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MICROLITHS FROM GRAVES OF THE LUBLIN-VOLHYNIAN AT SITE 2 IN KSIĄŻNICE, ŚWIĘTOKRZYSKIE VOIVODESHIP

ABSTRACT

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Trapezoidal flint microliths have been attributed to various early agricultural cultures in Central Europe. They are found in both settlements and cemeteries. The cemetery of the Lublin-Volhynian Culture in Książnice, Site 2, one of the two biggest necropolises of younger Danubian cultures in southern Poland, has provided the greatest number of trapezes. Use-wear analysis has revealed the manner in which trapezes were used and has shed some light on the reasons for the presence of these artifacts in graves. Microliths differ in terms of their shapes, their production and usage. The location of microliths within grave pits is heterogeneous, both in relation to the human remains and to other flint artifacts. We observe a different situation at the cemetery of the Jordanów Culture in Domasław, Site 10/11/12. Despite the fact that burial rites of both societies were similar in many respects, the distribution and the function of trapezes from graves in Domasław is quite uniform as compared to Książnice.

Keywords: Eneolithic, Lublin-Volhynian Culture, trapezes, graves, function

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INTRODUCTION

Trapezes, which have been described by many Mesolithic researchers as a component of Neolithic flint inventories, have been attributed to various early agricultural cultures in Central Europe. Trapezes are discovered in large numbers in excavations of Linear Pottery Culture settlements in Moravia and Lower Austria (Mateiciucová 2008, 91-95), and less abundantly in Poland (Balcer 1983, 68). A sizable collection of thirty-five specimens was found in a Jordanów culture cemetery (10/11/12) in Domasław, Kobierzyce Commune (Kufel-Diakowska *et al.* 2017, 223). Trapezes also appear in excavations of Lengyel-Polgár Culture sites (Kulczycka-Leciejewiczowa 1979, 145; Balcer 1983, 111), in the inventories of Malice Culture burials (Kadrow 2009, 57, 59; Kadrow *et al.* 2009, 222, 227-229), and more rarely in the burial complexes of the Funnel Beaker and Globular Amphora Cultures (Wiślański 1979a, 222; Wiślański 1979b, 222, 286; Balcer 1983, 127, 217; Bronowicki *et al.* 2001; Zakościelna and Libera 2007, 259).

This is also true of the Lublin-Volhynian culture. Trapezoidal microliths are found in both the settlements and cemeteries of this culture. Among the former, Anna Zakościelna lists site 1C in Gródek, Hrubieszów Commune (3 trapezes), site 7 in Las Stocki, Końskowola Commune (8 trapezes), site 1 in Łopatki, Wąwolnica Commune (2 trapezes), site 6 in Wąwolnica (9 trapezes), and the Grodzisko site in Żłota, Samborzec Commune (3 trapezes). Graves containing trapezes have been discovered at site 5 in Jaszczów, Milejów Commune (4 trapezes), at sites 1 (3 chisel-ended arrowheads), 10 (1 trapeze fragment) and 26 (1 trapeze) in Strzyżów, Horodło Commune, and at site 16 in Krasne-Kolonia, Uścimów Commune (5 trapezes), as well as the Grodzisko site in Żłota, Samborzec Commune (2 trapezes) (Zakościelna 1996, 71; Zakościelna and Libera 2007, 258; Zakościelna 2010, 137-140).

Considering the overall frequency of flint artifacts deposited in Lublin-Volhynian graves, trapezes are the most abundant group of retouched tools. Retouched blades and other objects of this type appear in smaller quantities. This frequency is amplified by the high number of artifacts discovered in the Świętokrzyskie region. The trapezes discovered at the cemetery in Książnice, Pacanów Commune, which are the subject of this study, currently constitute the largest collection of artifacts of this type attributed to the Lublin-Volhynian Culture.

The views regarding the presence of microlithic forms in the material of the Lublin-Volhynian Culture have evolved over the past several decades. It was previously believed that they were the result of contacts with Mesolithic communities. The analysis of technological and metric qualities has led to a shift in this perspective. A. Zakościelna currently believes that trapezes were most likely manufactured locally. The technical skills required for their production would have been acquired via Para-neolithic cultures (Zakościelna 1996, 106; Zakościelna and Libera 2007, 266).

There are also various opinions regarding the function of trapezoidal microliths. They are most frequently associated with projectile weapons and described as tips, barbs, or

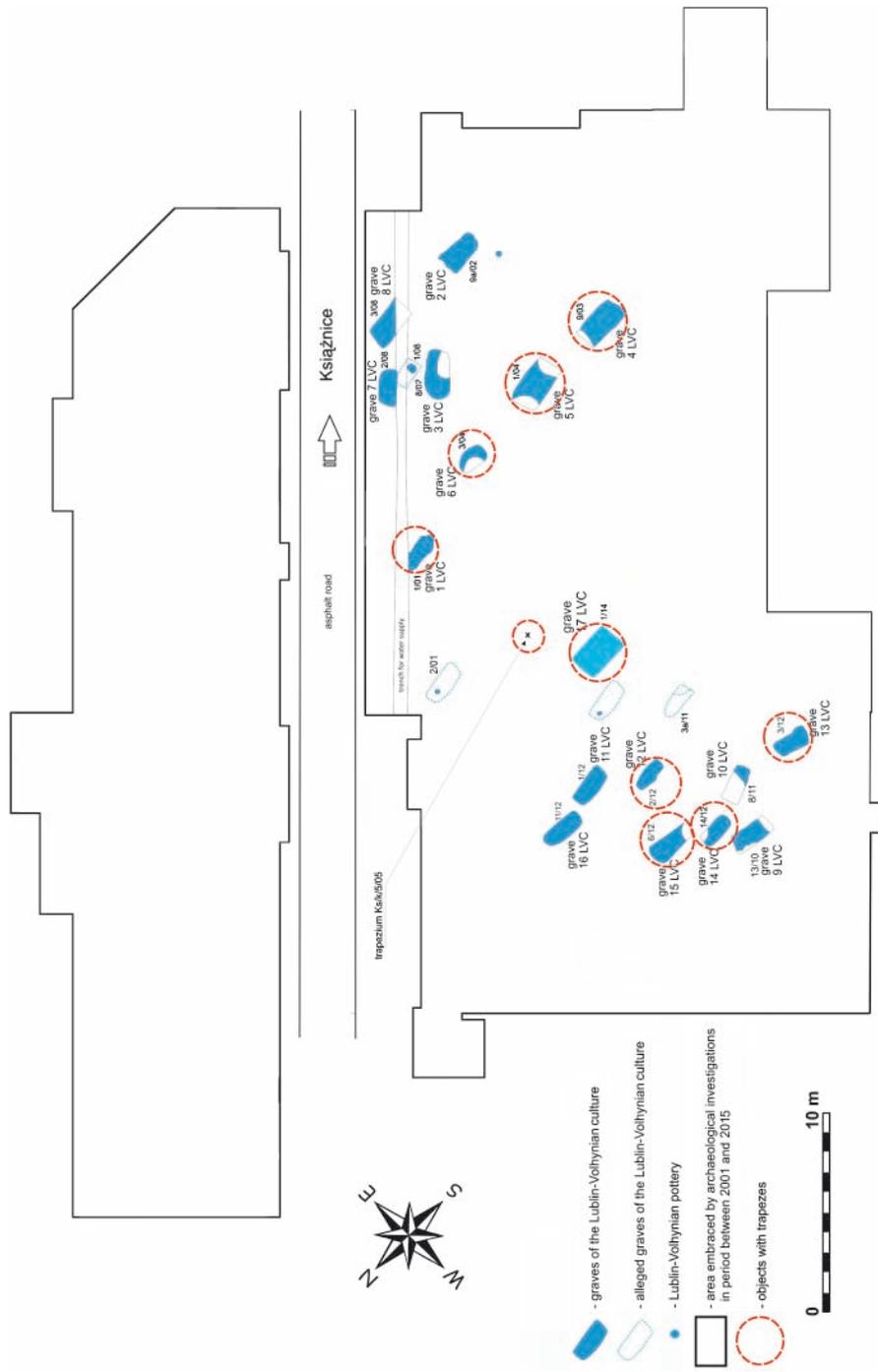
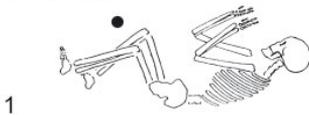


Fig. 1. Książnice, site 2, Pacanów Commune. Plan of the Lublin-Volhynian Culture cemetery



Fig. 4. Książnice, site 2, Pacanów Commune. The arrangement of the trapezes in the grave 4 (photo by S. Wilk)

grave 12987

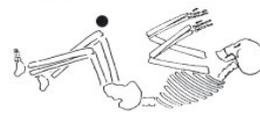


1



2

grave 13109

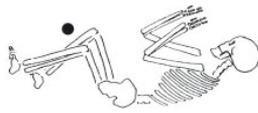


3



4

grave 13132



5



6

grave 13352



7



8

Fig. 16. Domaślów 10/11/12, Kobierzycze Commune. Arrangement of trapezes in graves; 1,3,5,7 – sketches of skeletons with locations of the trapezes (black dots); 2, 4, 6, 8 – trapezes in situ; 1-2 – grave 12987; 3-4 – grave 13109; 5-6 – grave 13132; 7-8 – grave 13352 (photo by T. Murzyński; illustration: B. Kufel-Diakowska)

projectiles, and less frequently as knife or sickle blades. In light of these functions, it is interesting to note the fact that trapezes are frequently deposited in graves. This is noteworthy due to their practical function as well as the symbolic dimension of that utilitarian aspect, expressed through the transfer of tools to the realm of the sacred. Use-wear analysis of microliths discovered in the Lublin-Volhynian Culture cemetery in Książnice reveals the manner in which they were used and the reasons for the presence of these artifacts in the graves.

