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THE LATE MIDDLE PALAEOLITHIC COMPLEX OF MALYJ RAKOVETS IV
 IN TRANSCARPATHIA
 (PRELIMINARY RESULTS)

by Valerij Sitlivyj and Sergej Ryzov

The palaeolithic site Malyj Rakovets IV is located on the volcanic Vihorlat-Gutinian Ridge, southeast of the village Malyj Rakovets between the towns Khust and Irsava in Transcarpathia, West Ukraine (fig. 1). At an altitude of over 200m above the level of the present Tisa river Malayj Rakovets IV is the highest of the Lower and Middle Palaeolithic sites in this region (fig. 2). The first stone artefacts were collected between the villages Malyj Rakovets and Rokossovo (another area with numerous sites) by V. Petrun and then by V. Gladilin at the end of 1960's. In 1978, in course of a survey along the trench for the gas pipeline »Sojuz« Y. Kucharcuk and V. Sitlivyj discovered a number of stone implements of Lower and Middle Palaeolithic

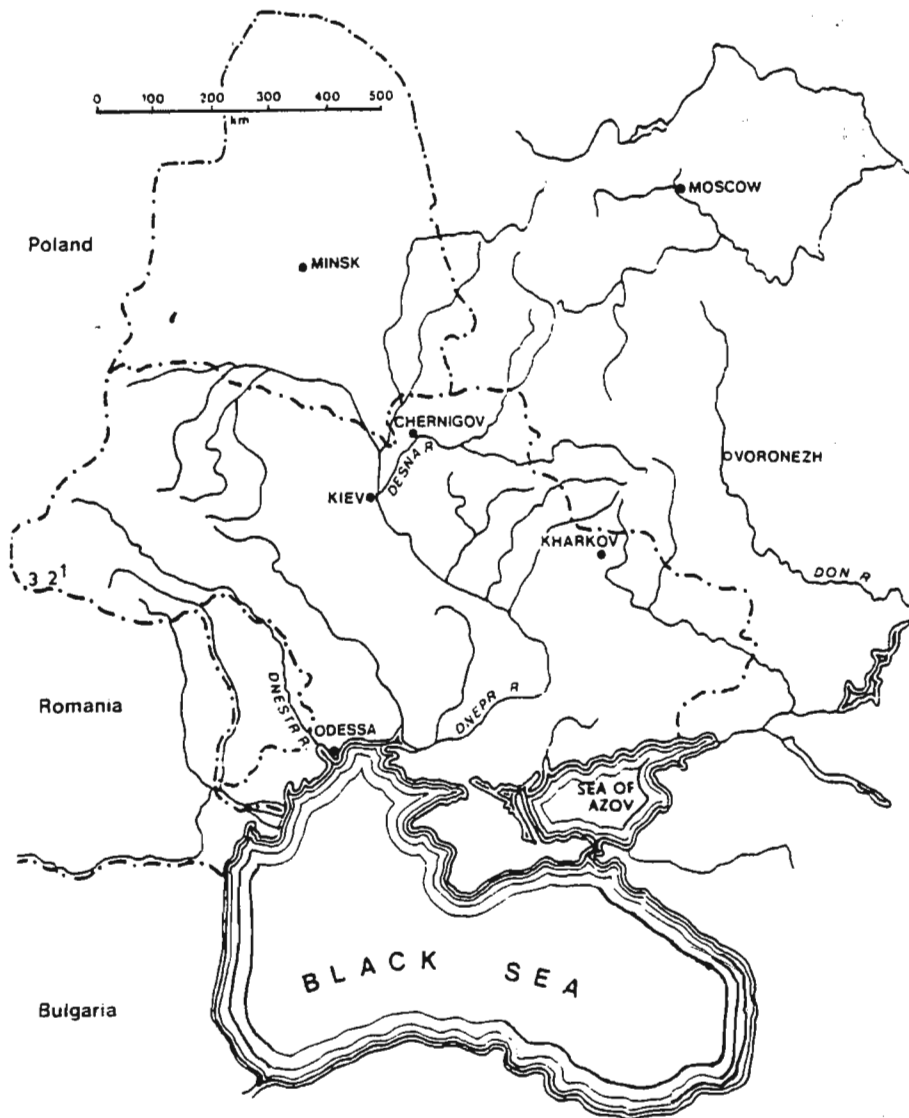


Fig. 1 Location map for the principal Transcarpathian Lower and Middle Palaeolithic sites. — 1 Malyj Rakovets. — 2 Rokossovo. — 3 Korolevo.



Fig. 2 Location of 1 Malyj Rakovets, 2 Rokossovo, 3 Korolevo.

types at the site MR IV and, following the planned direction of the pipeline towards the town of Vinogradovo, in a few additional places: MR V, VI, VII (V.I. Sitlivyj, 1989 a). Since then numerous stone artefacts were collected on the eroded surface here and around Rokossovo and Malyj Rakovets. In 1982 a test pit was dug at the MR IV site. The result of this investigation was the discovery of cultural horizons, yielding Lower and Middle Palaeolithic artefacts. Major excavations were undertaken in 1990-91 by an expedition of the Archaeological Museum of the Zoological Institute of the Academy of Sciences of the Ukraine under the direction of V. Sitlivyj in co-operation with the amateurs V. P. Kerecanin and V. A. Volf and students from University of Kiev, Irsava and Rovenki.

Stratigraphy

The following profile appears at the western corner of square B-I of trench I (fig. 3):

1. Recent forest soil; thickness – 0,15 m.
2. Loess-like loam, whitish; thickness – up to 0,5 m.
3. Light-brown loam, porous, with slight admixture of manganese-iron concretions (fossil soil I of MR IV); thickness – up to 0,6 m.
4. Brown loam with faint ochre-red hue (badly preserved higher layer of fossil soil II of MR IV); thickness – 0,5 m.
5. The same brown loam with vertical fissures and manganese-iron concretions (the lower horizon of palaeosol II of MR IV); thickness – up to 0,35 m.
6. The same loam, but more reddish with fragments of dacite (reworked by fluvial activity from layer 7) containing several polygenetic fossil soils (Saale + Holstein + Elster?); thickness – up to 0,8 m. The boundary to the next layer is not clear.
7. The weathered crust of the dacite. At the site Malyj Rakovets V the crust is overlaid by pebbles (alluvium); in MR IV the alluvium is absent.

