

REDATING THE VETERNICA PREHISTORIC HUMANS

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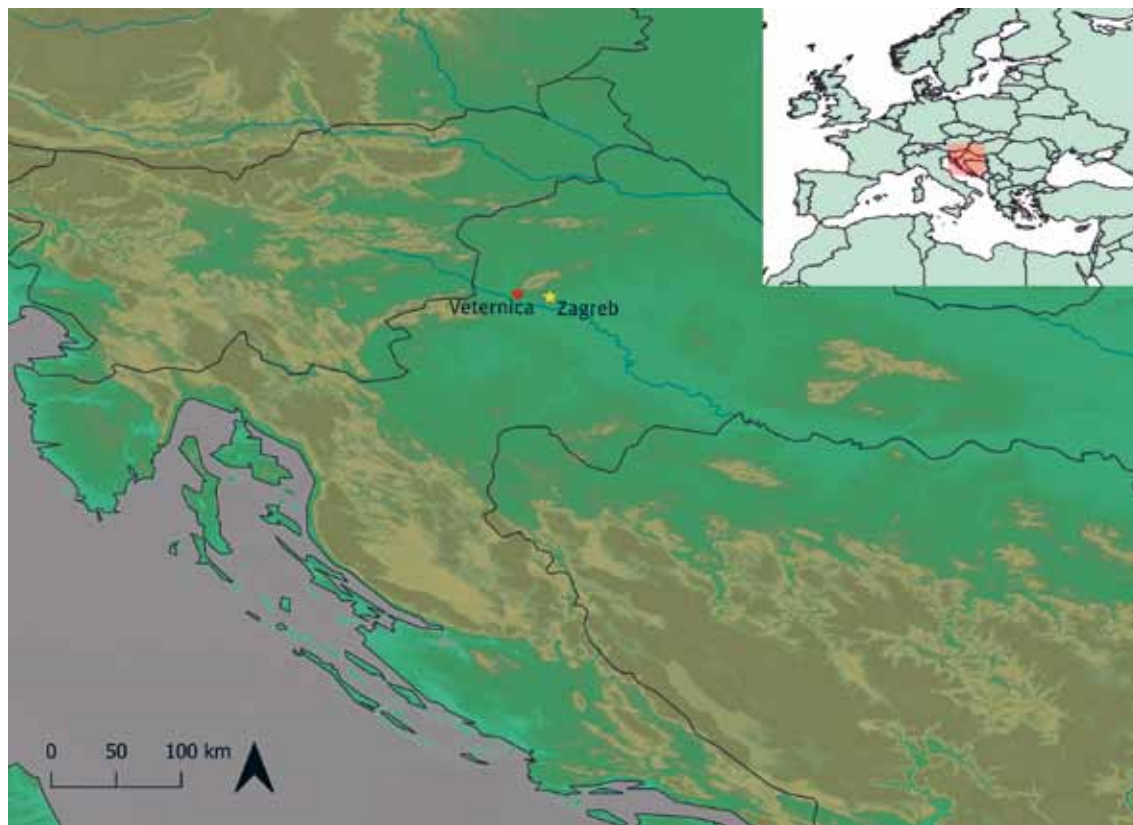
The Veternica cave is the oldest archaeological site in the Zagreb area. Excavations between 1951 and 1971, yielded material dating from the Middle Palaeolithic to the Roman times including the human remains ascribed to various prehistoric periods (Palaeolithic, Mesolithic, Neolithic, and Bronze Age). Recent small-scale excavations yielded additional human skeletal fragments. Here we present the results of direct dating of the human remains. Although the results remove this sample from the list of

prehistoric human remains, they provide the data for the study of biological properties and cultural practices of local inhabitants during the turbulent times of the Roman presence in the region.

Key words:

caves; human remains; prehistory, Roman Age

FIGURE 1. Location of the Veternica cave (map by L. Vidas).