SITE

The Lublin-Volhynian Culture cemetery at site 2 in Książnice (AZP 95-67: 100, Pacanów Commune, Świętokrzyskie Voivodeship) is located at the eastern end of the Pińczów Hummock and occupies the central part of a small hill (200.15 m a.s.l.), bordered from the south and southeast by a nameless stream, a left tributary of the river Kanał-Strumień. Excavations ongoing since 2001 have revealed 17 graves forming two separate grave fields located less than twenty meters apart (Fig. 1). The eastern field contains eight burials of members of the local elite. The western field contains eight poorer burials. Grave 17, located between the two fields, may have served as the central burial around which the entire cemetery was founded. Excavations of the cemetery additionally revealed traces of four destroyed graves, from which only a few vessels remained.

In the light of radiocarbon dating, the cemetery at site 2 in Książnice functioned from the turn of the 5th and 4th millennia into the early part of the 4th millennium BC, most probably between 4030-3830 BC (Wilk 2016, 21).

GRAVES WITH MICROLITHS

The trapezes found in the grave pits are highly diverse both in terms of their location and their frequency. Each grave containing specimens that are of interest to us therefore warrants a separate description. Burial nos. 1, 4-5, 14-15 and 17, which have already been published, are described in a general way. Burial nos. 12 and 13, which were not a subject of previous publications, are described in detail. One of the analyzed artifacts was found in an empty space between the eastern and western grave fields.

Grave 1. The grave pit contained a small amount of highly damaged human remains, including parts of long bones, which indicated a burial in a crouched position on the right side (skeletal analysis unavailable) (Fig. 2). The grave inventory comprised three pottery vessels, discovered in the northeastern part of the pit, and 10 chocolate flint specimens (three blades – two complete and one partial), three blade-like flakes, and two trapezes. Unfortunately, in the case of the burial in question, accurate information regarding the location of flints within the grave pit – including the trapezes that are the subject of this analysis – is unavailable (Wilk 2004, 225, 227).

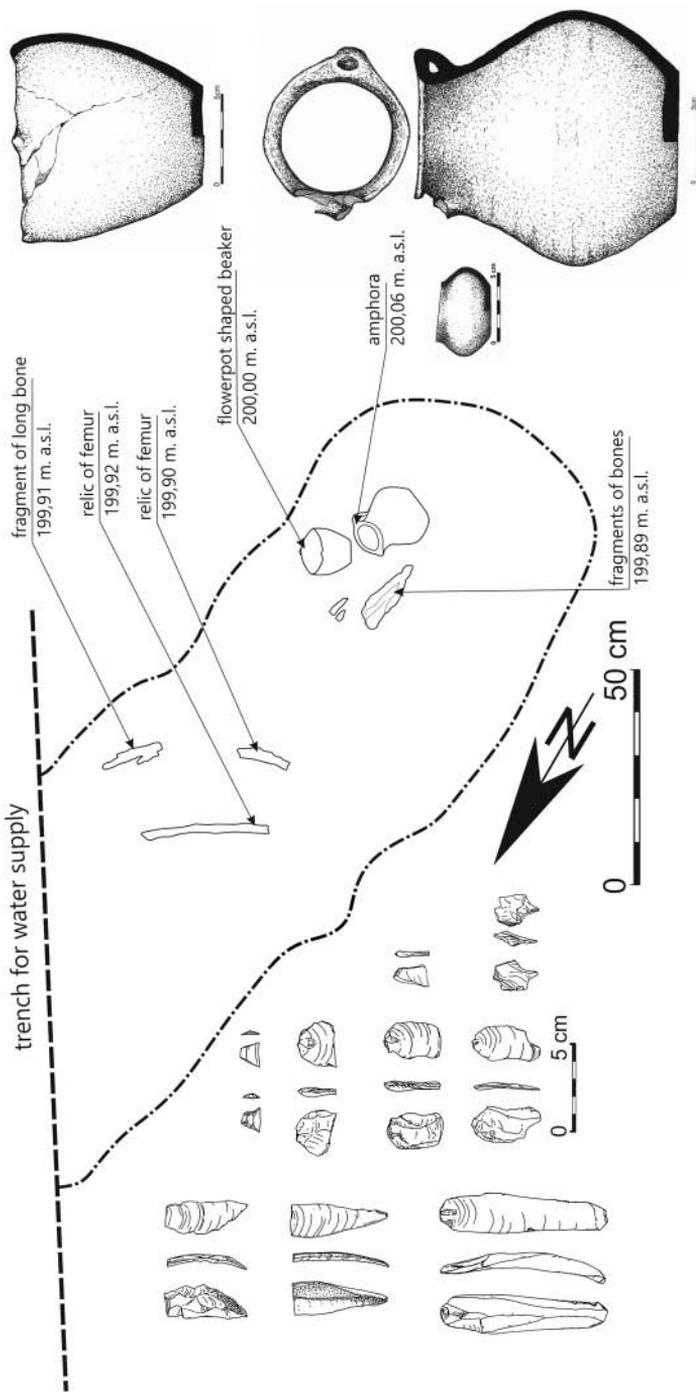


Fig. 2. Książnice, site 2, Pacanów Commune. Grave 1 (illustration: S. Wilk)

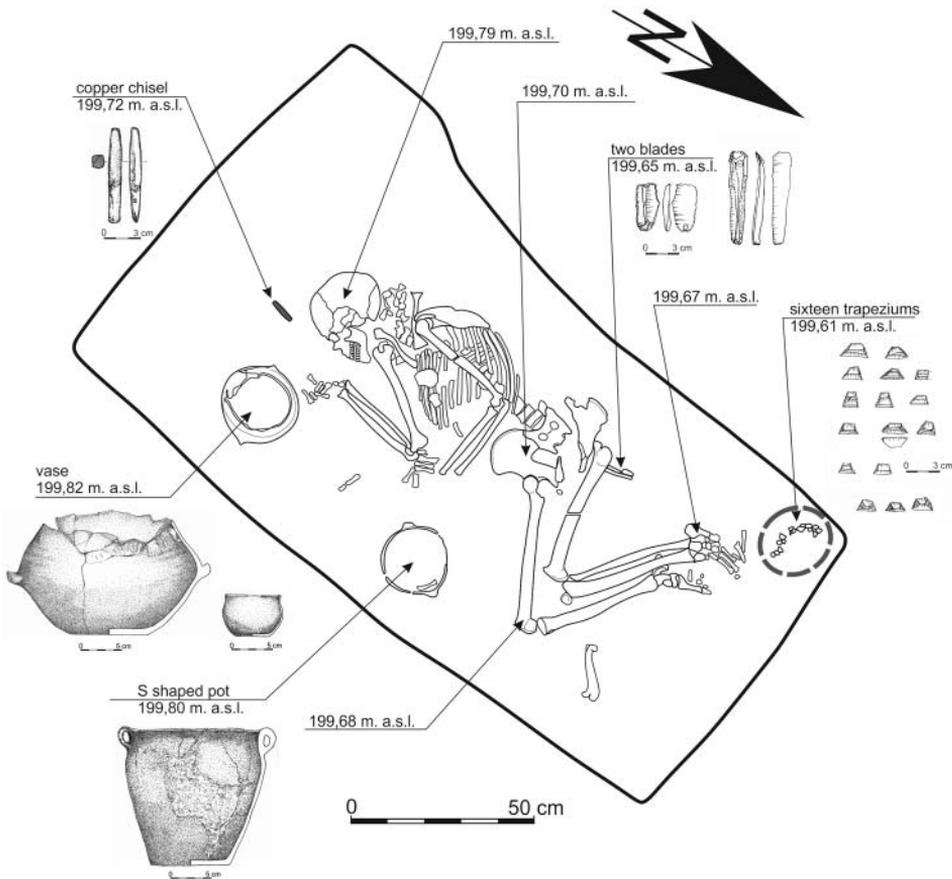


Fig. 3. Książnice, site 2, Pacanów Commune. Grave 4 (illustration: S. Wilk)

Grave 4. The fully preserved skeleton of a *maturus* male, aged approximately 50 years, was discovered in a crouched position, buried on the right side with the skull pointing south (Fig. 3). The rich grave inventory comprised three pottery vessels, a copper chisel and 18 flint objects. Two of them (a chocolate flint blade and a Świeciechów flint blade) lay near to the proximal end of the right femur, while the semi-circularly arranged assemblage of 16 chocolate flint microliths (12 trapezes and 4 Sośnia arrowheads) was found in the north-western corner (Fig. 4) (Wilk 2004, 232).

