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ASTONISHING FINDS IN A WELL-KNOWN SITE.

NEWLY FOUND SPURS FROM WEKLICE (THE WIELBARK CULTURE)

The Wielbark culture cemetery at Wekllice is an important site for the archeology of the Central European Barbaricum, a fact reconfirmed from new finds, both archaeological and anthropological, made in the most recent excavation seasons. Among other things, the finds include two graves containing the spurs to be discussed in this article. In terms of the number of spurs found, these and the previously discovered features¹ make this the most abundant site of the Wielbark culture, which makes it possible to study the chronology of the numerous types of spurs from the Wielbark culture.

Grave 564 (inhumation?, disturbed) **Are 16-21 D** (Plates I–III)²

At ca 1.75 m from ground level a 3.5 x 1.3 m outline of a grave pit was captured, aligned NNW-SSE, roughly rectangular (the N part a section of an oval; the S part with rounded corners). An ancient trench of unclear function was dug into the central part (Feature 564a – see description below). This feature, sunk into Grave 564 to the depth of 0.2 m, was filled with small charcoals and scattered pottery fragments. At the level at which the grave was first spotted (a layer of firm sand permeated with hardpan), a cluster of charcoals was discovered in the N part of Grave 564, and an uncharacteristic piece of pottery (8) was found located 0.5 m to the S. The S part of the pit contained only a single burnt human bone. The filling of the grave as a whole consisted of alternating, unevenly deposited layers: very firm red sand permeated with hardpan (layer thickness: 3-10 cm) with inserts of loose yellow sand mixed with gray sand containing very small charcoals and decomposed wood (10-30 cm thick). The layer of firm sand permeated with hardpan should presumably be identified as the remains of decomposed organic material (mats?, textiles?) covering the body of the deceased person; those layers were covered with layers of loose sand, which explains their irregular shape. At a depth of 2.3 m, a damaged bow of a knee

brooch (1) was discovered in a layer of loose sand (S part of the pit), presumably removed from the original location by post-deposit processes. The remaining grave content was deposited at the bottom of the pit (ca 2.9 m from the ground level), in a layer of sand permeated with hardpan containing isolated deposits of charcoal clusters. The skeleton was not preserved. In the central part of the pit, in the presumable chest area, a gold globular pendant was laid (3, 3a). Ca 0.6 m to the SW there was a clear outline of a small (ca 0.15 x 0.15 m) wooden casket or container, of which a fragment of a wooden slat with fittings had survived (6). In the S part of the pit, a cluster of finds was discovered surrounded by decaying organics (skin or textile remains): a pair of spurs (4, 5), a buckle (2) and two pieces of an iron nail (7). The collocation of finds indicates that a single individual was buried here (probably male, judging by the archaeological indicators). This grave overlaps two other inhumation graves, i.e. the S section of Grave 566 and the N part of Grave 565, destroying their fillings all the way through.

Inventory³ (Plates II–III):

1. Copper alloy fragment of the bow of a knee brooch; the end of the brooch foot with the catchplate part is preserved

³ The finds are described according to the following classifications: brooches – O. Almgren, *Studien über nordeuropäische Fibelformen der ersten nachchristlichen Jahrhunderte mit Berücksichtigung der provinzialrömischen und südrussischen Formen*, Mannus-Bibliothek, Vol. 32, Leipzig 1923 (Stockholm 1897); buckles – R. Madyda-Legutko, *Die Gürtelschnallen der römischen Kaiserzeit und der frühen Völkerwanderungszeit im mitteleuropäischen Barbaricum*, BAR International Series, Vol. 360, Oxford 1986; spurs – U. Giesler, *Jüngerkerzeitliche Nietknopfsporen mit Dreipunkthalterung vom Typ Leuna*, „Saalburg Jahrbuch“, Vol. XXXV, 1978, pp. 5-56; J. Ginalska, *Ostrogi kabłkowe kultury przeworskiej. Klasyfikacja typologiczna*, „Przegląd Archeologiczny”, Vol. 38, 1991, pp. 53-84, K. Godłowski, *The Chronology of the Late Roman and Early Migration Periods in Central Europe*, Kraków 1970, A. Kokowski, *L'art militaire des Goths à l'époque romaine tardive (D'après les données archéologiques)*, [in:] *L'armée romaine et les barbares de III^e au VII^e siècle*, eds. F. Vallet, M. Kazanski, „Mémoires publiées par l'Association Française d'Archéologie Mérovingienne et Musée des Antiquités Nationales”, Vol. V, Paris 1993, pp. 335-354; combs – S. Thomas, *Studien zu den germanischen Kämmen der römischen Kaiserzeit*, „Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege”, Vol. 8, 1960, pp. 54-215.

¹ B. Kontny, M. Natuniewicz-Sekuła, „Jeździec bez głowy” *et alii*, czyli *znaleziska ostróg z cmentarzyska kultury wielbarskiej w Weklicach*, [in:] *Terra Barbarica. Studia ofiarowane Magdalenie Mączyńskiej w 65. rocznicę urodzin*, eds. A. Urbaniak, R. Prochowicz, I. Jakubczyk, M. Levada, J. Schuster, Monumenta Archaeologica Barbarica Series Gemina II, Łódź-Warszawa 2010, pp. 333-345.

² The numbers of finds in the catalogue correspond to the numbers on the plates.

separately. Type A.V.132?. Preserved L. 2.2 cm and 0.9 cm, respectively.

2. Copper alloy bipartite buckle consisting of a rectangular frame and a rectangular buckle plate. The edges of both the buckle plate and the prong are decorated with imitations of incised wire. Type close to M-L G3. L. 3.5 cm, B. 4.4 cm.

3. Gold globular pendant, hollow; suspension loop consisting of three wires, the middle one beaded. In the upper part (under the neck of the pendant) a soldered ornament of beaded wire and a line of granulation. The central part of the body decorated with two lines of granulation, soldered; in the bottom part, three lines of granulation radiating from the bottom point up to the middle of the body. H. 1.8 cm, H. of loop 0.5 cm, Dm. 1.5 cm.

4. Copper alloy heel band spur with a thick heel band (yoke), triangular in cross section, with a wider central section and tapering ends. The arms of the yoke end with two accentuated terminals with knobs, decorated with engraved double lines forming a cross shape. Thick spur prick tapering to a point, hollow, diamond-shaped in cross section. Type close to Godłowski I; Ginalski E5. Heel band span (maximum distance between the yoke arms): 6 cm, H. 5.2 cm, L. of spur prick 3.2 cm.

5. Copper alloy heel-band spur with a thick heel band (yoke), triangular in cross section, with a wider central section and tapering ends. The arms of the yoke end with two accentuated terminals with knobs, decorated with engraved double lines forming a cross shape. Thick spur prick tapering to a point, hollow, diamond-shaped in cross section. Type close to Godłowski I; Ginalski E5. Heel-band span: 5.6 cm, H. 4.7 cm, L. prick 3 cm.

6. Copper alloy small fragments of a casket lid with a rivet attached to a fragment of a wooden lath. Preserved L. 3.4 cm, preserved B. 2.7 cm.

7. 2 iron fragments of a nail with a rounded head, one of them did not survive. Preserved L. 3.7 cm.

8. Shard from the belly of a clay vessel. Colour: light brown; both surfaces smoothed; high temper content (mica and medium-grained crushed stone). Preserved L. 4.9 cm.

Chronology: B_{2c} (stadium IIC⁴ according to the chronology of Weklice cemetery).

Feature 564A (ancient feature cut into Grave 564) **Are 16-21D** (Plate I)

The pit was dug in the central part of Grave 564; close to circular in shape, 1.25 x 1.2 m in diameter, slightly elongated along the N-S axis. The pit destroyed the filling of Grave 564 to a maximum depth of 0.2 m. The filling contained pale yellow fine-grained powdery sand mixed with

inserts of firm clay, reddish coarse-grained sand permeated with hardpan, numerous scattered small charcoals and two shards (1, 2). The pit tapered to form a funnel shape. The nature of the filling was similar to the layers in Grave 564, indicating an ancient origin of the feature, but its function is difficult to interpret. Presumably it may have been associated with a funeral rite.

Inventory (Plate I):

1. Shard from the belly of a clay vessel; light to dark brown and grey; both surfaces smoothed, with high temper content (mica and medium-grained crushed stone). Preserved L. 2.7 cm.

2. Shard from the belly of a clay vessel; light to dark brown; external surface smoothed, internal surface roughened. High temper content (mica and mid-sized pieces of crushed stone). Preserved L. 2.7 cm.

Chronology: B_{2c} (stadium IIC⁵ – internal chronology of Weklice cemetery; see the chronology of Grave 564)?

