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DE L'UNIVERSITÉ JAGELLONNE DE CRACOVIE

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NOUVELLE SERIE

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DE L'UNIVERSITÉ JAGELLONNE DE CRACOVIE**

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Wojciech Blajer¹

Some remarks on socketed axes of the Passau type

Abstract: Among artefacts from a private collection there is a bronze socketed axe which resembles the Passau type, originating from an unknown locality. Since the type was first defined in 1935, its definition tended to be extended to cover axes of other variants, and as a result, apart from those decorated with three arched planes (wings), axes ornamented with 1 to 4 arched ribs have also been included into this type. In recent years, however, the name has practically fallen out of use in archaeological literature. A review of relevant publications indicates that both the Passau type proper and the variants decorated with ribs should be dated to a broad timespan of HaA2–HaB3. The earliest assemblages, mostly hoards, occur in the middle Danube basin, and the younger ones in the upper Danube and upper Elbe basins. The closest analogies to the privately-owned axe discussed here are stray finds from Bavaria and Austria. Their chronology falls within HaA2–HaB2, perhaps with a focus on HaB2.

Keywords: Younger Bronze Age, Danube basin, socketed axes, Passau type

1. Introduction

In March 2019, information about a bronze socketed axe with a loop (Fig. 1: 1), originating from an unknown locality and for some time in private hands, reached the Institute of Archaeology of the Jagiellonian University.²

The axe was cast in a bivalve mould, as evidenced by casting jets discernible at the narrower sides of the socket. Beneath the socket's mouth is a transversal rib, and there is a small hole between the mouth and the rib, perhaps a casting fault. The wider sides of the socket are decorated with carelessly executed double arching ribs, which resemble in outline the wings characteristic of axes representing the Passau type proper. The blade part is clearly separated and the socket's end arches slightly, although this latter trait is only clearly noticeable on one of the axe's broader sides, since the halves of the mould were not identical. The blade is slightly asymmetrical as well – it is longer on the side where the loop is attached. The broader sides of

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² I would like to thank Prof. Michał Ostrowicki from the JU Institute of Philosophy for his help in making the artefact available for examination.

the blade bear traces of hammering, and the narrower sides additionally bear traces of polishing. The axe's length is 10.5 cm, the blade width is 4.25 cm, the socket's mouth is 3.9×2.75 cm (with the loop), the socket's depth is approx. 4.6 cm, and the axe weighs 148.5 g. The axe is covered with a green-brown patina. The analysis of the chemical composition revealed the presence of several elements in the alloy. Apart from Cu (90.47%) and Sn (6.02%), there were Sb – 0.48%, As – 0.32%, Ag – 0.19%, Pb – 0.19%, Ni – 0.16%, and Mo – 0.30%. Other elements did not exceed 0.05% in share.³

In terms of shape and manner of decoration, the artefact refers to the Passau type, defined by Friedrich Holste in his study on hoards from the Younger Urnfield period. Axes of the Passau type are distinguished by a wide broadening around the socket's mouth, with two circumferential ribs running beneath it. The wider sides of the socket have upper wings marked rudimentarily on them. The blade part is distinctly separated from the socket, which can also be seen in the side view as a slight narrowing of the artefact. In Holste's opinion, the Passau form (orig. *Passauer Form/Typus*) was a purely eastern type and had direct analogies in the East (i.e. in the eastern part of the middle Danube basin). Apart from the specimen discovered at Passau in Bavaria (Fig. 1: 2), he pointed to several other finds – from western Romania to Tyrol (Holste 1935, 60, 69, fig. 1: c).⁴ It should be noted that loop of the axe from Passau is broken off.

In his study of hoards from the upper Dniester basin, Kazimierz Żurowski did not refer to Holste's publication. He concluded that axes having “plastic, arched areas imitating wings” were known from the ranges of both the Thracian and Lusatian cultures, and dated them broadly to Montelius' Bronze Age V (Żurowski 1949, 179).

The Passau axe (*Passauer Beil*), which Holste regarded as a leading form of the Younger Urnfields culture (HaB), was only briefly mentioned by Ernst Sprockhoff in his extensive paper on axes of the Lusatian type (Sprockhoff 1953, 92). In a later study, he stated that true (*echte*) Hungarian axes did not occur in northern Germany in Period V, neither in hoards nor in graves or – seemingly – as isolated finds (Sprockhoff 1956, 98).

Hermann Müller-Karpe assumed that axes with wings on the sockets were leading artefacts for phase HaB2 in southern Bavaria (1959, 168, fig. 52: 9), and similar objects with 2–3 ribs he believed to be characteristic of the same phase in the northern part of the eastern Alpine area (*nördliches Ostalpengebiet*) (1959, fig. 50: 12, 13).

On the other hand, Wilhelm Albert von Brunn considered the Passau variant (*Passauer Variante*) to be one of the leading forms in the Rohod-Szentes phase (roughly corresponding to HaB1) of hoards in the middle Danube basin. He mentioned several finds in this context, but took a broad definition of the form, and illustrated it with an example of an axe decorated with double arching ribs rather than with wings. He also noted that the zone between the wings could feature some additional decoration. Von Brunn suggested that the discussed variant may have developed from axes linked with the Jászkarajenő-Uzsavölgy phase (HaA2), decorated with ribs arranged in trapezoidal motifs, or from narrow axes with a ribbed middle part (von Brunn 1968, 51, fig. 4: 33).

