

# LATE PALAEOLITHIC WORKSHOPS IN THE LUBLIN REGION, BASED ON THE LOCAL CRETACEOUS FLINT RESOURCES, THROUGH THE PRISM OF NEW DISCOVERIES. AN OVERVIEW OF THE ISSUE

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## Abstract

In the light of the present findings from Pagóry Chełmskie the flint deposited on the surface occurs in two types. One type often resembles the shaft varieties from Volhynia, Podolia and Volhynian Polesie, or even Podlasie. Most Final Palaeolithic finds represent the settlements of cultures with point-tools tradition, mostly Swiderian Culture, some of them are connected with an undetermined culture with backed points, one site with the inventories of Magdalenian Culture.

Key words: cretaceous flint, Pagóry Chełmskie (Chełm Hills), Late Palaeolithic, circle of cultures: with points, with backed bladelets, cultures: Swiderian, Magdalenian; workshops: situated on the flint mines, or adjacent to mines.

## Introduction

Polesie Lubelskie is an area situated on the northern periphery of the Lublin Upland, and constitutes the southwestern part of Polesie proper. Its central part, Pagóry Chełmskie, is a mesoregion covering about 722 square kilometres, extending in the shape of a bow from Krasnystaw on the River Wieprz to Wola Uhruska on the River Bug. It rises above the plains called Obniżenie Dorohuckie (Dorohuczka Lowland) to the west, and the Obniżenie Dubienki (Dubienka Lowland) to the east (Fig. 1). Characteristic of this area are monadnocks and hillocks reaching relative altitudes up to 290 metres above sea level, which tower above the sandy peaty plains. They are cretaceous formations covered by layers of tertiary sandstone of varying thickness (Kondracki 1978: 344–345). Within them lies the cretaceous flint raw material, which macroscopically is often similar to the siliceous rocks occurring in the neighbouring areas of Volhynia, Volhynian Polesie and Podlasie.

## From the history of the research

The flint raw material occurring in the area of Pagóry Chełmskie, especially around Rejowiec, became an object of interest to Stefan Krukowski as early as 1927. The artefacts which were then collected are the only ones from the Lublin region which were included in the synthesis of the Palaeolithic. Two knife-shaped forms defined as *quasi Prądnik knives* obtained in the Ostra

Górka site in Zalesie were attributed by this researcher to the so-called Masovia-Łysogóry industry which was then dated to Early Holocene (Krukowski 1939–1948: 111, Table 38: 3–4). It was probably this discovery that revived the interest in this region in 1964 of the team Waldemar Chmielewski, Halina Mackiewicz and Jadwiga Mścibrodzka, who verified the existing and obtained new materials from these workshops<sup>1</sup>.

The new “discovery” and proper popularisation of these outcrops took place at the beginning of the Eighties of the last century. Łukasz Rejniewicz, based on the assemblages of artefacts from near Dorohuczka and samples of raw materials collected around Rejowiec, was the first to call it “Rejowiec” flint<sup>2</sup> and undertook its macroscopic division, thus distinguishing four varieties:

Variety I: dark grey flint, blackish, glossy, very transparent. Inside it, a visible fine-grained suspension. In places, it is strewn with fine matt grey spots. It has matt band colouring in places. It is fissile.

Variety II: dark grey flint, glossy or matt, poorly transparent. Only in fragments, there is a not very visible suspension. Stained, brighter matt stains and spots,

<sup>1</sup> Artefacts are stored in the Institute of Archaeology and Ethnology of the Polish Academy of Science in Warsaw. We thank Dr Zofia Sulgostowska for drawing our attention to them and making them available to us.

<sup>2</sup> Stefan K. Kozłowski (1989: Fig. 3), on the other hand, described the same raw material as *Rejowiec-Sobibór* flint.

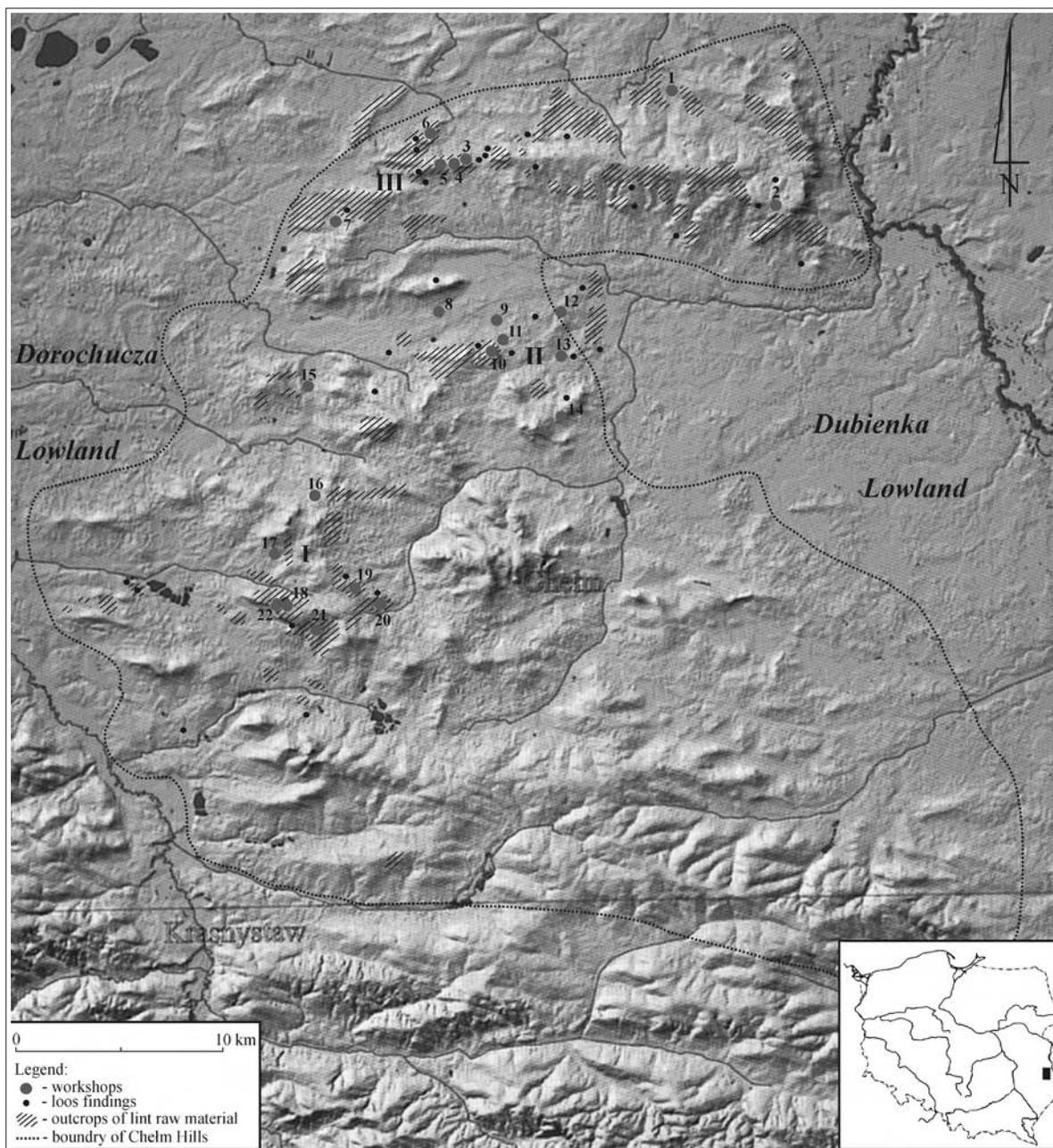


Fig. 1: Late Palaeolithic flint workshops and loose finds discovered in the area of Pagóry Chełmskie (map: Leszek Gawrysiak, Lublin 2004). Areas of workshop concentration: I Rejowiec area; II Krobonosz area; III Tarnów area. Workshops: 1 Podpakule; 2 Łukówek; 3–5 Aleksandrówka; 6 Serniawy; 7 Wólka Tarnowska; 8–10 Pniówno; 11 Krobonosz; 12 Sawin; 13 Czulczyce Małe; 14 Czulczyce; 15 Helenów; 16 Lechówka; 17, 18 Pawłów; 19, 20 Aleksandria Krzywowska; 21 Majdan Stajne; 22 Kolonia Stajne

as well as interbedding, make it impossible to split evenly.

Variety III: dove-coloured flint. Mainly matt. In places it is coloured with stains of type I. Here and there are visible concentrations of dirty-white rough stains. Poor fissility.

Variety IV: matt flint, appearing to be porous. Grey-white in colour. Coloured in places by matt grey stains. Visible numerous interbedding. With poor fissility, and giving irregular fractures (Rejniewicz 1985: 13).