Grave 569 (inhumation-cremation? in a log coffin, disturbed) **Are 17-21 A** (Plate IV)

The feature was spotted at the depth of ca 2.2 m from ground level, aligned N-S; close to rectangular in shape with rounded corners, 2.9 x 0.95 m with a maximum depth of 0.45 m. Heterogeneous filling of the pit, in the upper part a predominance of yellow-gray powdery sand with inserts of reddish sand permeated with hardpan. At the level of the burial and coffin, clay-like coarse reddish gray sand mixed with decomposed organics. The filling of the grave pit contained single, small charcoals and burnt human bones. The remains of the skeleton and coffin were discovered at the depth of ca 0.2 m from the top of the pit. The coffin (probably log) was decomposed but its traces were clearly visible, rectangular in shape, with clearly distinguishable corners; dimensions: 2.6 x 0.55 m. Inside the coffin, bones of a single individual were discovered, in a very bad condition. In the N part of the pit there were poorly preserved teeth, while in the S part, next to the spurs (1, 2), poorly preserved heel bones and a trace of fully decomposed tibiae. The remaining items of the grave content included a middle fragment of a needle or brooch pin (4), discovered in the N part of the pit, and, in the E part, fragments of a strongly decomposed three-layer comb with copper alloy rivets. The concentration of the finds indicates that the deceased person may have been in a supine position. At this level an animal burrow was found containing a fragment of a vessel rim (5). The fact that the grave filling contained scattered burnt human bones is difficult to interpret; it may indicate a biritual nature of the burial, but given the poor state of preservation of the bones (cremated and inhumated alike) it is not clear whether they belonged to a single individual. The grave content indicates a male burial.

⁴ See: the chronology and phasing of the cemetery: M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn, *Weklice. A Cemetery of the Wielbark Culture on the Eastern Margin of Vistula Delta (Excavations 1984-2004)*, Monumenta Archaeologica Barbarica, Vol. 17, Warszawa 2011, pp. 128-129.

⁵ M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn, *op. cit.*, pp. 128-129.

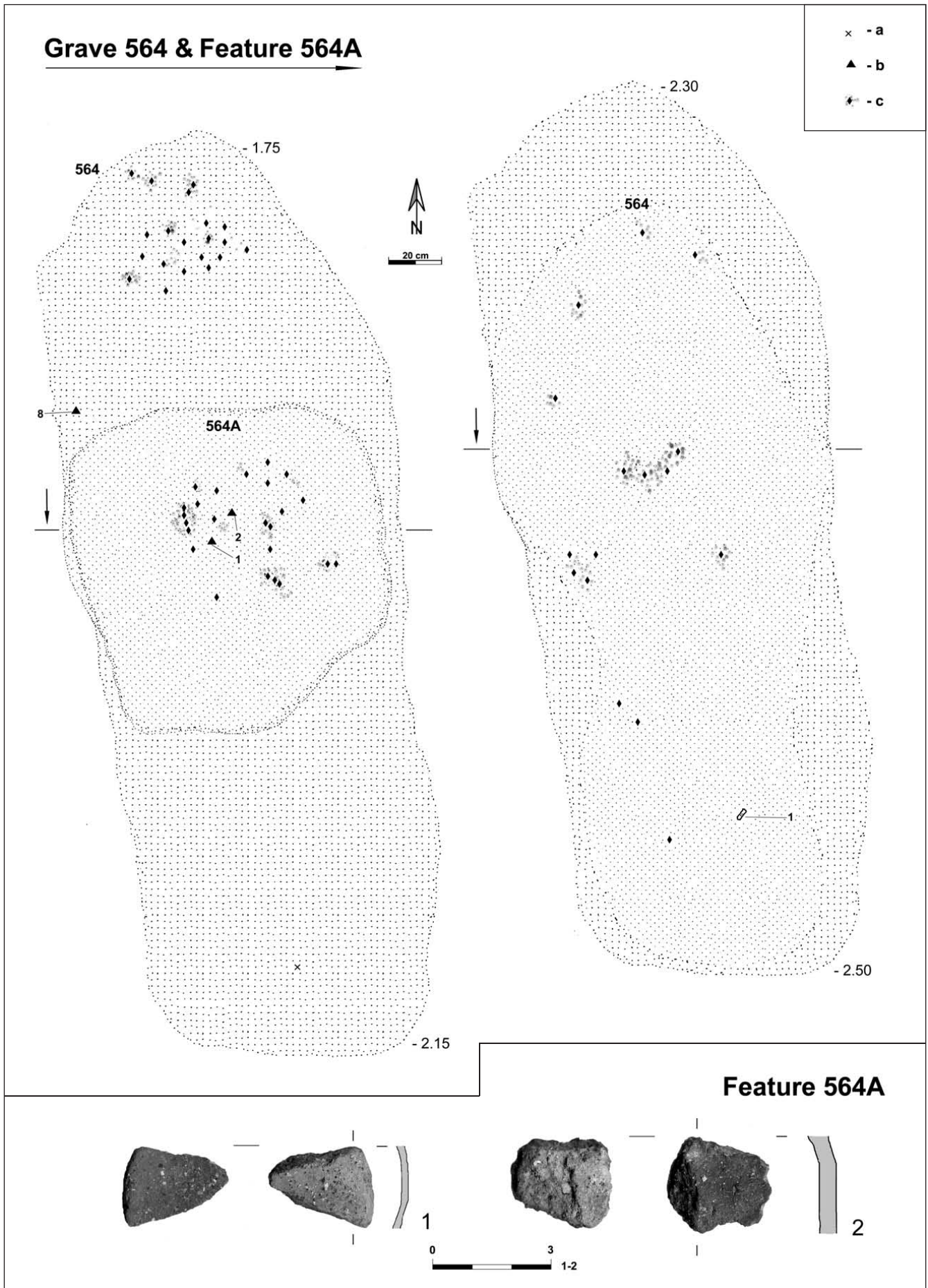


Plate I. Grave 564. Feature 564A: 1.2 – clay; a – burnt human bones; b – shards; c – charcoal.

Inventory (Plate IV):

1. Copper alloy heel band spur. Metal heel band with asymmetrically arranged arms which taper and end in hooked terminals with knobs. In the central part at the base of the spur prick, a trapezoid-shaped extension to one side the heel band; a hole in the wider section, probably for fastening. The spur prick, attached to the heel band by hammering, was strongly profiled at the bottom, conical in the upper part. Type close to Godłowski VIII; Ginalski G2; Kokowski Variant 2; Type Leuna. Maximum distance between the arms of the yoke: 8.1 cm, H. 4.4 cm, L. of spur prick: 1.8 cm.
2. Copper alloy heel-band spur. Metal heel band with asymmetrically arranged arms which taper and end in hooked terminals with knobs. The bow-shaped heel band is less conspicuously arched than Spur 1. In the central part at the base of the spur prick, a trapezoid-shaped extension to one side the heel band; a hole in the wider section, probably for fastening. The spur prick, attached to the heel band by hammering, was strongly profiled at the bottom, conical in the upper part. Type close to Godłowski VIII; Ginalski G2; Kokowski Variant 2; Type Leuna. Maximum distance between the arms: 9 cm, H. 4 cm, L. of spur prick: 1.4 cm.
3. Antler three layer comb with fragmentarily preserved copper alloy rivets. Side plates and teeth incomplete. On both plates a large motif of three concentric rings situated between horizontal lines. Type Thomas I, decorative motif B. Preserved L. 4.3 cm, preserved H 1.7 cm.
4. Copper alloy fragment of a needle or brooch pin. Preserved L. 1.2 cm.
5. The rim fragment of a clay vessel. Dark brown, both surfaces cursorily smoothed, with a small amount of medium-grained crushed stone. Type undetermined. Rdm. 10 cm.

Chronology: C₃ (stadium VI⁶ – internal chronology of the Weklice cemetery).

Both spurs from Grave 564 (Plate III:4-5) could be described as belonging to Subgroup E5 after J. Ginalski⁷, popular in the Przeworsk culture⁸ but also in the Wielbark culture⁹ and the West Balt circle¹⁰ not mentioning another areas to the south and west, where they appeared rarely¹¹.

⁶ M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn, *op. cit.*, p. 133.

⁷ J. Ginalski, *op. cit.*, pp. 53-84.

⁸ J. Ginalski, *op. cit.*, pp. 62-63.

⁹ B. Kontny, M. Natuniewicz-Sekuła, „Jeździec bez głowy”..., pp. 333-345.

¹⁰ W. Nowakowski, *Das Samland in der römischen Kaiserzeit und seine Verbindungen mit dem römischen Reich und der barbarischen Welt*, Marburg-Warszawa 1996, p. 57; M. Michelbertas, *Die Bronzesporen der römischen Kaiserzeit in Litauen*, [in:] *Superiores barbari. Księga ku czci Profesora Kazimierza Godłowskiego*, eds R. Madyda-Legutko, T. Bochnak, Kraków 2000, pp. 288-289.