Such trapeze arrangements were previously suggested to have been the remains of a composite tool deposited in the grave, e.g. a sickle with an organic hafting that had not been preserved, or a sheaf of arrows that had been shifted slightly by post-depositional processes (Zakościelna and Libera 2007, 260). Initial use-wear observations conducted by Natalia N. Skakun have excluded the possibility that the specimen had been a harvesting

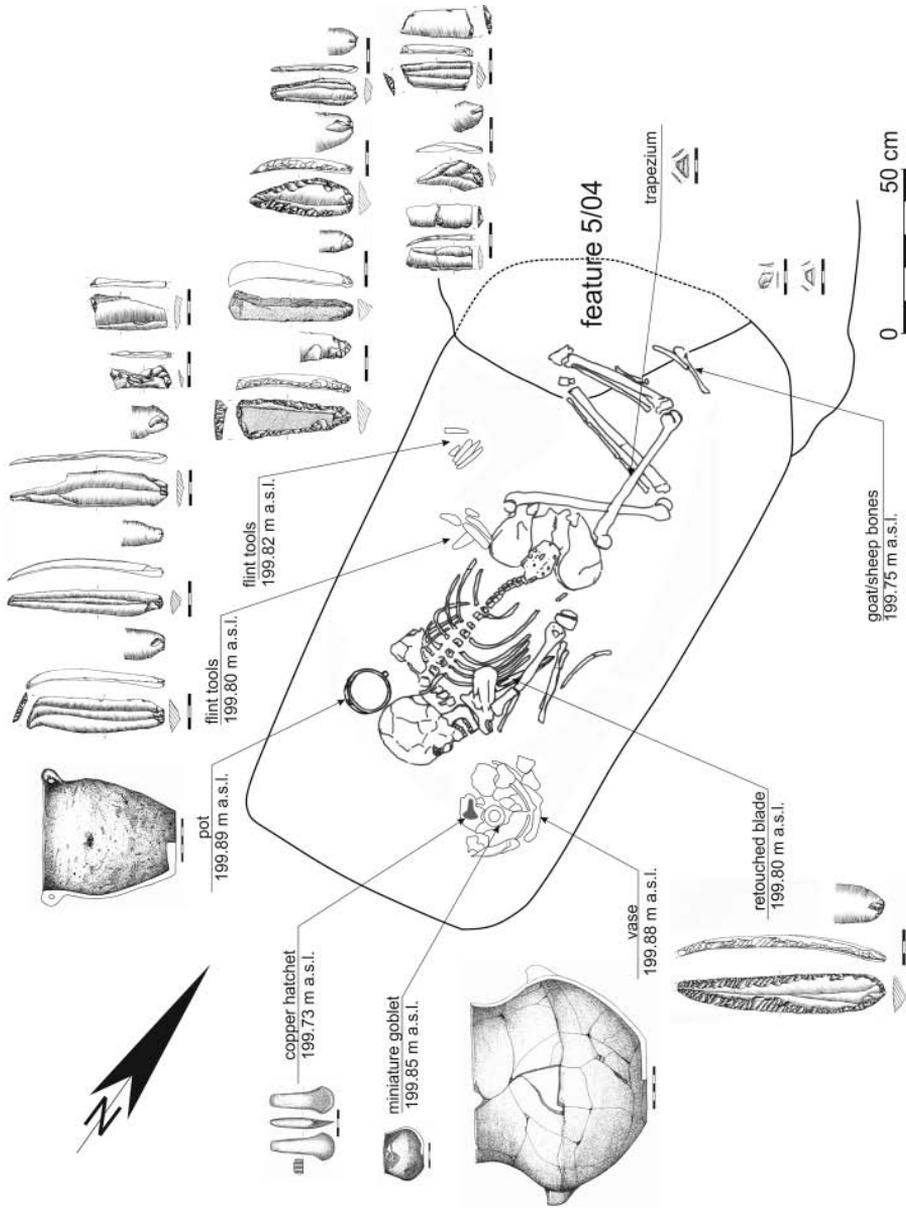


Fig. 5. Książnice, site 2, Pacanów Commune. Grave 5 (illustration: S. Wilk)

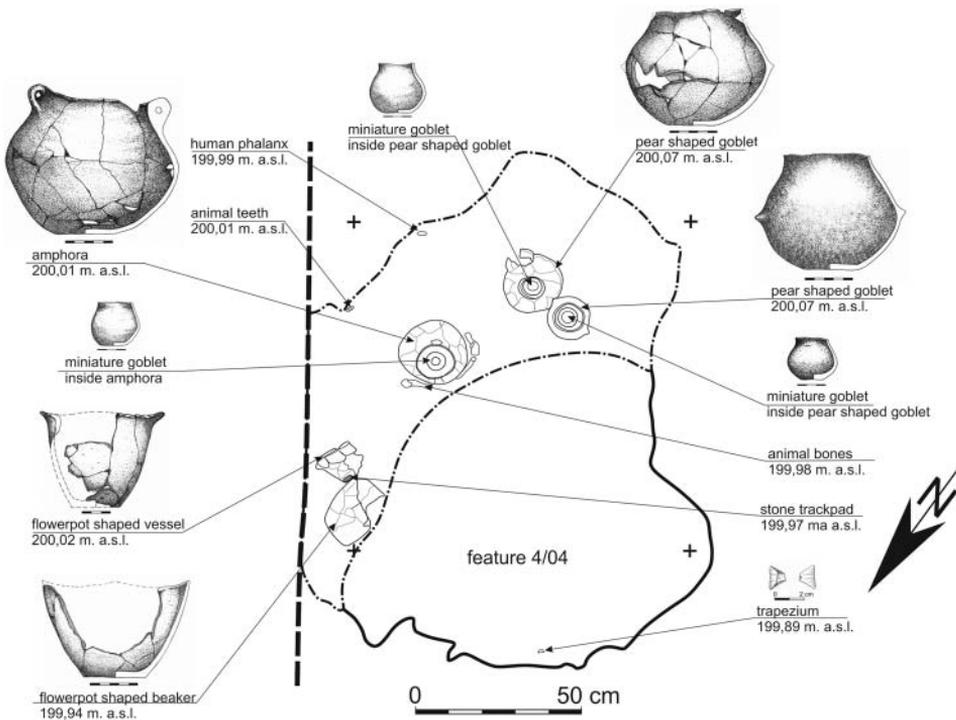


Fig. 6. Książnice, site 2, Pacanów Commune. Grave 6 (illustration: S. Wilk)

tool. Rather, the microwear found on two of the artifacts indicated a tool used for cutting soft materials such as meat, hence the supposition that trapezes may have served as the blades of a tool employed in the burial ritual and manufactured right before being deposited in the grave (Wilk 2004, 237).

Importantly, the retouched edges of two of the specimens are rounded, indicating contact with a softer material, though they lack any microscopic linear impact polish that would indicate a parallel motion. These traces are more likely to be associated with storage or transportation in a leather bag. Numerous fractures were noted on nine of the trapezes, including crescent-shaped negative scars on the shorter, unretouched edges of six specimens. Less numerous, yet equally characteristic fractures, appeared on the longer edges and corners of the trapezes. Six specimens display no use-wear traces. It should therefore be assumed that the deceased was buried with a sheaf of arrows, most likely contained in a quiver.

