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**NEW DISCOVERIES OF ARROWHEADS OF SCYTHIAN TYPE
FROM POLISH-UKRAINIAN BORDERLAND
(SAN, BUG AND UPPER DNIESTER DRAINAGE BASIN)**

ABSTRACT

S. Czopek, D. Pawliw, K. Trybała-Zawiślak, N. Wojcieszczuk 2015. *New discoveries of arrowheads of Scythian type from Polish-Ukrainian borderland (San, Bug and upper Dniester drainage basin)*, AAC 50: 191–216.

The primary aim of this paper is to publish new discoveries of arrowheads of the so-called Scythian origin that were made in recent years at the Polish-Ukrainian borderland, i.e. in the Bug, San and upper Dniester drainage basins. These artefacts, coming from two villages in Ukraine (Arlamiv'ska Volia and Beregove) and two in south-eastern Poland (Kozodrza, Nienowice), are presented in a broader territorial context of similar findings. In total, the paper includes information about 107 arrowheads from 49 sites. Verification of their typo-chronological identification was done. This allowed to arrive at a conclusion on a dominant role of two groups of the Scythian cultural circle in the distribution of these artefacts. In the older phase (from the end of the 8th/the beginnings of the 7th to the 6th century BC) it was the West-Podolian group from the middle Dniester, and the arrowheads concentrated mainly in southern Volhynia and northern Podolia. However, in the younger phase (from the end of the 6th/the beginnings of the 5th to the 4th century) the role of the “distributor” was taken over by the Vekerzug culture of the Carpathian Basin. This cultural entity provided arrowheads mainly to the area of south-eastern Poland (the San and upper Bug drainage basin).

Key words: Early Iron Age; South-Eastern Poland; South-Western Ukraine; Lusatian culture; Wysock culture; Cherepyn-Lahodiv group; Scythians; arrowheads

Received: 15.09.2015; Revised: 11.11.2015; Revised: 2.12.2015; Accepted: 3.12.2015

PRELIMINARY REMARKS

For a long time Scythian-type weapons aroused the interest of researchers of the Early Iron Age both in Polish lands as well as in the neighbouring areas (Bukowski 1960; 1977; 1979; 1982; Chochorowski 1974; Czopek 1995; Gawlik 2005)¹. These weapons were believed to be valuable both for

¹ Article prepared within the framework of a research grant National Science Centre *Cultural and settlement changes in the Wisznia river basin in the Bronze age and early Iron age in the context of changes of prehistoric and early medieval oecumene*, No. 2013/09/B/HS3/04277. The way of writing the names of Ukrainian authors complies with their request (editor's note).

their highly informative nature (e.g. the possibility of precise dating), but also owing to diverse contexts in which they are found within the discussed area. This group consists of specimens cropping up in settlement materials, burial contexts and also as the so-called stray finds. Of course, particularly valuable are those which are found within burnt down settlements, strongholds or even caves where there is a clear indication of the military nature of such destruction, caused by warriors using “Scythian” weapons (Chochorowski 2014, 32–36). Obviously, the entire group of weaponry is internally varied. For example, we know both impressive objects — swords, daggers, knobbed shaft-hole axes, as well as the most numerous ones — small arrowheads. Here we will try to focus on these latter ones in the context of several recent finds. However, it is worth to remember that in the current literature on the subject the majority of militaria from the Lusatian cultural circle interesting for us is interpreted as signs of Scythian invasion (Bukowski 1979, 201) or invasions (Chochorowski 1974, 176–178). Currently, their chronology is established for between the end of the 7th (the end of the 7th/beginnings of the 6th?) century and the last quarter of the 6th century (Chochorowski 2014, 41). However, considering south-eastern Poland – the San and Bug river basin, chronological inconsistencies and a longer period of their inflow (from the 7th to the 4th century) is emphasised. Thus, it is pointed out that they might rather have been imported “[...] probably from the area of or through the Scythian West Podolian group” (Bukowski 1982, 250) or from broadly understood forest-steppe zone of Eastern Europe (Czopek 2008; Kłosińska 2013a, 360). In this case, the most important is the distinctiveness of the finds from the east of Poland; they should be considered in the context of similar findings from Volhynia and northern Podolia, and thus from the areas directly bordering with the territory of the Lusatian culture.

NEW FINDINGS OF “SCYTHIAN” ARROWHEADS

Arlamivs’ka Volia, rajon Mostyska, oblast Lviv, Ukraine, site No. 55

In the museum in Mostyska a stray find of an arrowhead discovered on the surface of this site is stored (Fig. 1:4). This is a relatively well-preserved specimen, with only slight damages at the edges, especially in its lower part. It has a clearly marked trilobate blade and a socket perceptible even above mid-height. The length of the specimen is 2.9–3.0 cm. It represents variant 9 type 5, of II section according to A. I. Melyukova (1964, Fig. 1), or variant 1, type II of the group II according to V. G. Petrenko (1967, Table 34). It can be positioned within the II chronological group dated between the 2nd half of the 6th and the beginnings of the 5th century B.C. (Melyukova 1964, 21, Table 7; with later revision — Rolin 1987).

Beregove, rajon Mostyska, oblast Lviv, Ukraine, site No. 2

Archaeological excavations were carried out² in 2014 at site No. 2 in Beregove (Fig. 2). They were a consequence of earlier discoveries, including, among others, two pot-like vessels (Fig. 3) with cremated remains and bronze artefacts (a pin with a loop-shaped head made of hammered wire, wire bracelets, pendants). In the course of the excavations the existence of a cemetery and a settlement was confirmed. Their cultural affiliation is not quite clear, which is an outcome of results from large unification of material culture of the Early Iron Age on vast territory of Central and Eastern Europe, and location of the site in the border zone between the Tarnobrzeg Lusatian culture, Wysock culture and Cherepyn-Lahodiv group. This is substantiated by the pottery finds (Fig. 3) with no clear cultural characteristics, but which undoubtedly determine chronology pointing to the Early Iron Age (younger phase of the Hallstatt Period). The most interesting artefacts seem to be 3 bronze arrowheads of the so-called Scythian type (Fig. 1:1–3). Unfortunately, they were found as stray finds (the first two before the commencement of the excavations, and the third in their course, but without context), and therefore they are not associated with any feature or a group of other materials. However, their cognitive value is high, due to the broader references and the potential they offer for more detailed chronological determinations.

Arrowhead No. 1 (Fig. 1:1) is a partly damaged artefact, trilobate. Its lower sections of blades and socket are broken off. The socket is clear for about 2/3 of the length of the specimen, which is 2.9 cm. Having in mind the state of preservation of the artefact, its most distinctive characteristics are the shape of the tip and a clearly distinguishable socket. They allow to classify the specimen as belonging to section II type 3–4 according to systematics of A. I. Melyukova (1964), and to type IV in section I according to V. G. Petrenko (1967, Table 34). Due to the state of preservation a more detailed classification — particular variants — is not possible. The arrowhead should probably be assigned to second (II) chronological group according to A. I. Melyukova, and hence be dated between the beginnings of the 6th and the beginnings of the 5th century BC.

