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Nucléus mésolithique de Glanów. Collection de Musée archéologique de Cracovie (grâce à l'aimable autorisation de Mirosław Zajac; photo par Agnieszka Susuł)

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Professor BOLESŁAW GINTER

THIS VOLUME OF *RECHERCHES ARCHÉOLOGIQUES, NOUVELLE SERIE*
IS DEDICATED
TO PROFESSOR BOLESŁAW GINTER
ON HIS 75TH BIRTHDAY

In 2013 Professor Bolesław Ginter turned seventy five, therefore his students, colleagues and friends, together with editorial board of *Recherches Archéologiques NS*, decided to dedicate to him the 5th and 6th volumes combined.

Professor is one of the most eminent and respected European authorities in the field of Paleolithic and Mesolithic issues. In 1961 he graduated from the Faculty of Philosophy and History at the Jagiellonian University, reaching his master's degree in archaeology. In 1966 he acquired his PhD and in 1973 he became Assistant Professor. In 1985 he received the title of Associate Professor and he obtained the full professorship in 1994. He is an educator and researcher, appreciated in many different centers. He has been conducting lectures at the University of Rzeszów since several years and in 2011 he was granted the *honoris causa* doctorate of the University of Wrocław. During his academic career he held scientific internships and invited lectures in the Czech Republic, Slovakia, Ukraine, Germany, Denmark, Switzerland and Italy. In the years 1984–1987 Professor Bolesław Ginter was Vice Dean of the Faculty of History and Philosophy at the Jagiellonian University and in the years 1990–1993 the Vice Rector. From 1985 to 2008 he was head of the Department of Stone Age Archaeology at the Jagiellonian University. Professor was a member of the Central Council of Science and Higher Education, and from January 3rd 2003, he served as Vice Chairman of the eighth cadency. Professor Bolesław Ginter conducted excavations at many sites. As particularly important we should mention the Balkan works, which embraced, e.g. Middle- and Upper Paleolithic sequences in Bacho Kiro and Temnata Caves. Last but not least were the works in Egypt, which initially had been performed in cooperation with the Centre of Mediterranean Archaeology of the University of Warsaw and subsequently were run by share of the *Deutsches Archäologisches Institut* and encompassed predynastic positions of El-Tarif and Armant (west and south of Luxor) and also Qasr el-Sagha (north of the Fayum Oasis). In the years 1994–2005 Professor co-led the excavations in the Peloponnese, in the cave no. 1, in the Klissoura Gorge in Argolid. They led to the documentation of the first comprehensive sequence of the Neanderthal stratum in this part of Mediterranean Europe. From among Polish positions we should distinguish co-direction of a long-term, so far lasting project of the research of the main chamber of the Ciemna Cave in Ojców. He also directed an investigative project of the Committee for Scientific Research: “The site of the Magdalenian culture in Dzierżysław in Upper Silesia”.

Professor's studies enriched the Paleolithic flint workshops systematics by contents of fundamental significance. It can be best proven by the brilliant habilitation thesis titled *Wydobywanie, przetwórstwo i dystrybucja surowców i wyrobów krzemienych w schyłkowym paleolicie północnej części Europy środkowej* from 1974 and the monograph from the same year *Spätpaläolithikum in Oberschlesien und im Oberen Warta Flussgebiet*. Among other monographs, it would be hard not to mention about such important, co-edited

items like *Excavation in the Bacho Kiro Cave (Bulgaria)*, *Predynastic Settlement near Ar-mant, Temnata Cave. Excavation in Karlukovo Karst Area, Bulgaria* (1992, 1994, 2000), and also co-authorship of an eminent and repeatedly resumed academic textbook *Technika obróbki i typologia wyrobów kamiennych paleolitu i mezolitu* (1975).

Professor Bolesław Ginter has published a total of 170 scientific items. He is the author, co-author or co-editor of 14 books. He supervised 19 masters and 5 doctors. He has participated in the sessions of numerous scientific bodies on the electoral basis. Professor is a deputy president of the Committee of Prae- and Protohistoric Sciences Polish Academy of Sciences, a member of the board of Archaeological Commission of the Kraków Branch of Polish Academy of Sciences, and member of following Commissions of the Polish Academy of Art and Sciences: Paleogeography of Quaternary, European Affairs, Praehistory of Polish Carpathians. He is deputy chairman of the XXXII Commission of *Union Internationale des Sciences Préhistoriques et Protohistoriques*, member correspondent of *Deutsches Archäologisches Institut*, member of International Association of Egyptologists and American Academy in Rome.

In recognition of his services, Professor Bolesław Ginter was six times individually awarded and twice as a team by the Minister of Education. Eight times he received the Award of the rector of the Jagiellonian University. He was honored by the Knight's Cross and Officer's Cross of the Order of Polonia Restituta and the Medal of the National Education Commission.

Paweł Valde-Nowak

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Magda Cieśla¹, Paweł Valde-Nowak¹

Micoquian in the Northern Carpathians. Examples from Poland, Slovakia and Ukraine

Abstract: The issue of Central and Eastern European Micoquian, although known for over half a century, appears to be controversial and insufficiently researched. One of the areas in Central Europe known for the presence of the Micoquian are the Carpathian Mountains. The article discusses finds from their north-western part. Micoquian sites in this region are known from Slovakia (Zamarovce and possibly Plaveč site), Poland (Obłazowa Cave) and Ukraine (Korolevo, Yezoupil and Kolodijiw). All these assemblages contain *Keilmesser* knives. Moreover, the assemblages remain in relation to other sites in neighbouring areas, which is visible in terms of their technological approach, but is also documented by raw material transport. A reassessment of the cultural attribution of sites in the Carpathian zone appears to be of great value in understanding the problems of *Keilmessergruppen*.

Keywords: Eastern Micoquian, Keilmessergruppen, Carpathians, radiolarite

1. Introduction

Micoquian, most often described as a Middle Palaeolithic taxonomic entity distinguished by the occurrence of bifacial forms, is also one of the most diversified technological units of its time, and the distinction between western Micoquian and Central/Eastern European *Keilmessergruppen* is only the most evident one. However, the controversy stems in the most part from the history of the research

rather than differences in the material itself (Otte 2001).

However difficult, the issues of Central and Eastern European Micoquian (or, after G. Bosinski 1967 – Formengruppe, *Keilmessergruppen*) are quite well investigated – finds known from various regions of Central Europe often come from well stratified sites, where not only Micoquian, but also Mousterian and other assemblages are known.

