

MICHAŁ PRZEŹDZIECKI, KAROL SZYMCZAK

## BURINS FROM TANGED POINTS. SOME REMARKS ON A SPECIFIC WAY OF SHAPING OF TANGED POINTS

### Introduction

A direct inspiration for writing this paper was a very interesting lithic collection (unpublished yet) from the village of Sucha Rzeczką, the Augustów District, the Podlaskie Voivodeship, about 30 km south-west of the city of Suwałki (**Fig. 1**).

The site was accidentally discovered in 1982 by Aleksander Bursche during his stroll along Lake Serwy. In the same year the collected material was delivered to Karol Szymczak, who, together with Tadeusz Zajączkowski, revisited the place in 1994. Unfortunately, by that time the site located on the southern coast of Lake Serwy was nearly completely destroyed in the course of building of a tourist resort. Only a series of the remaining artefacts was collected from the surface, and a general plan of the archaeological material concentrations was made.

The most interesting flint tools found at Sucha Rzeczką are peculiar forms of burins made from tanged

points, to which we would like to devote the main part of our paper.

A cognitive potential of the surface collection from Sucha Rzeczką is best seen in a context of technological studies – a key to interpret valuable information recorded in archaeological material, but illegible for other, e.g. typological methods. On the one hand, such an analysis allowed us to differentiate here three chronological episodes of the Stone Age settlement, to connect particular artefacts with them, even not characteristic ones, such as flakes and blades, and to place these artefacts in a proper moment of the operation chain. On the other hand, it allowed to set up a general hypothesis on the function and the character of the site, the economy of raw material, and the ways of its treatment. These results are especially valuable because, among others, they concern Pre-Swiderian cultural units from north-eastern Poland, about which we still do not know too much.

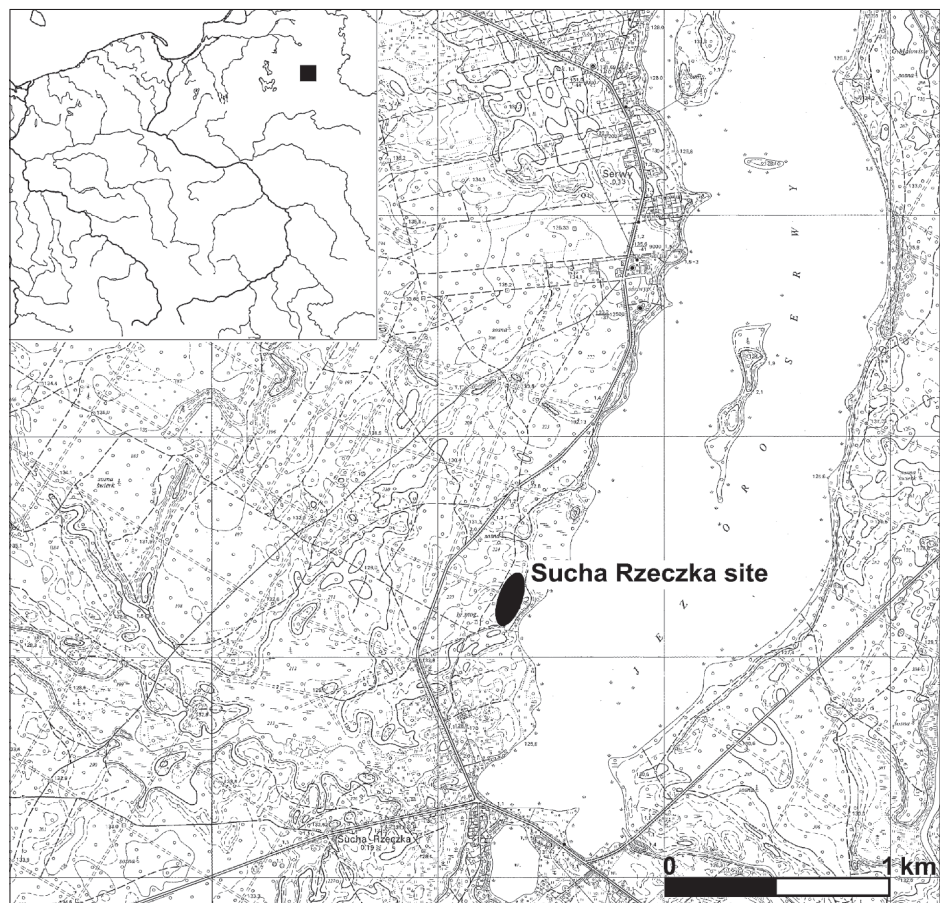


Fig. 1. Location of the archaeological site at Sucha Rzeczką.