Arrowhead No. 2 (Fig. 1:2) is in a much better state of preservation. In principle, one can only talk about damage to the lower part of the spur-barb, extending from the socket at the base of the blade. It is a bilobate arrowhead with clearly marked, though asymmetrical, diamond outline of the blade. It is 3.8 cm long. Considering the shape of the blade and the barb on the socket it represents Zhabotyń type of arrowheads, especially the younger varieties (Illins'ka 1975). In this case, it is possible to determine the exact typological assignment to variant 1 within type I in section I according to A. I. Melyukova (1964, Fig. 1). Representing a not very often found type, it is a classic

² Studies were carried out thanks to the financial resources allocated for the implementation of the National Science Center research grant (see footnote No. 1).

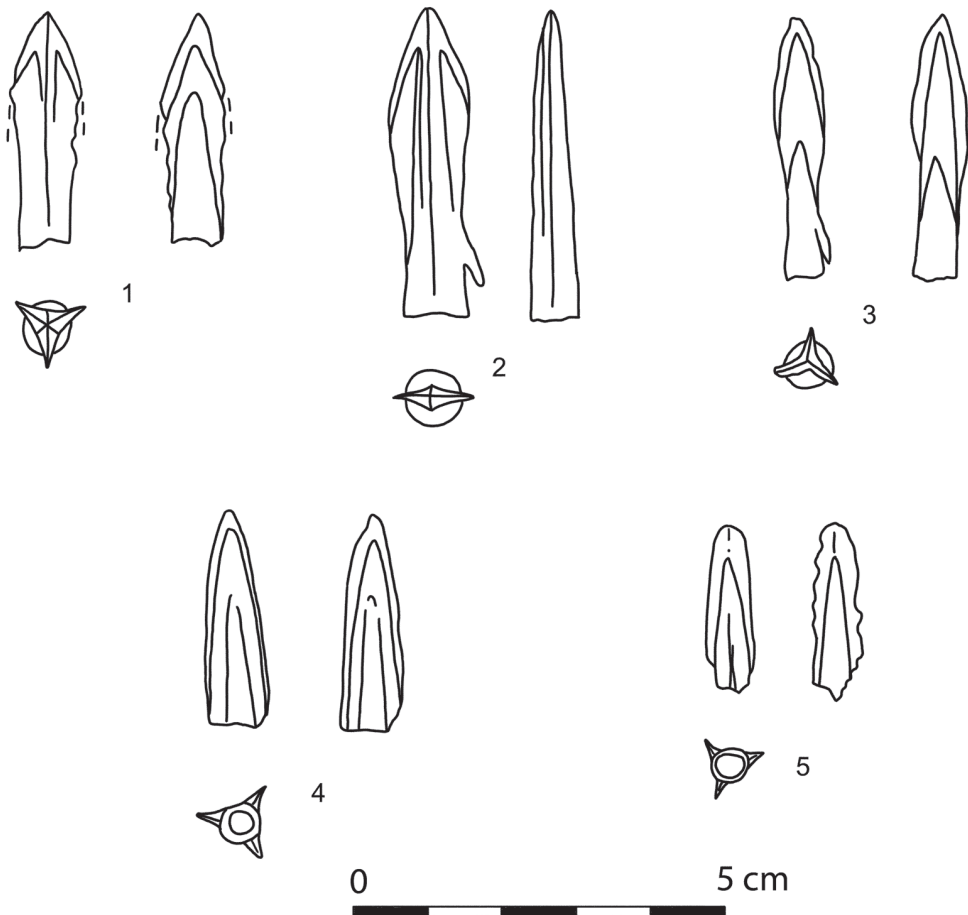


Fig. 1. Bronze arrowheads from the research area; drawn by N. Wojcieszczuk, K. Trybała-Zawiślak.

1–3 Beregove, rajon Mostyska, oblast Lviv, Ukraine, site No. 2; 4 — Arlamivs'ka Volia, rajon Mostyska, oblast Lviv, Ukraine, site No. 55; 5 — Kozodrza, powiat Ropczyce-Sędziszów, województwo podkarpackie, Poland, site No. 6.

example of an arrowhead belonging to I chronological group dated to 7th and 6th centuries BC. According to the later proposal of S. V. Rolin (1987, 20–21), this group should be dated back to the period from the 7th to the 1st quarter of the 6th century BC. The specimen analysed has analogies among the oldest inventories of the Scythian culture, known e.g. from Kelermes kurgans, dated as far back as the 2nd half of the 7th century (Galaniina 1995, 42). Undoubtedly, this artefact should be associated with the oldest horizon of Scythian weapons inflow in the upper Dniester and San river basin. It should be mentioned that a typologically close analogue is known from Lviv (Krushel'nits'ka 1976, 123; Gawlik 2005, 205).



Fig. 2. Beregove, rajon Mostyska, oblast Lviv, Ukraine, site No. 2. Location of the site; computer design by N. Wojcieszczuk.

Arrowhead No. 3 (Fig. 1:3) is also well preserved, with only a small amount of damage in the lower section of the socket and partly broken off spur-barb. It is a trilobate specimen, slender, and with clearly distinguishable socket in the lower part of the blade. Its length is 3.5 cm. It can be included in section II, type 2, variant 5 according to classification by A. I. Melyukova (1964, Fig. 1), or in type I section II of the alternative classification (Petrenko 1967, Table 34). One should refer this artefact to the materials of I chronological group (from the 7th to the 6th century BC) according to A. I. Melyukova (1964, 19, Table 6). However, longer persistence even up to the end of the 5th and the beginning of the 4th century BC is suggested for similar arrowheads