Groups of Micoquian sites are known from various areas of Central and Eastern Europe (Fig. 1). Special attention should be paid to the sites in the Upper Danube basin in Germany: Bockstein, Vogelherd and Klausennische; artefacts from those sites

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served as examples of *Keilmesser* when the term was coined (Bosinski 1967). In Poland, sites are located mainly in Krakow-Częstochowa Upland (Chmielewski 1969) and in Upper Silesia (Fajer *et al.* 2001), while Ukrainian concentrations of sites are known from the Dniester Valley and Crimean Peninsula, and there exists one isolated site of Korolevo in Transcarpathian Ukraine (Stepanchuk 2006). Finally, one should mention the sites of Zamarovce (Barta 1961) and Dzeravà Skala in Slovakia (Kaminska *et al.* 2005). Furthermore, a newly reconsidered assemblage from the site of Bojnice III is attributed to the Micoquian *sensu lato* (Neruda 2012). Until very recently, the interest in Micoquian culture has been limited to the areas of Northern European plain and uplands. The distribution of the sites most likely does not reflect the actual pattern of settlement, being rather a result of state of research and preservation of assemblages. Most finds come from caves, open camps are rare.

The Carpathian range of the Micoquian, or, as it should more likely be referred to, *Keilmessergruppen*, can be described on the basis of assemblages discovered in Poland, Slovakia and Ukraine. Micoquian from Polish and Ukrainian Carpathians is known from only one site in each country (Koulakovskaya 2001; Valde-Nowak, Cieśla 2013), while in Slovakia the number of assemblages is greater (Kaminska 2010). However, in Poland a huge number of sites are known from the area close to the mountain border, from the region of Krakow; also in Ukraine the distance between sites in the Dniester river valley and the Carpathians is less than 50 km, which locates them in the sub-Carpathian area.

2. Micoquian in Poland from the perspective of Polish Carpathians

In Poland, already in the earliest synthesis of Micoquian by W. Demetrykiewicz (1914)

a notion of the “Micoquian period” beyond the range of sequences developed by G. de Mortillet in 1883 can be found (Urbanowski 2003). In 1924 Leon Kozłowski described the finds of a Middle Palaeolithic bifacial assemblage from Okiennik near Zawiercie as “Micoquian culture” (Kozłowski 1924). Later on S. Krukowski explored Middle Palaeolithic sites in Piekary. Among them he described the so-called Skalien, understood as an industry with bifacial tools representing “*élément acheuléen supérieur*” (Krukowski 1939–1948; comp.: Tomaszewski 2004).

Micoquian sites in Poland form two major clusters: in Upper Silesia (Fajer *et al.* 2001) and in the territory of the Kraków-Częstochowa Upland, with a concentration of sites in its southern part – materials from them provided the background for the description of the Micoquian-Prądnikian culture (Chmielewski 1969). Isolated sites are known from northern part of this region, for example from Biśnik Cave (Cyrek 2010), Stajnia Cave (Nowaczewska *et al.* 2013) and from Central Poland (Zwoleń; Schild *et al.* 2002). The only known Micoquian (Micoquian-Prądnikian) site from Polish Carpathians is Obłazowa Cave (Valde-Nowak, Cieśla 2013). Although a range of sites is known from the territory of Southern Poland (e.g. Biśnik Cave; Cyrek 2010, Wylotne Shelter, Kozłowski (ed.) 2006; Ciemna Cave, Sobczyk, Valde-Nowak 2012), the mountainous regions of Poland have not yet yielded any more traces of this cultural tradition.

So far, only a small Micoquian assemblage is known from the Obłazowa Cave. Layer XVIIIb, recognized as connected with this culture, lays in-between sterile deposits of sandy clay of layers XVIIIa and XVIIIc and in superposition to Taubachian layer XIX – which is a situation similar to that known from sites such as Kůlna Cave in Moravia (Valoch 1988) or Sesselfelsgrotte

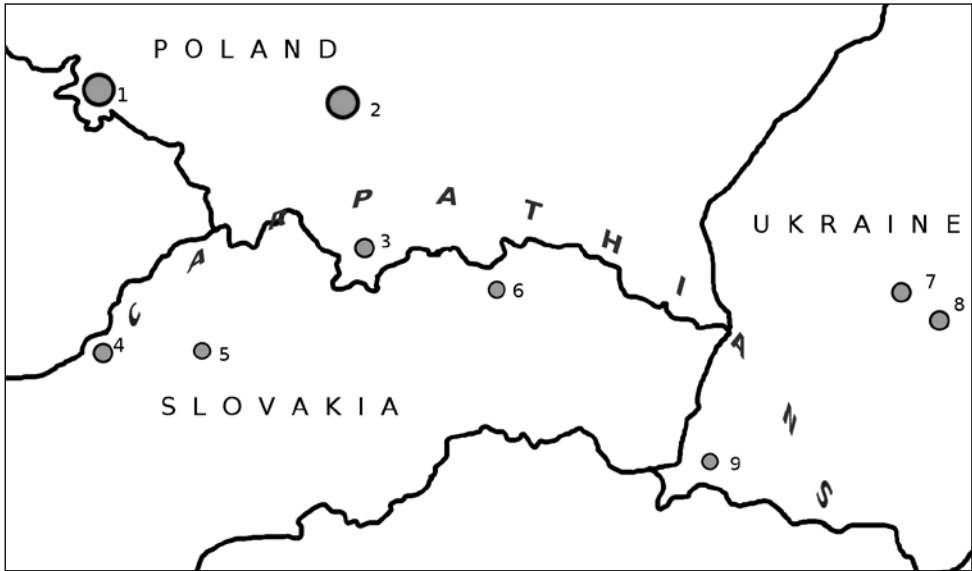


Fig. 1. Location of sites in sub-Carpathian area: 1 – Silesian concentration of sites; 2 – Cracow-Częstochowa Upland concentration of sites; 3 – Oblazowa Cave; 4 – Zamarovce; 5 – Bojnice; 6 – Plaveč; 7 – Kolodijiv; 8 – Yezoupil; 9 – Korolevo

in the Altmühl Valley (Richter 2002). The site itself is a small, one-chambered cave. The entrance opens to the south-west, and is situated about 7 metres above the bottom of the river valley. Oblazowa Rock is a large limestone hill, part of the Pieniny Klippen Belt, a geological formation dividing the Central and External Western Carpathians. Its rocky outcrops are an important element of the landscape in the area of Podhale-Orawa Basin, and are well visible from even a long distance.

The most distinctive finds from the Micoquian-Prądnikian assemblage are those of a red radiolarite hand-axe (made of bifacially retouched flake; Fig 2: 1) and an asymmetric knife with diagonal flake scar on the pointed end of the flake on which it was prepared (Fig. 2: 2). Interesting trait of this artefact is that the sharpening flake-scar is located on the ventral part of the flake. The specimen was prepared of green radiolarite (Valde-Nowak, Cieśla 2013). In this

context, a discovery made in another Polish site should be mentioned. In the Ciemna Cave (situated in the Prądnik Valley, eponimic for Micoquian-Prądnikian), in the oldest Micoquian level (cultural layer IV), one artefact made of Pieniny radiolarite was found (Sobczyk, Valde-Nowak 2012). It is a small hand-axe made of green radiolarite, which was broken and repaired afterwards (Fig. 2: 3).