Ryc. 1. Lokalizacja stanowiska w miejscowości Sucha Rzeczką.

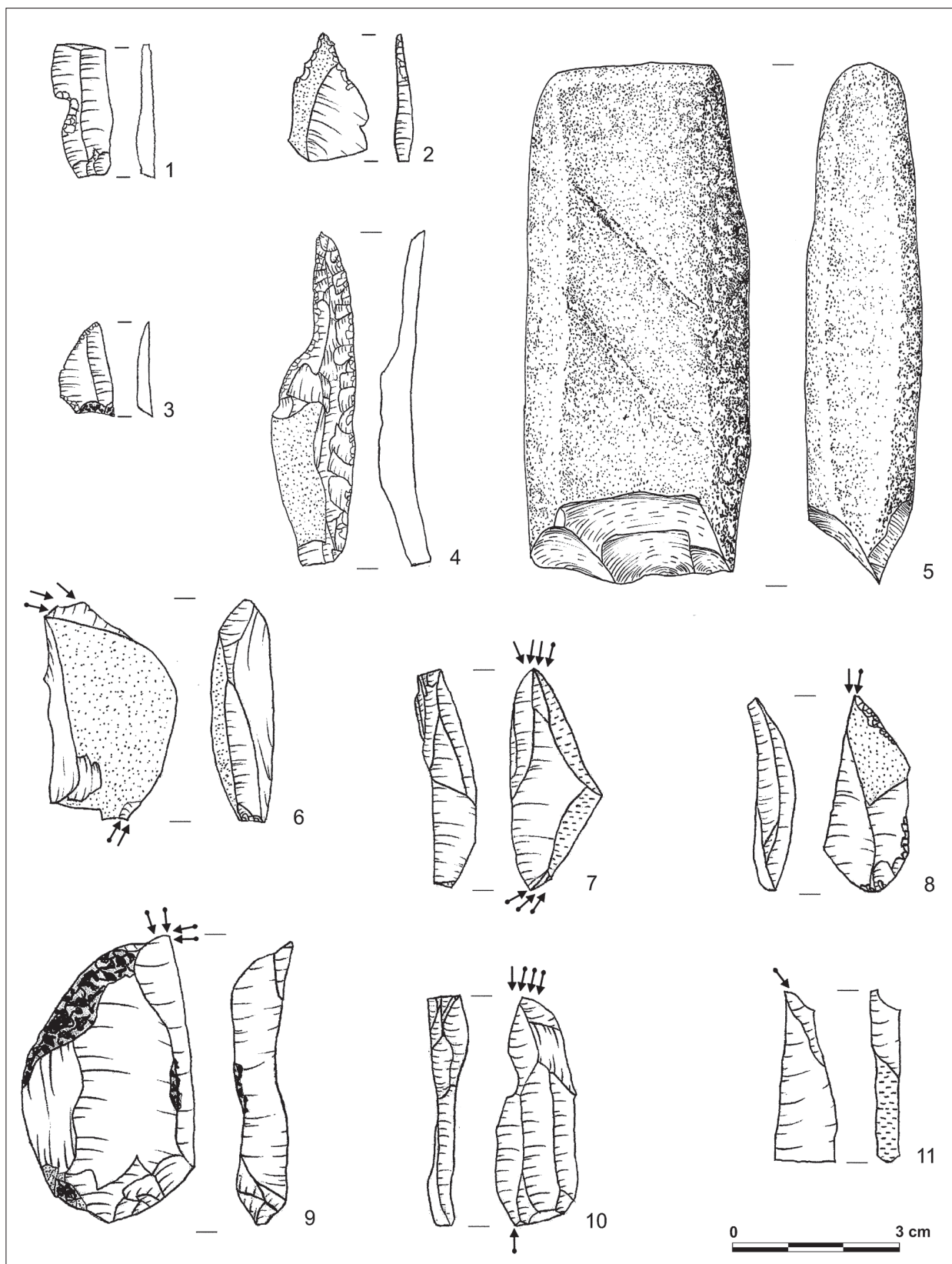


Fig. 2. A group of selected Late Palaeolithic (6–11), Mesolithic (1, 3), and Neolithic/Early Bronze Age (2, 4, 5) artefacts from Sucha Rzecznka: 1 – notched blade; 2, 4 – perforators; 3 – truncated piece; 5 – stone celt; 6–11 – burins (Drawing M. Przeździecki and M. Różycka).

