

Lithic production from local raw materials during Late Paleolithic/Mesolithic period in Bohemia: Example of exploitation of the rock crystal at Soutice 1 (Benešov District)

Výroba štípané industrie z místních surovin na přelomu pozdního paleolitu a mezolitu v Čechách: příklad zpracování křišťálu na lokalitě Soutice 1 (okres Benešov)

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KEYWORDS

Mesolithic – rock crystal – raw materials – lithic production – Bohemian-Moravian Highlands

ABSTRACT

On site production from local raw material has its specific characteristics. Rock crystal and quartz are raw materials, which were widely used during prehistory. However, an example of their exploitation at the proximity of the source was missing from the Czech Republic. The article discusses attributes of the lithic production from local raw materials using the example of rock crystal. There is a presentation of the lithic collection from the site of Soutice 1 (Central Bohemia), which was recently discovered at the confluence of the rivers Sázava and Želivka. The site was discovered by surface survey during 2023. More than 500 lithic pieces were collected. The assemblage is dominated by rock crystal. The site is situated in archaeologically understudied area. One of the origins of this raw material often seen in this region is the area of the Bohemian-Moravian Highlands. Usually, this raw material forms only a small part of the known collections, but it was present in low numbers at various locations even quite distant from the origin. So, it seems that rock crystal as a raw material was quite popular. The discovery of a site that is near the possible source of this raw material can help us understand specific characteristics of the production of this raw material and some aspects of the production from these local raw materials in general.

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1. Introduction

This article presents some reflections on the specific characteristics of lithic production on local raw material. A collection made of rock crystal was chosen to be an example. Every raw material is different, but, when a collection is found in the proximity of the source of the raw material, there are some characteristics connected to its specific position in the proximity of the rock source. Rock crystal is a widely used raw material during a considerable part of prehistory. Since it is present and used all around the world, some aspects might be universally applicable.

The main research question of this text is if there are any general characteristics of the Late Paleolithic/Mesolithic lithic production from rock crystal during the Pleistocene/Holocene transition. If production from the rock crystal differs from the production from the other rocks (especially siliceous rocks). Finally, we would like to discuss if the presented assemblage from Soutice 1 has characteristics of a collection situated in the proximity of the raw material source and how they can be compared with similar collections.

The case study for this article is the surface collection from Soutice 1. The site is in Central Bohemia, the area of the Bohemian-Moravian Highlands (Czech Republic, Central Europe). This region is a known source of rock crystal. There are a few small collections (see Fig. 1, Tab. 1) from the surface survey known, but larger collections are missing. Rock crystal is present in various collections from different regions from the Paleolithic (e.g. Hostim, see Vencl 1995), and Mesolithic (e.g. sites in the Bohemian Forest, see Kapustka et al. 2020). During agricultural prehistory, the popularity of rock crystal as a raw material for lithic production declined. Because of the presence of the sporadic finds associated with the hunter-gatherer occupation, the surveys focused on this type of settlement started in 2023.

Hunter-gatherer settlement in the surroundings of the River Sázava is quite poorly known, and there are not many sites with reasonable-sized collections. The poor knowledge of this region is the result of very limited archaeological activity in this region as well as quite a high percentage of forested areas and grasslands, which do not allow for effective surface surveys. On the other hand, this region is seen as an area with accessible sources of rock crystal (Přichystal 2013, 122), which was used as a raw material for lithic production, especially during the Mesolithic Period. Thus, at least some sites should be present from this period. This article presents the region, its natural characteristics, and the history of research. Then there is an overview of the problematics of rock crystal exploitation and sourcing. As an example of the use of this particular raw material the assemblage from Soutice 1 is presented (Fig. 1), which until now is the most numerous collection in this region. Finally, the implications for rock crystal use in a wider perspective is provided.

