SMALL POLISHED FLINT TOOLS IN RZUCEWO CULTURE IN POLAND

KATARZYNA JANUSZEK

Abstract

This article gives an overview of the most diverse assemblage of small polished flint tools found in settlements left by Rzucewo culture in the region of Żuławy. The presence of the tools on Rzucewo culture sites defines its range, which covers areas of the greatest abundance in amber situated near the Bay of Gdańsk, the Vistula Lagoon and in Żuławy. This, apart from other evidence, proves Rzucewo culture to be different from what is widely understood as Bay Coast culture, with which it is often associated.

Key words: Rzucewo culture, Bay Coast culture, small polished flint tools.

Introduction

J. Żurek was the first to mention small polished tools from Rzucewo culture flint assemblages. He identified side-scrapers with a polished working edge, rectangular flint tools with a polished edge and partially polished surface, and very small flint axes and chisels (Żurek 1954, pp.19, 32 and 37). The latter were also mentioned by L. Kilian in the monograph Haffküstenkultur (Kilian 1955, p.50). All these artefacts were described as particular forms of a strictly limited territorial range of several Rzucewo culture settlements, i.e. Rzucewo, Suchacz, Modrzewina, Gdynia, Oksywie, Ostrowo (Żurek 1954, pp.19, 32, 37) and Tolkmicko, and settlements along the Curonian Spit (Kilian 1955, p.50, Tafel XXXVII). The tools were spread out over an area which was almost the same as the range of Rzucewo culture as described by Żurek (Żurek 1954, p.32). However, the range changed as a result of the discovery of such objects on other Rzucewo culture sites, in Rewa (Felczak 1983, p.62), Pieniężno (Łowiński 1987, p.173; Manasterski 1991, p.32), Garbina (Mączkowska 1973, p.307), Niedźwiedziówka (Mazurowski 1987a, p.108) and Wybicko (Jagodziński 1997, p.127; Szymczak 1987, p.131). What is more, a region of temporary settlements associated with the gathering and processing of amber called the Niedźwiedziówka settlement micro-region1 yielded the most diverse assemblage, which can serve as a comparative collection for all types of small polished tools that so far have been scarce and have been found only on some Rzucewo culture sites. These artefacts account for 10% of all the tools in the micro-region (Januszek 2006, p.226, Table 167) and influence the perception of the Rzucewo culture phenomenon.

Types of small polished flint tools in Rzucewo culture identified in assemblages from the Niedźwiedziówka settlement micro-region

The following types of tools have been identified on the basis of 68 items of small polished flint tools from excavations on sites I, II and IV in Niedźwiedziówka, and site I in Stare Babki from the Niedźwiedziówka settlement micro-region in Żuławy Wiślane. The most diverse and relatively numerous assemblage is from site I in Niedźwiedziówka, with radiocarbon dating as follows: Gd. 5253: 4570 ± 50 BP (2620 ± 50 BC), Gd-2767: 4540 ± 70 BP (2590 ± 70 BC), Gd-2776: 4270 ± 90 BP (2320 ± 90 BC), Gd-5238: 4140 ± 40 BP (2190 ± 40 BC) (Mazurowski 1996, p.171; 1999, p.125).

The division into particular types is based solely on morphological criteria related to their manufacturing. The main feature determining a particular type is the presence of a polished part in the material, just as in the case of retouched tools.

Polished end-scrapers

This type includes 18 flake tools with the working edge shaped by polishing. It is normally found on the distal portion of the artefact.

The vast majority of examined polished end-scrapers were made of Pomeranian flint (Table 1), the others of erratic flint. Only one item was completely burnt, and for that reason not identified in terms of the raw material.

---

1 The Niedźwiedziówka settlement micro-region in Żuławy Wiślane consists of the following: sites I–IV in Niedźwiedziówka, site I in Stare Babki, and sites I–III in Wybicko (Mazurowski 1999, p. 122; Januszek 2006, p.12)
The assemblage consists of two end-scrapers with a working edge which is pointed (Fig. 1.1, 3), two arched (Fig. 1.5,9), seven slightly rounded (Fig. 1.2, 6,11), and seven rounded (Fig. 1.4,7, 8,10). The angles of the working edges depend on their shape. Pointed edges show acute or right angles, arched ones only a right angle, slightly rounded an acute angle, and rounded acute, almost a right angle. The height of the pointed parts is two to three millimetres, arched four millimetres, slightly rounded two to three millimetres, and rounded four millimetres.