³ The analysis with X-ray spectrometer was performed by Dr hab. Marcin Biborski from the JU Institute of Archaeology. After removing the patina in spots chosen for examination, the analysis was carried out with an energy dispersive X-ray fluorescence spectrometer of the Spectro-MIDEX type. The results were analysed using the TURBO QUANT programme from the SPECTRO X-LAB package. Results for individual elements were rounded to 2 decimal places.

⁴ A similar axe from a hoard from Hrge, Comm. Zavidovići, Canton Zenica-Dobo, Bosnia (Holste 1935, 67) cannot be taken into account here, since it is wedge-shaped in profile (Žeravica 1993, pl. 37: 506).

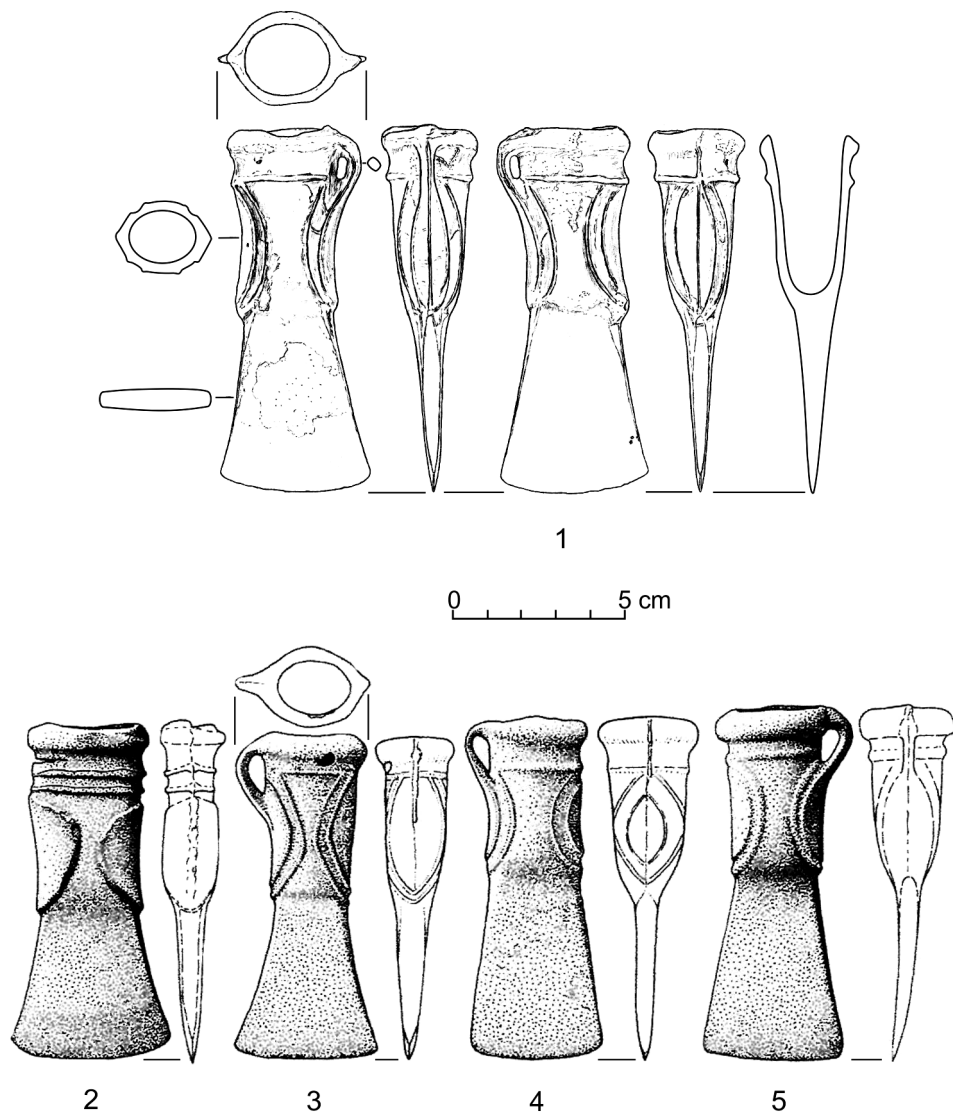


Fig. 1. Bronze socketed axes:

1) Unknown locality; 2) Passau (after Pászthory, Mayer 1998); 3) Lasberg-Siegelsdorf, Dist. Freistadt (after Mayer 1977); 4) Ried am Riederberg, Dist. Tulln (after Mayer 1977); 5) Karlstein, Dist. Berchtesgadener Land (after Pászthory, Mayer 1998)

Monographs of particular hoards and studies published within the “Prähistorische Bronzefunde” series brought about a larger number of published axes representing – or similar to – the Passau type.

In Jiří Říhovský’s study devoted to axes from Moravia, analogical finds were included into group X, encompassing axes with short, “wing-like” decoration and a flat, separated, narrow, thin blade part (*mit kürzer Lappenzier und flacher, seitlich abgesetzter, schmaler und dünner*

Schneidenpartie). Říhovský reviewed the history of research and discussed more than 60 artefacts representing a range of variants, which he divided into 3 types based on the overall shape (Říhovský 1992, 227–232).

