International Conference – Međunarodni znanstveni skup

PREHISTORIC HUNTER-GATHERERS AND FARMERS IN THE ADRIATIC AND NEIGHBOURING REGIONS

PRAPOVIJESNI LOVCI SKUPLJAČI I RATARI NA JADRANU I SUSJEDNIM PODRUČJIMA

Kaštela, 22 – 24 September 2015

PROGRAMME AND ABSTRACTS

MUZEJ GRADA KAŠTELA

Filozofski fakultet u Zagrebu

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Faculty of Humanities and Social Sciences,
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PROGRAMME

Conference Programme

Venue Museum of the Town of Kaštela (Muzej grada Kaštela)

Brce 1, 21215 Kaštel Lukšić

Tuesday 22 September 2015

08:00-09:00 **Registration**

09:00-09:15 **Welcome speeches by local authorities & organizers**

09:15-09:30 **Music performance by Ljuben Dimkaroski on flute replica from Divje babe I**

Session 1: Lower and Middle Palaeolithic (Chair Fred H. Smith)

09:30-09:45 **The first human fossil of the Early Middle Pleistocene site of Isernia La Pineta (Isernia, Southern Italy)**
Julie Arnaud, Marta Arzarello, Giuseppe Lembo, Brunella Muttillo, Carlo Peretto

09:45-10:00 **The Middle Pleistocene site of Guado San Nicola (Monteroduni, Southern Italy) in the Lower/Middle Palaeolithic transition**
Brunella Muttillo, Marta Arzarello, Giuseppe Lembo, Carlo Peretto

10:00-10:15 **Taxonomy of the Middle Palaeolithic in Central Europe**
Janusz K.Kozłowski

10:15-10:30 **The human use of caves around the Adriatic Sea. A geoarchaeological perspective**
Giovanni Boschian, Katarina Gerometta

10:30-10:50 **Discussion**

10:50-11:05 **Coffee break**

11:05-11:20 **Variability of Mousterian Industries in the Eastern Adriatic region**
Tamara Dogandžić, Ljiljana Đuričić

11:20-11:35 **Crvena stijena revisited: lithic assemblages from the layers XVIII-XII**
Dušan Mihailović

11:35-11:50 **Thinking small; micro-mousterian in northern Dalmatia**
Dario Vujević

11:50-12:05 **Late Neandertal subsistence in Dalmatia (Croatia)**
Siniša Radović, Preston T. Miracle

12:05-12:25 **Discussion**

12:25-12:40 **Coffee break**

12:40-12:55 **The Potential for Electrical Resistance Tomography in Cave Sites**
Rory Becker

12:55-13:10 **Formation processes of heritage sites: A site management perspective**
Sanjin Mihelić

13:10-13:20 **Discussion**

13:20-14:50 **Lunch break**

Session 2: Middle-Upper Palaeolithic Transition (Chair Ivor Karavanić)

14:50-15:05 **Palaeochron - Improving the chronology of Palaeolithic sites across Eurasia**
Thomas Higham, Thibaut Devièse, Katerina Douka, Marine Frouin, Natasha Reynolds

15:05-15:20 **The last Neandertals of Grotta Reali (Rocchetta a Volturno, Southern Italy) in the context of the Italian record**
Ettore Rufo, Marta Arzarello, Giuseppe Lembo, Carlo Peretto

15:20-15:35 **Problem of the Middle/Upper Palaeolithic interface in eastern Adriatic region**
Ivor Karavanić

15:35-15:50 **The tephra layer near the Mousterian site Kaštel Štafilić – Resnik: A Campanian Ignimbrite deposit?**
Slobodan Miko, Ivan Razum, Nikolina Ilijanić, Ivor Karavanić, Zoltán Horváth

15:50-16:05 **Early Prehistory of Albania: First results of the „German-Albanian Palaeolithic Survey“ (GAPS) programme**
Thomas C. Hauck, Rudenc Ruka, Ilir Gjipali, Jürgen Richter, Oliver Vogels

16:05-16:30 **Discussion**

16:30-16:45 **Coffee break**

16:45-17:00 **Dispersal, co-existence and extinction? The Middle-Upper Palaeolithic Transition along the Danube**
Rachel J.A. Hopkins, Thomas F.G. Higham

17:00-17:15 **Middle to Upper Palaeolithic transition in Moravia: New sites, new dates, new ideas**
Petr Škrdla

17:15-17:30 **The Chronology, Stratigraphy, Archaeology and Biology of the Late Neandertals from Vindija Cave: An Update of the Evidence**
James C.M. Ahern, Ivor Janković, Ivor Karavanić, Fred H. Smith

17:30-17:45 **Continuity and Change in the Interpretation of Vindija Neandertal Morphology**
Fred H. Smith, James C.M. Ahern, Ivor Janković, Ivor Karavanić

17:45-18:05 **Discussion**

18:05-18:20 **Lithics, Landscapes & la Longue-Durée – Curation as an Expression of Forager Mobility**
Geoffrey A. Clark

18:20-18:35 **The way of thinking. Remembering and planning in Neandertals and Modern humans**
Simona Petru

18:35-18:50 **Cave bear cult revived**
Boštjan Odar

18:50-19:05 **Discussion**

End of the first day

Wednesday 23 September 201

Session 3: Upper Palaeolithic and Mesolithic (Chair Nikola Vukosavljević)

09:00-09:15 **Kadar revisited, a review of the Epigravettian of South-Central Europe**
Anta Montet-White

09:15-09:30 **Epigravettian settlement in the Eastern Adriatic and its hinterland**
Nikola Vukosavljević

09:30-09:45 **Pleistocene Ceramics from Vela Spila, Croatia, in European Context**
Rebecca Farbstein, William Davies, Dinko Radić, Preston T. Miracle

09:45-10:00 **Discussion**

10:00-10:15 **Current research on Late Pleistocene and Early Holocene in the Lim Channel, Istria, Croatia**
Ivor Janković, James C.M. Ahern, Fred H. Smith

10:15-10:30 **Late Upper Palaeolithic and Mesolithic of Northern Adriatic**
Darko Komšo

10:30-10:45 **The Upper Palaeolithic-Mesolithic transition at Continenza Cave (Abruzzo-Italy), in the framework of contemporary cultures in Central and Southern Italy**
Marco Serradimigni, Giovanni Boschian

10:45-11:00 **Discussion**

11:00-11:15 **Coffee break**

Session 4: Neolithic, Eneolithic and Bronze Age (Chair Giovanni Boschian)

11:15-11:30 **Lithic Assemblages from Nakovana (Pelješac): Continuity and Change in Technology and Raw Material Procurement from Early Neolithic until the End of Prehistory**
Stašo Forenbaher, Zlatko Perhoč

11:30-11:45 **Neolithic Production Systems of the Adriatic Region: food for thought**
Jane Sanford Gaastra

11:45-12:00 **Autochthonous and/or allochthonous neolithic in northern Adriatic**
Mihael Budja

12:00-12:15 **Submerged Neolithic settlement in Resnik near Kaštel Štafilić**
Ivan Šuta

12:15-12:30 **Archaeometric analysis of ceramics of the Catignano Culture (Abruzzo - Italy) (5600-4600 cal BC): origin of raw materials and different productions of vascular shapes**
Marta Colombo, Giovanni Boschian, Marzia Gabriele

12:30-12:55 **Discussion**

12:55-14:25 **Lunch break**

14:25-14:40 **Neolithic human and animal figurines from the area of Benkovac**
Rajna Šošić Klindžić, Natalija Čondić, Marin Čurković

14:40-14:55 **Neolithic settlement patterns – example from Neolithic site of Barice in Benkovac (Northern Dalmatia)**
Kristina Horvat

14:55-15:10 **Zambratija (Umag, Croatia): a research programme for the underwater palafite site of Nakovana culture**
Ida Koncani Uhač, Maja Čuka

15:10-15:25 **Eneolithic chipped stone tools from Vis, northern Bosnia**
Aleksandar Jašarević

15:25-15:40 **Three prehistoric tumuli – Podi (Dugopolje)**
Miroslav Gogala

15:40-16:05 **Discussion**

16:05-16:20 **Coffee break**

16:20-17:20 **Poster presentations**

Mousterian bone artefacts from the cave Divje babe I, Slovenia
Matija Turk

Lithic technology of Mujina pećina
Katarina Šprem, Rajna Šošić Klindžić, Ivor Karavanić

Middle Palaeolithic site of Mujina pećina: the case of lithic edge damage from level E1
Tena Bošnjak, Ivor Karavanić