Apart from that, most of the tools of this type show signs of additional processing on one or two side edges. In addition, it is possible to identify a relation between the manner of processing (polish or retouch) and the shape of the working edge. For instance, a semi-steep retouch is found on one side edge of pointed end-scrapers. Among the slightly rounded ones, most forms display a steep retouch on two side edges, and rounded ones are mainly forms with a steep retouch on one side edge. Only arched end-scrapers might show additionally polished edges all along the sides or along half of one side only.

The sizes of polished end-scrapers differ, depending on the form of the half-product used for manufacturing. The average measurements of these tools are as follows: length, ten to 19 millimetres, 20 to 29 millimetres (the most numerous), 30 to 39 millimetres, 40 to 49 millimetres; width, ten to 19 millimetres (the most numerous), 20 to 29 millimetres, 30 to 39 millimetres; height, up to five millimetres, six to ten millimetres (the most numerous), 11 to 15 millimetres.
Polished side-scrapers

A distinctive feature of the 15 analysed tools is the sharp working edge, formed by polishing the half-product’s edge at an acute angle, usually by single-level polishing or by two or multi-level polishing, partially found on the dorsal side of the artefact (Fig. 2.1-8).

All the identified side-scrapers were manufactured from forms made by a splintering technique. Cortical flakes were the most frequently used material, but there are tools made of bipolar splintered pieces, blades and flakes.

The most often-used raw material for the production of these tools was Pomeranian flint (Table 1). Only two items were made of erratic flint. Polished side-scrapers which were made with cortical flakes were manufactured solely from Pomeranian flint.

Tools with a convex working edge number almost the same as the ones with a straight working edge. Almost all the artefacts are single-side forms, with the working edge polished on the dorsal part of the half-product. Items with two polished working edges are very rare, and so are items with an edge which is partially polished and partially semi-steeply retouched (Fig. 2.6). In addition, the majority of the tools described were additionally worked on one or two sides perpendicular to the working edge. Only a few of these artefacts are not retouched.

In the group of polished side-scrapers manufactured from flakes made by the splintering technique, there are tools with an additional steep retouch on one side which number the same as items with a steep retouch of two sides perpendicular to the working edge. It is worth mentioning that in the case of side-scrapers made from splintered pieces, the transverse sides form sharp edges of the poles.

The measurements of polished side-scrapers depend on the size of the half-product: length, ten to 19 millimetres, 20 to 29 millimetres (the most numerous), 30

---

**Table 1. Diversification of the raw material used for small polished tools**

<table>
<thead>
<tr>
<th>Types of small polished tools</th>
<th>Types of flint material</th>
<th>Pomeranian</th>
<th>erratic</th>
<th>unidentified</th>
</tr>
</thead>
<tbody>
<tr>
<td>end-scrapers</td>
<td></td>
<td>15</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>side-scrapers</td>
<td></td>
<td>14</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>perforators</td>
<td></td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>axe-like tools</td>
<td></td>
<td>20</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>unidentified tools</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>57</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

---

Fig. 2. Polished side-scrapers from the Niedźwiedziówka settlement micro-region in Żuławy.
Small Polished Flint Tools in Rzucewo Culture in Poland

Polished perforators

There are only seven tools of this type. Their distinctive feature is a sharp sting shaped by the steep polishing of two side edges towards the dorsal part in such a manner that by coming together they form a sharp edge (Fig. 3).

All the tools were manufactured from flakes made by the splintering technique, mostly cortical flakes curved in the distal portion, the raw material being exclusively Pomeranian flint (Table 1). There are also a few stout items with additional retouch on two side edges (Fig. 3.4,5,7).

The sizes of most polished perforators are roughly equal, depending on the variety of the half-product. Their length falls within 20 to 29 millimetres (the most numerous), and 30 to 39 millimetres; their width, ten to 19 millimetres, and height, up to five millimetres, and six to ten millimetres.

Small axe-like tools

There are 26 items which fall into this category, and the tools show morphological features similar to forms previously described as small axes and chisels (Żurek 1954, p.19; Kilian 1955, p.50), micro-axes (Balcer 1983, p.241), or miniature axes (Mazurowski 1987a, p.108).

Erratic flint was the basic raw material used to manufacture small axe-like tools, and most were made of the Pomeranian variety (Table 1), with only one unidentified item, which was completely burnt. In that category, bipolar splintered pieces are prevalent, but there are also some artefacts manufactured from cortical flakes made by the splintering technique.

Some of the tools have a trapezoid outline (37%) (Fig. 4.1,4,5,7,9-12), a sub-rectangular one (29%) (Fig. 4.2,
Fig. 4. Small axe-like tools from the Niedźwiedziówka settlement micro-region in Żuławy.
3,6), or an oval one (33%) (Fig. 4.8). The cross-section of trapezoid and sub-rectangular forms is tetragonal, and of the oval ones flat-convex.