In her monograph on hoards in Bohemia, Olga Kytlicová proposed that the origins of the “wing-like” decoration (*lappenartige Verzierung*) should be sought in the Carpathian Basin, where it can be identified as early as HaA2. The decoration in question would be akin to the hour-glass motif. The further development of axes decorated in this manner, however, took place outside the Carpathian Basin, from where they gradually disappeared. According to this view, the younger forms were typically smaller, and their wings were often framed with ribs and sometimes adorned with incised or punched motifs. These younger forms were spread from the middle Danube basin to France. Kytlicová also mentioned that a similar decoration occurred in the Nordic milieu in Montelius’ Bronze Age V, and quoted Müller-Karpe’s views on the chronology, although she emphasized that the finds from Bohemia were younger. Among the Bohemian finds she mentioned axes from Dolany and Velké Žernoseky, which have double arching ribs instead of wings. She also discussed specimens decorated with opposing groups of ribs, and only at the end mentioned a separated blade as an additional feature (Kytlicová 2007, 135–137).

Katharine Pászthory and Eugen Friedrich Mayer, the authors of a study devoted to Bavarian finds, regarded the axes in question as rather unsuitable for use as working tools. In their opinion, the decoration argued for interpreting them as weapons (Pászthory, Mayer 1998, 158–159).

The current state of publication encourages one to attempt presenting a review of Central European finds of Passau type axes and similar forms decorated with arching ribs. This can be helpful for determining the chronology of the discussed axe from an unknown locality, and for identifying the region of its origin.

Unlike in broader approaches by von Brunn, Říhovský, and Kytlicová, the discussion presented further in the text only takes into account axes which meet all the following criteria: have a clearly separated blade, are decorated on the sockets with planar wing motifs or with 1–4 arching ribs forming complete wing outlines, and do not have additional ribbed decoration, but have at least one transversal rib beneath the mouth of the socket (the numbers of ribs presented below do not include the protuberance at the socket’s mouth).

The list is not complete, since stray finds could only be presented for Slovakia, Moravia, Austria, Bavaria, and Poland. In the former Yugoslavia, full analyses are only available for Croatia (without Slavonia), Bosnia, Herzegovina, and Montenegro (Žeravica 1993).

2. Axes with planar wings – the Passau type proper

Since the earliest axe with such decoration is believed to be the artefact from Žaškov in Slovakia (Kibbert 1984, 149), it is worth starting the review from precisely this region.

The following finds can be included into the type in question in Slovakia: an axe from **Zemianske Podhradie**, Dist. Nové Mesto nad Váhom (1 circumferential rib), possibly an axe – with a poorly separated blade – from **Žaškov**, Dist. Dolný Kubín (3 ribs), an axe from **Hradec** (Prievidza-Hradec), Dist. Prievidza (1 rib), and a damaged axe from the hoard from **Domaniža**, Dist. Považská Bystrica (3 ribs on one side, 5 discontinuous ribs on the other). The composition of the hoard from Zemianske Podhradie is only known from a very brief description, the Žaškov hoard is dated to phase Kisapáti (HaA1), and the find from Hradec is an alleged hoard of uncertain homogeneity. The hoard from Domaniža is dated to phase Rohod (HaB1)

(Novotná 1970, 69, 84–85, 89–90, pl. 37: 668, 38: 674, 676, 679). Given the poor separation of the blade, the attribution of the axe from Žaškov to the Passau type is open to question.

In Hungary, a similar axe was found in hoard III at **Debrecen**, Hajdú-Bihar County. It has long wings and 3 discontinuous ribs beneath the mouth, but also features a transversal rib separating the socket from the blade and 3 small knobs arranged parallel to the transversal rib furthest from the mouth. Amália Mozsolics included this artefact into a group of special forms (1985, 37, 111–112, pl. 264:5, 268: 3). Axes from hoard I at **Velem**, Vas County (Mozsolics 1985, 212–213, pl. 230: A: 18, 11) have elongated wings and 2 or 3 circumferential ribs, while an axe from the hoard from **Székesfehérvár**, Fejér County (Mozsolics 1985, 191–192, pl. 243: 24) has as many as 4 circumferential ribs. Mozsolics included both these specimens into axes decorated with a frame pattern (*Rahmenmuster*), with pseudo-wings (*pseudolappenförmig*) (Mozsolics 1985, 37). All three hoards date to the Gyermely horizon (HaA2).

One can add here a single find from **Dombóvár**, Tolna County (1 rib), dated within phases HaA2–HaB3 (Patek 1968, 55, 78, 125, pl. XLIV: 8).