The next stage of research in the outcrops of the raw material under discussion concerns improvised conservation inspections in the years 1980 and 1990, and the work done in a project by the Archaeological Survey of Poland (AZP), carried out by various teams from the Lublin research centre<sup>3</sup>.

<sup>3</sup> "Rejowiec" raw material was also the subject of an MA thesis by Wojciech Ratajczak (1986).

## New project

The presence of siliceous rock in such a vast area of the mid-eastern Lublin region in confrontation with flint raw materials which are macroscopically similar to those occurring in the neighbouring areas of Volhynia, Volhynian Polesie and Podlasie questions the credibility of present raw material classifications and constitutes a problem in assessing the scale of distribution of individual "varieties". This equally concerns the recorded artefacts in the entire region between the Vistula and the Bug and those obtained nearby. For this reason, a team under the auspices of the Institute of Archaeology of the UMCS in Lublin led by Jerzy Libera has undertaken the realisation of the interdisciplinary project "Studies in the Occurrence of Flint Rock and its Mining, Processing and Distribution in the Territory of the Lublin Region"<sup>4</sup>.

In March 2002, verification surface penetration was initiated, which concentrated on the territory of Rejowiec commune and Rejowiec Fabryczny, the area which has so far been the best researched in terms of the occurrence of this raw material. The area was then extended in the following years to the periphery of the city of Krasnystaw, which marks the southwestern region of Pagóry Chełmskie. In the following research seasons (spring and autumn), the research was concentrated on the northern part of the mesoregion, on the so-called Uhrusk Bow (the area of Wierzbica, Sawin and Wola Uhruska). In the first stage of the research, the focus was on obtaining a full picture of the surface occurrence of siliceous rocks. In the initial phase, forest complexes were excluded from the terrain survey. Series of samples of flint blanks were collected from various parts of outcrops. Also, selected geological profiles were located and documented, in which the presence of the raw material was observed.



Fig. 2: Concretions of the flint raw material included among type A (Photograph by M. Szeliga)



Fig. 3: The concretion of type A obtained in the area of Łowcza, Sawin commune, after reconstruction (41x32x27 centimetres; 36.1 kilogrammes) (Photograph by M. Szeliga)

## Outcrops and the raw material

The examined area of 50% of Pagóry Chełmskie, comprising the northern and southwestern part, has so far yielded about 120 spots of various sizes (one to 50 hectares, compare Fig. 1) of surface occurrence of the flint raw material. The material occurs in different parts of plateaus or hillocks, from their culmination (at 190 to 250 metres above sea level) to their slopes. These uplands constitute the remnants of the maximum sub-stage of the Oder glaciation. Flint always occurs within sandy-clay formations containing a high degree of er-

<sup>4</sup> Issues connected with the geology of the area under examination and the origin of the flint will be analysed by Prof Dr Hab Marian Harasimiuk from the Department of Geology in the Institute of Earth Sciences, UMCS, Lublin.



Fig. 4: Blanks of the flint raw material included among type B (Photograph by M. Szeliga)

ritic materials<sup>5</sup>. No direct connection between the flint raw material and the cretaceous bedrock of Pagóry has been established so far.

In the light of the present findings, the flint deposited on the surface of the studied mesoregion occurs in two types (Libera 2003: 21):

A – bulbous, either very regular, or “rugged”, as well as having numerous hollows, at present it is mostly fragmented into lumps measuring more than ten centimetres, rarely reaching more than 40 centimetres in length and 20 centimetres in breadth (Figs. 2, 3), with a brick-brown or whitish thin cortex and very varied colouring of the basic mass containing various shades of grey (matt), extending from navy blue to black (glossy transparent). The internal structure is often disrupted by discolouring, stripes and sometimes bands (Fig. 2). This type often resembles the shaft varieties from Volhynia, Podolia and Volhynian Polesie, or even Podlasie. This group contains flint varieties I–IV, which were distinguished by Ł. Rejniewicz (1985: 13).

B – small and very small blanks of various shapes and deprived of cortex, with weathered or natural surfaces, which are varied in colour, in various shades of grey, black, navy blue, as well as yellow, red and brown, typical erratic flint (Fig. 4).

<sup>5</sup> This deposit was viewed in a similar way by S. Krukowski, who, while writing about a location of the materials from Ostra Górka, says: “... at the site of rummaging of the secondary deposit of the ‘Baltic’ flint raw material ...” (Krukowski 1939–1948: 111–112).

## Results so far

With regard to the area under discussion, archive data as well as the collections at the Chełm Museum in Chełm have revealed mostly remnants of Neolithic and Bronze Age settlement in the form of loose findings of battle axes and flint axes. Also some chronologically undetermined mounds and complexes of barrows were recorded in the area.

As a result of the AZP project, the chronological range of the sources (mostly flint) was considerably increased. For the first time, series of materials were obtained on a large scale, which proves that this area had been penetrated by late reindeer hunters. They were recorded in the form of workshops and loose findings, both within outcrops of flint raw material and in their direct vicinity, for example

in Pawłów, Wincentów, Siennica Królewska Mała and Józefin (Table I).

Current verification work has revealed mostly prehistoric sites, documenting settlement from the Middle Palaeolithic to the end of the Bronze Age. Among these, the most numerous group is constituted by Late Palaeolithic and early Bronze Age materials. The Late Palaeolithic sources were recorded most of all in the form of remnants of workshops documented by the presence of individual pre-cores, more numerous cores and accompanying débitage.

In the area studied, at least 20 workshops situated on the flint mines or adjacent to them were discovered, which covered an area from a few (Aleksandrówka /3, 4/<sup>6</sup>, Majdan Stajne /21/, Pniówno /8/, Wólka Tarnowska /7/) to tens of ares (for example, Aleksandrówka /5/, Kolonia Stajne /22/, Lechówka /16/, Łukówek /2/, Pawłów /18/, Pniówno /10/, Serniawy /6/). The amount of material collected in these places typically does not exceed a couple of dozen artefacts. The workshops are concentrated in three areas (I–III): the Rejowiec area (around the town of Rejowiec and Rejowiec Fabryczny) located in the southwestern part of Pagóry, the Krobonosz area (Krobonosz) in the area of the middle part of the mesoregion, and the Tarnów area (Tarnów) in the northwestern part (Fig. 1).

The majority of the obtained material, based on the technology and technique of coring, seems to constitute the remnants of settlement by cultures with a point

<sup>6</sup> The numeration related to Fig. 1 is given between slashes.

