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Southern Cross-Regional Connections of the Celtic Settlement on the Oberleiserberg: An Analysis of Selected Finds

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Abstract: The analysis of the finds from the Oberleiserberg, Lower Austria, demonstrates the relations and contacts between the Danube region and areas inhabited by the tribes of the Taurisci and Scordisci. Some of these finds represent imports, others point to the spread of ideas or supra-regional stylistic influences. No other site of the La Tène culture north of the Danube displays such an extensive collection of finds pointing to close contacts with the Celtic south.

Keywords: Lower Austria, Oberleiserberg, La Tène period, Taurisci, Scordisci, cross-regional connections.

Zusammenfassung: Eine Analyse der Funde vom Oberleiserberg, Niederösterreich, zeigt die Beziehungen und Kontakte des Donauraumes mit den durch die Stämme der Taurisker und Skordisker bewohnten Gebieten auf. Einige dieser Funde stellen Importe dar, andere weisen auf die Verbreitung von Ideen und auf überregionale stilistische Einflüsse hin. Kein anderer Fundort der Latènekultur nördlich der Donau weist eine solche reiche Ansammlung von Funden auf, die auf enge Kontakte mit dem keltischen Süden hinweisen.

Stichwörter: Niederösterreich, Oberleiserberg, Latènezeit, Taurisker, Skordisker, transregionale Beziehungen.

The La Tène culture hilltop settlement on the Oberleiserberg in Lower Austria has a special significance for the subject addressed in this volume of proceedings from the conference held at Klement. The choice of this venue, situated on the western slopes of the Oberleiserberg ("Oberleis-Hill"; Fig. 1), had not been a random one. Long-term archaeological excavation and regular surface surveys of the site on the Oberleiserberg have produced an exceptionally rich archaeological assemblage attesting occupation by the people of the La Tène culture. The settlement has been presented in the literature in a general manner on several occasions.[1] Another theme addressed in the publications was that of cross-regional connections, also with the lands to the south and southeast of the Oberleiserberg.[2] Earlier analyses tended to be based mostly on the rich numismatic material and the large collection of fibulae. A special role is played here by a series of locally manufactured objects. The results obtained show quite clearly that in the Late La Tène period the settlement on Oberleiserberg must have been one of the main centres in the region north of the Middle Danube and sustained a lively exchange with the territory inhabited by the Celtic tribes of the Taurisci and the Scordisci known from the written sources. In glaring contrast to these connections would be the unexpectedly meagre evidence of any closer relations with the *regnum Noricum*, the state ruled by the Celtic Norici. This situation, it seems, is a good reflection of the political situation in this part of Europe around the middle of the 1st century BC.

The analysis given below addresses four categories of archaeological object that document different aspects of the southward cross-regional connections of the Oberleiserberg inhabitants.

Vinkovci Type Fibulae

We open our analysis of the archaeological material from the Oberleiserberg by illustrating the ties of this settlement with the southeastern zone of Celtic settlement during the Late La Tène period with a Vinkovci type fibula (Fig. 2). This is the only find of this form discovered on this site. The typological name of these brooches was recently introduced in literature by Nives Majnarić-

1. Kern 1996. – Karwowski 2007a. – Karwowski 2009. – Karwowski 2012a. – Kern, Karwowski, Militký 2012.

2. Karwowski 2007b. – Karwowski, Militký 2011. – Karwowski 2012b. – Karwowski, Militký 2014. – Karwowski in press. See also Drnić 2012 and I. Drinić's article in this volume.

Fig. 1. The view of the Oberleiserberg from the west, from the locality Klement (Photo: O. Harl)

Pandžić and has to do with a noticeable concentration of these forms in the region around the town of Vinkovci in eastern Slavonia.[3] A few years earlier, a closer analysis of this fibula type had been made by Marko Dizdar who distinguished three variants depending on the presence of decorative elements on the bow and the form of this ornament.[4]

Vinkovci type fibulae have a characteristic flat bow, triangular in outline, which makes them similar to the Nauheim type. In some specimens the bow may be sub-oval or lozenge-sharped, always wider at the top, flat in cross-section, and usually not arched; only a few of these fibulae are slightly arched or elbow-shaped. Given the slight thickness of the bow in several specimens, we cannot discount that the bent shape may be the result of secondary deformation. The next characteristic feature of these fibulae is their small catchplate at the lower end of the bow. In this design the fibula does not have a well-defined foot. The point of transition of the bow to the catchplate is usually marked on the upper face of the bow with two or three transverse incisions. The spring is usually of four coils (2 × 2) and often there is an external chord. The surface of the bow may be plain, without ornament (variant 1 of M. Dizdar), or with a single or double groove along the edges (variant 2), or, finally, there may be an ornament of several ring-and-dot motifs (variant 3). Most of these brooches are small in size, about 50 mm long.

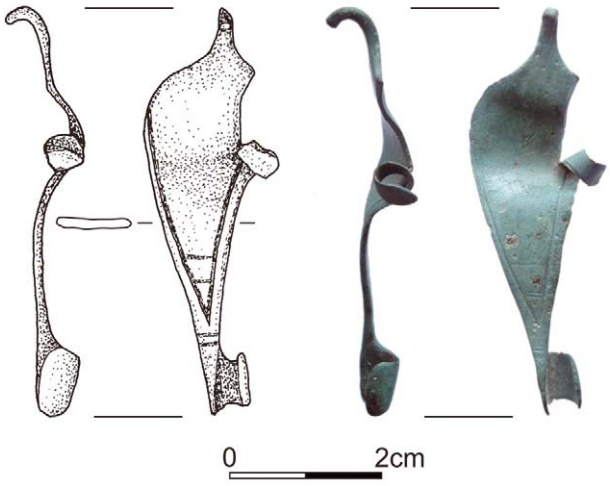

Fig. 2. The Vinkovci type fibula from the Oberleiserberg (Photo: M. Karwowski, drawing: E. Smagur).

3. Majnarić-Pandžić 2009, 238.
4. Dizdar 2001a, 110. – Dizdar 2003.

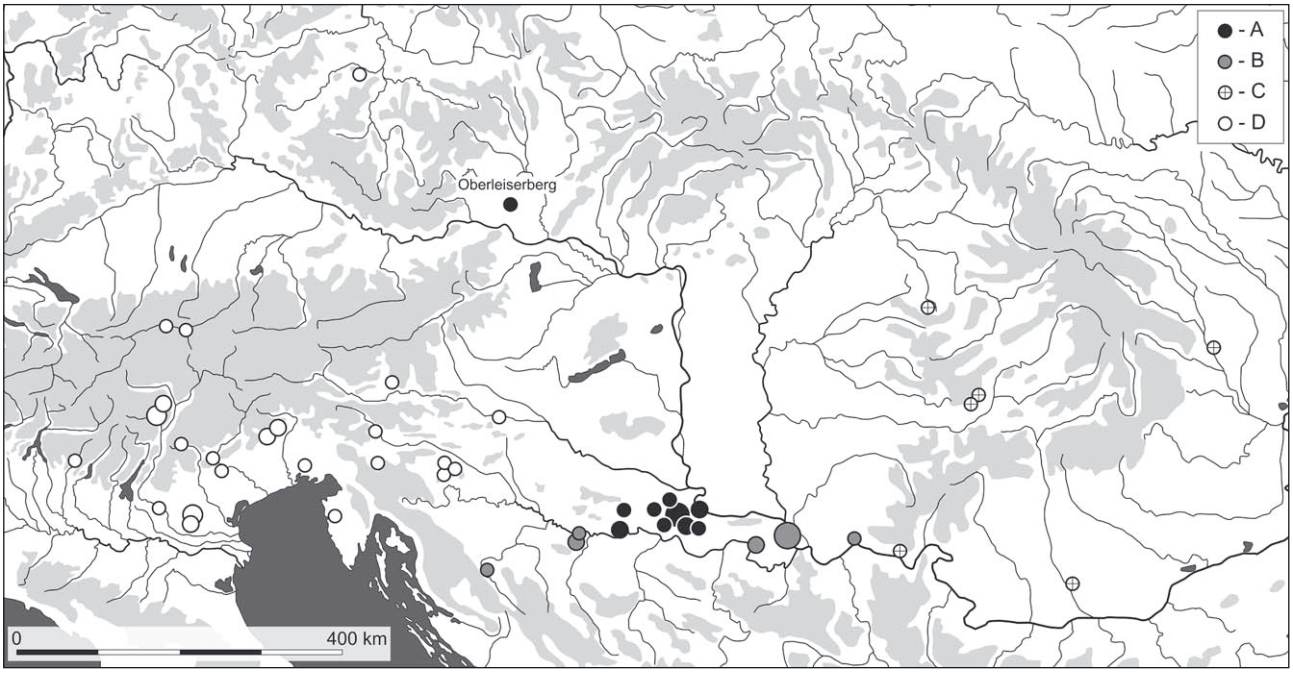

Fig. 3. Map of the distribution of Vinkovci type fibulae (A), other morphologically related fibulae (B), Rustoiu type 8b (C) and Nauheim type variant I.1 (D) (Graphics: M. Karwowski).

The specimen from the Oberleiserberg (Fig. 2) survives incomplete as a slightly damaged flat bow with a small catchplate and only a small fragment of the spring. The number of coils or the position of the chord cannot be ascertained. The pin is missing too. The length of the fibula is 54 mm. The bow is decorated with single lines running along the two edges, which classifies this fibula as variant 2. The point where the bow passes to the catchplate is marked with two transverse incisions; two more similar incisions are seen on the bow between the two lines of ornament.

As mentioned earlier, the Vinkovci type fibulae display several similarities in their construction and style to Nauheim type fibulae, and especially, to their most "southeastern" variant, defined by S. Demetz as Nauheim type, variant II.1.[5] Specimens of this variant are practically the only representatives of Nauheim type fibulae known from finds which cluster visibly in the southeastern Alpine region (Fig. 3). They are known also from several finds recorded in the Mokronog group, which include the easternmost finds known from Slovenian Styria and Lower Carniola.[6] Dragan Božič hints that they were manufactured in northeastern Italian workshops.[7]

Vinkovci type fibulae are not observed within the distribution area of Nauheim type fibulae (Fig. 3). On the other hand, quite a few are recorded in central and eastern Slavonia, i.e. the territory of the Celtic Scordisci adjacent to the eastern boundary of the distribution area of Nauheim type, variant II.1, fibulae.[8] The largest group of Vinkovci type fibulae, comprising eight specimens representing all three variants, is known from the cemetery at Blato found in the northeastern district of Vinkovci.[9] Two fibulae classified as variant 3 were found at the settlement at Vinkovci-Pjeskana,[10] and another specimen of the same variant, at Vinkovci-Leskovac.[11] From settlements in the immediate vicinity of Vinkovci comes a small series of variant 2 fibulae. Some solitary finds are known also from Stari Mikanovci,[12] from Markušica[13] and from Orolik-Oraši.[14] Three of these brooches, two

5. Demetz 1999, 83. – See also Božič 1993, 141–143. – Striewe 1996, 65–66. – Božič 2008, 58–65.

6. Demetz 1999, 244–245, Map 25. – Božič 2008, 58–65.

7. Božič 1993, 143. – Božič 2008, 58–65.

8. Dizdar 2003, 337–338, Map 1. – Majnarić-Pandžić 2009, 238–240, Fig. 4. – See also Dimitrijević 1979, 144–146, Fig. 4, Map 1. – Dizdar 2001b, 22–27, Figs. 5–8.

9. Dizdar 2003, 338–339, 344, Pl. 1/1–8. – Majnarić-Pandžić 2009, 238, Fig. 1/1–8.

10. Majnarić-Pandžić 1970, 66, Fig. 5/3, Pl. 22/2. – Dimitrijević 1979, 147, Pl. 9/3. – Dizdar 2003, 345, Pl. 1/10. – Majnarić-Pandžić 2009, Fig. 1/9.

11. Majnarić-Pandžić 2009, Fig. 2/2.

12. Dizdar 2003, 345, Pl. 1/9.

13. Dizdar 2003, 339.

14. A specimen with an unusual construction design to secure the fibula spring. – Majnarić-Pandžić 2009, 238–240, Fig. 2/1.

of them less typical, with a longitudinal rib on the bow, come from a cemetery, Sotin-Vrućak, found directly on the Danube River.[15]

Outside the region around Vinkovci the fibulae under discussion are known from other areas of Scordiscan settlement, in the southern reaches of central Slavonia: a variant 1 specimen from a settlement at Imrijevci in the eastern area of the Požega Valley[16] and two more, both variant 3, from a destroyed grave at Zbjeg on the Sava River near Slavonski Brod.[17]

From the territory lying to the east of the range of Nauheim type fibulae there is a record of further fibulae; forms with a broad, flat-sectioned bow of triangular or lozenge-shaped outline. Their bow is without any decoration. Instead of a well-defined foot the bow passes to a solid catchplate. Thus, in their style design and construction, these fibulae resemble Vinkovci type forms, although their attribution to this type is very doubtful.

From the territory of Scordiscian settlement we need to mention brooches with a long, multiple-coil spring and an external chord. They are known from single specimens recorded in the cemetery at Sotin-Zmajevac in eastern Slavonia[18] and from an open settlement at Hrtkovci-Gomolava in Vojvodina.[19] From the same settlement comes another, similar fibula, of a design closer to the Vinkovci type, namely, having a short spring and an external chord.[20] A whole series of brooches of this design is known from a complex of sites lying on the bank of the Danube at its confluence with the Sava – in Zemun, in the northern district of today's Belgrade.[21] Among the materials from Zemun, which come from several destroyed cemeteries and settlements, are about a dozen similar fibulae which, nevertheless, do not make up a stylistically uniform group.[22] Only one of them has on its lower bow transverse incisions,[23] a detail characteristic for most Vinkovci type fibulae. The ornamentation of another fibula, a pattern of a dotted border on the bow,[24] recalls the motif often encountered on Nauheim type, variant II.1, fibulae.[25] On the bow of five other fibulae there is a longitudinal rib,[26] an element comparable to the one seen on the two fibulae mentioned earlier, from the cemetery at Sotin-Vrućak. In the group of fibulae from Zemun there is, moreover, a specimen made of iron,[27] which, from the point of view of typology, we need to treat as an imitation of the bronze originals.

The settlement complex at Zemun lies in an area of overlapping influence of the Celtic Scordisci and the Dacians who inhabited the broad territory to the north of the Lower Danube. From this zone comes a find of another similar fibula, from the Dacian hill-fort Divici-Grad at Socol in the Romanian Banat.[28] Aurel Rustoiu described fibulae that in their design are close to the Vinkovci type, stating that they are distinctive for the Dacian culture and classified them in his group 8b.[29] They have a characteristic trapeze-shaped bow and, usually, a slightly longer spring, of at least six coils. These brooches are known only from isolated finds spread across the large territory of Dacian settlement, in the Carpathian Basin, in the Danube region in the south, and in western Moldavia (Fig. 3).[30] Among these fibula finds is a unique gilt specimen,[31] and another, made of iron[32] – similar to the specimen discovered at Zemun – which should be treated as more of a "poor" imitation.

Similar fibulae are known from the area immediately south of the concentration zone of Vinkovci type fibulae found in Slavonia, i.e. from northern Bosnia. Four of these specimens come from two sites found a small distance apart on the right bank of the Sava: three from a cemetery at Donji Laminci[33] and one from a settlement at Donja Dolina.[34] An analogy to these fibulae could be also the find with an unusually narrow and flat bow recorded in the Iapodian cemetery of Ribić near Bihać in Bosanska Krajina, in northwestern Bosnia.[35]

As Dizdar has noted, the fibulae under discussion display a stylistic similarity to some specimens of the so-

15. Dizdar 2003, 339. – Majnarić-Pandžić 2009, Fig. 1/11.
16. Dizdar, Potrebica 2002, 117, Pl. 7/4. – Dizdar, Potrebica 2005, 62, Fig. 3. – Majnarić-Pandžić 2009, Fig. 3/1.
17. Majnarić-Pandžić 2009, 238–240, Fig. 2/1.
18. Majnarić-Pandžić 1973, 64, Pl. 1/3.
19. Jovanović, Jovanović 1988, 84, 173, Pl. 42/4.
20. Jovanović, Jovanović 1988, 85, 173, Pl. 42/7.
21. Ercegović 1961, 125–126. – Todorović 1968, 22. – Guštin 1984, 354. – Majnarić-Pandžić 2012.
22. Todorović 1968, 153–155, Pls. 53/3, 6–8, 18, 27, 54/3, 6–8 and 55/2, 4, 6, 25. – Todorović 1971, 144–148, Pls. 66/3–5, 7, 11, 67/1–6, 8–10, 14 and 68/1.
23. Todorović 1971, Pl. 67/3.
24. Todorović 1971, Pl. 67/7.
25. Demetz 1999, 83. – Božič 2008, 58–65. – Cf. also e.g. Sedlmayer 2009, 64, Pl. 2/23, Tab. 37.
26. Todorović 1971, Pls. 66/3, 7 and 67/2, 4, 9.
27. Todorović 1971, Pl. LXVII/6.
28. Gumă, Rustoiu, Săcărin 1999, 68, Fig. 1/7.
29. Rustoiu 1997, 41, Fig. 34/3, 5–10.
30. Rustoiu 1997, Fig. 33.
31. Rustoiu 1997, 190, Fig. 34/9.
32. Rustoiu 1997, 103.
33. Truhelka 1901, 21, Figs. 8–10.
34. Marić 1963, 78, Pl. 2/1. – Marić 1964, 50, Pl. 20/13. – Z. Marić (Marić 1963, 78. – Marić 1964, 50), M. Guštin (Guštin 1984, 341, Footnote 122) and K. Striewe (Striewe 1996, 281) classify this specimen as Nauheim type.
35. Marić 1971, Pl. 23/5.

called legionary fibulae dating to the Early Roman period.[36] Specimens of this fibula variant, with an expanded, flat bow, are known from a series of finds recorded in southern and southeastern Pannonia.[37] However, Late La Tène and Early Roman brooches of a similar design are known from a broad area covered by the Roman provinces.[38] The style design of these fibulae appears, on the one hand, to be evidently inspired by La Tène models, on the other however, their simple design induces the conclusion that in different environments they could have evolved independently of each other. Many of them are made of iron.