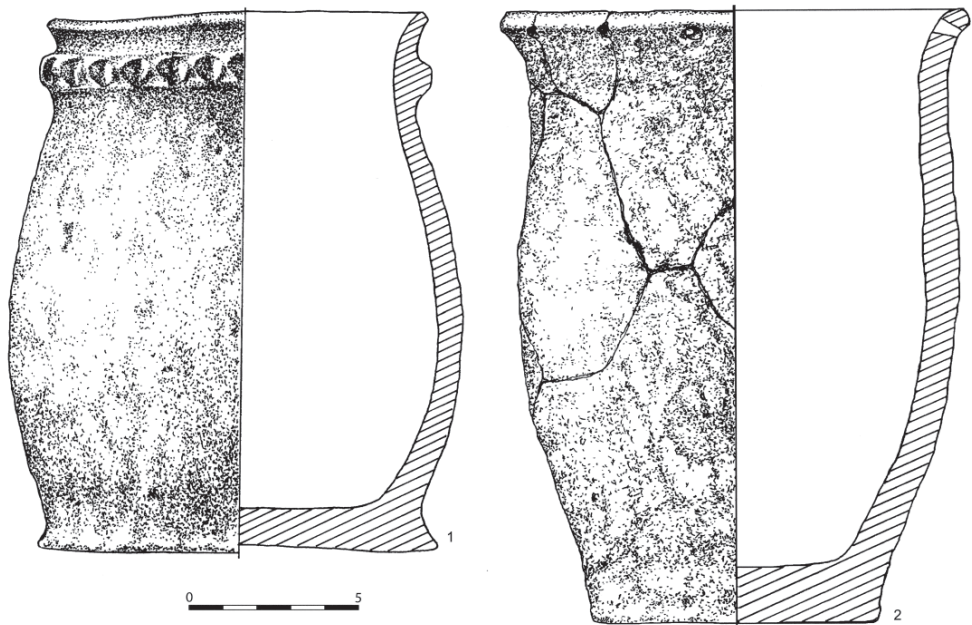


Fig. 3. Beregove, rajon Mostyska, oblast Lviv, Ukraine, site No. 2. Pottery vessels from the excavations in 2014; drawn by N. Wojcieszuk.

(Petrenko 1967, 45). Taking into consideration the context of the entire set of the artefacts discussed here such late dating should be disregarded. Rather, it seems justified to accept dating corresponding to the one for arrowhead No. 2.

Kozodrza, powiat Ropczyce-Sędziszów, województwo podkarpackie,
Poland, site No. 6

From open-area excavations, carried out in the years 2007 and 2008 on account of the construction of A4 motorway, came single arrowhead of Scythian type (Ligoda, Podgórska-Czopek 2011, 175–177, Fig. 37:5). It was found in a feature — settlement pit No. 433, and was accompanied by ceramic material (fragments of vessels with plastic strips decorated with finger dents) typical of the Tarnobrzeg Lusatian culture (Lasota-Kuś, Kuś 2011). This artefact (Fig. 1:5) is partly damaged in the lower section of the blades and socket. The point is clearly blunted. When assessed from the typological perspective it can be assigned to type 4 in section II according to A. I. Melyukova (1964, Fig. 1), or to type IV in section I according to V. G. Petrenko (1967, 45). More accurate classification — on the level of variants — is not possible due to the specimen's state of preservation. Regarding the classification of arrowheads

from the inventories of the Vekerzug culture (Chochorowski 1985, 87–91) the discussed specimen can be assigned to types 25 and 26. The artefact should be related to III–IV chronological groups according to A. I. Melyukova, i.e. within rather broad chronological limits between the 5th and the 3rd century BC.

Nienowice, powiat Jarosław, województwo podkarpackie, Poland, site No. 24

In the course of excavations on account of the construction of A4 motorway (Janczewski 2013), 3 fragmentarily preserved bronze arrowheads were found at a settlement of the Tarnobrzeg Lusatian culture. Two of them came from a cultural layer, and one from feature No. 377. From material analysis (Janczewski 2013) it can be concluded that all of them belong to section III of classification by A. I. Melyukova (1964) and also the one by V. G. Petrenko (1967), and thus that they are trilobate specimens. Only in relation to the best preserved artefact can one try to determine a more accurate typological assignation. It is a piece closely resembling: types 2 and 3 according to A. I. Melyukova, type III (variant 1?) according to V. G. Petrenko, and type 36 according to J. Chochorowski. These types ought to be placed in III and IV chronological groups, and hence be dated as from the end of the 6th/beginnings of the 5th up to the 3rd century BC. Probably similar dating should be offered for the other two specimens found at the site, whose only tip sections are preserved.

DISCUSSION

New finds of arrowheads, after tabulation (Tab. 1³; Fig. 4), and taking into account similar artefacts existing for a long time in the literature on the subject (Bukowski 1977) or published in recent years (Czopek 1995; 2007b; Machnik, Pavliv, Petegirich 2003; Gawlik, 2005; Kłosińska 2007a; 2007b; 2008; 2013; 2013b; Kozak 2012), offer an opportunity for some conclusions and comparisons. Within the entire large area of the upper Bug, Dniester and San river basins as well as in the neighbouring areas such artefacts are fairly common. We have their presence confirmed in the case of 107 specimens originating from 49 sites (Tab. 2). The so-called stray finds without context strongly dominate. The localization of some of them might even be doubtful, not to mention the very nature of the finds themselves (*cf.* Bukowski, 1977, 65–68), confirmed by a very wide chronology of the alleged inventories (see Tab. 1: Kłodnica and Stary Machnów). When it comes to excavated sites, and therefore the ones with certain contexts, arrowheads are relatively more likely to occur at cemeteries than settlements, which should be considered very symptomatic.

³ In Table 1 a uniform, revised typological assignation of the artefacts was adopted, and thus in some cases their dating was verified. Therefore, at times, the dating might quite significantly differ from the one present in the earlier studies.

Table 1

Tabulation of sites with bronze Scythian-type arrowheads (ChLG — Cherepyn-Lahodiv group; LC — Lusatian culture; WC — Wysock culture; TLC — Tarnobrzeg Lusatian culture; r. — rajon; o. — oblast; p. — powiat; w. — województwo); prepared by S. Czopek, K. Trybata-Zawisłak.

No.	Site	Find No.	Typology			Chronology: G (chronological group according to Melyukova); absolute chronology	Context	Bibliography/ collection
			Melyuko- va 1964	Petren- ko 1967	Chocho- rowski 1985			
1.	Arlamivs'ka Vol'a, r. Mostyska, o. Lviv, Ukraine	1	II/5/9	II/II/1	17/31	GII: from the beginnings of the 6 th to the beginnings of the 5 th cent.	Stray find	Museum in Mostyska
2.	Bachórz, p. Rzeszów, w. podkarpacie, Poland	1	II/10/4	I/II/5	—	GIII: from the end of the 6 th /the beginnings of the 5 th to the end of the 5 th /beginnings of the 4 th cent. (1 st half of the 5 th cent.?)	Settlement TLC	Parczewski 1992, Fig. 1
3.	Beregove, r. Mostyska, o. Lviv, Ukraine	1	II/3-4?	I/IV/?	—	GII: from the beginnings of the 6 th to the beginnings of the 5 th cent.	Settlement/ cemetery from Early Iron Age	Museum in Mostyska
		2	I/1/1	—	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.		
		3	II/2/5	I/1	7?			
4.	Bikiv, r. Drogobych, o. Lviv, Ukraine	1	III/2/6	III/II/4	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Grave of West- Podolian grup	Machnik, Pavliv, Petegirich 2003, 537, Fig. 6
		2	III/2/6	III/II/4	—			
		3	I/2-3	—	3?			
		4	?	?	?			
5.	Chelm, p. Chelm, w. lubelskie, Poland	1	I/2/2-3	—	3-4?	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Stray find, LC zone	Bukowski 1977, 40-41, Pl. I:3-4
		2	II/2/1?	—	7?			