Introduction

Caves have played an important role in the lives (and deaths) of humans almost for as long as our genus first appeared. They have been used as short, or long-term dwellings, hunting outposts, shelters from danger or environmental condition, or entered and explored for a myriad of reasons. Caves have been a place of burials or long-forgotten ceremonies, sometimes leaving mystical symbols carved in cave walls, or leaving masterpieces of cave art that still both marvel and puzzle researchers to this day. They have been a place of birth and death for many generations. All these visits leave us a variety of archaeological data.¹ Among these, are human skeletal remains that provide us with the opportunity to learn more about cultural and biological aspects of life (and death) in the past. It is therefore of crucial importance to have a reliable timeframe for these visits, that will provide us with an anchor in our attempts to decipher different aspects (and possibly common patterns) of cave uses in the past. The aim of this paper is not to provide an extensive overview of this interesting subject, but to provide a better chronology for one of the Croatian caves that has a rather long record of human visits, spanning from the Middle Palaeolithic to recent times.

The cave of Veternica is an important and protected geomorphological natural monument, formed between Triassic dolostone and Miocene limestone,² situated on the southwestern slopes of

Medvednica mountain, on the western periphery of the city of Zagreb (Fig. 1). The cave's entrance is roughly 8 m wide, 4 m high, and the entrance chamber is approximately 15 m long and 7 m wide.³ It is first mentioned in 1899 by the discoverer of the Krapina Neandertals, Dragutin Gorjanović Kramberger, and again by Dragutin Hirc in 1905⁴ and the first known speleological exploration and plan of the cave was done by Josip Poljak.⁵ From 1949 onwards, Veternica has been explored more regularly, mostly by speleologists from the Mountaineering Society "Željezničar" and the University Mountaineering Society "Velebit" from Zagreb.⁶ Interestingly, during the exploration in 1949, several human remains were discovered at the beginning of the main cave channel (located to the right of the cave entrance) and given for analysis to Dr. Ivaniček, who suggested that the remains belonged to three males, one female, and one juvenile.⁷ He also argued that the remains were likely the victims of a killer that recently roamed the area, but further information on this was not given, nor is anything known about the current location of the finds. Interestingly, new rescue excavations in 2015 and 2016 in the same area of the cave unearthed several additional human bones.⁸

1 see Janković, Drnić, Paar (eds.) 2021 and references therein.

2 for a more detailed insight into the geology of Veternica, and recent insights into new research see Lacković *et al.* 2011; Baković *et al.* 2022.

3 Miracle, Brajković 1992.

4 see Čepelak 1976.

5 Poljak 1934.

6 Čepelak 1976 and for a more detailed insight into the chronology of early exploration and popular accounts on Veternica, including many photographs, see Božičević 1959.