In Romania, one should mention axes from hoards from **Variaș**, Timiș County (2 circumferential ribs), **Brad**, Hunedoara County (2 ribs with punctate decoration, which also covers wing edges), **Iara**, hoard II, Cluj County (2 ribs), **Spălnaca**, hoard I, Alba County (2 ribs, separated from the wings with 2 small knobs), **Hida**, Sălaj County (elongated wings, 2 ribs), **Sângeorgiu de Pădure**, hoard I, Mureș County (2 ribs), **Târgu Mureș**, Mureș County (slightly faceted wings, 2 ribs), and **Cluj-Napoca**, Cluj County (2 ribs, separated from the long wings with 3 small knobs forming a triangle). The hoard from Variaș can be dated “rather to HaA2 than HaB1”, the next three assemblages to phase Moigrad (HaB1), the following three hoards to phase Fizeșu-Gherlii (HaB2), and the assemblage of uncertain homogeneity known as hoard IV from Cluj-Napoca was dated to HaB1 (Petrescu-Dîmbovița 1978, 138–140, 142, 145, 149–150, 156, pl. 221: E: 2, 226: C: 1, 232: A: 7, 245: 28, 259: C: 6, 263: A: 32, 264: A: 11, 272: C: 4).

A slightly similar axe, with long wings and 3 circumferential ribs, but with a poorly separated blade part, comes from a hoard from **Brezovo Polje**, Comm. Žepče, Canton Zenica-Doboj, Bosnia. The hoard dates to phase 3 or 4 in the chronology of hoards from Bosnia and Herzegovina, which corresponds with phase Jászkarajenő-Uzsavölgy or Rohod-Szentes (HaA2 or HaB1) (König 2004, 194–195, tab. 2, pl. 10: 17). K. Żurowski mentions 1 axe from **former Yugoslavia**, from the “Illyrian territory” (1949, 179).

In western Ukraine one can mention an axe from the hoard from **Krekhiv**, Dist. Zhovkva (formerly Krechów, Dist. Żółkiew) (2 circumferential ribs) (Żurowski 1949, 201, pl. X: 1). Żurowski dated this type generally to Montelius’ Bronze Age V (1949, 179), although the hoard from Krekhiv can be dated slightly earlier, probably to HaB1 (Blajer 2013, 99).

In Moravia, the following finds belong to the discussed group: **Syrovín**, Dist. Hodonín (3 circumferential ribs), **Kelčany**, Dist. Hodonín (2 ribs), **Polkovice**, Dist. Přerov (2 ribs), **Rájec-Jestřebí**, Dist. Blansko (very small wings, the socket arched at the end, 2 ribs), **Soběsuky** (Plumlov-Soběsuky), hoard I, Dist. Prostějov (3 ribs), **Boskovice**, hoard I, Dist. Blansko (small wings, the socket arched at the end, 1 rib), and **Břeclav** (surroundings) (2 ribs) (Říhovský 1992, 225, 229–231, pl. 60: 864, 61: 876, 878–880, 62: 887, 888). The hoards from Syrovín, Polkovice, Rájec-Jestřebí, and Boskovice date to the Boskovice horizon (Říhovský 1992, 198, 211, 214, 229), which corresponds to phase HaB2, and hoard I from Soběsuky can only broadly be dated to HaB (Salaš 2005, 453, fig. 24).

The finds from Poland were described by Jerzy Kuśnierz as axes with the blade part separated in a step-like manner (*mit abgestuften Schneidenteil*). He classed the finds from **Bąkowice**, Dist. Namysłów (2 ribs), **Karmin**, hoard II, Dist. Milicz, and **Zawiszyce**, Dist. Głubczyce

(both with 1 rib) as variant A. Another axe from hoard II from Karmin (1 rib) has long, poorly marked wings, and resembles variant C. Hoard II from Karmin should be dated to HaB2 (Kuśnierz 1998, 17, 19–21, pl. 3: 40–42, 4: 56).

In Austria, axes with wings having diversified proportions occurred at **Mödling**, Dist. Mödling, **Gutenstein**, Dist. Wiener Neustadt-Land (both with 1 circumferential rib), **Fraham-Raffelding**, Dist. Eferding (2 ribs), **Erlach bei Wiener Neustadt**, Dist. Wiener Neustadt (decorated wings, 2 ribs), **unknown locality** (collection of Naturhistorisches Museum Wien), **Überackern**, Dist. Braunau, **Pyhrn**, Dist. Liezen, and **Radkersburg**, Dist. Südoststeiermark (all with 1 rib) (Mayer 1977, 199–200, pl. 81: 1127, 1128, 1130–1133, 82: 1134, 1135). Based on indirect analogies, Mayer proposed dating the axe from Fraham-Raffelding to the late section of the Younger Urnfields period (phase Herrnbaumgarten, i.e. HaB2), and those from Mödling, unknown locality, and from the grave from Radkersburg to the Late Urnfields period (HaB3) (Mayer 1977, 175, 200, pl. 134). Another axe was found in grave 38 at **Stillfried**, Dist. Gänserndorf (1 rib), and it can be dated to HaB2 (Chochorowski 1993, 153, fig. 21: 12). A Passau type axe was reportedly also found at **Pfaffenhoffen**, Dist. Innsbruck (Holste 1935, 60).

Apart from the eponymous find from **Passau** (with the loop broken off, 2 ribs beneath the socket's mouth), in Bavaria a slender axe with upper wings was found at **Ottenstall**, Dist. Ostallgäu (1 rib) (Pászthory, Mayer 1998, 158, pl. 71: 1056, 1061). A similar axe comes from **Bayerisch-Gmain**, Dist. Berchtesgadener Land (2 ribs), and it is decorated on the socket's edge, on the wings, and on the blade (Pászthory, Mayer 1998, 158, pl. 71: 1057). The hoard from Passau and the cremation burial from Bayerisch Gmain are dated to HaB2, while the hoard from Ottenstall dates to a period corresponding with phase HaB3 (Pászthory, Mayer 1998, 159).