Occupational episodes and space use by Neandertals in Mujina pećina
Renata Nizek, Ivor Karavanić

Underwater Middle Palaeolithic site of Kaštel Štafilić – Resnik: results of lithic analysis
Antonela Barbir, Ivor Karavanić, Slobodan Miko

Underwater digging at Epigravettian site Mohelno in Moravia
Petr Škrdla, Jaroslav Bartík, Tereza Rychtaříková, Ladislav Nejman

Display modes of personal ornaments in Upper Palaeolithic of Istria, Croatia
Barbara Cvitkušić

From hunter-gatherers to herders at Zemunica: changing cave environment and site use
Katarina Gerometta, Giovanni Boschian

Lithic findings from Vučevica-Kovačina site (karst valleys 1 and 2)
Ivan Šuta, Vedran Katavić

Technology of working osseous raw materials in the Vinča culture: case studies from Jakovo-Kormadin and Vitkovo
Selena Vitezović

19:00-20:00 **Public lecture by Fred H. Smith** ***Something Old, Something New: The Relationship between Neandertals and Early modern Europeans in Croatia and East Central Europe***

End of second day

Thursday 24 September 2015

Excursion and lunch/dinner for all conference participants (free). Details about excursion will be given during the conference.

ABSTRACTS

The first human fossil of the Early Middle Pleistocene site of Isernia La Pineta (Isernia, Southern Italy)

Julie Arnaud (Dipartimento di Studi Umanistici, Università di Ferrara)
Marta Arzarello (Dipartimento di Studi Umanistici, Università di Ferrara)
Giuseppe Lembo (Dipartimento di Studi Umanistici, Università di Ferrara)
Brunella Muttillo (Dipartimento di Studi Umanistici, Università di Ferrara)
Carlo Peretto (Dipartimento di Studi Umanistici, Università di Ferrara)

The site of Isernia La Pineta (Isernia, Southern Italy) constitutes an important archive for the comprehension of the Early Middle Pleistocene in Western Europe. It is an open-air site, fully investigated for almost 40 years, characterized by an abundant lithic industry and paleontological remains distributed on 4 archaeosurfaces.
The recent discovery of an isolated human deciduous incisor in the archaeological level 3 coll (dated to ~0.6 Ma), in association with abundant lithic and faunal remains, adds new insight to the Middle Pleistocene Italian human fossil record.
The age-at-death of the young individual is 5/6 years, based on the low degree of root resorption. The preliminary results of the comparative study of the tooth highlight the presence of a unique combination of morphometrical and morphological features, among them some polymorphic traits observed in *Homo* cf. *heidelbergensis.* Considering the scarcity and variability of European Middle Pleistocene juvenile human remains, making difficult a consistent comparison, the tooth has been assigned to an undetermined species of the genus *Homo*, i.e. to *Homo* sp. However, this discovery brings new data on the variability of Middle Pleistocene hominins and gives a better comprehension of the peopling of the Italian Peninsula.

Keywords: Isernia La Pineta, deciduous tooth, Middle Pleistocene

The Middle Pleistocene site of Guado San Nicola (Monteroduni, Southern Italy) in the Lower/Middle Palaeolithic transition

Brunella Muttillo (Dipartimento di Studi Umanistici, Università di Ferrara)
Marta Arzarello (Dipartimento di Studi Umanistici, Università di Ferrara)
Giuseppe Lembo (Dipartimento di Studi Umanistici, Università di Ferrara)
Carlo Peretto (Dipartimento di Studi Umanistici, Università di Ferrara)

In the last decades the debate on the origin, time and spreading of the Middle Palaeolithic (or Mode 3) and its relation with the Acheulean (or Mode 2) has assumed increasing importance, simultaneously to the proliferation of archaeological evidence throughout Europe. Unfortunately, the spatial and chronological fragmentation of the archaeological evidence and the rarity of sites with a good chronostratigraphic context, constitute serious limits for the creation of a reliable chronological framework and reconstruction of the evolution of Middle Pleistocene lithic industries.
The most recent data from the site of Guado San Nicola (Monteroduni, Southern Italy) reveal the simultaneous presence of bifacial shaping and Levallois technology and date back to the MIS 11/10 (40Ar/39Ar combined with U/Th - ESR) the introduction of the Levallois method, which traditionally marks the boundary between the Lower/Middle Palaeolithic.
The recognition of interesting technological aspects, such as the Levallois method, rekindles the debate on the origin, chronology and development of Middle Palaeolithic industries and their relation with the Acheulean phenomenon.

Keywords: Guado San Nicola, Middle Pleistocene, Acheulean, Levallois technology

Taxonomy of the Middle Palaeolithic in Central Europe

Janusz K.Kozłowski (Institute of Archaeology, Jagiellonian University in Kraków)

The subject of this presentation is the relation between environmental and biological changes and taxonomy of lithic industries in the period between the two transitions: Lower/Middle Palaeolithic (MIS 8/7) and Middle/Upper Palaeolithic (MIS4/3). Significance of the techno-morphological changes in different stages of the Middle Palaeolithic and different geographical regions of Central Europe will be examined as an expression of norms of behaviours, in agreement with the normative empiricist inductive framework, forming a part of cultural traditions. Certain aspects of the Middle Palaeolithic variability are also the result of the use and maintenance of tools based on life history of lithic artefacts from material acquisition to discard, of the raw material procurement systems and subsistence strategies.

Keywords: Middle Palaeolithic, taxonomy of lithic industries, Central Europe

The human use of caves around the Adriatic Sea. A geoarchaeological perspective

Giovanni Boschian (Dipartimento di Biologia, Università di Pisa)
Katarina Gerometta (Department of Humanities, Juraj Dobrila University of Pula)

For the last several centuries, the Adriatic Sea has been a major physical and cultural border between two parts of Europe that played a relevant role in the peopling of Western Eurasia, from the earliest prehistory onwards. However, the situation has not always been the same: sea-levels changed dramatically through time, changing the sea into a plain during the latest Pleistocene, and archaeological data suggest that intense cultural relationships connected the two shores even for longer time, at least until the Middle Neolithic.
Throughout this period, caves have been principal landmarks in the behaviour and economy of humans, and are today valuable archives of environmental and cultural change. From Apulia to the Trieste Karst, from Istria to Southern Dalmatia, cave sequences provide high-quality data about palaeoenvironmental change, putting into evidence the influence of the Adriatic Plain, and subsequently of the rise of the sea-level, on cultural evolution. Geoarchaeological studies based on sedimentology and soil micromorphology of cave sequences excavated in the last years, show wide-scale environmental analogies mixed with local ecological niches, and suggest astonishing cultural similarities in human adaptations to climate and territory during the Palaeolithic, as well as strict land use techniques by the Neolithic populations.

Keywords: Caves, Palaeolithic, Neolithic, Geoarchaeology, Adriatic Sea

Variability of Mousterian Industries in the Eastern Adriatic region

Tamara Dogandžić (Max Planck Institute for Evolutionary Anthropology, Department of Human Evolution)
Ljiljana Đuričić (Faculty of Philosophy, University of Belgrade)

Middle Palaeolithic cave and open-air sites are fairly abundant in the Eastern Adriatic region. Previous research on these assemblages observed several technological phenomena that characterize Mousterian industries: a) existence of assemblages with artifacts of small sizes (therefore named Micromoustrian), b) typological similarity to Charentian, c) denticulate tools as a late Mousterian feature. In this paper, we will address these issues based on the new analysis of lithic assemblages from two sites in Montenegro, Crvena stijena and Bioče. Samples come from Crvena stijena deposits that range from OIS 5b to OIS 3, and the upper sequence of Bioče, which is still undated, though potentially falling in the OIS 4 and OIS 3. Main methodological directions include the analysis of blank production patterns coupled with evidence on the extent of use and resharpening of tools. Together with the data on shifts of core reduction systems that reflect the production of blanks of different morphologies, it is possible to gain insight into the diachronic changes of artifact life history strategies. The results will be further placed in the wider context of Middle Palaeolithic occupation and industrial variability in the Balkans.