The question of a more detailed typological separation of Vinkovci type fibulae and forms related to them in their design and style, including Dacian type 8b specimens and early Roman fibulae definitely requires more research. It may be especially crucial to make an in-depth analysis of the materials from the settlement complex at Zemun. When it comes to the most "classic" Vinkovci type fibulae, Dizdar has claimed that they are a form manufactured locally in eastern Slavonia.[39] Their likely centre of production was the fortified settlement at Dirov Brijeg, on the river Bosut, in the western district of Vinkovci.[40]

Another relevant point is that the distribution range of this fibula form largely overlaps with the distribution range of so-called *Lanzenfibeln*. Admittedly, the latter have a Middle La Tène construction, but their bow has a foot folded over it, very broad and with a characteristic triangular shape.[41] Despite basic differences in construction and typology both these types of fibula appear to be very close stylistically. The *Lanzenfibeln* have very close analogies among one of the leading forms in Zarubintsy culture – so-called Zarubintsy fibulae known from a cluster of finds on the middle Dnieper and the Pripyat.[42]

Still not fully resolved is the matter of the chronology of Vinkovci type fibulae. They definitely belong in the Late La Tène period, although none of them can be given a closer dating owing to their context of discovery. Dizdar has argued that Vinkovci type fibulae, as local forms related to Nauheim type fibulae, must be later.[43] Assuming that this conclusion is correct, we need to date them at the earliest to the beginning of the second half of the 1st century BC. This would make them one of the final locally produced categories of artefact that we can link, without much ambiguity, with the Celtic Scordisci.

Astragal Belts

The next dress accessory relevant to this discussion is the so-called astragal belt. In the finds inventory from the settlement on the Oberleiserberg are three fragments of a multipartite astragal belt. These are segments cast of bronze (Fig. 4).[44] One of them is complete, the two others are fragmentary. The segment which survives whole consists of six rectangular elements ("cells") that are half round in cross-section. The length of this element is 50 mm. The two incomplete segments have the form of two oval and two rectangular "cells" half-round in section. The length of these two surviving fragments is 19 and 21 mm. In all the segments the "cells" alternate with small ribs which have on their surface oblique incisions. In all three segments the underside is flat.

Multipartite astragal belts have been the subject of several detailed studies.[45] They are mostly thought to derive from Illyrian cultures of 6th and 5th century BC. Numerous finds of astragal belts are known from the western and northern Balkans as well as from Slavonia, Vojvodina and central Serbia. The tradition of wearing them was later adopted also in the La Tène culture environment. Astragal belts were found together with weapons in a number of graves from the Late Hallstatt period, which suggests that at the time they were an element of the military attire of Illyrian warriors.[46] In La Tène culture, similar belts were rather an item of personal adornment and parts of women's costume.[47]

In the typological classification of La Tène astragal belts developed by Božič, they are distinguished into three main types: Osijek, Beograd and Dunaszekcső.[48] However, these individual types can only be unambiguously

36. Dizdar 2003, 341–342.

37. Kovrig 1937, 28, 68, Pl. 12/129. – Koščević 1980, 26, 54, Pls. 25/205–206 and 41/82. – Dautova-Ruševljan 1987, 60–61, Pls. 44/3, 46/1, 15 and 47/4, 9.

38. Feugère 1985, 200–203, Pls. 27–28. – Riha 1994, 60–61, Pl. 4. – Gaspar 2007, 27–28, 89–93, Pls. 10–13. – Leifeld 2007, 79–81, Fig. 10. – Sedlmayer 2009, 234, Pl. 2/26–28. – See also Kropotov 2010, 59–62, Fig. 27.

39. Dizdar 2003, 344.

40. See also Dimitrijević 1979, 144–146, Fig. 4, Map 2. – Dizdar 2001b, 22–25, Figs. 5–8.

41. Popović 1994, 57–63, Figs. 3–7. – Popović 1999, 47–48, Fig. 2.

42. Kasparova 1977. – See also Pachkova 2006, 73–74, Fig. 27. – Wendowski-Schünemann 2010, 30–35, Fig. 7.

43. Dizdar 2003, 343.

44. In the finds inventory from the Oberleiserberg there are also a few more small fragments that may be elements of an astragal belt. Their preservation is too poor to allow a more conclusive interpretation (author's archive).

45. E.g. Márton 1933, 70–78, Pl. XV. – Todorović 1964. – Božič 1982. – Jovanović 1998. – Arsenijević 1998. – Čižmář 2005, 131–132, Fig. 4.

46. Brunšmid 1902, 73.

47. Todorović 1964, 47. – Božič 1982, 52–54.

48. Božič 1982, 49–52.

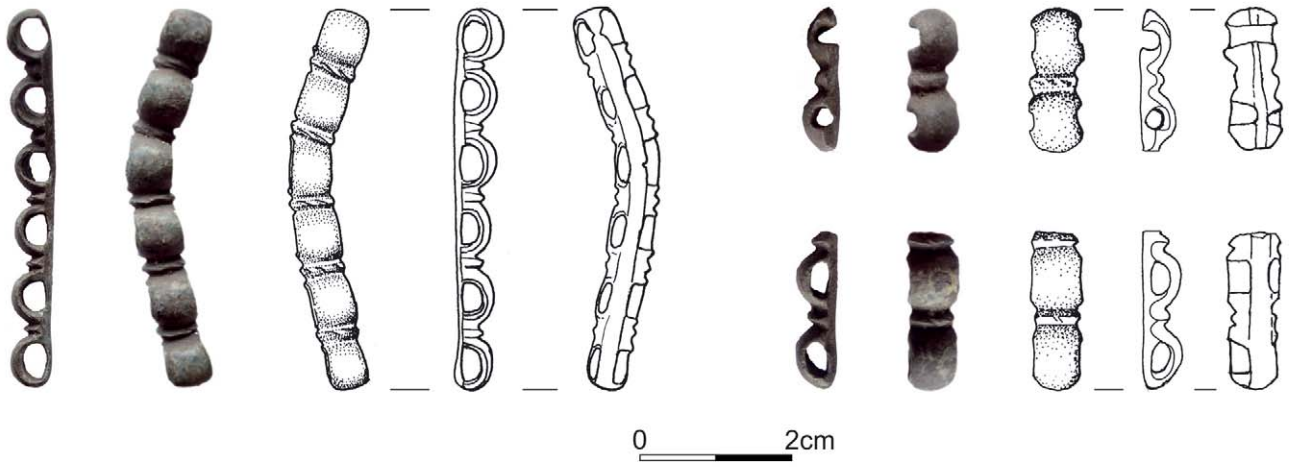

Fig. 4. Segments of an astragal belt from the Oberleiserberg (Photo: M. Karwowski; drawing: J. Hritzová).

distinguished in the case of well-preserved specimens. A diagnostic feature of the Beograd type are round discs placed next to the plaque which forms the base of the triangular belt hook. In the Osijek and Dunaszekcső types the belt hooks are virtually identical: shaped like a triangle, with a rectangular plate for their base. Typological differences are observable in the construction of the belt segments. In the Osijek type the segments have three, possibly four, "cells" which alternate with ribs which are marked with longitudinal incisions. In the Beograd type each belt segment has four "cells", arranged alternately with obliquely notched ribs. These ribs may additionally have longitudinal incisions along their edges. Dunaszekcső type belts have the longest segments, of five or six "cells", alternating with obliquely notched, or plain, ribs. In keeping with the classification system of Božič, the complete belt segment from the Oberleiserberg would represent the Dunaszekcső type, whereas the two fragmented segments could be attributed to either the Beograd or Dunaszekcső type.

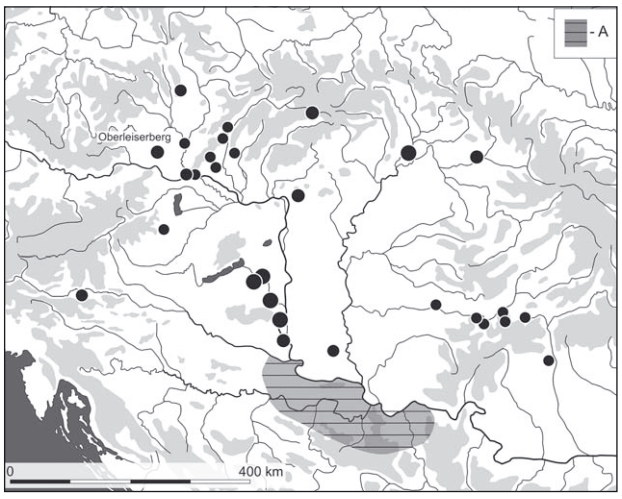

Fig. 5. Map of the distribution of astragal belts to the north of the zone of their highest frequency (A) (Graphics: M. Karwowski).

Astragal belts are not a sensitive chronological marker in the La Tène culture. Nevertheless, thanks to a number of their finds from funerary contexts it is possible to propose a more general chronological classification of their individual types. The oldest belt form would be the Osijek type, dating to the Middle La Tène period (LT C). The Beograd and Dunaszekcső types appear, without exception, to have a Late La Tène chronology (LT D), and may have lingered until the Early Roman period.[49] Consequently, the dating of all the elements of astragal belts discovered on the Oberleiserberg would have to be of Late La Tène date.

Finds of astragal belts datable to the La Tène period form a concentration within a relatively small territory of Scordiscian settlement (Fig. 5). This is mainly the area of eastern Slavonia, Vojvodina, and northern parts of central Serbia, where belts of this description are known from more than 20 archaeological sites.[50] However, given that many finds of belts dated to the Hallstatt period cannot be distinguished conclusively from those dated to the La Tène period, the number of sites suggested here is only approximate. In most cases, when the typological classification is fairly unambiguous, the belt finds from this area are types Osijek and Beograd. It is also worth noting that finds of these two types of belt are rarely recorded outside

49. Božič 1982, 48–49. – Jovanović 1998, 69.

50. Todorović 1964, Pl. II. – Božič 1982, Fig. 1. – Jovanović 1998, Maps 3 and 4. – Arsenijević 1998, Map p. 29. – See also M. Dizdar's article in this volume.

this zone of concentration. It is also relevant that this zone does not extend north across the Danube-Drava line.

In the region immediately to the north of this line there are only a small number of sites with finds of astragal belts in La Tène culture contexts. Two elements of such belts come from Vrbas in Vojvodina. One of them was discovered in a La Tène culture settlement, the second was a secondary deposit in a medieval grave.[51] Their preservation is too poor for any closer typological attribution but these are, it seems, elements belonging to Late La Tène belts.

More numerous in the same region are finds from archaeological sites lying to the west of the Danube. In every instance where their preservation allows typological classification, they are of the Dunaszekcső type. A few fragments from Batina in Croatian Baranya presumably come from a grave.[52] Better preserved parts of a few other belts are known from only a little farther north, the Hungarian part of Baranya (southern Transdanubia), from the cemetery at Dunaszekcső,[53] the eponymous site for this belt type. A whole series of well-preserved belt finds is associated with the region around Regöly[54] and Szárazd[55] in southern Transdanubia. Unfortunately, all of them are from unclear contexts. The list of finds of astragal belts recorded in southern Transdanubia is rounded off by the site at Lengyel.[56] Among the chronologically unconfirmed but possibly Late La Tène finds of astragal belts from Hungary is a fragment from the hilltop settlement in Velem Szentvid in western Transdanubia[57] and a few elements discovered in two graves in the cemetery at Kosd in the northern area of central Hungary.[58]

The most geographically isolated finds of astragal belts in the territory settled by southeastern Celts would be two segments of the Dunaszekcső type recorded in the hilltop settlement on Gracarca at Sankt Kanzian in Carinthia.[59] This is also the only such find from the territory settled by the Celtic Norici, the only one from the Alpine region, and at the same time, the westernmost site to have yielded an astragal belt.

A relatively large series of finds of astragal belt elements comes from the La Tène culture territory to the north of the Middle Danube, in the area of the so-called Boii coinage. Here the westernmost site is the one on the Oberleiserberg, with at least three belt segments (Fig. 4). Other finds from Lower Austria worth noting include a complete Dunaszekcső type belt segment from the Ringelsdorf settlement on the Thaya River in the eastern Weinviertel.[60]

On the Danube River itself, east of the Thaya River, are two important oppida, at Devín and at Bratislava, which have also yielded finds of segments belonging to astragal belts. Two complete specimens from Devín are of the Dunaszekcső type,[61] and some damaged segments, from Devín[62] and Bratislava,[63] cannot be easily classified as to their typology but definitely are from the Late La Tène period.

Finds of astragal belts in southwestern Slovakia are known also from outside the Danubian zone. Individual Dunaszekcső type segments come from Nitra[64] and from Pobedim.[65] In the latter case, the astragal belt segment was found in a grave with no other grave goods, discovered in a La Tène culture settlement. Of special note is a find from the hilltop settlement at Trenčianske Bohuslavice of an incomplete hook fastening of an astragal belt with four "cells".[66] The surviving fragment retains no traces of circular discs, the diagnostic feature of the Beograd type, which suggests that this specimen comes from a Middle La Tène belt of the Osijek type. This would make this particular find the only one of its kind to be discovered outside the territory settled by the Scordisci. From southwestern Slovakia we know also of further, rather obscure, elements of astragal belts recovered at Slovenský Grob and Boldog.[67]

Astragal belts recorded farthest north are two segments from the oppidum of Staré Hradisko in Moravia.[68] One of them, of the Dunaszekcső type, survives complete. The second is fragmentary and thus without typological determination, but definitely belongs in the Late La Tène.

Finds of comparable belts dated to the Late La Tène period are known also from outside the La Tène culture zone. Rustoiu has listed seven sites on the territory of

51. Jovanović 1998, 54, Footnote 65, Pl. VII/14, 15.
52. Maráz 1983, 107–108, Pl. III/1, 2, 4. – Jovanović 1998, 45–46.
53. Márton 1933, Pl. XV/3, 4, 7, 9. – Jerem 1973, 78. – Jovanović 1998, Pl. XI/4, 5.
54. Márton 1933, Pl. XV/5, 6. – Jerem 1973, 78–79. – Kemenczei 2012, 325, 328, 329, Figs. 7/8–10, 12, 14, 19–22 and 8/7, 9.
55. Kemenczei 2012, 324, 332, Figs. 6/5–6, 18, 7/2 and 8/8.
56. Jerem 1973, 79, Footnote 40.
57. Miske 1908, Pl. XLV/36.
58. Kemenczei 2012, 346. – See also Márton 1933, 75–76. – Jerem 1973, 79, Footnote 40.
59. Gleirscher 1996, Fig. 5/1.
60. Allerbauer, Jedlicka 2001, 618, Fig. 580.
61. Pieta, Zachar 1993, Fig. 115/11. – Plachá 1997, Fig. 112/4. – Harmadyová 2012, Fig. 310.
62. Placha 1997, Fig. 112/3.
63. Bazovský, Gregor 2009, Fig. 5/1.
64. Březinová, Samuel 2007, 31, Fig. 42.
65. Pieta 1982, 48.
66. Pieta 2010, Fig. 118/7.
67. Bazovský, Gregor 2009, 137.
68. Meduna 1961, 5, Pl. 3/1, 2. – Čižmář 2005, 131, Fig. 1/2, 3.

the Dacian state where these forms have been recorded.[69] Five of these sites are in the mountainous region of Transylvania: Căpâlna, Costeşti, Crişeni, Sebeș and Sibiu;[70] one is from the Romanian Banat: Pecica, or the ancient Dacian *Ziridava*,[71] and one in Oltenia: Ocniţa.[72] All the belt finds from Dacian territory may be classified as the Dunaszekcső type and most are dated by their context in the 1st century BC.[73]

Astragal belts are known also from the northern area of the eastern Carpathians and the western Carpathians. They were recorded in the Dacian hill fort at Malaya Kopana in Carpathian Ukraine,[74] in the Celto-Dacian sacrificial site at Zemplín-Kertalja in eastern Slovakia,[75] and a settlement centre of the Púchov culture at Liptovská Mara in northern Slovakia.[76] A very finely preserved belt find from Zemplín was reconstructed.[77] It consisted of a few dozen segments each of them made up of four "cells" alternating with obliquely notched ribs, a typological feature of Beograd type belts. At the same time, the fact that there are no circular discs at the two belt hooks brings this specimen closer to the Dunaszekcső type. As to the specimens from Malaya Kopana and from Liptovská Mara, a few segments each, only one may be attributed to the Dunaszekcső type and comes from the Dacian settlement.[78] In all the other cases poor preservation prevents a conclusive typological classification.