3. Micoquian in Slovakia

Micoquian assemblages from Slovakia had been known for a long time before they were recognized as belonging to this culture (e.g. Prošek 1953; Barta 1961). Firstly, Micoquian finds were attributed to Szeletian, or generally to Middle Palaeolithic, also suggestions of possible attribution of finds to Aurignacian were presented (Barta 1961). The situation changed after the publications of Gerhard Bosinsky (1967) when

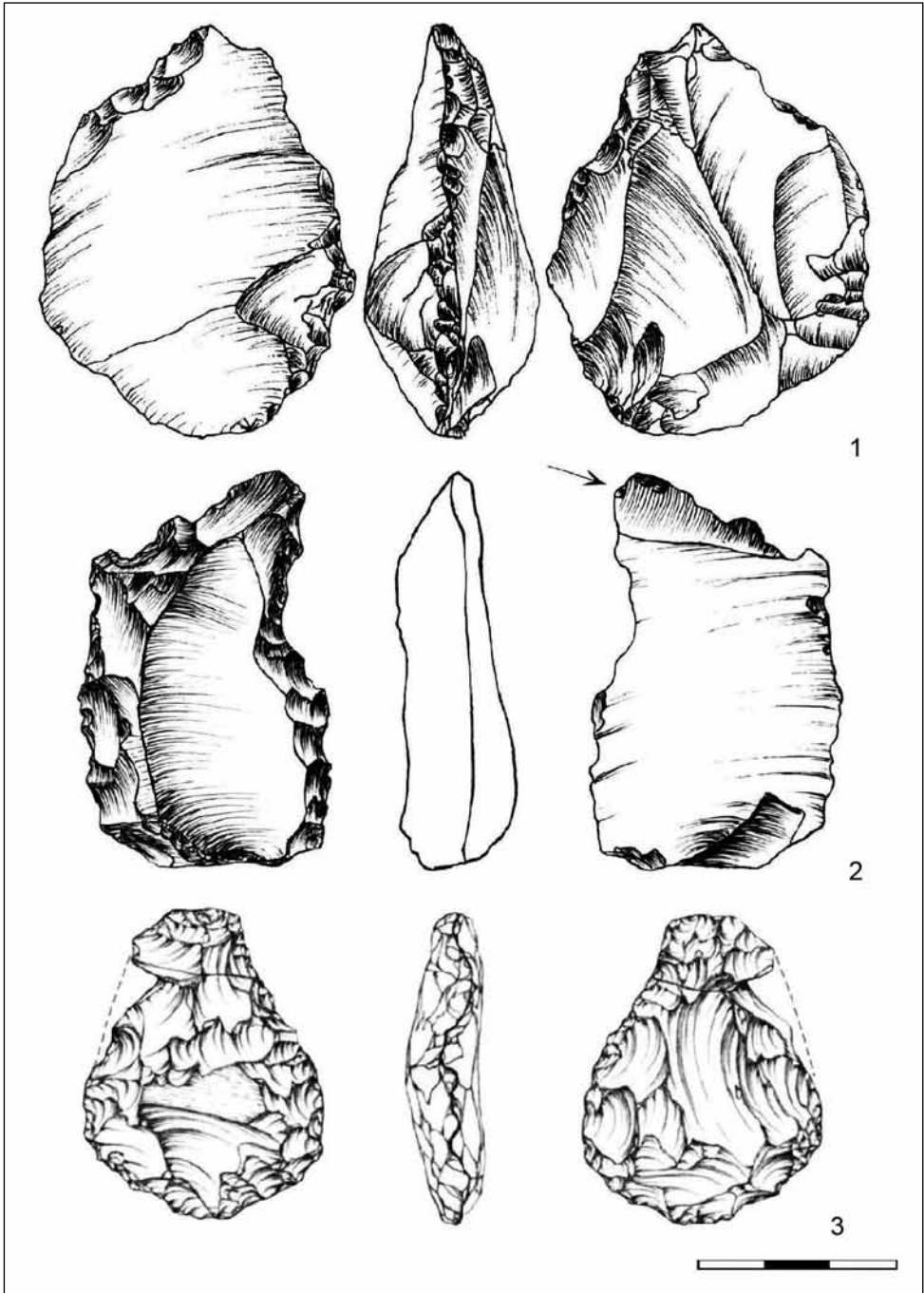


Fig. 2. Micoquian artefacts from Poland: 1-2: Oblazowa Cave; 3: Ciemna Cave; radiolarite hand-axe (Sobczyk, Valde-Nowak 2012, fig. 7)

Micoquian was recognized as covering wider areas of Central Europe (Kaminská 2010). This modified the approach of researchers towards Slovakian finds considerably. This applies, for example, to the site of Zamarovce (Chmielewski 1969, Kaminská 2010).

Slovakia is an almost completely mountainous country, approximately 75% of its area belongs to the Carpathians. Micoquian, or Micoquian-Prądnikian assemblages are known from sites in the area of the White Carpathians (Zamarovce; Barta 1961) and probably in L'ubovnianska Upland (Plaveč; Kaminská 2010). Some suppositions concerning the presence of Micoquian elements in Lesser Carpathians (Dzerava Skala Cave; Kaminská *et al.* 2005) are less convincing. Some traces of this cultural tradition are also known from Myjava Upland (Barta 1984), although the area is not a part of the Carpathians *sensu stricto*. Zamarovce (Barta 1961) and Plaveč (Kaminská 2010) are two Slovakian sites known from the strictly mountainous region. The first of them, Zamarovce, is located in the vicinity of the Vah river, on an elevated part of land, the so called Skalka-Priepast', which divides Strážovská Hornatina and the White Carpathians (Barta 1961). The assemblage from the site was initially classified as belonging to the Szeletian culture (Barta 1961), and this is the best known Micoquian site from the described area. Artefacts from the site include bifacially worked knife-scrapers, all of them made of local radiolarite (Fig 3: 1-3). Such forms find their closest analogies in the inventories from Kraków-Częstochowa Upland in Poland, and can be classified as Prądnik-type knives (Barta 1961), although the artefacts presented in Barta's publication do not have a characteristic para-burin scar.

Another find connected possibly with the Micoquian-Prądnikian culture is a single

artefact from Plaveč (Kaminská 2010). Described as a Prądnik-type knife, the specimen is made of radiolarite flake, and has a cutting edge parallel to its back formed with side retouch (Fig. 4: 4). The state of research and the context of discovery (stray find) demands care in further interpretation.

In the most recent publication (Neruda, Kaminská 2013) the materials from Bojnice I and III were reassessed and also attributed to the discussed culture.

The site of Bojnice I (Prepoštská Cave) was first excavated by K. Medvecký in 1926, but these amateur digs were halted after consultation with archaeologists K. Absolon and K. Niederle. In 1927, an excavation was led by a group of researchers: J. Eisner, Š. Janšák and J. Babor. New works in the cave were commenced in 1950 by F. Prošek, and then continued in 1965 and 1967 by J. Bárta. Sadly, unlicensed, amateur digs were also illegally carried out in the cave and in its nearby area (Neruda, Kaminská 2013).

The problem with the interpretation of the gathered material is therefore partly a result of the history of the excavation. Bojnice I (Prepoštská Cave) was initially interpreted by J. Barta as a Levallois-Mousterian (Barta 1961; 1965; 1967), due to the presence of Levallois forms in the inventory.