Keywords: Middle Palaeolithic, lithic technology, Crvena stijena, Bioče

Crvena stijena revisited: lithic assemblages from the layers XVIII-XII

Dušan Mihailović (Department of Archaeology, Faculty of Philosophy, University of Belgrade)

Crvena Stijena is one of the richest multi-layered Palaeolithic sites in the southeast Europe. The upper section of the Mousterian sequence had been excavated in the course of earlier investigations on two occasions – in 1958 (Brodar) and in 1960 (Basler) and the material from these investigations was published separately and interpreted diversely. We have recently had an opportunity to analyse in detail the material from layers XVIII-XII from both campaigns. The analyses revealed that low-quality raw material from the closest vicinity was intensely used, and that the discoid and Levallois knapping techniques were applied. The cores were exhausted to the very end and they were often created on flakes or small chunks of raw material. Sidescrapers, retouched flakes and denticulated and notched tools are evenly represented in the tool structure. Generally speaking, lithic assemblages from the upper part of the sequence could be attributed to the Typical Mousterian and the Micro-Mousterian of the Adriatic-Ionian region.

Keywords: Crvena Stijena, Typical Mousterian, Micro-Mousterian, Adriatic-Ionian region

Thinking small; micro-Mousterian in northern Dalmatia

Dario Vujević (Department of Archaeology, University of Zadar)

The Zadar region is exceptionally rich in Middle Palaeolithic finds discovered in the area from Ražanac and Nin to Zadar islands (Dugi otok, Silba and Pag). The sites correspond closely according to raw material choice, as well as typological and technological characteristics of tools. Distinct microlithization is the main factor which classifies industries as the Micro-Mousterian. These kinds of finds are also characterized by preserved cortex on the core and tools made on primary and secondary flakes. The abundance and accessibility of small-size raw materials made Neandertal groups develop techniques to maximize tool size and make them as efficient as possible.

Keywords: Mousterian, Micro-Mousterian, Middle Palaeolithic

Late Neandertal subsistence in Dalmatia (Croatia)

Siniša Radović (Institute for Quaternary Palaeontology and Geology, Croatian Academy of Sciences and Arts)
Preston T. Miracle (Division of Archaeology, University of Cambridge)

Mujina Pećina is a small cave located on a mountain slope above Kaštela, west of Split on the eastern Adriatic's Dalmatian coast. The site yielded rich faunal and lithic assemblages associated with the Late Mousterian, while radiometric dates place it around 40-45 kyr (MIS 3; Rink *et al.* 2002). Throughout the cave's stratigraphic sequence, several phases can be singled out based on shifts in the taxonomic composition of the identified large mammals. They most likely correspond to periods of changing environmental and palaeoecological conditions in the area, but likely also reflect changes in the hunting and dietary habits of Neandertals. This study focuses on the vertebrate remains from the middle and lower stratigraphic contexts (Layers E1, E2, E3) and their comparison with the upper part (Layers B, C, D) analyzed in detail previously (Miracle 2005; Karavanić *et al.* 2008). A detailed taphonomic analysis revealed evidence of the presence of non-hominid predators indicating shifts in the use of the cave between them and the Neandertals. Thus, the Mujina Pećina faunal assemblage provides solid data for a broader-scale study of Late Neandertal hunting and scavenging practices, food processing and consumption, seasonal movements and generally of site use in Dalmatia.

Keywords: Middle Palaeolithic, Neandertal, Dalmatia, hunting

The Potential for Electrical Resistance Tomography in Cave Sites

Rory Becker (Anthropology/Sociology Department, Eastern Oregon University)

Electrical Resistance Tomography (ERT) is a geophysical prospecting technique that has the capacity to map subsurface cave sediments. The paleoanthropological work at Velika pećina near Zadar, Croatia, provided an opportunity to test this technique in association with active archaeological excavations. Testing the viability of ERT as a means to model subsurface sediments at the cave site began in 2013 with the goal of identifying the depth of sediments to bedrock. The results of the testing at Velika pećina shows promise for continued use of ERT in cave sites where information about the depth of sediments within the cave can help inform the excavation plan.

Keywords: ERT, subsurface cave sediments, Velika pećina

Formation processes of heritage sites: A site management perspective

Sanjin Mihelić (Archaeological Museum in Zagreb)

As archaeologists, we are accustomed to discuss formation processes of archaeological sites through the prism of Schiffer's natural and cultural (N- and C-) transforms. Despite the acknowledgement that transformation is an eternal process, it apparently ends with our arrival on the scene, an act that effectively sets the interpretative clock to zero, allowing us to retrace the interplay of man and nature as best we can. The zero point, however, allows for a trajectory in the opposite direction, too, which has implications that become obvious only once we have realized that for everyone else save us the single most significant transformative factor shaping the key properties of archaeological sites are the opinions, interpretations and other actions that are the preserve of the supreme rulers of knowledge, and that is ourselves. These “A-transforms”, so to speak, which govern public perception of archaeology and archaeological sites, represent the other facet of our responsibility as scholars, that of being mediators between past and present humankind. The paper addresses different ways the past is communicated to the public, with specific reference to interpretation and presentation of Palaeolithic sites at site level (case study: Mujina pećina), as well as within broader schemes (the Neandertal Trail cultural route).

Keywords: formation processes, A-transforms, public archaeology, archaeological tourism, Neandertal Trail

Palaeochron - Improving the chronology of Palaeolithic sites across Eurasia

Thomas F.G.Higham (Research Laboratory for Archaeology and the History of Art, University of Oxford)
Thibaut Devièse (Research Laboratory for Archaeology and the History of Art, University of Oxford)
Katerina Douka (Research Laboratory for Archaeology and the History of Art, University of Oxford)
Marine Frouin (Research Laboratory for Archaeology and the History of Art, University of Oxford)
Natasha Reynolds (Research Laboratory for Archaeology and the History of Art, University of Oxford)

The "PalaeoChron" project, an ERC-funded initiative based at the Research Laboratory for Archaeology and the History of Art (RLAHA), aims to refine and improve the chronology of a large number of Palaeolithic sites from Western Europe to Siberia using a suite of advanced dating methodologies including radiocarbon, luminescence and U-series techniques. For this period, there are often problems in dating chronological sequences due to the lack of available material related to human occupation such as bones, charcoal, sediments or flints.
This presentation will illustrate how the accurate dating of the transition from the Middle to Upper Palaeolithic on a large number of sites across Eurasia contributes to understand the dispersion of modern humans out of Africa, their coexistence with Neandertals and the disappearance of the latter. Selected examples will be given to illustrate the impact of new analytical developments on dating methods at the research laboratory. We will describe the development of methods focussing on the dating of single amino acids, which offer the prospect of completely contaminant-free and accurate dates. Several examples will be presented from sites across Europe and wider Eurasia. Based on recent publications, this paper will also highlight the complementarity of DNA and dating research to better understand the overlap period between Neandertals and modern humans and the interbreeding events which occurred between them.

Keywords: Palaeolithic, Dating techniques, DNA, Eurasia

The last Neandertals of Grotta Reali (Rocchetta a Volturno, Southern Italy) in the context of the Italian record

Ettore Rufo (Dipartimento di Studi Umanistici, Università di Ferrara)
Marta Arzarello (Dipartimento di Studi Umanistici, Università di Ferrara)
Giuseppe Lembo (Dipartimento di Studi Umanistici, Università di Ferrara)
Carlo Peretto (Dipartimento di Studi Umanistici, Università di Ferrara)

The Mousterian site of Grotta Reali (Rocchetta a Volturno, Southern Italy), dated to 36-42 calBP, adds new data to the debate on the transition between *Homo neanderthalensis* and *Homo sapiens* in the Italian peninsula.
The rock shelter, which is located along the escarpment of a large terrace made of a succession of calcareous tufa close to Rocchetta a Volturno (Molise, Italy), constitutes a temporary site, focused on specific activities such as hunting and processing of animal carcasses. The occupation of the rock shelter took place in at least two different phases, in a period of climatic improvement within the last glaciation, coinciding with the MIS 3.
Paleoclimatic and paleoenvironmental reconstructions suggest the presence of a diverse environment, dominated by open grassland with the presence of wooded vegetation in the areas surrounding the sources. Moreover, the presence of natural shelters, together with the availability of raw material and faunal resources, represented favourable conditions for the anthropic occupation. The techno-economic system, focused on objectives of high productivity, shows the use of different débitage methods, such as S.S.D.A, discoid, Levallois, as well as the presence of laminar volumetric débitage, rarely attested in the coeval Italian sites.

