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A Cucuteni-Vădastra Type Dagger from Site 26 at Strzyżów (S-E Poland) Attests to the Intercultural Landscape of the Eneolithic Eastern Carpathians

Abstract

Zakościelna A., Adamczak K., Garbacz-Klempka A., Kowalski Ł. 2023. A Cucuteni-Vădastra Type Dagger from Site 26 at Strzyżów (S-E Poland) Attests to the Intercultural Landscape of the Eneolithic Eastern Carpathians. *Analecta Archaeologica Ressoviensia* 18, 83–95

In the mid-1990s, a copper dagger of the Cucuteni-Vădastra type was found in the Lublin-Volhynian culture cemetery at Strzyżów, south-eastern Poland. The dagger was customized as a pendant and deposited in an inhumation burial that contained the remains of an adult male and over ten other grave offerings dating to the 2nd quarter of the 4th millennium BC. This paper presents the results of archaeological and metallographic examinations of the dagger from Strzyżów and relates them to a wider cultural context of the region. The results of our study show that the dagger has no signs of use-wear, and furthermore indicate that the metal used for its production is fahlore copper which could have been sourced from the Slovak Ore Mountains. The two other Cucuteni-Vădastra type daggers that were discovered in the vicinity of Strzyżów mark the Western Volhynian Upland as a distinct cluster of the Cucuteni-Vădastra dagger industry in Europe. Furthermore, the daggers from Poland evidence a close relationship between the Lublin-Volhynian culture and the Cucuteni-Tripillia complex and attest to the intercultural landscape of the Eastern Carpathians region during the Eneolithic.

Keywords: Eneolithic, Lublin-Volhynian culture, grave goods, copper dagger, ED XRF analysis, Western Volhynian Upland

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Introduction

The dagger was discovered in the mid-1990s during archaeological excavations at site 26 in Strzyżów, Lublin Voivodeship (Zakościelna and Gurba 1995, 6; Zakościelna 2010, 49–52, 295–300; fig. 12, tab. 61). The artefact was found *in situ* in an inhumation burial that contained the remains of an adult male and other grave offerings (Zakościelna 2010, 296), enabling an accurate assessment of the exact location of the artefact in the grave pit and its relation to the skeleton. The dagger belongs to the Cucuteni-Vădastra type, following the classification by Irenäus Matuschik (1998), and can be assigned to the late phase of the Lublin-Volhynian culture (hereafter L-VC; 3800–3600 BC). The results of archaeological and anthropological analyses (Kozak-Zychman and Maślanka 2005) provided precise information concerning the cultural,

social and chronological context of the dagger, which is rare for metal artefacts and gave us a solid contextual background for research on the earliest copper metalwork from this region of modern Poland.

This paper aims to provide a more detailed typological and contextual characterization of the dagger from Strzyżów and to establish its elemental composition and manufacturing technology. The obtained results, aided by several finds of Eneolithic daggers made in south-eastern Poland and western Ukraine, provided the basis for the construction of an archaeological model proposing the movement and absorption of Cucuteni-Vădastra daggers in the region and allowed us to broaden our interpretations concerning the distribution pattern of these artefacts in the geohistorical range of the L-VC people and neighbouring regions.

The site and grave 1

The L-VC cemetery in Strzyżów 26 is located on the Horodło Ridge (851.11 – Solon *et al*. 2018, map), in the edge zone of the Bug River valley, on a promontory with south-western, southern, south-eastern, and eastern exposures, ca. 20 m above the lower floodplain. The cemetery is set on a rectangle or trapezoid plan of 16 × 28 m, with the long axis oriented west-east and probably contained eight graves clustered in pairs in the corners (seven were excavated, the eighth was destroyed by a military trench in 1941). The site was strongly damaged by slope erosion, and the graves were discovered at a small depth and with no outlines of the burial pits (Zakościelna 2010, 49–52, fig. 12, 295–296, tab. LXI). Also, an inhumation grave dating to the Roman period was found in the central part of the cemetery (Zakościelna and Gurba 1997).

Grave 1 is located in the south-western corner of the cemetery (Zakościelna 2010, 49–52, fig. 12). At the junction between the topsoil and subsoil, 15–20 cm underground, badly preserved skeletal remains of an adult male aged 25–30 years were recorded (Kozak-Zychman and Maślanka 2005) along with a disturbance of the original arrangement of grave furnishings that resulted from the agricultural use of the site. The male was buried with his head oriented to the south. The upper skeleton was discovered lying on its back, but the position of the right fibula appears to indicate that the lower limbs were bent to the right. The furnishings include a bowl (placed south to the head), the copper dagger in question (found near the right clavicle), a fragment of copper wire (found between the ribs and the right pelvic plate) and five flint artefacts (a blade located near the dagger, two end-scrapers and a retouched blade – all three located 20 cm west of the bowl fragments, a damaged trapeze found 50 cm north of the remains of the lower limbs). Near the pelvis and the place where the lower limbs were supposed to have rested, crumbled mussel shells were discovered (Fig. 1).

Typological analysis

The dagger has an elongated triangular blade part with a middle rib and a short triangular blade base topped with three rivet-holes (Fig. 2). Metrics: total length 12.3 cm long, width 3.8 cm, thickness 0.3–0.5 cm, weight 53 g. The base of the blade was folded and customized as a pendant, which reduced its original length (Fig. 3), however this does not affect the typological analysis, which is presented in the *Discussion* section.

The most detailed overview of the earliest copper dagger industry of Central, Eastern, and Southern Europe can be found in the publications by Ivan Vajsov (1993) and Irenäus Matuschik (1998). According to the classification scheme developed by Ivan Vajsov (1993, 124), the dagger from Strzyżów belongs to variant II of the Cucuteni type. Based on the previous typological and chronological schemes of the earliest copper daggers in Europe and comparisons of their elemental compositions, I. Matuschik (1998) proposed a new typology of Cucuteni daggers that includes three different variants: Vădastra, Lovas (A and B) and Mondsee, which are characterised by standardised shapes and other morphological features. The classification scheme and terminology used for the dagger from Strzyżów follows I. Matuschik (1998). Accordingly, the dagger can be labelled as the Vădastra variant (Fig. 3) and its morphology adheres well to the Cucuteni type: an elongated triangular blade, triangular or trapezoidal blade base topped with rivet-holes (usually three) and a central rib running almost the entire length of the blade (cf. Matuschik 1998, fig. 223–226).