Ryc. 2. Grupa wybranych zabytków schyłkowopaleolitycznych (6–11), mezolitycznych (1, 3) i schyłkowoneolitycznych/wczesno-brązowych (2, 4, 5) z Suchoj Rzecznki: 1 – wiór z wcięciem; 2, 4 – przekłuwanie; 3 – półtyłczak; 5 – siekiera kamienna; 6–11 – rylce.

Table 1. Typological and chronological structure of the flint inventory from the Sucha Rzeczką site.  
Tabela 1. Struktura typologiczna i chronologiczna inwentarza krzemiennego ze stanowiska Sucha Rzeczką.

TYPE	NUMBER	%	CHRONOLOGY	
			PALAEOLITHIC	OTHER
Blades and their fragments	50	19.6	50	–
Flakes	109	42.7	78	31
Chips	28	11.0	28	–
Crested blades	28	11.0	28	–
Cores and their fragments	17	6.7	10	7
Burin spalls and microburins	3	1.2	2	1
Retouched tools and their fragments	20	7.8	16	4
<b>TOTAL</b>	<b>255</b>	<b>100</b>	<b>212</b>	<b>43</b>

### The characteristics of the archaeological material

The inventory from Sucha Rzeczką totals 262 artefacts, out of which 255 are made of flint (Table 1). A single polished stone celt, and six pottery sherds complete the collection. Even from the typological point of view, the inventory does not look homogeneous – it could be divided at least into three groups, also differentiated with regard to technology, planigraphy, and the state of preservation.

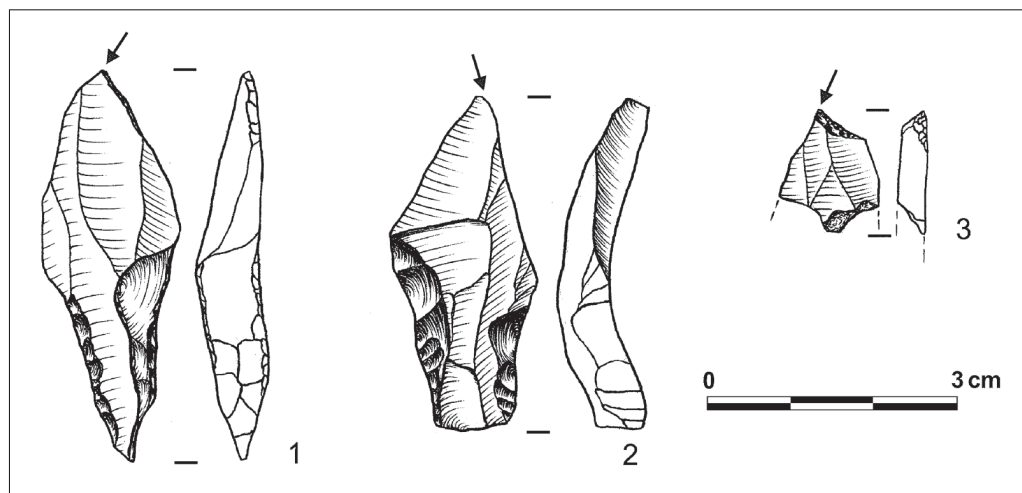
These groups seem to reflect the three independent settlement episodes which occurred at the site. The youngest, the Late Neolithic/Early Bronze Age one, could be represented by a large blade perforator with a conspicuous sting, and additional retouch along one of the edges (Fig. 2:4), and another, smaller flake perforator with a short, triangular sting (Fig. 2:2). These items are well complemented by a fully polished, dark grey stone celt (93 mm long, 46 mm wide, and 21 mm thick) of a trapezoid cross-section and a functionally worn out, transversal working edge (Fig. 2:5).

The following, Mesolithic chronological horizon is represented by a few dozen of quite characteristic forms, mainly small, chunked cores, a truncated piece (Fig. 2:3), as well as a notched blade, prepared to apply a micro-burin technique (Fig. 2:1).

The most numerous group of 212 flint specimens is connected with the third and the oldest, Late Palaeolithic settlement episode. It is worth to notice that this group of artefacts differs from the remaining two not only on a level of typology and technology, but also as far as the state of preservation is concerned. The flint items are distinguished by distinct, thick white patina, strongly smoothed surfaces, and conspicuous traces of chemical etching, present especially near the edges, i.e., on the places especially susceptible for corrosion. Although the artefacts identified as Late Palaeolithic represent mainly the production waste, the analysis of their technological features shows many similarities with north-eastern Poland assemblages belonging to the Volkushian (Krasnoselye) Culture. Such a diagnosis is well confirmed by the presence of the retouched tools: 7 burins (Fig. 2:6–11), 5 end scrapers, and 3 tanged points/burins (Figs. 3, 4:1,2).