While 33% of the tools are only polished on the blade, 20% are completely polished. Nearly half of the items (46%) are partially polished forms, mainly to level out the surface.

A tetragonal head is found on 29% of the axes, and it is narrow and usually polished. This type of head can be seen solely on tools of trapezoid outline. All the other items have heads shaped like poles of the splintered pieces.

The blades of trapezoid and sub-rectangular forms were shaped at an angle of between 60º and 70º. Most trapezoid tools have a blade shaped at an angle of 60º, whereas sub-rectangular ones have a blade formed mainly at 70º. The blades of oval artefacts were shaped at an angle between 40º and 60º, with the majority at 60º.

The sizes of small axe-like tools depend on the half-product, and are as follows: length, 20 to 29 millimetres, 30 to 39 millimetres (the most numerous), 40 to 49 millimetres; width, ten to 19 millimetres, 20 to 29 millimetres (the most numerous), and 30 to 39 millimetres; height, up to five millimetres, six to ten millimetres (the most numerous).

Unidentified polished tools

This type consists of an oval flake made by splintering technique, manufactured of Pomeranian flint, polished along almost the whole circumference in a uniform manner. The measurements are 37 by 23 by 3 millimetres.

Small polished flint tools in Rzucewo culture

Forms similar to the small polished tools from the Niedźwiedziówka micro-region were also discovered on other Rzucewo culture sites (see Fig. 5 and Table 2). Polished end-scrappers are known from the settlement in Rzucewo. D. Król was the first to identify them on the basis of materials from that settlement, and even to suggest that they might be an element distinguishing the Rzucewo culture flint industry in the western region of the Bay of Gdansk from the one found in the areas situated east of the Vistula (Król 1983, p.233). Six items made of Pomeranian flint examined in 1989 account for 4.05% of the total number (Król 1997, p.149, Table 2). What is important is that this group might also include polished side-scrappers, as implied by the drawing provided by the author (Król 1997, p.144, Fig. 14.7-8). The other tools of this kind examined previously were not thoroughly analysed (Żurek 1954, p.19) (Fig. 6.1-10).

Apart from that, a polished end-scraper made of Pomeranian flint was found in Pieniężno, a settlement associated with transhumance (Manasterski 1991, Fig. III.10). The artefact has a low polished working edge, which is slightly rounded, and an additional steep re-touch of both side edges (Fig. 6.17).

Side-scrappers were found in larger numbers before the war in Rzucewo (Fig. 6.4,5,7,8,10). The author of the report from those times put the number of tools at about 120 items, and suggested that they had been used for tanning fine seal skins. He also mentioned other artefacts of this kind discovered in Oksywie, Gdynia and Ostrowo, most of which disappeared during the Second World War (Żurek 1954, pp.19, 33). In addition, J.

Table 2. Types of small polished flint tools identified on Rzucewo culture sites

<table>
<thead>
<tr>
<th>Rzucewo culture sites</th>
<th>Types of small polished tools</th>
<th>perforators</th>
<th>axe-like tools</th>
<th>unidentified</th>
<th>initial forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rewa</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rzucewo</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gdynia</td>
<td>+</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oksywie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ostrowo</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niedźwiedziówka</td>
<td>18</td>
<td>16</td>
<td>7</td>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>Modrzewina</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suchacz</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tolknicko</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garbina</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pieniężno</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nida (Lithuania)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Żurek found material similar to the one from the Bay of Puck on sites in Modrzewina and Suchacz (Żurek 1954, p.32). The latter site yielded polished side-scrapers only after the war (Mazurowski 1987b, p.160). One of them was a tool made from splintered cortical flakes of Pomeranian flint with a one-side working edge (Fig. 6.14); there were also two unfinished items formed from the same type of material (Fig. 6.11,15).

Another 11 polished side-scrapers made from Pomeranian flint were discovered in Rewa (Felczak 1983, p.62) (Fig. 6.12,13). Tools of this kind were also found in the Łupawa group of Funnel Beaker culture, which implies established relationships with the people of Rzucewo culture (Domańska 1983, p.225).

Polished perforators were only discovered in the Niedźwiedziówka settlement micro-region and as loose finds in Rzucewo, and are stored in the Archaeological Museum in Poznan, inventory number 1951:723.