Grave 5. The fully preserved skeleton of a *senilis* male, aged approximately 55-60 years, lay on the right side and partially on the back in a crouched position, with the skull pointing south (Fig. 5). The inventory of the grave comprised three pottery vessels, a small copper axe (of the Felsőgalla type, or a transitional type between Hajdúszoboszló and

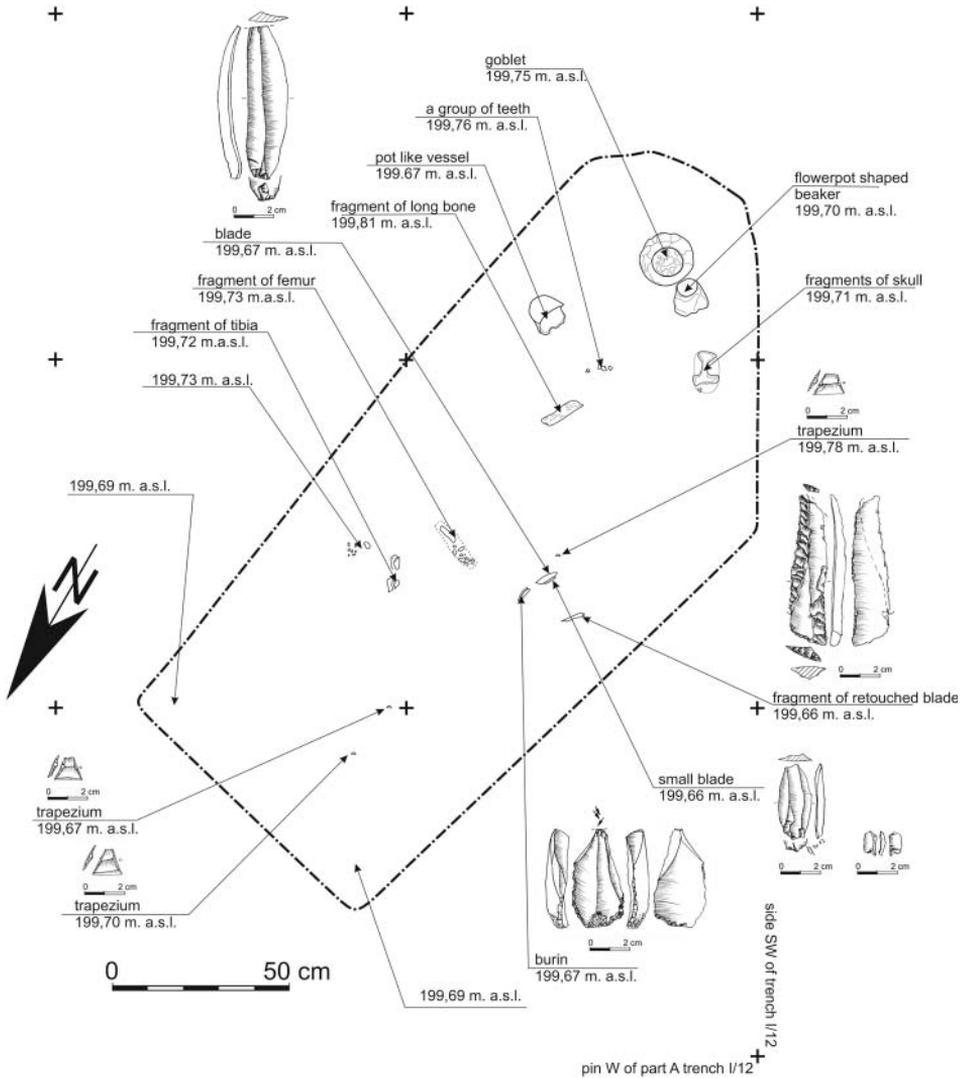


Fig. 7. Książnice, site 2, Pacanów Commune. Grave 12 (illustration: S. Wilk)

Sakalhat) and 16 flint objects, the majority of which (3 whole chocolate flint blades and 1 partial blade, 1 Volhynian flint blade; 1 blade-like flake, 3 endscrapers – two on blades and 1 on a retouched blade – and a truncated blade made of chocolate flint) lay in two clusters adjacent to the left ilium; the retouched blade made of Volhynian flint lay on the ribs of the upper part of the chest, beneath the left shoulder, while the trapeze made of chocolate flint (Ks/k/5/04) was found at the junction of the right fibula and the left tibia.

Grave 6. The cenotaph. The grave did not contain a skeleton; only animal bones belonging to a goat or sheep were found. The grave inventory consisted of eight pottery vessels uncovered in three clusters located in the northern, central, and southern parts of the grave pit (Fig. 6). A polishing stone was found in one of the vessels. A trapeze made of chocolate flint was uncovered at a depth of 199.89 m a.s.l. in the vicinity of feature 4/04, had damaged grave 6 during construction (Wilk 2006, 249).

Grave 12. The grave pit was rectangular in shape and elongated north-south, 225 × 105 cm in dimension, and had indistinct edges at the level excavated (Fig. 7). A small quantity of poorly preserved fragments of human bone were found at a depth of 40-45 cm,

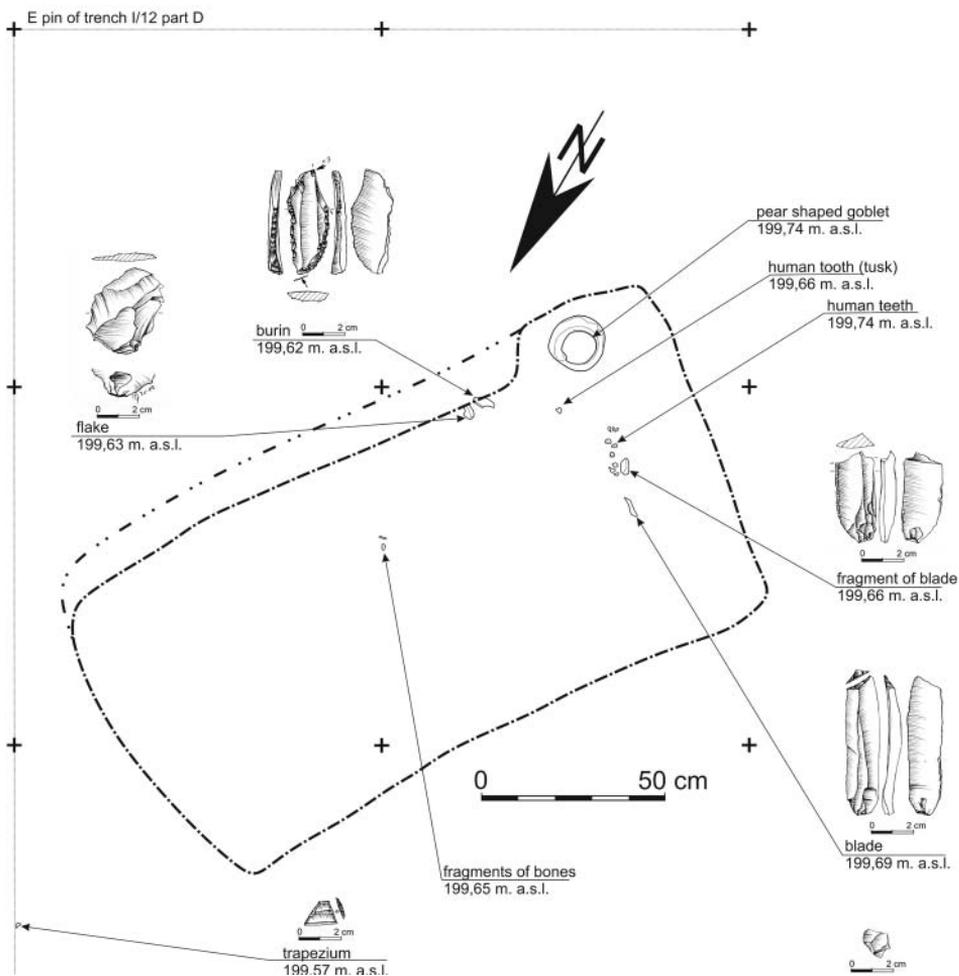


Fig. 8. Książnice, site 2, Pacanów Commune. Grave 13 (illustration: S. Wilk)

Grave 13. The grave pit had indistinct edges at the level excavated and was rectangular in shape (185 × 100 cm), oriented along a northeast-southwest axis (Fig. 8). Human teeth were found at a depth of 30–40 cm in the southern part of the grave pit, while the center contained very fine bone fragments belonging to a *iuvenis* individual. The inventory consists of two pottery vessels uncovered in the southeastern corner of the grave pit and six flint artifacts, of which a truncated blade and a chocolate flint blade were located in the southern part, while a chocolate flint flake and a truncated burin were found in the southeastern area of the grave. Beyond the edge of the grave pit, approximately 50 cm north of its northern edge, a trapeze made of chocolate flint was found at a depth of 199.57 m a.s.l.