Fig. 3. Tanged points/burins from Sucha Rzeczką: 1 – Specimen B1; 2 – Specimen B2; 3 – Specimen B3 (Drawing Ł. Kamiński).

Ryc. 3. Rylce/liściaki z Suchej Rzeczką: 1 – okaz B1; 2 – okaz B2; 3 – okaz B3.



All the Late Palaeolithic, Volkushian specimens were placed in certain phases of the production process. Four main such phases were reconstructed, divided into twelve technological groups of the whole operation chain (Table 2).

The flint artefacts of the whole inventory from Sucha Rzeczką were produced of the local cretaceous raw material of north-eastern type. Primary small dimensions of the nodules, and the state of preservation of their cortex surfaces indicate that we have to do with an erratic variety of this flint (SZYMCAK 1992: 1–29; 1995: 6–8).

A quite separate place in the collection is taken by the pottery material, which is a trace of an episode of a Late Medieval settlement.

### Burins from tanged points

As we have mentioned above, the inventory yielded 3 specimens of burins made from tanged points (Figs. 3:1–3, 4:1,2). Two of them (marked as B1 and B2) are preserved in whole (Figs. 3:1,2, 4:1,2), while the third one (B3) is only a top fragment (Fig. 3:3). Formally they correspond to the definition of a burin, shaped by one or more burin blows, producing characteristic burin spalls (GINTER, KOZŁOWSKI 1975: 90–92). But a specific feature of the

items from Sucha Rzeczką is the presence of well separated tangs in the proximal parts of the artefacts, formed with coarse, blunt retouch on the dorsal faces. Typologically such forms resemble massive points of the Bromme type, especially that they were all produced from specially prepared, preferential blade half products (MIGAL 2006: 137–147).

The first of the tanged points/burins, marked as B1 (Figs. 3:1, 4:1), is 47 mm long, 17 mm wide, and 9 mm thick. In typological terms it is a single, straight burin on a retouched truncation with one burin blow negative (GINTER, KOZŁOWSKI 1975: 90–92). It was shaped from a blade detached next to a trimming blade. For sure it was a specially preferential half product, which is indicated by its regular shape, and a characteristic arrangement of the negatives, recording precise operations connected with a striking surface preparation. The presence of a partly trimmed crest does not contradict such an interpretation. In the proximal part of the tool we find a tang of a triangular cross-section, narrowing, and ending up as a sharp point. The tang was shaped with blunt retouch, put exclusively on the dorsal face of the specimen. Retouched is also  $\frac{2}{3}$  of the left, and  $\frac{1}{2}$  of the right edge of the tool. The ventral face of B1 is covered with intensive, thick white patina, while the dorsal face shows only delicate bluish white coating, which allows to identify the original colour and texture of the

Table 2. Technological structure of the flint inventory from the Sucha Rzeczką site.

Tabela 2. Struktura technologiczna inwentarza krzemiennego ze stanowiska Sucha Rzeczką.

STAGES OF PRODUCTION PROCESS	TECHNOLOGICAL GROUPS	N	%
<b>1</b> <b>PREPARATION</b> (Configurating and shaping basic elements of the core)	Cortical flakes	3	1.4
	Partially cortical flakes	3	1.4
	Massive striking platform preparation blades	4	1.9
		<b>10</b>	<b>4.5</b>
<b>2</b> <b>PRIMARY EXPLOITATION</b> (Secondary preparation and repairing)	Flakes from preparation of a crest	23	10.8
	Striking platform rejuvenation flakes	5	2.3
	Crested blades	17	8.0
	Blades and their fragments	35	16.5
	“Correction” flakes and blades	34	1.6
		<b>114</b>	<b>53.1</b>
<b>3</b> <b>FINAL EXPLOITATION</b>	Cores and their fragments	17	8.0
		<b>17</b>	<b>8.0</b>
<b>?</b>	Chips	28	13.2
	Unidentified flakes' fragments	25	11.3
		<b>53</b>	<b>24.5</b>
<b>4</b> <b>TOOL PRODUCTION AND REPAIRING</b>	Burin spalls	2	0.9
	Retouched tools and their fragments	16	7.5
		<b>18</b>	<b>8.4</b>
	<b>TOTAL</b>	<b>212</b>	<b>100</b>