¹¹ J. Tejral, *Die Sporen*, [in:] J. Peška, J. Tejral, *Das germanische Königsgrab von Mušov in Mähren*, Vol. 1, Mainz 2002, pp. 163-166, fig. 7.

Only small differences between the specimens can be traced (one is slightly bigger and more highly arched) but this is quite natural¹² and does not change the classification of the spurs. The cross-shaped ornament on the fastenings of both spurs has its parallels in the Wielbark culture spurs of Group Ginalski E, e.g., Kowalewko, Oborniki comm., Grave 358 – Subgroup E5a¹³, Gronowo, Ostrowice comm., Barrow 6 – Subgroup E5b¹⁴ and 19 – Subgroup E2¹⁵ but they have also been attested on other types of spurs, e.g., spur of Subgroup Ginalski F1b from Kowalewko, Grave 166¹⁶. As for chronology, Subgroup E5 is generally dated to Phases B₂/C₁–C_{1a}¹⁷ which does not contradict the strong chronological boundaries of the pair of spurs in Grave 564.

Attribution is more complicated in the case of the spurs from Grave 569 (Plate IV:1-2). Each originally contained a third fastening located at the base of the spur prick, most probably made of iron and therefore not preserved. Judging by Younger and Late Roman Period parallels¹⁸ these seem to have been hook-shaped. The way they were made (by affixing an extra hook, not an integral part of the spur base) is rather unusual. Nevertheless, it is less likely that we are dealing with holes for riveting the spur base to a shoe, as is the case of examples of the Leuna type¹⁹, where the rivets were located on the protruding arms, away from the spur pricks²⁰. Here, the pricks are profiled by horizontal

¹² See: Grave 521 – B. Kontny, M. Natuniewicz-Sekuła, „Jeździec bez głowy”..., pp. 341-342, fig. 1:521.1-2.

¹³ T. Skorupka, *Kowalewko 12. Cmentarzysko birytualne ludności kultury wielbarskiej (od połowy I w. n.e. do początku III w. n.e.)*, [in:] *Archeologiczne badania ratownicze wzdłuż trasy gazociągu tranzytowego*, Vol. II: *Wielkopolska*, Part 3, Poznań 2001, pp. 96, 161, pl. 111:9-10.

¹⁴ Plato, *Hügelgrab der römischen Zeit von Dranzig*, „Monatsblätter. Herausgegeben von der Gesellschaft für Pommersche Geschichte und Alterthumskunde“, Vol. 3, 1889, pp. 133-136; R. Wołągiewicz, *Gronowo 1973 – badania na cmentarzysku kurhanowym z okresu wpływów rzymskich*, „Materiały Zachodniopomorskie“, Vol. XIX, 1973, p. 134, fig. 5; R. Wołągiewicz, *Pole orne ludności kultury wielbarskiej z okresu wczesnorzymskiego w Gronowie na Pomorzu*, „Wiadomości Archeologiczne”, Vol. XLII, fasc. 2, 1977, pp. 238-239, Fig. 13.

¹⁵ R. Wołągiewicz, *Gronowo 1974 – badania na kurhanowym cmentarzysku kultury wielbarskiej*, „Materiały Zachodniopomorskie“, Vol. XX, 1974, p. 20, fig. 12.

¹⁶ T. Skorupka, *Kowalewko 12...*, p. 52, 161, pl. 50:5.

¹⁷ M. Sokołowski, *Znaleziska ostróg podgrupy E według J. Ginalskiego na terenie kultury wielbarskiej w świetle publikowanych materiałów*, unpublished B.A. thesis in the Institute of Archaeology, University of Warsaw, Warszawa 2004, p. 8-10; B. Kontny, M. Natuniewicz-Sekuła, „Jeździec bez głowy”..., p. 333.

¹⁸ See: U. Giesler, *op. cit.*, Fig. 2:D.1-4; J. Ginalski, *Ostrogi kabłąkowe...*, Fig. 15, 17.

¹⁹ U. Giesler, *op. cit.*, pp. 15-16, Fig. 2:C-D.

²⁰ We might mention a spur from Kar'erno, ray. Gvardeysk (former Imten, Kr. Wehlau), Grave A from the Dollkeim-Kovrovo culture, with a single rivet in a widening at the base of the prick (Jankuhn files – *archive of Herbert Jankuhn, kept in Archäologisches Landesmuseum Schloß Gottorf in Schleswig*) but this is

Grave 564

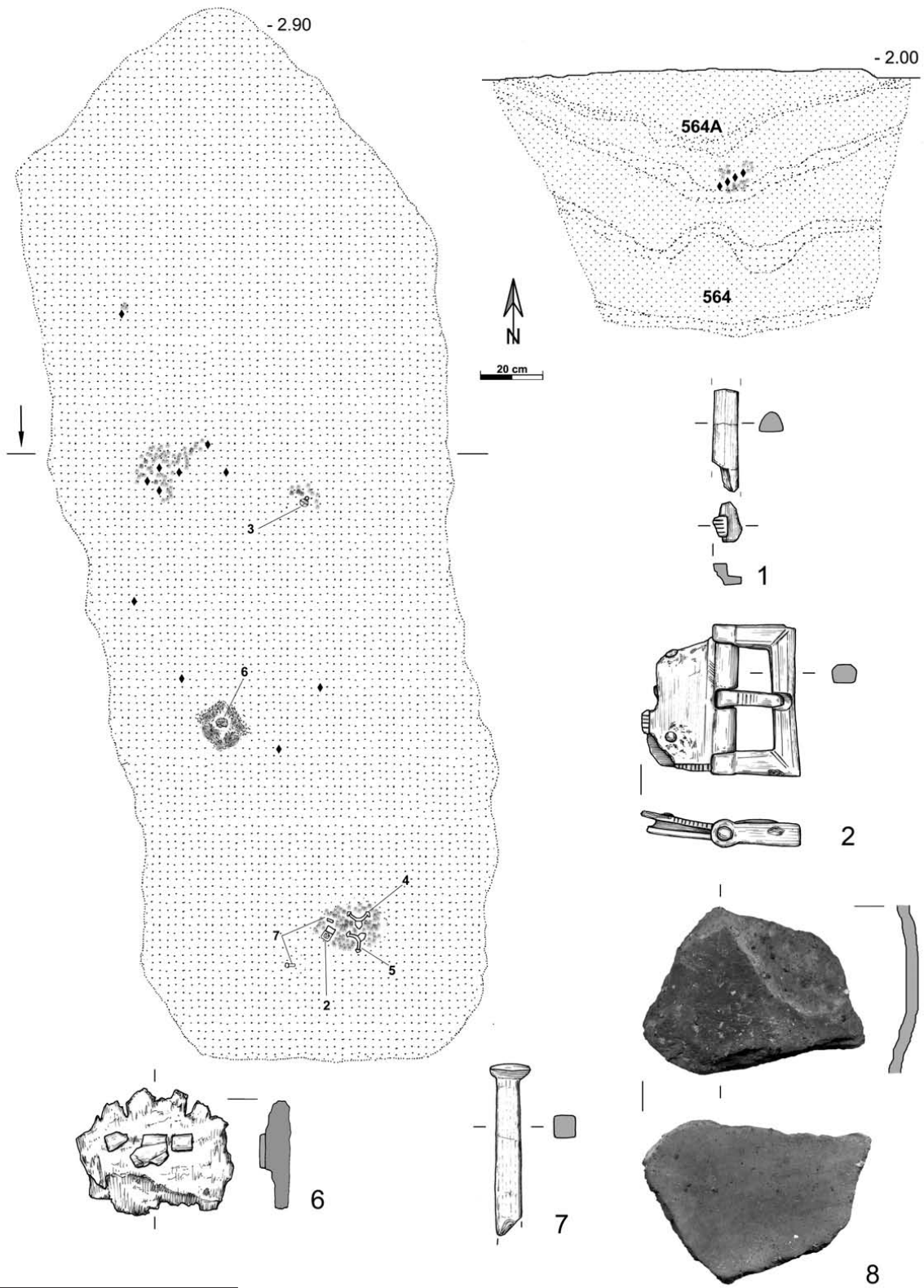


Plate II. Grave 564: 1.2 – copper alloy; 6 – copper alloy and wood; 7 – iron; 8 – clay; a – charcoal; b – decomposed wood and organic.

