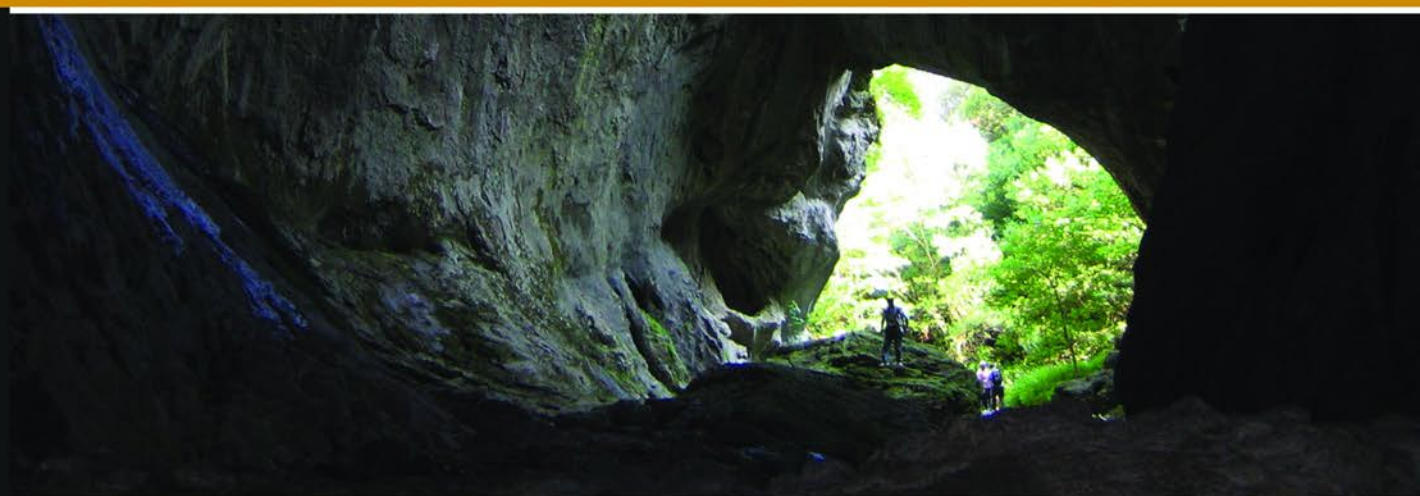




Palaeolithic and Mesolithic Research in the Central Balkans

edited by Dušan Mihailović



PALAEOLITHIC AND MESOLITHIC RESEARCH
IN THE CENTRAL BALKANS

Publisher

Serbian Archaeological Society

Editor in chief

Dragana Antonović

Redaction

Robert Whallon, Ivana Radovanović, Mirjana Roksandić,
Dragana Antonović, Nenad Tasić

Edited by

Dušan Mihailović

Reviewed by

Robert Whallon, Nikola Tasić

Lector and corrector

Joshua Lindal

Design

vojislav filipović

Cover design

Nikola Mihailović

Printed by

Scanner Studio

Printed in

120

Serbian Archaeological Society
Commission for the Palaeolithic and Mesolithic

**PALAEOLITHIC AND
MESOLITHIC RESEARCH IN
THE CENTRAL BALKANS**

Edited by Dušan Mihailović

BELGRADE
2014

CONTENTS

D. Mihailović, Preface.....	5
M. Roksandic, P. Radović, B. A. Alex, S. Pavić, M. Paunović and Z. Marković, Looking for hominins in Museum drawers - possible Upper Pleistocene specimens from Serbia: morphological descriptions and radiocarbon dating.....	7
B. Blackwell, S. Chu, I. Chaity, Y. E.W. Huang, D. Mihailović, M. Roksandić, V. Dimitrijević, J. Blickstein, A. Huang and A. R. Skinner, ESR Dating Ungulate Tooth Enamel from the Mousterian Layers at Pešturina, Serbia.....	21
B. Alex and E. Boaretto, Radiocarbon Chronology of Pešturina Cave.....	39
E. Heffter, The Prospects for Utilizing Pedology, Geology and Other Landscape Data for Locating Open Air Sites in Serbia.....	49
D. Mihailović, S. Milošević and P. Radović, New Data about the Lower and Middle Palaeolithic in the Western Morava valley.....	57
W. Chu, T. Hauck and D. Mihailović, Crvenka-At– Preliminary results from a lowland Aurignacian site in the middle Danube catchment.....	69
B. Mihailović, D. Mihailović, A. Latas and J. Lindal, Šalitrena Cave – terrace. Preliminary investigations results.....	77
T. Dogandžić, S. McPherron and D. Mihailović, Middle and Upper Paleolithic in the Balkans: continuities and discontinuities of human occupations.....	83
S. Kuhn, D. Mihailović and V. Dimitrijević, The Southeast Serbia Paleolithic Project: An Interim Report.....	97
D. Mihailović, Investigations of Middle and Upper Palaeolithic in the Niš basin.....	107
A. B. Marín-Arroyo, Middle Pleistocene subsistence in Velika Balanica, Serbia: preliminary results.....	121
A. Ruiz-Redondo, Seeking for the origins of Paleolithic graphic activity: Archaeological Rock Art survey in Serbia.....	131
I. Radovanović, R. Mandel and D. Mihailović, Mesolithic settlement in the Iron Gates region: integrating current archaeological and geoarchaeological evidence.....	139
M. Vander Linden, G. Marriner, D. Orton, A. de Vareilles, K. Edinborough, G. Daković, N. Borovinić, D. Gazivoda and D. Mihailović, Preliminary report on the excavations in Seocka pećina, Montenegro (September 2013).....	153
Contributors.....	159

Preface

Intensity of investigation of Palaeolithic and Mesolithic has considerably increased in Serbia and Montenegro in last ten years. Large number of sites from all periods has been discovered in eastern Serbia and particularly interesting are Mala and Velika Balanica in Sićevo gorge where the remains of hominids were found together with the artifacts. Investigations in western Serbia were focused on Šalitrena pećina and on Bioče and Crvena stijena in Montenegro. In order to provide maximal geographical and chronological coverage but also to raise methodology of investigation to a higher level many international projects had been organized in recent years and they already started to yield certain results.