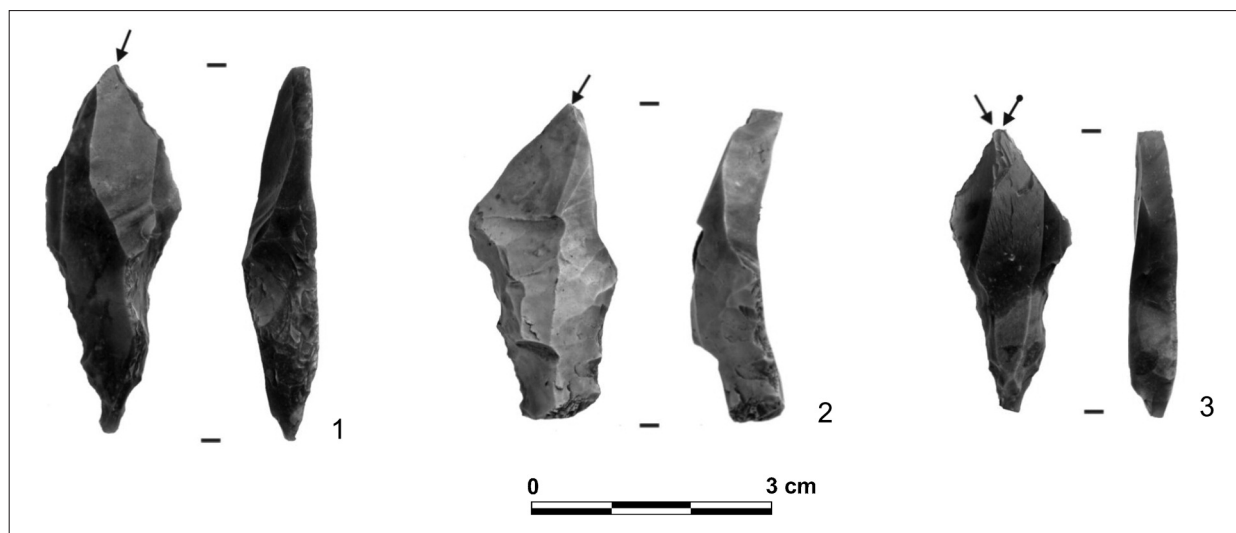


Fig. 4. Tanged points/burins: 1, 2 – from Sucha Rzecзка; 3 – from Szurpily (?) (photo M. Przeździecki).

Ryc. 4. Rylce/liściaki: 1, 2 – okazy z Suchej Rzeczki; 3 – okaz z Szurpili (?).

flint raw material. During analysing the specimen under discussion, we also considered a possibility to classify it as a combined tool (burin + perforator), but finally we accepted the tanged point version.

The second specimen, B2 (Figs. 3:2, 4:2), is a conventional, single blown, straight dihedral burin (GINTER, KOZŁOWSKI 1975: 90–92). Its length reaches 39 mm, width – 21 mm, and thickness – 7 mm. Its top, formed by two burin blow negatives along both edges, is located precisely on the longitudinal axis of the blade. Much alike B1, B2 was produced from a relatively massive, preferential blade, knapped from a double striking platform core. In the proximal part we find a tang shaped with the high, half blunt retouch, with its wide negatives covering a good part of the dorsal face. The cross-section of the wide tang is trapezoid. Also similarly to B1, one of the edges of the tang is longer, and covers  $\frac{2}{3}$  of the length of the whole specimen, while the other is shorter, and covers only  $\frac{1}{2}$  of it. On the ventral side, the presence of a clear, bloated bulb could be observed, which, together with the presence of a delicate lip, would indicate an application of the technique of a direct, perpendicular blow with the use of a soft mallet. Both faces of the tool are covered with thick white patina, especially intensive in the proximal part.

The last item, B3 (Fig. 3:3), is only a distal fragment of a tool of the same category. Its top is placed nearly exactly on the longitudinal axis of the blade, where the retouched truncated edge meets a single burin blow negative. The half product was a preferred blade knapped from a double striking platform core. The shape, as well as the proportions of the preserved fragment would indicate that the whole item also represents tanged points/burins. The top, shaped as a burin on a retouched truncation, is identical to B1. In spite of the presence of thick white patina, the specimen is heavily burned, which finally caused its crushing.