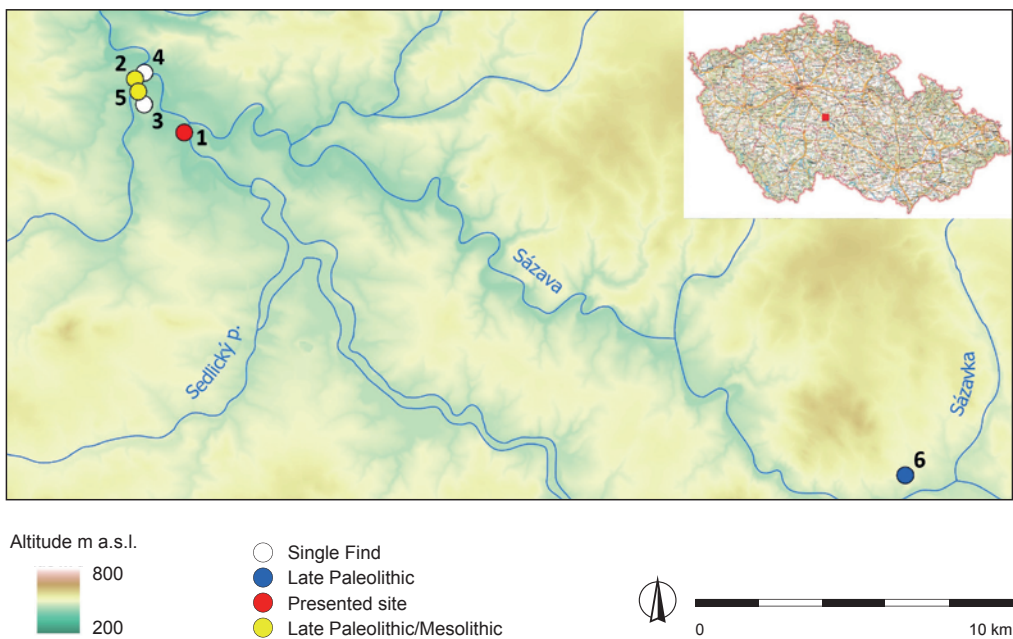


Fig. 1. Position of the sites mentioned in the text. 1–3 – Soutice; 4 – Chabeřice; 5 – Střechev nad Sázavou; 6 – Světlá nad Sázavou. The numbers in the picture match those in Table 1. Map source: © ČÚZK; compiled by Č. Čižecký.

Obr. 1. Lokalizace nalezišť zmiňovaných v textu. 1–3 – Soutice; 4 – Chabeřice; 5 – Střechev nad Sázavou; 6 – Světlá nad Sázavou. Čísla na mapě se shodují s čísly v tabulce 1. Mapový podklad: © ČÚZK; sestavil Č. Čižecký.

No.	Site	Chronology	X	Y	No. Lithics	Most numerous RM	No. pieces made of rock crystal	Other RMs	Reference
1	Soutice 1	Late Paleolithic/Mesolithic	1087280	702850	497	Rock crystal (40%)	198	See Tab. 1	Kapustka et al. in print
2	Soutice 2	Late Paleolithic/Mesolithic	1085779	703857	53	Erratic flint (53%)	2	Opal, cherts, quartzites, PSW	Kapustka et al. in print
3	Soutice 3	Late Paleolithic/Mesolithic	1086387	704123	1	Not determined	0	0	Vencl 1989b
4	Chabeřice	Late Paleolithic/Mesolithic	1085379	704114	1	Erratic flint	0	0	Vencl 1989a
5	Střechev nad Sázavou	Mesolithic	1085980	704311	50	Erratic flint (54%)	1	Cherts, rock crystal, jaspers, PSW, radiolarite, chocolate flint, quartzites	Davidová et al. 2018
6	Světlá nad Sázavou	Late Paleolithic	1098159	679939	171	Erratic flint (68%)	9	Cherts, rock crystal, radiolarite, chocolate flint, quartzites	Vencl, Rous 1998

Tab. 1. Characteristics of the sites in the surroundings of Soutice 1.
Tab. 1. Charakteristiky nalezišť v okolí lokality Soutice 1.

