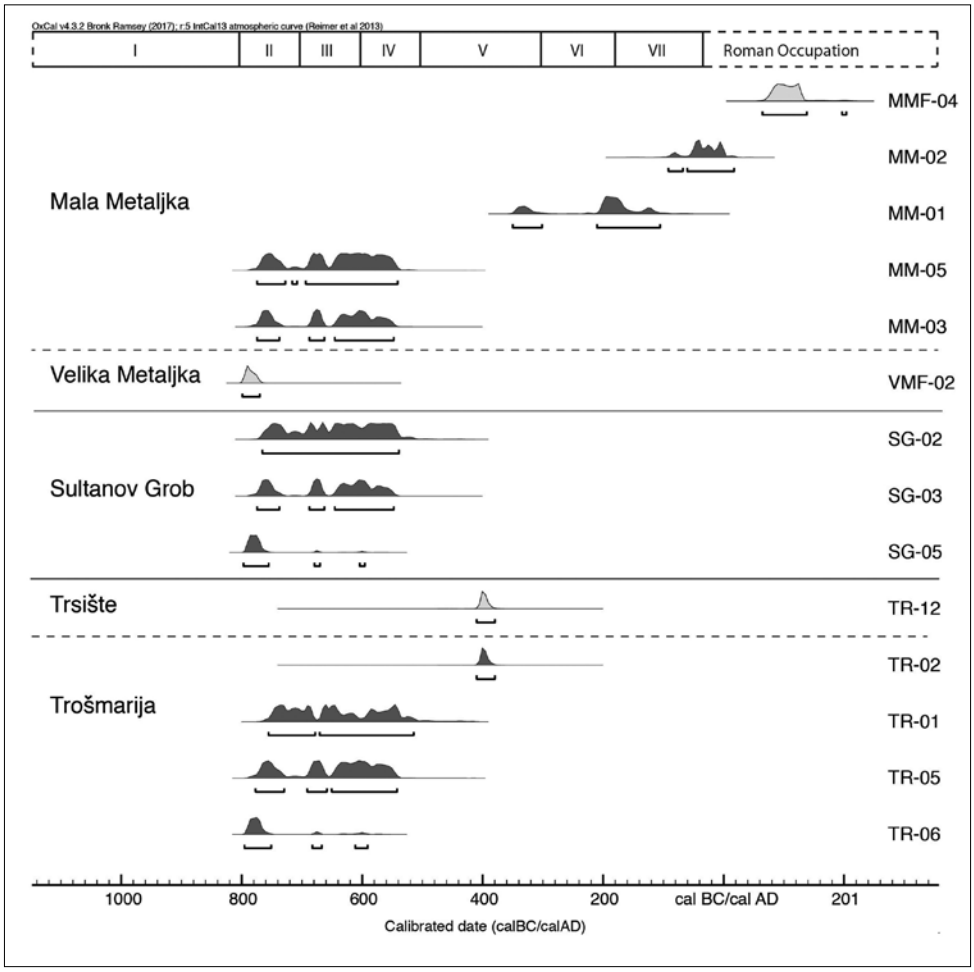

FIGURE 3. Calibrated AMS 14C dates with Drechsler-Bižić's 1987 sequence depicted at the top. Dates in dark gray are from human remains and those in light gray are from animal remains. MM-04 is not depicted (made by E. Zavodny).

burials show clear links with the Iapodian culture between the seventh and fourth centuries[25] and AMS radiocarbon dates from grave contexts generally fall within this period. Sampled skeletal remains from Grave 5 and Grave 6 date to 775-540 cal BC and 795-570 cal BC, respectively. Fragmented skeletal remains recovered from a destroyed grave in Blok 1 also date to this early period, from 760-485 cal BC. Bone fragments recovered from a destroyed grave in Blok 2 date slightly later at the end of the Early Iron Age (415-380 cal BC; Fig. 3) but predate the La Tène C period belt found during excavations of the nearby flat necropolis in 1958.[26] Similarly to Sultanov grob, then, dates from this tumulus suggest burial activities began taking place during the Early Iron Age.

During the 1980s excavators also placed test units at the nearby hillfort site of Trsište and found one house and part of a probable fortification wall. The house was composed of two rooms separated by a single stone wall and oriented north-south along its longer side. Room 2 contained the majority of artifacts, including ceramics that were typologically consistent with the Early Iron Age.[27] A roe deer (*Capreolus capreolus*) mandible taken from the hearth feature in Room 2 dates to 415-380 cal BC, or the very end of the Early Iron Age.