Also Ion Mareş in his work on the metallurgy of the Cucuteni culture distinguished the Cucuteni type daggers that contains specimens with a triangular blade provided with a central rib and rivet-holes (Mareş 2002, 117; 2012, 204).

Metallographic analyses

The dagger was examined for casting defects, plastic deformation, and use-wear traces by a Nikon SMZ 745Z stereoscopic microscope equipped with

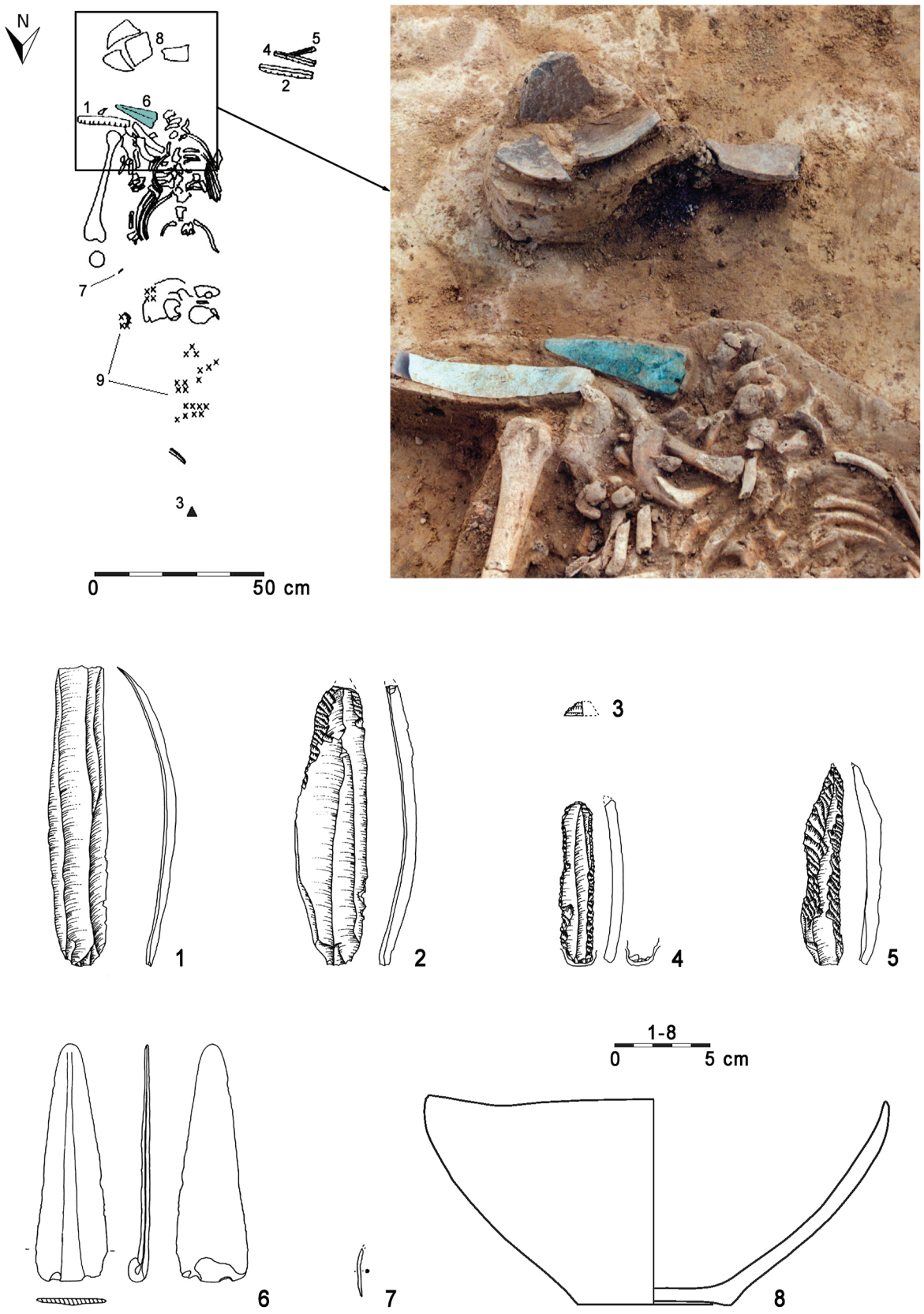

Fig. 1. Strzyżów, site 26. Layout and inventory of grave 1 with an *in situ* view of the dagger. 1–5 – blades and flint tools; 6 – copper dagger; 7 – fragment of copper wire; 8 – vessel; 9 – mussel shells (after Zakościelna 2010, tab. LXI, with changes; photo by A. Zakościelna; graphic design by E. Starkova).