Keywords: Rocchetta a Volturno, Middle Palaeolithic, Mousterian, Laminar débitage

Problem of the Middle/Upper Palaeolithic interface in the eastern Adriatic region

Ivor Karavanić (Department of Archaeology, Faculty of Humanities and Social Sciences, University of Zagreb)

In recent years, the work on Palaeolithic sites in the eastern Adriatic region has been intensified and several Middle and Late Upper Palaeolithic sites were excavated. However, sites from the Early Upper Palaeolithic are rare in this region and there is a chronological gap between the Late Middle and the Early Upper Palaeolithic. Further, not a single industry from any site of the eastern Adriatic region shows a progressive or transitional nature, and there is no evidence of *in situ* transition at any site in this region. The possible reasons for this situation are: insufficient level of research, flooding or abrasion as a result of the rising of the sea level, low population density in the eastern Adriatic during the Middle/Upper Palaeolithic transition and the early Upper Palaeolithic, Neandertal population had disappeared from this region before the arrival of the first anatomically modern humans (Papagianni 2009), Neandertals were late inhabitants in several niches in the eastern Adriatic (Šošić Klindžić et al. 2014), which were avoided by anatomically modern humans. These possible reasons will be discussed in the light of the new research funded by the Croatian Science Foundation.

Keywords: Late Middle Palaeolithic, early Upper Palaeolithic, interface, Adriatic

The tephra layer near the Mousterian site Kaštel Štafilić – Resnik: A Campanian Ignimbrite deposit?

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Ivan Razum (Croatian Natural History Museum, Zagreb)

Nikolina Ilijanić (Croatian Geological Survey, Zagreb)

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A tephra layer 10 cm thick was discovered within colluvial deposits in a fan-like structure that spreads from the Pantan spring in the western part of the Kaštela bay to approximately the area of the Palaeolithic site Kaštel Štafilić – Resnik. The deposits comprise two sedimentary facies: (A) a stratified colluvium with angular coarse-grained Upper Cretaceous limestone clasts with sporadic chert; the colluvium is separated almost in two halves by a red paleosoil up to 30 cm thick; the colluvium is covered by a 50 cm thick terra rossa soil (B) fine grained colluvial /alluvial deposits with or without palaeosoil layers. The B deposits are not equally developed along the fan and in most cases the A colluvium lies directly on the Eocene flysch bedrock. Within the B sequence a layer of orange tephra up to 10 cm thick and 4 m long was found, as well as a well developed palaeosoil. The preliminary mineralogical analysis (XRD, SEM and heavy minerals) of both the glass shards and their morphology, as well as the geochemistry and mineralogy, and micromorphology of the accompanying deposits indicate that the tephra could be the distal equivalent of the Campanian Ignimbrite/Y-5 eruption of the Campi Flegrei (39 280±110 cal yr BP). The Y-5 eruption is the only one that could have formed a 10 cm thick tephra deposit in the past 200ky on the Adriatic coast. The Y-5 tephra was found in the Crvena stijena rockshelter in Montenegro and on the Island of Susak. If the OSL dating confirms the geochemical and mineralogical data related to the tephra, it will permit the identification of possible stratigraphic layers concurrent to the upstream (7 km distant) Mousterian site of Mujina pećina and possible sources of artifacts at the Palaeolithic site Kaštel Štafilić – Resnik.

Keywords: tephra, geochemistry, colluvial deposits, Campanian Ignimbrite, Mousterian

Early Prehistory of Albania: First results of the „German-Albanian Palaeolithic Survey“ (GAPS) programme

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Rudenc Ruka (Institute of Archaeology, Centre for Albanological Studies, Tirana)
Ilir Gjipali (Institute of Archaeology, Centre for Albanological Studies, Tirana)
Jürgen Richter (Institute for Prehistoric Archaeology, University of Cologne)
Oliver Vogels (Institute for Prehistoric Archaeology, University of Cologne)

The GAPS project in the framework of the Collaborative Research Centre 806 “Our Way to Europe” searches for the earliest presence of modern humans in Albania. Here we deliver information on excavated test trenches representing three time-slices: an Aurignacian and Middle Palaeolithic open-air site from Southern Albania, as well as two Epigravettian sites from caves (one of them collapsed) in Central and Northern Albania – from areas so far nearly archaeologically unknown. The new Albanian data fill a gap in the MIS 3 and 2 eastern Adriatic archaeological record. By adding current knowledge on Late Pleistocene landscape evolution, the first contours of a contextual area model, describing the configuration of systemic habitats of human populations become visible.

Keywords: Albania, Palaeolithic, Aurignacian, Epigravettian, LGM, contextual area

Dispersal, co-existence and extinction? The Middle- Upper Palaeolithic Transition along the Danube

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Thomas F.G. Higham (Research Laboratory for Archaeology and the History of Art, University of Oxford)

Recent research has shown the need for a reliable, high resolution chronology to understand the complexity of the spatio-temporal distribution of Neandertals and anatomically modern humans (AMH) during the transitional period between the Middle to Upper Palaeolithic. One region that has not yet benefited from the developments in dating sciences and the application of Bayesian modelling approaches is eastern Europe. Our research focuses on this region, especially the key area of the Danube fluvial corridor, which has been suggested as one of the conduits for early modern humans on their dispersal route into western Europe. We will present new data that will expand the picture that has started to emerge from recent studies conducted in western Europe which showed many sites to be older than previously thought.
The work forms part of the University of Oxford's PalaeoChron ERC project and applies recent improvements in radiocarbon dating methodologies such as ultrafiltration and single amino acid dating. By targeting key sites with a deep stratigraphic record and directly or indirectly dating type fossils, we hope to establish a tight knit chronological framework of the area, thus improving our understanding of both the dispersal of AMH and the disappearance of Neandertals, as well as exploring aspects of their co-existence.

Keywords: Middle to Upper Palaeolithic Transition, Radiocarbon Dating, Anatomically Modern Humans, Neandertals

Middle to Upper Palaeolithic transition in Moravia: New sites, new dates, new ideas

Petr Škrdla (Institute of Archaeology, Academy of Sciences of the Czech Republic, Brno)

There are several hundred recorded Early Upper Palaeolithic sites in Moravia, most of which are surface sites. In the last 10 years we employed a new surveying method and as a result we have discovered 11 new stratified Early Upper Palaeolithic sites. Some of these sites have already been excavated and have yielded new data concerning chronology as well as technological and typological homogeneity of individual technocomplexes. The appearance of both MP/UP transitional technocomplexes – Bohunician and Szeletian – fit chronologically with Greenland Interstadial 12. While the Bohunician is characterized by evolved Levallois technique, the Szeletian is characterized by bifacial knaping and intensive surface retouching. It is unknown which type of hominid produced these technocomplexes, however, recent research suggests that the first waves of Anatomically Modern Humans were responsible for the Bohunician aseemblages and that late Neandertals were responsible for the Szeletian assemblages. Early Aurignacian sites known from Danube Valley are absent in Moravia, with all dates being more recent and coinciding with Greenland Interstadial 8.

Keywords: Moravia, Bohunician, Szeletian, Aurignacian, dating, MP/UP transition

The Chronology, Stratigraphy, Archaeology and Biology of the Late Neandertals from Vindija Cave: An Update of the Evidence

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Ivor Janković (Institute for Anthropological Research, Zagreb)
Ivor Karavanić (Department of Archaeology, Faculty of Humanities and Social Sciences, University of Zagreb)
Fred H. Smith (Department of Sociology and Anthropology, Illinois State University)

The last excavations at Vindija Cave (Croatia) ended more than twenty-five years ago. Nevertheless, the archeological, paleontological and ecological evidence from this site continues to shed new light on the Neandertal-modern human transition. Since the last publication of new Neandertal remains from Vindija in 2004, there have been developments regarding the chronology and stratigraphy that have called into question earlier interpretations of the archaeology and biology of the Vindija hominins. On the other hand, recent paleogenomic and anatomical analyses of the Vindija remains seemingly confirm some of these earlier interpretations. In this paper, we examine the current state of the chronological, archaeological and biological evidence from Vindija. Although some interpretations must be tempered based on the available data, the Vindija evidence still supports some fundamental hypotheses about the biocultural dynamics of the Neandertal-modern human transition in south-central Europe. Finally, we report on recent efforts to test these hypotheses using new data from other Croatian Middle and Upper Palaeolithic sites.