As emerges from the above review, axes of the discussed type occur from Transylvania and Western Ukraine to Bavaria, Moravia, and Silesia (Fig. 2). Even without including the find from Žaškov in Slovakia, which dates to HaA1 but does not fully fit the definition of the Passau type, one has to consider broad chronological frameworks spanning from HaA2 to HaB3. The earliest axes come from Romania and Hungary, and the youngest ones are those from Austria and Bavaria.

3. Axes with single arching ribs

Axes with such a decoration reveal the closest similarity to the Passau type proper.

The earliest finds in question come from Romania and occurred in hoards from **Dârja**, Cluj County (long ribs, 2 circumferential ribs), **Suatu**, Cluj County (a similar artefact – the blade forms an arch partly overlapping with the socket, 2 ribs), and **Sâmbăta Nouă**, hoard I, Constanța County (2 ribs). The hoard from Dârja is dated to phase Jupalnic (HaA2), the hoard from Suatu comes from phase Moigrad (HaB1) in Transylvania, and the one from Sâmbăta Nouă is the eponymous find for a similarly dated phase in Dobruja (Petrescu-Dîmbovița 1978, 138, 144, 147–148, pl. 219: 23, 242: 18, 253: 17).

An axe with small wings was found at **Panic**, Sălaj County (2 ribs), in a hoard dated to HaB (Soroceanu, Lakó 1995, 189, fig. 2: 1).

In Hungary, one should mention an artefact from hoard II from **Celldömölk-Sághegy**, Vas County (3 ribs), dated to the Románd horizon (HaB2) (Mozsolics 2000, 37–38, pl. 9: 4).

In Slovakia one should consider a single find from **Nové Mesto nad Váhom** (1 rib) (Novotná 1970, 89, pl. 38: 675).

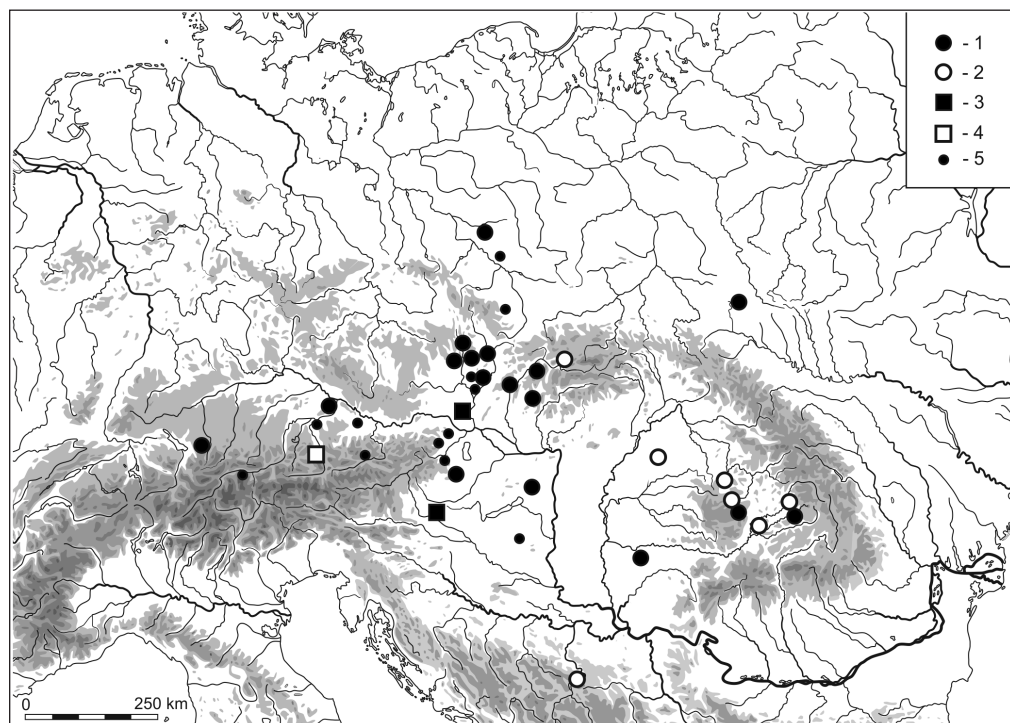


Fig. 2. Axes of the Passau type in Central Europe (not all stray finds are presented on the map):

1) in hoards; 2) in hoards – axes resembling the Passau type; 3) in graves; 4) in graves – axes resembling the Passau type; 5) stray finds

In Western Ukraine, an axe from an **unknown locality** (2 ribs) belongs to this group. Žurowski broadly dated this type to Montelius' Bronze Age V (1949, 179, 201, pl. X: 2).

The variant in question is confirmed only from the middle and lower Danube basin (Fig. 3: 1–3), and the upper Dniester basin. Its chronology falls within a range of HaA2–HaB2, with the finds from Romania being earlier, and those from Hungary having later chronological position.

4. Axes with double arching ribs

This relatively well-represented variant also includes the axe from an unknown locality described in the introduction (Fig. 1: 1).