Nevertheless, these investigations are still insufficiently known to the academic audience. The need has occurred because of that to publish as soon as possible preliminary results not only of field investigations but also of specialist analyses of samples and material. We tried, having that in mind, to present in this book thematically and chronologically different aspects of current investigations of Palaeolithic and Mesolithic in the central Balkans.

First section of the book includes articles, which present anthropological remains and results of dating. In the work of Mirjana Roksandić and associates are presented remains of modern men from the collection of the Natural History Museum in Belgrade. On the other hand, in the works of Bonnie Blackwell and associates and Bridget Alex and Elisabetta Boaretto ESR and ¹⁴C dates for Palaeolithic site Pešturina near Niš are studied in detail. It is the first step in an attempt to comprehend timing and nature of Neanderthal occupation of that cave.

Next two articles are devoted to the investigation of open-air sites. Eric Heffter showed how pedological and geological data, and distance to raw material sources, can aid in creating GIS models which may predict locations of open air archaeological sites. This author with his associates presented first results of surveying of Lower and Middle Palaeolithic sites in the West Morava valley.

In the next section five regional projects are presented. Wei Chu et al. discussed new findings from Aurignacian sites around Vršac. In the report about investigations at Šalitrena pećina (Dušan Mihailović, Bojana Mihailović) are presented result of test trench excavations on the river terrace opposite the cave where Middle Palaeolithic material including one leaf-shaped point (Blattspitz) was encountered in apparently intact geological strata. Tamara Dogandžić with associates and Steven Kuhn with associates presented preliminary results of test trenching in the caves in eastern Serbia where Middle and Upper Palaeolithic artifacts have been found. At the end are presented investigations of Palaeolithic sites in the Niš basin that lasted for ten years (Dušan Mihailović), with special attention paid to the excavations of Velika and Mala Balanica and Pešturina.

In the next two texts were presented results of specialist analyses. Ana Belen Marin presented for the first time results of the archaeozoological analyses from Velika Balanica, while Aitor Ruiz Redondo presented in his article discovery of the first cave site in the region (Selačka pećina 3) with possible Palaeolithic graphic representations.

Two last texts are devoted to the investigation of Mesolithic. Ivana Radovanović with associates presented results from a recent survey and geoarchaeological investigations of the Mesolithic sites in the flatlands and mountainous hinterlands of the Danube Iron Gates region, while Marc Vander Linden with associates presented course and results of investigations of the Mesolithic site Seocka pećina in the near vicinity of the Skadar Lake.

We hope that this book managed, at least to a certain degree, to point to directions and perspective of investigations of Palaeolithic in the central Balkans. We wish to express our gratitude to all authors for being able to prepare their articles for publishing at relatively short notice.

NEW DATA ABOUT THE LOWER AND MIDDLE PALAEOOLITHIC IN THE WESTERN MORAVA VALLEY

Dušan Mihailović, Stefan Milošević and Predrag Radović

Abstract: A relatively small number of Lower and Middle Palaeolithic open-air sites have been registered in southeast Europe. There are only two regions where sites from this period have been systematically surveyed, and where they have been encountered in considerable numbers: the valley of the Pineios river in Greece and northern Bosnia. Not a single site with significant concentration of finds has been found in Serbia and isolated artifacts ascribed to the Middle Palaeolithic were found at few sites. All this has changed dramatically in recent years when a large number of sites with finds from the Lower and Middle Palaeolithic have been recorded in the zone from Čačak to Kraljevo in the West Morava valley. The site surveying in the area has opened an entirely new perspective in the investigation of the Palaeolithic in this part of the Balkans.

Key words: Palaeolithic, open air sites, Serbia, Balkans

Introduction

The first Palaeolithic artifacts in the West Morava valley were recorded in 2008 at the site Vlaška Glava in the village Samaila near Kraljevo. A team from the National Museum in Kraljevo had carried out detailed surveying of the site by 2009. On that occasion 250 artifacts were gathered and 97 of them were located using GPS system. Preliminary results of the analyses of gathered material were published in the very same year (Mihailović, Bogosavljević-Petrović 2009).

Systematic surveying of the site continued in 2010 in cooperation with the Faculty of Philosophy in Belgrade and the National Museum in Kraljevo. All fields at the site Vlaška Glava have been examined in detail and positions of artifacts were precisely recorded. Two trenches, 2 x 2 m, were opened on the lot below the village cemetery where most of the material was encountered. It was concluded, on that occasion, that finds appear only within plowed and partially humified soil but that they are lacking in the yellowish clayey sediment under the surface layer. Then it was concluded that this sediment probably belongs to the Miocene or Early Pleistocene limnic terrace to which, judging by the geological map (Marković et al. 1968), the elevation Vlaška Glava also belongs.

The following year detailed investigations into the terrain around Vaska Glava began. It was concluded that artifacts appear not only on the top of the elevation but also on its slopes toward the Grabovac stream and the West Morava. However, we realized in the course of investigations that Palaeolithic artifacts have also been discovered during earlier surveying of Čačak-Kraljevo valley carried out by the National Museum in Čačak. As it was established that those sites are situated at approximately the same relative altitude in relation to the river as Vlaška Glava we decided to explore the highest Pleistocene terraces (t3, t2) within entire area between Kraljevo and Čačak, and to check in detail the fields located on the frontal ends of the terraces facing at one side the West Morava river valley and at the other side the valleys of streams which run from the Jelica Mt. to the West Morava.

It turned out that Palaeolithic artifacts appear at almost all selected locations at the altitude between 240 m and 260 m above sea level (Fig. 1). Most of the fields yielded up to five artifacts, while at some sites over a hundred artifacts were encountered. These are Kosovska Kosa near

the village Zblaće, Vojnovića Brdo in the village Ježevica and Kremenac in the village Viljuša. A few locations on the Pleistocene terraces on the left bank of the West Morava were also examined during the same campaign. A considerably smaller amount of artifacts has been found there, probably because deposits of chert do not appear in the geological structure of the terrain on that bank, in contrast to the terrain on the right river bank.