grooves forming tripartite elements. These were prepared separately and riveted to the heel bands. Similarly shaped spur pricks have been attested in Leuna type spurs of Variants B–F²¹. The morphology of the fastenings is not very typical, either. Distinguished by the tapering shape of the arm endings, they resemble both T-bar fastenings and knob-shaped ones²². The latter were the most popular, but T-bar fastenings, appearing on various forms of spurs, were also documented in the Roman Period²³. The spurs from

placed slightly to the side and not along the axis of the spur prick. Another example – with two rivets placed on the opposite sides of the prick, close to Subgroup F/G after J. Ginalski but with riveted terminals – is known from the Bogaczewo culture cemetery at Stręgiel Wielki II, Węgorzewo comm. (former Gross Strengeln, Kr. Angerburg), Grave 4 (O. Tischler, H. Kemke, *Ostpreussische Altertümer aus der Zeit der grossen Gräberfelder nach Christi Geburt*, Königsberg i. Pr. 1902, p. 37, pl. XVI:11; M. Jahn, *Der Reitersporn seine Entstehung und Früheste Entwicklung*, Mannus-Bibliothek, Vol. 21, Leipzig 1921, p. 120; W. Gaerte, *Urgeschichte Ostpreussens*, Königsberg i. Pr. 1929, fig. 199:c; Schmiedehelm files – archive of Marta Schmiedehelm, kept in Ajaloo Instituut in Tallin 7.13.12, 7.13e.104, 7.25.8.14, 7.25.8.39; *Prussia-Sammlung*, inv. no PM 13685 – part of survived collection of Prussia-Museum, kept in Museum für Vor- und Frühgeschichte in Berlin). Probably both spurs mentioned above were inspired by forms typical of Sambian-Natangian area in the Younger and Late Roman Period, i.e., equipped with multiple small rivets on both edges of the heel band, see, e.g.: Bolshoe Isakovo, ray. Gur'yevsk, Grave 65 (as pointed out by Konstantin Skvortzov), Kovrovo, ray. Zelenogradsk (former Dollkeim, Kr. Fischhausen), Grave 46a (O. Tischler, H. Kemke, *Ostpreussische Altertümer...*, pl. XVI:12) and Grave 306 (V. Kulakov, *Dollkeim-Kovrovo, Kaliningrad Region, Russia. Research on the cemetery conducted in 1879 and 1992-2002*, BAR International Series 1950, Oxford 2009, Fig. 138:9).

²¹ See: U. Giesler, *op. cit.*, Fig. 1:B-D, pl. 5:127-128.

²² Such designs seem to be extremely rare; we are only able to mention the Elbian circle find from a grave at Grossengottern, Unstrut-Heinich-Kreis (Plate V:4) (J. Bemann, *Romanisierte Barbaren oder erfolgreiche Plünderer? Anmerkungen zur Intensität, Form und Dauer der provinzialrömischen Einflusses auf Mitteldeutschland während jüngerer römischer Kaiserzeit und der Völkerwanderungszeit*, [in:] *Antyk i barbarzyńcy. Księga dedykowana Profesorowi Jerzemu Kolendo w siedemdziesiąt rocznicę urodzin*, eds. A. Bursche, R. Chowaniec, Warszawa 2003, fig. 4:7). Found i.a. with a Roman axe, this was attributed to Subgroup F1 after Ginalski and thus dated to Phase C₁ (J. Bemann, *Romanisierte Barbaren...*, p. 57) but such an identification is not convincing since the arms of the spur are equally wide along its whole length which is untypical for this Subgroup (see: J. Ginalski, *Ostrogi kabłkowe...*, p. 64). Rather, we seem to be dealing with a mere inspiration and not an exact representative of the type.

²³ In the Przeworsk culture these appear as early as Phase B_{2a}: see the spurs Ginalski C1/D from Kolonia Rychłocice, Konopnica comm., Grave 6 (M. Jażdżewska, *Cmentarzysko kultury przeworskiej w Kolonii Rychłocice na stanowisku I, gm. Konopnica, woj. łódzkie*, „Prace i Materiały Muzeum Archeologicznego i Etnograficznego w Łodzi, seria archeologiczna”, Vol. 42, 2002-2003 (2003), pp. 293, 295, pl. IV:5) – dated i.a. by a shield boss Type Jahn 7b (see: K. Godłowski, *Die Chronologie der germanischen Waffengräber in der jüngeren und späten Kaiserzeit*, [in:] *Beiträge zu römischer und barbarischer Bewaffnung in den ersten vier nachchristlichen Jahrhunderten. Marburger Kolloquium 1994*, ed. C. von Carnap-Bornheim, Marburg/Lublin

Grave 569 from Weklice could be attributed to Variant 2 after A. Kokowski²⁴ or Group VIII after K. Godłowski²⁵, which are dated to the Late Roman Period and the beginning of the Migration Period²⁶. However, these classifications are not apt enough to deal with the material in question. Potentially a more adequate classification would be the typology of the Tschernyakhov culture spurs, where our spurs would belong to type 3 after B. V. Magomedov and M. E. Levada, parallel to type Leuna F²⁷. Spurs from Grave 569 meet also the criteria to be classified as Przeworsk culture spurs as proposed by J. Ginalski, being close to Subgroup G2²⁸. Nevertheless, the analogies with the Przeworsk culture

1994, fig. 1). Nevertheless the earliest find of the *Knebelsporn* we know originates from Łabapa, Węgorzewo comm. (former Labap, Kr. Angerburg) in the Bogaczewo culture, Grave 67 (W. La Baume, *Vorgeschichtliche Forschung und Denkmalpflege in Ostpreußen (1939 und 1940)*, „Nachrichtenblatt für Deutsche Vorzeit“, Vol. 17/3-4, 1941, p. 87, pl. 30:left; J. Okulicz, *Pradzieje ziem pruskich od późnego paleolitu do VII w. n. e.*, Wrocław-Warszawa-Kraków-Gdańsk 1973, p. 355, Fig. 160:e; J. Jaskanis, J. Okulicz, *Kultura zachodniobałtyjska*, [in:] *Prahistoria ziem polskich V: Późny okres lateński i okres rzymski*, ed. J. Wielowiejski, Wrocław-Warszawa-Kraków-Gdańsk 1981, p. 222, pl. XXXII:12; W. Nowakowski, *Vorrömische Militaria der Przeworsk-Kultur im westbaltischen Gebiet*, [in:] *Bewaffnung der Germanen und ihrer Nachbarn in den letzten Jahrhunderten vor Christi Geburt, Internationale Tagung 23.-25.09.1999 in Nałęczów*, eds. C. von Carnap-Bornheim J. Ilkjær, A. Kokowski, P. Łuczkiwicz, Lublin 2002, p. 139, Fig. 3:1; P. Łuczkiwicz, *Uzbrojenie ludności ziem Polski w młodszym okresie przedrzymskim*, *Archaeologia Militaria*, Vol. II, Lublin 2006, p. 356; B. Kontny, *Najwcześniejsze elementy uzbrojenia w kulturze bogaczewskiej w świetle zewnętrznych wpływów kulturowych*, [in:] *Kultura bogaczewska w 20 lat później. Materiały z konferencji, Warszawa, 26-27 marca 2003*, ed. A. Bitner-Wróblewska, Seminarium bałtyjskie I, Warszawa 2007a, pp. 81-82, fig. 4:a, table 1; B. Kontny, *Foreign influences on the weaponry of Bogaczewo and Sudovian cultures. The case of the shafted weapon*, [in:] *Weapons, Weaponry and Man. In memoriam Vytautas Kazakevičius*, ed. A. Bliujienė, „Archaeologia Baltica”, Vol. 8, Klaipėda 2007b, p. 120, 129, fig. 3:d; Prussia-Archiv PM-IXd1.1950/2, 1-9; inv. no PM 1940.404-410 – archive of Prussia-Museum, kept in Museum für Vor- und Frühgeschichte in Berlin; Prussia-Sammlung – part of survived collection of Prussia-Museum, kept in Museum für Vor- und Frühgeschichte in Berlin, 1940:406-407; Grenz files – archive of Rudolf Grenz, kept in Archäologisches Landesmuseum Schloß Gottorf in Schleswig); previously it was not known that the spur was part of grave content (it was discovered by Bartosz Kontny during research in the Museum für Vor- und Frühgeschichte in Berlin incorporating the Prussia-Sammlung). This belongs to Subgroup Ginalski C1a what – together with the accompanying head of the shafted weapon Type Łuczkiwicz S/1 (P. Łuczkiwicz, *Uzbrojenie ludności ziem Polski...*) or Bochnak 7c (T. Bochnak, *Uzbrojenie ludności kultury przeworskiej w młodszym okresie przedrzymskim*, Rzeszów 2005), which makes it possible to date it to Stage A₃/B₁.

²⁴ A. Kokowski, *L'art militaire des Goths...*, pp. 373-374.

²⁵ K. Godłowski, *The Chronology...*, pp. 8-9.

²⁶ A. Kokowski, *L'art militaire des Goths...*, p. 374.

²⁷ B. V. Magomedov, M. Levada, *Oruzhiye tschernyakhovskoy kul'tury*, „Materialy po Archeologii, Istorii i Etnografii Tavrii”, Vol. V, 1996, p. 310.

²⁸ J. Ginalski, *Ostrogi kabłkowe...*, p. 70, fig. 15:8.