In Transcarpathian Ukraine, an axe decorated in such a manner occurred in hoard III from **Zmeevka**, Dist. Beregovo, belonging to the Suskovo series (HaA2). Its arching ribs are long, there are 3 circumferential ribs at the socket's mouth, the socket terminates in a gentle arch, and the manner of shading on the axe's drawing suggests that the blade is separated. The axe was classed as type 2 variant 2 (Kobal' 2000, 41, 101, pl. 77: B: 3, fig. 1).

In Hungary, an axe from the **Székesfehérvár** hoard (2 ribs) belongs to this group. A similar artefact is known from hoard II from **Lesenceistvánd**, Veszprém County (3 ribs). Mozsolics included them into axes decorated with a frame pattern (*Rahmenmuster*) and dated them to

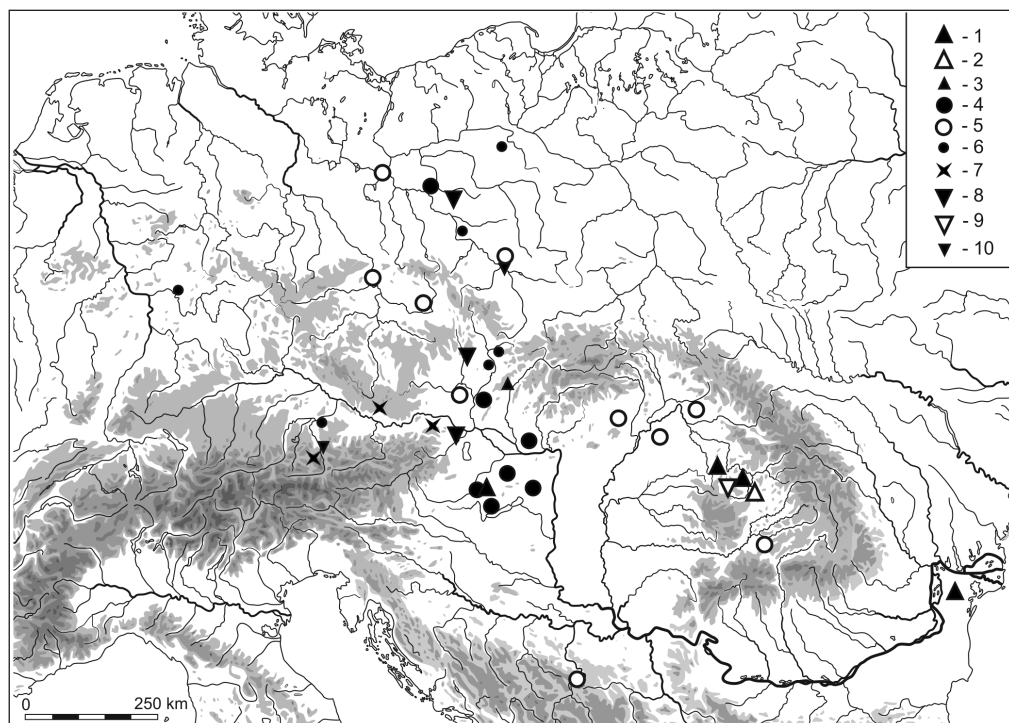


Fig. 3. Axes decorated with arching ribs in Central Europe (not all stray finds are presented on the map): 1) with single ribs, in hoards; 2) with single ribs, in hoards – similar specimens; 3) with single ribs, stray finds; 4) with double ribs, in hoards; 5) with double ribs, in hoards – similar specimens; 6) with double ribs, stray finds; 7) with double ribs, stray finds – analogies to the axe discussed in the paper; 8) with triple or quadruple ribs, in hoards; 9) with triple or quadruple ribs, in hoards – similar specimens; 10) with triple or quadruple ribs, stray finds

the Gyermely horizon (HaA2) (Mozsolics 1985, 37, 144, 191–192, pl. 243: 1, 270: A: 9). An axe probably decorated with 2 long ribs occurred in a hoard from **Szendrőlád**, Borsod-Abaúj-Zemplén County (2 ribs) (Kemenczei 1984, pl. CXIX: 8), dated to the same phase (Mozsolics 1985, 192).

An axe from hoard IV from **Nyíregyháza**, Szabolcs-Szatmár-Bereg County (2 ribs) (Kemenczei 1984, pl. CCXVb: 4), may have had double, very long arching ribs. Mozsolics dated the hoard to the Hajdúböszörmény horizon, although in the drawing provided in her study the arching ribs on 2 axes included into forms decorated with a frame pattern have a different shape – they run straighter towards the blade (Mozsolics 2000, 62, pl. 68: 6, 7).

An axe from the hoard from **Románd**, Veszprém County, the eponymous site for a horizon dated to HaB2, probably had 5 circumferential ribs at the socket's mouth (Mozsolics 2000, 25, 70–73, pl. 84: 19). An axe with 2 or 3 carelessly rendered arching ribs and 3 circumferential ribs is known from hoard V from **Celldömölk-Sághegy**, Vas County, representing the same horizon (Mozsolics 2000, 39, pl. 22: 12, 126: 1). Another 3 axes from the same locality were probably single finds (Patek 1968, 36, pl. XXXII: 4, 7, 8).