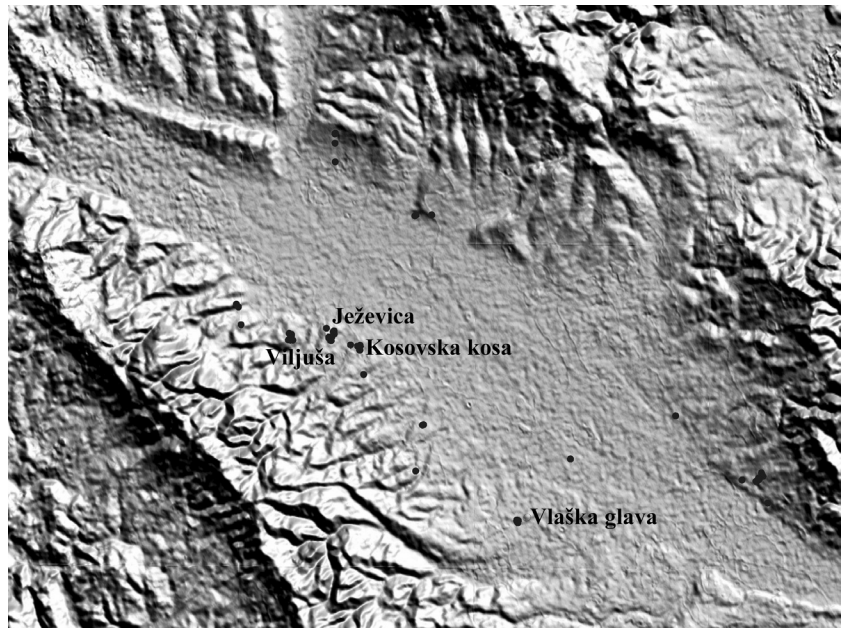


Figure 1. Lower and Middle Palaeolithic sites in Čačak-Kraljevo basin.

Surveys conducted in 2012 aimed at establishing whether or not Pleistocene sediments with paleontological and archaeological finds appear on the left bank of West Morava in the zone from Miločaj to Sirča. It has been concluded that fossilized wood remains, which probably date from the Pleistocene, appear in sandy sediments of Madjarski Potok and Višnjevac and that there are Palaeolithic artifacts in the fields between those two streams.

Geography and Geology of Čačak-Kraljevo Valley

The Čačak-Kraljevo (or West Morava) basin is the largest Neogene intramountain limnic basin in Serbia. During younger part of the Pleistocene, limnic regime of this basin had transformed into the river regime, which still exists. The average thickness of lake sediments is around 100 meters and river terraces and alluvion are 8-12 meters thick.

Earlier Quaternary (lake) sediments consist mainly of clayey sands, sandy clays, ferriferous sands and gravels without conspicuous stratification (Fig. 2). They were discovered on the left bank of the West Morava, while at other sites they were usually discov-

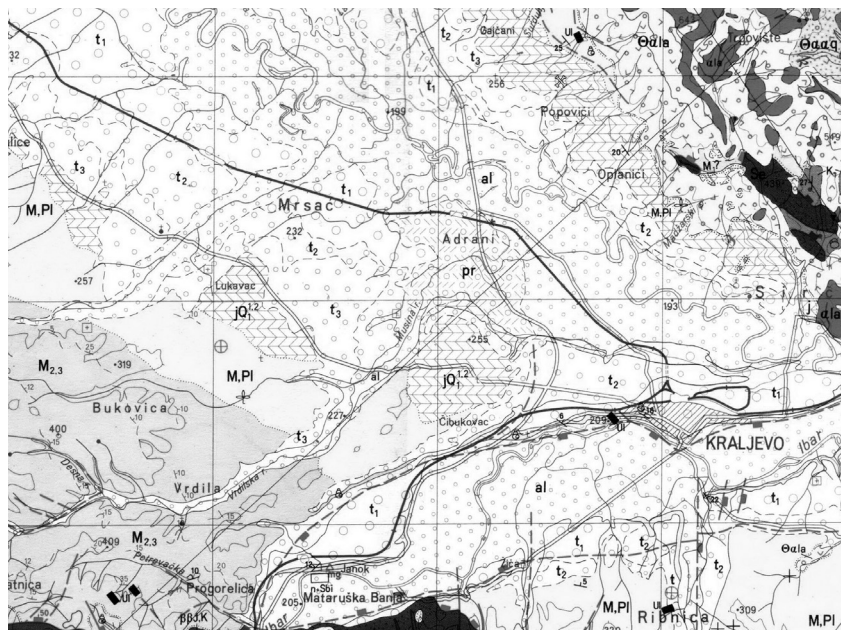


Figure 2. Geological map of the Čačak-Kraljevo basin.

ered by drilling underneath fluvial deposits. From the limnic phase of sedimentation come finds of fossil flora and fauna. Sandy clays of Mađarski potok yielded characteristic fossil flora (*Betula* sp., *Alnus kefersteini*, *Fagus pliocenica*, *Carpinus grandia*, *Ulmus longipholia*, *Ulmus carpionoides*, *Ulmus* sp., *Juglans* sp., *Zelcova ungeri* and *Platanus* sp.), which grew in the humid forests of temperate zone in the interval from the end of the Pontian age (end of the Miocene) to the Middle Pleistocene.

Remains of the fossil mammals *Rhinoceros* sp., *Equus caballus* and *Mammuthus primigenius* have been found in the gravels overlaying sediments with flora in the area of village Popovići and in Mađarski Potok. The series is identified on the basis of these finds as Lower-and/or Middle Pleistocene (Marković et al. 1968). During subsequent (river) phase four terrace horizons made of pebbles, sands, clay, loessoid sediments and red soil were created on valley slopes of the West Morava. Three upper terraces are of Middle and Upper Pleistocene age, while the lowest one is certainly of Holocene age. All terraces have identical profiles, at the bottom consisting of gravels and sands and on top loess-like clays.

Samaila – Vlaška Glava

The largest amount of artifacts at Vlaška Glava was gathered within lot 995, almost on top of the hill and next to the village cemetery (Fig. 3). Preliminary analyses of raw materials revealed that radiolarian chert of brown and dark red color, silicified magnesite, cryptocrystalline chert, chert of organogenic structure with aggregates of fossil remains and quartz had been used for knapping. Traces of cortex could be noticed on many artifacts, so it could be assumed that raw materials were obtained from secondary deposits in the vicinity. Primary deposits are located in the western part of Čačak-Kraljevo valley, in the Mesozoic formations of the Jelica Mt (Marković et al. 1968).



Figure 3. Vlaška glava – a view from the North.