Grave 14. Cremation burial. In the southern part of the grave, a concentration of burnt human bones belonging to a *maturus* individual was uncovered. The inventory consisted of two vessels and twelve flint objects. In the southern part of the grave, two blades

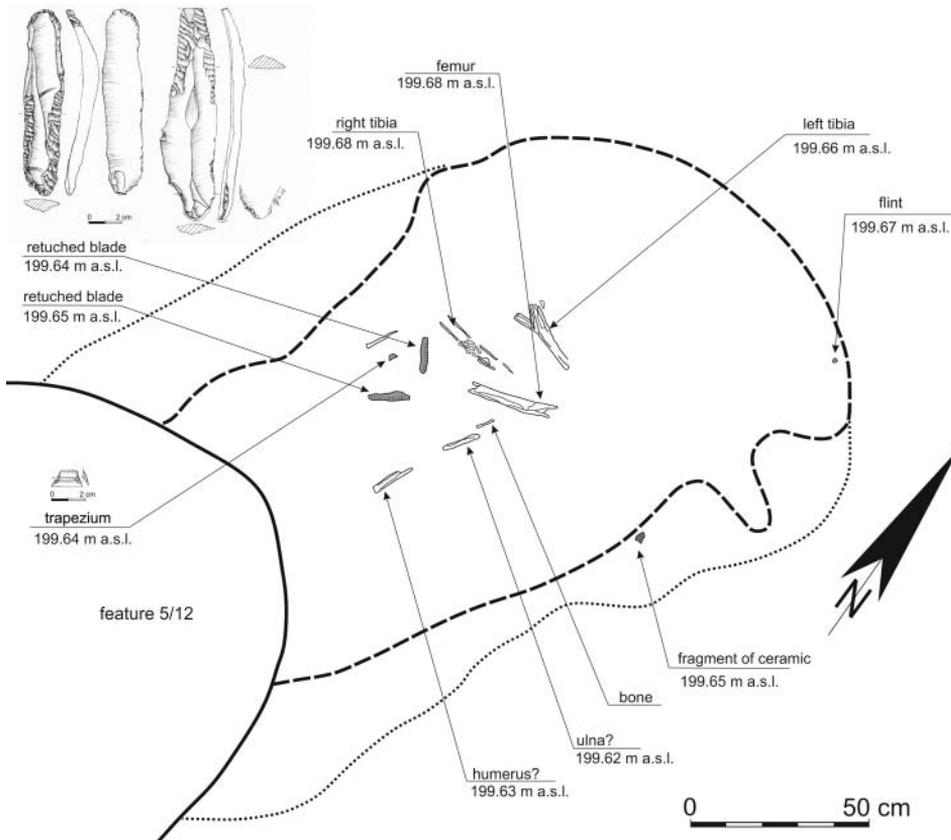


Fig. 10. Książnice, site. 2, Pacanów Commune. Grave 15 (illustration: S. Wilk)

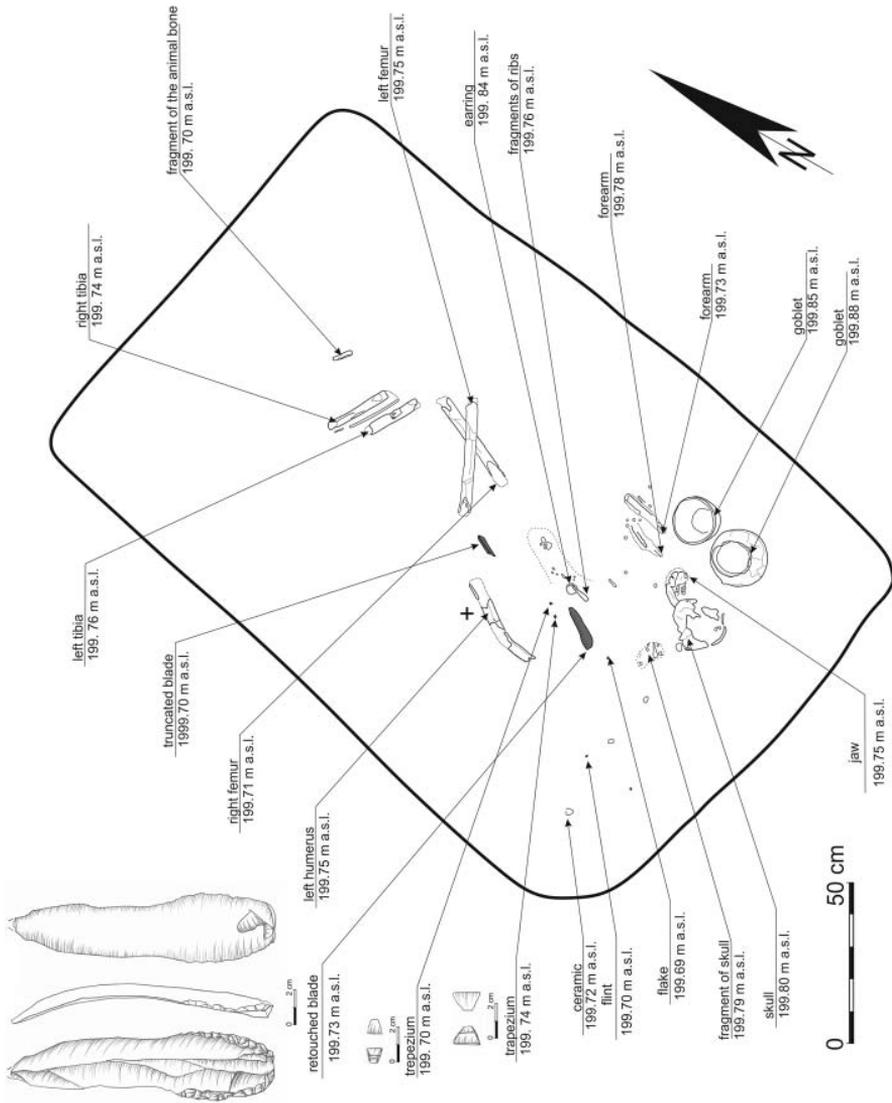


Fig. 11. Książnice, site 2, Pacanów Commune. Grave 17 (illustration: S. Wilk)

with retouched notches and a blade made of chocolate flint were uncovered, while a small core made of erratic flint was found next to a miniature pot (Fig. 9). The remaining flint artifacts (a burin spall made of Świeciechów flint, a retouched flake, a blade-like flake and a blade fragment, all made of chocolate flint) were found in the northern part of the pit. The only Sośnia arrowhead made of chocolate flint found in the assemblage lay at the western edge of the grave (Wilk and Szczepanek 2017, 356).

Grave 15. The grave pit contained a very poorly preserved skeleton lacking a skull, arranged on the right side in a crouched position with the lower limbs pointing north (skeletal analysis unavailable) (Fig. 10). Four objects made of chocolate flint were found in the vicinity of the burial: two heavily used and worn retouched blades – one at chest level, the other at the level of the deceased's pelvis – a fragment of a small blade in the northeastern corner of the pit, and a trapeze found between the retouched blades at a depth of 199.64 m a.s.l. (Wilk and Kufel-Diakowska 2016, 155).

Grave 17. The grave pit contained an incomplete, poorly preserved skeleton of an *adultus* individual. The grave inventory consisted of three pottery vessels, a copper earring, and six artifacts made of chocolate flint (Fig. 11). The flints were located at chest level (the retouched blade and both trapezes), at the level of the pelvis (a Las Stocki-type truncated blade), and in the southwestern part of the grave (two flakes) (Wilk and Kufel-Diakowska 2016, 155).

MATERIALS

A total of 30 trapezoidal microliths were discovered within the cemetery, including 5 Sośnia arrowheads (Table 1; Fig. 12). Twenty-two trapezes and all of the Sośnia arrowheads were recovered from seven graves, while one trapeze (Ks/k/5/05) was found in the empty space between the eastern and western group of graves (about 2.4 m east of grave 17, 5.3 m south of feature 2/01, and 6.3 m west of grave 1), and two other trapezes were discovered outside – but immediately adjacent to – the graves, from which it can be surmised that these artifacts were associated with particular burials. Specimen Ks/k/29/04 was recovered from the vicinity of feature 4/04, around 0.6 m west of the damaged western edge of grave 6, while trapeze Ks/k/20/12 was discovered around 0.5 m north of the northern edge of grave 13.

The trapezes uncovered in Książnice are both high and low forms, featuring steep and semi-steep retouch, some with very oblique truncation, with the exception of one specimen recovered from grave 4, which does not have a retouched opposing edge. The Sośnia arrowheads, with flat and semi-flat retouch extending onto the dorsal aspect, represent a separate form. All of the specimens were produced from chocolate flint. They are in very good condition and bear no signs of heat treating, patina, or post-depositional damage.

4	M <i>Matturus</i> <i>ca 50 lat</i>	Ks/k/11/9/03 (fig. 2:11)							+	unused	
		Ks/k/12/9/03 (fig. 2:12)	various shapes	cone						arrowhead	
		Ks/k/13/9/03 (fig. 2:13)	micro notch	micro notch	group of microliths close to feet						arrowhead
		Ks/k/14/9/03 (fig. 2:14)	micro notch	micro notch							arrowhead
		Ks/k/15/9/03 (fig. 2:15)									arrowhead
		Ks/k/16/9/03 (fig. 2:16)								+	unused
		Ks/k/17/9/03 (fig. 2:17)								+	unused
		Ks/k/18/9/03 (fig. 2:18)		micro notch	micro notch						
5	M <i>Sentis 55-60</i>	Ks/k/5/04 (fig. 2:19)		separately, between right <i>fibula</i> and left <i>tibia</i>			cone			arrowhead	
		Ks/k/29/04 (fig. 2:21)		-					+	unused	
12	M <i>Matturus</i>	Ks/k/12/12 (fig. 2:22)		group of flint tools near <i>pelvis</i>						unused	
		Ks/k/27/12 (fig. 2:23)									arrowhead
		Ks/k/28/12 (fig. 2:24)		separately, close to feet						+	cutting tool (hide, meat)/barb
0.5 m north of grave 13	undetermined <i>Iatensis</i>	Ks/k/20/12 (fig. 2:25)		-		cone			+	arrowhead/perforator	

Table 1.