Grave 564

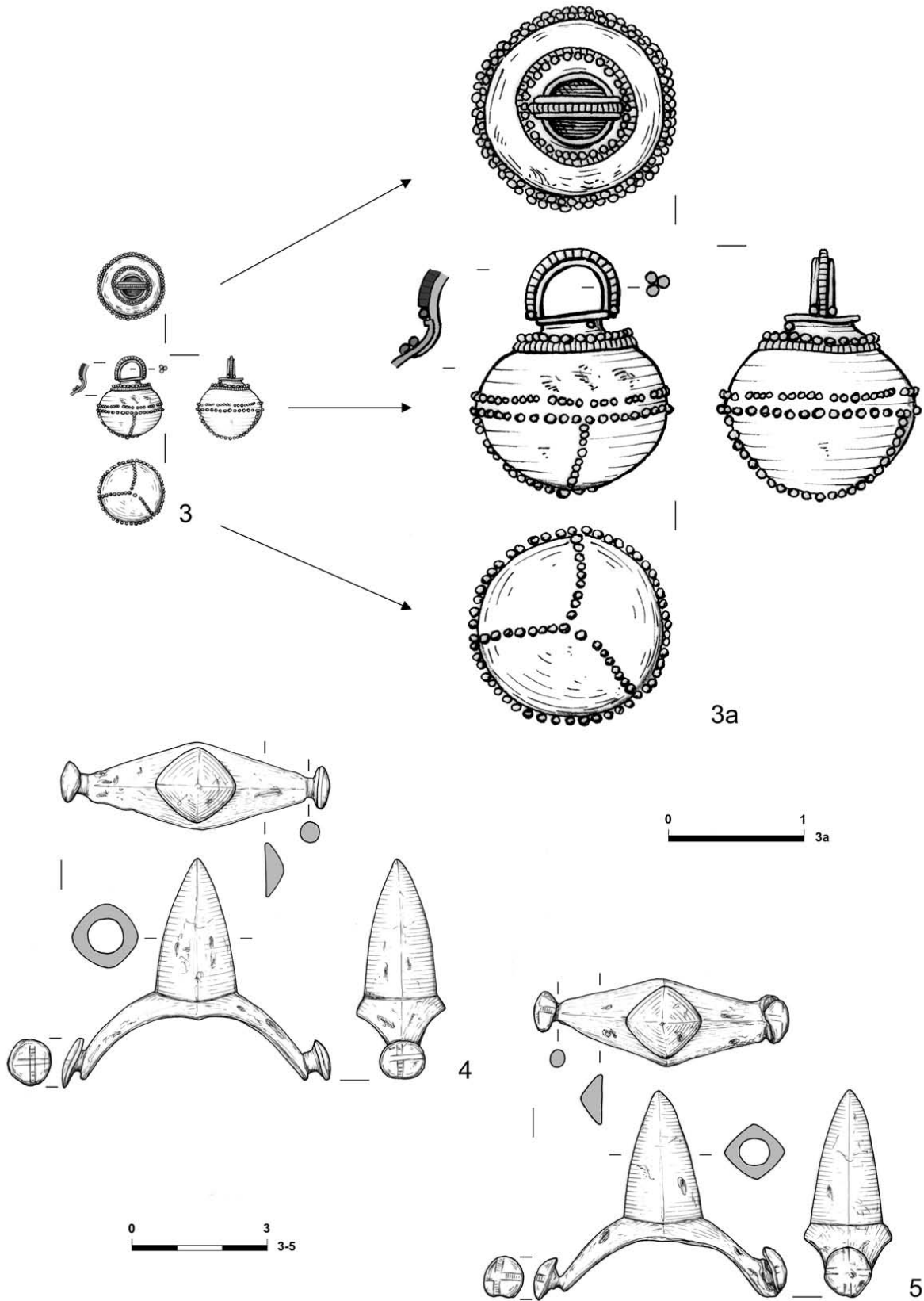


Plate III. Grave 564: 3.3a – gold; 4.5 – copper alloy.

(Subgroup G2 after J. Ginalski) are generally weak²⁹. Only the bronze find (Plate V:1) from the settlement at Złota, Samborzec comm., Pit 590³⁰ offers a good analogy in terms of the slender heel band with an extra central hook fastening, except the third fastening in the Złota specimen was an integral part of the heel band (the spur prick did not survive, probably having been made of iron)³¹.

We do not know spurs of exactly the same form, but we may point out some close analogies such as the loose find (Plate V:2) from Spiczyn, Spiczyn comm., Site 53, fragmentarily preserved, with a similarly shaped spur prick and a hook fastening on quite a long protrusion at the base of the prick; the arms of the heel band are broken off³². An almost identical spur prick is present in the spur from Opatów, Opatów comm., Object 322, dated to Phase D³³; the item is attributed to Subgroup H after J. Ginalski³⁴ or Leuna Variant D³⁵. It contains a central hook fastening

²⁹ We have discussed the Wielbark culture finds of spurs Type Ginalski G1 in a different publication (B. Kontny, M. Natuniewicz-Sekuła, „*Jeździec bez głowy*”..., p. 336) but they are not precise analogies of the items from Grave 569.

³⁰ J. Marciniak, *Przyczynki do zagadnienia ciągłości osadnictwa na ziemiach polskich w świetle badań wykopaliskowych w Złotej w pow. sandomierskim*, „Wiadomości Archeologiczne”, Vol. XVI, 1939 (1948), pl. 37:19; A. Urbaniak, *Die angebliche Siedlungskontinuität von der Spät Kaiserzeit zur frühen Slawenzeit am Beispiel ausgewählter Siedlungen*, [in:] *Barbaricum*, Vol. 8, eds B. Kontny, A. Szela, J. Kleemann, Warszawa 2009, p. 241, fig. 1:2.

³¹ Other finds attributed to Subgroup Ginalski G2 have a much wider heel band and a less ornamental spur prick, cf. for instance the spurs from the settlement at Maćkówka, Zarzecze comm., Pit 53 (Z. Kapera, *Wyniki badań osady z okresu rzymskiego w Maćkowie pow. Przeworsk*, „Sprawozdania Rzeszowskiego Ośrodka Archeologicznego”, 1964, p. 31, Fig. 1:d), grave from Ivane-Zolote, ray. Zalishchyts'kyi (M. Śmiszko, *Kultury wczesnego okresu epoki cesarstwa rzymskiego w Małopolsce Wschodniej*, Lwów 1932, p. 14, pl. IV:22-23, V:8-9; D. N. Kozak, *Pshevorska kul'tura u verchnomu Podnistrov'i i zachidnomu Pobuzh'i*, Kiiw 1984, p. 91, Fig. 17:17) or Chmielów Piaskowy, Bodzechów comm., Grave 7 (K. Godłowski, T. Wichman, *Chmielów Piaskowy. Ein Gräberfeld der Przeworsk-Kultur im Świętokrzyskie-Gebirge*, Monumenta Archaeologica Barbarica, Vol. 6, Kraków 1998, p. 18, pl. IX:5). Only the find from Raków, Częstochowa comm., possesses a horizontally profiled prick, however it is far from the ones from Grave 569, having its middle part accentuated; also, the heel band is too wide to be treated as a parallel to the spurs under discussion here (see: M. Jahn, *Die oberschlesischen Funde aus der römischen Kaiserzeit*, „Prähistorische Zeitschrift”, Vol. XIII-XIV, 1921-1922, 132, Fig. 6).

³² P. Łuczkiwicz, *Neues zur ausgehenden Kaiserzeit und der Völkerwanderungszeit im mittleren Ostpolen: Spiczyn, Fdst. 53*, [in:] *Barbaricum*, Vol. 8, eds B. Kontny, A. Szela, J. Kleemann, Warszawa 2009, p. 173, fig. 2:5.

³³ R. Madyda-Legutko, J. Rodzińska-Nowak, J. Zagórska-Telega, *Opatów Fpl. 1. Ein Gräberfeld der Przeworsk-Kultur im nordwestlichen Kleinpolen. Tafeln*, Monumenta Archaeologica Barbarica, Vol. XV/2, Warszawa-Kraków 2011, p. 88, pl. CXIII:322.2.

³⁴ J. Ginalski, *op. cit.*, p. 70, 78, fig. 17:1.