The whole assemblage consists of 2201 artefacts, and was dated to the older phase of the Weichselian (Neruda, Kaminská 2013).

The technological features of the discussed inventory, the recognition of which finally led to new cultural classification of the material from Prepoštská Cave are as follows: the discoid method of core reduction (with several variants of this method), small number of Mousterian, Tayacian and Quinson points, the high percentage of side scrapers (mostly of complex types), and the presence of *ad-hoc* tools (predominantly notches and side scrapers). Raclettes

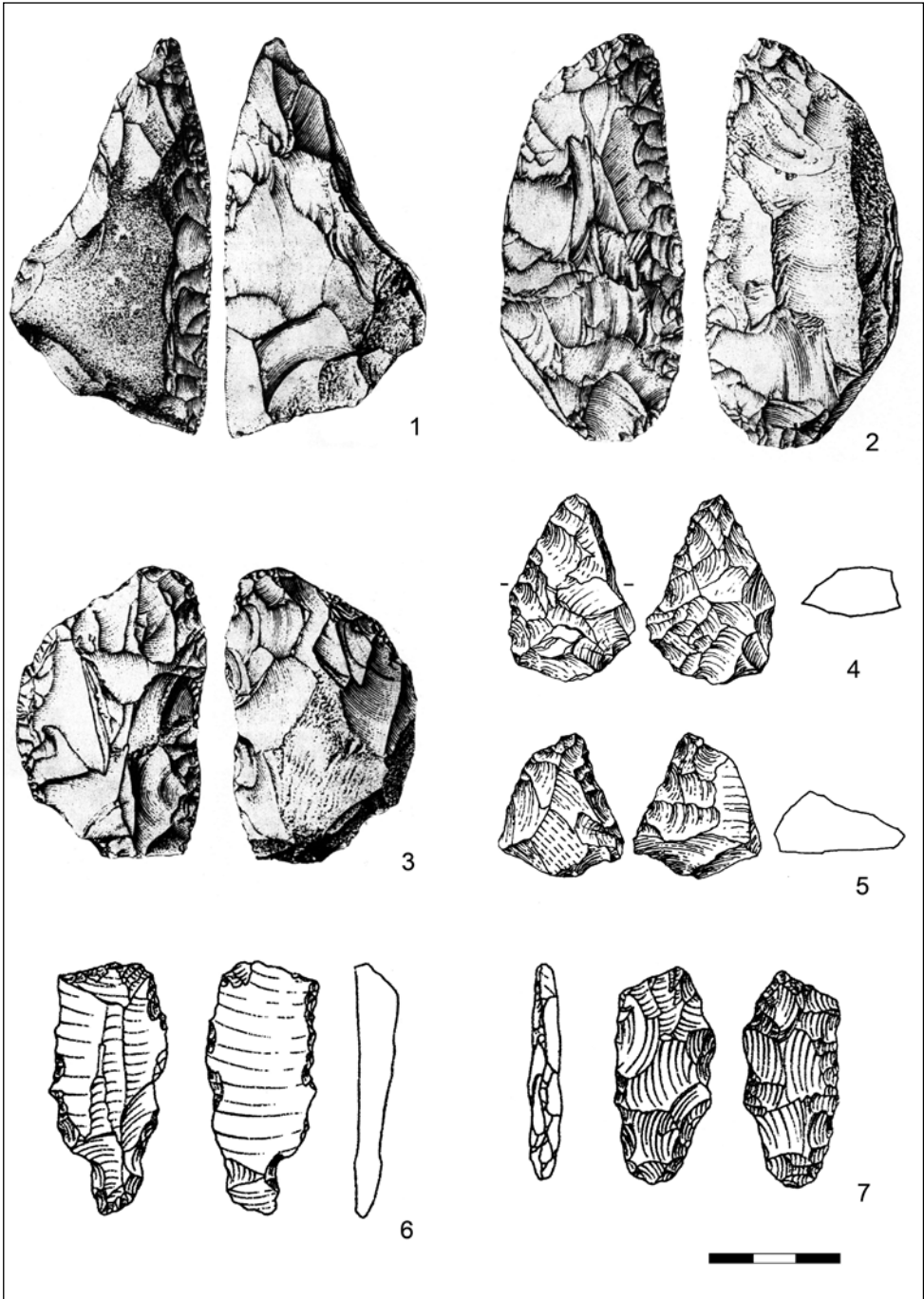


Fig. 3. Micoquian artifacts from Slovakia: 1-3 – Zamarovce (Barta 1961, fig. 1); 4,5 – Bojnice (Neruda 2012, fig. 4); 6-7 – Dzeravá Skala (Kaminská *et al.* 2005, fig. 18, 29)

appear as well. Bifacial forms – small quartz handaxe, backed knives – also constitute an important part of the inventory. Backed knives are in the stage of developed reduction (Neruda, Kaminská 2013).

In the assessment of the inventory an interesting issue of “missing artifacts” arose. According to the theory proposed by the authors (Neruda, Kaminská 2013), several artefacts were carried off from the site, and their presence can be proved only indirectly, by the analysis of small chips remaining at the site and documenting the working of the edges of artefacts. Those latter objects were not found at the site. All the data, gathered during the analysis of the site led to the conclusion that the discussed inventory should be placed within the frames of the Central European Micoquian (Neruda, Kaminská 2013).

In the close vicinity (ca. 500 m distance) of the Prepoštská Cave (Bojnice I) the site of Bojnice III – Hradná Priekopa (Castle moat) is situated.

The site was discovered in 1964. The first excavation was carried by V. Ložek, and was continued by J. Bárta from the year 1965 (Barta 1967). The small dimensions of all the artefacts from the site led the excavator to the conclusion that he was dealing with the assemblage connected with Taubachian (Barta 1965), known from several travertine sites in northern Slovakia (Banesz 1991).

The site documents various stages of Middle Paleolithic occupation. Most of the layers, due to a small number of artefacts comprised in them, or due to unclear character of inventory cannot be attributed to any Middle Paleolithic culture (Neruda, Kaminská 2013).

More numerous inventories come from layers VIII, IX and X. The inventory from layer VIII consists mainly of quartz artefacts, but other raw materials of better quality are also present. The overall number of

artefacts totals 930, and only a small part of them are produced of radiolarite. This raw material of better quality is represented by only one side scraper, one tool fragment, and is also present in form of small chips. Such a composition of the assemblage can easily be explained as the effect of the mentioned phenomenon of “missing artifacts”. It can be assumed that the prepared artefacts themselves were carried away from the site, and all that remained were chips and other products of debitage (Neruda, Kaminská 2013). The same applies to the inventory of layer IX (which comprises 499 artefacts), and layer X (816 artefacts). In the knapping process in all of the discussed inventories volumetric cores of discoid and sub-discoid variants were used. No traces of Levallois method were recorded. Side scrapers of simple and complex types appear, and specimens of backed knives can also be found in each of the three layers (VIII, IX, X) (in very advanced stages of reduction; Fig. 3: 4–5). The series of layers VIII–X can be dated to the end of the Eemian and to the older phase of Weichselian (MIS 5e/d–5c; Neruda, Kaminská 2013). All this suggests the interpretation of finds as an example of Micoquian *sensu lato* (Neruda 2012; Neruda, Kaminská 2013).