Keywords: Neandertals, Middle-Upper Palaeolithic Transition, Modern Human Origins, Hrvatsko Zagorje

Continuity and Change in the Interpretation of Vindija Neandertal Morphology

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James C.M. Ahern (Department of Anthropology, University of Wyoming)
Ivor Janković (Institute for Anthropological Research, Zagreb)
Ivor Karavanić (Department of Archaeology, Faculty of Humanities and Social Sciences, University of Zagreb)

Beginning with the first publications on the Vindija fossils in the early 1980s, "transitional" (early modern European-like) features have been recognized in this late Neandertal sample. The "transitional" nature of the Vindija Neandertals has remained a constant over the years, having withstood numerous challenges. However, interpretations of the evolutionary meaning of the Vindija morphological pattern have changed in response to the increasingly detailed understanding of later human evolution that has accumulated over the last 35 years. In the early 1980s, it could be reasonably argued that modern humans appeared roughly contemporaneously throughout the Old World circa 35,000 to 40,000 years ago. Thus Vindija could be seen as a late Neandertal sample demonstrating a regional morphological trend in the direction of modern Europeans. With improved dating and genetic analyses during the late 1980s, this interpretation appeared less likely. Vindija became an important sample supporting the assimilation model of modern human origins. However, the exact role of samples like Vindija in later human evolution in assimilation remained somewhat vague. The current genomic data on Neandertals and early modern Eurasians provide a context for understanding the meaning of the Vindija morphology in light of the small, but consistent genetic exchange between early modern and late archaic Eurasian populations.

Keywords: Vindija, Neandertal morphology, assimilation model, genetic exchange

Lithics, Landscapes & la Longue-Durée – Curation as an Expression of Forager Mobility

Geoffrey A. Clark (School of Human Evolution & Social Change, Arizona State University)

With the recognition that practically all archaeological sites are depositional composites unrelated to the activities of any contemporary group of individuals (i.e., palimpsests) and that forager adaptations are not 'site-specific' but rather landscape-scaled phenomena, statistical approaches designed to take these predicates into account have been developed over the past decade that depart from the traditional techno-typological systematics used for decades in much of Europe and the Levant. Based on artifact density and the frequency of retouched pieces scaled to the volume of sediment excavated in cave and rockshelter sites (Riel-Salvatore & Barton 2004), and the ratio of retouched artifacts to artifact totals scaled to unit area in surface sites (Miller & Barton 2008), they can potentially determine whether or not changes in mobility and land-use often assumed to have coincided with major evolutionary events (e.g., the Middle-Upper Palaeolithic transition) actually occurred. Lithic artifact counts and densities from excavated cave and rockshelter sites and surface surveys in Spain and Jordan are used to illustrate the potential of the approach.

Keywords: lithics, curation, land-use, mobility, foragers

References

Riel-Salvatore, J. & Barton, C. M. 2004. Late Pleistocene technology, economic behavior and land-use dynamics in southern Italy. *American Antiquity* 69: 257-274.

Miller, A. & Barton, C. M. 2008. Exploring the land: a comparison of land-use patterns in the Middle and Upper Paleolithic of the western Mediterranean. *Journal of Archaeological Science* 35: 1427-1437.

The way of thinking. Remembering and planning in Neandertals and Modern humans

Simona Petru (Department of Archaeology, Faculty of Arts, University of Ljubljana)

The differences of the perception, reasoning and behaviour between Neandertals and Modern humans will be discussed in the presentation. The Neandertal artefacts are mostly quite different from those of the Modern humans, particularly the artefacts that are considered as “art”. In the Slovenian Palaeolithic there are just a few examples of “Palaeolithic art”, but one of them is the unique Neandertal flute from Divje Babe I. The other, much younger, example is the engraved stone from the late Epigravettian or early Mesolithic site Zemono 2. Those artefacts reflect social and mental abilities of the two human species, such as inter-group behaviour and perception of time. Only Modern humans were probably able of the mental time travel or Chronesthesia, while the Neandertals were mostly anchored in the present. The continuity of memories and stories from one generation to the next was the foundation for elaborate ritual burials and the concept of ancestors in Modern human societies, while the idea of past and future generations was probably absent in the life of the Neandertals.

Keywords: Neandertals, Modern humans, behaviour, Chronesthesia

Cave bear cult revived

Boštjan Odar (EMPERUS Association for Lifelong Learning, Maribor)

In the last 90 years the body of archaeological and anthropological literature dealing with the question of the cave bear cult in the Palaeolithic times has considerably grown. From the very start archaeological observations were merged with data gathered mostly in the early period of ethnographical exploration of the natives living in the northern hemisphere of our planet. Since the mid-20th century rigorous critique has rebuffed the arguments on which the theory of the cave bear cult was founded. In the end, the cave bear cult theory in the Palaeolithic times was completely abandoned after the statement of Björen Kurtén in 1976 that cave bear cult might have existed, but we have no proof of it. However, the new reading of old archaeological data from some cave sites leads me to the conclusion that the cave bear cult (worship, rites, symbols and tokens) did exist within the last Ice Age. One such cave site is Potočka zijavka, Slovenia. My conclusions are based on the observation of unusual human performance, which took place in this mountain cave bear den that is surrounded by the unique picturesque Alpine landscape.

Keywords: last Ice Age, cave bear cult, Potočka zijavka (Slovenia)

Kadar revisited, a review of the Epigravettian of South-Central Europe

Anta Montet-White (Department of Anthropology, University of Kansas; Department of Anthropology, NMNH, Smithsonian Institution)

Numerous open-air Palaeolithic sites ranging from the Middle to Late Upper Palaeolithic are known in northern Bosnia. One of them is the Epigravettian site of Kadar, which is located on top of a bluff overlooking a meander of the Sava River, 3 km west of the confluence of the Bosna River. Traces of Mousterian, Epigravettian and Neolithic occupations are found. Stratified in loess-like deposits the Palaeolithic levels are well preserved. It has been excavated for several seasons and rich lithic assemblage was found. More recent information leads to a reevaluation of the equipment and hunting strategies of Epigravettian groups of South Central Europe.

Keywords: Kadar, Epigravettian, hunting strategies, South-Central Europe

Epigravettian settlement in the Eastern Adriatic and its hinterland

Nikola Vukosavljević (Department of Archaeology, Faculty of Humanities and Social Sciences, University of Zagreb)

Late Upper Palaeolithic is the best documented period of human presence in the Eastern Adriatic during Late Pleistocene. In comparison to Middle Palaeolithic and earlier Upper Palaeolithic sites, the number of Epigravettian sites increases significantly, spreading from the northern to the southern coast. Archaeological record is biased towards cave sites and towards higher distribution in the northern part. In this paper we will present the main features of the Epigravettian settlement dynamics together with lithic industries. Special reference will be given to the Epigravettian sequence from Vela spila (a cave site on the island of Korčula) as it represents the best dated Late Upper Palaeolithic sequence in the eastern Adriatic so far.

Keywords: Late Upper Palaeolithic, Epigravettian settlement, lithic industry, Eastern Adriatic

Pleistocene Ceramics from Vela Spila, Croatia, in European Context

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William Davies (Centre for the Archaeology of Human Origins, Department of Archaeology, University of Southampton)

Dinko Radić (Centre of Culture, Archaeological Collection, Vela Luka)

Preston T. Miracle (Division of Archaeology, University of Cambridge)

This paper discusses the assemblage of *c.* 40 ceramic artefacts, figurines, and figurine fragments excavated from Vela Spila (Korčula, Croatia) (Farbstein *et al.* 2012). The ceramics were found in two separate late Upper Palaeolithic horizons, with radiocarbon dates that cluster between 17,500-15,000 years before present, making them the oldest evidence of ceramics in this part of Europe, pre-dating the emergence of Neolithic pottery by almost 10,000 years. These ceramic figurines and fragments offer compelling evidence of the development of a concerted socio-technical and artistic "tradition," rather than merely an ephemeral experimentation with a new material. Vela Spila ceramics offer compelling technological and stylistic comparisons with the other key examples of a developed Palaeolithic ceramic tradition, which was found at the sites of Pavlov I and Dolni Vestonice I, in the Czech Republic, c. 31,000–27,000 cal BP. Because of the 10,000-year gap between the two assemblages, the Vela Spila ceramics are interpreted as evidence of an independent invention of this technology. We will compare these assemblages to critically consider the significance of these innovations in two distinct Palaeolithic contexts.