1.1 Characteristics of the Bohemian-Moravian Highlands (Central Bohemia, Czech Republic)

The Bohemian-Moravian Highlands, situated in Central Europe within the Czech Republic, encompass a diverse landscape characterized by rugged hilly geomorphology and a temperate continental climate. The geomorphology of this region consists of a diverse array of landforms, including rolling hills, rugged plateaus, deep valleys, and escarpments, each contributing to its unique geomorphic character (Kadlec 2017; Pánek, Hradecký eds. 2016). The highlands are characterized by extensive plateaus and uplands, featuring gently undulating terrain with relatively flat summits. The rivers are often deeply incised with high cliffs above them, as is the River Sázava at this site. The region’s geological composition is notably heterogeneous, comprising a mosaic of rock types such as granite, gneiss, slate, and sandstone, among others. These formations have been shaped over millions of years through tectonic activity, erosion, and sedimentation processes, contributing to the region’s geological complexity and diversity (Chlupáč, Havlíček eds. 2002). Pedologically, the Bohemian-Moravian Highlands exhibit an

assortment of soil types, influenced by factors including parent material, topography, climate, and vegetation. The soils range from fertile loams and clayey soils in low-lying areas to stony, skeletal soils in upland regions. The soil profiles often reflect the underlying geology, with variations in texture, structure, and nutrient content across different substrates (Cháb et al. 2007). The actual climate of the Bohemian-Moravian Highlands is predominantly temperate continental, influenced by its inland location and topographic features. Winters are typically cold, while summers are rather short warm to moderately hot, with occasional thunderstorms. The region experiences distinct seasonal variations in temperature and precipitation, with spring and autumn characterized by milder weather conditions (Brázdil, Dobrovolný eds. 2019).

The typical position of this site (and all other known sites in this region) are at the confluence of the River Sázava with some other streams. This area is part of the Bohemian-Moravian Highlands, specifically part of the Vlašim Upland, which is formed by the rugged upland on granitoids of the Central Bohemian Pluton and Moldanubian rocks with numerous inlays of orthogneiss

bodies and with remnants of Permian sediments in the Blaník Rill, has a strongly articulated and denuding relief (Demek a kol. 1987, 547). The altitude is from 330 to 440 m a.s.l.; the rivers usually formed deep valleys. The soils are mostly cambisols (Nováková a kol. 1991). According to the map of the potential vegetational cover, there should be an oak forest, perhaps with some spruces. The geologically youngest are the formations of fluvial gravel/sand, they are present around the River Sázava and other streams (Petráň a kol. 1985).

Settlement of the surroundings of the River Sázava in prehistory is quite poorly known, but slowly more and more sites appear here as well. In the late 1980s, a site with lithics was discovered in Střechov nad Sázavou (Davidová et al. 2018) and another in Soutice (Vencl 1989a). Later prospection was conducted by S. Vencl, who found lithics in Chabeřice (Vencl 1989b). The most numerous site known in this region is Světlá nad Sázavou 'Na Bradle' (Vencl, Rous 1998; Pajerová 2011). However, all these assemblages taken together are considerably less numerous than the one from Soutice and rock crystal is present in a very low numbers within these collections (see Tab. 1).

So, we can sum up that according to previous knowledge this region was used by hunter-gathers communities, but traces of this use were not well preserved and identified. This site along with the sites Světlá and Střechov confirms that we can expect numerous contexts in this region, but good preservation of archaeological layers does not seem probable, because of rather thin layers of quaternary sediments. The preferred position of identified sites is at the places which are highly above the River Sázava and are near its confluence with some stream.

1.2 Rock crystal as the raw material for lithic production

In geological terms rock crystal is a variety of quartz, which is a gemstone. It is translucent and was used for lithic production in Czechia from the Middle Paleolithic (Přichystal 2013). Its use became more and more popular especially during the Upper Paleolithic in the Magdalenian (Valoch 1957; Vencl 1995), and continued during the Late Paleolithic and Mesolithic periods (Vencl ed. 2006; Pajerová 2011). This raw material is one of the hardest commonly used raw materials for lithic production, its hardness is level 7 on the Mohs scale. Its sources can be determined according to the present inclusions and local chemism, however the presented assemblage has not yet been analysed in this detailed way, an exact determination of the source of this raw material for lithic production might be done in future, especially by identification of inclusions in the raw material (Halavínová, Přichystal 2008; Kotnár 2011). On the other hand, the mapping of the sources of this raw material in Bohemia is also an ongoing process. The source of the raw material for the collection from Soutice could be southeast of Žďár nad Sázavou. The simple supporting argument for this location of the sources of raw material is, that they are the nearest to the site of Soutice, and they are situated in the surroundings of the Sázava, and the river could have been an important transport channel, as we often see transport of the raw materials downstream from its source. But until the chemical and/or analysis of inclusions is done also other sources are highly probable, especially those in surroundings of Brtnice (Přichystal 2013).