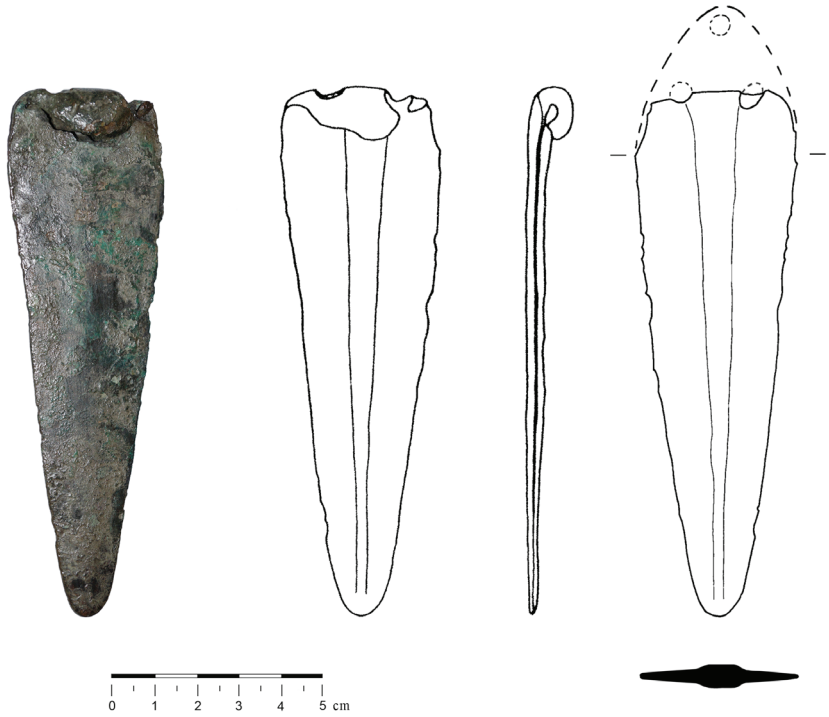

Fig. 2. Strzyżów, site 26, grave 1. Copper dagger (after Zakościelna 2010, tab. LXI: 6, with changes; drawn by A. Zakościelna; graphic design by E. Starkova, K. Adamczak; photo by Ł. Kowalski).

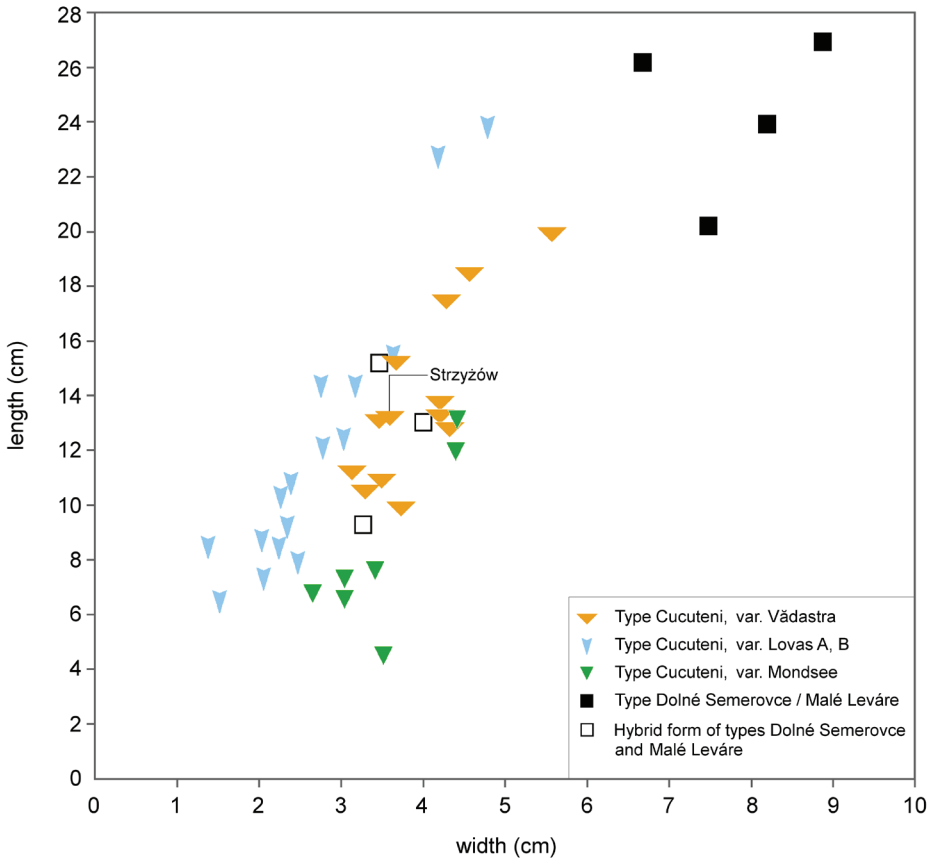

Fig. 3. Length vs width diagram for the Cucuteni daggers, Vădastra, Lovas and Mondsee variants, with daggers and special forms of Dolné Semerovce/Malé Leváre series. The daggers of the L-VC and W-ZG culture are also displayed in the diagram (after Matuschik 1998, fig. 229 with changes).

a Nikon Digital Sight DsFi1 microscope camera and the Nis-Elements BR system for picture analysis. The freshly exposed and cleaned surface of the dagger was analysed for elemental concentrations (Fe, Co, Ni, Cu, As, Ag, Sn, Sb, Pb and Bi) using a Spectro Midex spectrometer equipped with a molybdenum X-ray tube and a Si Drift Detector (SDD), with 150 eV resolution at 5.9 keV. To optimise the data reliability for each metal object, ten measurements were taken in two different areas to compensate for possible heterogeneity.

The macrophotographs confirm that dagger was cast, as evidenced by numerous irregularities resulting from physicochemical reactions in the contact zone of the molten metal and the casting mould (Fig. 4: B, C). Misruns shown in Fig. 4: A occurred when the molten metal did not fill the mould. Casting defects were not fully removed during the finishing touches. The object displays no use-wear traces (cf. Fig. 4: F) and the chipping of the blade (Fig. 4: D) was caused by corrosion.

Before burial, the dagger went through plastic work that most probably involved annealing (the base and edge of the blade are welded) and eventually it was customized as a pendant (Fig. 4: E).

The ED XRF analyses show that the dagger is made of copper with a noticeable amount of antimony (Sb) and silver (Ag) making up 0.67% and 0.32%, respectively (Tab. 1). A relatively high amount of bismuth (Bi=0.17%) is accompanied by a low content of iron (Fe<0.02%), which is typical for the Eneolithic metalwork (Cook and Aschenbrenner 1975, 253).