When the distribution of Vinkovci type fibulae is compared with the distribution of astragal belts, similar patterns of interregional connections become apparent on the Oberleiserberg (Figs. 3 and 5). However, there is also an important difference. Whereas the brooch from the Oberleiserberg is a completely isolated find from the area to the north of the Danube in the eastern area of the "Boii" zone, finds of astragal belts are relatively frequent. The observed stylistic differences suggest that in the area to the north of the Middle Danube at least some of them are of local manufacture. A several hundred years' tradition of wearing multipartite astragal belts, and their evident popularity in the region from the western and the northern Balkans as far as the line of the Danube and the Drava, leads us to conclude that the idea of a belt of this design was adopted in the "Boii" zone from the La Tène culture environment linked with the Scordisci.

Bosses Decorated with Enamel

The inventory of finds from the settlement on the Oberleiserberg includes a sizable series of cast bronze bosses. Rather than dress accessories, like the fibulae and the astragal belts, they are more likely to be horse harness mounts. Thirteen of them are distinctive through their ornament – a central round knob with a design of incised intersecting lines (Fig. 6).[79] Most often – in six cases – there are double intersecting lines, in five cases – triple lines forming a regular hatched pattern, and only in two cases, the lines are single, in the design of a plain cross. It is likely that originally the incisions held enamel,[80] but unfortunately, none survives at present on the specimens from the Oberleiserberg. The dimensions of the bosses are fairly similar, with a diameter in the range of 21 to 24 mm. On their lower face all of them have a 4–6 mm wide groove, presumably to accommodate the leather strap. Over it is a single half-round or rectangular eye, presumably to attach the strap. Four specimens have on their upper face the decorative central knob surrounded by concentric lines (scratch marks). These give the impression of being traces of additional working of the bosses – possibly with a tool similar to a lathe.[81]

Analogous bosses, of which most have two eyes on their lower face – as opposed to the specimens from the Oberleiserberg – have been the object of research on a number of occasions.[82] They are recorded across much of the La Tène culture territory and, interestingly enough, almost all of them come from oppida and hilltop settlements (Fig. 7). Their Late La Tène chronology, accepted by most researchers,[83] appears to be well confirmed by their context of discovery.

69. Rustoiu 1996, 201, Fig. 71.
70. Rustoiu 1996, Fig. 73/10, 11, 13, 15.
71. Rustoiu 1996, Fig. 73/12.
72. Rustoiu 1996, Fig. 73/14.
73. Rustoiu 1996, 115–116.
74. Kotigoroško 1991, Fig. 7/53, 54.
75. Miroššayová, Čaplovič 1991, 119, Pl. I/16, 17.
76. Pieta 1982, 47–48, Pl. XI/8–11. – Pieta 2001, 323, Fig. 5/3, 4. K. Pieta (Pieta 2010, 32) refers also to "numerous fragments" of astragal belts from Late Celtic, Púchov culture and Dacian culture contexts but without giving any closer details.
77. Furmánek, Pieta 1995, 101, Fig. 67.
78. Kotigoroško 1991, Fig. 7/54.
79. See also Kern 1996, Fig. 8.
80. See Challet 1992, 133, Fig. 92.
81. This fact was noted earlier by D. Božič (Božič 1993, 140).
82. Božič 1993, 139–140, 144, Figs. 1/1, 2 and 5. – Čižmař 2002, 216, Fig. 21. – Schönfelder 2002, 268, Figs. 168 and 170, Table 46. – D. Božič has noted that double eyes of this sort are seen on bosses of a larger diameter, between 2.4 and 3 cm (Božič 1993, 140).
83. E.g. Deimel 1987, 92, 299. – van Endert 1991, 74. – Challet 1992, 134. – Božič 1993, 140.

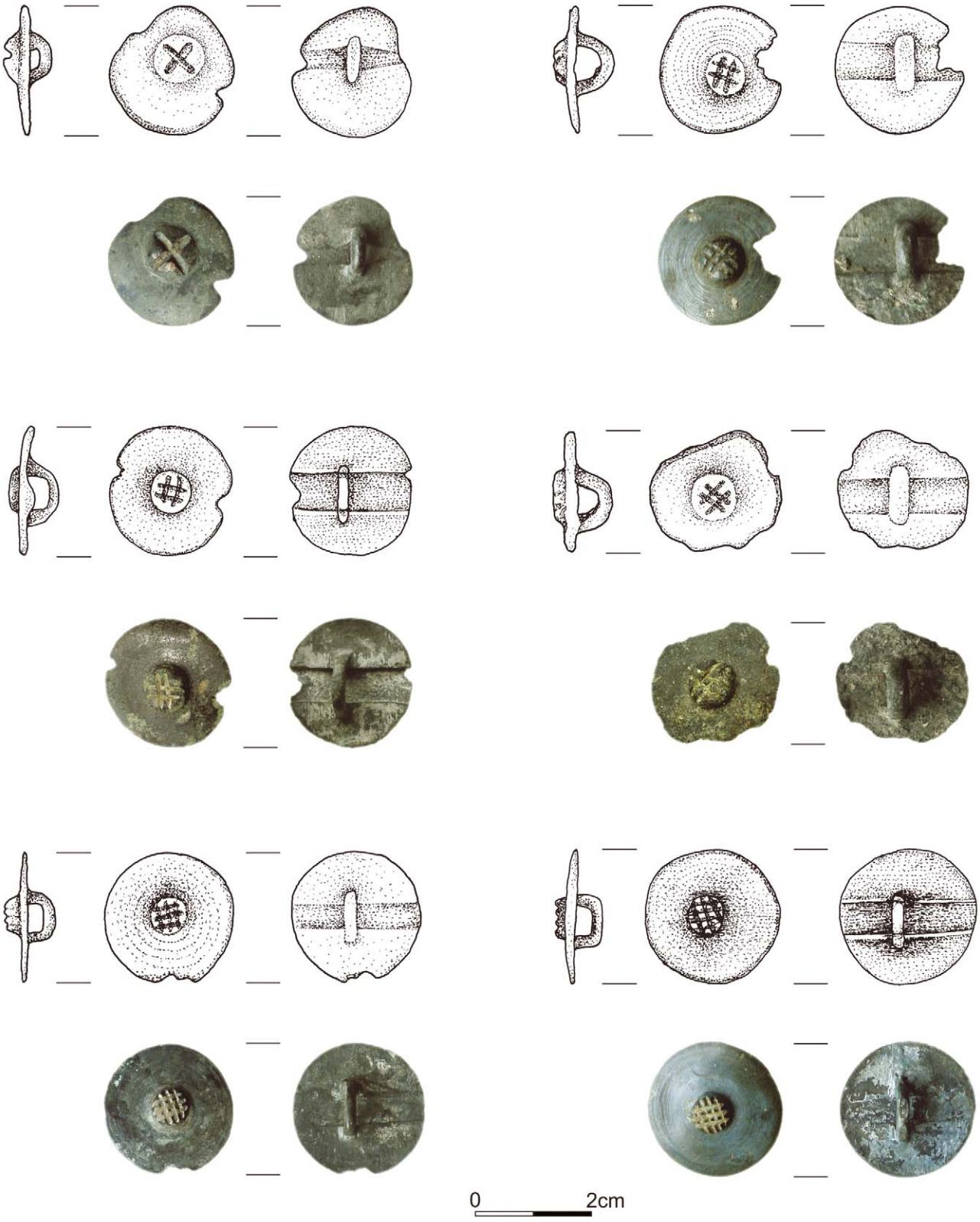

Fig. 6. Bronze bosses from the Oberleiserberg (Photo: M. Karwowski; drawing: E. Smagur).

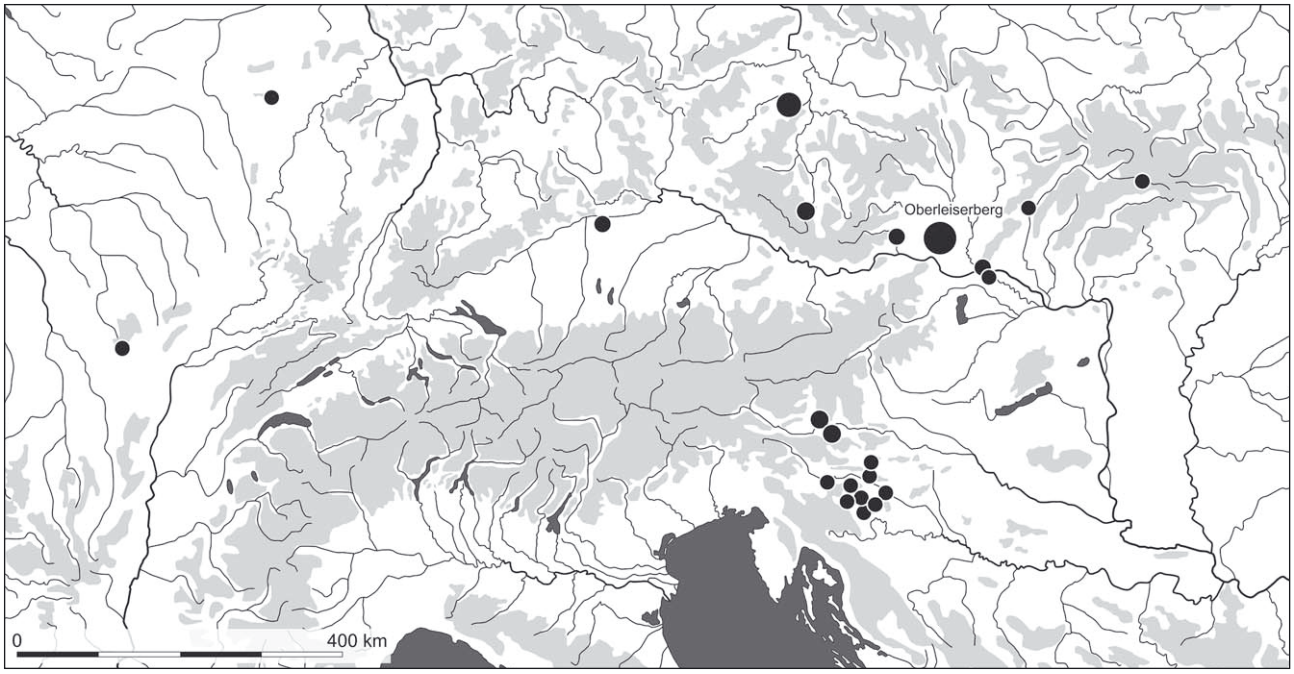

Fig. 7. Map of distribution of bronze bosses decorated with a central knob with a design of intersecting incised lines (Graphics: M. Karwowski).

Sites with finds of bosses decorated with a central knob and intersecting incised lines cluster on the territory of the Mokronog group in Slovenia. Božič lists eight archaeological sites, each of them, however, with only a single find.[84] Most of these objects come from hilltop settlements rather than from graves: on Cvinger at Vir pri Stični, on Trnišča at Mihovo, on Stari Grad at Podbočje[85] and on Gradišče at Dunaj, all of them in Lower Carniola, and also on Vipota at Pečovnik in Slovenian Styria. Only two bosses come from a funerary context, from the cemetery at Novo Mesto,[86] and a specimen not included by Božič from the cemetery at Bela Cerkev-Vinji Vrh,[87] both in Lower Carniola. Of the two final specimens from the territory of the Mokronog group listed by Božič, one is from the river Savinja at Celje in Slovenian Styria; the second was discovered in an unclear context when investigating in the central area of today's Ljubljana.

More finds of comparable bosses come from the territory of Norican settlement in Carinthia bordering the northwest area of the Mokronog group. They come from two sites, both of them hilltop settlements. Three specimens are known from the Magdalensberg,[88] and a few more from the settlement on Gracarca at Sankt Kanzian.[89]

More La Tène culture sites with finds of these bosses lie to the north of the Alps. Of these sites, the largest group of these finds from a single site is from the hilltop settlement on the Oberleiserberg, with its series of at least thirteen specimens (Fig. 6). In the zone of Boian coinage two bosses each originate from the valley settlement at Thunau am Kamp in Lower Austria[90] and from the oppidum at Bratislava,[91] and one specimen each from the oppidum at Trenčianske Bohuslavice in western Slovakia[92] and from the settlement at Bratislava-Rusovce on the southern bank of the Danube.[93]

Several finds of bosses decorated with a central knob with a pattern of intersecting incised lines are known also from two large oppida in the Bohemian Basin: seven specimens from Stradonice in central Bohemia[94] and a few more from Třísov in southern Bohemia.[95]

84. Božič 1993, 144, List 1.
85. This specimen was either discovered inside the hilltop settlement in an unspecified context, or in the cemetery in that locality (Guštin, Cunja, Predovnik 1993, 12).
86. Also: Božič 2008, Pls. 20/14 and 31/4.
87. Stare 1973, 42, Pl. 52/17.
88. Kenner 1961, 144, Fig. 81/8. – Deimel 1987, 298–299, Pl. 79/1–3.
89. Božič 1993, 144. – Schönfelder 2002, 269.
90. Author's archive.
91. Vrtel 2012, Fig. 260.
92. Pieta 2010, Figs. 16/1 and 113/6.
93. Bazovský, Čambal 2012, Fig. 300/11.
94. Pič 1903, Pl. 10/12, 15, 19–22. – Filip 1956, Pl. CXXV/16. – Challet 1992, 133, Pl. 92/3.
95. I am indebted for this information to J. Militký and A. Danielisová.

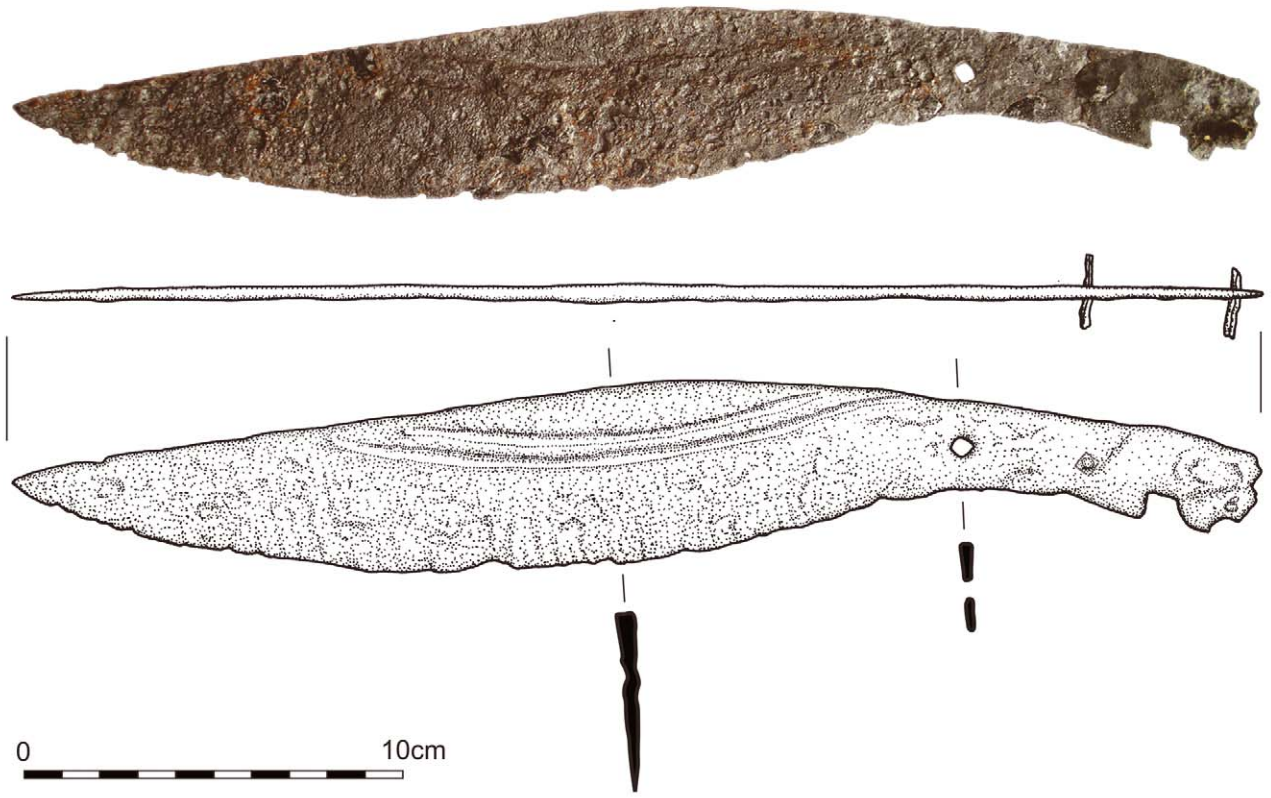

Fig. 8. The iron curved knife from Oberleiserberg (Photo: M. Karwowski; drawing: E. Smagur).