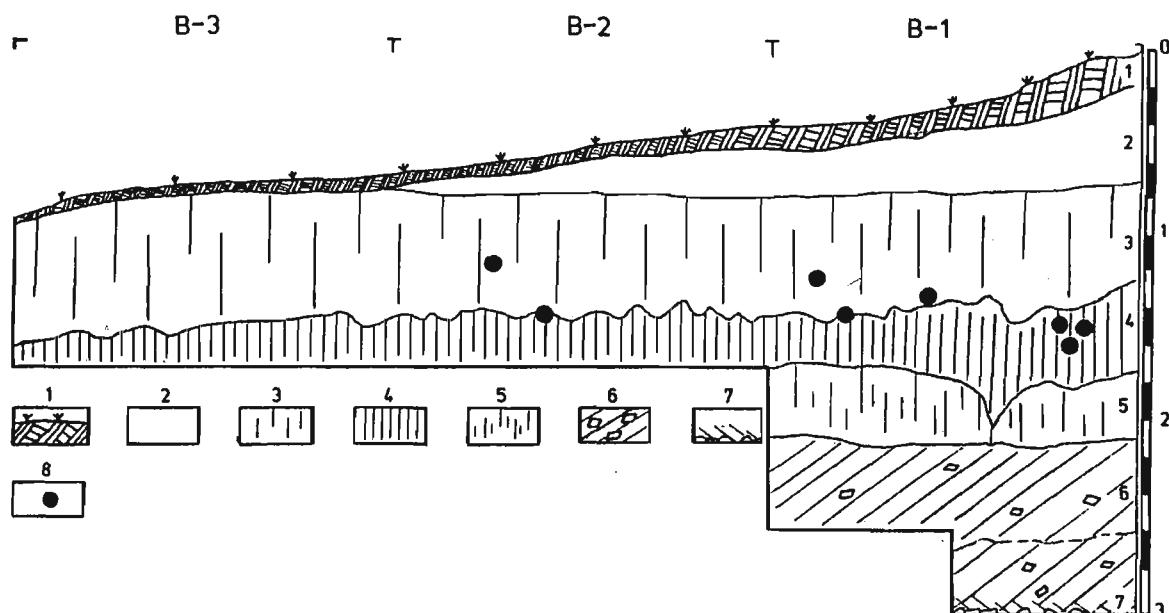


Fig. 3 Malyj Rakovets IV. Trench I (1990). Stratigraphic section. – 1 Recent soil. – 2 Loam. – 3 Fossil soil. – 4 Polygenetic fossil soils. – 5 Weathered crust. – 6 Fragments of Dacite. – 7 Stone artefacts of complex II.

The Palaeosol I of MR IV was provisionally correlated with fossil soil III of the regional section of the Transcarpathian Quaternary, defined as Brörup without Bt-horizon/disturbed soil (V. I. Sitlivyj, 1989a). Palaeosol II of MR IV was correlated with soil IV of this region (Eem or Riss-Würm + Amersfoort). The last two soils of these sites are very similar and typical for this region. There is no doubt that palaeosol II of MR IV is Eem. Concerning the correlation of Palaeosol I the provisional correlation had to be changed in 1991. The typical Brörup, as its known from many sections in Transcarpathia (with ochre-red hue and iron concretion), appeared in one part of the area (D-4 – E-4) between palaeosol I and II of MR IV. The plotting of numerous refitted artefacts from palaeosol I, and good preservation of objects, does not confirm the original supposition of erosion of fossil soil I of MR IV. Probably this soil is a separate unit and younger than Brörup.

Planigraphy

The trench I (squares of 2×2m) is oriented parallel to the gas pipeline. The area excavated in 1990-1991 covered 132m². In the plan we can see the considerable concentrations of artefacts in the center of excavated area, especially in direction to the N-W and some spots of numerous chips, flakes, blades, cores and tools (fig. 4). Here were discovered many broken (during primary flaking) artefacts of obsidian. The refitting of them is possible. The most refitted stones come from a restrict area. For example, three fragments of blade were found in square B-O at a depth of 1,07-1,10m (fig. 5, 1).

Raw material

Local black obsidian is the most common raw material (95%), the rest consists of quartzite, flint, slate, sandstone, quartz and andesite. Non-volcanic material is represented by pebbles; obsidian and andesite by medium size rounded nodules of oval form. The raw material is not found naturally on the site and was transported by numerous streams in the vicinity of the settlement. It is important that the implements