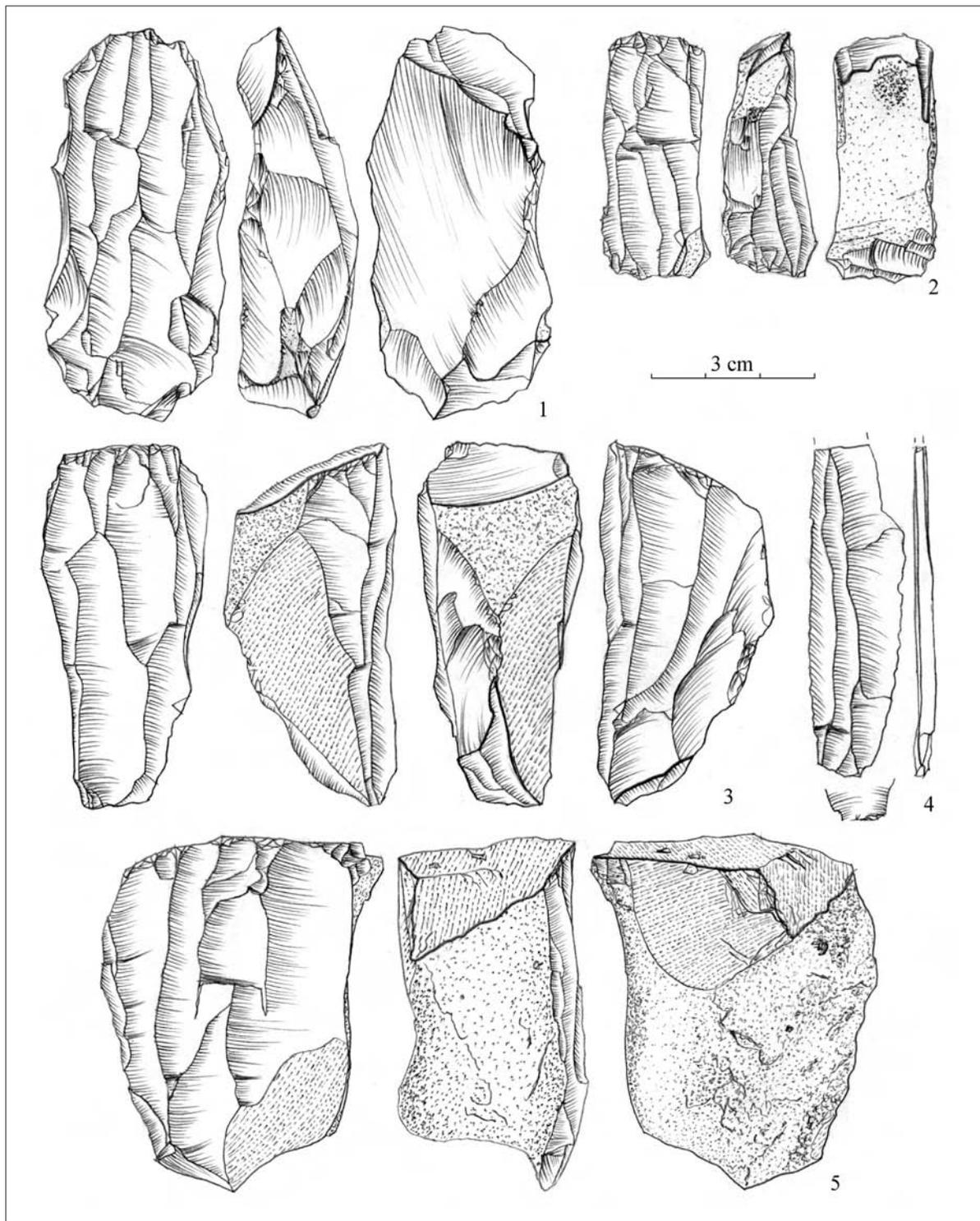


Table I: Late Palaeolithic materials obtained in the course of AZP (Archaeological Survey of Poland) examination: 1, 3 Pawłów, Rejowiec Fabryczny commune site 24/57 (AZP unit no. 80–87, survey by A. Bronicki in 1990); 2 Wincentów, Krasnystaw commune, site 20/68 (AZP unit no. 82–87, survey by J. Arciszewska and S. Kadrow in 1983); 4 Siennica Królewska Mała, Siennica Różana commune, site 21/44 (AZP unit no. 80–88, survey by A. Bronicki in 1990); 5 Józefin, Rejowiec Fabryczny commune site 5/39 (AZP unit no. 80–87, survey by A. Bronicki in 1990)

tools tradition, mainly Swiderian Culture (Masovian cycle). This is testified to mostly by cores of various degrees of exploitation, and blade blanks, that come, among others, from Aleksandria Krzywowska /19/ (Table II–IV), /20/ (Table V), Lechówka /16/ (Table VI–VII), and Serniawy /6/ (Table VIII, IX:1–3). The cores which were collected were in most cases preceded by preparatory trimming of their backs. Also, items which were completely deprived of any preparatory treatment were recorded (for example, Table III:2; VI:2). Almost all items carry traces of correctional treatment in the form of intensive correction flaking. A great majority of cores are double-platform ones with common flaking surface of exploitation, and with sharp but varying coring angles, connected to the Masovian type. The negatives of knapping and débitage point to the fact that they were used mostly for the knapping of blade blanks of an average length of 50 to 70 millimetres.

Undoubtedly, also points of the Masovian type found in Wierzbica (Table IX:5), Aleksandria Krzywowska /20/ (Table V:7) should be associated with the tradition of cultures with points. This also concerns the item made of chocolate flint in Kanie (Table IX:6). It is possible that adzes also belong to this taxonomic category<sup>7</sup>. These forms were recorded in the “Swiderian” inventory, among others, Nobla (compare Sulgostowska 1989: 78–80, and the examples therein).

The infrequent single-platform blade cores or blade and flake ones should be associated with a different cultural tradition. They were deprived of preparatory trimming, from which, with the help of the technique of hard hammerstone, relatively irregular blanks were obtained (Table VII, IX:4). It is with this item that a number of middle-sized stout-backed bladelets should be synchronised. Among others is the item from Aleksandria Krzywowska /20/ (Table V:8). These artefacts seem to determine a completely new chronological horizon, connected with an undetermined culture belonging to the circle with backed points.

Independently of these two cultural traditions, some interesting material was obtained in Pniówno /8/. In the collection of dozens of forms, six items seem to be of great interest: two single-platform cores without trimming (Table X:1; XI:1), one of which had its orientation changed (Table XI:1), a solid-looking blade knapped from the side of a similar core (Table X:2),

<sup>7</sup> Their presence in mid-eastern Poland one may connect with Mesolithic Komornice Culture. The surface investigation of the area of Pagóry Chełmskie did not reveal any certain materials which could be affiliated with this cultural unit, despite the fact that a settlement of this culture was discovered in the village of Luta, in the close vicinity of the north of the Uhrusk Bow (Więckowska 1975: 361).

two delicate single-platform blades (Table XI:3–4) and a slender-backed bladelet with retouched base (Table XI:2). The last three blade forms additionally have an irregular microretouch (usage based?). This collection is also characterised, with respect to other Late Palaeolithic materials found there, by their state of preservation. All the artefacts are of olive colour and are slightly weathered. The morphology of the backed point and the shapes of cores and blanks indicate their connection with the inventories of Magdalenian Culture<sup>8</sup>.

Among the few recorded tools which are ascribed, due to the character of débitage and the style of preparation, to the late phase of the Palaeolithic, a few burins, end-scrapers and truncated bladelets were distinguished (Table III:4). Most of them were found loose or accompanied with inventories which were hardly characteristic or come from different periods. The intercultural character of these forms makes it difficult to ascribe them to particular taxonomic categories.

#### Imported raw materials

Apart from the sources produced from the cretaceous local raw material, the mesoregion under discussion also yielded individual artefacts made of “imported” material, namely Świeciechów flint, blades obtained from a single-platform core, and the aforementioned point made from chocolate flint (Kanie Table IX:6).

#### Conclusions

The area of Pagóry Chełmskie is divided by numerous valleys with small rivers, lakes and ponds, and is often surrounded by swamps, especially in the northern part, thus constituting a refuge for various animals and birds. For centuries, it attracted groups of hunters and gatherers. Their traces are particularly legible at the end of the glacial epoch, probably from the middle of the Alleröd period oscillation. The other attraction of this area was the general accessibility to the surface flint stone concentrations. This material, which was characterised by great technological parameters, covered a considerable area of dome-shaped hummocks and hillocks.

The workshops recorded within Pagóry Chełmskie most certainly constituted sufficient raw material stocks for the late Pleistocene settlement located on the sandy terraces of the middle River Wieprz within the Dorohusk lowland, as compared with the delimited workshop areas of Rejowiec and Krobonosz and in the extensive

<sup>8</sup> A similar form of backed bladelet was found in a camp at Wilczyce, on the western periphery of the Sandomierz Upland (Fiedorczuk, Schild 2002: Fig. 11:a).