What is interesting is the markedly limited number of finds of this type of decorated boss in the area to the west of the "Boian" zone. Just two specimens are known from the oppidum of Manching in Bavaria[96] and one specimen each from two other oppida: the Titelberg in Luxembourg[97] and Mont Beuvray-*Bibracte* in Burgundy.[98]

Only one boss of this form is known from outside the La Tène territory. It comes from the settlement centre of the Púchov culture at Liptovská Mara in northern Slovakia.[99]

The distribution range of decorative bosses that emerges from the discussion given here (Fig. 7) differs from the distribution range of the other two categories of archaeological object discussed earlier (Figs. 3 and 5). In their case we are dealing with obvious links of the "Boian" zone with the territory inhabited by the Taurisci. The direction and nature of these connections remains unclear however. On the one hand we have an obvious concentration of (single) finds on a small territory of the Mokronog group, on the other, a group of 13 specimens from the settlement on the Oberleiserberg. It is notable that in terms of quantity this group corresponds approximately to the total finds from the territory of the southeastern Celts, the territory of the Norici included. Especially striking is the entire lack of comparable decorated bosses in the Staré Hradisko oppidum in Moravia and in the hilltop settlement in Velem Szentvid in western Transdanubia, two sites known for having produced impressive series of finds dating to the Late La Tène period. As Božič has noted,[100] both these sites have yielded finds of bosses of a similar design but with a different decoration on the central knob.[101]

Iron Curved Knives

In addition to the three bronze artefact forms discussed above it is worth noting another object recovered on the Oberleiserberg, this time made of iron. This is a well-

96. van Endert 1991, 131, Pl. 22/383. – Challet 1992, 133, Fig. 92/2. – Sievers 1992, 190, Fig. 89/16.
97. Challet 1992, 133, Fig. 92/1.
98. Božič 1993, 144.
99. Pieta 1982, 60, Pls. XII/18 and XXVIII/7. – Pieta 1996, Pl. III/1.
100. Božič 1993, 140.
101. Božič 1993, Fig. 5. – See also Miske 1908, 58, Pls. XXXVI/43, XXXVII/44 and XLVI/51. – Meduna 1961, 9, Pl. 7/20. – Meduna 1970, 37, Pl. 4/10.

preserved knife (Fig. 8).[102] This specimen has a blade and tang of 23.5 cm and 9.5 cm respectively, for an overall length of 33 cm. The maximum width of the blade is 4.5 cm and the width of the flat, rectangular tang is 2.4 cm. The tang has three approximately square-shaped holes. Two of them retain rivets used for attaching the hilt plates.[103] Two especially characteristic features include a well-marked curvature of the back at mid-length of the knife and a double, ca. 4 mm-wide groove on both faces of the blade. The cutting edge of the knife is visibly convex and rounded, which suggests that this item had not been used long enough to become worn.

A knife of this form may be said to be a "foreign" element in the central European territory of the La Tène culture. At the same time, characteristic curved knives, *sicae*, were known in the northern region of the Balkans as early as the 5th century BC, as confirmed both by classical written sources and the iconographic record.[104] In this area they were one of the weapons of the Thracian population and later, became popular in the Dacian environment. A typical *sica* was a sword or long knife up to 40 cm long with a curved blade, a groove on each face and, usually, an ornament of excised geometric or zoomorphic designs. This final shape presumably was formalised at the turn of the third and second century BC. The popularity of this type of knife during the period of interest is likely to be associated with the military aristocracy of the northern Balkans, something that would be reflected by the archaeological material from grave inventories of the so-called Padea-Panagjurski Kolonii group.[105] These burials cover in their range northwestern Bulgaria, western and southern Muntenia, much of Oltenia, the Iron Gates region and southwestern Transylvania.[106]

Fighting knives are known from weapon graves of the Padea-Panagjurski Kolonii group where, next to swords, they are the largest category of finds. Zenon Woźniak distinguished these forms typologically into four types, of which types III and IV have a markedly curved back.[107] Type III are knives with a visibly tapering hilt plate,[108] and type IV are forms with a broad, flat hilt.[109] Next to the grooves, present on both faces of the blade, a typological feature, many of these knives have decoration on the blade.[110]

As Rustoiu notes, the northward migration of warriors associated with the Padea-Panagjurski Kolonii group resulted in the adoption of knives, reminiscent in the design of the *sica*, in the Dacian environment.[111] Their finds are recorded in the Dacian environment in many burials dating to the 1st century BC,[112] quite a few of these forms are encountered also in fortified settlements.[113] This settlement context leads to the surmise that the owners of *sica* knives held an important social position. At the same time, their ornamentation suggests that these knives possibly had a religious or symbolic role. Special significance of these knives in the Dacian aristocracy would be confirmed by the fact that their popularity ceased at the time of Dacia's conquest by the Romans, at which time they disappear from the military equipment.[114]

Whereas the *sica* is a form adopted in the region with Thracian traditions, in the area adjacent to that region, which drew on Illyrian or Celtic traditions, large knives were also in use. Their forms are individual for each of these regions.[115] But this does not mean that the characteristic curved knives are entirely unknown in these areas (Fig. 9). Similar finds, noted in the wide borderland between the territory of the La Tène culture and that of Iapodian settlement, have been classified by Dubravka Balen-Letunić to the type Pritoka-Bela Cerkev.[116] These are knives with a flat grip, usually with three rivet holes, and a blade with a groove on each face. Thus, stylistically they are reminiscent of type IV *sicae* of Z. Woźniak. The specimen from the Oberleiserberg is closest to this category.

Finds of a total of eleven knives of this type are recorded in four sites of the Mokronog group identified with the settlement of Celtic Taurisci. Four specimens belong to the rich collection of items recovered from the river Ljubljanica near the locality Bevke in Inner Carniola.[117] Others surfaced in cemeteries of Lower Carniola: two at Bela Cerkev-Vinji Vrh[118] and, one each, at Novo Mesto-Okrajno Glavarstvo[119] and at Podzemelj.[120]

102. See also Stuppner 2006, 19, Fig. 37.
103. During conservation treatment the damaged tang was reconstructed as having a length of 11.5 cm and four rivet holes: cf. Stuppner 2006, Fig. 37. In the presented image (Fig. 8) these reconstructions have been corrected.
104. Rustoiu 2007, 67.
105. Rustoiu 2007, 67–68.
106. Woźniak 1973. – Woźniak 1974, 74–138.
107. Woźniak 1974, 94–99.
108. Woźniak 1974, 96–97, Fig. 9/8, 14, 15.
109. Woźniak 1974, 97–98, Fig. 9/10, 13.
110. Woźniak 1974, 99–102, Fig. 10.
111. Rustoiu 2007, 70.
112. Rustoiu 2002a, 47–55, Fig. 38.
113. Rustoiu 2002b, 74.
114. Rustoiu 2007, 70–73.
115. Rustoiu 2007, 70, Fig. 5.
116. Balen-Letunić 2006, 65, Map 1.
117. Božič 1999, 199. – Balen-Letunić 2006, 65. – Gaspari, Trampuž Orel, Turk 2009, 254, No. 37/b–c; 255 and figure.
118. Stare 1973, 42, Pls. 50/8 and 51/9. – Balen-Letunić 2006, 65.
119. Božič 2008, 168, Pl. 20/2.
120. Gabrovec 1966, 177, Pl. 22/1. – Božič 2001, 187, Fig. 17.

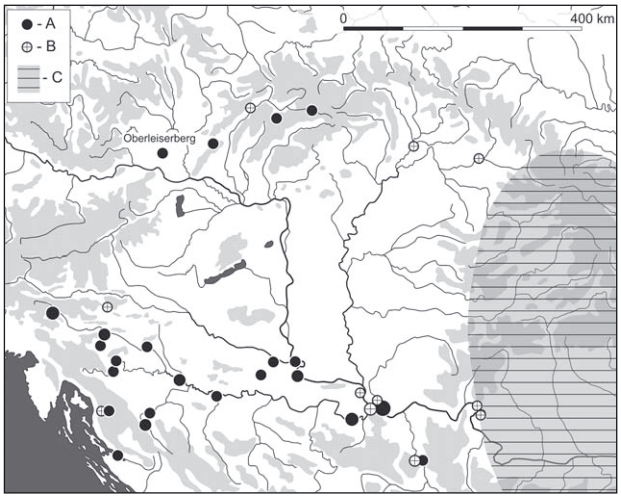

Fig. 9. Map of distribution of finds of iron curved knives reminiscent of types IV (A) and III (B) to the west of the zone of their highest frequency (C) (Graphics: M. Karwowski).

A group of four more knives stylistically reminiscent of type IV comes from central Croatia: three of them from Sisak[121] and one from Zagreb.[122] From the Mokronog group environment comes also a single find of a knife close stylistically to type III. This decorated specimen presumably belongs to a grave inventory from the cemetery at Slatina v Rožni Dolini in Slovenian Styria.[123] It is the westernmost find of this knife type in the La Tène culture.

A series of curved knives with a rectangular tang is known also from areas lying to the south of the Tauriscian settlement of the Mokronog group. A knife of this form comes, e.g. from a cemetery at Vinica, on the southern margin of Lower Carniola,[124] linked with the tribe of the Colapiani. This specimen survives complete but is bent out of shape, perhaps deliberately.

Further comparable finds are known from the territory settled by the Iapodes. One specimen comes from the Ribić cemetery near Bihać in Bosanska Krajina,[125] and two more, from the cemetery at Pritoka-Jezerine,[126] both sites in the valley of the river Una in northwestern Bosnia. Two large curved knives were discovered in Graves 71 and 75 in the cemetery at Prozor near Otočac in Lika.[127] The specimen from Grave 75 appears to be reminiscent stylistically of type III. From the same area we can only list the find of a knife from the region of Obrovac in northern Dalmatia.[128]

Large curved knives are known also from the territory settled by the Celtic Scordisci in Slavonia, Vojvodina and central Serbia. The westernmost of these finds presumably comes from a destroyed grave – a type IV specimen from Paka in the Požega Valley in central Slavonia.[129] Further comparable specimens derive from cemeteries in eastern Slavonia: at Osijek,[130] Dalj[131] and two at Sotin.[132] Also relevant for us is a type IV knife from the cemetery at Donji Laminci, on the right bank of the Sava River, i.e. in northern Bosnia.[133] Marko Dizdar and Hrvoje Potrebica have proposed that in the Late La Tène period the knives under discussion became a typical element for the region of the Celtic Scordisci.[134]

Finds of knives stylistically reminiscent of the *sica* are known also from the region more to the east, i.e. southern Vojvodina. Four such specimens – all of them likely representatives of type IV – come from a destroyed cemetery at Kupinovo,[135] and one more – type III – from the cemetery at Novi Banovci.[136] A series of knives of the *sica* type is recorded in the cemetery at Belgrade-Karaburma. We can list here both specimens reminiscent stylistically of type IV,[137] but also of type III.[138] All of them are relatively small, without decoration. Another knife, type III, comes from the settlement complex at Zemun in the northern district of today's Belgrade.[139] Also notable are finds of three similar knives from a hilltop settlement associated with the Scordisci found much more to the south, on Veliki Vetren in central Serbia.[140]

The easternmost finds of *sica* type knives, in the context of Scordiscian graves are recorded in cemeteries found in the Iron Gates area at Vajuga-Pesak and at Ajmana.[141]

121. Balen-Letunić 2006, 65, 69, Pl. 1/1–2.
122. Majnarić-Pandzić 1970, 67, Pl. XXI/3. – Balen-Letunić 2006, 69, Pl. 2/2.
123. Gaspari, Krempuš, Brišnik 2004, 269, Pl. 2/4.
124. Gabrovec 1966, 179, Pl. 20/1.
125. Marić 1971, Pl. 10/27.
126. Radimský 1895, 133, 156, Figs. 358 and 470.
127. Drechsler-Bižić 1973, 41, Pls. XXXIV/3 and XXXV/1. – Balen-Letunić 2006, 69, Pl. 2/1.
128. Stipčević 1960, 88–90, Figs. 1–2.
129. Dizdar, Potrebica 2005, 60, Fig. 2.
130. Majnarić-Pandžić 1970, 87, Pl. XXI/3.
131. Majnarić-Pandžić 1970, 89, Pl. XXIV/10.
132. Majnarić-Pandžić 1970, 94, Pl. XXXVI/8. – Majnarić-Pandžić 1973, 58, Pl. IV/2.
133. Truhelka 1901, 27–28, Pl. VI/1.
134. Dizdar, Potrebica 2005, 62, Map 1.
135. Majnarić-Pandzić 1970, 83, 85, Pls. XIII/13 and XVI/1, 5, 8.
136. Majnarić-Pandžić 1970, 90, Pl. XXVIII/5.
137. E.g. Todorović 1972, 32, 35, Pls. XXX/97/14 and XXXIV/112/6.
138. E.g. Todorović 1972, 19, 20, 26, Pls. XI/28/1, XIII/32/1 and XXI/60/14.
139. Todorović 1968, 153, Pl. LII/10. – Majnarić-Pandžić 1970, 98, Pl. XLVI/6.
140. Stojić 2003, 41, 91, Figs. 147, 148 and 311.
141. Popović 1991, 173, Figs. 3/2, 3 and 4/8.

These knives typologically resemble type III, and thus, they differ from most of the curved knife finds discussed earlier discovered on the territory of Celtic settlement. Worth noting at this point is the observably higher frequency of type III knives on the eastern periphery of the territory of La Tène culture settlement (Fig. 9).

Outside the southern, or also, southeastern territory of La Tène culture, knives stylistically reminiscent of the *sica* are known from only two finds attributed to that culture. Other than the specimen discovered on the Oberleiserberg (Fig. 8), there is a knife from the Pohanská oppidum at Plavecké Podhradie in western Slovakia,[142] a specimen classifiable to type IV belonging to one of several deposits known from this oppidum.

From western Slovakia we know of one more find of a large curved knife. This is a type III specimen from a hilltop settlement of the Púchov culture at Košeca-Nozdrovice.[143] Two other knives, both with a rectangular tang, i.e. a style characteristic for type IV, come from settlement centres of the Púchov culture at Folkušová[144] and at Liptovská Mara,[145] both in northern Slovakia. The Upper Tisza region has yielded more finds of curved knives – one from Grave 128 in the Celto-Dacian cemetery at Zemplín in eastern Slovakia,[146] and one from a Dacian hill-fort Malaya Kopana in Carpathian Ukraine.[147] Both specimens stylistically resemble type III.

As may be concluded from the list given here, outside the Dacian zone, where they are quite common, finds of curved knives are apparently distributed in two "corridors" running westward (Fig. 9). The southern "corridor" runs from the Iron Gates along the Danube River and then along the Sava River, all the way to the southeastern Alps. It is worth stressing here that knives found in this zone are recorded as far as the Danube-Drava line, but do not cross it northward. The northern "corridor", with a much smaller number of finds, runs from the northern region of the Dacian territory and follows the inner line of the western Carpathians to the westernmost site – the settlement on the Oberleiserberg.

That said it is hard to provenance the curved knife from the Oberleiserberg. Its design has a more apparent affinity with specimens known from the southeastern Celtic zone than with the typical Dacian *sica*. This helps us to interpret this find as another piece of evidence to confirm the interaction of the inhabitants of the Oberleiserberg of the Late La Tène period with the Taurisci and the Scordisci. An additional argument in favour of this direction of contact could be the almost complete lack of Dacian forms on the Oberleiserberg.[148] The good preservation of the knife from the Oberleiserberg, and more especially its markedly convex cutting edge, suggest that this specimen had not been long in use. This can be a strong piece of evidence to interpret this knife as a product of a local blacksmith, who naturally must have come into contact with the manufacturing of similar knives sometime earlier.

Summary

Out of the four different categories of finds from the settlement on the Oberleiserberg, used here as a point of departure to discussing the southern connections of this centre, only the Vinkovci type fibula can be treated as an import. It is most likely the product of a Scordiscan workshop, and, as may be judged from its distribution range, it was not intended for long-distance exchange. The solitary find recorded on the "Boii" territory north of the Middle Danube could be treated as a random occurrence if not for the context provided by the other categories of finds. Good examples here are the astragal belts. In their case it is quite likely that on the "Boii" territory they are local products but also that their concept must have been introduced to the La Tène culture environment from the territory of the Scordisci.