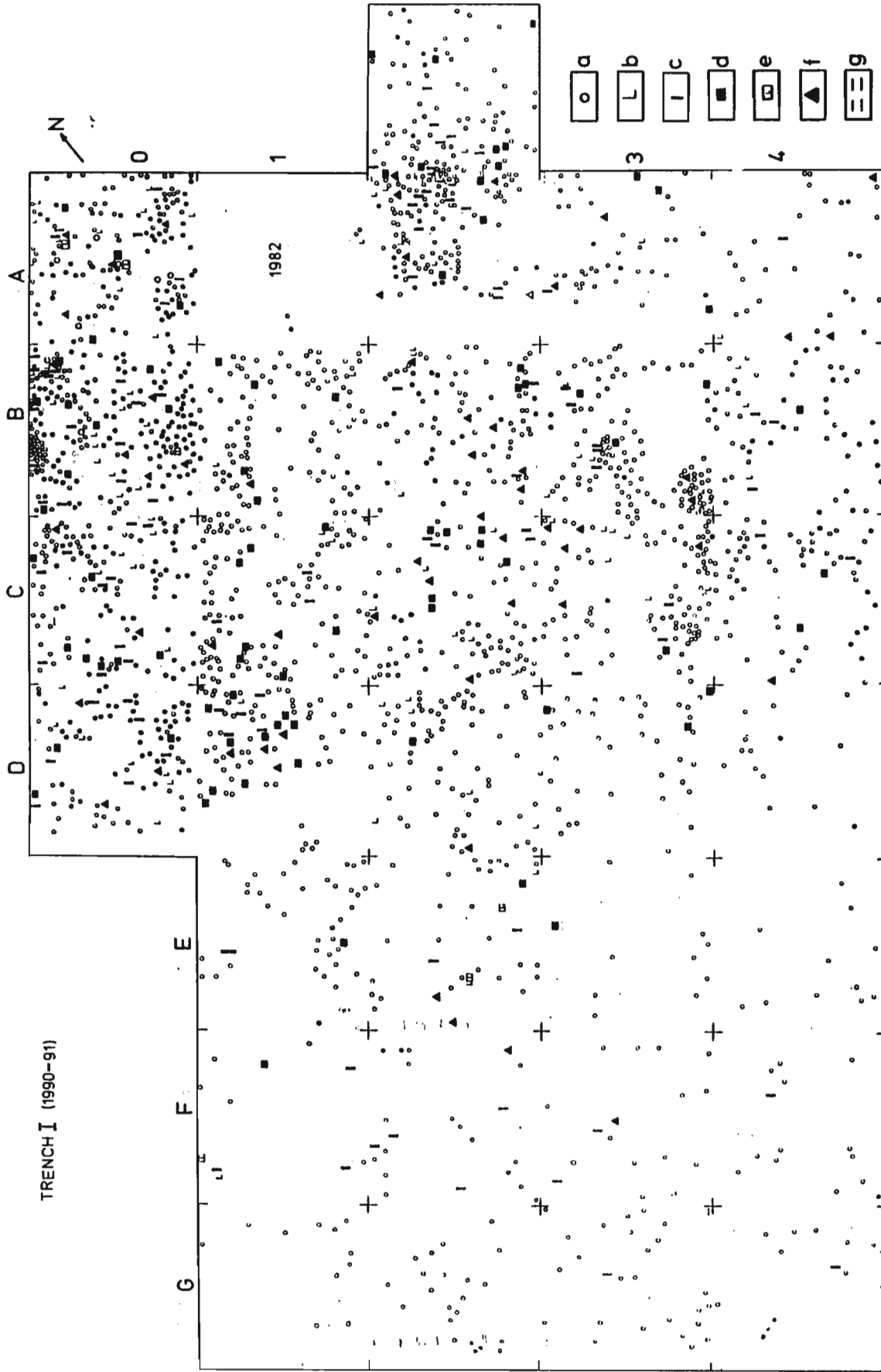


Fig. 4 Malyj Rakovets IV. Trench I (1990-1991). Complex II. Trench II (1990-1991). Plan of stone remains: a) Flakes, b) Levallois flakes, c) Blades, d) Cores, e) Levallois cores, f) Tools, g) Gas pipeline.

made of volcanic materials from different chronological complexes at this site and also at Korolevo have differently preserved surfaces due to various degrees of patination and cellular leaching (corrosion). The most ancient artefacts have the most destroyed surface and vice versa the youngest implements have a better state of preservation (V. N. Gladilin, V. I. Sitlivyj, 1990). Together with stratigraphy and the technological features of the finds this fact is of a great significance. It enables us to attempt a correlation of unstratified industries and individual artefacts in this region. Andesite in Malyj Rakovets is, according to its structure and colour, of two types: the first is local, the second is typical for the Korolevo site and comes from another volcano on the left bank of the Tisa. From the Korolevo-type andesite was made a big bifacial knife of Upper Acheulian type (fig. 5,2). This is clear evidence of transport of raw materials or tools in the Lower and Middle Palaeolithic between settlements in Korolevo and Malyj Rakovets.

Archaeological data

On the basis of stratigraphy, morphology and state of preservation of volcanic material several complexes have been determined.

Complex 0

Rare obsidian artefacts without patina coming from the upper part of the loam (layer 2): small cores, bladelets, chips – Mesolithic (?).

Complex I

Several tens of artefacts coming from the base of the same loam. The Obsidian implements have light patina. Judged by stratigraphy, morphology and state of patination of artefacts made of volcanic materials, this complex is similar to Transcarpathian industries of the Denticulate Mousterian (L. V. Kulakovskaya 1989; V. I. Sitlivyj, 1989b).

Complex II

The main complex of the site – Middle Palaeolithic. Rarely, artefacts were found at a depth of 0,6-0,8m in the upper part of fossil soil I. The main material comes from 1,0-1,4 m, the base of this palaeosol. The thickness of the main cultural layer is up to 40cm. The surface of obsidian in this complex is of grey-blue colour (patina), with rare small cells of leaching. The andesite artefacts have a light-grey patina, with slightly more numerous small cells of leaching of their surface. The implements from different levels of soil I are similar, regarding the morphology as well as their state of patination. Sometimes charcoal was found, but no traces of fireplaces had been recognized.

Complex III

From the lower part of palaeosol II come not numerous but important finds of obsidian, andesite and quartzite. Among them are a big bifacial knife (fig. 5,2), Levallois flakes and cores of Upper Acheulian type (similar to the complexes V and Va of Korolevo, which are dated to the Saale).

Below, in layer 6, some obsidian and quartzite artefacts with more corroded surfaces and morphologically more primitive tool types: choppers, proto-Levallois and cubic cores and massive flakes were discovered. These are assigned to the Lower Acheulian. Such artefacts are common for the Cromerian - Elster complexes VII, VI at Korolevo (V. N. Gladilin, V. I. Sitlivyj 1990, 1991).

Malyj Rakovets IV, Complex II

Complex II comprises more than 3000 finds. In this article we analysed 2656 artefacts from the excavations 1990-1991. There are: cores (85 / 3,2%), core-shaped fragments (12 / 0,4%), flakes (1555 / 58,5%), blades (139 / 5,2%), small chips up to 2 cm (waste of primary working and retouching) (745 / 28%), hammerstones (17 / 0,6%), tools (70 / 2,6%), flakes with traces of using or irregular retouch (17 / 0,6%).