Rock crystal is often seen as a low-quality raw material, however it was suitable for flintknapping and was often used. Nevertheless, it is important to bear in mind that it is much more complicated to evaluate this raw material, because many signs which allow us to classify collections from siliceous rocks are much more poorly visible, or almost invisible on rock crystal. When discussing flintknapping, the question of quality is

broached from time to time. Often there is claim, that quality is subjective. However, quality in terms of lithic production is quite well explicable, and it is linked with homogeneity, which is necessary for the predictability of the production (Inizian et al. 1992). Rock crystal has quite high variability in its quality and the collections from the Posázaví reflects this wide spectrum of differences in this particular raw material. Variability is well visible in the opacity/translucidity of the pieces and there are differences in their colour as well (see Fig. 2). These differences might also reflect the characteristics of the raw material for the knapping or they can be independent of the homogeneity of the rock. Usually, the best characteristics for the flintknapping has the clearest glasslike types of rock crystal (Inizian et al. 1992.), but often coloured variants are also used, because aesthetic aspects might have played a role in addition. Clear translucent pieces of rock crystal (Fig. 2: 2, 4, 7, 9) are present at Soutice, but also varieties of the smoky quartz (Fig. 2: 1, 12). Different levels of opacity are present from something between rock crystal and quartz (Fig. 2: 3, 10) to milky quartz (Fig. 2: 5, 6, 8). Cortex is rarely present at Soutice, but there are also examples of the pebble cortex, which were transported by some stream (Fig. 2: 11).

Use of high-quality rock crystal and quite low-quality examples at one spot is an interesting piece of evidence. At many known sites with lithic collections, where rock crystal is present in low numbers, pieces made of rock crystal are usually present as a high-quality raw material (Vencl 1995; Vencl ed. 2006). Use or rather testing of lower quality raw material is usually connected to the use of raw material in the proximity of its source. Soutice seems to be a good example of this practice, because there are present pieces made of homogenous pieces of the raw material, which are well predictable during production, but some pieces are rather heterogenous with some cracks and it seems they were tested rather than knapped. So, it seems that the source of the raw material used at Soutice should be near the position of the lithic collection found.

2. Materials

2.1 Site description and way of prospection

The site is situated in Central Bohemia (Czech Republic) in region of the foothills of the Blaník Massif at the plateau above the confluence of the rivers Sázava and Želivka. Its position was one of the most favourite during the Bohemian Mesolithic. It is in the cadastral territory of Soutice in the Benešov District. Today it is at ploughed fields so it is likely that any possible situations were heavily modified by post-depositional processes caused by agriculture. The site was found thanks to the prospection which was focused on the possible sites with hunter-gatherer settlement in the environs of Střechov nad Sázavou (Kapustka et al. in print), where a Mesolithic settlement site was identified (Davidová et al. 2018). Based on the landscape, some positions were chosen with a high probability of the presence of this type of settlement (fords, confluences, pronounced hills etc.). During the initial prospection, the settlement at Soutice was found in March 2023. Site was visited repeatedly. During 2023 nearly 500 lithic pieces were found at this spot. The lithics could be associated with the Final Paleolithic/Mesolithic period. Other than the lithics, a destroyed grave from the Iron age and a few pieces of pottery from the Early Middle Ages were found.

The survey was conducted by T. Zemanová Davidová. This survey strategy could be described as the 'identification of the sites' method (Kuna 1994, 50; Kuna ed. 2004, 324–325). In a near future, test pitting is planned to understand the stratigraphy of the site better and see if there are any stratified levels present.



Fig. 2. Example of lithics made of different forms of the rock crystal from the site of Soutice 1. Photo by T. Chlup.

Obr. 2. Příklady nálezů štípané industrie vyrobených z různých forem křišťálu z naleziště Soutice 1. Foto T. Chlup.