## Analogies

The results of our search for similar forms of tanged points/burins in other Late Palaeolithic flint assemblages in Central Europe demonstrated that such a form did not appear frequently, and its presence was practically limited to the territory of north-eastern Poland, western Lithuania, Belarus and north-western Ukraine (SZYMCAK 1995: 13, 30–48). Our observations also indicate that the discussed type of tools occurs nearly exclusively in the Volkushian/Krasnoselye cultural context. The inventory from Site 4A in Burdeniszki seems to be one of the best analogies (SZYMCAK 1995: 37, pl. VI). Among other sites worth mentioning are: Oltush (present-day Oltuš, Belarus), Volchin (present-day Voŭčyn, Belarus), Pochayov (present-day Počaiv, Ukraine) (SULGOSTOWSKA 1989: 180, 183, 221, pls. XX, XXIII, LXI), or Witów I, Concentration V (CHMIELEWSKA 1978: 234, pl. XXI).

We would like to describe separately two interesting specimens from the collection of the Institute of Archaeology, University of Warsaw. A box labelled as: 'Szurpily' (a village in the Podlaskie Voivodeship with important Iron Age settlement centre) contained two tanged points produced of the cretaceous north-eastern flint raw material.

The first one is a small, rather delicate tanged point with a retouched oblique truncation on its top, without any retouch on the ventral face (Fig. 5:1). Its dorsal face is covered by minute white patina. The dimensions of the item are: 38 mm in length, 17 mm in width, and 3 mm in thickness.

The second one is a conventional, straight dihedral burin with two burin blow negatives on both edges (Figs. 4:3, 5:1). In its proximal part it possesses a relatively massive tang of a triangular cross-section, shaped with high,

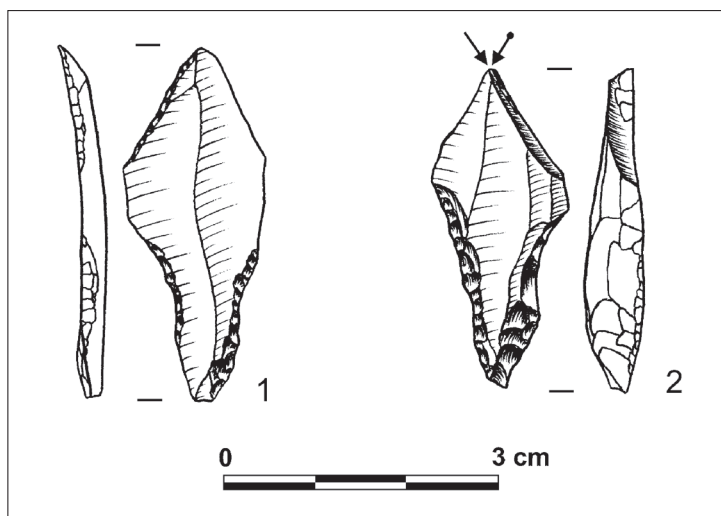


Fig. 5. Artefacts from Szurpily (?): 1 – tanged point; 2 – tanged point/burin (Drawing Ł. Kamiński).

Ryc. 5. Zabytki z Szurpili (?): 1 – liściak; 2 – rylec/liściak.

blunt retouch put exclusively on the dorsal face of a tool. Looking from the right side, the tang covers  $\frac{2}{3}$  of the length of the whole specimen, while from the left side, it takes  $\frac{3}{4}$  of it. Worth to notice, though hard to interpret, are tiny traces on the surfaces of both burin negatives. They could be traces of wear, of repairing the tool, as well as the traces of natural, post-depositional corrosion. The whole specimen is nearly identical with B2 from Sucha Rzeczką.

### Analysis and interpretation

Burin blow negatives could be sometimes observed on tanged points representing other cultures of the European Tanged Points Technocomplex, but they are completely different from Volkushian ones. E.g., burin blow negatives present on Swiderian points are generally much more delicate, and do not cause such dramatic changes in the length of a specimen. Additionally, a burin top, when present, is usually located aside the axis of the tool. An exception are the Swiderian points from Rybnica, near Osowiec (TOMASZEWSKI 2000: 57, fig. 2), and Nobel I – Square 11 (SULGOSTOWSKA 1989: 164, 216, pls. IV, LVI).

The authors are of an opinion that the majority of such quasi-burin negatives are rather impact traces, a special type of functional breakage of the points used as arrowheads. The problem of impact traces was comprehensively discussed by A. Fischer (1989: 29–39; FISCHER, VEMMING HANSEN, RASMUSSEN 1984: 13–46).

We cannot give a definite answer as to the function of the items from Sucha Rzeczką, and other similar forms, but we can propose some possibilities to be analysed closer. We can assume that the presented tools were from the very beginning planned as tanged burins, easier to put into a handle. Such a hypothesis seems to be supported by a generally very high proportion of burins in the inventory, whose function was rather connected with working hide, bone and antler. Against it is a fact that all the remaining burins from Sucha Rzeczką, made from irregular flakes and cru-

shed pieces, are quite different from tanged points/burins, produced from preferential blades.