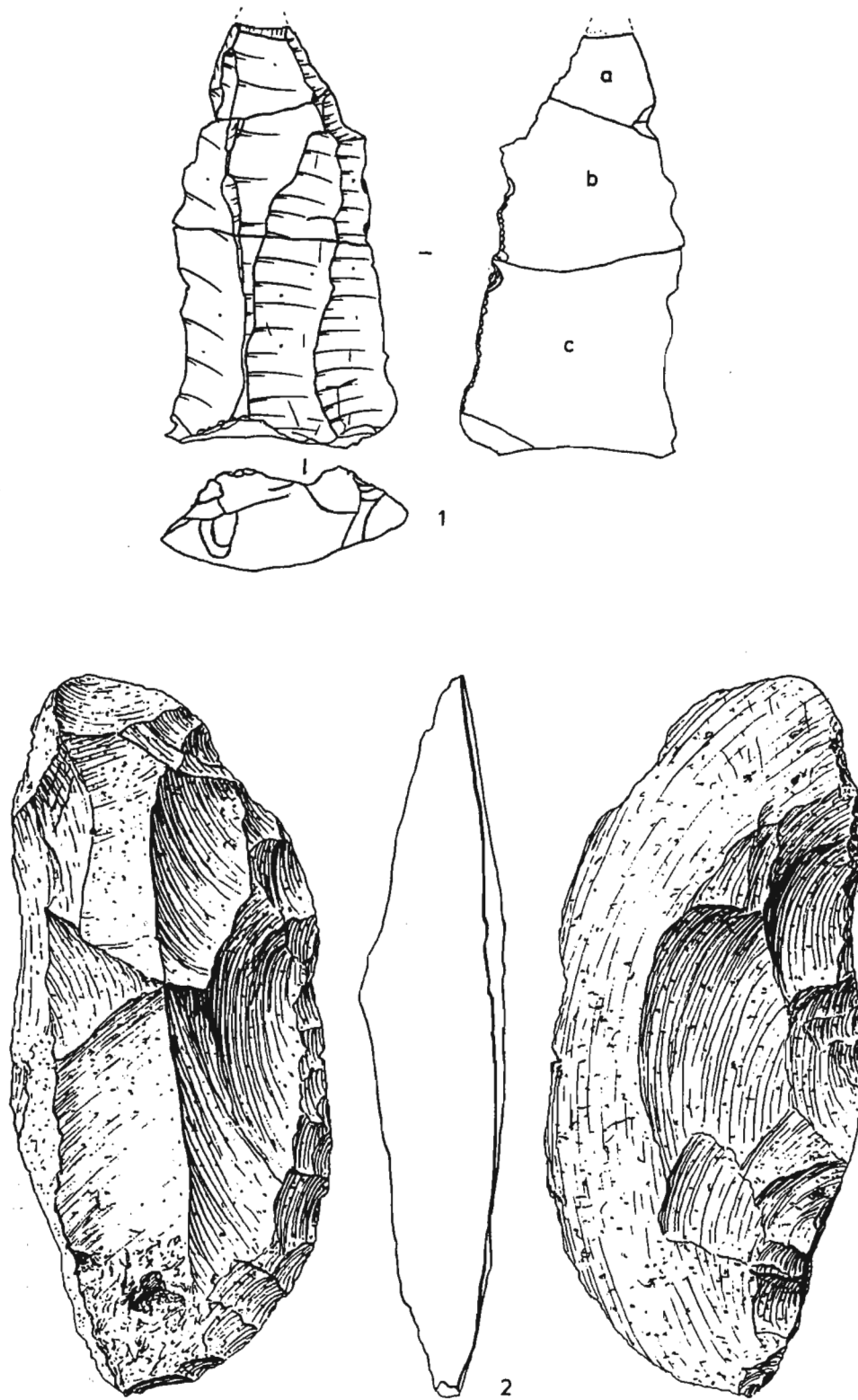


Fig. 5 Malyj Rakovets IV. Artefacts. – 1 Complex II. Blade with trace of using (Obsidian). – 2 Complex III. Bifacial knife (Andesite). – M = 2:3.

PRECORES:	8 / 9,4% *
	Unsystematic – 2 / 28,5% **
	Protoprismatic (or parallel) – 5 / 71,4%
	Indefinable – 1 ***
CORES:	70 / 82,3%
	Unsystematic – 4 / 7,4%
	Disc – 5 / 9,2%
	Parallel – 34 / 62,9%
	Unipolar longitudinal – 2 / 6,2% ****
	Unipolar transverse – 7 / 21,8%
	Bipolar longitudinal – 5 / 15,6%
	Bipolar transverse – 8 / 25%
	Orthogonal – 9 / 28,1%
	Unsystematic – 1 / 3,1%
	Indefinable – 2
	Levallois – 11 / 20,3%
	Victoria-West – 6 / 54,5%
	Radial (Tortoise) – 2 / 18,1%
	Convergent – 3 / 27,2%
	Indefinable – 16
POSTCORES:	7 / 8,2%
	Unsystematic – 1 / 20%
	Parallel – 4 / 80%
	Indefinable – 2
TOTAL:	85 / 3,2%
	Cores on flakes – 34,6%
	Cores on fragments – 65,3%

* % with regards to all precores, cores, postcores.

** % with regards to all definable precores.

*** % here and lower the % of the indefinable forms is not presented.

**** % with regards to all definable parallel cores.

Table 1 Malyj Rakovets IV. Complex II.
List of corelike artefacts.

Technology

Cores are subdivided into precores (cores in the initial phase of working), cores and postcores (processed cores of microlithic dimensions, up to 4 cm) (table 1). Among cores protoprismatic or parallel types prevail: unipolar transverse (fig. 5,5), bipolar transverse, unipolar longitudinal, bipolar longitudinal (fig. 6,4), orthogonal (fig. 6,1) and unsystematic. The assemblage includes Levallois cores for flakes (fig. 6,2; 7,7) (most of them are transversal – known as a Victoria-West type; fig. 6,2) and Levallois cores for non-elongated points. Discs (fig. 6,3) and unsystematic cores are not characteristic for this complex. In general, the cores are not large: their length is between 2,5–7,8 cm, width varies between 3–7,6 cm; average parameters are: 5,3×5,5×2,8 cm. As we can see, among cores transversal forms dominate. The explanation is probably the brittleness of obsidian for producing elongated blades and implements. The »transversal« tendency in primary flaking was typical for all Lower and Middle Palaeolithic complexes of Rokossovo and Malyj Rakovets where this type of obsidian dominated.

The flakes are divided into: primitive (unsystematic and radial) – 556, protoprismatic (fig. 7,3–4. 6–7.9) (parallel, orthogonal, bipolar) – 405, Levallois (fig. 8,3–6; 9. 2. 3. 4) (»tortoise« and convergent) – 127, undefinable – 467. Among blades are classed: primitive – 21, protoprismatic (fig. 5,1; 7. 1. 2. 5) – 118. In this complex crested flakes and blades appear for this first time.