From the material gathered in 2008 and 2009 (250 pieces in total) a few types of cores were identified: a) tested pebbles (2 pieces), b) choppers (1 piece), c) ‘proto-Levallois’ and Levallois cores (6 and 1 piece), d) cores knapped by salami-slicing technique (1 piece), e) Kombewa cores (2 pieces), f) irregular cores on pebbles (6 pieces) and g) core fragments (1 piece).

Only one typical side-chopper with facets of knapping on the longer edge of pebble was found (Fig. 4). ‘Proto-Levallois’ cores are characterized by parallel facets and without traces of preparation of flaking surface (White and Ashton 2003), and three preferential and one centripetal core were also recorded. The Levallois core is of small size and it has a prepared platform and flaking surface. Kombewa cores were made on thick flakes and fragments of pebbles and some of them have faceted platforms.

Flakes retouched by shallow and semi-abrupt retouch prevail (25 pieces) among the tools (64 pieces) followed by denticulated and notched tools (13 pieces in total) and sidescrapers (11 pieces). Other types of tools are less frequent. Laterally retouched specimens prevail among the

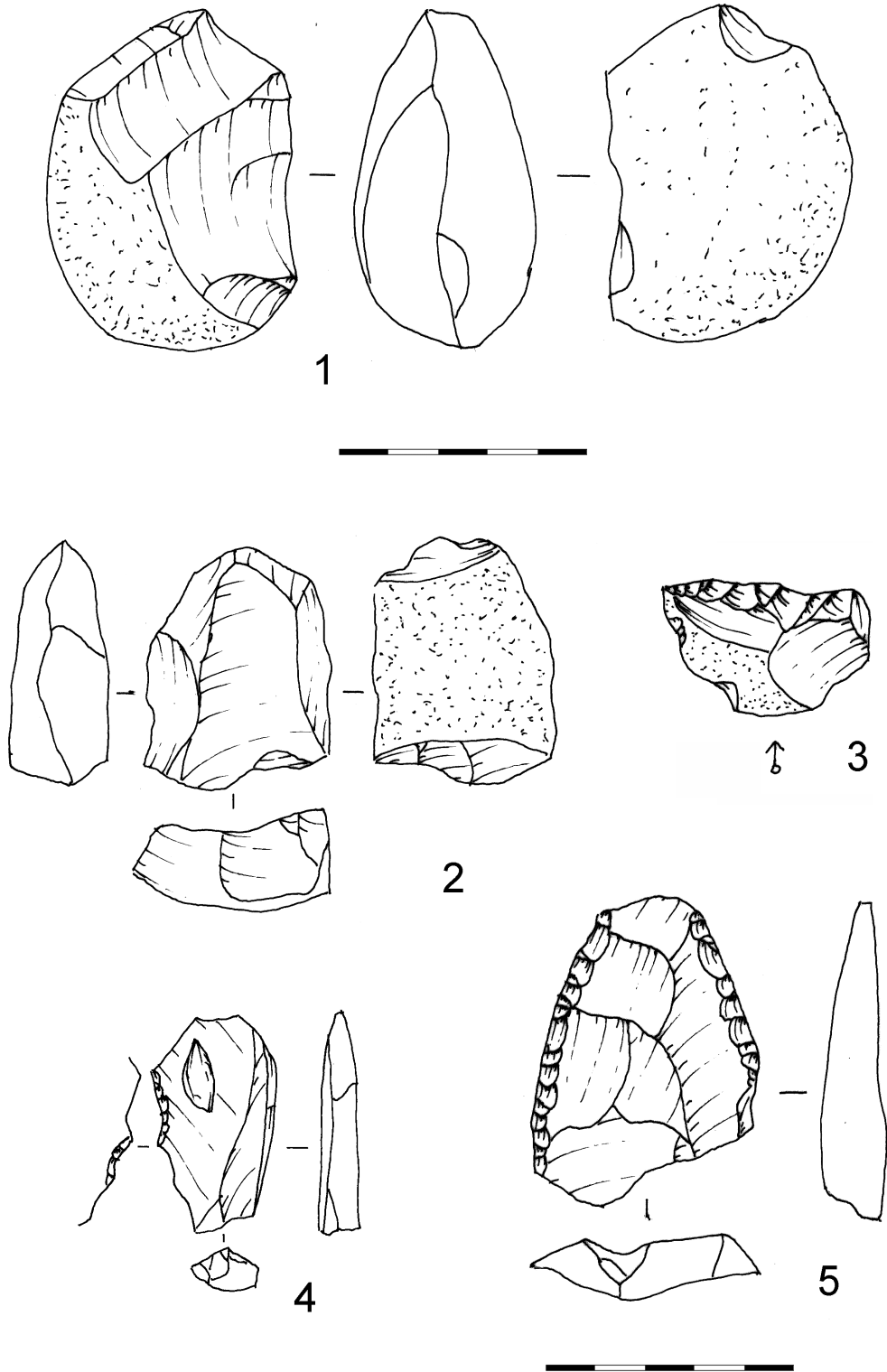


Figure 4. Stone artifacts from Samaila - Vlaška Glava: side-chopper (1), preferential core (2), transverse scraper (3), naturally backed knife (4), double scraper on Levallois flake (5).

sidescrapers: two bilateral sidescrapers, four lateral (three slightly convex and one straight), one latero-transversal (on dejeté flake) and two transversal specimens were found. One partially re-touched sidescraper as well as one sidescraper retouched by inverse deep and raised retouch were encountered.

Endscrapers are not standardized and there are specimens thinned by shallow surface retouch as well as pieces made on secondary used Kombewa cores. Flakes, which are retouched at the distal end by semi-abrupt, sometimes alternating retouch, are classified as retouched truncations and we also encountered one truncated faceted piece on an elongated flake. Burins are not characteristic and generally have one laterally or transversally oriented facet each. One combined tool (endscraper-perforator) made on thick flake was also found. Denticulated tools were made on diverse pieces and one of them was made on the large-sized Levallois flake. When notched tools are concerned there are also specimens on Levallois flakes and notches of Clactonian type were also recorded.

Zablaće – Kosovska Kosa

Kosovska Kosa is situated in the vicinity of Zablaće, between Srejšovića stream and Ježevica River at the location where the latest Miocene limnic terrace (M3) meets one of the highest Pleistocene terraces (t3). At the bottom of Kosovska Kosa is a paleo-canal and a large quantity of chipped stone artifacts was gathered on its sides (Figs. 5, 6). A large number of finds was recorded on the other side of the canal as well but also on top of the slope that already belongs to the village Ježevica.