The results indicate that fahlore copper was used for the dagger from Strzyżów, which can be further classified into group IVa of antimony copper, according to Rüdiger Krause (2003, 90, fig. 40). This type of antimony copper is sometimes called Nográdmárcal copper and is assumed to come from the ore deposits in the western Carpathians; their utilisation ceased towards the late Early Copper Age (Schubert 1982; Krause 2003; Šikulová and Zápotocký 2010; Siklósi *et al*. 2022). As there is no fahlore copper documented from the region of modern Bulgaria and Serbia (e.g., Pernicka *et al.* 1993; 1997), the most probable origin of the copper used for the dagger from Strzyżów are metal ore deposits in the Slovak Ore Mountains. Some of the mineralisations in this region produced a significant amount of Bi, which is consistent with the content of this element in the analysed object (Schreiner 2007). However, this must be confirmed in the future by lead isotope analysis.

A Vădastra-type dagger discovered in Kraków Nowa Huta-Wyciąże was also cast in antimony copper (Tab. 1; Kozłowski 1971, 88, tab. 1), however the available elemental compositions of Vădastra-type daggers indicate that different types of copper ores were used for their production, as evidenced by daggers from Sărata Monteoru and Galiče which were made of arsenical copper (Matuschik 1998, cf. tab. 1).

Discussion

Among the several hundred copper artefacts discovered in Poland that date to the Early Eneolithic, there are six known daggers, three of which can be linked to the L-VC (Strzyżów 26, grave 1; Łasków 1, Hrubieszów district, alleged grave; Horodło/Stefankowice, Hrubieszów district, stray find; however the stray find of a dagger from site 12 at Janki, published by A. Zakościelna (2006, fig. 5: 12) with L-VC copper artefacts, was not added as L-VC metalwork due to its high content of tin (>2%). The three others come from the Wyciąże-Złotniki group (hereafter W-ZG) in western Lesser Poland (Kraków-Nowa Huta-Wyciąże 5, grave 6; Ojców 18, Ciemna Cave, Kraków district – two finds). Most of these are finds with no associated material or

Table 1. Elemental compositions (wt%) of the dagger from Strzyżów and contemporary Cucuteni-Vădastra daggers from Europe (after Matuschik 1998, 235–237, fig. 233, 234, with changes).

Locality	Lab. no.	Fe	Co	Ni	Cu	As	Ag	Sn	Sb	Pb	Bi
Strzyżów, PL	…	< 0.02	0.05	0.07	98.7	< 0.01	0.32	< 0.05	0.67	< 0.02	0.17
Kraków Nowa-Huta, PL	CL 863	0	0.00	0	99.1	0.03	0.37	0	0.42	0	0.06
	KR 863	0.00	…	0.00	99.4	0.03	0.37	0.00	0.42	0.00	0.86
Contesti, RO	SAM 8544	0.00	0.00	0.00	98.6	0.00	0.21	0.00	0.36	0.00	0.04
Sarata Monteoru, RO	SAM 8543	0.00	0.00	< 0.01	98.6	1.4	0.02	0.00	…	0.00	0.00
Galiče, BG	HDM 2737	< 0.04	0.00	0.01	98.7	1.3	0.00	< 0.01	0.04	0.01	…