Most Levallois flakes, points and blades were crudely faceted. Preparation of the striking platforms had a special character: convex and convex-concave platforms spread from the terminal part of a flake to its

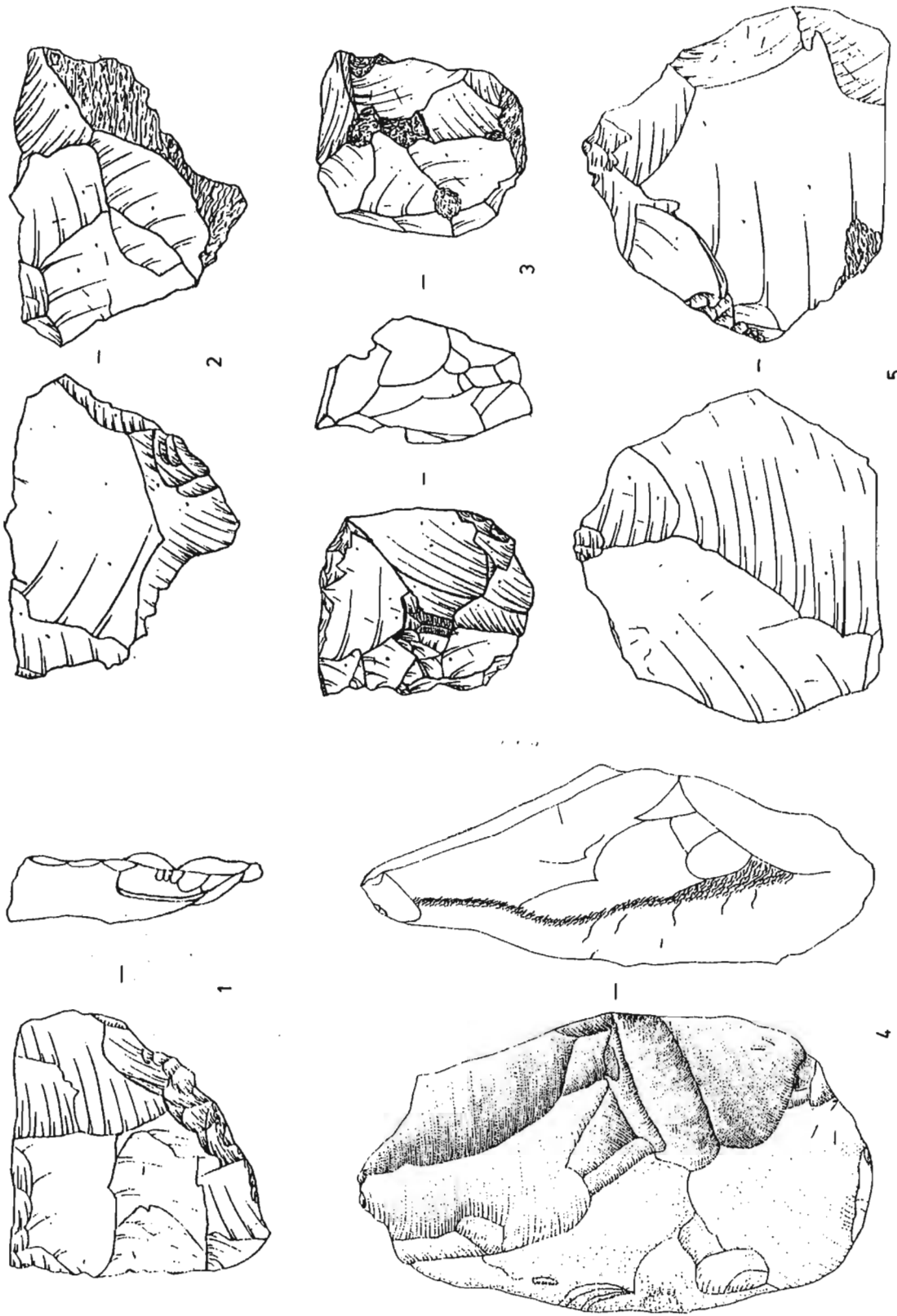


Fig. 6 Malyj Rakovets IV. Cores: Complex II. - 1 Orthogonal (Obsidian). - 2 Victoria-West (Obsidian). - 3 Disc (Obsidian).
 4 Bipolar longitudinal (Quartzite). - 5 Unipolar transverse (Obsidian). - M = 2:3.