A controversial assemblage from the Dzeravá Skala Cave should also be discussed. Layer 11 represents the oldest Palaeolithic on this site. Firstly, it was recognized as Szeletian, and the interpretation was held until the AMS and OSL dates were obtained for the lower part of the layer. The middle part of the layer (above the discussed material) was AMS dated older than 44 600 years and OSL dated to 57 000±4900 BP (Kaminská *et al.* 2005). In the lower part of the layer, AMS-dated to 47 000±2300BP (which is, after calibration, nearly 51 600 BP) a small assemblage of stone artefacts was discovered. One proximal part of a broad blade (an

artefact known from František Prošek's excavation) and combined tool of red-brown radiolarite (Fig. 3: 6) were found (Kaminská *et al.* 2005). In the middle part of the layer the research also revealed a bilaterally re-touched leaf-point of red-brown radiolarite, which due to prolonged use was reduced to the form of flat-shaped knife-scraper (Fig. 3: 7). The archaeological interpretation of finds seems very controversial due to the small number of finds.

Artefacts from the middle part of the abovementioned layer are more numerous, and, consequently, their interpretation is better justified. They are: fragments of flake and a flake of red radiolarite, bifacial leaf point of red radiolarite, fragment of a bifacial point (made of grey radiolarite), and basal part of green radiolarite point. The assemblage, first attributed to the Szeletian, was later on described (in 1993, by V. Gabori-Csank) as belonging to the Jankovichian. Another possible interpretation, according to the authors (Kaminská *et al.* 2005) is one concerning a Micoquian attribution of finds.

4. Micoquian in the sub-Carpathian Ukraine

In Ukraine, the Micoquian is best researched not in the western parts of country, in the Carpathian region, but in the Crimean Peninsula, where Kabazi V, Zaskalnaya VI, II, Prolom I, II and other sites are known (Chabai 2008).

In the sub-Carpathian zone the taxonomic position of Ukrainian Micoquian is – so far – uncertain. The stratigraphic context in which artefacts were found is clear only at a few sites: Yezupil I and Kolodijiw in Dniester river region, Korolevo in Transcarpathian Ukraine (Koulakovskaya 2002). The stratigraphy of Crimean sites is well recognized too, but due to late chronology (Chabai 2008) it can hardly serve as a

comparative material for assemblages from the western part of the country. Ukrainian researchers underline the possibility of the existence of two different traditions in connection with which Ukrainian Middle Paleolithic could have developed – the Caucasian and the central European. The first one was supposed to influence sites in Crimea and in eastern Ukraine, the other affected more the group of sites located in sub-Carpathian areas of Western Ukraine (Zaliznyak 2003).

In the Carpathian zone of Ukraine, Micoquian assemblages are known from the Dniester basin, in the northern foreland of the mountains, and from Transcarpathian Ukraine (Koulakovskaya 2002). More sites (e.g. Zhytomyr, Rykhta) identified as Micoquian are known from Western Ukraine, although not from Carpathians or subcarpathian region; they are usually described as a different facies of Micoquian, or as a different technocomplex (Stepanchuk 2006), interpreted as protomicoquian (Sytnyk 2000).

Another type of Micoquian-related industry is Stinka culture. Eponimic site, Stinka I, as well as the site of Pylypche XI, were described as the assemblages of stinka-pylypche type. The most characteristic traits of this culture are the absence of levallois method and the presence of bifacial forms, along with the occurrence of microlithic denticulate tools (Anisyutkin 1977). The taxonomic position of this complex is unclear, although it is usually suggested to be a transitional industry originating from Eastern Micoquian in the area of western Ukraine and Moldova (Sytnyk 2000).

In the group of Micoquian sites from the northern part of the Carpathians one should mention Yezupil I and Kolodijiw. Both sites contain inventories (layer II from Yezupil and the level above Horohiv soil in Kolodijiw) which are connected with classic central European Micoquian (*Keilmessergruppen*;