Mala and Velika Metaljka

The hillforts of Trojvrh and Velika Metaljka sit atop a series of interconnected hills near the modern village of Trojvrh. Excavation at Velika Metaljka in 1982 uncovered part of a house wall, preserved floor, and other settlement debris dating to the Early Iron Age,[28] which is confirmed by the Early Iron Age date of 800-765 cal BC taken from a cattle (*Bos* taurus) bone recovered from the house. Extensive damage from WWII has prohibited systematic exploration of the site, but Roman coins and ceramics have also been found here and some scholars argue that these hillforts comprise the Iapodian town of *Terponum* or *Terponus*.[29]

Mala Metaljka is a flat necropolis on the saddle of the hill between Trojvrh and Velika Metaljka and was also briefly excavated in 1982. Most of the grave architecture had been destroyed, but four inhumation burials and one cremation were recovered. The

25 Drechsler-Bižić 1970, 243; 1987, 412.

26 Drechsler-Bižić 1970, 248; 1987, Sl. 25.

27 Balen-Letunić 1988, 162.

28 Balen-Letunić 1988, 162.

29 Balen-Letunić, Perkić 2017, 80.

single cremation was placed in an intact urn typical of the late 9th and 8th centuries.[30] Despite the limited number of grave goods, original excavators suggested that the necropolis had continued to be active during the later HaD phase of the Iron Age due to the presence of a bronze ring, green glass, and amber.[31]

Excavators also noted that prehistoric and Roman levels were clearly mixed in some areas of Mala Metaljka, and this is reflected in the spread of just four AMS radiocarbon dates from this study. Grave 3 dates to the Early Iron Age (775-545 cal BC), but remains from Grave 1 and Grave 2[32] are from different parts of the Late Iron Age (350-55 cal BC and 90-25 cal BC, respectively). The individual from Grave 4 is an outlier, dating many centuries later and well into the Roman Period at cal AD 430-580.[33] Though the skeletal graves are described as being surrounded by the typical dry-stone grave construction of the Iapodian culture,[34] their exact placement and relationships within the necropolis are unclear from the literature.

The Mala Metaljka assemblage at the AMZ also contains additional human skeletal remains and a small number of animal bones from the 1982 excavations. Human remains removed from the northern profile of the excavation unit[35] date to 775-540 cal BC or the Early Iron Age while a cattle (*Bos taurus*) bone dates to the first centuries of Roman rule, cal AD 85-215. Though the provenience of these samples are even less clear than those from the labeled graves, the resulting radiocarbon dates lend further support to the idea that Mala Metaljka was active – to some degree- in both prehistoric and Roman times.

Life and death in the Iron Age of the Ogulin-Plaški region

While this study was only able to date a limited number of contexts from each site,[36] broad trends at the regional level are still observable and worth noting. The earliest dated burials at Sultanov grob, Trošmarija, and Mala Metaljka coincide with the start of the Iron Age, ca. 800 BC, or Phase 2 of the Iapodian regional chronology (Fig. 2, 3). Construction of the tumuli at Sultanov grob and Trošmarija was likely initiated during this period for burial of primary grave(s). The central grave at Sultanov grob, grave 5, was buried between 795-590 cal BC, but probably closer to 795-750 cal BC (78% probability). The earliest date from Trošmarija comes from Grave 6, which was also likely interred either during the same interval (795-750 cal BC 67% probability) or slightly later (795-665 cal BC 78.1% probability). Whether or not Grave 6 is the primary burial, however, remains unclear. Grave 3 and the displaced individual (MM-05) from Mala Metaljka also date to the Early Iron Age (775-540 cal BC), but are more likely to have occurred later in the period (655-545 cal BC, 57.5% and 58.3% probability respectively).

Burial activity at Sultanov grob, Trošmarija, and Mala Metaljka, then, appears to have been largely contemporaneous though the specific rituals employed at each site varied. Sultanov grob and Trošmarija are tumuli of rocks and soil located near their respective hillforts, whereas Mala Metaljka is a flat necropolis positioned on the saddle between Velika Metaljka and Trojvrh.