Kosovska Kosa was surveyed in detail in 2011 and the position of most artifacts was located using GPS. The spatial distribution of artifacts indicates that the accumulation of finds was not influenced by erosion but that there were remains of the settlement situated on the canal bank. The assemblage gathered in 2011 (157 artifacts) consists of 16.6% cores and choppers, 44.6% flakes, 10.8%

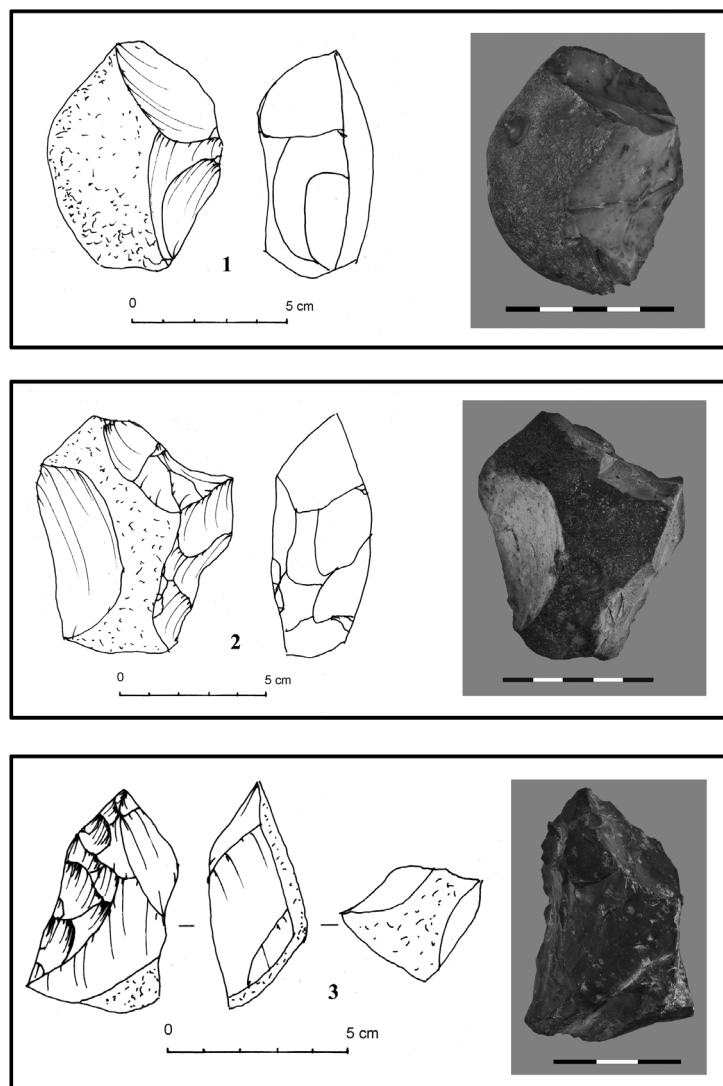


Figure 5. Kosovska Kosa: side-choppers (1, 2) and Quinson point (3).

chunks, 19.7% retouched tools and 8.3% chips and tiny fragments.

Cores are generally of polyhedral type but there was also one 'proto-Levallois' core of preferential type. Most choppers could also be identified as cores and specimens knapped on the side (side-choppers) prevail. Some artifacts made from pebbles could be classified as tools: e.g. one point of Quinson type made on a pebble fragment. Flakes are generally asymmetrical, often with cortex and diagonally oriented platform, which does not reveal traces of preparation. The only exception is one Levallois flake, which, judging by luster and polish could have been brought from another place. Prevailing tools are denticulated tools, asymmetrical sidescrapers and endscrapers and retouched flakes.

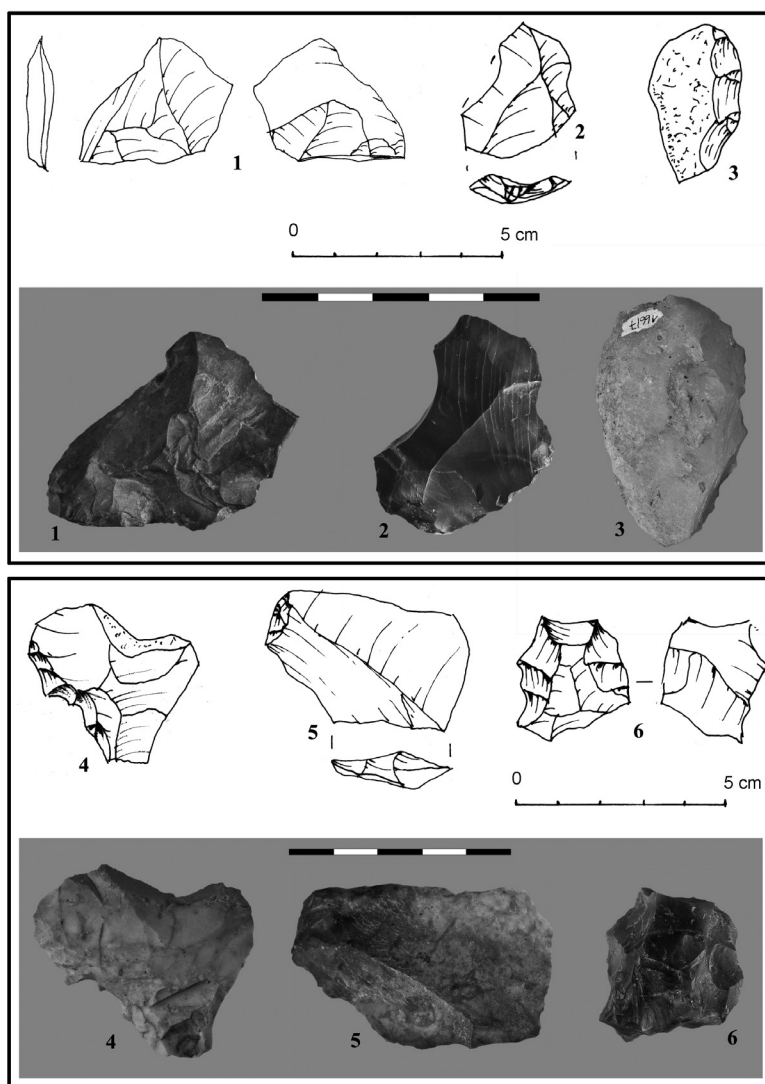


Figure 6. Stone artifacts from Kosovska Kosa: ventrally thinned flake (1), Levallois flake (2), denticulate tools (4, 6), endscraper (5).