Keywords: ceramic, Palaeolithic, art, innovation, technology

References

Farbstein, R., D. Radic, Brajkovic, D., and Miracle, P.T. 2012. First Epigravettian ceramic figurines from Europe (Vela Spila, Croatia). *PLoS ONE* 7(7): e41437. doi:10.1371/journal.pone.0041437

Current research on the Late Pleistocene and Early Holocene in the Lim Channel, Istria, Croatia

Ivor Janković (Institute for Anthropological Research, Zagreb)
James C.M. Ahern (Department of Anthropology, University of Wyoming)
Fred H. Smith (Department of Sociology and Anthropology, Illinois State University)

In 2014 a project entitled "Archaeological investigations into the Late Pleistocene and early Holocene of the Lim Channel Istria" (ARCHAEOLIM), started. The main aims of this 3-year project financed by the Croatian Science Foundation are to provide data for better understanding of a number of important issues regarding behavioral and possibly biological aspects of human groups during a time when Late Glacial hunter-gatherers were forced to change and adapt to changing environmental and other pressures. The project concentrates on archaeological fieldwork at four sites where preliminary survey or small-scale excavations yielded evidence of human occupation: Romualdova cave (Middle and Upper Palaeolithic sequence), Pećina kod Rovinjskog sela 1 (Late Upper Palaeolithic and Mesolithic), Abri Kontija (Late Upper Palaeolithic) and Lim 001 (Late Mesolithic), all in the Lim Channel. Here we provide a summary of the results of the first two excavation seasons.

Keywords: Palaeolithic, Mesolithic, Pleistocene, Neandertals, Istria

The Late Upper Palaeolithic and Mesolithic of the Northern Adriatic

Darko Komšo (Archaeological Museum of Istria, Pula)

A large number of Late Upper Palaeolithic and Mesolithic sites in Croatia have been documented in the territory of Istria and the Croatian Littoral, thanks to targeted archaeological survey and research. So far, a total of 10 Late Upper Palaeolithic and 25 Mesolithic sites have been documented, both in caves and open-air sites. The main goal of the presentation is to present an overview of the Palaeolithic and Mesolithic of the Northern Adriatic.

Keywords: Late Upper Palaeolithic, Mesolithic, Istria, Northern Adriatic

The Upper Palaeolithic-Mesolithic transition at Continenza Cave (Abruzzo-Italy), in the framework of contemporary cultures in Central and Southern Italy

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Giovanni Boschian (Dipartimento di Biologia, Università di Pisa)

Continenza Cave (Abruzzo - Italy) is located along the southern side of the ancient Fucino Lake; it includes a 9-metre thick stratigraphic sequence.
Long sequences with a complete series of cultural phases documenting the transition from Late Pleistocene to Holocene cultures are extremely rare in Central-Southern Italy. Consequently, the importance of Grotta Continenza is mainly due to the occurrence of the three major chrono-cultural transitions, all well documented by a wide set of cultural remains: Upper Palaeolithic (Final Epigravettian) to Sauveterrian, Sauveterrian to Castelnovian, and Castelnovian to Early Neolithic.
This paper will focus on the Final Epigravettian to Sauveterrian transition, pointing out the changes in lithic industries and in chronological and socio-economic aspects.
The case of Continenza Cave will be discussed in the framework of the Central and Southern Italian Adriatic cultural sphere, so that we will have a general point of view of the current state of art for this area.

Keywords: Palaeolithic, Mesolithic, Transition, Continenza Cave, Italian Adriatic area

Lithic Assemblages from Nakovana (Pelješac): Continuity and Change in Technology and Raw Material Procurement from Early Neolithic until the End of Prehistory

Stašo Forenbaher (Institute for Anthropological Research, Zagreb)
Zlatko Perhoč (Institut für Geowissenschaften, Rupprecht-Karls-Universität, Heidelberg)

A large and complex lithic collection from the Pelješac Peninsula in southern Dalmatia provides extensive information about formal typology, technology and raw materials used in production of flaked stone artifacts from the Early Neolithic until the Iron Age. Most of the evidence comes from two stratified sites, a cave named Spila and the hillfort of Grad.
Changes are manifest in frequencies of lithic artifact classes, rather than in kinds of lithic artifacts. There is a marked continuity in the choice of raw material and in production technology. Virtually all lithics are made of cherts that were imported from the Gargano Peninsula. They testify to persistent trans-Adriatic connections throughout post-Mesolithic prehistory.
Prismatic blades were brought to Nakovana as finished products. They are present since the Early Neolithic, their frequencies peak during the Copper Age, and they disappear from the record after the Copper Age to Early Bronze Age transition. An *ad hoc* flake tool production technology is present throughout the sequence. Its importance diminishes as the prismatic blade technology takes over, but after the disappearance of prismatic blades, Bronze Age lithic assemblages contain almost nothing else but products of flake technology.

Keywords: lithic technology, raw materials, chert, Neolithic, Copper Age, Bronze Age, Adriatic

Neolithic Production Systems of the Adriatic Region: food for thought

Jane Sanford Gaastra (University College London)

The Neolithic period of the Adriatic region witnessed not only the adoption and spread of domesticated plants and animals but subsequent considerable changes to food production systems. This presentation will comprise an analysis of currently available data on Neolithic food production systems from the Adriatic region. The paper will compare animal bone assemblages from Neolithic coastal sites in Croatia and Italy. This comparison will assess the regional and chronological trends in domestic production and hunting practices to demonstrate both the variable nature and general patterns of subsistence activities in this region between earlier, middle and later Neolithic periods. This approach allows for the comparison of both cultural and ecological differences between and within Neolithic groups in this area. This variation will be used to assess the relationship between local ecological constrains and community choice in the structure of food production systems throughout the Neolithic.

Keywords: Neolithic, Adriatic region, food production systems, Croatia, Italy

Autochthonous and/or allochthonous Neolithic in the northern Adriatic

Mihael Budja (Department of Archaeology, Faculty of Arts, University of Ljubljana)

In the paper we discuss different aspects of the Mesolithic-Neolithic transformation on the eastern Adriatic coast. We critically evaluate several interpretative models and paradigms, such as the 'Levantine farmers migration', 'agriculture frontier', 'leap-frog colonisation', 'demic' and cultural diffusion, and 'wave of advance'. We focus on narratives that operate within them suggesting unidirectional movements and colonisation, and possible correlation between pottery and human DNA haplogroup distributions in the region. In addition, we comment the invention(s) and reinventions of the ceramic technology and pottery dispersals in the contexts of hunter-gatherers and farmers. We present a continuous Mesolithic-Neolithic-Eneolithic 14C sequence from the Mala Triglavca rock shelter and the evidences of dairying, milk consumption and processing that were provided by the analysis of lipid biomarkers on the Neolithic pottery at the site.

Keywords: Mesolithic, Neolithic, northern Adriatic, Mala Triglavca, hunter-gatherers, farmers

Submerged Neolithic settlement in Resnik near Kaštel Štafilić

Ivan Šuta (Museum of the Town of Kaštela)

Specific geomorphological conditions of the Kaštela Bay contributed to the preservation of many coastal and submerged archaeological sites, originating mostly from the Roman period and belonging to the remains of the harbour facilities and adjacent buildings. A recent discovery in Resnik near Kaštel Štafilić is the first important submerged archaeological site from the Neolithic in Central Dalmatia. Based on the large amount and the character of the well-preserved findings, it can be argued that a Neolithic settlement existed here. This is indicated through numerous fragments of ceramic vessels, lithic and bone artifacts. Also, the position of the site is characteristic for open Neolithic settlements in Dalmatia. Apart from some non-systematic survey of the seabed, no other archaeological research has been carried out. The collected material indicates that Resnik was settled during the Early and Middle Neolithic period.

Keywords: Neolithic, Kaštela Bay, Resnik

Archaeometric analysis of ceramics of the Catignano Culture (Abruzzo - Italy) (5600-4600 cal BC): origin of raw materials and different productions of vascular shapes

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Giovanni Boschian (Dipartimento di Biologia, Università di Pisa)
Marzia Gabriele (Dipartimento di Civiltà e Forme del Sapere, Università di Pisa)

The Neolithic village of Catignano (Abruzzo - Central Italy) is the eponymous site of the Catignano Culture, which developed from 5600 up to 4600 cal BC in the middle Adriatic part of the Italian Peninsula. From the cultural point of view, Catignano flourished between the end of the "Ceramica Impressa" Culture and the beginning of the Ripoli Culture.
This *facies* is characterized by an extremely depurated pottery ("figulina") decorated with stripes and red geometric patterns, sometimes lined with thin brown patterns obtained with a "negative" technique. However, there are also other well represented types of ceramic pastes: red fine, grey fine, coarse.
Very high degree of standardization in pottery production is a striking characteristic of Catignano: distinctive shapes, sizes and special decorations correspond to each specific class of macroscopically recognized paste.
By linking the typological and petrographic studies we will highlight the relationship between raw materials and finished products.