³⁵ U. Giesler, *op. cit.*, p. 52.

but the arms were affixed differently using rivets, and the heel band (yoke) was flat (clearly band-shaped). We should also mention the find of Variant F (Plate V:5, 8) from Isny, Ldkr. Isny in Baden-Württemberg, made of iron but with an almost identical general design and spur prick shape: the only differences being the appearance of the endings of the hook-shaped arms and the integrated design of the central hook³⁶. The above find, coming from the Roman castellum of *Vamania*, is dated imprecisely: it could be dated to the 3rd century (before AD 283) or some later stage of inhabitation, i.e., the 4th c.³⁷. Another parallel (Plate V:3) comes from the opulent Grave 2 found at Beroun-Závodi, okr. Beroun³⁸, dated to Phases C₃-D₁³⁹ or D₁⁴⁰ based on a *Bügelknopffibel* brooch. This is fitted with a hook fastening, and the spur prick is profiled in the same way as the item from Wekllice, and even the arm terminals are tapered, which makes the item the most similar to the finds from Grave 569. Quite similar is also a pair (Plate V:9) of Variant F of type Leuna spurs from Dunaújváros, Kom. Fejér (*Intercisa*), found in a chamber grave in a Roman necropolis; made of silver, they had similar tapered terminals as in case of the Wekllice items; also their iron spur pricks were similarly profiled; however there are differences, too: the band-shaped heel bands did not taper, and all three fastenings had terminals in shape of a horse's head. The spurs are dated, based on numismatic data, to the late 4th c.⁴¹ Although undoubtedly Roman, they do not prove that the items from Wekllice were also of Roman origin⁴². The latter

³⁶ J. Garbsch, *Der spätrömische Donau-Iller-Rhein-Limes*, Stuttgart 1970, Fig. 30, uppermost; U. Giesler, *op. cit.*, p. 54, pl. 5:128.

³⁷ U. Giesler, *op. cit.*, p. 50.

³⁸ J. Hrala, *Beroun-Závodi*, [in:] *Enzyklopädisches Handbuch zur Ur- und Frühgeschichte Europas*, Vol. III, ed. J. Filip, Praha 1998, p. 35; J. Tejral, *Die spätantiken militärischen Eliten beiderseits der norisch-pannonischen Grenze aus der Sicht der Grabfunde*, [in:] *Germanen beiderseits des spätantiken Limes*, eds T. Fischer, G. Precht, J. Tejral, Brno 1999, Fig. 14:12; E. Drobner, *Encyklopedie římské a germánské archeologie v Čechách a na Moravě*, Praha 2002, pp. 14-15.

³⁹ J. Tejral, *op. cit.*, p. 239.

⁴⁰ J. Bemmman, *Anmerkungen zu einigen Kleinfunden der jüngeren römischen Kaiserzeit und Völkerwanderungszeit aus Mitteldeutschland*, [in:] *The Turbulent Epoch. New materials from the Late Roman Period and the Migration Period*, Vol. II, eds B. Niezabitowska-Wiśniewska, M. Juściński, P. Łuczkiwicz, S. Sadowski, Lublin 2008, p. 28.

⁴¹ U. Giesler, *op. cit.*, p. 54, fig. 21, pl. 5:127a-b; E. B. Vágó, *Ausgrabungen in Intercisa*, „Alba Regia”, Vol. XI, 1971, p. 116, pl. XLVIII:2.

⁴² For a discussion of similar problems see: B. Kontny, M. Rudnicki, *Zagadka rzymskiej ostrogi nitowanej z Pelczysk, pow. pińczowski*, [in:] *Nowe znaleziska importów rzymskich z ziem Polski III, Corpus der römischen Funde im europäischen Barbaricum – Polen, Supplement III*, eds A. Bursche, R. Ciołek, R. Chowaniec, Warszawa 2006, pp. 63-78; B. Kontny, M. Natuniewicz-Sekuła *A spur from Myślęcín (?) as an odd piece in a puzzle*, [in:] *Barbaricum*, Vol. 8, eds B. Kontny, A. Szela, J. Kleemann, Warszawa 2009, pp. 153-160.

Grave 569

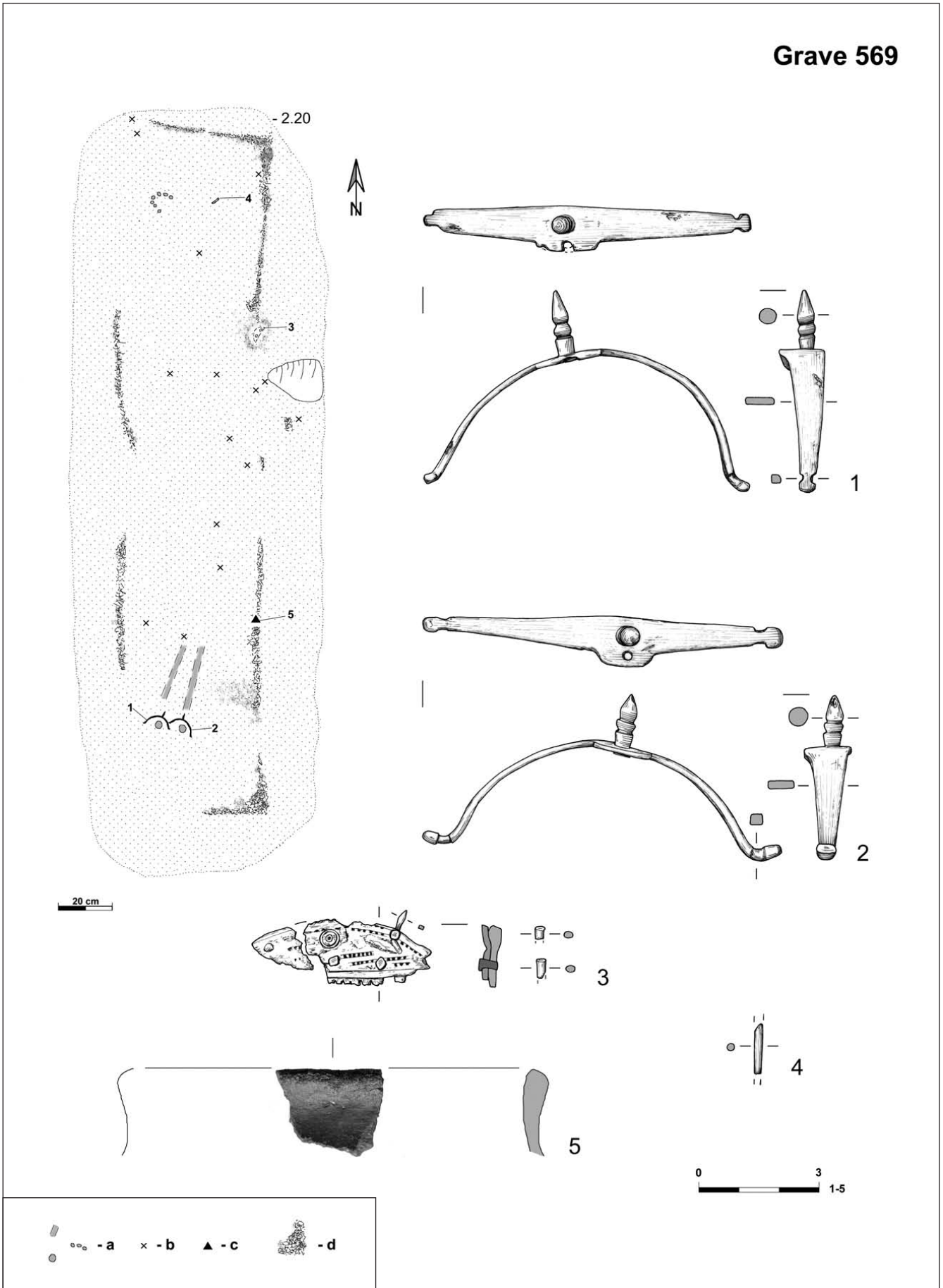


Plate IV. Grave 569: 1.2.4 – copper alloy; 3 – bone and copper alloy; 5 – clay; a – human bones; b – burnt human bones; c – shards; d – decomposed wood.

were simpler and less ornamental. Rather, we seem to be dealing with a local expression of external influence.

The spurs from Grave 569 belong to late forms in the Wielbark culture, like the ones (Plate V:6-7) from Dmochy-Rodzonki, Czyżew-Osada comm., loose find⁴³ and Bornice, Susz comm., Grave 6⁴⁴. However they differ in general form. On the one hand, the spur from Bornice, attributed to Variant F of Type Leuna⁴⁵, had a thick heel band, not a band-shaped one, with three hook-shaped fastenings and a widening on both sides at the base of the spur prick. On the other hand, the state of preservation of the find from Dmochy-Rodzonki makes precise classification impossible (the arms are lacking, which prompted U. Giesler to classify it as an uncertain variant close to Type Leuna⁴⁶), and additionally it cannot be treated as a strict parallel to the spurs from Weklice because its spur prick is thicker and more bulbous in shape, and the base of the prick widens on both sides of the heel band. Both of the late Wielbark culture spurs are dated to its final stage: Phase D₁ – Dmochy-Rodzonki⁴⁷ or C₃-D – Bornice⁴⁸. Together with the chronology of the parallel finds from other cultural areas, this suggests a slightly later dating of the spurs from Grave 569, i.e. to Phase C₃⁴⁹, than the horizontal stratigraphy of the Weklice necropolis to date would suggest, corresponding to Stadium VI in the internal chronology of Weklice cemetery⁵⁰.