7 Božičević 1959.

8 Vukosavljević *et al.* 2016; Vukosavljević, Raguž 2017.

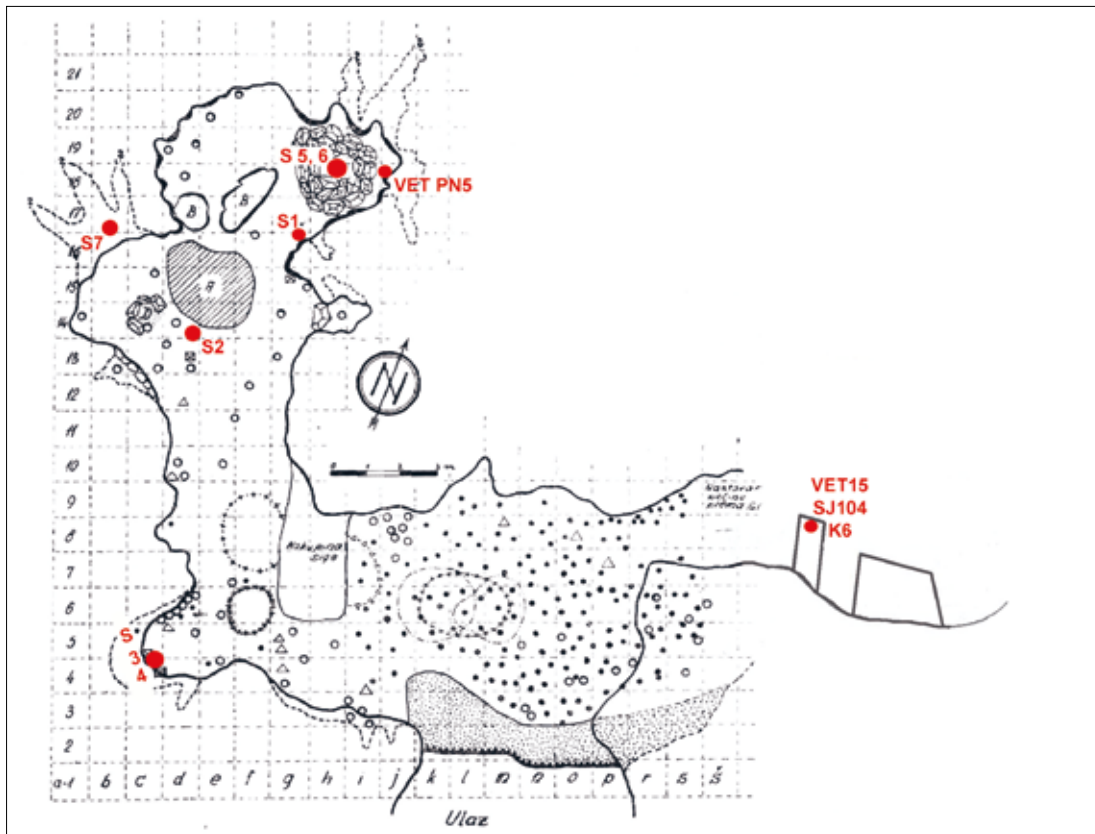


FIGURE 2: Location of human remains mentioned in the text (modified after Malez 1957 by L. Vidas).

Shortly after, the first systematic archaeological excavations started under the direction of first S. Marijanac in 1951 followed by M. Malez from 1953 and continued with irregular intervals until 1971.⁹ During this research, a multitude of archaeological and paleontological material was found and subsequently published in a number of papers.¹⁰

In 1953 two trenches were excavated (Sonda 1, situated near the cave entrance, and Sonda 2 left of the entrance),¹¹ in which faunal remains and some stone artefacts were found. Layer 6 (Sonda 1), which contained numerous artefacts and cave bear bones, according to Malez dates to the Palaeolithic.¹² Excavations in Sonda 1 continued in 1953¹³ and in 1955, when most of the excavations concentrated on the side channel area, left to the cave entrance and an additional trench was situated in front of the cave mouth.¹⁴ It is in this year that all the discussed human skeletal material was discovered,¹⁵ with the exception of the fragmented finds found in 2015, 2016 and 2018¹⁶ (Fig. 2).

In 2002, human remains sticking out from the profile were noted in the cave channel, leading from the first cave chamber, few meters behind the doors where the touristic part of the cave starts. In 2015 and 2016 rescue excavations concentrated on this part of the cave with the main aim of clarifying the stratigraphic sequence and the age of human remains. In 2015 a total of 29 human fragments (mostly cranial, dental, and two postcranial specimens), and in 2016 additional cranial fragment were unearthed.¹⁷ In 2018, small-scale excavations were conducted in a smaller chamber just after the first cave chamber, left of the entrance, where M. Malez conducted his research previously.¹⁸ Stratigraphic sequence was partially disturbed (especially the upper part) and contained human remains, Pleistocene faunal remains (e.g. *Ursus spelaeus*) pottery fragments and recent rubbish¹⁹ (Fig. 2).

9 Malez 1967; Karavanić, Janković 2006; Banda, Karavanić 2019.

10 Malez 1963a; 1963b; 1981; Miracle, Brajković 1992; 2010; Brajković 2005; Miracle et al. 2010; Banda, Karavanić 2019; Banda et al. 2020.