Ježevica – Vojnovića brdo

Finds have also been recorded in the vicinity of Zablacé in the continuation of the Miocene terrace where Vojnovića brdo in Ježevica and Kremenac in the village Viljuša are situated. Artifacts were also found in the fields at a somewhat lower altitude above sea level (240-245m) at the site Vapa – Makva below Vojnovića brdo.

Around one-hundred finds were gathered at Vojnovića brdo (Fig. 7). Cores are not as frequent and among them are interesting Kombewa cores on pebble fragments and thick flakes with visible facets of knapped flakes on the ventral side. Some specimens have prepared platforms, while on some pieces the flaking surface (on the ventral side) is almost entirely covered with facets. One of these cores was subsequently transformed into a transversal sidescraper. Flakes are generally irregular, but there were also recorded flakes with broad platforms that could be identified as Levallois flakes. Tools are scarce and simple retouched flakes and denticulated tools prevail. There were also a few partially retouched sidescrapers.

Material from Ježevica and Viljuša reveals similar characteristics and only the different one of these assemblages is the assemblage from Makva, where tools on elongated flakes and also

one bifacially chipped knife were recorded together with a few Levallois artifacts. The artifact assemblage from this site could not entirely be ascribed to the Palaeolithic with certainty: diagnostic artifacts are not numerous and few small fragments of prehistoric pottery were found at the same location. This is also the same situation with two bifacial tools of cleaver type discovered at other locations.

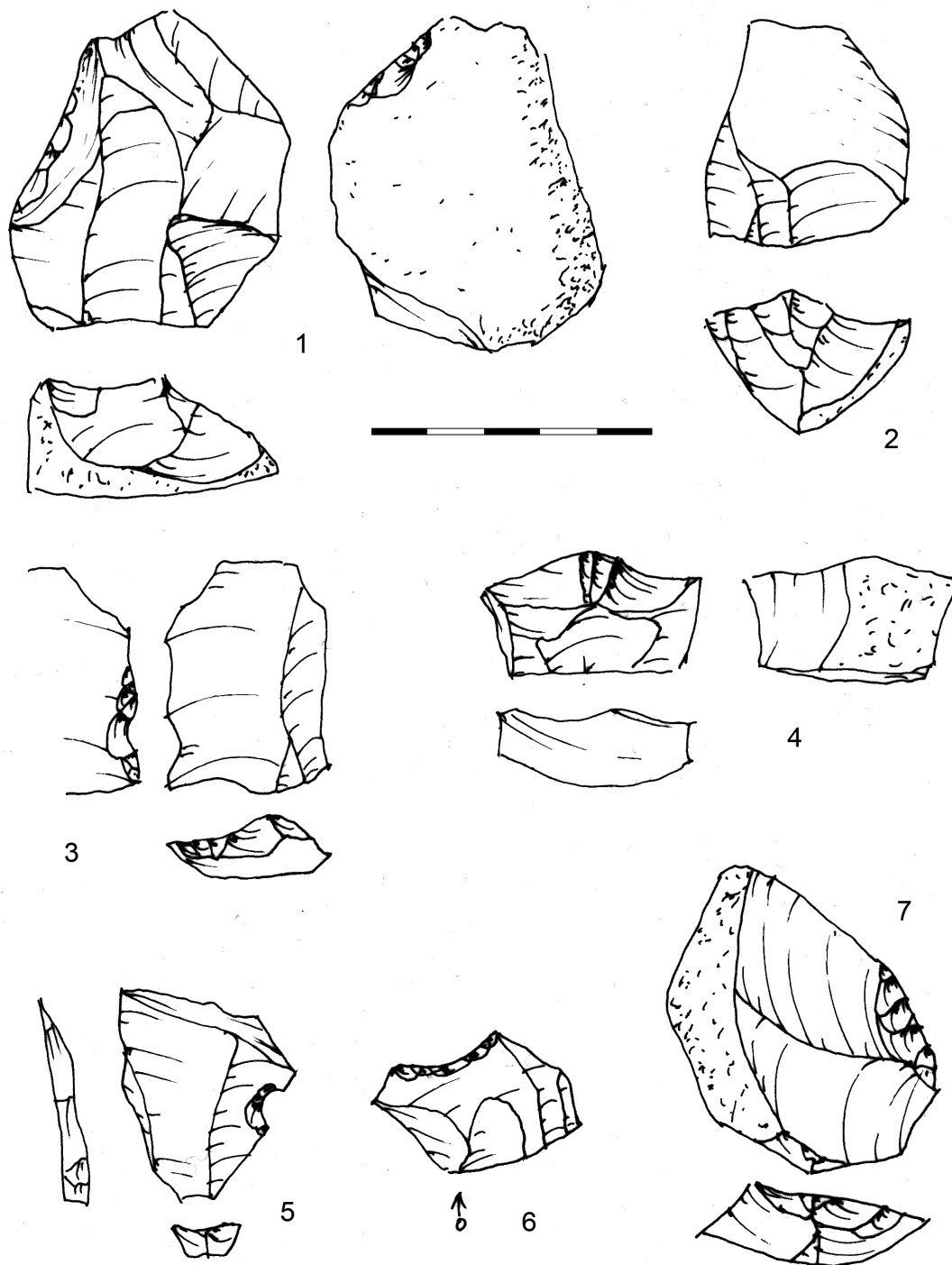


Figure 7. Cores (1-2) and tools (3-7) from Ježevica - Vojnovića brdo.

Variability of assemblages and parallels with the industries from the neighboring regions

It is quite obvious that both a Lower Palaeolithic and Middle Palaeolithic component exist in the industries discovered at the sites in the West Morava valley. The Lower Palaeolithic is most conspicuous at Kosovska Kosa and is apparent in the high incidence of choppers and low incidence of Middle Palaeolithic elements, while the Middle Palaeolithic appears in the material from Vlaška Glava where the Levallois artifacts and sidescrapers are most numerous. However, there are also many similarities between these sites (including also Vojnovića brdo), which are first of all visible in the connection of the Levallois technology with “chopper” technology and Kombewa technique but also on a typological and attribute level when we have in mind style of sidescraper making and frequency of the Charentian elements.