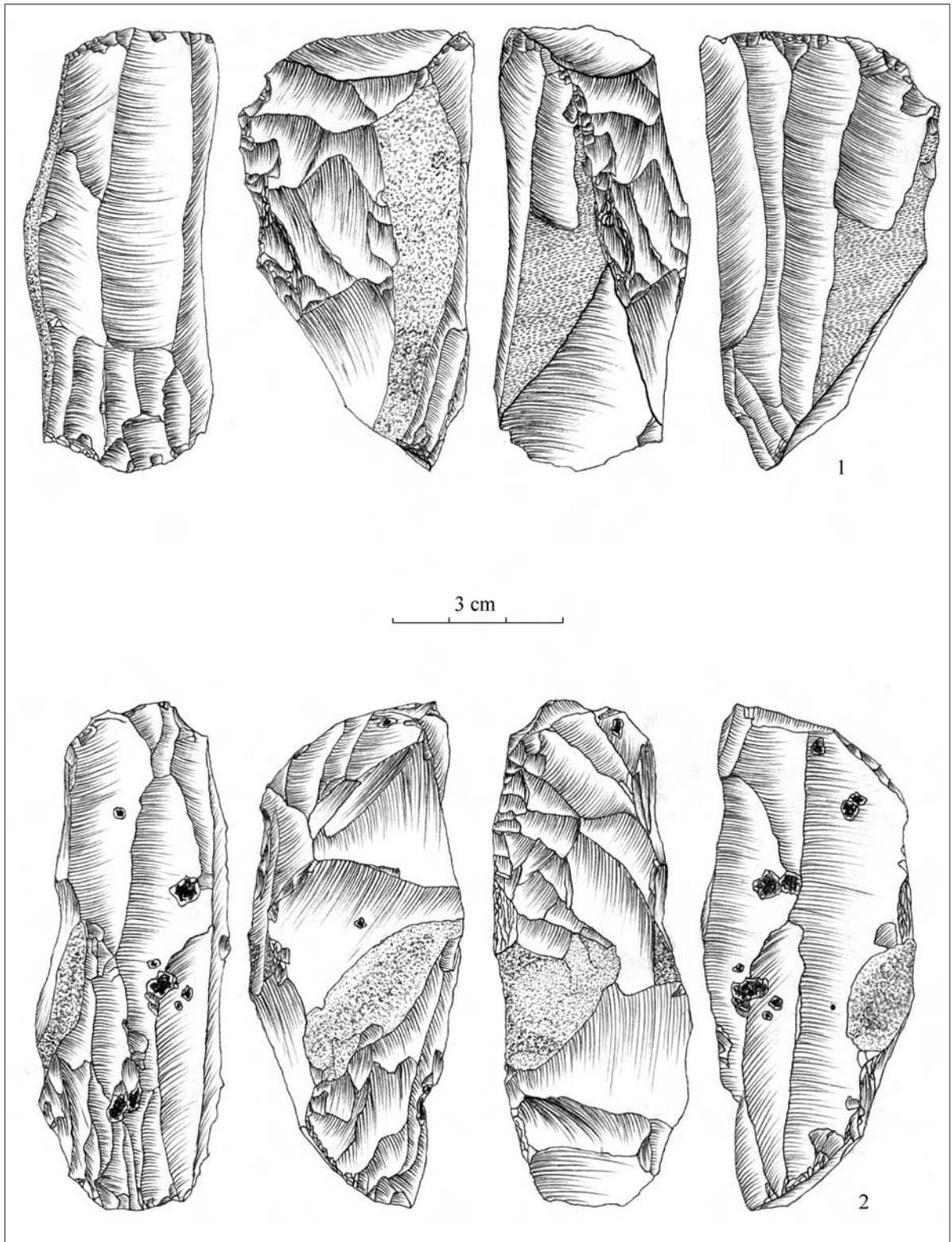


Table II: Aleksandria Krzywowska /19/, Rejowiec commune: cores (1, 2)

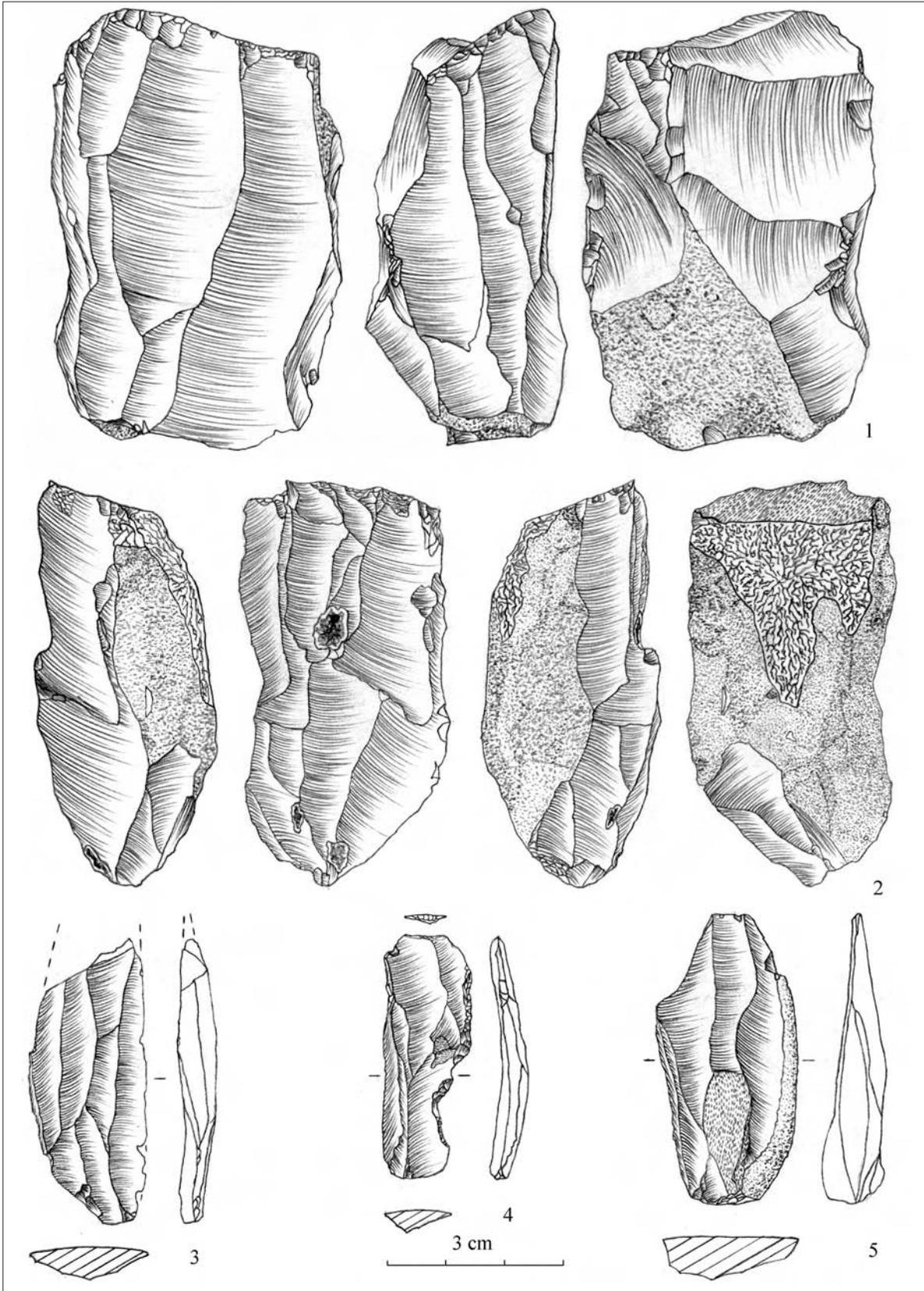


Table III: Aleksandria Krzywowska /19/, Rejowiec commune: cores (1, 2), blade blanks (3, 5), truncated bladelet (4)

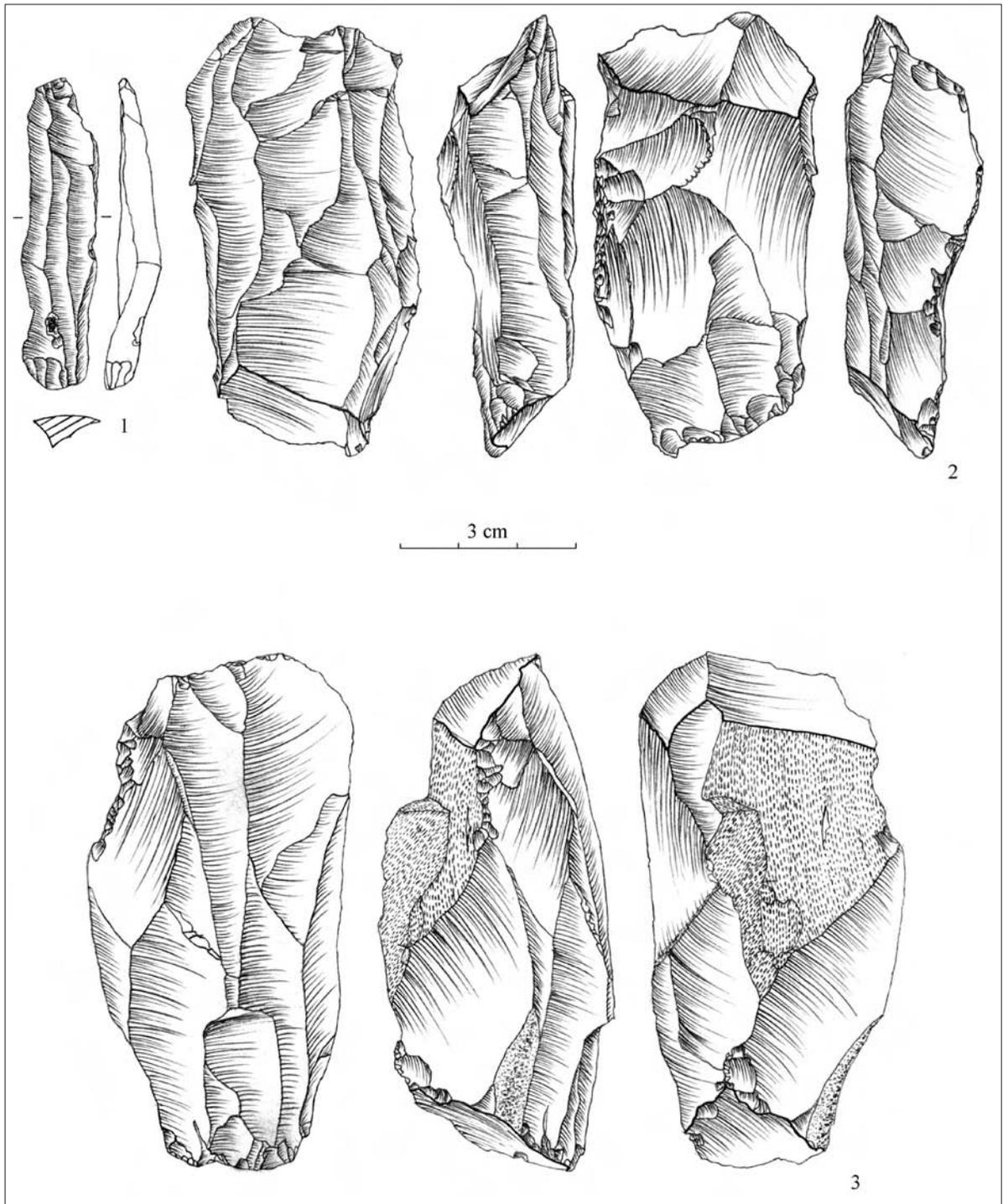


Table IV: Aleksandria Krzywowska /19/, Rejowiec commune: blade (1) and cores (2, 3)