A hoard from **Sorostin**, Sibiu County, dated to HaB, included an axe (2 circumferential ribs) with poorly marked ribs (Soroceanu 1995, 73, fig. 9: 4).

In Slovakia, one should mention an axe from **Strekov**, Dist. Nové Zámky (2 circumferential ribs), and the finds from **unknown localities** in the collections of Vlastivedné Múzeum Bojnice (Dist. Prievidza) and Mestské Múzeum Bratislava (4 and 3 ribs, respectively). The composition of the Strekov hoard is only known from a description and the hoard can probably be dated broadly to the Younger Urnfields period, while the axes from unknown localities were dated by Novotná to the Rohod phase (HaB1) (Novotná 1970, 89–90, pl. 38: 671, 39: 697, 698).

Axes of the discussed type are not frequent finds in Moravia. One can mention here axes from **Marefy**, Dist. Vyškov (2 axes with 1 circumferential rib), and single specimens from **Kroměříž** (4 ribs) and **Dřevohostice**, Dist. Písek (small ribs, 4 circumferential ribs) (Říhorský 1992, 225, 874, pl. 60: 858, 859, 868, 61: 874). The hoard from Marefy is dated to HaB1 (Salaš 2005, fig. 24).

In Poland, one can mention axes assigned by Kuśnierz to variant C: from **Bożeń**, Dist. Wołów (2 circumferential ribs) and **Gasawa**, Dist. Żnin (3 ribs). A similar axe with small ribs is known from a hoard discovered at **Miejsce**, Dist. Namysłów (1 rib). The hoard from Miejsce should be dated to HaB1 (Kuśnierz 1998, 18–21, pl. 4: 47, 48, 54). At least three axes from a Montelius' Bronze Age V hoard recently discovered at **Nowe Kramsko**, Dist. Zielona Góra (2 axes with 2 circumferential ribs, 1 with 5 ribs) also seem to belong to this variant (Omieczyńska 2016).

In Austria, axes in question are only known from single finds, which cannot be dated: from **unknown locality** (collection of Museum Mistelbach) (4 circumferential ribs), **Braunau am Inn**, Dist. Braunau, **Lasberg-Siegelsdorf**, Dist. Freistadt, and **Ried am Riederberg**, Dist. Tulln (all with 1 rib) (Mayer 1977, 198, pl. 81: 1116, 1118, 1121, 1122). The last two artefacts (Fig. 1: 3, 4) are good analogies for the axe presented in the introduction.

An axe from **Herrnbaumgarten**, Dist. Mistelbach a. d. Zaya, known from the literature and originating from the hoard eponymous for a phase corresponding to HaB2 (Mayer 1977, 198–199, pl. 81: 1119), can only conditionally be included here due to the additional decoration in the form of 3 circles and the fact that 3 ribs at the mouth of its socket are not circumferential, but are only marked on the broader sides.

In Bavaria, axes with double arching ribs are known from single finds from **Kahl am Main**, Dist. Aschaffenburg (2 circumferential ribs) and **Karlstein** (Bad Reichenhall-Karlstein), Dist. Berchtesgadener Land (1 rib) (Pászthory, Mayer 1998, 158, pl. 71: 1058, 1059). The latter is a good analogy for the axe discussed in the introduction.

In Bohemia, a damaged axe with 3 small knobs arranged parallel to 3 circumferential ribs beneath the socket's mouth has been found in hoard 1 from **Velké Žernoseky**, Dist. Litoměřice, representing the Třtěno-Hostomice phase (HaB3) of the Milavče-Knovíz cultural circle, while an axe decorated with bands of strokes in spaces delineated by arching ribs and on the edge of the socket is known from a hoard from **Dolany**, Dist. Pardubice (2 circumferential ribs), representing the Lžovice-Slezské Předměstí phase (HaB3) of the Lusatian cultural circle (Kytlicová 2007, 312–313, 259–260, pl. 151: B: 1, 198: 32).

A similar axe with an arching socket's end and additionally decorated with a circle motif between the single circumferential ribs and the arching ribs occurred at **Lebus**, Dist. Märkisch-Oderland, in a hoard dated to HaB3 (Schopper 2004, 78, figs 58, 60).

The variant discussed here, known from vast areas from Transylvania to Lower Franconia and Greater Poland (Fig. 3: 4–7), also has wide chronological frameworks: from HaA2 to HaB3. The earliest finds are known from Hungary and Transcarpathian Ukraine, while the youngest (axes similar to this variant, with additional decorations) come from Bohemia and Brandenburg.

5. Axes with triple and quadruple arching ribs

A hoard from **Sfăraș**, Sălaj County, dated to the Ópályi horizon (BrD), contained an axe decorated in this manner and provided with 1 circumferential rib beneath the socket's mouth, regarded as the earliest axe with arching ribs (Kibbert 1984, 149). However, the homogeneity of the hoard is open to question due to uneven patination (Mozsolics 1973, 132–133, pl. 31: 6).

In Austria, to this group belong axes from a hoard from **Haslau-Regelsbrunn**, Dist. Bruck a. d. Leitha (with 3 ribs on one side and 4 on the other, 1 circumferential rib), and “**from Salzburg**” (2 ribs) (Mayer 1977, 198, pl. 81: 1115, 1117). Another axe from **Haslau-Regelsbrunn** has 4 arching ribs and 1 circumferential rib (Mayer 1977, 198, pl. 80: 1114). The hoard can be dated to the late section of the Younger Urnfields period (HaB2) (Mayer 1977, 198).