As was shown by the analysis of the chemical composition⁵¹ (Plate VI) spurs from the Grave 564 were made

⁴³ J. Jaskanis, *Badania kurhanów z okresu rzymskiego Dmochach-Rodzonkach, pow. Wysokie Mazowieckie*, „Sprawozdania Archeologiczne”, Vol. XXVII, 1975, fig.6:e; J. Jaskanis, *Wodzowskie kurhany kultury wielbarskiej na Podlasiu*, Białystok 2012, p. 239, fig. 33.

⁴⁴ A. Cieśliński, *Veränderungen und Besiedlungsabläufe in Gebiet der Wielbark-Kultur an Lyna, Pasłęka und oberen Drwęca*, Berliner Beiträge zur Vor- und Frühgeschichte. Neue Folge, Vol. 17, Berlin 2010, p. 229, pl. 57:8 – with further literature.

⁴⁵ U. Giesler, *op. cit.*, p. 54, pl. 5:125.

⁴⁶ U. Giesler, *op. cit.*, p. 55, pl. 5:136.

⁴⁷ J. Jaskanis, *Wodzowskie kurhany...*, p. 239. The proposed dating does not seem conclusive since it is only based on the spur's morphology.

⁴⁸ A. Cieśliński, *op. cit.*, p. 133. Here the chronology is established quite convincingly; the spur was accompanied by, i.a., a brooch with a closed catchplate and a semicircular plate on the head, and a belt buckle Type H13 after Madyda-Legutko (R. Madyda-Legutko, *op.cit.*).

⁴⁹ See later finds from the site: B. Kontny, M. Natuniewicz-Sekuła, *The late grave from the Wielbark culture cemetery at Weklice, Elbląg com., site 7*, [in:] *The Turbulent Epoch. New materials from the Roman Period and the Migration Period*, eds B. Niezabitowska-Wiśniewska, M. Juściński, P. Łuczkiwicz, S. Sadowski, Lublin 2008, pp. 105-111.

⁵⁰ M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn, *op. cit.*, pp. 123-133.

⁵¹ Spurs were analyzed by Elżbieta Pawlicka from Bio – and Archeometry Laboratory of the Institute of Archaeology and Ethnology, Polish Academy of Sciences in Warsaw. Finds have been

of tin-lead bronze. Such bronzes, often attributed to tin bronzes, are copper alloys embracing tin content similar to tin bronzes (from 10 to 13%) or even higher ($\geq 13\%$). Furthermore their main component is zinc (in various proportions from 2 to 9%) and lead (in proportions 2–8%)⁵². These bronzes are usually coppery-light silver colored and are little cold ductile (often considered to be harder than iron), but can also be hot forged (in the temperature up to 600° C). They possess very good casting properties and are ideal for machining, as resistant to abrasion and corrosion. In case of mentioned spurs their chemical composition is as follows: Cu 78–80%, Sn 9–15%, Pb 3–9%, with minimal content of Zn (Plate VI). The composition indicates the manufacturing technique of these finds. They had been cast in lost wax method, in the form with a core, what is indicated by the hollow pricks, and after casting they were finished by polishing.

The spurs from Grave 569 are characterized by different chemical compositions. The interpretation of the appended analyzes (Plate VI) indicates that they were made of tin bronze in the following ratio of alloying components: Cu 94–97%, Sn 1–3%, Pb 1–2%.

In the Antiquity the most popular were tin bronzes, also known as ‘classical’, i.e., the ones containing 90% of copper and 10% of tin. In fact, the tin bronze contains from 1% to 10% of tin with the prevailing percentage of copper and other metal elements (usually lead) present in small traces. These bronzes are usually characterized by coppery-gold color. Also they exhibit the best mechanical qualities and are easily machinable by casting and forging.

The tin bronzes, so-called high-alloyed (containing approximately 10% tin and 90% copper – the equivalent of archaeological term ‘classical bronze’) may be also hardened. These bronzes have good anti-abrasion properties and are resistant to high temperature and corrosion. In case of the above spurs, the very high percentage of the copper in the alloy is noteworthy. This may result from the method of chemical analysis (taking into account the enormous heterogeneity in copper alloys) and the fact that the samples were taken only from the heel band (yoke). On the other hand, the chemical composition corresponds to the technology of the heel bands. They were cold forged from sheet of metal, probably on the anvils. Only the copper alloys with a high content of this element were excellently cold ductile. It is difficult to comment on the execution technique of pricks of these spurs (the analysis of chemical

subjected to non-destructive X-ray fluorescence analysis method, using X-ray spectrometer of Prince Gamma Tech and scanning electron microscopy of TESCAN Vega.

⁵² Mentioned proportions are based on contemporary Polish standards for tin bronzes (see: L. Dobrzański, *Metaloznawstwo i obróbka cieplna stopów metali*, Gliwice 1993). As shown by the attached analysis (Plate VI) ratios are more diverse, as a result of the method used.

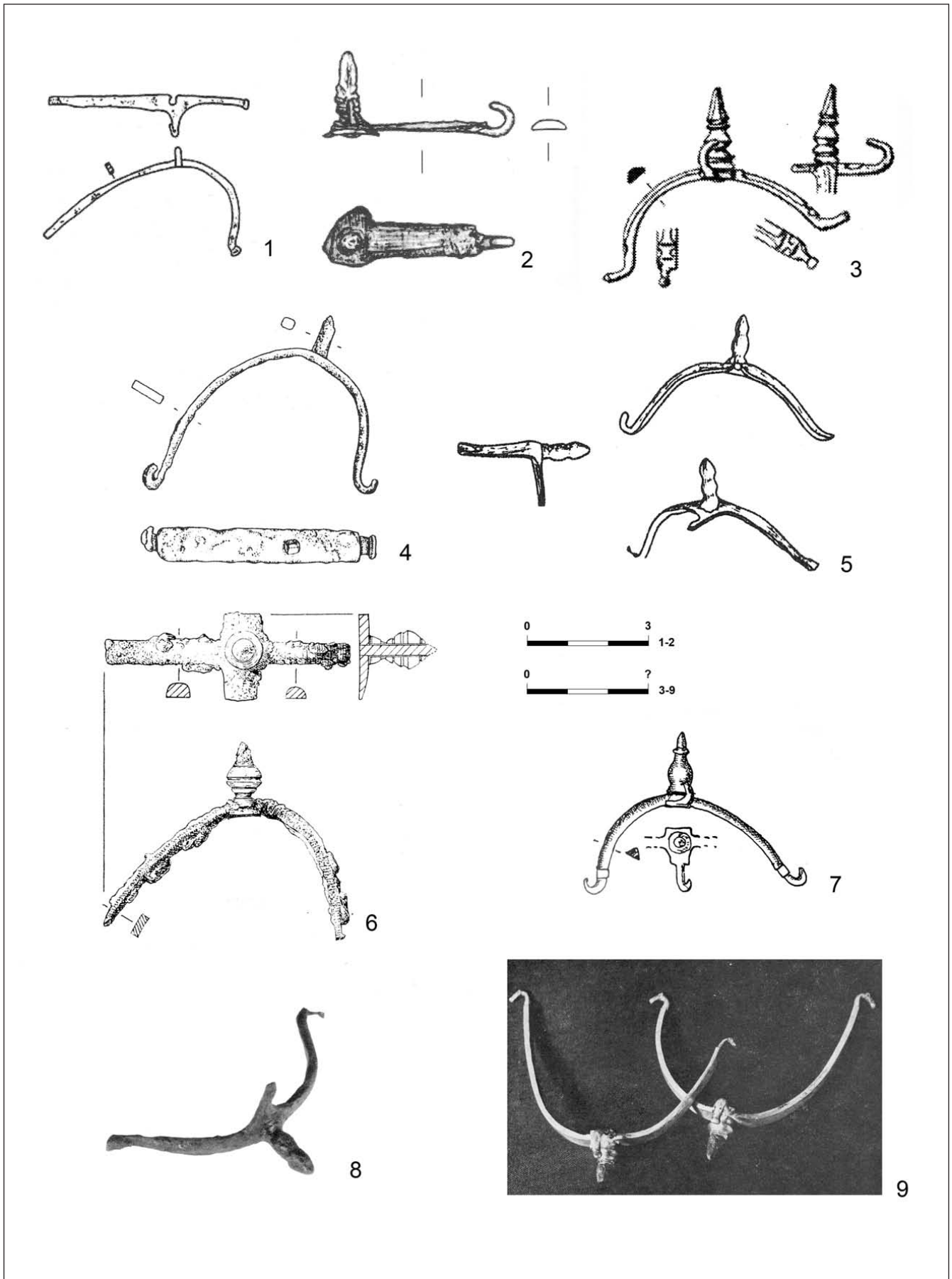


Plate V. Different variants of spurs Leuna type: 1 – Złota, Samborzec comm.; 2 – Spiczyn, Spiczyn comm.; 3 – Beroun-Závodi, okr. Beroun; 4 – Grossengottern, Unstrut-Heinich-Kreis; 5, 8 – Isny, Ldkr. Isny; 6 – Dmochy-Rodzonki, Czyżew-Osada comm.; 7 – Bornice, Susz comm.; 9 – Dunaújváros, Kom. Fejér (*Intercisa*).