On the statistical evidence it is safe to claim that the settlement on the Oberleiserberg was the production site of bronze bosses decorated with enamel. Their popularity in the territory of the Mokronog group appears to be the result of influence transmitted north to south. It remains an open question why the majority of these finds comes from hilltop settlements while other categories of artefact in the territory of the Taurisci are mostly discovered in graves.

Another local product from the settlement on the Oberleiserberg could be the large curved knife. In this case the claim is supported more by the state of preservation of this specimen than in the distribution map of comparable specimens. Curved knives were introduced to the La Tène culture area from the Dacian-Scordiscian border area, but were also adopted by the Taurisci and the Iapodes. As with the astragal belts a certain role could have been played here also by an older local tradition. In the case of the knife from the Oberleiserberg we cannot underestimate the significance of (direct or indirect) Dacian influence.

142. Paulík, Tomčíková 2005, 90, Abb. 7/1, Taf. IV/2
143. Nešporová 2001, 141, Fig. 101/2.
144. Pieta 2010, Fig. 27/9 and 69/1.
145. Pieta 2010, Fig. 69/3.
146. Pieta 2005 Pl. XI/4. – Pieta 2010, Figs. 69/9 and 127/21.
147. Kotigoroško 1991, 126, Fig. 6/19.
148. See Karwowski 2008, 486–488.

References

Allerbauer, Jedlicka 2001
S. Allerbauer, F. Jedlicka, Ringelsdorf, Fundberichte aus Österreich 39/2000, 2001, 618.

Arsenijević 1998
S. Arsenijević (С. Арсенијевић), Покушај синтезе налаза гвозденодобних астрагалоидних појасева, Balcanica 29, Belgrade 1998, 7–33.

Balen-Letunić 2006
D. Balen-Letunić, Kasnolatenski noževi tipa Pritoka – Bela Cerkev, Vjesnik za Arheologiju i Historiju Dalmatinsku: Bulletin d'archéologie et d'histoire dalmates 99, 2006, 63–70.

Bazovský, Čambal 2012
I. Bazovský, R. Čambal, Širšie zázemie bratislavského oppida. In: J. Šedivý, T. Štefanovičová (Eds.), Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia. Brezalauspurc – na križovatke kultúr, Bratislava 2012, 185–189.

Bazovský, Gregor 2009
I. Bazovský, M. Gregor, Mincové dávkovacie platničky z Mudroňovej ulice v Bratislave, Zborník Slovenského národného múzea 103, Archeológia 19, 2009, 131–152.

Božič 1982
D. Božič (Д. Божич), Каснолатенски астрагални појасеви типа Београд, Старинар / Starinar 32/1981, 1982, 47–56.

Božič 1993
D. Božič, Slovenija in srednja Evropa v poznolatenskem obdobju, Arheološki vestnik 44, 1993, 137–152.

Božič 1999
D. Božič, Die Erforschung der Latènezeit in Slowenien seit Jahr 1964, Arheološki vestnik 50, 1999, 189–213.

Božič 2001
D. Božič, Ljudje ob Krki in Kolpi v latenski dobi, Arheološki vestnik 52, 2001, 181–198.

Božič 2008
D. Božič, Late La Tène-Roman cemetery in Novo mesto: Ljubljanska cesta and Okrajno glavarstvo. Studies on fibulae and on the relative chronology of the Late La Tène period. Katalogi in Monografije 39, Ljubljana 2008.

Březinová, Samuel 2007
G. Březinová, M. Samuel, Prehľad osídlenia. In: G. Březinová, M. Samuel (Eds.), „Tak čo, našli ste niečo?" Svedectvo archeológie o minulosti Mostnej ulice v Nitre, Nitra 2007, 15–69.

Brunšmid 1902
J. Brunšmid, Prethistorijski predmeti iz srijemske županije, Vjesnik Hrvatskoga Arheološkoga Društva NS 6/1, 1902, 68–86.

Challet 1992
V. Challet, Les Celtes et l'émail. Paris 1992.

Čižmař 2002
M. Čižmař, Laténský depot ze Ptení k poznání kontaktů našeho území s jihem, Památky archeologické 93/2, 2002, 194–225.

Čižmář 2005
M. Čižmář, Contacts between Moravia and the territory of the Scordisci. In: H. Dobrzańska, V. Megaw, P. Poleska (Eds.), Celts on the Margin: Studies in European Cultural Interaction 7th Century BC – 1st Century AD Dedicated to Zenon Woźniak. Krakow 2005, 131–134.

Dautova-Ruševljan 1987
V. Dautova-Ruševljan (В. Даутова-Рушевљан), Нумизматички налази трговачки и промет. In: О. Брукнер, В. Даутова-Рушевљан, П. Милошевић, Почеци романизације у југоисточном делу провинције Паноније, Novi Sad 1987, 45–64, 84–101.

Deimel 1987
M. Deimel, Die Bronzekleinfunde vom Magdalensberg. Archäologische Forschungen zu den Grabungen auf dem Magdalensberg 9, Kärntner Museumsschriften 71, Klagenfurt 1987.

Demetz 1999
S. Demetz, Fibeln der Spätlatène- und frühen römischen Kaiserzeit in den Alpenländern. Frühgeschichtliche und Provinzialrömische Archäologie – Materialien und Forschungen 4, Rahden/Westf. 1999.

Dimitrijević 1979
S. Dimitrijević, Arheološka topografija i izbor arheoloških nalaza s vinkovačkog tla. In: Z. Rapanić (Ed.), Corolla memoriae Iosepho Brunšmid dicata, Izdanja Hrvatskog Arheološkog Društva 4, 1979, 133–282.

Dizdar 2001a
M. Dizdar, Nalazišta latenske kulture na vinkovačkom području, Prilozi Instituta za Arheologiju u Zagrebu 18, 2001, 103–134.

Dizdar 2001b
M. Dizdar, Latenska naselja na vinkovačkom području: Tipološko-statistička obrada kermaičkih nalaza. Dissertationes et Monographiae 3, Zagreb 2001.

Dizdar 2003
M. Dizdar, Prilog poznavanju kasnoga latena u istočnoj Slavoniji, Opvscvla Archaeologica Radovi Arheološkog zavoda 27, 2003, 337–349.

Dizdar, Potrebica 2002
M. Dizdar, H. Potrebica, Latenska kultura na prostoru Požeške kotline, Opvscvla Archaeologica Radovi Arheološkog zavoda 26, 2002, 111–131.

Dizdar, Potrebica 2005
M. Dizdar, H. Potrebica, The Late La Tène culture in central Slavonia (Croatia). In: H. Dobrzańska, V. Megaw, P. Poleska (Eds.), Celts on the Margin: Studies in European Cultural Interaction, 7th Century BC–1st Century AD, Dedicated to Zenon Woźniak. Krakow 2005, 57–66.
Drechsler-Bižić 1973
R. Drechsler-Bižić, Nekropola prahistorijskih Japoda u Prozoru kod Otočca, Vjesnik Arheološkog muzeja u Zagrebu 3/6–7/1972–1973, 1973, 1–46.
Drnić 2012
I. Drnić, Kasnolatenske lijevane fibule s prostora jugoistočne Panonije, Vjesnik Arheološkog muzeja u Zagrebu 45, 2012, 225–238.
van Endert 1991
D. van Endert, Die Bronzefunde aus dem Oppidum von Manching. Kommentierter Katalog. Die Ausgrabungen in Manching 13, Stuttgart 1991.
Ercegović 1961
S. Ercegović, Keltski konjanički grob s Gardoša u Zemunu, Vjesnik Arheološkog muzeja u Zagrebu 2, 1961, 125–137.
Feugère 1985
M. Feugère, Les fibules en Gaule méridionale de la conquête à la fin du V^e s. ap. J.-C. Revue archéologique de Narbonnaise Supplément 12, Paris 1985.
Filip 1956
J. Filip, Keltové ve středni Evrope. Monumenta Archaeologica 5, Prague 1956.
Furmánek, Pieta 1985
V. Furmánek, K. Pieta, Počiatky odievania na Slovensku. Dávnoveké umenie Slovenska 19, Bratislava 1985.
Gabrovec 1966
S. Gabrovec, Srednjelatensko obdobje v Sloveniji, Arheološki vestnik 17, 1966, 169–242.
Gaspar 2007
N. Gaspar, Die keltischen und gallo-römischen Fibeln vom Titelberg. Dossiers d'archéologie du Musée National d'Histoire et d'Art 11, Luxembourg 2007.
Gaspari, Krempuš, Brišnik 2004
A. Gaspari, R. Krempuš, D. Brišnik, Keltski bojevniški grob iz Slatine v Rožni dolini pri Celju? Arheološki vestnik 55, 2004, 267–289.
Gaspari, Trampuž Orel, Turk 2009
A. Gaspari, N. Trampuž Orel, P. Turk, Prehistory. In: P. Turk, J. Istenič, T. Knific, T. Nabergoj (Eds.), The Ljubljanica – a River and its Past, Ljubljana 2009, 217–263.
Gleirscher 1996
P. Gleirscher, Spätkeltische und frührömische Funde im Bereich der Gracarca am Klopeiner See (Unterkärnten), Arheološki vestnik 47, 1996, 229–238.
Gumă, Rustoiu, Săcărin 1999
M. Gumă, A. Rustoiu, C. Săcărin, Les fibules du site fortifie de Liubcova-Stenca et de la citadelle de Divici-grad. In: M. Vasić (Ed.), Le Djerdap – les Portes de Fer à la deuxième moitié du premier millenaire av. J. Ch. jusqu'aux guerres daciques, Belgrade 1999, 65–76.
Guštin 1984
M. Guštin, Die Kelten in Jugoslawien, Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz 31, 1984, 305–363.
Guštin, Cunja, Predovnik 1993
M. Guštin, R. Cunja, K. K. Predovnik, Podbočje/Stari grad. Posavski muzej Brežice 9, Brežice 1993.
Harmadyová 2012
K. Harmadyová, Oblasť Devína v dobe laténskej. In: J. Šedivý, T. Štefanovičová (Eds.), Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia. Brezalauspurc – na križovatke kultúr, Bratislava 2012, 191–196.
Jerem 1973
E. Jerem, Zur Geschichte der späten Eisenzeit in Transdanubien: Späteisenzeitliche Grabfunde von Beremend (Komitat Baranya), Acta archaeologica Academiae scientiarum Hungaricae 25, 65–86.
Jovanović 1998
M. Jovanović, Astragalni pojasevi na području centralnog Balkana i jugoistočne Evrope, Rad muzeja Vojvodine 40, Novi Sad, 1998, 39–95.
Jovanović, Jovanović 1988
B. Jovanović, M. Jovanović, Gomolava: Naselje mlađeg gvozdenog doba. Gomolava 2, Novi Sad – Belgrade 1988.
Karwowski 2007a
M. Karwowski, Die latènezeitliche Höhensiedlung am Oberleiserberg bei Ernstbrunn in Niederösterreich. In: A. Huber, J. Prammer (Eds.), Siedlungsdynamik und Gesellschaft, Jahresbericht des historischen Vereins für Straubing und Umgebung – Sonderband 3, Straubing 2007, 411–431.
Karwowski 2007b
M. Karwowski, Italskie importy do północno-wschodniej Austrii w późnym okresie lateńskim. In: E. Droberjar, O. Chvojka (Eds.), Archeologie barbarů 2006, Archeologické výzkumy v jižních Čechách Supplementum 3/1, České Budějovice 2007, 27–40.
Karwowski 2008
M. Karwowski, Ręcznie lepiona ceramika z osady kultury lateńskiej w Prellenkirchen w Dolnej Austrii. In: E. Droberjar, B. Komoróczy, D. Vachůtová (Eds.), Barbarská sídliště: Chronologické, ekonomické

a historické aspekty jejich vývoje ve světle nových archeologických výzkumů, Brno 2008, 481–494.

Karwowski 2009

M. Karwowski, A Celtic Hilltop Settlement on Oberleiserberg in Lower Austria, Światowit – Supplement Series B: Barbaricum 8, Warsaw 2009, 115–131.

Karwowski 2012a

M. Karwowski, Der keltische Oberleiserberg. In: E. Lauermann, P. Trebsche (Eds.), Beiträge zum Tag der Niederösterreichischen Landesarchäologie 2012. Katalog des Niederösterreichischen Landesmuseums N. F. 507. Asparn/Zaya 2012, 40–48.

Karwowski 2012b

M. Karwowski, An Ithyphallic Celtic Figurine from Oberleiserberg. In: S. Berecki (Ed.), Iron Age Rites and Rituals in the Carpathian Basin. Bibliotheca Musei Marisiensis – Seria Archaeologica 5, Târgu Mureș 2012, 189–212.

Karwowski in press

M. Karwowski, Wschodniоceltyckie brązowe fibule o konstrukcji „pseudo-środkowolateńskiej". In: E. Droberjar, B, Komoróczy (Eds.), Archeologie Barbarů 2012. Římské a germánské spony ve střední Evropě, in press.

Karwowski, Militký 2011

M. Karwowski, J. Militký, The Oberleiserberg types in the context of Taurisci influences. In: M. Guštin, M. Jevtić (Eds.), The Eastern Celts: The Communities between the Alps and the Black Sea. Koper – Belgrade 2011, 131–136.

Karwowski, Militký 2014

M. Karwowski, J. Militký, Die Beziehungen der Kelten vom Oberleiserberg zum Ostalpenraum. In: H. Friesinger, A. Stuppner (Eds.), Akkulturationsphänomene beiderseits der Alpen in Antike und Frühmittelalter. Materialien des 22. Internationalen Symposiums „Grundprobleme der frühgeschichtlichen Entwicklung im mittleren Donauraum", Lendorf (Kärnten), 30.11.–4.12.2009, Archaeologia Austriaca 96/2012, 2014, 57–69.

Kasparova 1977

K. V. Kasparova (К. В. Каспарова), О фибулах зарубинецкого типа, Archeologičeskij Sbornik. Gosudarstvennyj Ordena Lenina Ermitaž 18, 1977, 68–78.

Kemenczei 2012

T. Kemenczei, Angaben zur Kenntnis der Eisenzeit in der Südwesthälfte des Karpatenbeckens, Acta archaeologica Academiae scientiarum Hungaricae 63, 2012, 317–334.

Kenner 1961

H. Kenner, Die Kleinfunde römischer Art. In: R. Egger, Die Ausgrabungen auf dem Magdalensberg 1958–1959, Carinthia I 151/1–4, 1961, 74–167.

Kern 1996

A. Kern, Spätlatènezeitliche Funde vom Oberleiserberg, MG Ernstbrun, NÖ. In: E. Jerem, A. Krenn-Leeb, J.-W. Neugebauer, O. Urban (Eds.), Die Kelten in den Alpen und an der Donau, Budapest – Vienna 1996, 385–393.

Kern, Karwowski, Militký 2012

A. Kern, M. Karwowski, J. Militký, Oberleis, Österreich. In: S. Sievers, O. Urban, P. Ramsl (Eds.), Lexikon zur keltischen Archäologie: L–Z. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 73, Vienna 2012, 1399–1402.

Koščević 1980

R. Koščević, Antičke fibule s područja Siska. Zagreb 1980.

Kotigoroško 1991

V. G. Kotigoroško, Antichităţile dacice din zona Tisei superioare, Thraco-Dacica 12/1–2, 1991, 115–132.

Kovrig 1937

I. Kovrig, A császárkori fibulák főformái Pannoniában. Dissertationes Pannonicae 2/4, Budapest 1937.

Kropotov 2010

V. V. Kropotov (В. В. Кропотов), Фибулы сарматской эпохи. Kiev 2010.

Leifeld 2007

H. Leifeld, Endlatène- und älterkaiserzeitliche Fibeln aus Gräbern des Trierer Landes. Eine antiquarisch-chronologische Studie. Universitätsforschungen zur Prähistorischen Archäologie 146, Bonn 2007.

Majnarić-Pandžić 1970

N. Majnarić-Pandžić, Keltsko-latenska kultura u Slavoniji i Srijemu. Acta Musei Cibalensis 2, Vinkovci 1970.

Majnarić-Pandžić 1973

N. Majnarić-Pandžić, Kasnolatenski keltski grobovi iz Sotina, Vjesnik Arheološkog muzeja u Zagrebu 6–7/1972–1973, 1973, 55–74.

Majnarić-Pandžić 2009

N. Majnarić-Pandžić, On the south Pannonian population in the Late Iron Age. In: G. Tiefengraber, B. Kavur, A. Gaspari (Eds.), Keltske študije II: Studies in Celtic Archaeology. Papers in Honour of Mitja Guštin. Protohistoire Européenne 11, Montagnac 2009, 235–245.

Majnarić-Pandžić 2012

N. Majnarić-Pandžić, Zemun, Serbien. In: S. Sievers, O. Urban, P. Ramsl (Eds.), Lexikon zur keltischen Archäologie: L–Z. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 73, Vienna 2012, 2034–2035.