Grave no.	Sex, age	Inventory no.	Microlith distribution within grave	Fractures on:			Rounding of retouched edge	Rounding, polish and striae on protruding edge	No traces	Probable function
				long edge	short edge	protruding edge				
14	undetermined (cremation) <i>Maturus</i>	Ks/k/44/12 (fig. 2:26)	W part of a burial pit (dispersed)					+		barb/curation/abrasion
15	M	Ks/k/48/12 (fig. 2:27)	between retouched blades close to chest						+	unused
17	M <i>Adultus</i>	Ks/k/22/14 (fig. 2:28)	near retouched blade close to chest						+	arrowhead/perforator
		Ks/k/23/14 (fig. 2:29)					micro-fractures + MLIT			arrowhead
stray find (grave?)	-	Ks/k/5/05 (fig. 2:30)	-						+	barb/curation/abrasion

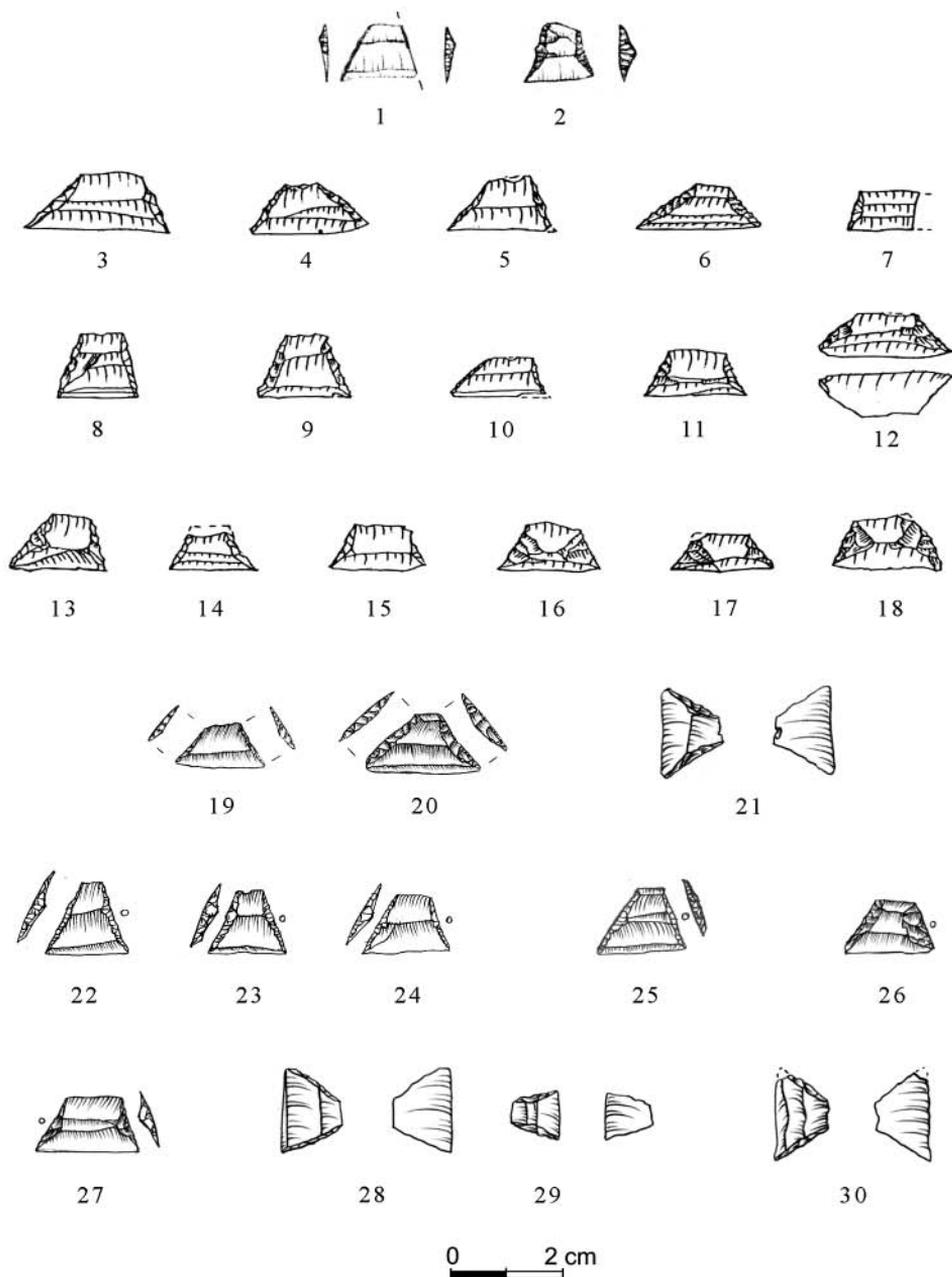


Fig. 12. Książnice, site 2, Pacanów Commune. Trapezes: 1-2 – grave 1; 3-18 – grave 4; 19-20 – grave 5; 21 – grave 6; 22-24 – grave 12; 25 – grave 13; 26 – grave 14; 27 – grave 15; 28-29 – grave 17; 30 – loose find (illustration: A. Zakościelna, M. Szeliga, J. Libera, B. Kufel-Diakowska, S. Wilk)

MICROWEAR ON THE TRAPEZES

Microscopic analysis of trapezoidal microliths from the Middle and Late Stone Age, supported by the results of experimental research, reveals that they were primarily used to arm arrows. The types and amount of wear varies depending on the manner in which the arrow was armed. Compared to other inserts, including ones made of microliths, trapezes fastened transversally onto the tips of shafts, i.e. with the shorter edge facing forward, and rarely display the sort of use-wear typical of projectiles, (cf. Fisher *et al.* 1984; Yaroshevich *et al.* 2010, 82; Pyżewicz 2012, 99). When such use-wear is present, it is usually fractures of the longer edge, including crescent-shape snap fractures (Gibaja and Palomo 2004, 87-89; Lammers-Keijsers *et al.* 2014, 461), individual minor scars (Gibaja and Palomo 2004, 87-89; Pyżewicz 2013, 34), or minor but continuous retouch scars (Gibaja and Palomo 2004, 87-89), as well as small negative scars in the corners of the projectiles (Yaroshevich 2012, 8). Crescent-shaped snap fractures have also been observed in the hafting area of the trapezes, which is on their shorter edges (Pyżewicz 2013, 34). In the case of trapezes mounted obliquely on the tips of the shaft or hafted as barbs, cone fractures and pseudo-burin fractures occurred on the protruding angles (Nuzhnyĭ 1990, 115-117; Korobkova 1999, 102-103; Gibaja and Palomo 2004, 87-89; Yaroshevich 2012, 8).

Another type of microwear observed on trapezes is heavy rounding of the corners formed by the longer and the retouched edge. These traces bear no features that would indicate a particular working direction, while their visual appearance suggests contact with hide – hence the conclusion that this type of microwear is the result of the transportation of arrows in a quiver (e.g. Márquez *et al.* 2008, 324; Winiarska-Kabacińska 2008, 334; Kufel-Diakowska *et al.* 2017, 232, 236-237) or of the inserts themselves in a leather container (Pyżewicz 2012, 101-102).

There are also traces characteristic of meat cutting found on the longer edges of the specimens. These manifest as a rounding of the working edge, with poorly developed, greasy polish, oriented linearly and marked by delicate striae (Osipowicz 2010, 228). Hide-perforation traces have also been observed (Korobkova 1999, s. 86). Galina F. Korobkova cites the example of a markedly worn trapeze with one heavily rounded and slightly polished corner. These traces are accompanied by short and delicate yet numerous striae. Other forms of wear appear less frequently, including the abrasion of the surfaces of trapezes, observed by Annelou van Gijn (2014, 699) on artifacts discovered in Funnel Beaker Culture graves.

Use-wear analysis of the trapezes found in Książnice was carried out at the Laboratory for Archaeological Conservation and Archaeometry at the Institute of Archaeology, University of Wrocław, using an Olympus SZX9 stereomicroscope (up to 114×) and a Nikon ECLIPSE LV100 metallographic microscope (50-500×). The microwear can be grouped into three general categories (Table 1).