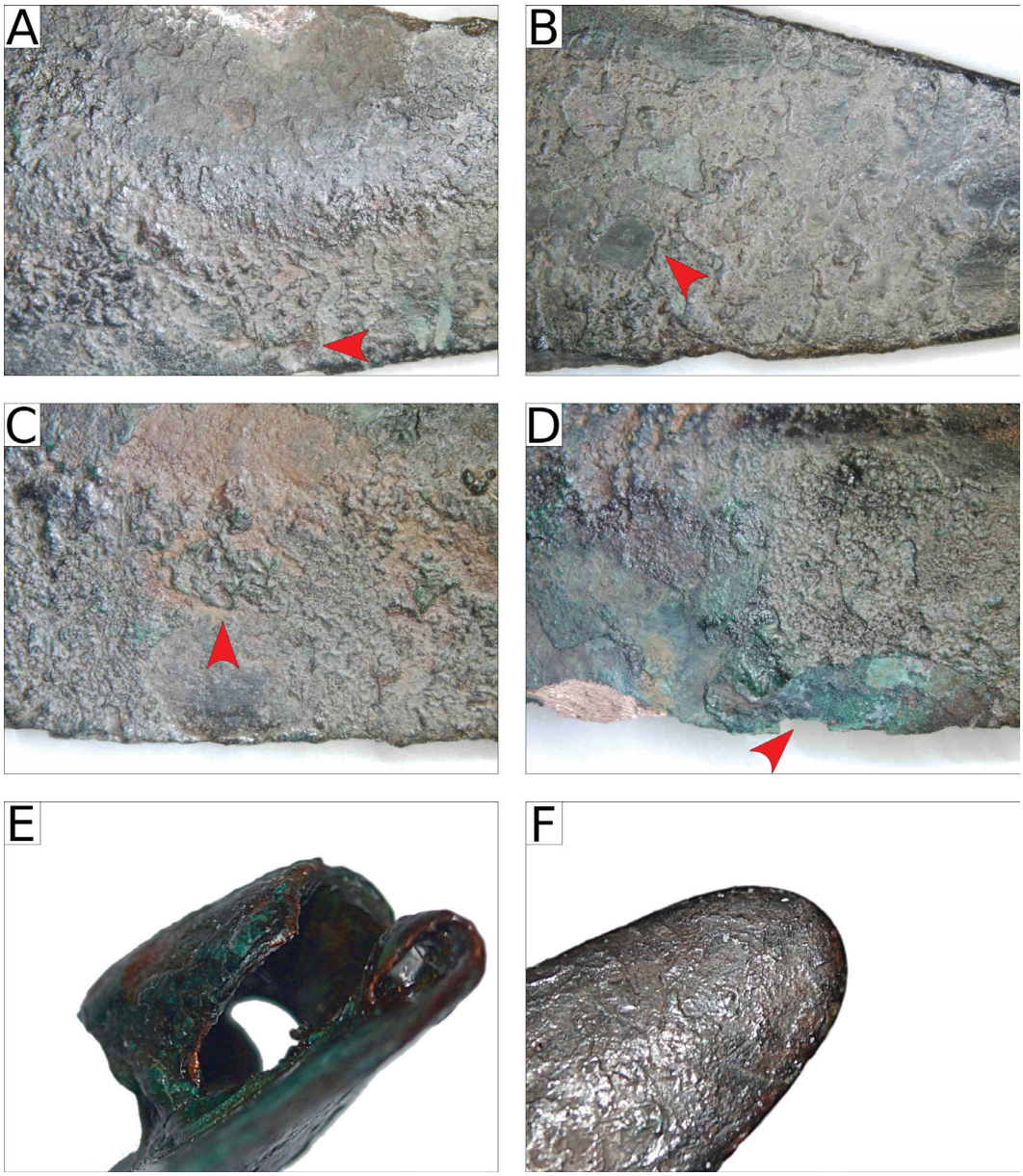

Fig. 4. Strzyżów, site 26, grave no. 1. Macrostructures indicating the production technology of the dagger and the later modification.
A – misrun; B, C – macrostructures indicating a reaction between the molten metal with the casting mould; D – corrosion damage; E – modification of the blade base; F – dagger point with no visible use-wear patterns (photo by P. Jurecki, A. Garbacz-Klempka).

structure, and only the daggers from Strzyżów 26 and Kraków-Nowa Huta-Wyciąże 5 (Kozłowski 1971, 69, tab. II; X: 3; Zakościelna 2010, 148, 296, tab. LXI: 6) were found in their original (funeral) deposition context during archaeological excavations. A dagger from Gorodok, Lviv Oblast, in western Ukraine was presumably a part of grave furnishings as well (accompanied by the L-VK vessels and copper jewellery; Pavlìv and Petegirič 2016, fig. 5: 1; 6: 1; 7).

Five of these daggers represent the Cucuteni-Vădastra type (Strzyżów 26, Łasków 1, Horodło/Stefankowice, Kraków-Nowa Huta-Wyciąże 5 and one specimen from Ojców 18, Ciemna Cave – not published, hosted by the Archaeological Museum in Kraków, ref. no. MAK/N/85). The other dagger from Ojców 18, Ciemna Cave (Kostrzewski 1948, 159, fig. 53: 12; Gedl 1980, 38, fig. 11: 63) was labelled by Ivan Vajsov as type Dolné Semerovce (Vajsov 1993, 135), although I. Matuschik (1998, fig. 228, 230) changed its typological assignation to a hybrid type Dolné Semerovce/Malé Leváre. It is difficult to relate the dagger from Gorodok to any of the variants of the Cu-

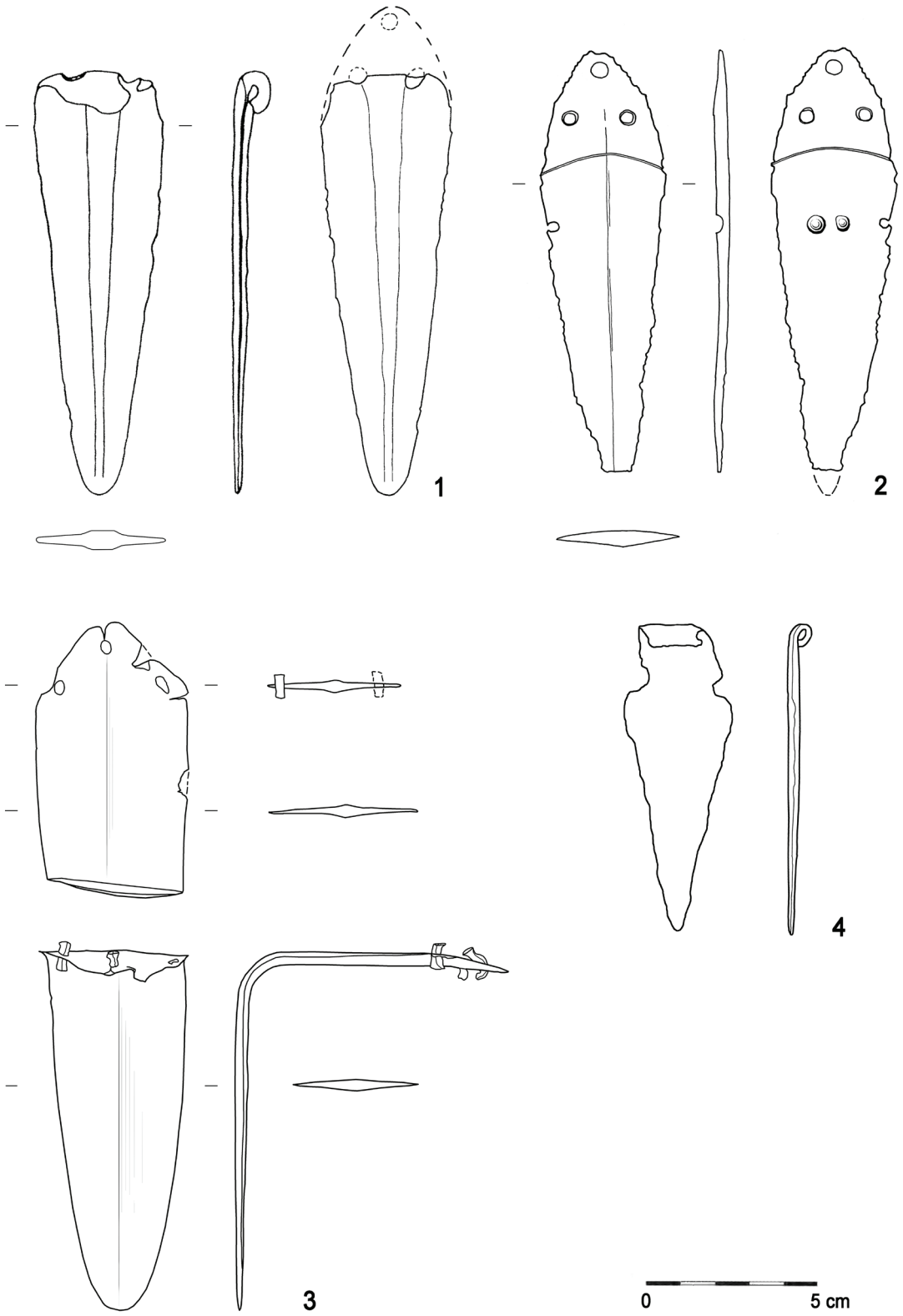

Fig. 5. Cucuteni-Vădastra type daggers assigned to the L-VC.
1 – Strzyżów, site 26; 2 – Łasków, site 1; 3 – Horodło/Stefankowice; a special form: 4 – Gorodok, Lviv Oblast
(1, 2 – drawn by A. Zakościelna; 3 – A. Kokowski, 4 – after Pavlìv and Petegirič 2016, fig. 6: 1, with changes).