If we take into consideration the remains from all three sites it is obvious that an identical method was used in knapping technique: using a technique of chopper knapping the platform was created on pebbles, while the Kombewa technique was used for making thick flakes whose ventral side played the part of flaking surface on cores. Platform on choppers and Kombewa cores was faceted before knapping and a series of parallel flakes was struck without special preparation of the flaking surface and core perimeter. It was practiced only in the advanced phase of reduction when ‘proto-Levallois’ cores were transformed in cores of Levallois or discoid type.

The question could be asked how much differences in the structure of assemblages from the sites in the West Morava valley could be explained from the aspect of difference in the character of settlement and functions of habitations and post-depositional processes, which could result in mixing of the material, and how much from the chronological aspect:

a) The fact that there is a direct correlation between the structure of assemblages and the distance of sites from the primary deposits could speak in favor of a functional explanation. Lower Palaeolithic elements are more prominent at the sites in the vicinity of Kraljevo where primary and probably also secondary sources of raw materials (at the confluence of waterways flowing from the Jelica Mt.) are located, while Middle Palaeolithic elements are more frequent at the sites outside that area. In this case, the Lower Palaeolithic character of the industry from Kosovska Kosa could be explained as a consequence of intensified workshop activity at that location (regarding primary decortication, knapping of usable blanks for tool production, etc.)

b) Considering the context of finds we must also take into consideration the possibility of material mixing, as long as the artifacts are not found in reliable stratigraphic context.

c) The possibility that assemblages are relatively homogeneous and that they at least partially reflect the period from which they are originating is also plausible, especially considering common elements in knapping technology. In this case, however, the question could be asked to which period and industry it could be related.

Similar industries have not been ascertained so far in the Balkans. Choppers and the Kombewa technique appear in the Lower Paleolithic of the Balkans at the sites dated to the period between 200 and 300 ka (Dealul Guran, Yarimbourgaz, Rodia), where a highly simple unidirectional and centripetal knapping technique has been confirmed, while the Levallois technique does not appear (Tourloukis 2010; Iovita et al. 2012). Cores and tools on pebbles appear also at Lower and Middle Palaeolithic sites in central Europe but at those sites Levallois elements are also lacking (Kretzoi, Dobosi 1990; Moncel 2003; Mester and Moncel 2006). On the other hand choppers are generally lacking at the Middle Palaeolithic sites where the Levallois technique appears. This is also the case with upper layers at Velika Balanica (2a-2c) where Kombewa flakes were confirmed together with Charentian elements and Levallois artifacts (Mihailović 2008, 2009).

A technique resembling ‘proto-Levallois’ in a way it is defined in western Europe (White, Ashton 2003) appears at the site Zobište in northern Bosnia dated between 97.500 B.P. ± 7000 and 85.500 B.P. ± 8500 (Montet-White et al. 1986; Baumler 1987). Pebbles were knapped without special preparation, first from one and then from different directions and they were then transformed in small-sized discoid cores (Baumler 1987). Levallois artifacts and sidescrapers prevail

at Vlaška Glava (but also at most other Lower Palaeolithic sites in the Balkans). Choppers and the Kombewa technique, however, are not confirmed but flakes of the type *éclats débordants* and pseudo-Levallois points were encountered in considerable quantity and they have not been confirmed in larger amount in the West Morava valley at least for the time being.

Levallois technology was also recorded in layers XXXI-XXIV at Crvena Stijena dated to the period from MIS 6 to MIS 5e and tapering of tools using ventral retouch was also encountered (Kozłowski 2002). Still, as in previous case, Lower Palaeolithic elements are almost entirely lacking. A similar situation is evident in the 'basal Mousterian' of Asprochaliko dated to 90-100 ka (Bailey et al. 1992; Gowlett and Carter 1997). Certain parallels could be, however, drawn between Vlaška Glava and the lower layers of Teopetra (Panagopoulou 1999) that are dated to the transition from MIS 6 to MIS 5 (Valladas et al. 2007) and where chopping tools as well as sidescrapers of the Charentian type were also found together with Levallois artifacts.

Nevertheless, parallels are most prominent when Lower Palaeolithic, mostly Late Acheulian sites in the Near East, in the Caucasus and even in western Europe are concerned (Bar-Yosef 1994; Turq 2000; Shea 2008; Doronichev and Golovanova 2010; Adler et al. 2014). There along with bifaces also appear choppers as well as the products of flaking obtained by using the Levallois and Kombewa techniques with more or less prominent incidence of Clactonian and Charentian elements and points of Quinson type. If this impression is correct, the question arises whether in lacustrine and fluvial setting in this part of the Balkans sites with early Levallois technology and bifacial stone tools could also be expected. We think judging by the finds from Rodafnidia in Lesvos (Galanidou et al. 2012) and even more from Kokkinopilos in Epirus (Tourloukis 2010) that this is quite possible despite the fact that Acheulian has not been confirmed with certainty anywhere in the Balkan interior as well as in most of central and eastern Europe.

Conclusion

When we take everything into consideration it could be assumed that the assemblage from Kosovska Kosa dates from the late phase of the Lower Palaeolithic, while finds from Vojnovića brdo and Samaila could date from the same time or a somewhat later period. These assemblages could coincide from the chronological point of view with the period between 300-400 ka when Levallois technology appeared for the first time in Europe until around 120 thousand years (i.e. to the end of MIS 5e) when choppers and Lower Palaeolithic elements definitely disappear from the Middle Palaeolithic industries in the Balkans. It is possible considering indications that the Balkans had been most densely populated in the interglacial periods that Vlaška Glava dates from MIS 7 or 5e and Kosovska Kosa from MIS 7 or from some earlier period although it is not impossible that West Morava valley was also inhabited in the glacial periods. It is also quite possible that all sites from the highest West Morava river terrace date from the same period and that differences in the structure of artifacts is first of all the result of differences in the character of settling of distinct locations.