The first category consists of fractures on the unretouched, longer, or shorter edges, and fractures on one of the corners formed by the longer and unretouched edges of the

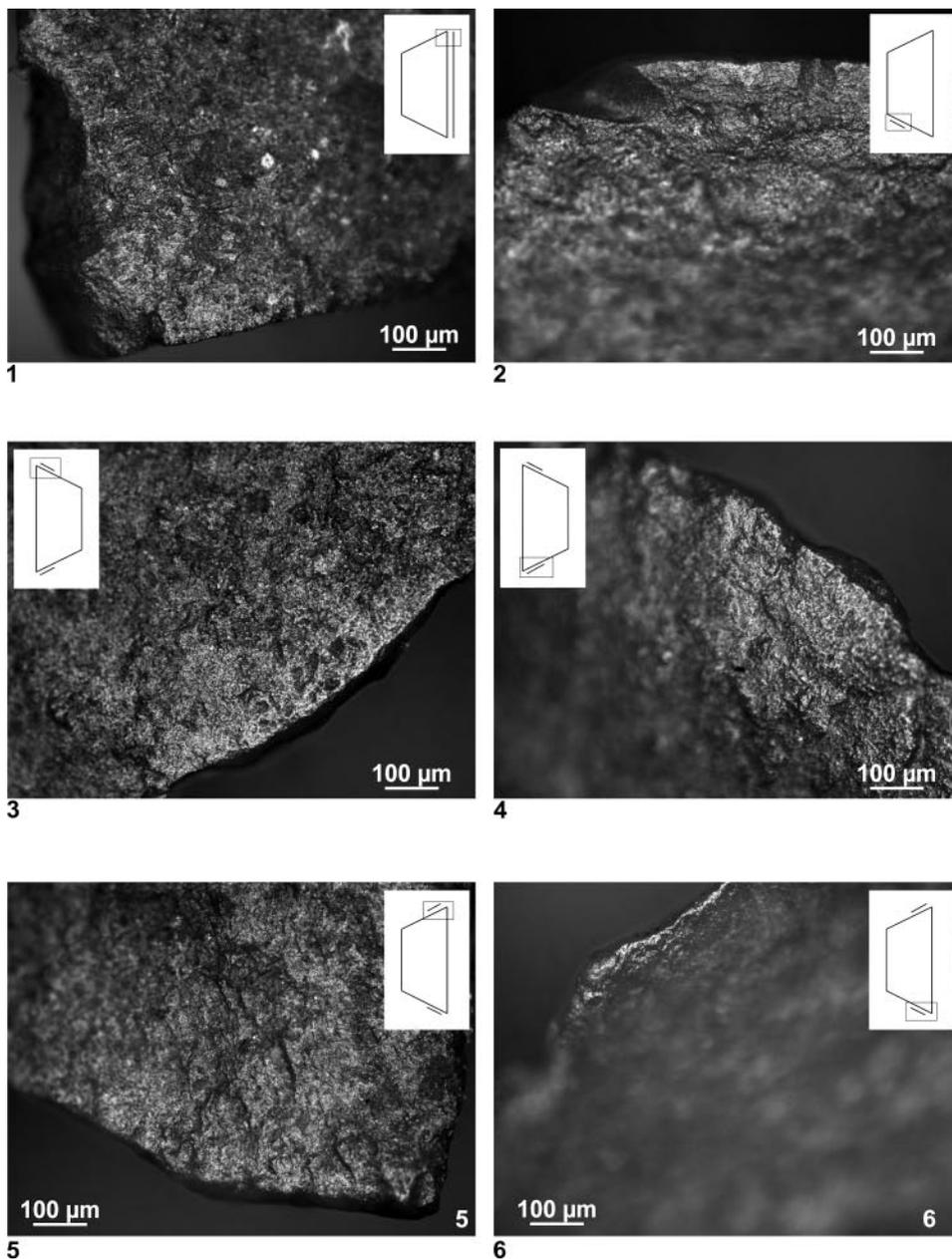


Fig. 13. Książnice, site. 2, Pacanów Commune. Use-wear traces on trapezes: 1 – Ks/k/23/14 (grave 17); 2 – Ks/k/1/1/01 (grave 1); 3-4 – Ks/k/4/9/03 (grave 1); 5-6 – Ks/k/9/9/03 (grave 1). The line represents the extent of the microstructure, and the rectangular space shown in the photograph (photo by B. Kufel-Diakowska)

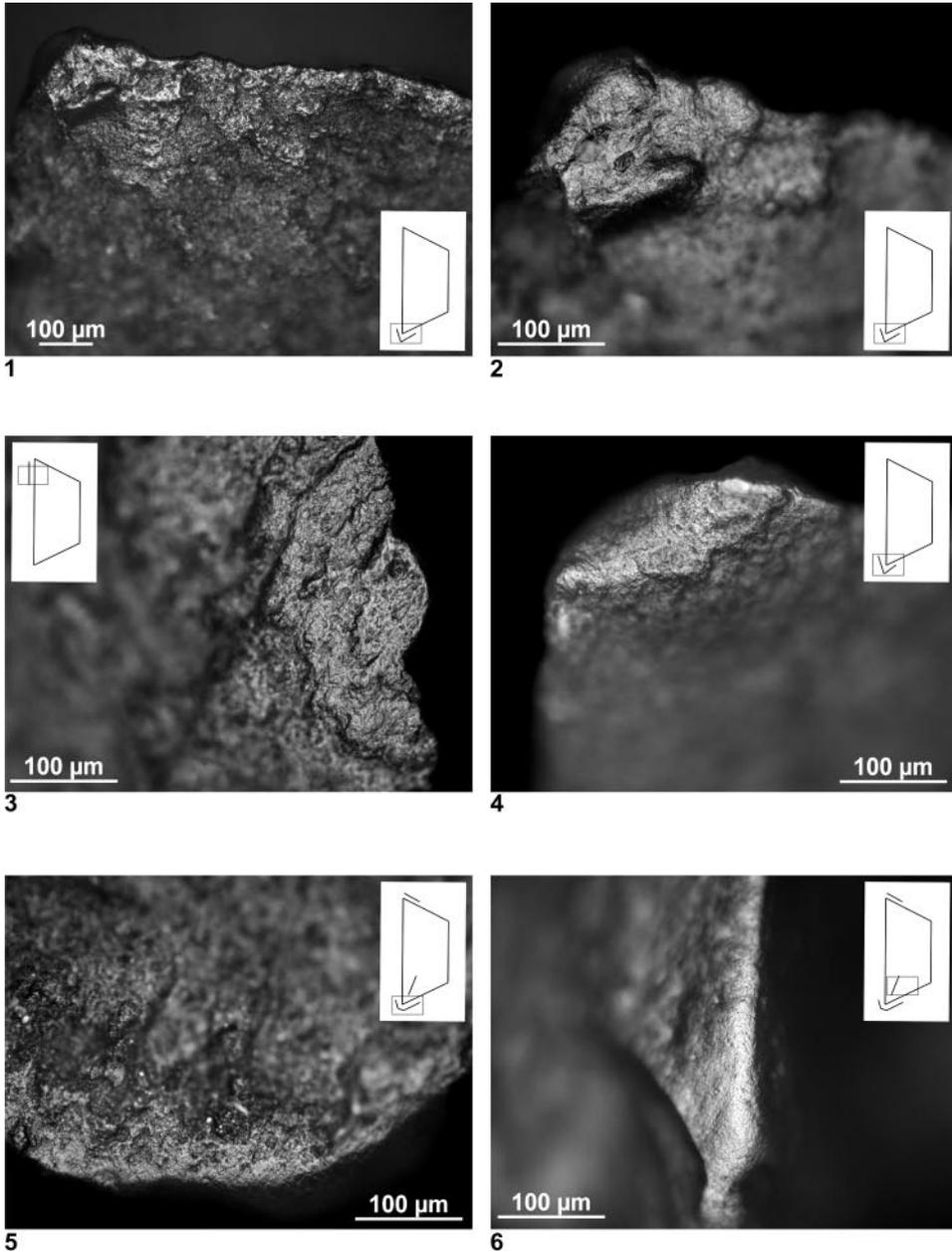


Fig. 14. Książnice, site 2, Pacanów Commune. Use-wear traces on the trapezes: 1-2 – Ks/k/22/14 (grave 17); 3 – Ks/k/28/12 (grave 12); 4 – Ks/k/20/12 (grave 13); 5-6 – Ks/k/44/12 (grave 14). The line represents the extent of the microstructure, and the rectangular space shown in the photograph (photo by B. Kufel-Diakowska)