The co-existence of tumuli and flat necropoli is not unknown within the rest of the Iapodian territory. During the Late Bronze Age, tumuli burials were still practiced in the Lika River valley (*Ličko polje*) at Smiljan[37] and Orlov Kamen and Lećište near Vrebac.[38] Tumuli were eventually replaced by flat necropoli during the Early Iron Age,[39] in keeping with practices that had been previously established at larger sites such as Prozor and Kompolje in Gacka River valley (*Gacko polje)*. The construction of a flat necropolis after a tumulus at Trošmarija follows this pattern.

There are other clear links at the sites in the Ogulin-Plaški region with contemporaneous communities in Lika. The biritual mortuary rituals – cremation and inhumation – at Sultanov grob and Mala Metaljka are clear markers of the Iapodian culture.[40] At Mala Metaljka, each grave was also paved with small rocks and surrounded by unworked stones in the customary Iapodian burial style.[41] Similar construction was also observed for some graves at Trošmarija.[42] Grave goods, including jewelry, amber, and ceramics, indicate direct contact and exchange between Lika and the Ogulin-Plaški region. The few radiocarbon dates from settlements also correspond to this time period, with Velika Metaljka (800-765 cal BC), Trsište (415-380 cal BC), and Orišje (750-400 cal BC)[43] all active at various points throughout the Early Iron Age.

Radiocarbon dates also show continued activity at Sultanov grob, Trošmarija, and Mala Metaljka into the Late Iron Age, though to varying degrees. At Sultanov grob there are no burials with a radiocarbon date later than 540 cal BC and at Trošmarija

30 Balen-Letunić, Perkić 2017, 81.

31 Balen, Bakarić 1983, 19.

32 In the literature grave 2 is described as a cremation but in the AMZ depot there are unburned skeletal remains labeled as belonging to grave 2. An unburned cranial fragment from this Grave 2 was dated for this study. Given the Early Iron Age urn and Late Iron Age radiocarbon date, it is mostly likely that the AMZ grave 2 is one of the four inhumation burials, perhaps once called "Inhumation Grave 2," and not the cremation burial, though other possibilities cannot be definitely ruled out.

33 The AMS radiocarbon date from Grave 4 does not appear in Figure 3 due to size constraints.

34 Balen, Bakarić 1983, 19.

35 This sample is noted as MM-05 in this study.

36 Sultanov grob (n=3), Trošmarija (n=4) and Trsište (n=1), and Velika (n=1) and Mala Metaljka (n=5).

37 Hoffiller 1906.

38 Drechsler-Bižić 1958.

39 Bakarić 1986; Drechsler-Bižić 1958.

40 Drechsler-Bižić 1987.

41 Drechsler-Bižić 1987; Olujić 2007.

42 Balen-Letunić 1999, 26.

43 Čataj 2007, 217.