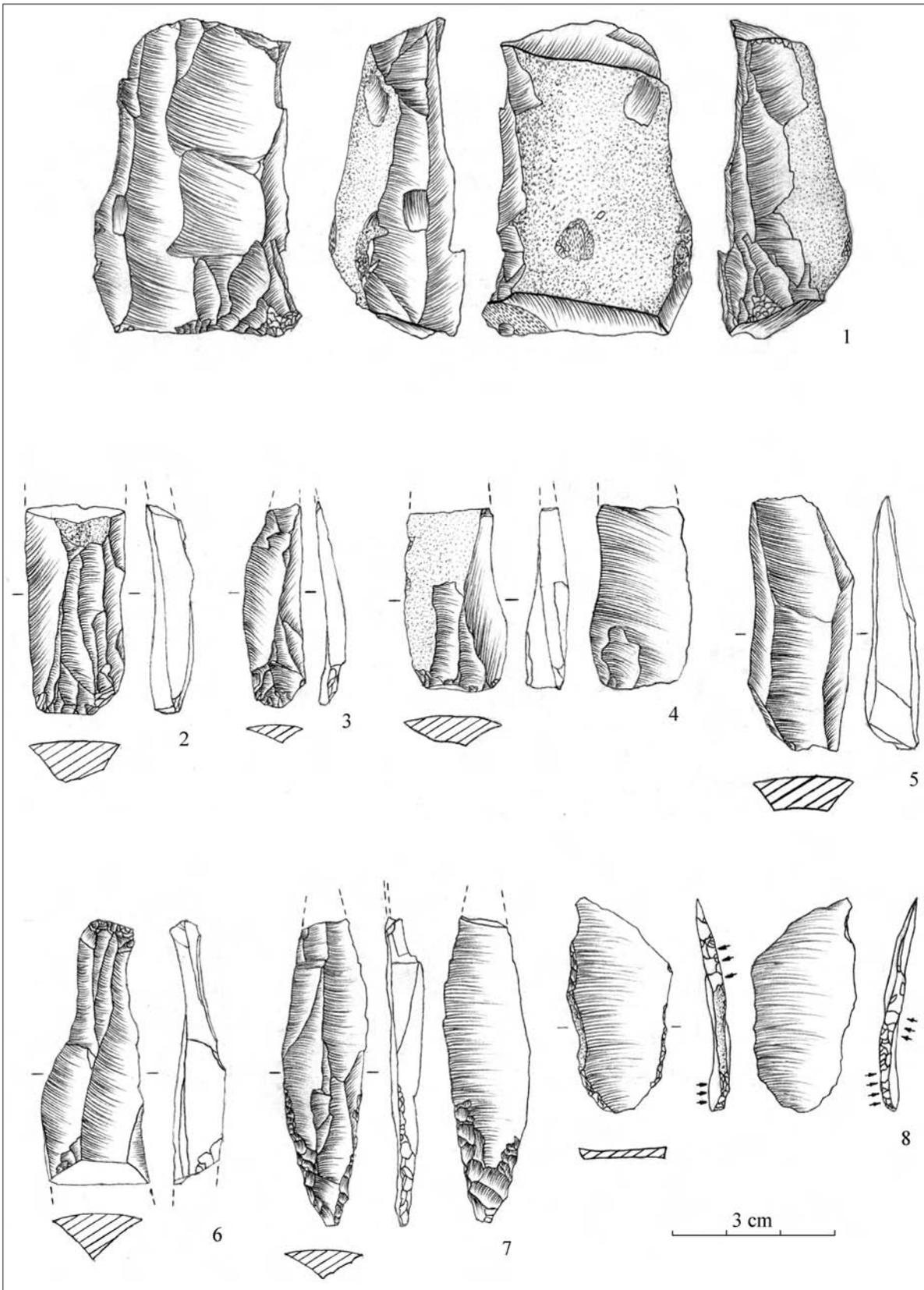


Table V: Aleksandria Krzywowska /20/, Rejowiec commune: core (1), blade blanks (2-5), truncated bladelet (6), point (7), backed bladelet (8)

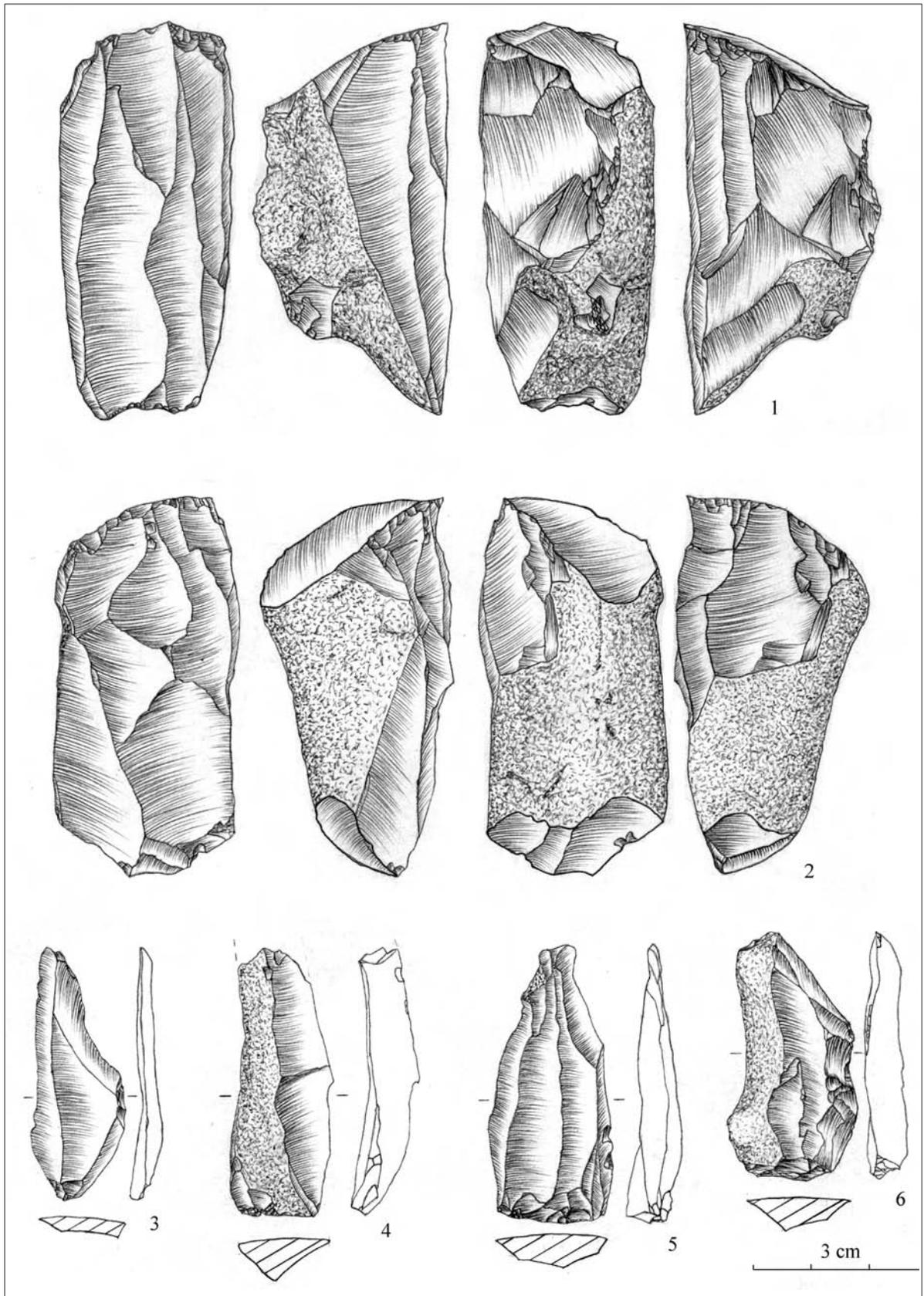


Table VI: Lechówka /16/, Siedliszcze commune: cores (1, 2), blade blanks (3–6)