Keywords: Neolithic, Catignano Culture, Petrographic analysis

Neolithic human and animal figurines from the area of Benkovac

Rajna Šošić Klindžić (Department of Archaeology, Faculty of Humanities and Social Sciences, University of Zagreb)
Natalija Čondić (Archaeological Museum Zadar)
Marin Čurković (Benkovac Regional Museum)

In this paper we will present female and animal figurines from the Neolithic period found in the wider area of the present day town Benkovac. The figurines originate from the sites of Smilčić, Lisičići-Jaruge and Benkovac. Their common features and analogies in the Adriatic region will be discussed. Special attention will be dedicated to female figurines and their interpretation with an overview of traditional and contemporary theories about their meaning and functions. Female figurines will also be compared with the representations of female body from the other Neolithic cultures in the region, and offer several interpretations within the wider context of presumed beliefs and/or system of values in the South-East European Neolithic.

Keywords: Neolithic, figurine, Adriatic region, representation of female body

Neolithic settlement patterns – an example from the Neolithic site of Barice in Benkovac (Northern Dalmatia)

Kristina Horvat (Department of Archaeology, University of Zadar)

The focus of this paper is on the open-air site of Barice in Benkovac, one of the most important Neolithic settlements in Northern Dalmatia. On the basis of the surface finds and finds collected during the excavation in 2012 we can assume that on the site existed a Neolithic complex, with three different horizons of habitation that belong to the Early, Middle and Late Neolithic. Available archaeological data clearly show that the settlements occupy different positions in various chronological phases of the Neolithic, which opens questions about their spatial and temporal relationship, as well as the reasons for moving. At the present state of exploration, the discussion is limited to the Early and Middle Neolithic horizons, i. e. the communities of the Impresso and Danilo cultures. These questions require further research, as well as an interdisciplinary approach that would expand our knowledge about the life of the Neolithic communities and offer more data necessary for obtaining a clearer picture about this Neolithic site in Benkovac.

Keywords: settlement patterns, movement, Early Neolithic, Middle Neolithic, Benkovac

Zambratija (Umag, Croatia): a research programme for the underwater palafitte site of the Nakovana culture

Ida Koncani Uhač (Archaeological Museum of Istria, Pula)
Maja Čuka (Archaeological Museum of Istria, Pula)

The Zambratija Bay is located in the Northern Adriatic, on the northwestern tip of the Istrian Peninsula. During a rescue archaeological exploration carried out in 2008, the remains of wooden piles were noticed. The piles lie at the depth of 2.5 – 3.1 m. The trial excavations yielded a rich archaeological stratum with piles and remains of pottery dating back to the Nakovana culture. The investigation of the prehistoric site in the Zambratija bay carried out so far defined the total surface of the location, presumed to spread over approximately 10,000 sq. m. These data, which have yet to be further corroborated by the study of the material, allow us to speculate about the paleolandscape during the Eneolithic period, the settlement patterns and the relationship between this site and its hinterland. The conducted radiocarbon analysis yielded the date of 5280 +/- 30 BP (Cal 4230 to 4200 B.C. and Cal 4170 to 3980 B.C.). Considering that the Nakovana culture is distributed on the teritory of Montenegro through the central Adriatic islands to Istria and the Trieste Karst, analogies can be found in other sites in Istria (Brijuni islands, Jačmica cave, Kargadur, Pupićina cave, Laganiši, Limska gradina, Oporovina), as well as within a broader Adriatic area (Nakovana cave on the Pelješac peninsula, Vela spila on the Korčula island, Grapčeva špilja etc.).

Keywords: Istria, Zambratija bay, underwater reaserch, palafittes, paleolandscape archaeology, Nakovana culture

Eneolithic chipped stone tools from Vis, northern Bosnia

Aleksandar Jašarević (Museum in Doboj)

The systematical study of chipped stone assemblages in the last decades has provided a better definition of the techno-typological characteristics of the lithic industries of the post-Neolithic communities of the western Balkans. Vis is one of the most important prehistoric stratified sites in Bosnia. The prehistoric settlement at Vis was established on a large plateau by the Veličanka river in Modran near Derventa in northern Bosnia. B. Belić, a curator from the Doboj Museum, carried out archaeological excavations at the site between 1964 and 1965. During these campaigns B. Belić investigated around 200 m² and discovered a very rich cultural layer dating from the Middle and Late eneolithic. A total of 100 chipped stone tools have been analysed, classified to the Lasinja and Kostolac cultures. Although the technology of production of Eneolithic tools exhibits similar characteristics to Neolithic chipped stone tools from other sites in northern Bosnia, there is evidence that most of the tools were, in fact, produced outside the settlement. In all likelihood, this activity took place in the vicinity of sources of raw materials, in this case the banks of the Bosna river, with rich deposits of high-quality stone. The introduction of copper tools did not bring a dramatic change to Early Eneolithic societies and disappearance of lithic production.

Keywords: Eneolithic, Northern Bosnia, stone tools, blades, raw materials

Three prehistoric tumuli – Podi (Dugopolje)

Miroslav Gogala (Split)

The author will present the results of archaeological research that took place from October 2011 to January 2012 at the archaeological site Podi – Zapad in Dugopolje municipality. The subjects of the excavation were three Early Bronze Age tumuli of earth and stone. One of them contained fragments of pottery with ornaments typical for the Cetina culture. That pottery was found in a grave structure in front of the remains of an inhumation. Mostly decomposed remains of the skeleton point to contracted position. The grave structure itself was made of drywall and by its shape resembles a catafalque. Until now, there have been no other findings of the Cetina culture in the area of Dugopolje near Split.

Keywords: Early Bronze Age, tumulus, Cetina culture, catafalque, Dugopolje

POSTER PRESENTATIONS

Mousterian bone artefacts from the cave Divje babe I, Slovenia

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The cave Divje babe I is located in western Slovenia. This is the only Slovenian Palaeolithic site that contains the succession of the Mousterian and Aurignacian layers. A total of 14 Palaeolithic horizons were uncovered at the site. The uppermost is attributed to the Aurignacian and all the others to the Mousterian. The time span of the Palaeolithic horizons, determined by the ESR method, is 76 ky (116 to 40 ka BP).
A particularity of Divje babe I is a large number of discovered Neandertal fireplaces/hearths and Neandertal bone artefacts (i.e. awls and fragments of bone points). Bone artefacts are otherwise considered to be characteristic of the Anatomically modern humans. Surprisingly, the oldest fragment of bone point originates from a layer older than 100 ka. The most important archaeological discovery is a Neandertal musical instrument, made on the bone of a young cave bear (originally the object was misidentified as a flute). Its interval age is 60 to 50 ka. These discoveries demonstrate that the Neandertals mastered the technique of bone processing, despite the fact that Mousterian bone artefacts are scarce and often subject to doubt and negation.

Keywords: Divje babe I, Slovenia, Palaeolithic, Mousterian, bone artefacts

Lithic technology of Mujina pećina

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Mujina pećina, located in Dalmatia, Croatia, is the only systematically excavated and well-dated Middle Palaeolithic cave site in coastal Croatia. The stratigraphic sequence covers the period between 45 and 39 uncalibrated years ka and consists of layers B, C, D1 and D2, from which the lithic artifacts have already been analyzed technologically, and E1 and E2, whose technological analysis is underway and is going to be presented along with the results of the technological analysis of the material from the upper layers of the cave. Even though the presence of the characteristic Middle Palaeolithic Levallois method in the lithic material from layer B is uncertain, it has been identified in the lithic material from the D1 and D2 layers and is again detected in the lower, E layers of the cave site. The results of the layer E technological analysis also suggest the cave site functioned as a workshop.

Keywords: Mujina Pećina, Middle Palaeolithic, technological analysis, Levallois method

The Middle Palaeolithic site of Mujina pećina: a case of lithic edge damage from level E1

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Ivor Karavanić (Department of Archaeology, Faculty of Humanities and Social Sciences, University of Zagreb)

The Middle Palaeolithic site Mujina pećina is a cave located north of Trogir and west of Split in the eastern Adriatic. The poster presents the results of a lithic analysis of level E1 for the first time. The border between this level and lower level (E2) is dated to ca. 45 uncal. ka BP (Rink et al. 2002). There are 1204 lithic artefacts from level E1, and most of them indicate a high degree of edge damage. For this reason, in addition to a morpho-technological analysis, a detailed analysis of retouch and edge damage was carried out. The aim was to find the cause of edge damage or pseudo-retouch and to determine the exact number of tools. Two methods were used: the classification invented by P. Villa and M. Soressi (2000) to determine the type of edge damage, and the approach of S. McBrearty et al. (1998), which clearly distinguishes simple edge damages from pseudo-retouch. Level E1 lithic assemblage contains a small number of scrapers, notches or denticulates, as well as some other Mousterian tools. This material was exposed to certain natural processes which resulted in abundant damage to the edges, including those that look like real retouch. Various types of edge damage were found on 1166 artefacts, which is 96,84% of the total lithic assemblage from E1.