It is, however, important to emphasize that these conclusions are not final but only hypothetical and that it is necessary to invest further efforts to find artifacts in stratigraphic context, in layers where faunal remains are also preserved. For that matter it has been planned to investigate locations in the West Morava valley where layers with sands are preserved as well as to expand investigations to the lower course of the West Morava and South Morava valley. Preliminary surveying results reveal that sites dating from the Lower and Middle Palaeolithic could also be expected in that area.

Note

Paper presented at XXXVI Meeting and Annual Conference of Serbian Archaeological Society in Novi Sad, in 2013.

Acknowledgments

This work was supported by grants from the Ministry of Culture and Information and the Ministry of Education and Science of the Republic of Serbia, project no. 177023.

References

- Adler, D. S., Wilkinson, K., N., Blockley, S., Mark, D. F., Pinhasi, R., Schmidt-Magee, B. A., Nahapetyan, C. et al. (2014). Early Levallois technology and the Lower to Middle Paleolithic transition in the Southern Caucasus. *Science*, 345(6204), 1609–1613.
- Bailey, G., Papakonstantinou, V. & Sturdy, D. (1992). Asprochaliko and Kokkinopilos: TL dating and reinterpretation of Middle Palaeolithic sites in Epirus, north-west Greece. *Cambridge Archaeological Journal*, 2, 136–144.
- Bar-Yosef, O. (1994). The Lower Paleolithic of the Near East. *Journal of World Prehistory*, 8(3), 211–265.
- Baumler, M.F. (1987). Core Reduction Sequences, An Analysis of Blank Production in the Middle Palaeolithic of Northern Bosnia (Yugoslavia). Ph.D Dissertation, The University of Arizona.
- Doronichev, V. & Golovanova, L. (2010). Beyond the Acheulean: a view on the Lower Paleolithic occupation of Western Eurasia. *Quaternary International*, 223–224, 327–344.
- Galanidou, N., Cole, J., Iliopoulos, G. & McNabb, J. (2013). East meets West: the Middle Pleistocene site of Rodafnidia on Lesbos, Greece. *Antiquity*, 06/2013, 087(336).
- Gowlett, J.A.J., & Carter, P.L. (1997). The basal Mousterian of Asprochaliko rockshelter, Louros Valley. In G. Bailey (Ed.) *Klithi: Palaeolithic settlement and Quaternary landscapes in northwest Greece. Vol 2.* (pp. 441–457). Cambridge: McDonald Institute for Archaeological Research.
- Iovita, R., Fitzsimmons, K.E., Dobos, A., Hambach, U., Hilgers, A. & Zander, A. (2012). Dealul Guran: evidence for Lower Palaeolithic (MIS 11) occupation of the Lower Danube loess steppe. *Antiquity*, 86, 973–989.
- Kretzoi, M. & Dobosi, V.T. (1990). *Vértesszőlős: site, man and culture*. Budapest: Akadémiai Kiadó.
- Kuhn, S.L. (2010). The Yarimbuzguz Lithic Assemblage. In C. Howell, G. Arsebuk, S. Kuhn, M. Ozbasaran, & M. Stiner (Eds.) *Culture and Biology at a Crossroads: The Middle Pleistocene Record of Yarimbuzguz Cave (Thrace, Turkey)* (pp.1–37). Istanbul: Zero Books/Ege Publications.
- Marković, B., Urošević, M., Pavlović, Z., Terzin, V., Jovanović, Z. et al. (1968). *Osnovna geološka karta 1:100000 - Tumač za list Kraljevo*. Beograd: Savezni geološki zavod.
- Mester, Z. & Moncel, M-H. (2006). Le site paléolithique moyen d'Érd: Nouvelles données sur les chaînes opératoires et résultats morpho-fonctionnels de la production. *Anthropologie*, XLIV (3), 221–240.
- Mihailović, D. (2008). New data about the Middle Palaeolithic of Serbia. In A. Darlas & D. Mihailović (Eds.), *The Palaeolithic of the Balkans*, BAR International Series 1819 (pp. 93–100). Oxford: Archaeopress.
- Mihailović, D. (2009). Pećinski kompleks Balanica i paleolit Niške kotline u regionalnom kontekstu. *Arhaika*, 2, 3–26.
- Mihailović, D. & Bogosavljević-Petrović, V. (2009). Samaila - Vlaška glava, paleolitsko nalazište na otvorenom prostoru. *Naša prošlost*, 10, 21–43.
- Moncel, M.-H. (2003). Tata (Hongrie). Un assemblage microlithique du début du pléistocène supérieur en Europe Centrale. *L'Anthropologie*, 107, 117–151.
- Montet-White, A., Laville, H., & Lezine A.-M. (1986). Le Paléolithique du Bosnie du Nord. Chronologie, environnement et préhistoire. *L'Anthropologie*, 90(1), 29–88.

PALAEOLITHIC AND MESOLITHIC RESEARCH IN THE CENTRAL BALKANS

- Panagopoulou, E. (1999). The Theopetra Middle Palaeolithic assemblages: their relevance to the Middle Palaeolithic of Greece and adjacent areas. In G.N. Bailey, E. Adam, E. Panagopoulou, C. Perlès, & K. Zachos (Eds.) *The Palaeolithic Archaeology of Greece and Adjacent Areas*, (pp. 252–265). Athens: British School at Athens.
- Santonja, M., & Villa, P. (2006). The Acheulean of Western Europe. In: N. Goren-Inbar & G. Sharon (eds.), *Axe Age – Acheulian Tool-making from Quarry to Discard*. (pp. 429–478). London: Equinox Publishing.
- Shea, J. (2008). The Lower and Middle Paleolithic in the Middle East and Neighboring Regions. *Evolutionary Anthropology*, 17, 205–207.
- Tourloukis, E. (2010). The Early and Middle Pleistocene Archaeological Record of Greece –current status and future prospects. Leiden: Leiden University Press.
- Turq, A. (2000). L'Acheuléen. *Paléo*, 2/1, 169–242.
- Valladas, H., Merciera, N., Frogeta, L., Joronb, J.-L., Reyessa J.-L., Karkanasc P., et al. (2007). TL age-estimates for the Middle Palaeolithic layers at Theopetra cave (Greece). *Quaternary Geochronology*, 2(1–4), 303–308.
- White, M. & Ashton, N. (2003). Lower Palaeolithic Core Technology and the Origins of the Levallois Method in North-Western Europe. *Current Anthropology*, 44(4): 598–609.