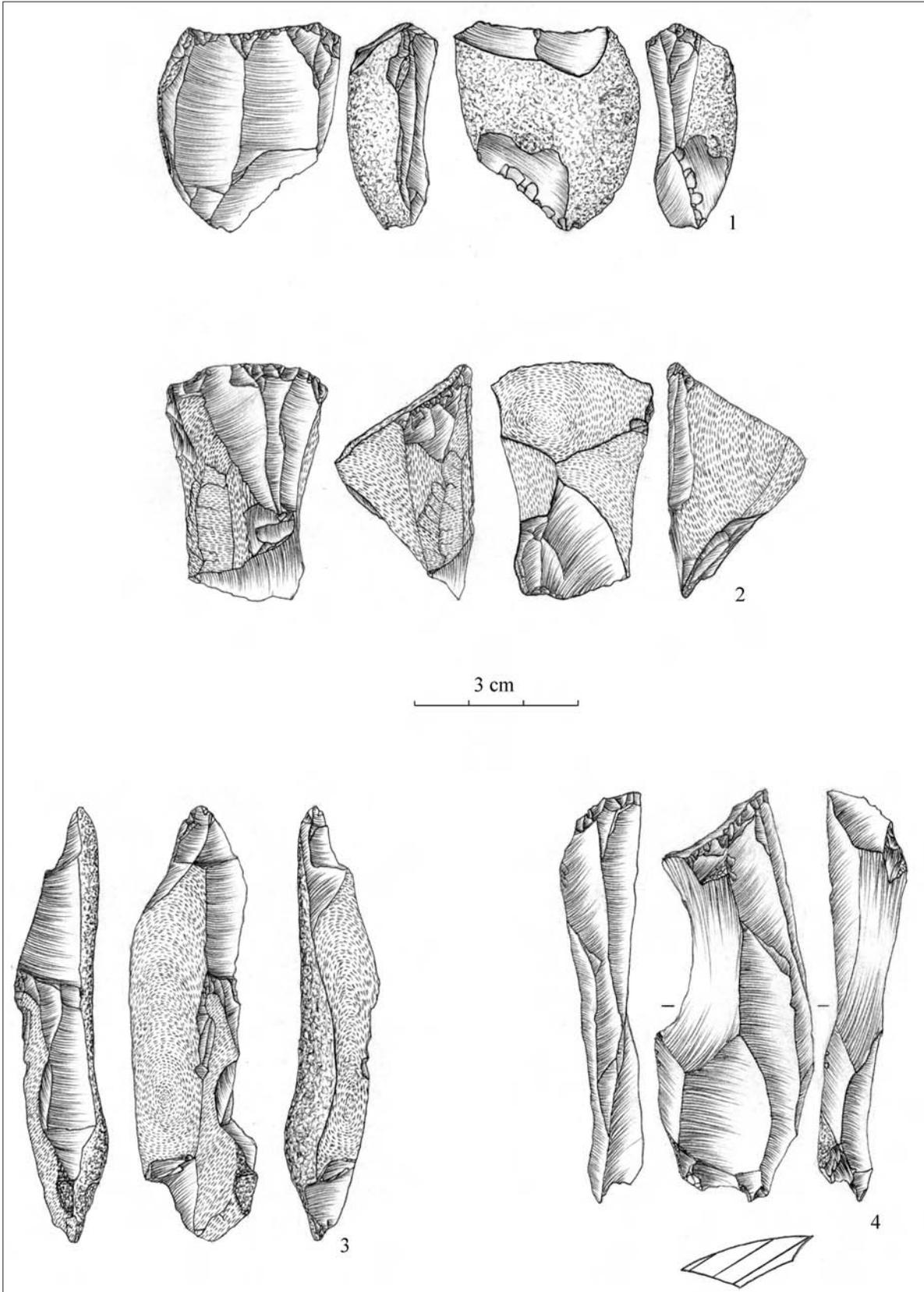


Table VII: Lechówka /16/, Siedliszcze commune: cores (1-3), double-platform blade (4)

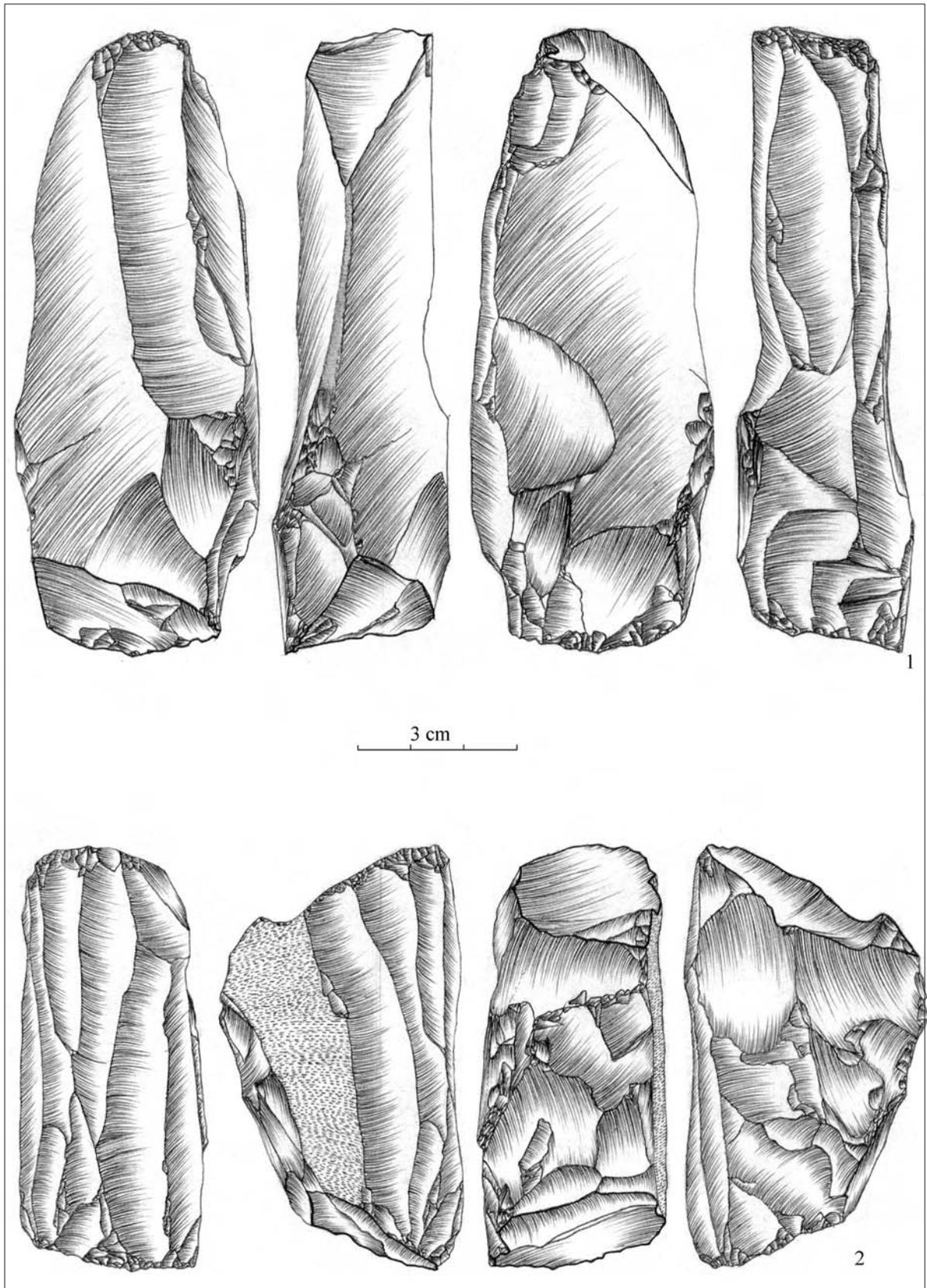


Table VIII: Serniawy /6/, Sawin commune: cores (1, 2)