cuteni type. Although it has dimensions typical of the Vădastra variant (Fig. 5), in the available photographic and drawing documentation of the dagger from Gorodok, no central rib can be distinguished (cf. Pavlìv and Petegirič 2016, fig. 5: 1; 6: 1; 7), which is a distinctive feature of the Cucuteni type daggers. It is also difficult to assess if the large rivet-half-holes present on the dagger from Gorodok result from damaging the original rivet-holes during the usage of the object or post-depositional corrosion, or perhaps they are original features, similar to the rivet-half-holes visible on the dagger from Bratislava, Slovakia (cf. Matuschik 1998, fig. 228: 7). There is a need for detailed research and conservation of the dagger from Gorodok to clarify its morphology features; until then, this specimen should be treated as a special form, akin to the dagger from Bratislava.

Cucuteni-Vădastra daggers are distributed throughout the southern, eastern, and northern ridges of the Carpathians (Fig. 6). South of Poland, they come from settlement contexts of Cucuteni B and Sălcuța IV (Hanești, Cucuteni, Sărata Monteoru, Băile Herculane, Vădastra) or stray finds (Galiče in north-western Bulgaria and vicinities of Levice in south-western Slovakia; Vajsov 1993, fig. 1, 35; Matushik 1998, 248–249, fig. 223, 230).

The Cucuteni-Vădastra daggers of the circum-Carpathian region are complemented by two specimens from western Lesser Poland that can be assigned to the W-ZG metal inventories. The first comes from grave no. 6, at the W-ZG cemetery in Kraków-Nowa Huta-Wyciąże 5, and was placed near the left hip bone of a dead body inhumed in the foetal position, on its left side, with the head oriented to the north (Kozłowski 1971, 69, tab. II; X: 3; Gedl 1980, 38; Kaczanowska and Tunia 2009, 264, fig. 79: 6). The other specimen was found in Ojców, site 18, Ciemna Cave, and was given to the Archaeological Museum in Kraków by the finders, according to whom the dagger was found by chance deep inside the cave