6.	Lugove, r. Brodi, o. Lviv, Ukraine	1	II/4?	I/IV?	10	GII: from the beginnings of the 6 th to the begin- nings of the 5 th cent.	Cemetery of WC	Bukowski 1977, 86; Gawlik 2005, 208-209
7.	Dorohusk, p. Chełm, w. lubelskie, Poland	1	I/2/2?	—	—	GI: from the beginnings of the 7 th to the 1 st quar- ter of the 6 th cent.	Stray find, LC zone	Kłosińska 2013a, 356-357, Fig. 4
		2	III/1/4	III/II/1	—	G I-II: from the 7 th to the beginnings of the 5 th cent.		
8.	Grodzisko Dolne, site No. 22, p. Leżajsk, w. pod- karpackie, Poland	1	II/5/11	II/IV/1	26?	GII: from the beginnings of the 6 th to the begin- nings of the 5 th cent. (1 st half of the 5 th cent.?)	Settlement of TLC	Czopek 2007a, 180-181; 2007b, 69, Fig. 2
9.	Gródek nad Bugiem, p. Hrubie- szów, w. lubelskie, Poland	1	II/4/7?	I/IV/7	11	GIII: from the end of the 6 th /the beginnings of the 5 th to the end of the 5 th /the beginnings of the 4 th cent.		
		2	II/4/7	I/IV/7	11			
		3	III/4/1	IV/II/1	37?	GII: from the beginnings of the 6 th to the begin- nings of the 5 th cent.	Stray find, LC zone	Kłosińska 2013a, 356, Fig. 4
10.	Hrebennie, p. Hru- bieszów, w. lubel- skie, Poland	1	III/4/1	IV/I/1?	37?	GII: from the beginnings of the 6 th to the begin- nings of the 5 th cent.	Stray find, LC zone	Kłosińska 2013a, 356, Fig. 4
11.	Hrimniki, r. Dubno, o. Lviv, Ukraine	1	II/5/2?	II/IV/1	17/31	GII: from the beginnings of the 6 th to the begin- nings of the 5 th cent.	Settlement of („Vollhynian culture of early Iron age”)	Kozak 2012, 31, Fig. 10:4
12.	Jarostaw, p. Jaro- sław, w. lubelskie, Poland	1	?	?	?	?	Stray find, TLC zone	Bukowski 1977, 58

No.	Site	Find No.	Typology			Chronology: G (chronological group according to Melyukova): absolute chronology	Context	Bibliography/ collection
			Melyukova 1964	Petrenko 1967	Chochorowski 1985			
13.	Áseniw, r. Brodi, o. Lviv, Ukraine	1	II/2/2	—	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Cemetery of WC	Bukowski 1977, 59–62; Gawlik 2005, 207–209, Fig. 2
		2	II/3/?	I/IV/1?	?	GI–II: from the 7 th to the beginnings of the 5 th cent.		
		3	III/2/1	IV/II/1?	—	GI: from the beginnings of the 6 th to the beginnings of the 5 th cent.		
		4	I/3/2	—	3?	GI: from the 7 th to the 1 st quarter of the 6 th cent.		
		5	I/2/2	—	3?			
		6	I/2/2	—	—			
14.	Kłodnica, p. Opole Lubelskie, w. lubelskie, Poland	1	K 2	—	41?	6 th and 5 th cent.?	Stray find, LC zone	Bukowski 1977, 65–67; Kłosińska 2013a, 356, Fig. 4 (find circumstances are unclear!)
		2	K 2	—	41?			
		3	III/8/2	IV/II/4	?			
		4	?	?	?			
		5	II/6/7–8	II/II/2	?			
		6	II/6/7–8	II/II/2	?			
		7	II/6/7–8	II/II/2	?	GI–II–IV: from the end of the 6 th /the beginnings of the 5 th to the 3 rd cent.		
		8	II/6/7–8	II/II/2	?			
		9	II/6/?	II/II/2	?			
		10	II/6/7–8	II/II/2	?			
		11	II/4/4	I/IV/7	11			
		12	II/4/5	I/IV/7	11			

15.	Kosin, p. Kraśnik, w. lubelskie, Poland	13	II/3/3	I/III/1	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Cemetery of TLC, grave 8	Bukowski 1977, 72–73; Kłosińska 2013a, 356, Fig. 4
		14	I/2/2	—	3			
15.	Kosin, p. Kraśnik, w. lubelskie, Poland	1	II/5/6	II/3/5	?	GIII: from the end of the 6 th /the beginnings of the 5 th to the end of the 5 th /beginnings of the 4 th cent.	Settlement of TLC, feature 433	Lasota-Kuś, Kuś 2011; Ligoda, Podgórska- -Czopek 2011, 175, 177.
		2	II/8/2	II/2/1	33			
		3	II/2/4	I/1	6–7	GII: from the beginnings of the 6 th to the begin- nings of the 5 th cent.		
16.	Kozodrza, site No. 6, p. Ropczyce- -Sędziszów, w. pod- karpackie, Poland	1	II/4/?	I/IV/?	25/26	GIII–IV: from the 5 th to the 3 rd cent.	Settlement of TLC, feature 433	
17.	Kremjanetz, o. Ter- nopil, Ukraine	1	II/2/?	—	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Stray find, WC zone	Bukowski 1977, 76–77
18.	Lviv, o. Lviv, Ukraine	1	I/1/4	—	—	GI: older part – the beginnings of the 7 th cent. (8 th /7 th cent.?)	Stray find, WC/ChLG zone	Krushel'nit- s'ka 1976, 123, Fig. 51; Gawlik 2005, 205, Fig. 2
19.	Lagodiv, r. Peremyshliany, o. Lviv, Ukraine	1	I/2/?	—	—	GI: from the 7 th to the 1 st quarter of the 6 th cent. (the 1 st half of the 7 th cent.)	Settlement of ChLG	Krushel'nit- s'ka 1976, 123, Fig. 39; 1993, 51, Fig. 109; Gawlik 2005, 205–206, Fig. 2
		2	I/2/?	—	—			
		3	I/5/1	—	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.		