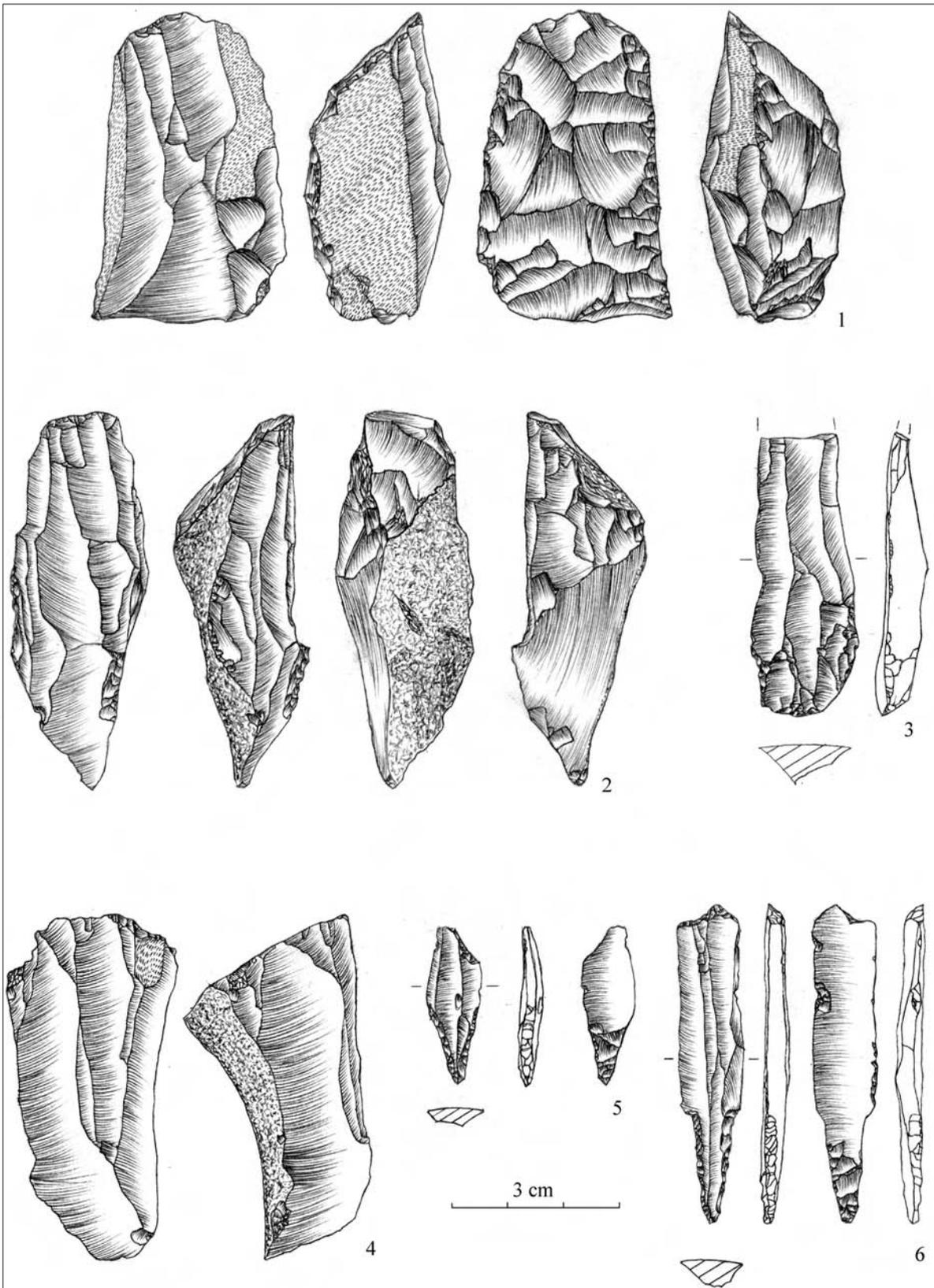


Table IX: Serniawy /6/, Sawin commune: cores (1, 2), blade (3), Hruszów, Rejowiec commune: core (4), Wierzbica, Wierzbica commune: point (5), Kanie, Rejowiec Fabryczny commune: point (6) chocolate flint

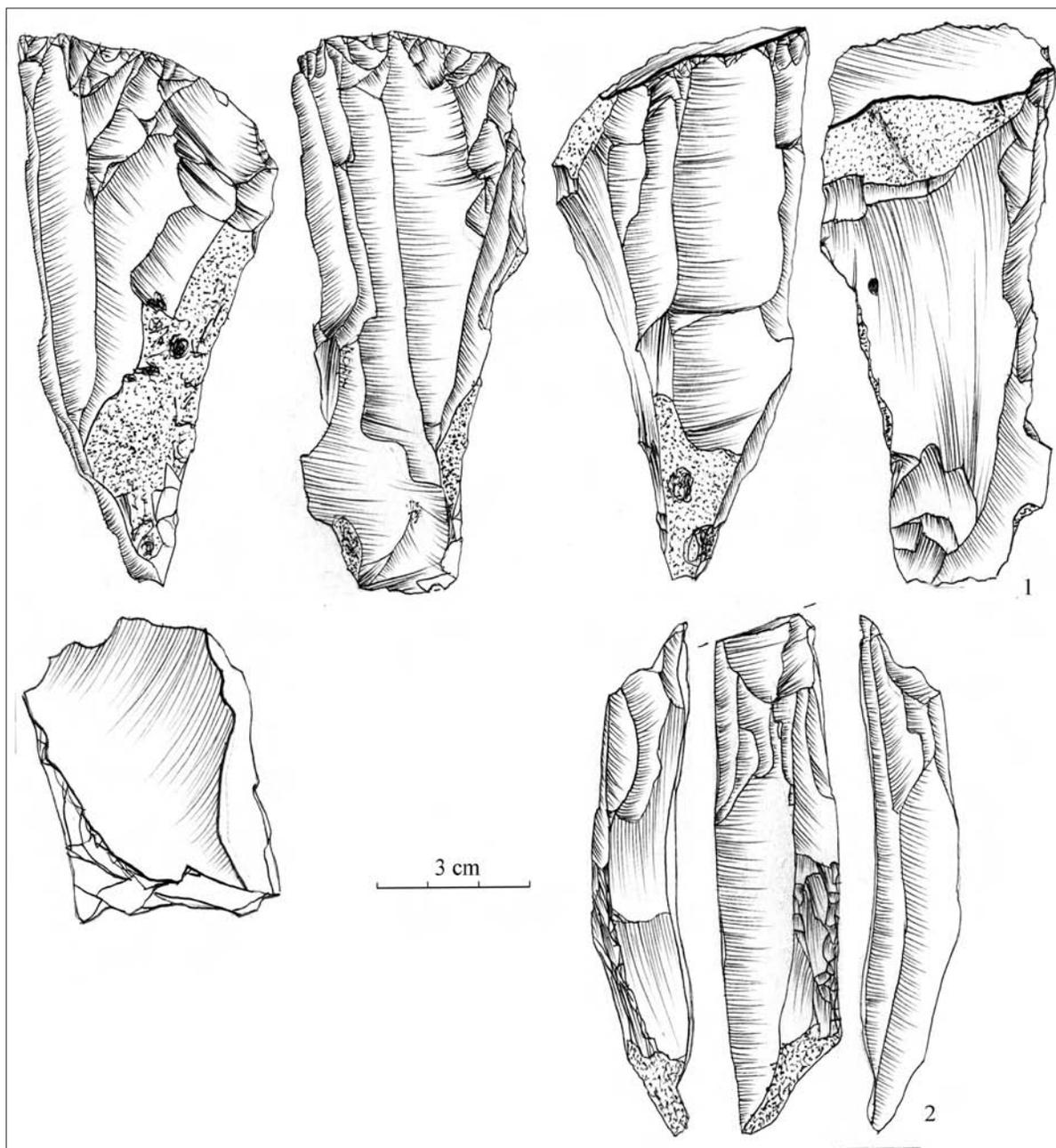


Table X: Pniówno /8/, Wierzbica commune: core (1), fragment of a core (2)

territory of Pojezierze Łęczyńsko-Włodawskie, for the area of Tarnów.

With regard to the earlier distinguished region I, it is a string of settlement camps and loose findings, located among others in Dorohucza, Kolnia Bzite, Wincentowo (compare Libera 1995; 1998: catalogue positions 73–75, 174, 451), also verified by excavations in Borowica (Gurba, Zakościelna 1991: 3–10). For region II, we have so far the sites in Siedliszcze (see Libera 1995; 1998: catalogue positions 356–357). On the other hand, for region III we have most of all the assemblages from Łowcza, Macoszyn Duży, Michałowo (see Libera 1995; 1998: catalogue positions 214, 219 and 237), as well as from Ruda Opalin, Zaróbka (see Lib-

era 1998 amendments: catalogue positions 24–25, 37). Traces of settlement connected with Swiderian Culture in this area were determined during the excavations in Wólka Wytycka (Tymczak 1998: 9)<sup>9</sup>.

At this stage of research it is difficult to judge what role was played by the flint mining centre on the territory of Pagóry Chełmskie among the peoples of the final phase of the Palaeolithic. In the area between the Bug and the Vistula, similar material was recorded at numerous sites of this period (compare Sulgostowska 1989; Libera 1995; 1998). Its macroscopic features

<sup>9</sup> The total number of these sites is much bigger. Findings collected in the AZP (Archaeological Survey of Poland) process were not taken into consideration.