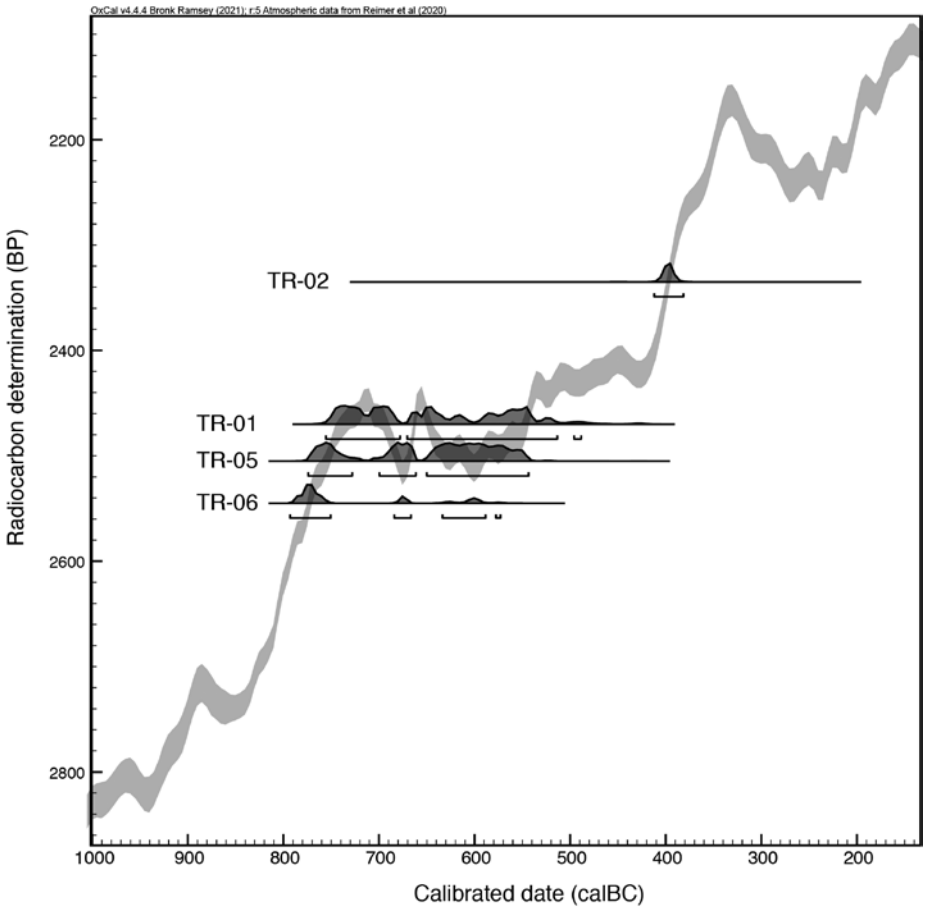

FIGURE 4. AMS radiocarbon date for Grave 6 at Trošmarija plotted against the calibration curve (made by Zavodny).

the latest radiocarbon date is from a destroyed burial at 415-380 cal BC. At Mala Metaljka Graves 1 and 2 date to the latter half of the Late Iron Age at 210-95 cal BC (71.8% probability) and 90-25 cal BC, respectively. The typological evidence from these sites extends these dates even further- at last the 1st century BC at Sultanov grob[44] and the La Tène C at the flat necropolis near the earlier tumulus at Trošmarija.[45] This gap between radiocarbon- and typology-based dates of site activity is undoubtedly the effect of differential preservation of the sites themselves. At Sultanov grob, for instance, only more central graves were dated because inhumation and cremation burials closer to the perimeter of the tumulus were too badly damaged. Taphonomy and modern human activity has similarly impacted the archaeological records at Trošmarija and Velika and Mala Metaljka.

A note on reconciling AMS radiocarbon dating and typological classifications

The majority of scholarly work on the Iapodes, this study included, has focused on the analysis of legacy collections from late nineteenth and twentieth-century excavations of burial contexts. These older collections reflect over a century of changes in excavation, conservation, and curation standards. The cumulative effect of these processes can have unforeseen implications for analyses, but combining typological classification and radiocarbon dating is one way to counteract these biases and form a more complete picture of the past.

For instance, the ability to precisely date activity at Mala Metaljka using either method is heavily restricted by the destruction of most useful stratigraphy or context at the site. Typologically excavators were able to assign the cremation urn to the late 9th and 8th centuries and other grave goods to the HaD period.[46] Roman material was also prevalent across the necropolis, Velika Metaljka, and Trojvrh. Radiocarbon dating human remains from Mala Metaljka confirmed both Early Iron Age and Roman period use, as implied by the cultural material, but also dated two burials to the Late Iron Age – a previously unidentified component. Though we cannot determine whether Mala Metaljka was used continuously or only at various times, we now know there was some level of activity here throughout the entirety of the Iron Age.

Radiocarbon dating is also a useful tool for assessing our current state of knowledge, either through confirming traditional frameworks, suggesting new ones, or even identifying unknown complications.[47] For example, this study shows a discrepancy between the radiocarbon and typological dates for Grave 6 at

44 Balen-Letunić, Perkić 2017, 78.

45 Drechsler-Bižić 1970, 248; 1987, Sl. 25.

46 Balen, Bakarić 1983, 19.

47 Zavodny *et al.* 2019.

Trošmarija. There is a high probability (78.1%) that the individual from Grave 6 was interred between 795-665 cal BC, but this grave is also associated with a three-knobbed fibula (*a tre bottoni*) that is typologically assigned to the much later Phase 4 or HaD stage (600-500 BC) of the Lika region.[48] Since the radiocarbon date itself has passed all quality controls, we are left with three possible explanations for why this date does not align with typological expectations.