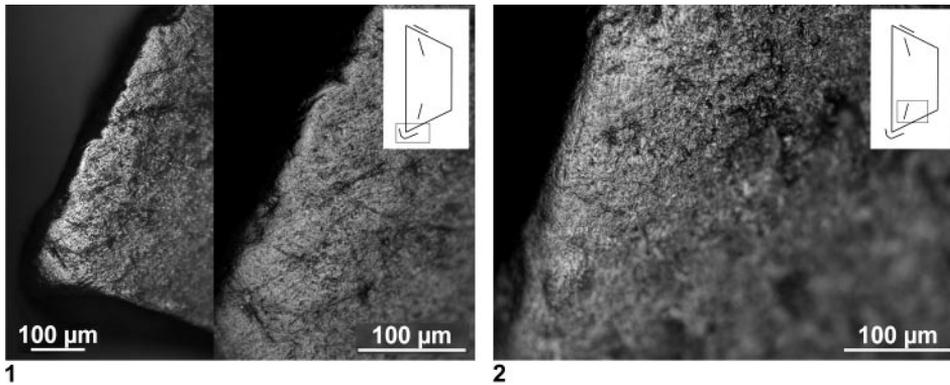


Fig. 15. Książnice, site 2, Pacanów Commune. Use-wear traces on the trapezes: 1-2 – Ks/k/5/05 (loose find). The line represents the extent of the microstructure, and the rectangular space shown in the photograph (photo by B. Kufel-Diakowska)

trapeze. The longer edge was damaged in four specimens, with fractures in the form of micronotches and crescents. Fractures of the shorter edge are features of eight trapezes; in seven instances these are crescent-shaped snap fractures. Five specimens have fractured corners. The negative scars are cone fractures and, in one case, a burin-like fracture. The damage on the longer edges as well as the corners of the trapezes are very fine fractures, and thus it is impossible to unambiguously determine the function of these artifacts. Only in one instance was the microscopic linear impact polish typical of launched arrows observed (Fig. 13:1). The fracturing of the shorter edges may be associated with the hafting, as indicated by experiments conducted by Katarzyna Pyżewicz (2013, 34). Assuming that all of the damage described above is associated with projectile weapons, then two modes of hafting would be involved: one with the trapezes fastened transversally onto the tips of the shafts, and the other obliquely.

The other category of microwear includes the aforementioned rounding of part of one or both retouched edges. This feature was observed on five trapezes. In some instances, slight rounding occurs on the corners and even on part of the unretouched edge (Fig. 13:2-6). As mentioned above, traces of this type on the edges of trapezes may be the result of the manner in which the arrows or the inserts themselves were transported or stored.

The final and highly complex category of use-wear comprises significant rounding of the corners of the longer and retouched edge – including a minor portion of the truncation – greasy or matte polish in the area of the rounding, and numerous short and shallow striae beginning in the corner and oriented obliquely to the edge (Fig. 14:1-2). This type of damage was observed on five trapezes. These traces were produced as a result of working hide, meat, or both. Individual trapezes differ in terms of the details of the microwear. In one instance (Ks/k/28/12), traces appear on the longer edge rather than on the corner

(Fig. 14:3). This specimen may therefore have been used as an insert mounted in a cutting tool. In the case of another specimen (Ks/k/20/12), the described traces overlap cone fractures (Fig. 14:4), which may have resulted from impact or perforation. Microwear on two trapezes (Ks/k/44/12, Ks/k/5/05) is particularly intensive and abrasive in form, and also appears on the ridges of the dorsal surface (Fig. 14:5-6; 15:1-2). These marks may be partially intentional in nature and the result of abrasion. The traces on the ridges resemble the microwear visible on the ridges of retouched blades that have had prolonged contact with a leather sheath. To sum up, the microwear on some of the five trapezes may have had a similar cause, one of which being associated with their use in projectile weapons (tips, barbs, or blade inserts), while differences in the microwear may be the result of the duration of their use (cf. Kufel-Diakowska and Bronowicki in press), different models of arming arrows, and additional processing such as edge abrading. It is nevertheless probable that these traces were produced as a result of various prolonged activities: cutting, perforation, shooting, or the storage of cutting implements in a sheath.

Nine trapezes display no use-wear traces, which does not rule out the possibility that they served as parts of arrows or the inserts of other briefly used tools.

DISCUSSION

Considering the overall number of Lublin-Volhynian Culture graves discovered to date at site 2 in Książnice, it is reasonable to conclude that trapezes were a common burial furnishing. This confirms previous observations made by A. Zakościelna (2010, 137). Trapezes occurred within seven grave pits and in the vicinity of two (graves 6 and 13). Only one specimen was found by surface collection.

The number of trapezes deposited in individual graves is diverse, ranging from one to 16 specimens, though the most frequently occurring numbers are one (4 graves), two (3 graves), and three items (1 grave). A similar distribution can be observed at other sites, where graves contain from one to five trapezes each. Grave 4 in Książnice, which revealed a concentration of 16 microliths, is an absolute exception.

It should be noted that while graves 4 and 5 were unambiguously demonstrated through skeletal analysis to contain male burials, in the remaining cases only the age of the deceased (graves 12, 13, 14, 17) or no information at all (graves 1, 6, 15) is available. Nevertheless, considering the obvious arrangement of the skeletal material on the right side in most burials and the grave inventories rich in flint artifacts, it may be assumed that all of the analyzed features could have been male graves (all sex and age analyses were conducted by A. Szczepanek). In this regard, there are no exceptions to the rule.

What differentiates the cemetery in Książnice is the heterogeneous location of the trapezes in the grave pits, both in relation to the human remains and to other flint artifacts. It is worthwhile to compare these observations to the finds from the Jordanów Culture cemetery in Domasław, Kobierzyce Commune, which correspond to an identical chronological

horizon (Furmanek and Mozgała-Swachta 2017, 181) and, in many aspects, a similar burial ritual. Yet the trapezes found at that site were, without exception, uncovered in male graves, in tight groups located at the knees or the feet of the deceased (Fig. 16). These assemblages are never accompanied by other flint products. Any use-wear present in these specimens was limited to signs of storage – likely of ready-to-use arrows in a leather quiver (Kufel-Diakowska *et al.* 2017, 232, 236-237).

The graves of the Lublin-Volhynian Culture present a more complex situation. Microliths have been discovered in various parts of the grave pits: at the feet of the deceased accompanied by a group of vessels (Jaszców 5, grave 2; Krasne Kolonia 16, grave 4; Strzyżów 1A, grave 1; Żłota “Grodzisko II”, grave 101) or as isolated objects (Strzyżów 26, grave 1), or near the central (Strzyżów 10, grave 3) or upper part of the skeleton (Zakościelna and Libera 2007, 265-266; Zakościelna 2010, 170-171). The trapezes found in Książnice were situated in the following locations: at the legs (graves 4, 5, 12), next to retouched blades in the vicinity of the chest (graves 15, 17), or grouped with other flint products at the hip (grave 12). In the case of four graves, the location of the trapezes either cannot be determined precisely (graves 1, 6, 13 and surface finds) or the deposit is dispersed in nature (grave 14).

Studies of the functions played by trapezes offer some possible interpretations. The microliths differ significantly in terms of the types of microwear and the degree of wear. The majority of specimens uncovered at the legs should be classified as projectile points (graves 4, 5, 12, and possibly grave 1, where location of the trapeze is unknown), as previously noted by A. Zakościelna (2010, 170). The microliths bear impact traces, fractures formed in the shaft or traces produced by storage or transportation. The exception is one trapeze in grave 12, which displays use-wear associated with the cutting of soft material (hide, meat).

The specimen lacking use-wear, discovered in the area of the hip in grave 12, may have been placed in a container along with other flints to serve as spare inserts and tools. Similar groups of flint products appeared at the pelvic bones in all the male graves uncovered in Domasław. It is difficult to explain the presence of trapezes at the chest, particularly in light of the accompanying retouched blades. Zakościelna (2010, 171) believes that specimens found near the ribs or hips are the remains of arrows by which the men had been struck, but, unlike B. Márquez and his team (2008, 322), she does not provide direct evidence for this claim in the form of signs of projectile traces on the bones or impact traces on the tips. In the case of the Książnice finds, two radically different situations can be observed. The trapeze found between the retouched blades close to chest in grave 15 displays no use-wear. One trapeze discovered in a similar position, next to the unused retouched blade in grave 17, should be classified as a projectile point that was likely launched multiple times. The other specimen can be interpreted either as belonging to an arrow that had been launched multiple times, or as a tool used for perforating leather. It is impossible, however, to determine whether the hypothetical arrows were the cause of the young person's death.

The most heavily damaged specimens are the ones for which the least information is available concerning their location vis-à-vis the deceased person: one is a surface find, which came from an empty space between the eastern and western grave fields, while the other was uncovered in a cremation burial (grave 14), in which flint products were dispersed throughout the entire grave pit. Both microliths display the most intensive micro-wear on the corner and the ridges. They may have been arrow barbs from which one edge had been intentionally ground off, or a barb in a cutting tool that had been stored in a leather sheath. One more heavily worn specimen with traces from the perforation of a soft material was found 0.5 m outside the grave 13.

More thorough interpretations are not possible at this time. New data may be provided by use-wear analysis of the remaining flint products deposited in the graves. Nevertheless, it may be tentatively assumed that the trapezes comprised the personal burial furnishings of the deceased, which would establish a link between the Lublin-Volhynian and Jordanów rituals.

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