No.	Site	Find No.	Typology			Chronology: G (chronological group according to Melyukova): absolute chronology	Context	Bibliography/ collection
			Melyukova 1964	Petrenko 1967	Chochorowski 1985			
20.	Loshniv, r. Terebovlya, o. Ternopil, Ukraine	1	?	?	?	?	Cemetery of WC	Bukowski 1977, 81
		2	?	?	?	?		
		3	?	?	?	?		
21.	Luck, r. Luck, o. Volhynia, Ukraine	1	?	?	?	?	Stray find, K zone?	Bukowski 1977, 86
22.	Maziły, p. Tomaszów Lubelski, w. lubelskie, Poland	1	III/2/5	III/II/2?	—	GIII: from the end of the 6 th /the beginnings of the 5 th to the end of the 5 th /beginnings of the 4 th cent.	Stray find, LC zone	Kłosińska 2013a, 356, Fig. 4
23.	Nienowice, p. Jarosław, w. podkarpackie, Poland, site No. 24	1	III/?	III-IV/?	?	GIII-IV: from the end of the 6 th /the beginnings of the 5 th to the 3 rd cent.	Settlement of TLC	Janczewski 2013
		2	III/2-3/?	III/III/1?	36			
		3	III/3?	III/II?	?			
24.	Nowosiółki Kardynalskie, p. Tomaszów Lubelskie, w. lubelskie, Poland	1	III/2/4?	III/II/1?	—	GIII: from the end of the 6 th /the beginnings of the 5 th to the end of the 5 th /beginnings of the 4 th cent.	Stray find, LC zone	Kłosińska 2013a, 356, Fig. 4
25.	Obojna-Zaosię, p. Stalowa Wola, w. podkarpackie, site No. 1	1	II/5/5(9)	II/2/2	31	GII-III: 6 th -5 th /4 th cent.	Cemetery of TLC — stray find	Szarek-Waszkowska 1973; pl. V; Bukowski 1977, 96-97
26.	Peresopnytsa, r. Rivne, o. Rivne	1	?	?	?	?	Stray find, WC zone	Bukowski 1977, 99

27.	Pochapi, r. Zolochiv, o. Lviv, Ukraine	1	II/IV/1	I/I	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Settlement of WC	Bukowski 1977, 102; Gawlik 2005, 207–209, Fig. 2
		2	I/II/2	I/I	—	GI-II: from the 7 th to the beginnings of the 5 th cent.		
		3	I/II/2	I/I	—	GI-II: from the 7 th to the beginnings of the 5 th cent.		
		4	III/2/1?	III/II/4?	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.		
28.	Pidzamche, r. Dubno, o. Rivne	1	I/II/1	—	—	GI-II: from the 7 th to the beginnings of the 5 th cent.	?	Gawlik 2005, 207–209, Fig. 2
		2	II/2/3?	—	—	—		
29.	Przemysł, p. Przemysł, w. podkarpackie, Poland, site No. 288 (surrounding area)	1	I/2/1	I/I	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Stray find: TLC zone	Bukowski 1977, 103–105; Koperski 2001, 120
		2	—	—	—	—		
30.	Róża, p. Tomaszów Lubelski, w. lubelskie, Poland Tomaszów Lub.	1	III/2/5	III/II/4	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Stray find, LC zone	Kłosńska 2013a, 356, Fig. 4
		2	I/2/?	—	—	GI: from the 7 th to the 1 st half of the 6 th cent.		
31.	Stary Machnów, p. Tomaszów Lubelski, w. lubelskie, Poland Tomaszów Lub.	3	II/6/2?	II/II/2	—	GI: from the end of the 6 th /the beginnings of the 5 th to the end of the 5 th /beginnings of the 4 th cent.	Stray finds, LC zone	Kłosńska 2007a, 273–274; 2008, 244–245; 2013a, 356, Fig. 4
		4	?	?	?	?		
		—	—	—	—	—		

No.	Site	Find No.	Typology			Chronology: G (chronological group according to Melyukova): absolute chronology	Context	Bibliography/ collection
			Melyukova 1964	Petrenko 1967	Chochorowski 1985			
32.	Swarczów, p. Zamość, w. lubelskie, Poland	1	II/4/7	I/IV/7	—	GI-II: from the 7 th to the beginnings of the 5 th cent.	Stray find, LC zone	Kłosińska 2013a, 356, Fig. 4
		2	III/2/5-6	III/II/4	—			
		3	III/2/5-6	III/II/4	—			
		4	III/2/5-6	III/II/4	—			
33.	Ternopil, r. Ternopil, o. Ternopil, Ukraine	1	II/1/3?	—	—	GI (?): from the 7 th to the 1 st quarter of the 6 th cent.	Stray find, WC zone	Bukowski 1977, 119-120; Gawlik 205, Fig. 2
34.	Topornica, p. Zamość, w. lubelskie, Poland	1	III/4/2-3	IV/2/1	37	GI: from the beginnings of the 6 th to the beginnings of the 5 th cent. (the beginnings of the 5 th cent.?)	Stray find, LC zone	Kłosińska 2007b, Fig. 8; 2013a, 356, Fig. 4
		1	II?	?	?	?	Cemetery of TLC, grave 102	Bukowski 1977, 120 Poradyło 2001, 79, pl. IX
35.	Trójcyce, p. Przemysł, w. podkarpackie, Poland	2	II/7/3-4	II/2/3-4	21	GI: from the beginnings of the 6 th to the beginnings of the 5 th cent.		
		3	II/7/3-4	II/2/3-4	21			
		1	?	?	?			
36.	Ulanów, p. Nisko, w. podkarpackie, Poland	2	II/5/5	II/2/1	25-26	GI: from the beginnings of the 6 th to the beginnings of the 5 th cent.	Cemetery of TLC	Bukowski 1977, 123
		3	III/4/2	IV/1/1	37			
		1	?	?	?	?	Stray find-WC zone	Bukowski 1977, 127
37.	Verben, r. Dubno, o. Rivne, Ukraine	1						
38.	Wieprzec (?), p. Zamość, w. lubelskie, Poland	1	I/2-3	—	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Stray find, LC zone	Kłosińska 2007b, Fig. 8; 2013a, 356, Fig. 2