Small axe-like tools were discovered on almost all excavated sites of Rzucewo culture, most of them in Rzucewo. The collection selected by J. Żurek came from pre-war analyses, and consisted mainly of forms of trapezoid and sub-rectangular outline (Żurek 1954, Table XIV.5-20). Subsequent research done on that site has reported more trapezoid or tetragonal items made from Pomeranian flint or Baltic erratic flint (Król 1997, p.41 and p.139, Fig. 6.6,8,9,11). Those made of the Pomeranian variety were 3.5 centimetres long, the other ones five to ten centimetres long (Król 1997, p.141).

Small axe-like flint tools were also discovered in Gdynia, Modrzewina and Tolkmicko (Żurek 1954, p.33 and p.37), and Suchacz (Kilian 1955, p.50) before the war. Unfortunately, most of them were lost, and a full report was never published. Tetragonal trapezoid forms from Suchacz were mentioned briefly, and one of them was a burial offering (Kilian 1955, p.50). Fragments of this kind of tool made from Pomeranian flint were excavated there later (Mazurowski 1987b, p.160), and some were subject to reshaping.

Another two Pomeranian flint artefacts were found in Pieniężno (Manasterski 1991, p.41ff). One of them, completely polished, is a tetragonal form with a trapezoid outline (Fig. 6.16), the other is oval with a flat-convex cross-section similar to lenticular (Fig. 6.18).

The site in Garbina yielded a trapezoid-shaped specimen made from Pomeranian flint measuring three by four centimetres (Mączkowska 1973, p.307 and p.314, Fig. 7c).
There were also a lot of small axe-like tools in settlements on the Curonian Spit (Żurek 1954, p.37, Kilian 1955, p.50). Nevertheless, they were most frequently reported in Nida (Rimantienė 1996, p.245, Fig. 148). The number of small polished tools on each Rzucewo culture site might depend on the area subject to research. On the other hand, the frequency might be related to economic activities, which needed the use of particular forms. However, these tools were used from the period indicated by the earliest radiocarbon dating from site I in Niedźwiedziówka (mentioned above), and from Rzucewo, which was dated as 14C: 2455 ± 60 BC, 2495 ± 60 BC and 4420 ± 13 BP (3310–2890 BC cal.) (Król 2003, p.39). Some assemblages have not been radiocarbon dated yet, but other finds on those Rzucewo culture sites confirm the antiquity of the tools.

The site in Pieniężno, which yielded a polished end-scraper and small axe-like tools, is associated with the initial stages of Rzucewo culture (Manasterski 1991, p.65). Another artefact from that site is a trapezoid amber pendant (Manasterski 1991, p.57), which, according to R.F. Mazurowski's classification, is a symmetric pendant 2B1b, typical of early Globular Amphora culture, from the end of the 25th century BC, until Corded Ware culture, Zlota culture and Rzucewo culture settle-
Babki, the most recent site in the Niedźwiedziówka culture style still existed, for instance, in Żuławy. Stare representing the dominance of the Globular Amphora to certain transformations into local varieties, but sites development until the early Bronze Age. That progress led culture. Both horizons were subject to parallel devel-

obvious in Nida on the Curonian Spit. There is no evi-

only axe-like forms were manufactured, which is most
tools identified, features typical of Globular Amphora
culture are visible both in the pottery and the amber
craft. However, there are no features characteristic of
Pan-European Horizon of Corded Ware culture (Mazu-
rowski 1987a, p.103).

If the earliest radiocarbon dates are taken into consid-
eration, together with the accumulation of Globular Amphora culture features in Rzucewo culture assembl-
gles, it is evident that small polished flint tools might indicate the earliest development horizon of Rzucewo communities, which is characterised by the prevalence of Globular Amphora culture components. In addition, the range of the artefacts are not in line with the areas richest in amber at the Bay of Gdansk, the Vistula Lagoon and in Żuławy. The decline of succinite exploitation by people of Globular Amphora culture in the Masurian Lake District and Mazovia was a stimulus to migrate and settle in the areas mentioned before (Mazurowski 1987a, p.117). On top of that, the earliest dated sites with small polished tools were temporary settlements, typical of Globular Amphora culture. This does not make the presence of such artefacts in Rzucewo problematic, as it appears to have become a permanent settlement at a more advanced stage of development of Rzucewo culture.