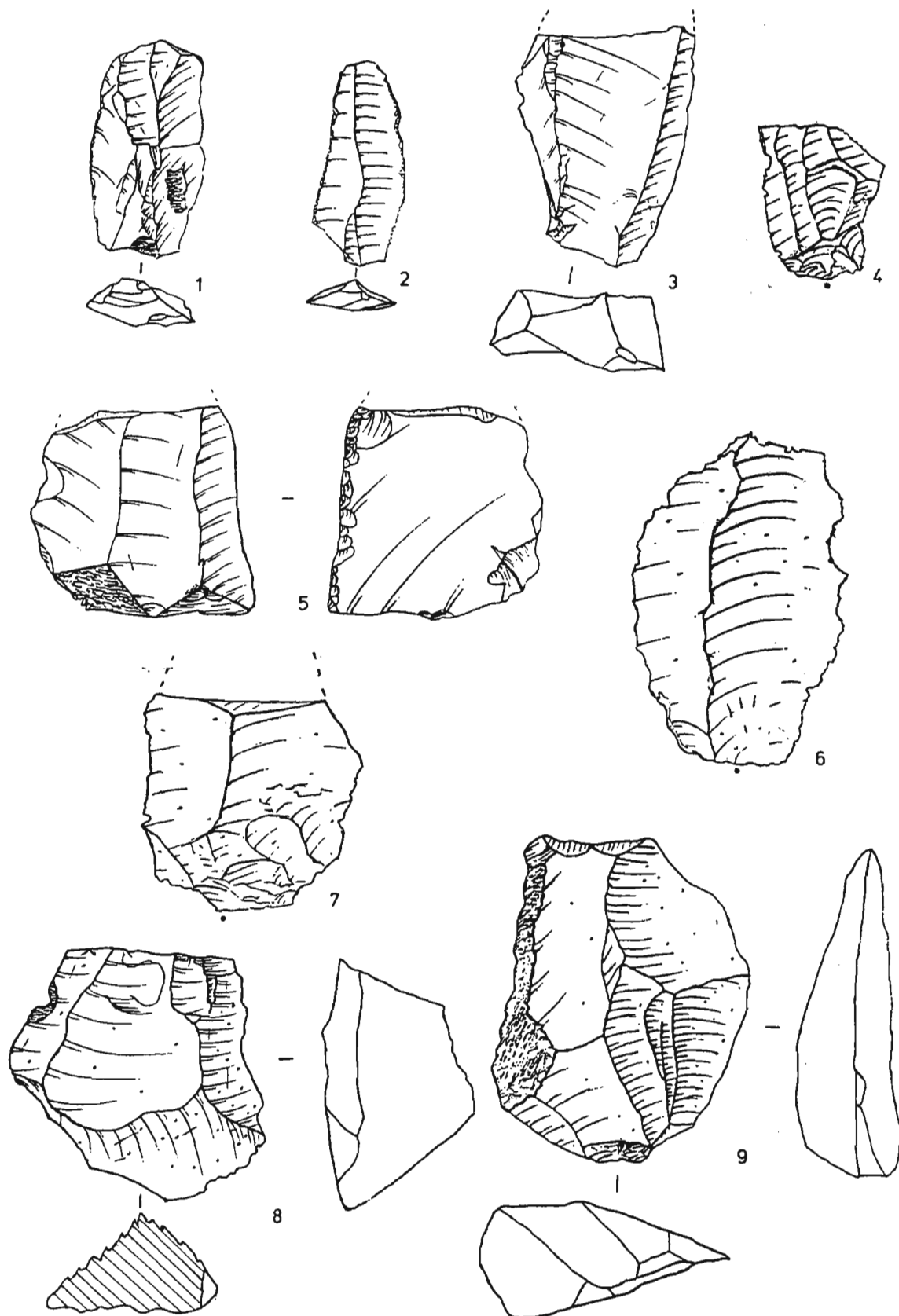


Fig. 7 Malyj Rakovets IV. Artefacts: Complex II. – 1.2 Blades (Obsidian, Flint). – 3.4.6.7.9 Flakes (Obsidian). – 5 Knife (Obsidian). – 8 Core (Obsidian). – M = 2:3.

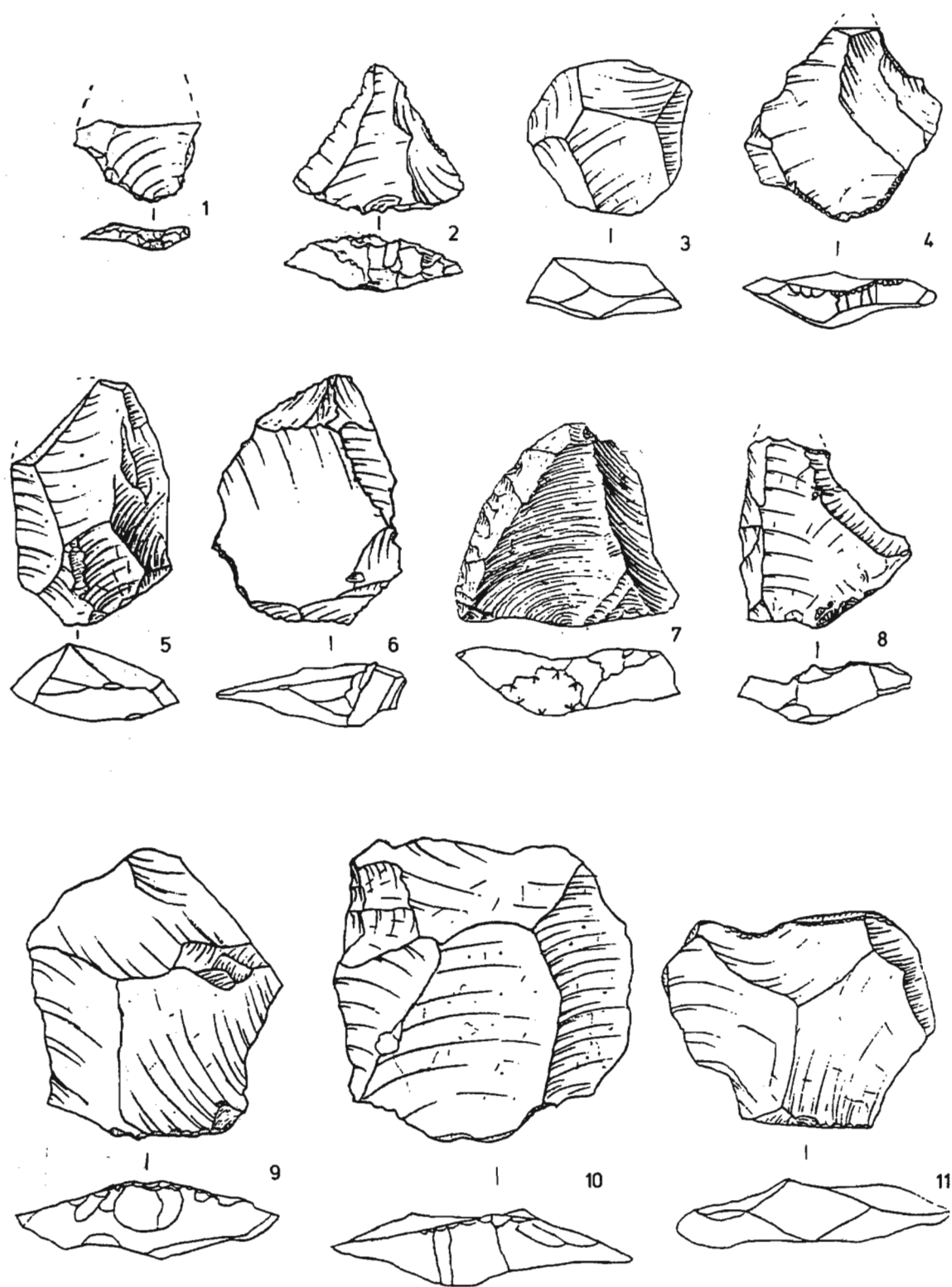


Fig. 8 Malyj Rakovets IV. Artefacts: Complex II. - 3.4.5.6.9.10.11 Flakes (Obsidian). - 1.7.8 Levallois Points (Obsidian).
2 Levallois Point with traces of using (Obsidian). - M = 2:3.