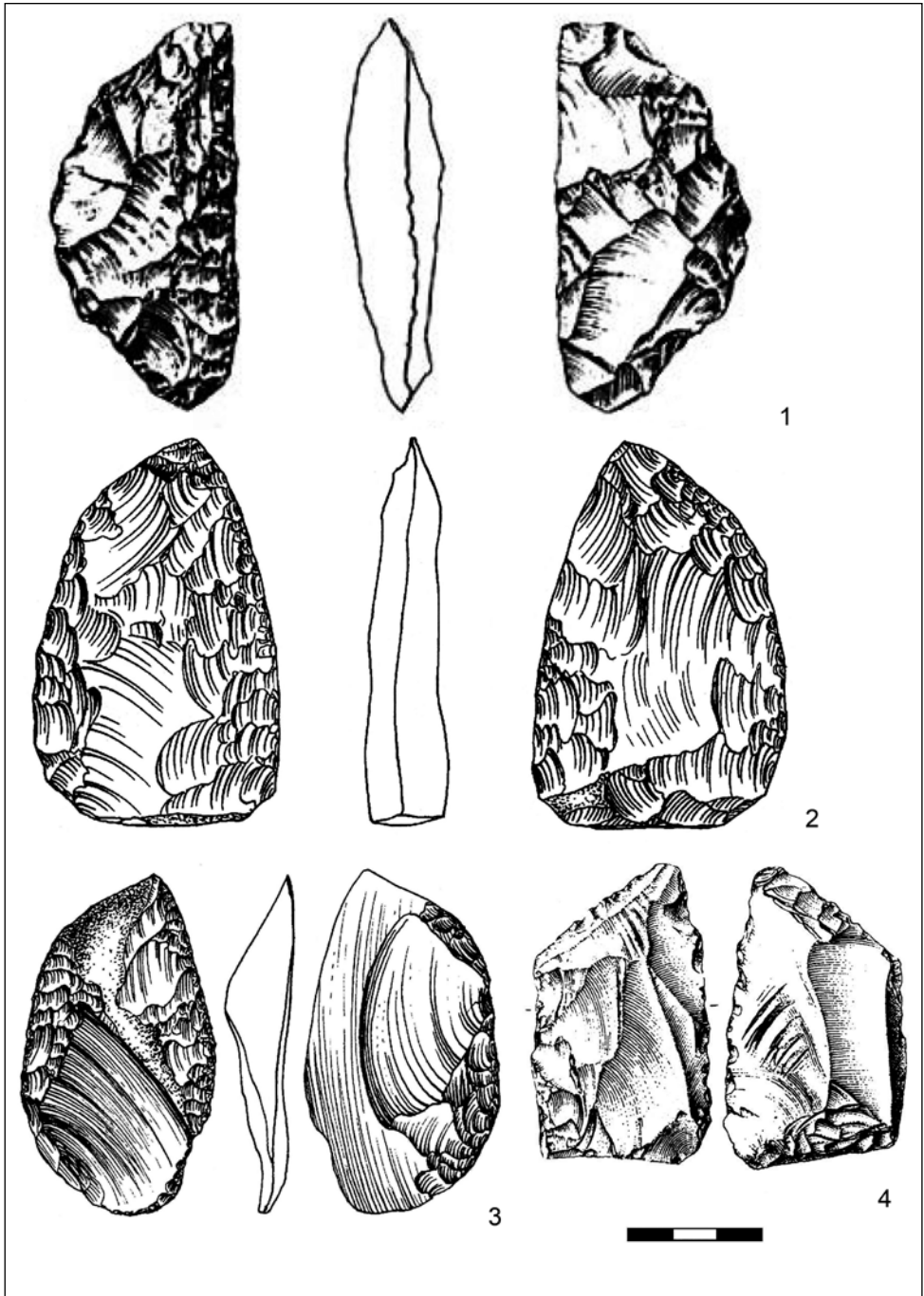


Fig. 4. Keilmesser knives from sites in Ukraine: 1 – Korolevo (Koulakovskaya 2001, fig. 2); 2 – Yezoupil (Sytnyk 2000, fig. 135); 3 – Kolodijiv (Sytnyk 2000, fig. 138) and Slovakia; 4 – Plaveč (Kaminská 2010, fig. 1)

Sytnyk 2000). The sites are located on high promontories in the Dniester valley, close to canyons of small Dniester tributaries (Syvka river in Kolodijiw and Bystrycja river in Yezupil; Sytnyk 2000).

Both sites have a clear stratigraphic situation, positioning their Micoquian finds in OIS 4, probably OIS 5-a (Sytnyk 2007).

The site of Kolodijiw produced a small Micoquian assemblage, made of a good quality flint (Volhynian, of the so-called Turonian type) from local, cretaceous beds. Artefacts indicating the presence of the Micoquian tradition are two bifacial knives (one of them made on flake; Fig. 4:3) and a by-product: flake with natural platform. Those specimens find their closest analogies in the territory of Moldova, at the site of Ripiceni-Izvor (Sytnyk *et al.* 2007; Sytnyk 2000).

The Micoquian inventory in Yezupil I was found in the uppermost part of Chernozem layer of steppe phase and interstadial type. This level, together with the loess that covers it, was deformed by solifluction; Chernozem levels were TL-dated to 106–78 ka BP, which corresponds with the early Vistulian (Łanczont *et al.* 2009). The whole inventory consists of 107 artefacts, mostly made of cretaceous, Turonian flint, although sandstone artefacts were also found. The most numerous group of inventory are flakes (51 specimens) and chips and chunks (34). 6 blades were also found. Pre-cores (2), cores (1), and negative forms (3) indicate the dominance of discoidal technique of core reduction (Sytnyk 2000). Two of the seven tools found are bifacial knives. One of them is classified as a Central European Micoquian type knife and, according to O. Sytnyk (2000) finds analogies in knives from the Sukhaja Mechetka assemblage, Wylotne and Königsau knives. The specimen was probably prepared on flake (Fig. 4: 2). Other bifacial knife is a fragment of Micoquian knife. To remaining tools belong i.a. one

triangular bifacial form. Besides, some of the artefacts have negatives on their ventral side (Sytnyk 2000).

Apart from the Dniester river valley group, the site of Korolevo, located on the inner side of Carpathian chain, in the Tisza river valley, should be mentioned. The site has yielded one of the richest Stone Age collections in Ukraine, displaying the presence of Middle and Upper Palaeolithic cultures in this area. Inventory of layer II-a shows traits characteristic of Central European Micoquian – *Keilmessergruppen* (Koulakovskaya 2001). The tool-inventory consists largely of flake-prepared artefacts, among them side-scrapers (60% of the inventory), denticulate pieces, knives of the Prądnik type and leaf-shaped points (Koulakovskaya 2001; Fig. 4: 1–2). No traces of *Levallois* method (predominant in the older assemblages from that site) were found; an important trait of this inventory is the use of andesite in the production of stone tools (Koulakovskaya 2002).

5. Discussion

Middle Paleolithic settlement in the Carpathians appears to be valuable for understanding the phenomenon of the Central European Micoquian. Adaptation to an environment different from that in the lowlands, the similar localization of sites (all of them situated on elevations above river valleys), the exploitation of raw material – all these aspects determine the picture of land use in that period.

Although sites in Carpathians are not numerous, it should be underlined that in the territories close to the mountainous area the *Keilmessergruppen* is better recognized. In Poland, a large group of sites in the Kraków-Częstochowa Upland is situated no further than 30 km from the Carpathian foreland. However, while dates for the Micoquian from Polish sites can be compared with those

of other European settlements (Urbanowski 2003), then the Crimean Micoquian is isolated from Central Europe not only in terms of geography, but also chronology. AMS dates for Crimean sites are extremely late and oscillate between 34–28 000 years B.P.; they are additionally confirmed by stratigraphical data from Buran Kaya III site, where the Szeletian layer is placed on top of the Micoquian one (Chabai 2008).

Slovakian Micoquian is best represented in the area of the Carpathians – which is due to the fact that, as it was mentioned before, the territory of this country is covered mostly with mountains. Sites in Slovakia are known also from Myjava Upland, the region bordering the White Carpathians (Kaminská 2010).

The described Carpathian material can be divided into groups, each of which has links with a region situated close to the mountains. For example, raw material from the Pieniny Klippen Belt can be found in the Kraków-Częstochowa Upland (proved by the radiolarite hand-axe discovered in the Ciemna Cave; Sobczyk, Valde-Nowak 2012), and the group of Carpathian sites in Slovakia reveals traces that suggest potential contact with Moravia (Kůlna Cave – Valoch 1988). One should also mention here the region of Podolia, with sites of Yezoupil and Kolodijiw (Sytnyk 2000), although the connection in this case is controversial: the only strictly Carpathian site from Ukraine is Korolevo, and it is situated on the south-western part of the Carpathian Range, while both abovementioned sites are known from the north-eastern Carpathian foreland. Additionally, assemblage from one of the sites, namely Kolodijiw (Sytnyk 2000; Sytnyk *et al.* 2007) is a very small one, containing no more but 3 artefacts.

Another interesting trait of all Micoquian assemblages from Central Europe is their stratigraphic position, and their relation

with Mousterian (or Taubachian) layers. Mousterian assemblages from sites distinguished by complex stratigraphy, such as the Ciemna Cave (Sobczyk, Valde-Nowak 2012), Kůlna Cave (Valoch 1988), Biśnik Cave (Cyrek 2010) and Sesselfelsgrötte (Rots 2009), which all date after Eemian Interglacial, are older than Micoquian finds; the same usually applies to finds connected with Taubachian. Also the sequence: Mousterian-Taubachian-Micoquian is repeated (in some cases partially) several times: in Kůlna Cave (Valoch 1988), Ciemna Cave (Sobczyk, Valde-Nowak 2012), Obłazowa Cave (Valde-Nowak, Cieśła 2013). In the latter case, however, Mousterian layers also appear above the Micoquian one (Valde-Nowak *et al.* 2003; Valde-Nowak, Cieśła 2013). The above pattern is disturbed for older finds, that is to say, those settled in the Warta Glaciation and Eemian Interglacial. The oldest Micoquian in Biśnik Cave, for instance, appears in the same assemblage together with the Mousterian (Cyrek 2010); the upper layers follow the pattern discussed above (Cyrek (ed.) 2002; Cyrek 2010).