No. of sample CL PAN	Grave	Cu	Al	Si	Ti	Cr	Mn	Fe	Ni	Zn	As	Ag	Sn	Sb	Pb	Au	S	Place of sampling
18248	564 Plate III:4	78.63	0	0.18	0.08	0.11	0.1	0.98	0.1	0.02	0	0.04	15.08	0.61	3.64	0.09	0.34	from the heel band
18249	564 Plate III:5	79.78	0.03	0.03	0.04	0.1	0	0.54	0.12	0.05	0	0.37	9.14	0.13	9.39	0.09	0.17	from the heel band
18250	569 Plate IV:1	94.49	0	0.05	0.1	0.19	0	0.56	0.02	0	0	0	2.81	0	1.78	0	0	from the heel band
18251	569 Plate IV:2	96.68	0.08	0	0	0.01	0.01	0.21	0.05	0	0.03	0	1.53	0.14	1.27	0	0	from the heel band

Plate VI. Chemical composition of the spurs from Graves 564 and 569.

composition hasn't been done); it could be both molded and shaped using file, or forged on the anvil with the appropriate profile engraved.

However it should be noted, that these pairs of spurs differ significantly in chemical composition from other finds (like costume elements and ornaments but also other spurs) discovered at Wekllice. The majority of spurs from the necropolis were made of brass. In case of chemically analyzed spurs (e.g., from Graves 15, 82 and 521), the content of zinc, which is the second to copper component of the alloy, was 6–10%. The percentages of other elements present in the alloy (aluminium, silicon, titanium, chromium, manganese, iron, nickel, arsenic, silver, tin, antimony, lead, phosphorus, sulphur, gold) do not exceed 2% whether intentional or natural (ore content)⁵³. The widespread use of brass for making jewelry and dress accessories indicates the local nature of the production. However, tin and tin-lead bronze are characteristic for Roman imports found at Wekllice (e.g., vessels, fibulae and ornaments) but also dress accessories typical of European Barbaricum.

Finds made of the discussed alloys differ also from items made of brass by craftsmanship and style; their secondary characteristics differ from the ones from the Wekllice cemetery that were locally made⁵⁴. This seems to indicate that the discussed pair of spurs was imported from neighboring areas.

These observations suggest that further research into the spurs of the Wielbark culture is required. One notable problem in particular which arises from these finds is that we must make a distinction between Roman spurs from the late Antiquity and their barbarian imitations or inspirations. Given the complex cultural situation in the Late Roman and Early Migration Periods, which were characterized by Roman-Barbarian interactions, this is likely to be a difficult task.

*Translated by the authors.
Proofreading: Piotr Szymczak*

Streszczenie

Zaskakujące znaleziska na dobrze znanym stanowisku. Nowe odkrycia ostróg z Weklic, gm. Elbląg (kultura wielbarska)

Artykuł prezentuje ostrogi z grobów niedawno odkrytych na cmentarzysku kultury wielbarskiej w Weklicach. W grobie 564 (Tablice II–III), datowanym na fazę B_{2c}, odkryto 2 ostrogi podgrupy E5 (wg Ginalskiego). Jest to odmiana popularna w kulturze przeworskiej, wielbarskiej i kręgu zachodniobałtyjskim. Ciekawym detalem jest zdobienie zaczepów ostróg z grobu 564 motywem krzyżowym, spotykanym niekiedy na egzemplarzach wielbarskich. (np. Kowalewko, grób 358 – E5a, Gronowo, kurhan 6 – E5b i 19 – E2, Kowalewko, grób 166 – F1b). Z kolei w obiekcie 569 (Tablica IV) natrafiono na parę ostróg, których atrybucja jest bardziej problematyczna. Asymetryczne, o taśmowatym zaczepie, z profilowanymi bodźcami, pierwotnie zaopatrzone były w haczykowane, trzecie zaczepy, mocowane u nasady bodźca (nie zachowały się one, zapewne z powodu zastosowania żelaza do ich wykonania). Zakończenia ramion mają formę pośrednią między poprzeczką a guzikowatym zaczepem. Niezbyt dokładne analogie dla tych ostróg (Tablica V) znaleźć można wśród egzemplarzy, zaliczonych do podgrupy G2 (wg Ginalskiego) w kulturze przeworskiej (Złota, jama 590), ale zbliżone cechy morfologiczne wskazać można na zwłaszcza egzemplarzach

datowanych na schyłek okresu rzymskiego lub początku okresu wędrówek ludów: Spiczyn, znalezisko luźne (haczykowany zaczep), Opatów, obiekt 322 (forma bodźca). Bliskie egzemplarzom z obiektu 569 są ostrogi typu Leuna, wariantu F z Isny w Badenii-Wirtembergii, Dunajváros na Węgrzech czy egzemplarze z grobu 2 w Beroun-Závodí na terenie Czech. Znacznie mniej precyzyjne paralele wskazać można w kulturze wielbarskiej: Dmochy-Rodzonki, znalezisko luźne i Bornice, grób 6. Choć niezbyt bliskie pod względem morfologicznym, są one wyrazem oddziaływań prowincjonalnorzymskich. Na podstawie analogii, ostrogi z Weklic przypisane zostały do najpóźniejszego stadium funkcjonowania nekropoli (faza C₃).

Jak wykazały analizy składu chemicznego ostrogi z grobu 564 wykonane zostały z brązu cynowo-ołowio-wego. Tego rodzaju brązy są mało kowalne na zimno, ale mogą być kute na gorąco (do 600°C). Posiadają najlepsze właściwości odlewnicze i doskonale nadają się do obróbki skrawaniem. W przypadku omawianych ostróg stosunek miedzi do cyny, cynku i ołowiu przedstawia się granicach: Cu 78-80%; Sn 9-15%; Pb 3-9%; Zn śladowo (Tablica VI).

⁵³ M. Natuniewicz-Sekuła, *Złotnictwo społeczności kultury wielbarskiej Wysoczyzny Elbląskiej ze szczególnym uwzględnieniem wybranych zabytków z cmentarzyska w Weklicach*, unpublished Ph.D thesis in the archive of the Institute of Archaeology and Ethnology, Polish Academy of Sciences, Warszawa 2013.

⁵⁴ M. Natuniewicz-Sekuła, *Złotnictwo społeczności...; M. Natuniewicz-Sekuła, Unikatowy, „brązowy” dzban rzymski w stylu egiptyzującym z Weklic – nowe odkrycia...*, [in:] *Terra Barbarica. Studia ofiarowane Magdalenie Mączyńskiej w 65. rocznicę urodzin*, eds. A. Urbaniak, R. Prochowicz, I. Jakubczyk, M. Levada, J. Schuster, Monumenta Archaeologica Barbarica, Series Gemina II, Łódź-Warszawa 2010, pp. 397–416.

Ten skład chemiczny wskazuje na technologię wykonania omawianych zabytków. Były one odlewane na wosk tracy, w formie z rdzeniem, czego pozostałością są puste w środku bodźce. Odmiernym składem chemicznym charakteryzują się ostrogi z grobu 569. Analizy (Tablica VI) wykazują, że wykonano je z brązu cynowego w następującym stosunku poszczególnych składników stopowych: Cu 94-97%; Sn 1-3%; Pb 1-2%. Brązy takie posiadają najlepsze właściwości wytrzymałościowe, są łatwo obrabialne poprzez odlewanie i kucie. Ten skład chemiczny odpowiada technologii wykonania kabłąków. Były one odkuwane na zimno z cienkiej blachy, zapewne na kowadełkach. Warto jednak podkreślić, że omawiane pary ostróg znacząco odbiegają składem chemicznym od pozostałych zabytków

(części stroju i ozdób) odkrytych w Weklicach, w tym także ostróg. Te ostatnie wykonywane były z mosiądzu. Powszechne użycie mosiądzu wskazuje na miejscowy charakter produkcji. Natomiast brązy cynowe i cynowo-olowiowe charakterystyczne są dla odkrytych w Weklicach importów rzymskich (naczynia, zapinki) oraz ozdób i części stroju o wzorcach z obszaru europejskiego Barbaricum. Może to teoretycznie wskazywać, że omawiane w artykule ostrogi były importowane z obszarów ościennych.

W związku z powyższym, jako rysujący się problem badawczy, należy postawić kwestie określenia kryteriów wydzielenia ostróg rzymskich i ich barbarzyńskich naśladownictw w okresie późnorzymskim i wczesnym okresie wędrówek ludów.