In Moravia the variant in question includes axes from hoard 4 from **Boskovice**, Dist. Blansko (1 rib), dated to the Boskovice horizon (HaB2) (Říhový 1992, 201, 230, pl. 62: 884, 885).

In Silesia, axes attributed by J. Kuśnierz to variant C have been found at **Karmin**, hoard II (1 rib) and **Rybna**, Dist. Opole (3 ribs). Hoard II from Karmin should be dated to HaB2 (Kuśnierz 1998, 18, 20–21, pl. 4: 51, 52).

Given the uncertain homogeneity of the Transylvanian hoard from Sfăraș, the chronology of the discussed variant, which apart from Transylvania is known from Austria, Moravia, and Silesia (Fig. 3: 8–10), should be restricted to phase HaB2.

6. Conclusions

As emerges from the review presented above, the earliest axes, both with planar wings (Passau type) and with single or double arching ribs, appeared in HaA2 in Romania, Hungary, and Transcarpathian Ukraine, from where they later spread westwards. This conclusion agrees with the picture presented by Olga Kytlicová (2007, 135–137). Axes with triple and quadruple ribs are not known from well-dated assemblages before HaB2, when they occurred in Austria, Moravia, and Silesia.

Given the above, axes of the Passau type and similar variants with arching ribs are of little use for detailed chronological studies. More narrow chronology can only be considered for axes with 3–4 ribs.

At the present stage of research, one should agree with the opinion of Kurt Kibbert, who rejected the possibility of deriving socketed axes of the Passau type and the variants decorated with arching ribs from winged axes (Kibbert 1984, 149).

As mentioned, the formally closest analogies to the axe from an unknown locality (Fig. 1: 1) presented in the introduction are single finds from **Ried am Riederberg**, in Lower Austria (Fig. 1: 4), **Lasberg-Siegelsdorf**, in Upper Austria (Fig. 1: 3), and from **Karlstein**, in Upper Bavaria (Fig. 1: 5). The last shows particular similarity because the narrowing of its blade is also discernible in the broader side view, and the blade itself is slightly asymmetrical. The above analogies fall within a broad timespan of HaA2–HaB2, perhaps with a focus on phase HaB2 due to the only well-dated similar axe from the region, known from the hoard from Herrnbaumgarten, in Lower Austria.

The fact that the analogies occurred within a relatively small area stretching over approx. 250 km allows for a cautious suggestion that the axe presented at the beginning of this paper may have originated from precisely this part of the upper Danube basin.

Kilka uwag o siekierkach z tulejką typu Pasawa

Asumpt do niniejszego artykułu dała pochodząca z nieznanego miejsca i znajdująca się w prywatnym posiadaniu brązowa siekierka z tulejką (Ryc. 1: 1), zbliżona do tzw. typu Pasawa (Passau). Ma ona długość 10,5 cm, szerokość ostrza 4,25 cm i wagę 148,5 g.

Zabytki tego typu występują od Zachodniej Ukrainy po Południowe Niemcy (Ryc. 2). W ciągu ponad 80 lat od zdefiniowania typu Passau (Holste 1935) pierwotne określenie było rozszerzane także na siekierki innych wariantów. Łączono z nim nie tylko okazy zdobione na tulejce łukowatymi płaszczyznami (skrzydełkami), ale także noszące ornament łukowatych żeber (von Brunn 1968; Říhový 1992; Kytlíková 2007). Ostatecznie określenie to praktycznie wyszło z użycia i stało się pojęciem historycznym, rzadko przypominanym w literaturze.

Zarówno właściwy typ Passau, jak i warianty z ornamentem w postaci żeber, należy datować na szeroki przedział HaA2–HaB3, przy czym najstarsze zespoły występują w dorzeczu środkowego Dunaju, a najpóźniejsze w dorzeczu górnego Dunaju i górnej Łaby. Być może tylko w wypadku stosunkowo rzadkich okazów z 3–4 łukowatymi żeberkami w grę wchodzi możliwość zawężenia datowania do fazy HaB2. Fakt ten prowadzi do wniosku, że omawiana tu grupa siekier nie jest przydatna dla badań nad szczegółową chronologią młodszej epoki brązu w południowej strefie Europy Środkowej.

Przy obecnym stanie badań należy też podtrzymać krytyczną opinię na temat wywodzenia omawianej grupy siekier od siekier ze skrzydełkami.

Najbliższe analogie do siekierki z nieznanego miejsca (Ryc. 1: 1) to luźne znaleziska z Górnej Bawarii oraz Górnej i Dolnej Austrii (Ryc. 1: 3–5). Należy je umieszczać w przedziale faz HaA2–HaB2, przy czym jedyny w tej strefie dobrze datowany zbliżony okaz z zespołu (ze skarbu w Herrnbaumgarten, BH. Mistelbach a. d. Zaya w Austrii Dolnej) dopuszcza możliwość wskazania na fazę HaB2. Można też ostrożnie sugerować, że siekierka pochodzi właśnie z tego regionu Europy Środkowej.

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