In light of recent research another question arises – that of the relation between culturally different assemblages. Examples of well-stratified sites show that the difference between Micoquian and Taubachian in some cases might not be evident (the site of Bojnice, where the assemblage connected currently with the Micoquian was, due to the small size of specimens, originally linked with the Taubachian (Neruda 2012; Neruda, Kaminská 2013)).

The raw materials use in tool production should be underlined as well. In most of the sites, the Slovakian and on one Polish site, local (Polish or Slovakian) radiolarite predominates (Barta 1961; Valde-Nowak, Cieśła 2013). In Bojnice III local quartz from Nitra river fluvial deposits prevails (Neruda 2012; Neruda, Kaminská 2013),

and likewise on Ukrainian sites, where local, Turonian flint was used (Sytnyk 2000). In that context also the Ciemna Cave radiolarite hand-axe should once again be mentioned (Sobczyk, Valde-Nowak 2012). Also the question of the influence of raw material quality and accessibility on the typology and, not less importantly, the size of artefacts is a problem yet to be better researched.

6. Conclusion

Carpathian Micoquian finds, although not very numerous, form an interesting group.

Most assemblages – with bifacial, asymmetric knives – bear traits characteristic of the Micoquian-Prądnikian. Most of the sites have a clear stratigraphic sequence, yet some – like Plaveč, with its artefact from surface collection (Kaminská 2010), or Zamarovce, where the excavation was led in the first half of 20th century (Barta 1961), do not present great value. Still, the number of sites, the presence of finds in mountainous areas, the use of local raw materials, all prove the flexibility and ability of Middle Palaeolithic people to adapt to different types of environment.

Mikokien w Karpatach Północnych. Przykłady z terenów Polski, Słowacji i Ukrainy

Problematyka rozpoznania i zasięgu kultury mikockiej w Europie Środkowej od wielu lat stanowi istotny problem badawczy. Szczególnie ciekawą dyskusję związaną z tym zagadnieniem prześledzić można w kontekście *Keilmessergruppen*, który to termin stworzony początkowo dla stanowisk południowoniemieckich objął później również stanowiska i inwentarze z innych terenów centrum Europy. Środkowoeuropejski zasięg tej jednostki obejmuje między innymi obszar Karpat, przede wszystkim ich północną część.

Ilość stanowisk usytuowanych w obrębie samych Karpat nie jest wielka, z terenów polskich i ukraińskich gór znane są dotychczas tylko dwa stanowiska – Jaskinia w Obłazowej na Podhalu i Korolewo na Ukrainie Zakarpackiej. Większa ilość inwentarzy wiązanych z omawianą jednostką znana jest z terenów Słowacji i, co należy podkreślić, zwiększa się systematycznie.

Polskie stanowiska związane z mikokieniem znane są przede wszystkim z rejonu Wyżyny Krakowsko-Częstochowskiej oraz Górnego Śląska. Stanowisko w Jaskini w Obłazowej na Podhalu pozostaje dotychczas jedynym znanym w polskich Karpatach.

Większa ilość stanowisk znana jest z terenów górskich Słowacji. Są to przede wszystkim Zamarovce i stanowisko powierzchniowe w Plavču, ale również znane ze starszych badań, po ponownej analizie przypisane mikokienowi materiały z Bojníc III.

Wymienić należy również stanowisko Korolewo na Ukrainie Zakarpackiej, gdzie odkryta sekwencja kultur zawiera między innymi zespół uznawany za mikocki. Omówione zostały również znaleziska ze stanowisk Ukrainy strefy subkarpackiej – Jezupol i Kolodijiw, ze względu na analogie do mikokien Europy Środkowej.

Problematyka kultury mikockiej w Europie, a szczególnie zagadnienie jej zasięgu na terenach o zróżnicowanej topografii wymaga dalszych badań, szczególnie w kontekście eksploatacji surowców kamiennych znanych ze stanowisk, a także ze względu na zagadnienie występowania na tych samych stanowiskach materiałów wiązanych z innymi jednostkami środkowo paleolitycznymi.

References

- Anisyutkin M.**, 1977 *Раннемустьерское местонахождение Осыпка и некоторые вопросы зубчатого мустье в междуречье Днестра и Прута*, (in:) Проблемы палеолита Центральной и Восточной Европы, Leningrad: Наука, pp. 7–14.
- Banesz L.**, 1991 *Die Entwicklung der Travertine in der Nordkarpaten im Lichte archäologischer Funde*, Quartär, 41/42, pp. 45–63.
- Barta J.**, 1961 *K problematike paleolitu Bielych Karpat*, Slovenská archeológia, 9, pp. 9–28.
1965 *Bojnice vo svetle paleolitického osídlenia*, (in:) B. Kostický (ed.), Vlastivedný Sborník Horná Nitra, vol. 2, Nitra: Stredoslovenské Vydavateľstvo, pp. 9–18.
1967 *Stratigraphische Übersicht der paläolithischen Funde in der Westslowakei*, Quartär, 18, pp. 57–80.
1984 *Objav stredopaleolitických nálezísk na Myjavskej pahorkatine*, (in:) Zborník prác Ľudmile Kraskovskej (k životnému jubileu), Bratislava, pp. 10–18.
- Bosinski G.**, 1967 *Die mittelpaläolithischen Funde im westlichen Mitteleuropa*, Fundamenta-Monographien zur Urgeschichte, Reihe A, Band 4, Köln-Graz: Böhlau.
- Chabai V.**, 2008 Kabazi V: interstratification of Micoquian & Levallois-Mousterian camp sites, (in:) V. Chabai, J. Richter, T. Uthmeier (eds.), Palaeolithic Sites of Crimea, 3. Part 2, Simferopol–Cologne, pp. 509–524.
- Chmielewski W.**, 1969 *Ensembles micoquo-Prądnikiens en Europe centrale*, Geographia Polonica, 17, pp. 371–386.
- Cyrek K. (ed.)**, 2002 *Jaskinia Biśnik*, Toruń: Nicolaus Copernicus University.
2010 *The Biśnik Cave in southern Poland: Reconstruction of the Palaeolithic cave habitation in relation to the environmental changes*, Studia Archeologiczne, 41, pp. 69–94.
- Demetrykiewicz W.**, 1914 *Obraz epoki paleolitycznej na obszarze ziem dawnej Polski*, Sprawozdania PAU, Cracow, pp. 1–3.
- Fajer M., Foltyn E.M., Foltyn E., Kozłowski J.K.**, 2001 *Contribution a l'évolution du Micoquien en Europe centrale: nouvelles découvertes du Micoquien en Haute Silésie (Pologne)*, (in:) D. Cliquet (ed.), Les industries à outils bifaciaux du Paléolithique moyen d'Europe occidentale. Actes de la table-ronde internationale organisée à Caen (Basse-Normandie – France) – 14 et 15 octobre 1999. Liège, Études et Recherches Archéologiques de l'Université de Liège 98, Liège, pp. 195–207.
- Kaminská L.**, 2010 *Príspevok k poznaniu micoquienu na Slovensku*, (in:) I. Fridrichová-Sykorová (ed.), Ecce Homo in Memoriam Jan Fridrich, Prague: Krigl, pp. 90–94.
- Kaminska L., Kozłowski J.K., Svoboda J.**, 2005 *Pleistocene Environments and Archaeology of the Dzeravá Skala Cave, Lesser Carpathians, Slovakia*, Kraków: Polska Akademia Umiejętności.