We can also assume that the tools were primarily planned as arrowheads, but because of damages they were transformed into classic medial burins. A high index of burins in the Sucha Rzeczką inventory, as well as in other Volkushian series, and the function of the site, where the raw material economy appeared to be rather strict, would be the arguments for such a hypothesis.

Another possibility is that the discussed items were planned as points, and their primal function never changed. Two variants are possible: the first, when the points were repaired by burin blow negatives, and the second, when the points were on purpose shaped by burin blows. It has to be stressed that both forms are shaped from preferential blades from which the points were usually made. One should also notice the care and precision with which a sharp top was located exactly on the axis of the item. What is more, in the case of B1 and B3 a burin blow edge was shaped as the first, while an opposite, retouched truncation was formed only after that.

To answer the questions about an actual function of tanged points/burins we have to wait for the results of microwear and experimental studies, which would be a natural continuation of the studies presented in this paper. In that way the not too rich surface collection from Sucha Rzeczką appears to be much more significant than we would think for the first look.

Mgr Michał Przeździecki  
Institute of Archaeology  
University of Warsaw  
m.przezdziecki@uw.edu.pl

Dr hab. prof. UW Karol Szymczak  
Institute of Archaeology  
University of Warsaw  
karolszymczak@op.pl

## Literature

CHMIELEWSKA M.

1978 *Późny paleolit pradoliny warszawsko-berlińskiej*, Wrocław – Warszawa – Kraków – Gdańsk.

FISCHER A.

1989 *Hunting with Flint-Tipped Arrows: Results and Experiences from Practical Experiments*, (in:) C. Bonsal (ed.), *The Mesolithic in Europe. Papers Presented at the Third International Symposium, Edinburgh 1985*, Edinburgh, 29–39.

FISCHER A., VEMMING HANSEN P., RASMUSSEN P.

1984 *Macro and Micro Wear Traces on Lithic Projectile Points. Experimental Results and Prehistoric Examples*, "Journal of Danish Archaeology" 3, 19–46.

GINTER B., KOZŁOWSKI J.K.

1975 *Technika obróbki i typologia wyrobów kamiennych paleolitu i mezolitu*, Warszawa.

MIGAL W.

2006 *On Various Methods of Lyngby Point Production*, (in:) A. Wiśniewski, T. Płonka, J.M. Burdukiewicz (eds.), *The Stone: Technique and Technology*, Wrocław, 137–147.

SULGOSTOWSKA Z.

1989 *Prahistoria międzyrzecza Wisły, Niemna i Dniestru*, Warszawa.

SZYMCAK K.

1992 *Północno-wschodnia prowincja surowcowa kultury świderskiej*, Folia Archaeologica. Acta Universitatis Lodzensis 15, Łódź.

1995 *Epoka kamienia Polski północno-wschodniej na tle środkowoeuropejskim*, Warszawa.

TOMASZEWSKI A.J.

2002 *Świeciech, liściak, świderien i inne*, (in:) B. Matraszek, S. Sałaciński (eds.), *Krzemień świeciechowski w pradziejach. Materiały z konferencji w Ryni, 22–24.05.2000*, Studia nad gospodarką surowcami krzemiennymi w pradziejach 4, Warszawa, 51–69.

MICHAŁ PRZEŹDZIECKI, KAROL SZYMCAK

### RYLCE Z LIŚCIAKÓW, CZYLI KILKA SŁÓW O SPECYFICZNYM SPOSOBIE FORMOWANIA OSTRZY TRZONECZKOWATYCH

Bezpośrednią inspiracją do podjęcia tytułowej problematyki jest, nie prezentowany wcześniej, zbiór zabytków krzemiennych ze stanowiska położonego przy południowym skraju jeziora Serwy, w miejscowości Sucha Rzecznka, pow. augustowski, woj. podlaskie (**Ryc. 1**). Zostało ono odkryte przez Aleksandra Bursche podczas badań powierzchniowych w 1982 r.

Inwentarz z Suchoj Rzecznki liczy łącznie 262 zabytki, w tym: 255 form krzemiennych, wykonanych z su-

rowca północno-wschodniego, odmiany narzutowej (SZYMCAK 1992: 15–29; 1995: 6–8), 6 fragmentów ceramiki oraz 1 artefakt kamienny (gładzona siekiera) (**Tabela 1**).