11 Malez 1955; 1956a; 1956b.

12 Malez 1955.

13 Malez 1956a.

14 Malez 1957.

15 Malez 1957.

16 Vukosavljević et al 2016; Vukosavljević, Raguž 2017; Cvitanović, Raguž 2018.

17 Vukosavljević et al. 2016; Vukosavljević, Raguž 2017.

18 Cvitanović, Raguž 2018.

19 Cvitanović, Raguž 2018.



FIGURE 3. Cranial remains from excavation by M. Malez (photo by M. Linić).

Veternica human remains

The information from Malez about the chronology of skeletal samples is somewhat confusing, as he refers to some of them as dating to Palaeolithic, Mesolithic, Neolithic, and Bronze Age. The oldest specimen, according to Malez, is the Skull S1, found in stratum “h” (layer 5) in quadrant g16 in 1955 (Fig. 3). First, Malez suggested this layer can be correlated with the layer 6 from the trench in front of the cave, which contained Mousterian artefacts, suggesting the Mousterian age for the skull,²⁰ and emphasizing its “primitive characteristics”, notably the “sloping forehead”.²¹ In later papers, he argued it is a burial from the Upper Palaeolithic stratum “f” or “f1” and uses the term *Homo sapiens fossilis* for the specimen.²² Later comparisons confirmed that both metric and morphological characteristics are that of anatomically modern human (*Homo sapiens sapiens*).²³

The second specimen, cranium S2 was found in lower part of the stratum “d”, at the border of the d13/14 quadrants.²⁴ Somewhat confusingly, Malez²⁵ argues that the morphology is consistent with that of the “Upper Palaeolithic hunter with sapient features”²⁶ but in the following paragraph of the same paper ascribes it to the “Mesolithic phase” of Veternica.²⁷

Additional two (S3 and S4) and another partial skull (that was not described in detail nor given a separate skull number) were discovered in stratum “d”, quadrants c4 and 5.²⁸ These were also ascribed to the Mesolithic, based on the radiocarbon date of the overlying stratum “c” of 13.660 years before present.²⁹

Two more complete skulls (S5 and S6), found alongside several other cranial and postcranial fragments and bones are ascribed to the “Neolithic burial”, an area surrounded by a stone circle and covered by stone slabs located in quadrants h18/19.³⁰ Overall morphology is anatomically modern, and Malez³¹ ascribes them to younger individuals.

Additional skull (S7) was discovered within the stratum “b”, quadrant b 17.³² Based on the associated archaeological finds, Malez dates it to the Bronze³³ or possibly early phase of the Iron Age.³⁴ One of the interesting features of this skull noted by Malez³⁵ is the supposed artificial cranial deformation, but it is far more likely the noted morphology is due to normal idiosyncratic variation.

20 Malez 1957; 1965.

21 Malez 1957.

22 Malez 1967; 1981; Malez, Teschler-Nicola 1986.

23 Smith, 1976; 1982.

24 Malez, 1957.

25 Malez 1981.

26 Malez 1981, 75.

27 Malez 1981; Malez, Teschler-Nicola 1986.

28 Malez 1965; 1981; Malez, Teschler-Nicola 1986.

29 Malez Teschler-Nikola 1986.

30 Malez 1975; 1981; Malez, Teschler-Nicola 1986.

31 Malez 1957; 1981; Malez, Teschler-Nicola 1986.

32 Malez 1957.

33 Malez 1957.

34 Malez 1981.

35 Malez 1957; 1981; Malez, Teschler-Nicola 1986.

Results of the redating of human remains and concluding remarks

In our attempt to establish a reliable chronology of the Veternica human remains, samples from seven specimens (T. 1) were sent for radiocarbon dating. Skull S1 (Veternica Cave1-/VTK830/55) sample gave rather low collagen yield, and the original report from ISOTOPTTECH ZRT notes the date of “-141 ± 57 for conventional ¹⁴C age and the “modern human sample after 1950”. Specimen S5 was not dated, as it comes from the same context as the specimen S6 (i.e. the “Neolithic grave”), while the specimen S7 was found in association with a Bronze Age find. Specimens VET15SJ104K6 and VETPN5 were found during excavations in 2015 and 2018, respectively.