2.2. Characteristics of the lithic collection

From the Mesolithic period, only lithic artefacts have been found here. Analysis of the collection followed a standard format. All finds were measured and weighed, the raw material was identified macroscopically for all pieces and under the microscope for selected items. All finds were sorted according to techno-typological categories. Typological features were the primary tool used to identify the chronological association of the finds. As is usual for the Mesolithic collections in Bohemia (e.g. Šída, Pokorný eds. 2020), the lithic artefacts we discuss below are sorted into the following categories:

1. tools and retouched pieces,
2. blades and blade fragments,
3. cores and core fragments,
4. production waste (including microburins, tablets, and crested blades, etc.),
5. other waste (chips, flakes, flake fragments).

Selected pieces were documented. This article discusses rock crystal production at this site, so only the selected pieces made of rock crystal were documented. The sample for documentation was chosen to cover all typo-technological categories present and to be representative for the presented collection.

Within lithic analysis, tools and retouched pieces are understood as finished products, which allow us to see the intentions behind the observed production processes. Blades and blade fragments are also quite informative in demonstrating the general strategies of blank production. They also allow us to see some intentions of the producers, and can sometimes help in identifying the tools used for percussion, etc. Cores and core fragments can help confirm general lithic production activities associated with the site, which are also sensitive to temporal trends. The information value of the other waste is usually quite low, but in this case it provides important testimony of the production of local raw material.

The lithic collection has 494 pieces it is well preserved with a very low presence of patination or aeolisation. There are nearly 20 different raw materials within the collection (see Tab. 2). Raw materials were determined only macroscopically and some closer specifications may follow. However raw material variability within this collection is extremely high. Most numerous are local rock crystals which form 40% of the collection. The sources

of imported raw materials could be seen in all directions. From the North erratic flint was probably transported (the nearest known sources are ca 130 km away). It is the second most numerous raw material and comprises 30% of the collection. All other raw materials represented less than 10% of the collection. Most of them are known as often used not only during the Bohemian Mesolithic but in diverse prehistoric periods too. They show how hunter-gatherer groups were coming to Soutice from various directions. To the northeast, there are sources of quartzites used which have their origin in the area of northwestern Bohemia (the nearest known sources are ca 130 km away). From the western direction, cherts were transported from Bohemian Karst; their sources are ca 70 km away. From the east some spongolites and cherts were transported with distances of its sources varying between 90 and 150 km. The sources of the opals and products of siliceous weathering are towards the south (ca 40–70 km away). Some raw materials are from a distance greater than 150 km, namely Bavarian cherts, radiolarites, and chocolate flint.

Production categories are present in the whole collection in these amounts: 66% waste, tools 14%, production waste 9%, blanks 7%, and cores 4%. For the rock crystal proportion of the production categories is slightly different: 89% waste, 6% tools, 3% cores, 1.5% blanks, and 0.5% production waste. This difference in the proportion of the production categories could be interpreted that the rock crystal was rather tested than knapped here (this is an explanation for the missing preparation of the cores made of rock crystal), and blanks were transported with knappers elsewhere. The only difficult point in this interpretation is the high number of tools made of rock crystal, for which we do not have an explanation so far.

The presence of the tools is quite high; there are 68 tools. The most numerous are retouched flakes 26 pieces, followed by scrapers 15 pieces, retouched blades nine pieces, burins eight pieces; there are five microliths, two points, and one splintered piece, notch, and borer. This toolkit shows the probable processing of hides, very probably meat too. This is not confirmed by the toolkit itself, but also because many pieces are broken. Burins show probable processing of bone/antler, microliths, and points might be pieces that were taken out of the prey. Tools from rock crystal are slightly different in composition and are smaller too. The average width of tools made of erratic flint is 27 mm, and tools made of rock crystal have an average width of 20 mm.