Maráz 1983
B. Maráz, La Tene-kori leletek Jugoszláviából és Romániából magyarországi múzeumokban, A Janus Pannonius Múzeum Evkonyve 27/1982, 1983, 107–116.
Marić 1963
Z. Marić, Keltski elementi u mlađem željeznom dobu Bosne i Hercegovine, Glasnik Zemaljskog muzeja Bosne i Hercegovie u Sarajevu: Arheologija 18, Sarajevo 1963, 63–83.
Marić 1964
Z. Marić, Donja Dolina, Glasnik Zemaljskog muzeja Bosne i Hercegovie u Sarajevu: Arheologija 19, Sarajevo 1964, 5–128.
Marić 1971
Z. Marić, Die japodischen Nekropolen im Unatal, Wissenschaftliche Mitteilungen des Bosnischen Landesmuseums, Archäologie 1/A, 1971, 13–96.
Márton 1933
L. Márton, A korai la Tène-kultúra Magyarországon – Die Frühlatènezeit in Ungarn, Archaeologia Hungarica 11, Budapest 1933.
Meduna 1961
J. Meduna, Staré Hradisko. Katalog nálezů uložených v muzeu města Boskovic. Fontes Archaeologiae Moravicae 2, Brno 1961.
Meduna 1970
J. Meduna, Staré Hradisko II. Katalog der Funde aus den Museen in Brno (Brünn), Praha (Prag), Olomouc, Plumlov und Prostějov. Fontes Archaeologiae Moravicae 5, Brno 1970.
Miroššayová, Čaplovič 1991
E. Miroššayová, D. Čaplovič, Najnovšie výsledky výskumu včasnodejinného a stredovekého osídlenia v Zemplíne, Východoslovenský pravek 3, 1991, 115–132.
Miske 1908
K. Miske, Die prähistorische Ansiedlung Velem St. Vid 1: Beschreibung der Raubbaufunde. Vienna 1908.
Nešporová 2002
T. Nešporová, Nálezy z Košece-Nozdrovíc, Archeologické výskumy a nálezy na Slovensku v roku 2001, Nitra 2002, 141–142.
Pachkova 2006
S. P. Pachkova (С. П. Пачкова), Зарубинецкая культура и латенизированные культуры Европы. Kiev 2006.
Paulík, Tomčíková 2005
J. Paulík, K. Tomčíková, Ďalší hromadný nález železných predmetov v Plaveckom Podhradí, Slovenská archeológia 53/1, 2005, 85–122.
Pič 1903
J. L. Pič, Hradiště u Stradonic jako historické Marobudum. Čechy na úsvitě dějin 2, Prague 1903.
Pieta 1982
K. Pieta, Die Púchov-Kultur. Studia Archaeologica Slovaca 1, Nitra 1982.
Pieta 1996
K. Pieta, Liptovská Mara, Včasnohistorické centrum severného Slovenska. Archeologické pamätníky slovenska 5, Bratislava 1996.
Pieta 2001
K. Pieta, Die Siedlung Liptovská Mara II und die Anfänge der Einflüsse der Latène-Kultur im Westkarpatenraum, Slovenská archeológia 48/2, 2001, 315–346.
Pieta 2005
K. Pieta, Spätlatènezeitliche Waffen und Ausrüstung im nördlichen Teil des Karpatenbeckens, Slovenská archeológia 53/1, 2005, 35–84.
Pieta 2010
K. Pieta, Die keltische Besiedlung der Slowakei: Jüngere Latènezeit. Archaeologica Slovaca Monographiae 13, Nitra 2010.
Pieta, Zachar 1993
K. Pieta, L. Zachar, Mladšia doba železná (laténska). In: T. Štefanovičová and collective (Eds.), Najstaršie dejiny Bratislavy. Bratislava 1993, 143–209.
Plachá 1997
V. Plachá, Výsledky výskumu Národnej kultúrnej pamiatky Devín v rokoch 1994–1995, Archeologické výskumy a nálezy na Slovensku v roku 1995, 1997, 150–151.
Popović 1991
P. Popović (П. Поповић), Млађе гвоздено доба Ђердапа, Старинар / Starinar 40–41/1989–1990, 1991, 164–176.
Popović 1994
P. Popović, Lanzenfibeln des Westbalkans und der Donauniederung, Balcanica 25/1, 1994, 53–71.
Popović 1999
P. Popović, The Scordisci and the Bastarnae. In: M. Vasić (Ed.), Le Djerdap – les Portes de Fer à la deuxième moitié du premier millenaire av. J. Ch. jusqu'aux guerres daciques. Belgrade 1999, 47–54.
Radimský 1895
W. Radimský, Die Nekropole von Jezerine in Pritoka bei Bihać, Wissenschaftliche Mitteilungen aus Bosnien und Hercegovina 3, 1895, 39–218.
Riha 1994
E. Riha, Die römischen Fibeln aus Augst und Kaiseraugst: Die Neufunde seit 1975, Forschungen in Augst 18. Augst 1994.
Rustoiu 1996
A. Rustoiu, Metalurgia bronzului la Daci (sec. II î. Chr. – sec. I d. Chr.): Tehnici, ateliere şi produse de

bronz. Bibliotheca Thracologica 15, Bucharest 1996.

Rustoiu 1997

A. Rustoiu, Fibulele din Dacia preromană (sec. II î.e.n. – I e.n.). Bibliotheca Thracologica 22, Bucharest 1997.

Rustoiu 2002a

A. Rustoiu 2002, Războinici şi artizani de prestigiu în Dacia preromană, Interferenţe etnice şi culturale în mileniile I a. Chr. – I p. Chr. 3. Cluj-Napoca 2002.

Rustoiu 2002b

A. Rustoiu 2002, Locuirile Dacice. In: V. Vasiliev, E. A. Balaguri, C. Cosma, Solotvino – „Cetate" (Ucraina Transcarpatica): Aşezările din epoca bronzului, a doua vârstă a fierului şi din evul mediu timpuriu. Bibliotheca Thracologica 33, Cluj-Napoca 2002, 46–91.

Rustoiu 2007

A. Rustoiu, Thracian *sica* and Dacian *falx*: the history of a 'national' weapon. In: S. Nemeti, F. Fodorean, E. Nemeth, S. Cociş, I. Nemeti, M. Pîslaru (Eds.), Dacia felix. Studia Michaeli Bărbulescu oblata, Cluj-Napoca 2007, 67–82.

Schönfelder 2002

M. Schönfelder, Das spätkeltische Wagengrab von Boé (Dép. Lot-et-Garonne): Studien zu Wagen und Wagengräbern der jüngeren Latènezeit. Monographien des Römisch-Germanischen Zentralmuseums Mainz 54, Mainz 2002.

Sedlmayer 2009

H. Sedlmayer, Die Fibeln vom Magdalensberg. Funde der Grabungsjahre 1948–2002 und Altfunde des 19. Jahrhunderts. Archäologische Forschungen zu den Grabungen auf dem Magdalensberg 16, Klagenfurt 2009.

Sievers 1992

S. Sievers, Die Kleinfunde. In: F. Maier, U. Geilenbrügge, E. Hahn, H.-J. Köhler, S. Sievers, Ergebnisse der Ausgrabungen 1984–1987 in Manching. Die Ausgrabungen in Manching 15, Stuttgart 1992, 137–213.

Stare 1973

V. Stare, Prazgodovina Šmarjete. Katalogi in monografije 10, Ljubljana 1973.

Stipčević 1960

A. Stipčević, Latenski predmeti iz okolice Obrovca, Diadora 1/1959, Zadar 1960, 87–94.

Stojić 2003

M. Stojić, Veliki vetren. Arheološki institut – Posebna izdanja 38, Belgrade 2003.

Striewe 1996

K. Striewe, Studien zur Nauheimer Fibel und ähnlichen Formen der Spätlatènezeit. Internationale Archäologie 29, Espelkamp 1996.

Stuppner 2006

A. Stuppner, Rund um den Oberleiserberg: Archäologische Denkmale der Gemeinden Ernstbrunn und Niederleis, Ernstbrunn 2006.

Todorović 1964

J. Todorović, Ein Beitrag zur stilistischen und zeitlichen Bestimmung der astragaloiden Gürtel aus Jugoslawien, Archaeologia Jugoslavica 5, 1964, 45–48.

Todorović 1968

J. Todorović, Kelti u jugoistočnoj Evropi. Dissertationes 8, Belgrade 1968.

Todorović 1971

J. Todorović (J. Тодоровић), Каталог праисторијских металних предмета. Belgrade 1971.

Todorović 1972

J. Todorović, Praistorijska Karaburma I – nekropola mlađeg gvozdenog doba. Dissertationes et Monographiae 13, Belgrade 1972.

Truhelka 1901

Ć. Truhelka, Rezultati prehistoričkog istraživanja u Bosni-Hercegovini (Tečajem godine 1900), Glasnik Zemaljskog muzeja u Bosni i Hercegovini 13, 1901, 1–30.

Vrtel 2012

A. Vrtel, Keltské oppidum v Bratislave. In: J Šedivý, T. Štefanovičová (Eds.), Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia. Brezalauspurc – na križovatke kultúr, Bratislava 2012, 164–180.

Wendowski-Schünemann 2010

A. Wendowski-Schünemann, Ergänzungen zur sogenannten Zarubincy-Fibel von der Elbemündung, Die Kunde – Zeitschrift für niedersächsische Archäologie N. F. 60/2009, 2010, 25–38.

Woźniak 1973

Z. Woźniak, Die Gräberfelder des Latènetypus aus dem Niederdonau-Gebiet und ihre Beziehungen zu Mitteleuropa. In: G. Novak (Ed.), Actes du VIII[e] Congrès International des Sciences Préhistoriques et Protohistoriques 3. Rapports et corapports, Belgrade 1973, 250–256.

Woźniak 1974

Z. Woźniak, Wschodnie pogranicze kultury lateńskiej. Wrocław – Warsaw – Krakow 1974.

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The Coins of the Taurisci and Norici Found in Bohemia and Moravia

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Abstract: This contribution considers issues of relations and contacts between the Boii and the areas inhabited by the tribes of the Taurisci and Norici. Coins are particularly important for tracing far-reaching contacts between individual sites and regions. The onset of these imports dates to before the time of the oppida, but most of the coins of the Taurisci and Norici can be associated with the oppida horizon.

Keywords: Bohemia, Moravia, Taurisci, Norici, coins, imports.

Zusammenfassung: In diesem Beitrag werden Fragen der Beziehungen und Kontakte der Boier mit den von den Stämmen der Taurisker und Noriker bewohnten Gebieten beleuchtet. Durch die Vermittlung von Münzen ist es relativ zuverlässig möglich, die Fernkontakte zwischen den einzelnen Fundstellen und Regionen zu verfolgen. Es zeigt sich, dass der Importbeginn noch vor der Oppidazeit liegt, der Großteil der tauriskischen und norischen Münzen jedoch in den Oppidahorizont fällt.

Stichwörter: Böhmen, Mähren, Taurisker, Noriker, Münzen, Importe.

Coinage is of particular relevance for our understanding of the Celtic communities of the Late La Tène period in central Europe. Its distribution makes it possible to establish relatively reliably what long-distance contacts existed between central places and the wider world. In this contribution we aim to document the numismatic evidence for contacts in the territory of what nowadays is the Czech Republic, that is, between the Boii and the Taurisci and Norici. Our data consist of coin finds which show a strong connection between the regions under study.

The area occupied by the Celtic tribe of the Taurisci lies in present-day Slovenia and parts of Styria. As the hoard of Enemonzo in northern Italy shows,[1] the Taurisci began to issue coins – silver tetradrachms and obols – during the first half of the 2nd century BC at the latest. The inventory of Celtic coins from Slovenia recovered up to 1977 has been studied,[2] and Robert Göbl has published a detailed typology of the issues of the Taurisci.[3] Nevertheless the internal chronology of these coins and questions relating to their minting remain somewhat unclear. The Iron Age agglomeration of *Kéleia*, which was to become the Roman *Civitas Celeia* on the site of the present-day town of Celje,[4] was the main centre of the Taurisci.

The second area of study consists of what is known as western Noricum; it was occupied by the tribe of the Norici[5] and is located mainly in Carinthia. There the Norican kingdom (*regnum Noricum*[6]) emerged in the course of the 2nd century BC under strong influence from Rome, retaining its independence until 16/15 BC. It is only during the reign of Claudius, around AD 40, that the region became a true Roman province. Celtic coins – tetradrachms and obols – were minted in quantity in western Noricum. It was Göbl again[7] who defined their typology. Two important centres with abundant finds of coins are known from western Noricum – Gurina[8] and the Magdalensberg.[9]

The region to the north of the Middle Danube consists essentially of an area settled by the tribe, or more

1. Gorini 2005. – Kos 2007. – Kos 2012.
2. Kos 1977.
3. Göbl 1973.
4. For a summary of the site, see Lazar, Kos 2012.
5. In fact several Celtic tribes – the Alauni, Ambisoutes, Saevates, Laianci, Ambilici and Ambitravi – occupied the area.
6. E.g. Krmnicek 2010, 15–17. – Dobesch 2012.
7. Göbl 1973.
8. For a summary of the site, see Gleirscher 2012.
9. For a summary of the site, see Dolenz, Piccottini 2012. – For the coin finds, see Bannert, Piccottini 1972. – Jablonka 2001. – Krmnicek 2010.

precisely by the confederation, of the Boii. It encompasses Bohemia, Moravia, but also Silesia, southwestern Slovakia and northeastern Austria. It is clear that such a vast zone was not unified in the Middle and Late La Tène period.

The written sources occasionally mention contacts between the Boii and the Taurisci and Norici.[10] Between 186 and 183 BC Celts from Noricum moved to northern Italy, into the area later known as the Veneto. Between 120 and 113 BC central and western Europe saw the incursions of the Cimbri and Teutones. They most probably crossed the territory of the Boii and were also active in Noricum. It is there that they were defeated by the Romans in the battle of *Noreia* of 113 BC.[11] The fact that there was a chieftain named Boiorix among the Cimbri, Teutones and Ambrones is worth noting. It is likely that some Boii joined their Germanic aggressors at certain stages of the conflict. The Boii are mentioned again in Noricum around 58 BC, in relation to a largely unsuccessful attempt at conquering the region. In 44/40 BC the Boii and Taurisci became allies in a pact against the Dacian king Burebista. They lost the ensuing war and are reported to have been decimated by the Dacians.[12] The demise of Boian power on the Middle Danube enabled, at least theoretically, the Norici to extend their power into that region.[13] Celtic supremacy in the Middle Danube region ended in the penultimate decade of the 1st century BC with the arrival of the Romans on the Danube.

There is evidence for contact between the areas occupied by the Norici and Taurisci in the form of specific categories of archaeological finds (e.g. fibulae, metal vessels), but it is rarely possible to pinpoint their location precisely. Among the finds assemblages, the coins constitute the best defined group, best able to document mutual contacts. Bohemia and Moravia have yielded a surprisingly large quantity of coin finds, which are revisited and presented in this contribution.

Finds Catalogue

I. BOHEMIA

STRADONICE (District of Beroun)

1. Settlement finds (17 items)

To date, nearly 2000 individual finds of coins and at least three hoards[14] have been recorded in the area occupied by that most important of Celtic oppida[15] in Bohemia. Imports of coins constitute a significant group besides the coins minted locally; coins issued by the Taurisci and Norici figure in this assemblage. The finds listed here consist of single items that have been recovered between the 19th century and today.[16]

Eastern Noricum, Taurisci

1.1 AR tetradrachm, **Samobor C** type (dies **96** / **191**)
Ref.: Göbl 1973, 137, No. SC 18/1–2, Pl. 43/SC 18/1–2.
This coin: Píč 1903, 11–12, Fig. 2/1. – Göbl 1973, 137, No. SC 18/2, Pl. 43/SC 18/2. – Dembski 1998, 93, No. 940, Pl. 52/940.
9.16 g
Provenance: area of oppidum, 1877.
Current location: Kunsthistorisches Museum Vienna, Inv. no. 39.242.

1.2 AE/AR tetradrachm (fourrée, *subaeratus*), ***Frontalgesicht*** type (dies **78**? / **148**?) – halved
Ref.: Göbl 1973, 131, No. 6/15 (?), Pl. 31/15 (?).
4.211 g; 22.4/- mm; die-axis: 9 o'clock
Provenance: area of oppidum, 2004.
Current location: private collection, Ev. no. PČ 4267.

1.3 AR obol, ***Frontalgesicht*** type
Ref.: Paulsen 1933, Pl. 26/609–610. – Göbl 1973, 140, No. HH/1–2, Pl. 45/HH/1–2. – Mackensen 1975, 272, No. 75, Pl. 4/75. – Kos 1977, 112. No. 993, Pl. 40/20. – Militký 2012a, 52, Fig. 29/17.
This coin: Paulsen 1933, 67, 153, No. 610, Pl. 26/610. – Göbl 1973, 140, No. HH/1, Pl. 45/HH/1. – Mackensen 1975, 272, No. 75, Pl. 4/75. – Drda, Rybová 1998, 183, Fig. 10.
0.408 g; 11.5 mm
Provenance: area of oppidum, around 1877–1881 (?).
Current location: Národní Muzeum Prague, lost (coll. Š. Berger?).