Nie jest to zespół homogeniczny – w jego obrębie wydzielić można co najmniej trzy grupy zabytków, różniące się typologicznie, technologicznie, jak i stanem zachowania. Zdaniem autorów, grupy te odzwierciedlają trzy niezależne epizody zasiedlenia stanowiska: późnoneolityczny/wczesnobrązowy (**Ryc. 2:2,4,5**), mezolityczny (**Ryc. 2:1,3**)

oraz schyłkowopaleolityczny (**Ryc. 2:6–11, 3, 4:1,2**). Oddzielne miejsce zajmuje materiał ceramiczny, będący śladem osadnictwa późnośredniowiecznego, o niewątpliwie epizodycznym charakterze.

Najliczniejsza grupa zabytków (łącznie 212 okazów) związana jest z najstarszą fazą osadniczą na stanowisku.

Artefakty oznaczone jako schyłkowopaleolityczne to – z wyjątkiem 7 rylców (**Ryc. 3:1–7**), 5 drapaczy i 3 rylców/liściaków (**Ryc. 4:1–3, 5:1–3**) – formy poprodukcyjne (rdzenie, wióry, odlupki), niemniej analiza cech technologicznych wskazuje na szereg podobieństw z tzw. inwentarzami przedświderskimi strefy północno-wschodniej, w szczególności zaś z krzemieniarstwem kultury wołoszańskiej. W toku analizy poszczególne kategorie wytworów zostały podzielone na 12 grup technologicznych, a następnie usystematyzowane w ramach 4 zrekonstruowanych faz tzw. łańcucha operacji (**Tabela 2**).

Szczególne miejsce w grupie zabytków schyłkowopaleolitycznych zajmują specyficzne formy rylców/liściaków – dwa zachowane w całości okazy B1 i B2 (**Ryc. 3:1,2, 4:1,2**) oraz jeden (B3) zachowany fragmentarycznie (**Ryc. 3:3**). Pod względem formalnym wpisują się one w ogólnie przyjętą definicję narzędzi określanych jako rylce (GINTER, KOZŁOWSKI 1975: 90–92), jednak ich szczególną cechą jest obecność dobrze wyodrębnionego trzonka, uformowanego w części przysączkowej za pomocą retuszu stromego na stronę wierzchnią, oraz zastosowanie „nietypowego” półsurowca, tj. wiórów preferencyjnych o parametrach zbliżonych do wiórów wykorzystywanych przy produkcji liściaków typu Bromme (MIGAL 2006: 137–147).

Poszukiwania form analogicznych do rylców/liściaków z Suchej Rzeczki na innych stanowiskach wykazały,

że występują one niemal zawsze w kontekście zespołów wołoszańskich, m.in. na stanowiskach: Burdeniszki 4A (SZYMCZAK 1995: 37, tabl. VI), Oltuś, Voŭčyn, Paczajów (SULGOSTOWSKA 1989: 180, 183, 221, tabl. XX, XXIII, LXI), czy Witów I – skupienie V (CHMIELEWSKA 1978: 234, tabl. XXI).

W kontekst przytaczanych materiałów wpisuje się również „kolekcja z Szurpił”, tj. rylce/liściak oraz liściak bez retuszu trzonka na stronę spodnią, oba egzemplarze wykonane z krzemienia północno-wschodniego (**Ryc. 4:3, 5**).

Zdaniem autorów, przy interpretacji form określanych roboczo mianem rylców/liściaków należy uwzględnić kilka alternatywnych rozwiązań.

Pierwsza z opcji zakłada, że prezentowane formy funkcjonowały jako rylce, przy czym możemy mieć tu do czynienia z dwoma wariantami:

- a. Okazy te zostały zaplanowane jako rylce z celowo ukształtowanym trzonkiem ułatwiającym jego oprawę.
- b. Okazy te zaplanowano jako liściaki, które wtórnie przerobiono na rylce.

Alternatywna propozycja oparta jest na założeniu, że formy te zostały zaplanowane jako ostrza, a ich funkcja nigdy nie uległa zmianie, przy czym możliwe jest, iż:

- c. Mamy do czynienia ze specyficznym typem ostrzy (liściaków) w ich pierwotnej formie, gdzie wierzchołek został celowo ukształtowany za pomocą dwóch negatywów rylcowych, zbiegających się na osi symetrii półsurowca.
- d. Okazy z Suchej Rzeczki zostały zaplanowane i funkcjonowały jako ostrza, a negatywy rylcowe to po prostu sposób ich naprawy – tak zregenerowane formy powtórnie wracają do obiegu i – choć przekształcone – nie tracą swojej pierwotnej funkcji.