Keywords: Pseudo-retouch, edge damage, Middle Palaeolithic, Mujina pećina, Croatia

Occupational episodes and space use by Neandertals in Mujina pećina

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The spatial analysis of finds from Mujina pećina has given new insights into the behavior of Neandertal populations visiting the site. The horizontal distribution of archaeological material clearly shows where activities such as *in situ* tool production and butchering of animal meat took place. In almost every stratigraphic unit, like in level D2 with two hearths, the most intensely used area of the cave was the niche, which could provide a good shelter from bad weather. The finds from level E1 follow an entirely different distribution pattern, since most of the material was concentrated along the southern edge of the excavation area (central part of the cave). Such shift of daily activities from the central area (level E1) to the niche (level D2) may suggest a change in the behavior of the Neandertals occupying the site, possibly caused by different weather conditions during the occupational episodes. The area in front of the cave was also used in all levels with higher or lower intensity. The abundance of finds in the lower strata refers to more frequent or long-term Neandertal visits or a greater intensity of production and processing activities in Mujina pećina. The lower frequency of finds in the upper levels suggests that the site was used as an occasional camp during the accumulation of these layers.

Keywords: spatial analysis, Neandertals, Mujina pećina

Underwater Middle Palaeolithic site of Kaštel Štafilić – Resnik: results of lithic analysis

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The poster presents the results of a lithic analysis of the finds from the Mousterian site of Kaštel Štafilić – Resnik found during field seasons 2008, 2010 – 2015, as part of the research funded by the Croatian Science Foundation and the Ministry of Culture of the Republic of Croatia. The site is located in Dalmatia, south Croatia, and it is considered to be an open-air site dating to the time when the sea level was lower than today. This is the first systematic study of an underwater Palaeolithic site in Croatia. The lithic material was collected and analysed, and geological research of the surrounding area was undertaken. The original site was destroyed by the wave action, and the artifacts were collected from the sea floor surface and the Holocene mud. The specific morphology of the coastal seabed consists of Eocene limestone layers alternating with soft marl deposits (flysch), which created ramps that probably aided the accumulation and preservation of the lithics. The lithic material consists of numerous naturally broken chert pieces, some of which look like tools (pseudoartefacts), artifacts including pseudotools and tools (mostly Mousterian side scrapers). The analysis of the lithic assemblage corroborated the attribution to the Mousterian industry and the presence of the centripetal method. Due to the small number of collected artifacts, it was not possible to ascribe them to a particular type of Mousterian, and consequently, to establish a more detailed comparison with the nearby site at Mujina pećina.

Keywords: Mousterian, technology, typology, Croatia

Underwater digging at the Epigravettian site Mohelno in Moravia

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The site of Mohelno is situated below the water line of the Mohelno water reservoir (lower part of the Dalešice pumped-storage hydroelectric power plant). The excavation of the site is possible only when the power plant undergoes maintenance and the water level is at its minimum. The site was repeatedly occupied during the Late Upper Palaeolithic. We discovered three areas with *in situ* artifacts within intact sediments. Assemblages in areas one and two are characterized by backed bladelets and blades. Two structures consisting of flat stones were discovered within area three. These structures are characterized by a high density of artifacts within the paved area and a rapidly decreasing density away from the paved area – this is interpreted as a result of the 'barrier-effect' of the covered area. Lithic tools are characterized by ubiquitous splintered pieces, steeply retouched end scrapers, and tiny microlithic tools produced on carenoidal blanks. Utilized raw material types indicate good knowledge of local rocks, as well as broad raw material networks. Flint was imported from northern Moravia, and Szentgál radiolarite from the Balaton Lake area. The industry has been dated to terminal LGM and the closest analogy has been identified in the North Black Sea Region.

Keywords: Moravia, Mohelno, LGM, carenoidal microlithic tools, Szentgál radiolarite, Rock crystal, Epigravettian

Display modes of personal ornaments in Upper Palaeolithic of Istria, Croatia

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In the attempt to understand culture and social behavior of prehistoric populations, findings of personal ornaments are of particular interest. Personal ornaments in their formal expressions (shells and winkles, animal teeth, modified animal bones etc.) not only point to a universal idea of decoration and aesthetic sensibility, but may also reveal contact zones and communication paths. Perforated animal teeth, mostly deer canines, reveal not only symbolic, but also certain important sociocultural aspects of the behavior of prehistoric populations. In order to test whether there are universals in display modes and materials used in this region, we will use the finds of personal ornaments from the Upper Palaeolithic strata from several Istrian sites (Šandalja II, Pupićina cave, Romualdova cave, Ljubićeva cave, and Vešanska cave).

Keywords: Pleistocene, symbolic behavior, communication, prehistory

From hunter-gatherers to herders at Zemunica: changing cave environment and site use

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Giovanni Boschian (Dipartimento di Biologia, Università di Pisa)

Zemunica Cave is situated in the karst area of the Middle Dalmatian Hinterlands, around 35 km from Split, Croatia. The cave sequence ranges from the Late Upper Palaeolithic to the Early Bronze Age. Geoarchaeological studies based on sedimentology and soil micromorphology were carried out on sediments from Trench 2 and 3, indicating strong postdepositional processes (reworking and mixing due to erosional processes), and putting into evidence some hiatuses.
Different use of the cave by humans was also confirmed. The Upper Palaeolithic levels consist of domestic waste residues. The Mesolithic levels mostly comprise domestic waste deposits, including ash, bone fragments and more or less crushed land snails. In the area of Trench 3b, the sequence of thick layers dominated by colluviated land snails and *terra rossa* pedorelicts probably indicates cyclical reworking of anthropic snail middens by natural erosional processes. The Neolithic, Copper, and Bronze Age part of the sequence is characterised by continuous evidence of sheep/goat and probably cattle dung accumulations. Articulated phytoliths also occur within the cave sediments, indicating the use of straw litter for these animals.

Keywords: post-depositional processes, snail middens, pastoralism

Lithic findings from Vučevica-Kovačina site (karst valleys 1 and 2)

Ivan Šuta (Museum of the Town of Kaštela)
Vedran Katavić (Kaukal d.o.o., Split)

In the karst valleys of the eastern Adriatic region, archaeological sites mainly dating back to the prehistoric period are found on an ever more frequent basis. The salvage archaeological excavations at two neighbouring karst valleys in the Vučevica village led to the discovery of two related sites. The earliest finds date back to the Late Neolithic, whereas a more intensive use of karst valleys occurred in the Eneolithic and the early Bronze Age. On the basis of lithic finds and other materials found in every cultural phase, we can assume that karst valleys were used as seasonal settlements of cattle-raising communities. They preserved the Neolithic technology of cutting and polishing lithics, which did not significantly change until the Early Bronze Age.

Keywords: Vučevica, karst valley, Neolithic, Eneolithic, early Bronze Age, lithic finds

Technology of working osseous raw materials in the Vinča culture: case studies from Jakovo-Kormadin and Vitkovo

Selena Vitezović (Institute of Archaeology, Belgrade)

Despite the long tradition of studying the Vinča culture (Late Neolithic/Early Chalcolithic), some of its aspects are still relatively poorly known. This is especially the problem with the bone industry, although it was rich and diverse – it included a large number and typologically diverse tools and jewellery from bone, antler, boar tusks and mollusc shells. Especially the technology of working osseous raw materials was underrepresented in studies.
Two assemblages recovered recently yielded manufacturing debris, thus enabling some initial work in reconstructing the *chaîne opératoire* – one from Jakovo-Kormadin, with debris from red deer antler, and the second from Vitkovo, with debris mainly from long bones. Antlers at Jakovo were shaped by transversal cutting, cut-and-break technique, but also by removing small flakes. Bones from Vitkovo were longitudinally split along the prepared groove and then shaped by scraping and abrading.
Studying the techniques of manufacture is very important for analysing the level of technological know-how, organisation of craft production within the Vinča culture and also for analyses of multiple technologies.

Keywords: Vinča culture, Late Neolithic / Early Chalcolithic, technology, bone industry, osseous raw materials

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