	Production	Blanks	Tools	Waste	Cores	Total
Rock crystal	1	3	11	176	7	198
Erratic flint	11	25	32	75	3	146
Chert (Bohemian karst)	11	1	1		1	14
Chert (Olomučany)	1		1	1	1	4
Chert (Krumlovský les)				2		2
Bavarian chert	1	1	1	4		7
Chocolate flint			1			1
Jaspers	10		1			11
Silicite (other)	2		1	7		10
Spongolite	1		3	5	1	10
PSW	1	3	6	28	7	45
Limnosilicite	1					1
Porcelanite			1	2		3
Opal			3	5		8
Quartzite (Bečov)	2	2	3	2		9
Quartzite (Tušimice)	1		2	2		5
Quartzite (Skršín)				1		1
Quartz				4		4
Undetermined	1		1	12	1	15
Total	44	35	68	326	21	494

Tab. 2. Proportion of production categories in the lithic collection from Soutice 1 (PSW = products of siliceous weathering).

Tab. 2. Poměr jednotlivých výrobních kategorií v souboru ze Soutice 1 (PSW = křemičité zvětraliný).

Tools made of rock crystal are represented by six retouched flakes (Fig. 3: 4–7, 9), two scrapers (Fig. 3: 10, 11), 1 microlith (Fig. 3: 13), one burin and one splintered piece (Fig. 3: 14). The microlith allows us to associate production from rock crystal with the Mesolithic period. Comparison of blanks is not useful, because there is only a low number of blanks made of rock crystal, bladelets (see Fig. 3: 1–3, 8. Cores made of rock crystal are mostly of changed orientation, there is one single (Fig. 3: 12) and one two-platform core. However, it seems that they were knapped the same way regardless the raw material.

The chronology of the collection shows a clear presence of a Mesolithic settlement, thanks to the microliths present. The toolkit does not show any significant discrepancy with the usual composition of Mesolithic sites. But the presence of the burins might indicate also some older Late Paleolithic component in this collection. A more precise determination of the chronology of the site is in progress.

3. Discussion

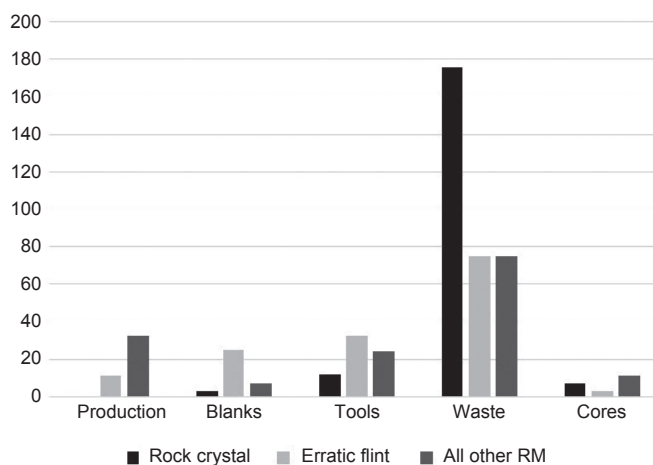
There are various prehistoric settlements in the surroundings of the River Sázava (Pajerová 2012), but their concentration is really low and any new site helps us to understand the past reality better. The Bohemian-Moravian Highlands is a specific region with quite a harsh environment, the River Sázava forms deep valleys with steep rocky slopes. So, it is possible that the low number of hunter-gatherer sites is caused by post-depositional processes and the overall low interest of archaeologists in this region, because of the low concentration of agricultural prehistoric settlements.

The site of Soutice 1 is an important example of a site with a quite numerous collection in this region and there is a chance of the enlargement of this collection. Numerous collections are practically missing in the surroundings of the River Sázava. A Late Paleolithic site is known from Světlá nad Sázavou (Vencl 2011; Pajerová 2012), so this is the collection which is the nearest published example of comparative material with the sites being ca 30 km away from one another. The chronological association of the site at Soutice 1 is not clear and it is probable that it represents a mixture of Mesolithic and Late Paleolithic material. However, Světlá is a good example to frame the presented site in a wider regional context as well as another much smaller

collection located in the vicinity could be the assemblage from Střečov nad Sázavou (Davidová et al. 2018).

There are some differences in the collections, but the main trends are very similar. The collections show a wide variety of used raw materials. At the site of Soutice 1 more than 20 different raw materials were used, and all various raw materials used at Světlá nad Sázavou (chert from Krumlovský les, chocolate flint, radiolarite, Bavarian chert; see Pajerová 2012) were used in Soutice too. The collection from Světlá was dominated by erratic flint (Pajerová 2012) and so are most of the single finds, and other collections in this region (e.g. Davidová et al. 2018).