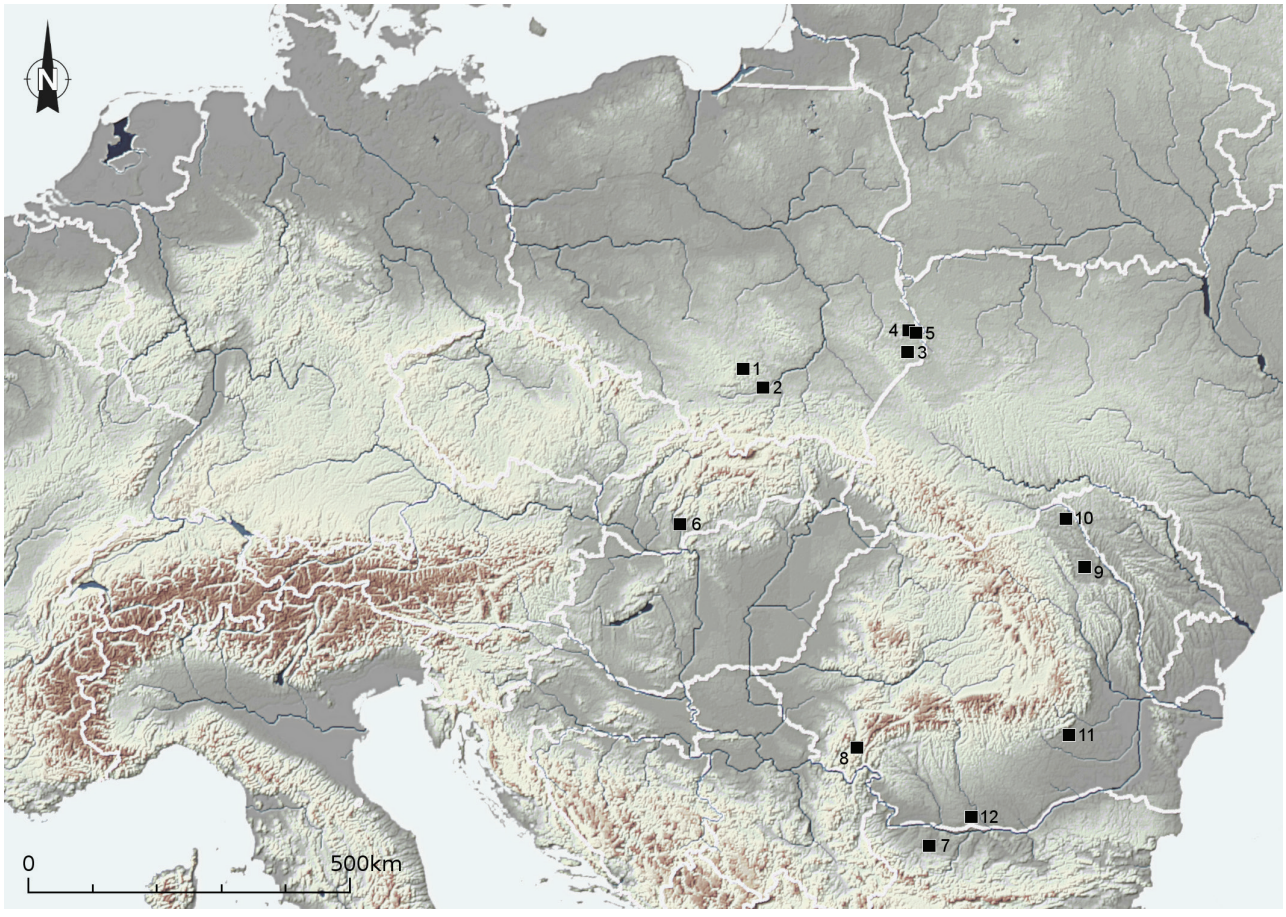

Fig. 6. Distribution of Cucuteni-Vădastra type daggers in Europe.
1 – Ciemna Cave, Ojców; 2 – Kraków-Nowa Huta-Wyciąże; 3 – Łasków; 4 – Horodło/Stefankowice; 5 – Strzyżów; 6 – Levice; 7 – Galiče; 8 – Băile Herculane; 9 – Cucuteni; 10 – Hănești; 11 – Sărata-Monteoru; 12 – Vădastra (after Matushik 1998, fig. 230, with changes; map background: Vitoriano Junior/Shutterstock.com).

(https://archeologicznyatlas.pl/pl/katalog/zabytek/24, access: 28.08.2023).

Another three Cucuteni-Vădastra daggers, including the specimen found in grave 1 at Strzyżów, are linked to the Western Volhynian L-VC settlement cluster, which is far from the distribution network and presumed production centre of daggers of such types (Matuschik 1998, 221; cf. Fig. 6). The dagger from Łasków 1, was found by chance during sand procurement, accompanied by the remains of a human skeleton. A subsequent survey of the findspot yielded tiny fragments of human bones, nine ceramic vessels and a flint blade that had once furnished the damaged L-VC grave (Gurba 1970, fig. 7; 1982, pl. 281: 1–2; Zakościelna 2010, 276), and it cannot be excluded that the dagger was originally associated with the recovered human bones and grave offerings. Another stray find of a Cucuteni-Vădastra dagger with a preserved rivet was made by a metal detectorist in the early 1990s in the village of Horodło or Stefankowice (Niedźwiedź and Panasiewicz 1994, fig. 2: 2).

As mentioned before, Cucuteni-Vădastra daggers are chiefly known from the outer arc of the Carpathians and are attested in the cultural contexts of Cucuteni B, Tripillia BII? –CI and Vădastra IV, which date to the very end of the 5th and the first half of the 4th millennium BC. To date, the dagger from grave 1 in Strzyżów 26 is the only radiocarbon-dated specimen. A sample taken from the humerus of the buried individual was dated in the Kiev Radiocarbon Laboratory and gave a radiocarbon age of 4875±50 BP (Ki-6972) with two possible date ranges: 3710–3635 at 68.2% and 3780–3390 at 95.4% (3780–3620 at 83.6%; 3530–3390 at 11.8). Radiocarbon dates were also obtained from grave 2 (Ki-6974 4810±55 BP) and grave 4 (4740±60 BP) from the Strzyżów 26 cemetery (cf. Kadrow and Zakościelna 2000, fig. 43; Zakościelna 2010, tab. 6). The same site corresponds well to the late phase of the L-VC, as evidenced by the shape and decoration style of funeral pottery, including ceramic vessels from grave no. 5 having a distinct tendency towards the beakers of Michelsberg-Baalberg culture (Zakościelna 2010, tab. LXV: 4, 5). The radiocarbon date returned from grave no. 1 roughly corresponds to the late phase of the L-VC dated to 3800?–3650/3600 BC (Kadrow and Zakościelna 2000, 249–255; Bronicki *et al*. 2003, 24–28; 2004, 101–105), whereas the dates from graves nos. 2 and 4 are too young and should thus be rejected (Zakościelna 2010, 35). It seems likely that the remaining Cucuteni-Vădastra daggers in the range of the L-VC also signify its late phase of development.

It is also reasonable to expect that Cucuteni-Vădastra daggers of the L-VC are material evidence of contacts between the L-VC people and the societies of the Cucuteni-Tripolye culture complex (hereafter CTCC). This is supported by the distribution of the Cucuteni-Vădastra daggers in Central Europe, which overlaps with the CTCC area, and their absence in the Eastern Carpathian Basin region (Fig. 6), which is the presumed supplier and influencer of copper ornaments and weaponry for the L-VC people (Zakościelna and Kadrow 2000, 247; Zakościelna 2010 145–149; Wilk 2014, *passim*). On the other hand, the end of the 5th and beginning of the 4th millennium BC saw the intensification of cultural contacts on the border between the CTCC and L-VC, particularly in the interfluve of the Styr and Horyn. At the same time, the first CTCC groups of the BII/CI phase reached the outcrops of Volhynian flint – at the settlement of Bodaki dated to BII/CI phase ceramic imports and imitations of L-VC pottery were found (Starkova 2009; Starkova and Zakościelna 2018). The cultural landscape of these lands was highly prone to cultural hybridisation and integration (Kadrow and Zakościelna 2022, 192), which is well reflected in the cremation cemetery at Ostrog-Zeman that yielded graves containing both Trypillian and L-VC vessels (Pozìhov´skij and Samolûk 2008, fig. 6: 2). In addition, L-VC ceramic imports are known from CTCC sites along the Dniester, as well as from the interfluve of the Dniester and Boh (Tkaczuk 2005, fig. 1–3).

The circulation of copper products or patterns of their production between the societies of the CTCC and L-VC is not only attested by the Cucuteni-Vădastra daggers. Here, a unique bracelet made of copper sheet metal with edges ornamented with punched decoration, deposited in grave No. 2 at the cemetery in Książnice 2, is worth mentioning (Wilk 2004, fig. 3: 1; 11: 5; 239). One of its ends is narrowed and rounded, with a small opening, the other end is straight. The bracelet was probably remade from a larger ornament. The only known parallel is a "diadem" from a metal hoard from Gorodnicâ II on the Dniester, dating to phase BII/CI of CTCC (Sulimirski 1961, 92, fig. 1: 5; Dergačev 2002, 200, fig. 65: A94).