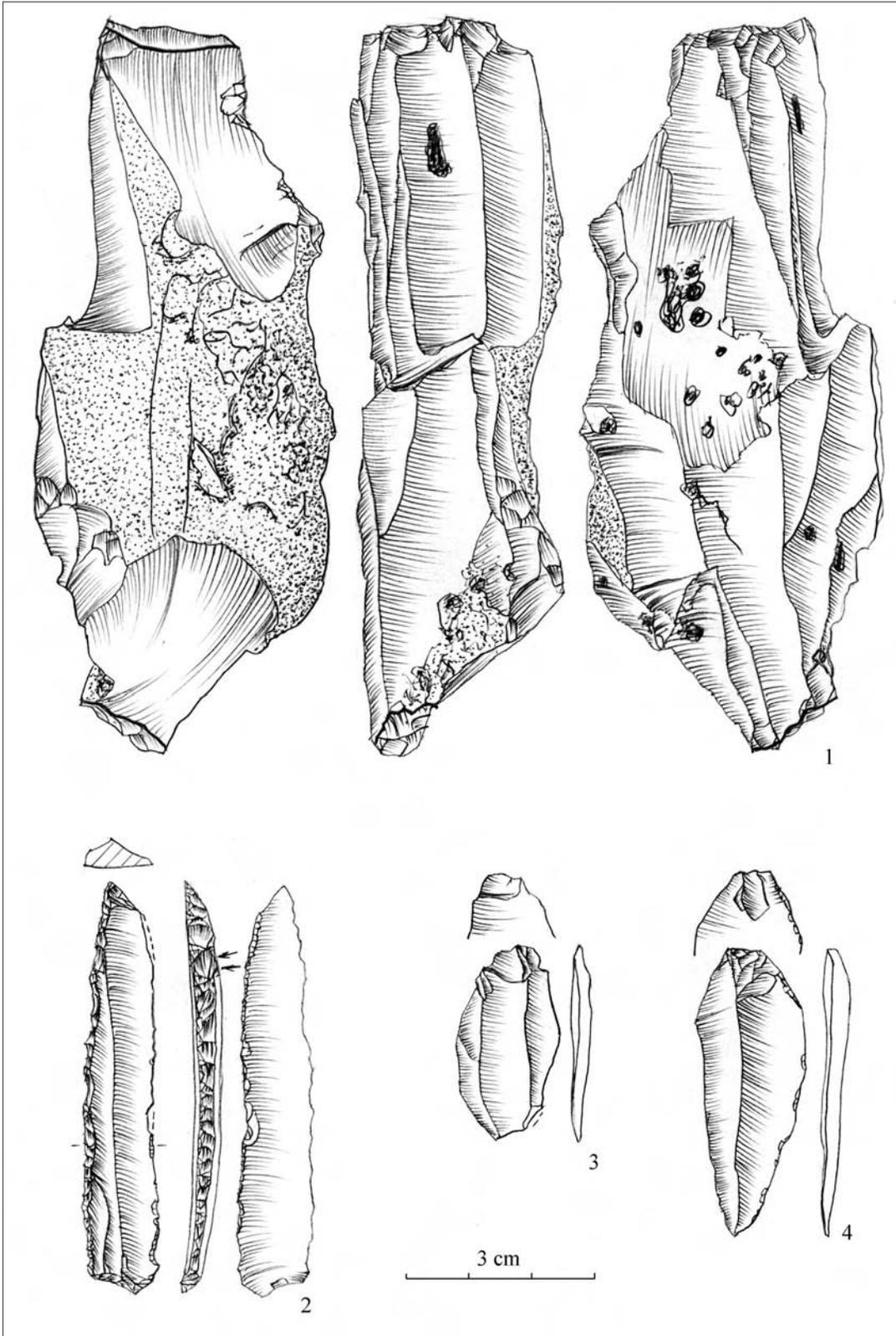


Table XI: Pniówno /8/, Wierzbica commune: core (1), backed bladelet (2), blades (3, 4)

make it look close to many cretaceous raw materials occurring both in Poland (the area of Mielnik, Pusza Knuszyńska, compare Zalewski 2002), and in neighbouring countries (for example, in the Volhynian Upland, in the basin of the River Prypeć, in the area of Krasne Sieło, compare Libera 2001: 104–105). It is also similar to a whole mass of erratic flint occurring on extensive lowland areas. The absence of clear criteria makes it difficult and sometimes even impossible to credibly determine their origin, and in consequence also the range of their distribution. At present, it is beyond discussion that the raw material occurring in Pagóry was utilised on a large scale by peoples of a few cultural traditions who penetrated the central Lublin region in the Late Palaeolithic.

In comparison with the distribution of other flint stone, for example, Świeciechów (Libera 2002: 31–34) and in chronologically close inventories, including the materials from Pagóry Chełmskie, their local character is obvious. It appears that the scale of primary distribution of this flint most probably did not exceed 30–40 kilometres away from the outcrops. The occurrence of this flint at further removed sites is unknown. As compared with materials from the lowland part of the Lublin region, one should take into account the erratic materials numerous recorded, for example, in the Lubartów Upland, Garb Włodawski, or the possibility of imported materials: “Mielnik” from the middle River Bug, siliceous rocks recorded in Volhynian Polesie, as well as the use of “Volhynia” resources, especially from the sites recorded in the basin of the Upper Bug.

The fieldwork has so far not revealed sites of a mine type. It should be remembered that the examination concentrated on intensively cultivated areas for at least a couple of centuries, which could have destroyed the existing sites of extraction and preliminary treatment of the blanks, then manifested by shafts left by extraction spots and accompanying waste-heaps. Theoretically, there are chances of discovering sites of this type in the, as yet, unexplored forest areas. A similar situation took place recently in the area of Puszcza Knuszyńska near Białystok (Zalewski 2002: 141).

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## VIETINIŲ KREIDOS PERIODO TITNAGO ŽALIAVOS IŠTEKLIŲ PANAUDOJIMAS VĒLYVOJO PALEOLITO DIRBTUVĖSE LIUBLINO REGIONE NAUJAUSIŲ TYRIMŲ DUOMENIMIS: PROBLEMOS APŽVALGA

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### Santrauka

Chelmo aukštumos (Chelmo kalvynas) mezoregionas yra Liublino aukštumos šiauriniame pakraštyje ir apima apie 722 km<sup>2</sup> (1 pav.). Šios teritorijos paviršių sudaro kreidos periodo formacijos, padengtos tretinio periodo smiltainiais. Kreidos periodo sluoksniuose aptinkama titnago žaliava, kuri makroskopiškai yra labai panaši į uolienas iš Volynės, Volynės Polesės ir Podlesės.

Žvalgant Chelmo aukštumos paviršių iki šiol yra aptikta apie 120 įvairaus ploto, nuo 1 iki 50 ha, vietų, kur titnago žaliava yra aptinkama paviršiuje (1 pav.). Pagal paskutinius duomenis, paviršiuje aptinkama titnago žaliava yra 2 tipų. A tipas – tai rieduliai, arba taisyklingi, arba susiraukšlėję, su gausiomis duobutėmis ir ertmėmis. Šiuo metu šio tipo rieduliai dažniausiai yra iki 10 cm skersmens, tik labai retai didesni nei 40 cm ilgio ir 20 cm pločio (2–3 pav.). Žaliavos gabalų žievė rudos arba balsvos spalvos, o vidaus masė gana įvairių matinės pilkos spalvos atspalvių – nuo tamsiai „mėlynos“ iki juosvos. Žaliavos gabalai viduje dažnai yra dėmėti ar juostuoti (2 pav.). Šis titnago žaliavos tipas dažnai panašus į žaliavą iš Volynės, Podolės ir Volynės Polesės ar net Podlesės kasyklų. B tipas – tai maži ir labai maži įvairios formos titnago žaliavos gabaliukai su pirminiu paviršiumi arba be jo, taip pat įvairių pilkų, juosvų, tamsiai mėlynų bei gelsvų, raudonų ir rudų atspalvių (4 pav.).

Paskutiniai tyrimai leido nustatyti radimvietes, datuojamas nuo vidurinio paleolito iki žalvario amžiaus pabaigos. Tarp jų medžiagos vėlyvojo paleolito radiniai sudaro gausiausią grupę: pavieniai skaldytinių ruošiniai, daugybė skaldytinių, skalda ir negausūs dirbiniai. Titnago kasyklose arba netoli jų aptikta mažiausiai 20 keliolikos arų plote įsikūrusių dirbtuvių. Dirbtuvės koncentruojasi 3 rajonuose (1 pav.). Dauguma vėlyvojo paleolito radinių sietina su įkotinių antgalių kultūrų tradicija, daugiausia su Svidrų kultūra. Kai kurios ra-

dimvietės sietinos su tiksliau nenustatytomis vienašonių antgalių kultūromis. Viena iš radimviečių sietina su Madleno kultūros palikimu. Titnago žaliavos šaltiniai Chelmo aukštumoje buvo vietinės svarbos ir paplitę maždaug 30–40 km dydžio rajone.