39.	Wieprzec, Zamość, w. lubelskie, Poland, site No. 48	1	I/2-3	—	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Stray find, LC zone	Kłosińska 2007b, Fig. 8	
40.	Velikí Víknini, r. Zbarazh, o. Ternopil, Ukraine	1	II/2/?	—	—	GII: from the beginnings of the 6 th to the beginnings of the 5 th cent.	Settlement of WC	Bukowski 1977, 98	
41.	Wolica Śniatycka, p. Zamość, w. lubelskie, Poland	1	I/2?	—	—	GI: from the 7 th to the 1 st quarter of the 6 th cent.	Stray find, LC zone	Kłosińska 2013a, 356, Fig. 4	
42.	Vorochiv, r. Yavoriv, o. Lviv, Ukraine	1	I/II/1	—	—	GI-II: from the 7 th to the beginnings of the 5 th cent.	Settlement of WC	Gawlik 2005, 207-209, Fig. 2	
		2	III/6/4	II/III/4	—	GII: from the beginnings of the 6 th to the beginnings of the 5 th cent.			
		3	IV	—	—	?			
43.	Zaczernie, p. Rzeszów, w. podkarpacie, Poland	1	III/7/3	IV/I/3	36	GIV: from the middle of the 4 th to the 3 rd cent.	Stray find, TLC zone	Czopek 1996, 117	
44.	Zolochiv, r. Zolochiv, o. Lviv, Ukraine	1	I/2?	—	—	GI ? : from the 7 th to the 1 st quarter of the 6 th cent.	Cemetery of WC	Gawlik 2005, 07-209, Fig. 2	
		2	I/2?	—	—				
45.	Zvenyhorod, r. Pustomyty, o. Lviv, Ukraine	1	I?	?	?	GI-II (?): from the 7 th to the beginnings of the 5 th cent.	Settlement of WC	Gawlik 2005, Fig. 2	
46.	Żulice, p. Tomaszów Lubelski, w. lubelski, Poland	1	II/9/8	II/I	15-16		GII: from the beginnings of the 6 th to the beginnings of the 5 th cent.	Grave (?) of LC	Kłosińska 2013b
		2	II/9/8	II/I	15-16				
		3	II/9?	II/I?	15-16				
		4	II/9?	II/I?	15-16				
		5	II/9?	II/I?	15-16				

No.	Site	Find No.	Typology			Chronology: G (chronological group according to Melyukova): absolute chronology	Context	Bibliography/ collection
			Melyukova 1964	Petrenko 1967	Chochorowski 1985			
47.	Żulice, p. Tomaszów Lubelski, w. lubelski, Poland	1	III/2/7	I/IV/7	—	GI–II: from the 7 th to the beginnings of the 5 th cent.	Stray find, TLC zone	Kłosińska 2013a, 356, Fig. 4
		2	III/2/1	III/II/4	—			
48.	Żyłka, p. Tomaszów Lubelski, w. lubelski, Poland	1	III/4/2–3	IV/II/1	37	GII: from the beginnings of the 6 th to the beginnings of the 5 th cent.	Stray find, LC zone	Kłosińska 2013a, 356, Fig. 4
		2	III/4/2–3	IV/II/1	37			
49.	Lublin area, Poland	1	II/3/2?	I/IV/1	11	GIII–IV: from the end of the 6 th /the beginnings of the 5 th to the 3 rd cent.	Stray find, LC zone	Kłosińska 2013a, 356, Fig. 4

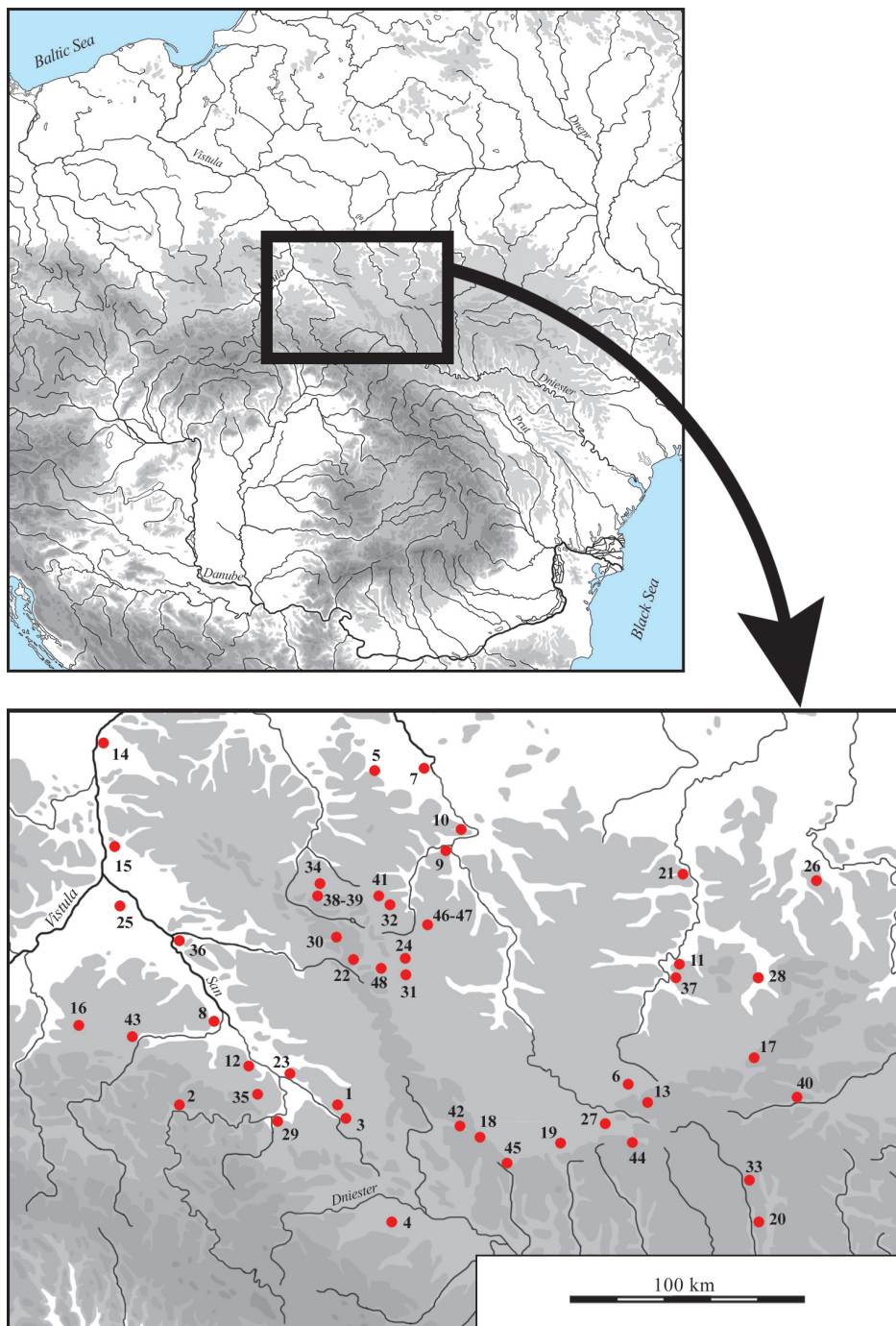


Fig. 4. Map of sites with Scythian-type arrowheads. Numbering according to the order from Table 1; drawn by I. Jordan, S. Czopek and A. Nowak.

Table 2

Tabulation of the arrowheads in terms of the context of their occurrence;
prepared by S. Czopek, K. Trybała-Zawiślak.