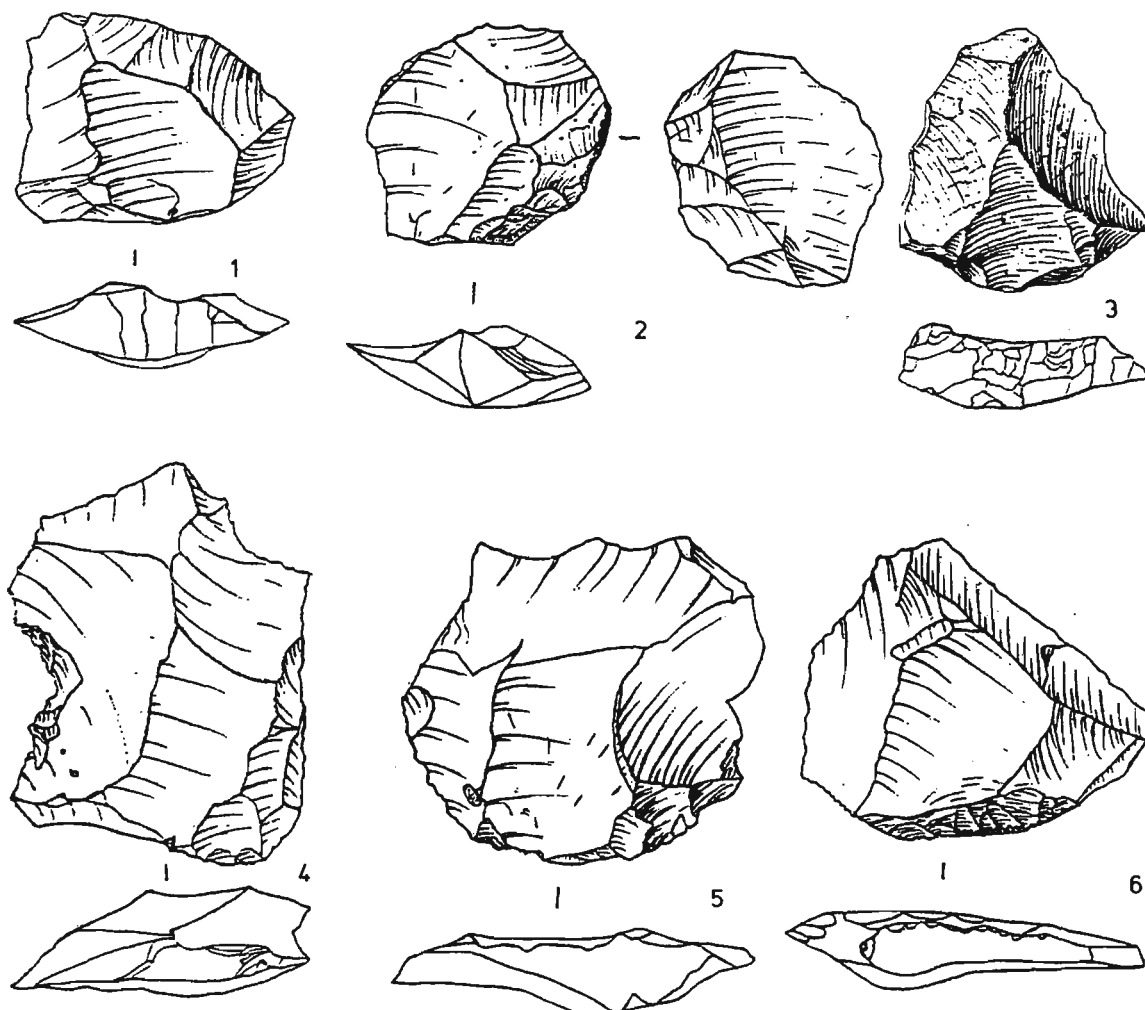


Fig. 9 Malyj Rakovets IV. Artefacts: Complex II. – 1.3 Levallois Points (Obsidian). – 2.5.6 Flakes (Obsidian). – 4 Notch (Obsidian). – M = 2:3.

lateral side (fig. 9, 2). Such flakes with long convex platforms were comfortable for the hand of early man («backed» accommodation) and, probably, this method of preparing cores was a step in the transition to a «crested» way of primary flaking.

The following technical indices have been obtained:

Index of protoprismatic technique (expressed in % the proportion of retouched and non-retouched flakes and blades with regards to all definable flakes and blades) – 43;

IL – 10,3

I lam – above 10 (after refitting of undefinable flakes I lam will increase)

IF I – 35

IF s – 3

In general primary flaking is characterized by protoprismatic technique with an average level of «tortoise» and «pointed» Levallois flakes, blades and facetting. However, the high level for Transcarpathia of IL does not reflect the very high quality of «tortoise» flaking compared to the older (Eem) complex III in Korolevo (L. V. Kulakovskaya 1989). The technique of primary flaking was developed in the direction of the parallel and convergent strategy of working.