Another development horizon of Rzucewo communities is indicated by assemblages with dominant features of Pan-European Horizon of Corded Ware culture, best seen in pottery and stone tools. Globular Amphora culture components are not as pronounced. It might have been then that a new category of amber jewellery originated, characteristic solely of Rzucewo culture, and permanent settlements such as Rzucewo and Suchacz were founded. In the group of small polished flint tools, only axe-like forms were manufactured, which is most obvious in Nida on the Curonian Spit. There is no evidence of the prior colonisation by Globular Amphora culture. Both horizons were subject to parallel development until the early Bronze Age. That progress led to certain transformations into local varieties, but sites representing the dominance of the Globular Amphora culture style still existed, for instance, in Żuławy. Stare Babki, the most recent site in the Niedźwiedziówka settlement micro-region, proved that polished end-scrapers and small axe-like tools were still manufactured (Mazurowski 2003; 2004) in the times dated as Gd-11676 : 3855 ± 45 BP (1905 ± 45 BC), Gd-11675: 3835 ± 45 BP (1885 ± 45 BC).

In settlements situated on the Vistula Lagoon, mainly in Suchacz and Garbina, where pottery showing Trzciniec Horizon (Juodkrantė, former Schwarzort) was found, small polished flint tools were scarce and were found only in axe-like forms.

Polished flint tools have not been discovered on Lithuanian sites attributed to Rzucewo culture, neither on the Baltic coast, nor inland. The assemblages, for instance the one in Šventoji 1A, which were dated 4120 ±80 BP, 4100 ± 100 BP and 3860 ± 50 BP (Rimantienė 1980, p.74), show the dominance of a Corded Ware culture component, most apparent in the pottery. For that reason, Rzucewo culture in that region is regarded as a local variety of Corded Ware culture, which is also known as Bay Coast culture (Pamarių), or Vistula-Neman culture (Rimantienė 1980, p.74). The only site in the Lithuanian interior where small polished flint axe-like tools were discovered is Kretuonas 1C, attributed to late Narva culture (Girininkas 1994, Figs. 246-247). The assemblage consists of material typical of Corded Ware culture or Rzucewo culture, and pieces of Trzciniec Horizon pottery, and was dated as (SP-3211) 3340 ± 60 bp/ cal 1311 (1239) 1146 BC, which is contemporary with Trzciniec Horizon (Rimantienė, Ostrauskas 1998, p.212).

Conclusions

1. Small polished flint tools are a local product that was manufactured when the style of Globular Amphora culture was prevalent in areas of the biggest deposits of amber along the Bay of Gdansk, Żuławy and the Vistula Lagoon. For this reason, all the identified types were made from local raw materials, mainly from Pomeranian flint.

2. The tools are a diagnostic material which makes it possible to distinguish cultural phenomena related to the formation of Rzucewo culture before the Pan-European Horizon style of Corded Ware culture emerged from phenomena which showed the influence of Corded Ware culture.

3. The relatively limited local range of the flint forms, only slightly bigger than the Rzucewo culture settlement area defined previously by J. Żurek, allows us to distinguish processes related to Rzucewo culture from Bay Coast culture (Pamarių), which was a subsequent system associated mainly with the
Corded Ware culture style with no small polished tools. Therefore, it should be regarded as a local group of Corded Ware culture in the understanding of Lithuanian scientists.

4. In the group of axe-like tools, small polished tools in Rzucewo culture materials show mainly features typical of Corded Ware culture, and were used until features characteristic of Trzciniec Horizon emerged. On Rzucewo culture sites with prevalent features of Globular Amphora culture, there are both small axe-like tools and polished end-scrapers from the period until the Late Neolithic and Early Bronze Age.

5. The functions of all the tool types will be the object of further research, as all forms are worn by daily use. Some of them served other purposes, which has already been mentioned by L. Kilian, who suggested the ritual use of small axe-like tools implied by the objects found in a burial place in Suchacz (Kilian 1955, p.50).

Acknowledgements

The author would like to express her gratitude to dr hab. Prof. U.W Ryszard F. Mazurowski for giving her access to unpublished C\(^{14}\) dating results for site I in Stare Babki and to the flint material from Suchacz.

Translated by Barbara Majchrzak

References

Manuscripts


MAŽI POLIRUOTI TITNAGINIAI RZUCEWO KULTŪROS ĮRANKIAI LENKIOJE

KATARZYNA JANUSZEK

Santrauka


Vertė Rasa Banytė-Rowell

Analogiškų įrankių buvo rasta kituose Rzucewo kultūros paminkluose (5 pav., 2 lentelė) šios kultūros ribose, pasak J. Żurek. Tai yra vietiniai gaminiams, atsiradęs tuo metu, kai rutulinio amforų kultūros stiliumis virvės susijusios. Analizė leido identifikuoti ir aprašyti visus įrankių tipus. Kai kurie iš jų buvo reti ar rasti tik tam tikruose paminkluose. Tai taip pat padėjo ištirti veiklos ir įvykių, siejamų su Rzucewo kultūra, įvairovę.

Vertė Rasa Banytė-Rowell