- Koulakovskaya L.**, 2001 *Le complexe bifacial à Korolevo (Couche II-A)*, (in:) D. Cliquet (ed.), Les industries à outils bifaciaux du Paléolithique moyen d'Europe occidentale. Actes de la table-ronde internationale organisée à Caen (Basse-Normandie – France) – 14 et 15 octobre 1999. Liège, Études et Recherches Archéologiques de l'Université de Liège 98, Liège, pp. 209–211.
- 2002 *Середньопалеолітичні варіації на заході України* (in:), *Варіабельність середнього палеоліту України*, Матеріали Круглого столу 11–12 листопада 2002, Київ: Шлях, pp. 10–31.
- Kozłowski L.**, 1924 *Młodsza epoka kamienna w Polsce*, Lwów: Towarzystwo Naukowe.
- Kozłowski S.K. (ed.)**, 2006 *Wylotne and Zwierzyniec, Paleolithic sites in Southern Poland*, Kraków: The Polish Academy of Arts and Sciences.
- Krukowski S.**, 1939–1948 *Paleolit Polski*, (in:) Prehistoria ziem polskich, Encyklopedia Polska PAU 14, Kraków: Polska Akademia Umiejętności, pp. 14–21.
- Lanczont M., Fedorowicz S., Kusiak J., Boguckij A., Sytnyk O.**, 2009 *TL age of loess deposits in the Yezupil I Palaeolithic site on the upper Dniester River (Ukraine)*, *Geologija* 2009, vol. 51. No. 3–4 (67–68), pp. 86–96.
- Neruda P.**, 2012 *Impact of raw materials on the interpretation of Middle Palaeolithic assemblages*, *Anthropologie*, 50/3 (2013), pp. 345–360.
- Neruda P., Kaminská L.**, 2013 *Neanderthals at Bojnice in the Context of Central Europe*, *Studies in Anthropology, Palaeoethnology, Palaeontology and Quaternary Geology*, 36, N.S. 28, Brno-Nitra: Moravské Zemské Muzeum, Archeologický Ústav SAV & Anthropolos.
- Nowaczewska W., Dąbrowski P., Stringer C.B., Compton T., Kruszyński R., Nadachowski A., Socha P., Binkowski M., Urbanowski M.**, 2013 *The tooth of a Neanderthal child from Stajnia Cave, Poland*, *Journal of Human Evolution*, 64, pp. 225–231.
- Otte M.**, 2001 *Le Micoquien et ses dérivés*, (in:) D. Cliquet (ed.) Les industries à outils bifaciaux du Paléolithique moyen d'Europe occidentale. Actes de la table-ronde internationale organisée à Caen (Basse-Normandie – France) – 14 et 15 octobre 1999. Liège, Études et Recherches Archéologiques de l'Université de Liège 98, 2001, Liège, pp. 173–177.
- Prošek F.**, 1953 *Szeletien na Slovensku*, *Slovenská Archeologia*, 1, pp. 133–164.
- Richter J.**, 2002 *Die 14C-Daten aus der Sesselfelsgrötte und die Zeitstellung des Micoquien/M.M.O.*, *Germania*, 80, pp. 1–22.
- Rots V.**, 2009 *The functional analysis of the Mousterian and Micoquian assemblages of Sesselfelsgrötte, Germany: Aspects of tool use and hafting in the European Late Middle Palaeolithic*, *Quartär*, 56, pp. 37–66.

- Sobczyk K., Valde-Nowak P.**, 2012 *Badania Jaskini Ciemnej w latach 2007-2012*, Prądnik, Prace i Materiały Muzeum im. Prof. W. Szafera, 22, pp. 45–54.
- Stepanchuk V.**, 2006 *Нижній і Середній Палеоліт України: хронологічні рамки, антропологічний тип носіїв культури, основні місцезнаходження решток викопних людей*, Матеріали і дослідження з археології Прикарпаття і Волині, 10, pp. 17–49.
- Sytnyk O.**, 2000 *Середній палеоліт Поділля*, Lviv: Інститут українознавства ім. І. Крип'якевича НАН України, 2007 *Мікоксський культурний горизонт Єзуполя і деякі проблеми техніко-типологічного аналізу індустрій придністров'я*, Кам'яна доба України 10, pp. 40–61.
- Sytnyk O., Bogucki A., Lanczont M.**, 2007 *Mousterian artifacts from the unique Vistulian loess-palaeosol sequence at Kolodiv (East Carpathian Foreland, Ukraine)*, Geological Quarterly, 51, pp. 189–192.
- Tomaszewski A.J.**, 2004 *Aperçus des matériaux de paléolithique moyen du site Piekary III*, (in:) E. Sachse-Kozłowska, S.K. Kozłowski (eds.), Pologne. Complexe des sites paléolithiques, Cracow: Polish Academy of Arts and Sciences, pp. 111–142.
- Urbanowski M.**, 2003 *Micoquian knives as an element of Micoquian techno-stylistic specifics*, Warsaw. PhD dissertation, Institute of Archaeology, Warsaw University.
- Valde-Nowak P., Nadachowski A., Madeyska T.**, 2003 *Oblazowa Cave, Human Activity, Stratigraphy and Paleoenvironment*, Cracow: Institute of Archaeology and Ethnology, Polish Academy of Sciences.
- Valde-Nowak P., Cieśla M.**, 2013 *Oblazowa Cave – Nowa Biala, distr. Nowy Targ, site 2*, (in:) P. Wojtal (ed.), International Conference: “World of Gravettian Hunters”. Kraków, Poland, June 25th-28th. 2013, Book of Abstracts and Guidebook, Cracow: Institute of Systematics and Evolution of Animals. Polish Academy of Sciences, 2013, pp. 144–148.
- Valoch K.**, 1988 *Le Taubachien et le Micoquien de Grotte Kůlna en Moravie*, (in :) L. Binford, J.-P. Rigaud (ed.), L'homme de Neanderthal, 4, Études et Recherches Archéologiques de l'Université de Liège 88, Liège, pp. 205–217.
- Zaliznyak L.**, 2003 *Кам'яна Доба України: проблеми та перспективи*, Кам'яна доба України 4, pp. 11–17.