1.4 AR obol, ***Frontalgesicht*** type
Ref.: Paulsen 1933, Pl. 26/609–610. – Göbl 1973, 140, No. HH/1–2, Pl. 45/HH/1–2. – Mackensen 1975, 272, No. 75, Pl. 4/75. – Kos 1977, 112. No.

10. For an overview, see for example Dobesch 2012.
11. E.g. Hainzmann 2012.
12. Dobesch 1994. – Dobesch 1995.
13. Kolníková 1996, 51.
14. For the coinage, see Píč 1903, 9–31. – Koblitz 1918. – Paulsen 1933. – Hartmann 1985. – Dembski 1998. – Militký 2004. – Militký 2010a. – Smejtek, Lutovský, Militký 2013, 343–345, No. 1–3.
15. For the site, see Píč 1903. – Rybová, Drda 1994. – Waldhauser 2001, 464–465. – Venclová 2008, 30–46. – Venclová, Valentová 2012. – Valentová 2013. – For glass manufacture, see Venclová 1990.
16. The Western Norican tetradrachm COPO (Píč 1903, 11–12, Fig. 2/3) does not come from Stradonice but from Gurina (Göbl 1973, 119, No. C3/3, Pl. 4/C3/3. – Dembski 1998, 88, No. 792, Pl. 41/792).

993, Pl. 40/20. – Militký 2012a, 52, Fig. 29/17.
This coin: Píč 1903, Pl. II/76 (obverse only). – Paulsen 1933, 67, 153, Pl. 26/609. – Göbl 1973, 140, No. HH/2, Pl. 45/HH/2. – Drda, Rybová 1998, 183, Fig. 9.
0.525 g; 8.6/9.3 mm; die-axis: 10 o'clock
Provenance: area of oppidum, around 1877–1881.
Current location: Národní Muzeum Prague, Inv. no. H1-235.477 (coll. Š. Berger).

1.5 AR obol
Ref.: Kos 1977, as Pl. 19/25–26. – Kostial 2003, 65, as No. 295.
0.539 g; 9.4/87.4 mm
Provenance: area of oppidum, around 1877–1881.
Current location: Národní Muzeum Prague, Inv. no. H1-235.476 (coll. Š. Berger).

1.6 AR obol
Ref.: Kos 1977, as Pl. 19/25–26. – Kostial 2003, 65, as No. 295.
0.574 g; 9.3/9.4 mm
Provenance: area of oppidum, around 2005.
Current location: private collection, Ev. no. PČ 4.641.

Western Noricum, Norici

1.7 AR tetradrachm, ***Tinco-Stufe* B2** type (dies **2J**? / **23**?)
Ref.: Göbl 1973, 118, No. B2/7 (?), as Pl. 3/7. – Kostial 1997, 42, as No. 116.
9.550 g; 21.2/21.7 mm; die-axis: 6 o'clock
XRF (ÚJF Řež u Prahy): Cu 4.9 %; Au <0.2 %; Pb 0.4 %; Bi (0.05) %; Ag 94.6 %
Provenance: area of oppidum (?), around 2003 (?) – not confirmed.
Current location: private collection, Ev. no. PČ 4030 (formerly Ev. no. PS 87/2003:2).

1.8 AR tetradrachm, ***Tinco-Stufe* B2** type (dies ? / ?)
Ref.: Göbl 1973, Pl. 2–3: group B2 Var.
9.671 g; 20.6/21.8 mm; die-axis: 10 o'clock
XRF (ÚJF Řež Prague): Cu 10.8 %; Au <0.2 %; Pb 0.5 %; Bi 0.13 %; Ag 88.4 %
Provenance: area of oppidum (?), around 2003 (?) – not confirmed.
Current location: private collection, Ev. no. PS 87/2003:1.

1.9 AR obol, **Magdalensberg** type, group Göbl (1973) **IAa**
Ref.: Paulsen 1933, Pl. 26/607. – Göbl 1973, Pl. 47/IAa. – Kostial 1997, 60, No. 241.
This coin: Píč 1903, Pl. II/75 (reverse only). – Paulsen 1933, 67, 153, Pl. 26/607. – Drda, Rybová 1998, 183, Fig. 22.
0.482 g; 10.2/8.6 mm
Provenance: area of oppidum, around 1877–1881.
Current location: Národní Muzeum Prague, Inv. no. H1-235.475 (coll. Š. Berger).

1.10 AR obol, **Magdalensberg** type, group Göbl (1973) **IAd**
Ref.: Paulsen 1933, 153, Pl. 26/601. – Göbl 1973, Pl. 47/IAd. – Kostial 1997, 61, No. 245–246.
This coin: Píč 1903, Pl. II/77 (reverse only). – Paulsen 1933, 67, 153, Pl. 26/601. – Drda, Rybová 1998, 183, Fig. 16.
0.751 g; 7.7/8.3 mm
Provenance: area of oppidum, around 1877–1881.
Current location: Národní Muzeum Prague, Inv. no. H1-235.474 (coll. Š. Berger).

1.11 AR obol, **Magdalensberg** type, group Göbl (1973) **IAd**
Ref.: Paulsen 1933, Pl. 26/602. – Göbl 1973, Pl. 47/IAd. – Kostial 1997, 61, No. 245–246.
This coin: Koblitz 1918, 100, No. 28. – Paulsen 1933, 66, 153, Pl. 26/602. – Göbl 1973, 140, No. EE1, Pl. 45/EE1. – Drda, Rybová 1998, 183, Fig. 17.
0.75 g; 13.4 mm
Provenance: area of oppidum, before 1918.
Location: collection. E. Lorber, today unknown.

1.12 AR obol, **Magdalensberg** type, group Göbl (1973) **IAd**
Ref.: Paulsen 1933, Pl. 26/606. – Göbl 1973, Pl. 47/IAd. – Kostial 1997, 61, No. 245–246.
This coin: Paulsen 1933, 67, 153, Pl. 26/606. – Drda, Rybová 1998, 183, Fig. 21.
0.563 g; 9.2/7.6 mm
Provenance: area of oppidum, second half of 19th century.
Current location: Národní Muzeum Prague, Inv. no. H5-27.327 (coll. E. Mikš / K. Buchtela).

1.13 AR obol, **Magdalensberg** type, group Göbl (1973) **IAf**
Ref.: Paulsen 1933, Pl. 26/605. – Göbl 1973, Pl. 47/IAf.
This coin: Paulsen 1933, 67, 153, Pl. 26/605. – Dembski 1998, Pl. 44/828 (but cited as coming from Gurina). – Göbl 1973, 140, No. If, Pl. 47/IAf. – Drda, Rybová 1998, 183, Fig. 20.
0.67 g; 11 mm
Provenance: area of oppidum, second half of 19th century.
Current location: Kunsthistorisches Museum Vienna, Inv. no. 39.269 (formerly Inv. no. 5.240).

1.14 AR obol, **Magdalensberg** type, group Göbl (1973) **IIh**
Ref.: Göbl 1973, Pl. 47/IIh. – Dembski 1998, 90, No. 851. – Kostial 2003, 64, No. 285.
This coin: Paulsen 1933, 67, 153, No. 604, Pl. 26/604. – Militký, Vacinová 2012, 32, No. 34. – Göbl 1973, 140, No. DD/1, Pl. 45/DD/1. – Drda, Rybová 1998, 183, Fig. 19.
0.668 g; 8.5/10.3 mm
Provenance: area of oppidum, second half of 19th century.
Current location: Národní Muzeum Prague, Inv. no. H5-29.899 (coll. K. Chaura)

1.15 AR obol, **Magdalensberg** type, group Göbl (1973) **IIh**
Ref.: Paulsen 1933, Pl. 26/599. – Göbl 1973, Pl. 47/IAd. – Kostial 1997, 61, No. 245–246.
This coin: Paulsen 1933, 67, 153, Pl. 26/599.
0.791 g; 9.0/9.2 mm
Provenance: area of oppidum, before 1931.
Current location: Národní Muzeum Prague, Inv. no. H5-201.094.

1.16 AR obol, **Magdalensberg** type, group (?)[17]
Ref.: Göbl 1973, as Pl. 47.
This coin: Koblitz 1918, 100, No. 27. – Paulsen 1933, 66, No. 1414a.
0.35 g; 11 mm
Provenance: area of oppidum, before 1918.
Location: collection E. Lorber, today unknown.

1.17 AR obol, group Göbl (1973) **M1**
Ref.: Paulsen 1933, Pl. 26/608. – Göbl 1973, Pl. 44/M1. – Mackensen 1973, 87, Pl. 7/1a–b. – Brandt 2002, 97, No. 237, Pl. 12/237.
This coin: Píč 1903, Pl. II/78 (reverse only). – Paulsen 1933, 67, 153, No. 608, Pl. 26/608. – Göbl 1973, 139, No. M1, Pl. 44/M1. – Mackensen 1973, 87, Pl. 7/1a–b. – Mackensen 1975, 272, No. 62, Pl. 4/62. – Drda, Rybová 1998, 183, Fig. 18.
0,65 g; 8,5 mm
Provenance: area of oppidum, before 1903.
Current location: private collection, today unknown.

TŘÍSOV (District of Český Krumlov)

2. Settlement finds (2 items)

Only a small assemblage of coins is known today from the area of the Celtic oppidum of Třísov in southern Bohemia;[18] it comes from the excavations published by J. Břeň.[19] Metal-detector surveys have been carried out on the site since 2007[20] and these have yielded a total of some 150 coins.[21] Two obols from western Noricum are present in the assemblage from Třísov. The first was found in archaeological excavations in 1977, the second was recovered in a metal-detector survey in 2013.

Western Noricum, Norici

2.1 AR obol, **Magdalensberg** type, group Göbl (1973) **IAf**
Ref.: Göbl 1973, Pl. 47/IAf.
This coin: Militký 1995, 38, No. 12/4; Pl. I/18. – Militký 2005, 46, No. 77/5.
0.594 g; 10.7/10.0 mm
Provenance: Excavations 1977 – Sondage A, from the cleaning of a feature (a hearth) with pale orange clay over the base of the hearth.
Current location: Národní Muzeum Prague, Inv. no. H1-235.412.

2.2 AR obol, **Magdalensberg** type, group Göbl (1973) **M1**
Ref.: Paulsen 1933, Pl. 26/608. – Göbl 1973, Pl. 44/M1. – Mackensen 1973, 87, Pl. 7/1a–b. – Brandt 2002, 97, No. 237, Pl. 12/237.
0.419 g; 9.3/8.9 mm
Provenance: southern part of the oppidum, terrace 8; archaeological metal-detector survey, 18.04.2013.
Current location: Southern Bohemian Museum České Budějovice, Inv. no. Mi 27.053.

ZBIROH (District of Beroun)

3. Hoard (2+? items)

A hoard of Celtic silver coins was discovered in 1856 in the neighbourhood of Zbiroh but no further details are available concerning the circumstances in which the find was made. The original number of coins is unknown and only two survive today. Both come from the collection assembled by E. Mikš and K. Buchtela, kept in the National Museum in Prague since 1922.[22] The coins are imported silver obols of the Magdalensberg type and it is likely that further issues of this type were once pres-

17. Koblitz 1918 refers to the Píč type (1903), Pl. II/75, 78, Dessewffy type (1910), Tab. XIX/481 and Forrer type (1908/1968), Fig. 136.

18. For the site, see for example Břeň 1956. – Břeň 1966. – Břeň 1984. – Břeň 1987. – Karasová 2002. – Hlava 2008. – Hlava 2009.

19. Militký 1995, 38, No. 12. – Militký 2005, 46, No. 77.

20. Danielisová, Militký 2014.

21. This assemblage is being prepared for publication by J. Militký.

22. See Fiala 1891, 8, No. 42–43. – Koblitz 1918, 98, No. 41–42. – Paulsen 1933, 57, 58, 153, Pl. 26/600, 603. – Radoměrský 1955, 69, No. 137. – Drda, Rybová 1998, 183, No. 23–24. – Waldhauser 2001, 534, No. 1. – Smejtek, Lutovský, Militký 2013, 401, No. 1.

ent but have not survived. The Zbiroh hoard is the only hoard in Bohemia containing Norican issues.

Western Noricum, Norici

3.1 AR obol, **Magdalensberg** type, group Göbl (1973) **IAc**
Ref.: Göbl 1973, Pl. 47/IAc.
This coin: Koblitz 1918, 98, No. 41. – Paulsen 1933, 67, 153, Pl. 26/603. – Drda, Rybová 1998, 183, Fig. 24.
0.725 g; 10.0/9.1 mm
Current location: Národní Muzeum Prague, Inv. no. H1-27.326.

3.2 AR obol, **Magdalensberg** type, group Göbl (1973) **IIc**
Ref.: Göbl 1973, Pl. 47/IIc.
This coin: Paulsen 1933, 67, 153, Pl. 26/600. – Drda, Rybová 1998, 183, Fig. 23.
0.782 g; 10.0/9.5 mm
Current location: Národní Muzeum Prague, Inv. no. H1-27.325.

PLZEŇ (District of Plzeň)

4. Single find (1 item)

A tetradrachm of the Taurisci was found in the second half of the 19th century; there are no details of its discovery in Pilsen or nearby. The coin comes from the collection assembled by E. Mikš and later K. Buchtela, kept in the National Museum in Prague since 1922 (Inv. no. H5-27.328).[23]

Eastern Noricum, Taurisci

4.1 AR tetradrachm, **Gjurgjevac** type (dies **60** / **128**)
Ref.: Göbl 1973, 129, No. 5/36–40, Pl. 26/36–40.
This coin: Koblitz 1918, 98, No. 68. – Drda, Rybová 1998, 183, Fig. 3 (but cited as coming from Stradonice).
0.278 g; 21.5/24.1 mm; die-axis: 12 o'clock

KNÍNICE (District Ústí nad Labem)

5. Single find (1 item)

A tetradrachm was found in 2003/2004 by metal-detectorists acting privately. It was recovered in woodland on the southern slope of the rise known as "Nákléřovská výšina", a little to the south of the road leading from Telnice to Knínice and Nakléřov (GPS coordinates: 50°43'59.982"N, 13°59'5.637"E, broadly the location of the finds spot). A repeat visit to this location did not produce any further coins or any finds of the La Tène period. The coin is kept in a private collection (Ev. no. PS 361-2014-1) and has not been published so far.

Western Noricum, Norici

5.1 AR tetradrachm, **NEMET** type (dies **10a** / **53**)
Ref.: Göbl 1973, 122, No. F/27–30a, Pl. 11/27–30.
No details available.

6. Single find (1 item)

A tetradrachm was found in 2012/2013 by metal-detectorists acting privately. The find was recovered from a meadow surrounded by woodland on the southern slope of the rise known as "Nákléřovská výšina", north of the road leading from Telnice to Knínice and Nakléřov (GPS coordinates: 50°44'3.452"N, 13°58'50.551"E, broadly the location of the finds spot), some 300 m NWW of the previous find. A repeat visit to this location did not produce any further coins or any finds of the La Tène period. The coin forms part of a private collection (Ev. no. PS 356-2013-1) and has not been published so far.

Western Noricum, Norici

6.1 AR tetradrachm, **ADNAMATI** type (dies **9a** / **50**)
Ref.: Göbl 1973, 120–121, No. Ec/13–27, Pls. 7/13–18 and 8/19–27.
7.290 g; 20.8/22.1 mm; die-axis: 5 o'clock

ZBEČNO-SÝKOŘICE (District of Rakovník)

7. Single find (1 item)

Sometime before 1918 a tetradrachm of the Taurisci was found in the neighbourhood of the villages of Zbečno and Sýkořice, at a location not known more precisely.[24] The coin was kept in the collection assembled by Eduard Lerber (1860–1941) but is now lost.

Eastern Noricum, Taurisci

7.1 AR tetradrachm, **Gjurgjevac** type[25]
Ref.: Göbl 1973, as Pls. 25–29.
This coin: Koblitz 1918, 100, No. 100.
9.40 g; 24 mm

23. See Koblitz 1918, 98, No. 68. – Radoměrský 1955, 59, No. 89. – Waldhauser 2001, 385, No. 7. E. Fiala (1891, 10, No. 68) refers to a coin from the collection of E. Mikš, described as follows: "*Celtiberian tetradrachm found in Pilsen*"; weight 11.50 g. The clearly different weight suggests that this exemplar may not be the same coin. The description (*obverse: head with beaded headband on left side; reverse: horse on right side*) does not allow for closer identification. – Further references to this find can be found in Ječný 1921, 4, No. 7. – Pink 1939/1974, 109, No. 244.