Although the archaeological sequence testifies that Veternica cave was visited at various times during prehistory, starting with Middle Palaeolithic Neandertals, the redating of the hu-

The results of the dating remove the specimens from the list of prehistoric human remains from Croatia. However, the cultural finds confirm that Veternica cave was used at various times and, for various reasons. Hušnjakov brijeg at Krapina and Vindija caves are the only two Croatian sites thus far that yielded the physical remains of Neandertals, but their presence at Veterinca is noted by the presence of Mousterian industry.

The redating of the Veternica human sample provides a new chronology of the use of the site as burial place, most likely by the local Varciani ethnic community, at the time of the Roman presence in the area. This, in turn, provides us with the opportunity to study cultural practices, and biological properties (including aDNA studies) of locals at a turbulent time in Roman history, providing an important insight for a broader context of cave use, and funerary archaeology in particular. There is no doubt that Veternica cave has many more secrets to reveal to future researchers.

Specimen	Lab ID	Conventional ¹⁴ C age (yrs BP) (± 1s)	Calibrated calendar age (cal AD/BC) (2s)[1]
S1	DeA-27911	failed*	failed
S2	DeA-27910	1834 ± 26	AD 127-250
S3	DeA-44382	1753 ± 16	AD 243-353
S4	DeA-27909	1682 ± 78	AD 224-556
S6	UBA-47096	1772 ± 30	AD 218-365
VET15SJ104K6	Beta-414563	1590 ± 30	AD 419-598
VETPN5	Beta-515667	1660 ± 30	AD 336-440

TABLE 1. Results of the radiometric dating of human remains from Veternica cave. */2554/18 [1] OxCal v.4.4.4 Bronk Ramsey 2009; Reimer et al. 2020.

man skeletal sample described by Malez³⁶ shows that these visits only resulted in accumulation of archaeological material *sensu stricto*, while the human skeletal material is from later archaeological periods. With the exception of the poorly preserved S1 specimen that did not yield enough collagen for reliable dating, all described specimens fall within the timeframe of the Roman presence in the area (T. 1).³⁷ To this, we can add the human remains discovered during the 2015 and 2016 field seasons. The human remains therefore likely should be attributed to the local Varciani ethnic community that inhabited the region during the timeframe suggested by radiocarbon dating.³⁸ Interestingly, the practice of burials in caves during Roman times has been noticed around the Karlovac county region and some other localities in Croatia,³⁹ Slovenia,⁴⁰ Switzerland,⁴¹ and Wojenka and colleagues⁴² recently reported similar practices for the Roman and Migration period in southern Poland.

36 Malez 1957; 1980; 1981; Malez, Teschler-Nicola 1986.

37 Dzino, Domić Kunić 2012.

38 Mócsy 1959; Grbić, 2014; Šašel Kos 2018.

39 Perkić 2019.

40 Guštin 1976; Jamnik et al. 2017.

41 Ebnöther et al. 2021.

42 Wojenka et al. 2023.

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SAŽETAK

DATIRANJE PRAPOVIJESNIH LJUDSKIH OSTATAKA IZ ŠPILJE VETERNICE

Pećina Veternica je najstariji arheološki lokalitet na području grada Zagreba. Istraživanja provedena između 1951. i 1971. rezultirala su arheološkom građom iz vremena od paleolitika pa sve do rimskog doba, uključujući i ljudske kosturne ostatke pripisane različitim prapovijesnim razdobljima (paleolitik, mezolitik, neolitik, brončano doba). Za vrijeme nedavno provedenih istraživanja manjeg obima otkriven je nov ljudski koštani materijal. U ovom radu iznosimo rezultate apsolutnog datiranja provedenog na ljudskim koštanim ostacima. Iako je na temelju rezultata vidljivo da antropološki nalazi ne pripadaju prapovijesnom dobu, pružaju mogućnost za proučavanje bioloških odlika te obrazaca ponašanja lokalnih stanovnika iz dinamičnog razdoblja rimskog prisustva u regiji.

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