This makes the dominance of the rock crystal at Soutice 1 even more interesting and maybe important too. The dominance of local raw material is also accompanied by differences in proportions of this raw material within the production categories (see Graph 1). Differences in the production and consumption



Graph 1. Rock crystal proportion at different production categories, compared with total number of finds made of erratic flint and total number of all other raw materials (RM = raw materials).

Graf 1. Zastoupení křišťálu v rámci jednotlivých výrobních kategorií, srovnání s celkovým počtem nálezů ze silicitu glacienních sedimentů a všech ostatních surovin dohromady (RM = suroviny).

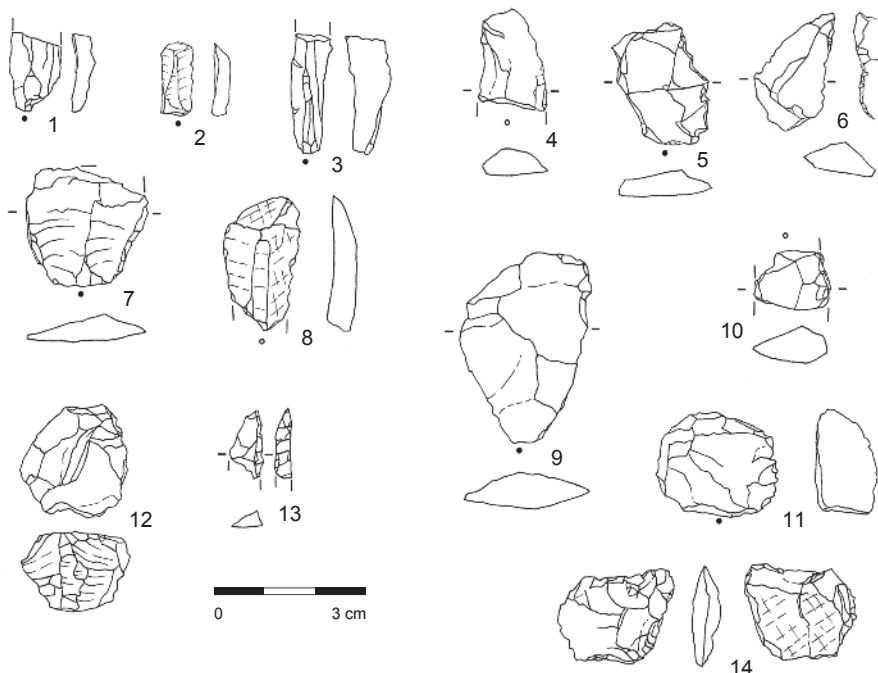


Fig. 3. Drawings of chosen lithic pieces made of rock crystal. Drawing by J. Eigner.

Obr. 3. Kresběná dokumentace vybraných nálezů z křišťálu. Kresba J. Eigner.

of different raw materials with the dominance of rock crystal seem to support the idea that this raw material was local. The exploitation of local raw material, along with the size of the collection could indicate a more complex character of the site of Soutice 1 and more specialised/shorter occupation of other sites (Soutice, Chabeřice, Střečov) in the vicinity.

4. Conclusion

Currently, it seems that for uncovering specifics of the Mesolithic settlement in the Posázaví (Sázava river basin) region the site of Soutice 1 will be crucial for understanding the local settlement strategies and regional connections. The site was discovered in 2023 so only a preliminary study of the material has been undertaken yet. The important observations are: 1) very probable production from the local raw material at the site; 2) within the Posázaví region it has an unusually high concentration of finds; 3) a huge variability of the raw materials were used.

In the future, there are several groups of activities that should be done to have a better understanding of this region. Some of them are connected to fieldwork and others to the processing of the collection. Fieldwork activities that should deepen our knowledge of this site and region:

1. test pitting is to examine if there are not any Mesolithic layers preserved in their stratigraphic position,
2. prospection focused on the localisation of the nearest sources of rock crystal in the vicinity of the site.