First, radiocarbon dates from Trošmarija overlap to some degree with the Hallstatt Plateau- a known effect in the calibration curve that stretches radiocarbon dates into long and flat ranges that can restrict our interpretative abilities.[49] For instance, dates from Grave 5 and Blok 1 are clearly affected by the Hallstatt Plateau (Fig. 4). However AMS radiocarbon dates are usually over-represented on flatter parts of the calibration curve (e.g. the Hallstatt Plateau) and less likely to occur on areas with steeper slopes. The date from Grave 6 falls on a steep part of the calibration curve (Fig. 4), meaning an artificial date caused by a calibration error is unlikely.

The second option is that the three-knobbed fibula was introduced to the Iapodes, or at least those living in the Ogulin-Plaški region, earlier than expected. This would contradict multiple comprehensive typological studies of secure grave contexts[50] as currently the earliest types occur primarily in northern Italy and Slovenia during the late HaC period,[51] though examples are also described from Prozor[52] and Kompolje.[53] More examples from secure burial contexts in the Ogulin-Plaški region would be useful for comparative purposes, but the only other three-knobbed fibula described in the literature is associated with Grave 2 from Sultanov Grob. The radiocarbon date for Grave 2 is directly impacted by the Hallstatt Plateau (770-540 cal BC), however, and cannot be further refined.

If both typology and radiocarbon date are correct, the remaining possibility is that the three-knobbed fibula and skeleton were not originally buried together but only came to be associated later. Given the amount of construction and farming activities documented at Trošmarija over the years, these burial contexts may have been disturbed in ways that were not readily apparent during later excavations. Suggestively, the excavators describe Graves 5 and 6 as being placed directly in the ground without any grave construction even though other graves were surrounded by large unworked stones.[54] Further investigation is needed to determine which of these three possibilities is most likely.

48 Drechsler-Bižić 1987, 391; Ogrin 1998, 119.

49 Hajdas 2008.

50 Io Schiavo 1970; Ogrin 1998; Teßmann 2001.

51 Ogrin (1998, 127) assigns Types I and V to Stična 2 and Sv. Lucija I c2 phases.

52 Io Schiavo 1970, Table 6 Slika 2; Ogrin 1998, 111.

53 Drechsler-Bižić 1961, 106, Table 4, Slike 1-2 for description and 84 for date.

54 Balen-Letunić 1999, 26.

Conclusion

New AMS radiocarbon dates from Trošmarija, Sultanov grob, and Mala and Velika Metaljka suggest an established landscape in the Ogulin-Plaški region by at least the start of the Early Iron Age, if not earlier. These trans-Alpine communities were active participants in the Iapodian cultural sphere, and their burial practices and material goods mirror ongoing developments in Lika during this same period. Radiocarbon dates from Mala Metaljka also show a continuation of some activity into the Late Iron Age and then at different points under Roman occupation. Many of the radiocarbon dates presented in this study confirm the typological classifications and dating of grave goods from these three sites, though the discrepancy between absolute and relative dating of Grave 6 at Trošmarija requires further investigation and highlights an important consideration for working with legacy collections. Neither radiocarbon nor typology-based dating can exclusively capture the full extent of site occupation and both are needed to fully understand the complex cultural processes unfolding during the Iron Age in the Ogulin-Plaški area.

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SAŽETAK

ŽIVOT I SMRT U OGULINSKO-PLAŠČANSKOJ UDOLINI U ŽELJEZNOM DOBU – NOVI AMS ^{14}C DATUMI IZ POGREBNIH I NASEOBINSKIH KONTEKSTA

Unatoč dugo poznatoj važnosti ogulinsko-plaškog kraja u trgovačkim i komunikacijskim mrežama kroz prošlost, iz pretpovijesnog konteksta tog područja zabilježeno je malo radiokarbonskih datuma. Ovaj članak prikazuje nove radiokarbonske datume dobivene akceleratorskom masenom spektrometrijom (AMS-om) s japodskih nalazišta Trošmarija, Sultanov grob te Mala i Velika Metaljka.

Radiokarbonski datumi dobiveni iz konteksta ukopa i naselja pokazuju da je aktivnost na ovim nalazištima započela već za početka željeznog doba, cca. 800. godine prije Krista te da se nastavila stoljećima nakon toga. Ovi novi radiokarbonski datumi doprinose rastućem razumijevanju društveno-političkog i kulturnog razvoja u pretpovijesnom i rimskom razdoblju ogulinsko-plaškog kraja.

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