We can hardly doubt that the Cucuteni-Vădastra daggers found their way to the W-ZG societies via trading routes running from the L-VC. Both of these groups were neighbours in the region of western Lesser Poland and maintained a close relationship, particularly well reflected by the W-ZG pottery (Nowak 2014, 247, 273–275). A good example of this is grave no. 6 from the cemetery in Kraków-Nowa Huta-

Wyciąże 5, which contained a Cucuteni-Vădastra dagger and a deep bowl with four conical protuberances on the rim which is a signature mark of the L-VC potters (Kozłowski 1971, tab. 2: 1; Zakościelna 2010, e.g., tab. IIIc: 7; IVa: 13, 14; IXa: 6; Xa: 10 and others).

The dagger from Strzyżów was customized as a pendant by folding the base and edge of the blade (Fig. 2; 4: E). As a result, the artefact lost its original function of a weapon and could be used as an ornament. As mentioned before, the dagger-pendant was discovered on the right clavicle (Fig. 1: 6), which may suggest that it was worn on the neck, hanging on the chest. A long blade made of Volhynian flint was deposited next to the copper dagger, and these two items could be used to signal the high social rank of the buried male in the local community. The same technological dealing can be traced to the L-VC site of Gorodok, which also yielded copper dagger customized as a pendant (Pavlìv and Petegirič 2016, fig. 5: 1; 6: 1; 7). We can only speculate as to whether the customization of these two daggers was a result of their damage in the past, or if perhaps there are other cultural or social factors behind this treatment.

Conclusions

Copper artefacts emerged in the classical phase of the L-VC, but they were relatively rare at that time, and importantly they were only used as funeral jewellery of adult females. Archaeological data indicate that the in-flow of copper metalwork and its local production gained momentum in the late phase of the L-VC (Zakościelna 2006, 85; 2010, 150, 204–205; Wilk 2014). Only rarely have metal artefacts been discovered at the L-VC settlements, and there is no evidence of their use in everyday life and farming activities. On the other hand, tuyères and crucibles as well as copper droplets on vessels were reported from the settlements of Złota "Grodzisko I", Łańcut 10, and Las Stocki 7 which may support arguments for the emergence of local copper metallurgy (Dziekoński 1962; Zakościelna 1985, fig. 1: 2, 3; Kadrow and Kłosińska 1988, fig. 13).

The copper artefacts of the L-VC are mainly found in the grave context of richly equipped burials of adult human individuals (less frequently from child graves). At the time of writing, nearly 60 metal artefacts have been reported from about 30 features (Zakościelna 2010, 145–150; Wilk 2014; Wilk and Garbacz-Klempka 2016). While female burials contained mostly copper ornaments, sometimes very luxurious (Książnice 2, grave 8 – Wilk 2014, fig. 5–7, 10, 11), weaponry and tools are deposited in male graves; only one single male burial yielded a copper bracelet (Złota, "Grodzisko II", grave 101 – Sałacińska and Zakościelna 2007, fig. 19; 21: 16/XIX, 17/XIX). The majority of the L-VC copper artefacts are related to the Polgar culture and Western Carpathian Basin region, and only spectacle-shaped pendants can be used as evidence for contacts with the Lengyel milieu (Kadrow and Zakościelna 2000, 247; Wilk 2014, 230–232). The Cucuteni-Vădastra daggers connect the L-VC with the CTCC. All these connections clearly indicate that there was room in the L-VC culture for technological and stylistic innovations from other cultural regions.

The copper artefacts deposited in the richly equipped graves of the L-VC were prestigious goods attesting to the high rank of selected community members, mainly adult males. These were relatively rare tools and copper weaponry (battle-axes, daggers, axes, chisels), antler battle-axes, bone daggers, macrolithic blades and retouched blade daggers made of flint. Some of the adult female graves were also richly equipped, and the indicators of their high social rank were body and dress ornaments (copper earrings, necklaces and bracelets as well as necklaces and bracelets made of shells; Sałacińska and Zakościelna 2007, fig. 11–13; Zakościelna 2010, 180–191; Wilk 2014). Exceptionally rich grave goods, also made of copper, were deposited in certain graves of female children (e.g., Wilk 2004, fig. 4). The wealth of grave inventories – in the sense of raw material diversity, number of deposited goods and presence of prestigious artefacts – divides the L-VC graves into several classes reflecting a complex social structure, with powerful elites led by adult male warriors that were buried with the richest sets of grave goods, including prestigious items having a symbolic meaning (Zakościelna 2008; 2010, 145, 166–167, 211–218).

The dichotomy of funerary rites between male and female individuals, burying the dead at cemeteries separated from settlements, qualitative and quantitative differentiation of L-VC grave inventories, which contain, e.g., prestigious artefacts (weaponry and ornaments) together with production specialisation (copper metallurgy, technology of flint superblade production) and participation in interregional distribution of goods (owing to the access to Volhynian flint of superb quality) make the L-VC one of those Eneolithic cultures that can be compared to societies of the Carpathian Basin (Tiszapolgár-Bodrogkeresztúr cultures), and – to a certain degree – the Eastern Balkans (Hamangia-Varna cultures) (Zakościelna 2010, 212–218, 229–233). Social relations in the L-VC societies were likewise complex and produced power

elites led by adult males, possibly organised in associations of a military character (Kadrow 2010, 84; 2011, 295–302; Zakościelna 2010, 211–218). This model of the social organisation of the L-VC is supported by differences in grave inventories, although in the case of the local elites it was not as striking as in the Eastern Balkans and Eastern Carpathian Basin region, but corresponded to the local environmental and cultural conditions. Adult male warriors manifested their high social rank through different symbols of action, especially weaponry: flint retouched blade daggers, antler battle-axes, and unique copper artefacts, including Cucuteni-Vădastra daggers.

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