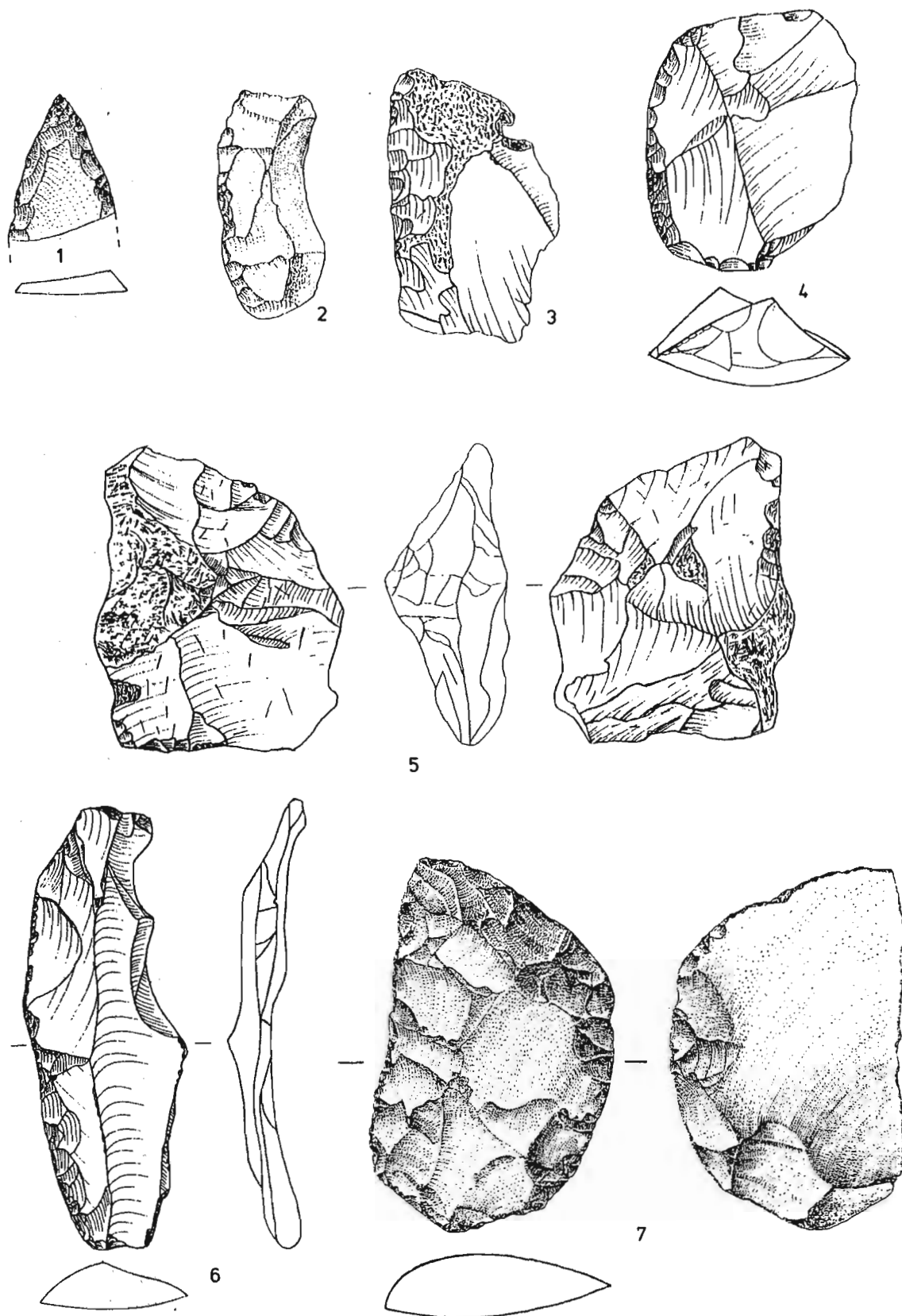


Fig. 10 Malyj Rakovets IV. Artefacts: Complex II. - 1 Point (Quartzite). - 2 Scraper (Quartzite). - 3.4 Scrapers (Obsidian). - 6 Knife (Flint). - 5 Tool (Obsidian). - 7 Convergent knife (Quartzite). - M = 2:3.

Typology

Complex II comprises well-retouched tools (70 / 2,6%), flakes with irregular traces of using (17 / 0,6%) and hammerstones (17 / 0,6%). The tools are made of obsidian (85,5%), quartzite (6%), slate (3%), flint (1,5%). Hammerstones are made of sandstone, quartzite and quartz pebbles. Usually, the tools are made on flakes and blades (on parallel and Levallois – 48%). Their length varies between 3-10,8 cm, the width is between 2,7-7,8 cm, thickness 0,7-4 cm. The average proportions are 6×4,4×1,8 cm. Generally retouch on tools is unifacial scalariform, occurs pearllike, step, sub-parallel. The tools with retouch on dorsal side dominate (79,3%), ventral retouching occurs (18,9%) (fig. 7,5). Sometimes there appear partly bifacial core-like pieces – not finished knives (?) (fig. 10,5).

Among tools are side-scrapers (12 / 18,1%), knives (29 / 43,9%), denticulates (4 / 6%), notches (12 / 18,1%), points (5 / 7,5%), end-scrapers (3 / 4,5%), raclettes (1 / 1,5%), the rest is undefinable. From the typological point of view side-scrapers, knives and denticulates are simple: convex, concave, straight, sinuous (fig. 10, 2-4. 6). The tools with several edges (double, convergent) are rare (fig. 10,7). The points are not numerous but characteristic. They are represented by retouched Levallois points and points on blades (fig. 8,7; 10,1). Upper Palaeolithic tools are rare and atypical.

Malyj Rakovets IV, complex II is characterized by Mousterian forms with prevailing simple side-scrapers and knives, moderate level of denticulates and notches. The specific character of the complex is given by Levallois points with broad base, some partly bifacial and stepped retouched knives and side-scrapers. As to the technical-typological characteristics (high level of parallel technique, presence of Levallois points, appearance of crested blades, absence of any large cutting tools – typical for all stages of Lower and Middle Palaeolithic of Transcarpathia), complex II can be identified as Late Middle Palaeolithic.

The complex II of MR IV developed from local Levallois industries – Korolevo, complexes IV a, III (Eem). The connection with early Upper Palaeolithic complexes (Korolevo II, II and Korolevo Ia) now is not clear. From Levallois complexes of Molodova I and V (Dnestr region) MR IV differs by lower values of IL, I lam, by facetting and elongation of implements, by the rarity of convergent tools and by the presence of partly bifacial and of stepped retouch. We can see certain similarities with finds from MR IV in Germany – Balve-IV type inventory according to G. Bosinski (Bosinski, 1971, pp. 153-159). The industries Balve-IV and Buhlen (youngest level) are also characterized by the Levallois technique for flakes and blades, by predominantly simple side-scrapers and by points (the variety of points is higher than in MR IV). Some similar tendencies appeared in Mousterian industries of Middle Weichselian in Bretagne: du Mont-Doe and du Goareva (Monnier, 1980). Probably these similarities represent convergent tendencies and reflect certain stadial regularities in the development of the Middle Palaeolithic traditions during Last Glacial.

Acknowledgements

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Zusammenfassung

Im vorliegenden Aufsatz werden die bisherigen Ergebnisse der Untersuchung des spätmittelpaläolithischen Fundplatzes Malyj Rakovets IV (insbes. des Complex II), in Transkarpatien, West-Ukraine, vorgestellt. In Complex II wurden mehr als 3000 aus lokalem Obsidian gefertigte Artefakte ergraben. Artefakte, die von einer begrenzten Fläche innerhalb des Fundkomplexes II stammen, ließen sich wieder zusammensetzen. Die Abbaumethoden (parallel und konvergent) entsprechen in etwa der klassischen Levallois-Technik. Die in Complex II beobachtete Industrie entwickelte sich aus lokalen Levallois-Industrien (Eem). Über die weitere Entwicklung und klare kulturelle Analogien ist bisher nichts bekannt.

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