Context	Number of arrowheads		Number of sites	
	N	%	N	%
Settlements	19	17.7	10	20.4
Settlement/Cemetery	3	2.8	1	2.1
Cemeteries	31	29.0	10	20.4
Stray finds	54	50.5	28	57.1
TOTAL	107	100.0	49	100.0

The sites that are of interest to us are distributed quite evenly. However, some concentrations (groupings) can be distinguished, as, for instance, in the area between the Wieprz and Bug rivers (Fig. 4). Until recently, all the arrowheads in this area should have been/had to be considered as imports. However, our perception was changed by the site in Byków in the vicinity of Drohobycz upon the upper Dniester, where an interesting funerary complex of the West-Podolian group of the Scythian cultural circle had been discovered (Machnik, Pavliv, Petegirich 2003). This is a site of this group located western-most, more than 100 km away from the compact range of other sites upon the middle Dniester. It should therefore be considered as either an exception or an indicator of the need for further research and verification of existing determinations. In the immediate vicinity of the site in Byków, on both sides of the upper Dniester river, no other finds of arrowheads are recorded, which would indicate the first possibility. In this case, the remaining arrowheads in south-eastern Poland, Volhynia and northern Podolia should probably be interpreted as imports from enclaves of the Scythian cultural circle placed further off.

Closest to the area of our interest we have the West-Podolian group (recently also referred to as the Middle Dniestre; Bandrivs'kyi 2010) and the Vekerzug culture. The former one, dated back to the period from the end of the 8th or the beginnings of the 7th century to the 1st half or the last quarter of the 6th century B.C. (Bandrivs'kyi 2010, 77; Kowalski-Biłokryły 2012, 183–184; 2014, 21, 25) is, in fact, entirely correlated with the early Scythian phase (russian: *rannaya skifska kultura/early Scythian culture*; cf. Medvedskaya 1992; Alekseev 2003, 27–29 [*archaicheskaya skifiya/archaic Scythians*]; Avragan 2005, 15–16). The Vekerzug culture is dated between the end of the 7th/the beginnings of the 6th and the end of the 5th/the beginnings of the 4th century B.C., and the participation of the population of the West-Podolian group in its genesis has been considered (Chochorowski 1985, 128–130; 2014, 27–31). It is very tempting to accept an assumption that the oldest arrowheads

from the discussed area are the imports from west Podolia, while the younger ones come from the Carpathian Basin area. Mapping (Fig. 5) of the oldest artefacts (I chronological group and I–II chronological group — *cf.* below) and the youngest (III–IV chronological groups), with the exclusion of numerous and not very precisely dated II chronological group (mainly arrowheads with inner socket, the so-called “Basovka”) clearly confirms such supposition. The older arrowheads occur primarily in Volhynia and northern Podolia, in the zone of the Wysock culture. The youngest types are not present in this area. On the other hand, in south-eastern Poland and in the Lublin region (zone of the Lusatian culture) specimens of groups III and IV are more numerous, although there are also older ones (especially in the Lublin region). Considering the density of occurrence of the older forms in the area between the upper Bug and Dniester rivers it can be inferred that there were two directions of the inflow of the specimens we discuss into the Vistula river basin, and therefore into the zone of the Lusatian culture. One was through the so-called Przemyśl Gate (Wisznia valley) towards the San, and the other, circumnavigating the hills of Roztocze towards the upper Wieprz and middle Bug. Of course, this picture can be much simplified. It can be assumed that groups located further away, especially those in the broadly understood East European forest-steppe zone played a certain role in the relationships. The inflow of arrowheads from the Scytho-Thracian zone had to take place from the Tisza river through the Carpathian Mountains passes.

Chronology of the arrowheads from the discussed area (Tab. 1) is very broad. This is because here we have specimens from every chronological group (Tab. 3), as proposed by A. I. Melyukova (1964). The most common (33 pieces) are artefacts included in group I, which are dated, after the revision proposed by S.V. Rolin (1987), for between the 7th and the 1st quarter of the 6th BC. Together with the arrowheads of unspecified chronology from groups I and II (13 pieces), they constitute almost half of all finds. Also, II chronological group, correlated with the period between the beginnings of the 6th to the beginnings of the 5th century BC, is represented quite numerously (23 pieces). Groups III and IV are represented far less frequently. Therefore, it can be concluded that within the discussed area after a phase of fairly intensive influx of the arrowheads (7th to the beginnings of the 5th century BC) we can detect a clear decrease in their number in the later period (from the 5th to the 3rd century BC).

Table 3 also provides interesting observations from the perspective of the local cultural groups. These data should be supplemented by a detailed specification of the territorial affiliation (Tab. 4). In this case, separation of the finds from unambiguous contexts (mainly excavated sites) and assignment of stray finds to specific cultural entities based on their presence within the territory of a given cultural unit needs to be commented on. The unquestioned majority of the arrowheads can be associated with the Lusatian cultural circle (in total — the Tarnobrzeg Lusatian culture and the Lusatian culture in the Lublin region — almost 64% of the entire set).