The analysis of the material will deserve more attention too:

1. determination of possible sources of the rock crystal used by petroarchaeological methods (especially inclusion analysis)
2. a detailed study of the differences of production and consumption pieces from different raw materials.

To sum up, this article presented the basic characteristics of the collection found at Soutice 1. The most interesting point is seen in rock crystal exploitation, which seems to have all aspects of the local raw material use. There is a necessity of a more precise chronological association of the collection. This should be done by proxy dating (most probably radiocarbon) if any favourable sites are uncovered in the future. In addition, a detailed study of the differences in the use of all present raw materials can be undertaken. The high variability of the used raw materials has two different explanations now. The Posázaví was a transition zone, and raw materials from all directions arrived here thanks to migrations that led to different regions. Another explanation is that there are different chronological components with different raw material economies present and that is the reason why the variability of the raw materials used is so high.

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Resumé

Posázaví je archeologicky poměrně špatně známé, o to cenější byl nálezy lokality v Souticích 1 (obr. 1), kde bylo povrchovou prospekci během roku 2023 nasbíráno téměř 500 kusů štípané industrie. Popis surovinového složení i základního typo-techno-logického zařazení materiálu ze Soutic je zpracováno v tabulce 1. V kolekci je výrazně zastoupen křišťál. Vzhledem k vlastnostem štípané industrie z prezentované lokality se zdá, že jde o dobrý příklad souboru, v němž byla místní surovina zpracovávána přímo v blízkosti zdroje. V okolí jsou známé málo početné kolekce štípané industrie ve Střešově nad Sázavou, Chabeřicích i Souticích. Nejbližší větší soubor v regionu pochází ze Světlé nad Sázavou. Všechna zmíněná naleziště jsou od sebe vzdálena asi 30 km (viz obr. 1).

Křišťál, který představuje mezi nálezy nejvýrazněji zastoupenou surovinu, je variantou křemene. V Čechách je jeho využití doloženo od středního paleolitu – jeho obliba následně rostla a nejvýrazněji se jeví jeho využití právě v závěru paleolitu až mezolitu. Je to jedna z nejtvrdějších, ke štípání běžně využívaných hornin. Presné určení původu suroviny v Souticích bude předmětem další analýzy, ale vzhledem k proporci produkčních kategorií se zdá, že šlo o místní surovinu.

Soubor štípané industrie byl zpracován standardním způsobem, čítá celkem 494 kusů z téměř 20 různých surovin (viz tab. 2). Křišťál je zastoupen nejvíce a představuje 40 % souboru, následuje silicit glacienních sedimentů s 30 % a všechny ostatní suroviny jsou prezentovány méně než 10 %.

Zastoupení výrobních kategorií se mírně liší. Jiné hodnoty získáme porovnáním celého nalezeného souboru, jiné při analýze části vyrobené z křišťálu. Celkově je zastoupení následovné: odpad 66 %, nástroje 14 %, výrobní odpad 9 %, polotovary 7 % a jádra 4 %. Využití křišťálu má toto zastoupení výrobních kategorií: odpad 89 %, nástroje 6 %, výrobní odpad 0,5 %, polotovary 1,5 % a jádra 3 %. Tento rozdíl v poměru zastoupení výrobních kategorií u křišťálu a surovin celkově může indikovat, že křišťál byl spíše testován, a proto je tak nízké zastoupení polotovarů a specifického odpadu z výroby. Právě tento způsob opracování by mohl svědčit o tom, že jde o místní surovinu. Nástroje jsou v souboru zastoupeny dosti bohatě (68 ks – celkem 11 ks je vyrobeno z křišťálu), v souboru je 26 retušovaných ústěpů, 15 škradel, devět retušovaných čepelí, osm rydel, pět mikrolitů, dva hroty a po jednom dlátku, vrubu a vrtáku. Mezi nálezy je jednoznačně přítomná mezolitická složka, což je to patrné na velikosti a způsobu opracovaných jader, surovinové pestrosti i přítomnosti mikrolitů. Rydla v souboru mohou indikovat pozdně paleolitickou činnost. Vzhledem k současnému stavu bádání se zdá, že naleziště Soutice 1 a lokality v těsné blízkosti budou klíčové pro porozumění lovecko-sběračského osídlení Posázaví.

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