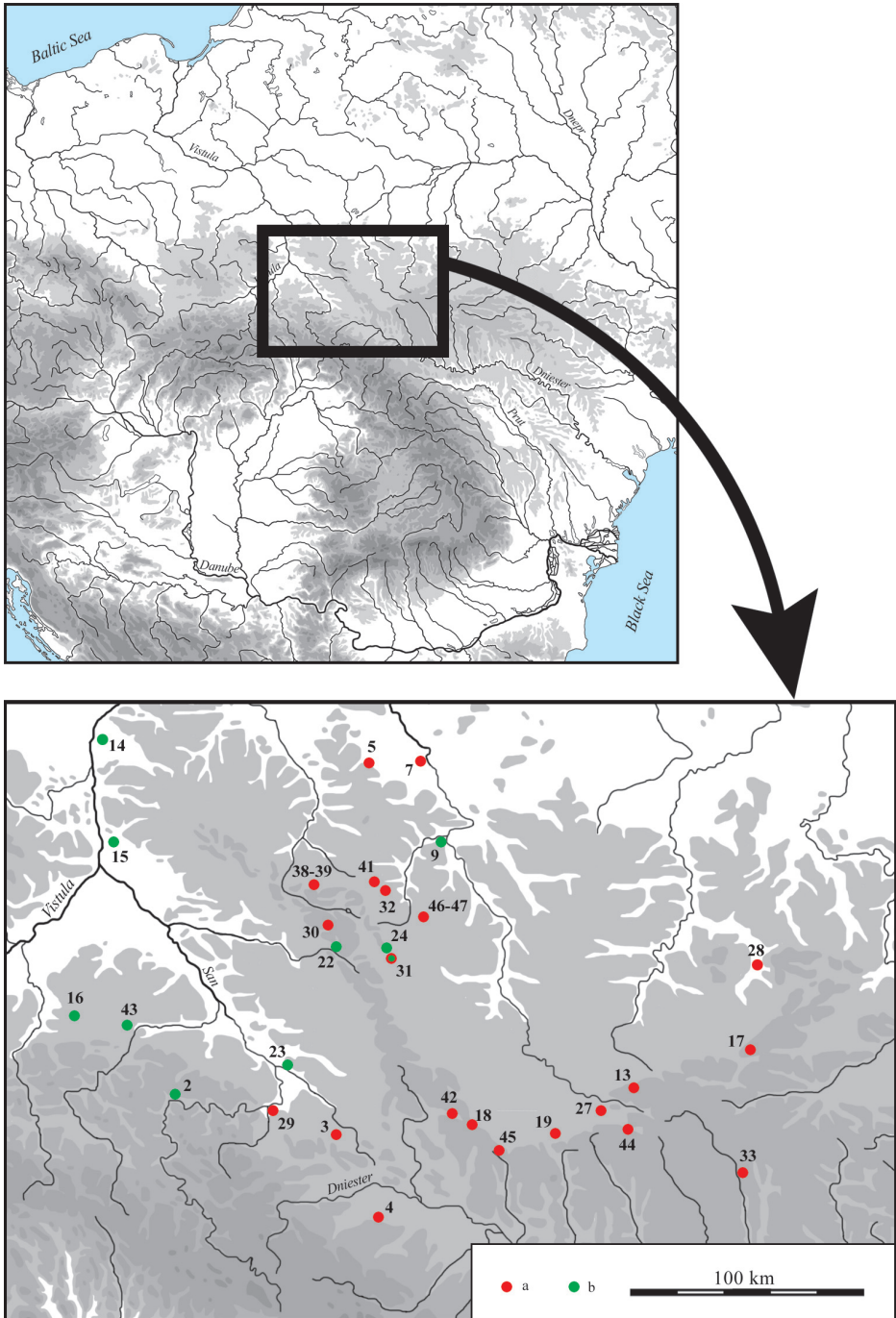


Fig. 5. Spread of the arrowheads of chronological groups I and I-II (1) and groups III-IV (2); drawn by I. Jordan, S. Czopek and A. Nowak.

Table 3

Chronological tabulation of the number of arrowheads associated with particular cultures/groups (Note! Chronological groups are as defined by A. I. Melyukova [1964] and with dating revision [groups I–III] proposed by S. V. Rolin [1987]); prepared by S. Czopek, K. Trybala-Zawisłak.

Culture group	I chronological group 7 th to the 1 st quart. of the 6 th century	I–II chronological groups 7 th to the beginnings of the 5 th century	II chronological group the begin- nings of the 6 th to the begin- nings of the 5 th century	II–III chronological groups 6 th to the end of the 5 th /begin- nings of the 4 th century	III chronological group the end of the 6 th / beginnings of the 5 th to the end of the 5 th /begin- nings of the 4 th century	III–IV chronological groups the end of the 6 th / beginnings of the 5 th to the 3 rd cen- tury	IV chronological group 4 th and 3 rd centuries	?
West-Podolian group	3	—	—	—	—	—	—	1
Wysock culture	11	5	4	—	—	—	—	6
post-Wysock culture groups	4	—	1	—	—	—	—	—
Tarnobrzeg Lusatian culture	2	—	6	1	3	4	1	3
Lusatian culture in the Lublin region	11	7	10	—	5	11	—	3
Undetermined	2	1	2	—	—	—	—	—
Total	33	13	23	1	8	15	1	13

Table 4

Tabulation of the arrowheads in terms of their local cultural context;
prepared by S. Czopek, K. Trybała-Zawiślak.

Culture/ /cultural group	Certain finds (at sites, in complexes, within cultural layers)		Alleged finds (located only within the territory of a particular cultural unit)		Total	
	N	%	N	%	N	%
West-Podolian group	4	7.5	—	—	4	3.7
Wysock culture	21	39.7	5	9.3	26	24.3
Post-Wysock culture group	4	7.5	1	1.8	5	4.7
Tarnobrzeg Lusatian culture	16	30.2	4	7.4	20	18.7
Lusatian culture in the Lublin region	5	9.4	42	77.8	47	43.9
Undetermined	3	5.7	2	3.7	5	4.7
TOTAL	53	100.0	54	100.0	107	100.0

Considering the number of the arrowheads found so far, as well as the sites at which they cropped up, we can consider this group of artefacts to be quite common for all cultural units distinguished within the analysed area. If so, a question might be formulated whether the arrowheads can act as a kind of chronological determinant (for periodization?) that would allow for chronological comparisons between Central European cultural province, represented by the eastern branches of the Lusatian cultural circle, and entities related to Eastern European tradition. The area in question is indeed such borderland between the two zones. We must approach the subject with great caution, since not all types of arrowheads have clear chronological connotations; that is especially important in the evaluation of single finds, and these are most commonly encountered in the area of our interest. It has to be remembered that the analysis of the artefacts from funerary inventories indicates the possibility of prolonged existence of certain types, or, in fact, the occurrence of earlier artefacts in complexes dated to the later times (*cf.* Alekseev 1983, 76). Similar remarks can be made with respect to the arrowheads found within burned down remains of settlements and strongholds, identified with a single act of destruction, and hence used contemporaneously. In such contexts arrowheads of different types, attributed to various chronological groups were found (Chochorowski, 1974, 164–172; 2014, 41; Michalak 2011, 52; 2013, 222). One also should bear in mind that other artefacts, such as weaponry and ornaments, but also wheel-made pottery of Scythian provenance, are recorded in this area. Therefore, the arrowheads cannot constitute the sole dimension for assessing the infiltration and the impact of the Scythian cultural circle.

CONCLUSIONS

Even though the recent discoveries of bronze arrowheads of Scythian origin significantly complemented the long-familiar list of similar finds from this part of Central and Eastern Europe, they did not significantly alter the picture that is well established in the literature of the subject (Bukowski 1977; Gawlik 2005). These artefacts are present here in a variety of cultural contexts, which positions them in a group of independent chronological determinants, though not always accurate. Very interesting is the fact that they are encountered both at settlements (but without any clear signs of an armed infiltration), as well as at cemeteries. Unfortunately, a large part of the arrowheads is made up of the so-called stray finds, whose cognitive value is limited. Dating suggests a wide chronological range between the 7th and the end of 4th/beginnings of the 3rd century BC. These facts confirm earlier determinations, considering the character of the presence of artefacts of Scythian origin in eastern (the effects of long-lasting contacts) and western (traces of armed infiltration) Poland. When it comes to the distribution of the arrowheads into the San, upper Dniester and Bug river basins, then the prominent role of the West-Podolian group of the Scythian cultural circle during the first phase should be emphasised. After the disappearance of this cultural unit its dominating position was taken over by Scytho-Thracian entity from the Carpathian Basin (Vekerzug culture). The continuity of the flow of the arrowheads is noted only in the area of the Lusatian culture zone.

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