24. See Koblitz 1918, 100, No. 100. – Radoměrský 1955, 68, No. 135. – Pink 1939/1974, 114, No. 395.

25. Variant unidentified; Koblitz 1918 refers to the Dessewffy (1910) type, obverse as No. 734, reverse as Nos. 477 and 479.

II. MORAVIA

NĚMČICE NAD HANOU (District of Prostějov)

8. Settlement finds (2 items)

Two obols from our study area feature among the large assemblage of coins from the trade and production centre of Němčice nad Hanou[26] (Cat. no. 8.2 was most probably found within the area of the settlement but this cannot be verified). Both coins belong to private collections; find 8.2 has not been published so far.

Western Noricum, Norici

8.1 AR obol, ***Kugelreiter*** type
Ref.: Göbl 1973, 138, No. B2, Pl. 44/B2. – Kos 2013, 354–356, as No. 1–12.
This coin: Kolníková 2012a, 55–56, No. 943, Fig. 63/943.
0.693 g.
Current location: private collection, Ev. no. PS 361/2014:1.

Eastern Noricum, Taurisci

8.2 AR obol, **Varaždin** type
Ref.: Göbl 1973, 140, No. GG1, Pl. 45:GG1. – Allen 1987, 67, No. 171, Pl. X:171. – Dembski 1998, 93, No. 944, Pl. 52:944. – Ziegaus 2010, 220, No. 580.
0.80 g.
Current location: private collection.

MALÉ HRADISKO (District of Prostějov)

9. Settlement finds (2 items)

Staré Hradisko, the most important oppidum in Moravia, lies in the municipality of Malé Hradisko.[27] Some 600 coins have been recorded to date on this site but only a small proportion has been published.[28] The imported coins form only a small group among the local coin finds; issues of the Taurisci and Norici are represented by a single exemplar each. The coins belong to two private collections and have so far not been published.

Eastern Noricum, Taurisci

9.1 AE/AR tetradrachm (fourrée, *subaeratus*?), **Gjurgjevac** type
Ref.: Göbl 1973, as Pl. 25/3–4 (but does not show the same die).
7.54 g; 23.3/23.0 mm; die-axis: 7 o'clock
Provenance: outer enclosure (?), around 2000.
Current location: private collection (R. Maleček), Ev. no. PS 243/2011/1.

Western Noricum, Norici

9.2 AE tetradrachm (fourrée, *subaeratus*), unpublished type (?)
Ref.: Göbl 1973: not considered by Göbl.
4.38 g; 21.3 mm, 4.5 h; fragment *c.* 50 %.
Provenance: northern slope, around 2010.
Current location: private collection.

POŠTORNÁ (District of Břeclav)

10. Settlement find (1 item)

A tetradrachm of the Taurisci was found in 2005 by metal-detectorists acting privately. The coin was recovered from a field located south of the village, NW of "Františkův rybník" (GPS coordinates: 48°43'24.4" N, 16°51'1.3"E), from the area occupied by the La Tène settlement. It belongs to a private collection (Ev. no. PS 362/2014:1) and has not been published so far.

Eastern Noricum, Taurisci

10.1 AR tetradrachm, **Samobor C** type (dies **102 / 202**)
Ref.: Göbl 1973, 138, No. SC 23/8–9, Pl. 43/8–9.
9.49 g; worn die

KLENTNICE (District of Břeclav)

11. Settlement find (1 item)

A coin of the Taurisci, of the Gjurgjevac type, was found in archaeological excavations in the vicinity of the drilling site of Pavlov 1, in the area occupied by a La Tène settlement. It has been deposited at the Archeologický ústav, Akademie věd České republiky, Brno (Ev. no. 4154604/06614-3/04) and has so far not been published.[29]

Eastern Noricum, Taurisci

11.1 AE/AR (?) tetradrachm (fourrée, *subaeratus*), **Gjurgjevac** type
Ref.: Göbl 1973, as Pls. 29/104–105 and 30/106.
7.37 g; 22.6/21.6 mm; die-axis: 7 o'clock; surface corrosion.

26. Čižmář, Kolníková 2006. – Kolníková 2006. – Čižmář, Kolníková, Noeske 2008. – Kolníková 2012a. – Militký 2012b.

27. See Meduna 1970a. – Meduna 1970b. – Čižmář 1993. – Čižmář 1995. – Čižmář 2002a. – Čižmář 2002b.

28. Paulsen 1933. – Meduna 1970b, Pl. 58. – Lehrberger et al. 1997, 299–302, Pls. 54–59.

29. Dr. B. Komoróczy kindly gave permission to publish this coin and this is gratefully acknowledged.

POLKOVICE (District of Prostějov)

12. Settlement find (1 item)

An obol of the Norici[30] was found by metal-detectorists operating privately apparently in the area of a La Tène settlement.[31] The coin is being kept in a private collection and has not been published so far.

Western Noricum, Norici

12.1 AR obol, **Magdalensberg** type, group Göbl (1973) **IAf**
Ref.: Göbl 1973, Pl. 47/IAf.
0.51 g.

JEVÍČKO (District of Svitavy)[32]

13. Hoard find? (1+2 items)

The circumstances surrounding the discovery of a hoard at Jevíčko remain obscure.[33] It must have been found before 1902. Two Dacian tetradrachms found their way into the collection of F. Forrer (one of which ended up in the Swiss National Museum in Zurich), as did a tetradrachm of the Velký Bysterec type from northern Slovakia. A tetradrachm of the Taurisci from Jevíčko was kept in the Dessewffy collection, now housed in the Hungarian National Museum. It is unlikely that these coins were part of a single assemblage. At least two Dacian tetradrachms of the Virteju-Bucureşti and Inoteşti-Racoasa types may have belonged to the hoard, while the remaining coins may have been found individually.

Eastern Noricum, Taurisci

13.1 AR tetradrachm, ***Augentyp-Stamm*** type (dies **84F / 172B**)
Ref.: Göbl 1973, 134, No. 10/35–38, Pl. 37/35–38.
Ex.: Dessewffy 1910, No. 1145. – Göbl 1973, 134, No. c/39.
10.11 g.

MORAVIA – no precise location

14. Settlement finds? (2 items)

Two obols of the Norici belong to a private collection, found somewhere in southern (?) Moravia.[34] Their exact location is unknown and it is not known whether the two coins came from the same site.

Western Noricum, Norici

14.1 AR obol, **Magdalensberg** type, group Göbl (1973) **IAc**
Ref.: Göbl 1973, Pl. 47/IAc
0.60 g.

14.2 AR obol, **Magdalensberg** type, group Göbl (1973) **IIb**
Ref.: Göbl 1973, Pl. 47/IIb.
0.60 g.

Basic Characteristics of the Collection

Surprisingly the finds of coins of the Taurisci and Norici recovered in the Czech Republic are quite frequent: they number 35, and come from at least 13 sites (Tabs. 1 and 2, Figs. 1–3). The majority comes from Bohemia, amounting to 25 coins from 6 sites. The total number of such coins in Bohemia was obviously much greater – we do not know, for example, how many coins were originally present in the Zbiroh hoard (Cat. no. 3). Two coins come from the trade and production centre of Němčice nad Hanou (Cat. no. 8), which is extremely useful from a chronological perspective. The fact that 21 coins were found within the areas occupied by oppida – at Stradonice (Cat. No. 1), Třísov (Cat. no. 2) and Staré Hradisko (Cat. no. 9) – is also highly significant, as will be shown below. The coins from Poštorná (Cat. no. 10), Klentnice (Cat. no. 11) and Polkovice (Cat. no. 12) were found on lowland settlements. As for the coins from Zbiroh (Cat. no. 3) and Jevíčko (Cat. no. 13), they originally belonged to hoards. The Knínice tetradrachms (Cat. nos. 5–6) were recovered in very specific circumstances, and the remaining finds represent isolated finds or finds without further information (Nos. 4, 7 and 14). Only the Třísov obol (Cat. no. 2.1) was found in an archaeological context, the remainder have no direct provenance. The coins found in the oppida and settlement sites are representative of the period of occupation of these sites.

A comparison of Tables 1 and 2 shows that the ratio of coins of the Taurisci and that of the Norici is 13:22, while at Stradonice this proportion is 6:11 (Tabs. 1, 2 and 5). Tetradrachms dominate the Tauriscan issues, whereas obols are more common among the Norican issues.

30. The coin was kept in a private collection together with two further coins (Nos. 13.1–2); one of these can be securely attributed to the settlement of Polkovice. The identification of the actual piece is 90 % reliable.

31. For the site, see Kolníková 2012a, 71, No. XVII.

32. Today Jevíčko is in the administrative region of Pardubice; historically it belongs to Moravia, and hence it is listed among the Moravian finds.

33. Blanchet 1902, 160. – Forrer 1908/1968, 150–151, Figs. 287, 287a und 288. – Dessewffy 1910, No. 1145. – Paulsen 1933, 111, note 153. – Radoměrský 1955, 74, No. 160. – Castelin 1978, No. 1326. – Kolníková 1998, 28, No. XIIIg–h. – Smejtek, Lutovský, Militký 2013, 134, No. 2.

34. These finds were made by private metal-detectorists.

Tab. 1. Finds of coins of the Taurisci from Bohemia and Moravia.

	Cat. no.	Site	Denomination	Type	Göbl 1973	Type of find
1	8.2	Němčice nad Hanou	AR obol	Varaždin	GG1	Settlement find
2	4.1	Plzeň	AR tetradrachm	Gjurgjevac	60 / 128	Single find
3	7.1	Zbečno-Sýkořice	AR tetradrachm	Gjurgjevac	?	Single find
4	9.1	Malé Hradisko	AE/AR tetradrachm (*subaeratus*)	Gjurgjevac	-	Settlement find
5	11.1	Klentnice	AE tetradrachm (*subaeratus*)	Gjurgjevac	-	
6	1.2	Stradonice	AE/AR tetradrachm (*subaeratus*)	*Frontalgesicht*	78? / 148?	Settlement find
7	13.1	Jevíčko	AR tetradrachm	*Augentyp-Stamm*	84F / 172B	Hoard find?
8	1.1	Stradonice	AR tetradrachm	Samobor C	96 / 191	Settlement find
9	10.1	Poštorná	AR tetradrachm	Samobor C	102 / 202	Settlement find
10	1.3	Stradonice	AR obol	*Frontalgesicht*	HH/1	Settlement find
11	1.4	Stradonice	AR obol	*Frontalgesicht*	HH/2	Settlement find
12	1.5	Stradonice	AR obol		-	Settlement find
13	1.6	Stradonice	AR obol		-	Settlement find

Tab. 2. Finds of coins from western Noricum from Bohemia and Moravia.

	Cat. no.	Site	Denomination	Type	Göbl 1973	Type of find
1	8.1	Němčice nad Hanou	AR obol	*Kugelreiter*	B2	Settlement find
2	1.7	Stradonice	AR tetradrachm	*Tinco-Stufe*	2J? / 23?	Settlement find?
3	1.8	Stradonice	AR tetradrachm	*Tinco-Stufe*	-	Settlement find?
4	6.1	Knínice	AR tetradrachm	ADNAMATI	9a / 50	Single find
5	5.1	Knínice	AR tetradrachm	NEMET	10a / 53	Single find
6	9.2	Malé Hradisko	AE tetradrachm (*subaeratus*)	Unpublished (?)	-	Settlement find
7	1.9	Stradonice	AR obol	Magdalensberg	IAa	Settlement find
8	3.1	Zbiroh	AR obol	Magdalensberg	IAc	Hoard find
9	2.1	Třísov	AR obol	Magdalensberg	IAc	Settlement find
10	14.1	Moravia	AR obol	Magdalensberg	IAc	?
11	1.10	Stradonice	AR obol	Magdalensberg	IAd	Settlement find
12	1.11	Stradonice	AR obol	Magdalensberg	IAd	Settlement find
13	1.12	Stradonice	AR obol	Magdalensberg	IAd	Settlement find
14	1.13	Stradonice	AR obol	Magdalensberg	IAf	Settlement find
15	12.1	Polkovice	AR obol	Magdalensberg	IAf	Settlement find
16	14.2	Moravia	AR obol	Magdalensberg	IIb	?
17	3.2	Zbiroh	AR obol	Magdalensberg	IIc	Hoard find
18	1.14	Stradonice	AR obol	Magdalensberg	IIh	Settlement find
19	1.15	Stradonice	AR obol	Magdalensberg	IIh	Settlement find
20	1.16	Stradonice	AR obol	Magdalensberg	?	Settlement find
21	2.2	Třísov	AR obol	Magdalensberg	M1	Settlement find
22	1.17	Stradonice	AR obol	Magdalensberg	M1	Settlement find

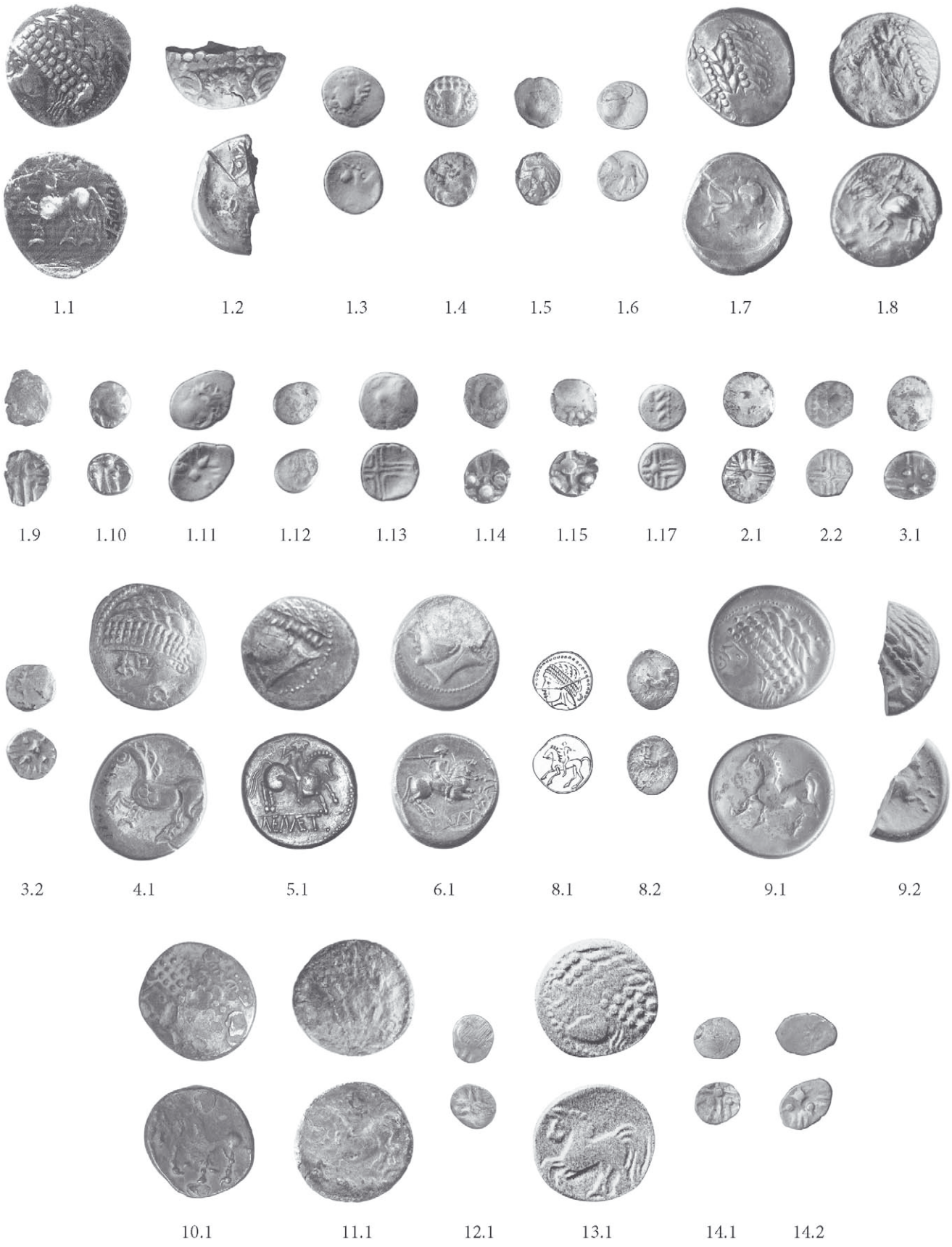

Fig. 1. Coins of the Taurisci and Norici from the Czech Republic (the numbering follows that of the catalogue).

The Coins of the Taurisci in the Czech Republic, Slovakia and the Danube Region of Austria

Thirteen coins of the Taurisci have been recorded from the Czech Republic to date (Tab. 1; Fig. 2); five of these were recovered in Moravia. Apart from occasional mentions it seems that no in-depth research has been conducted on this topic.[35] First, we should mention the so far unpublished obol bearing a horse motif on both sides of the coin (Varaždin type),[36] which apparently came from the trade and production centre of Němčice nad Hanou (Cat. no. 8.2). It is a rare instance of a coin known only from a few exemplars. The context of the find suggests that this obol is highly likely to belong to a pre-oppidum phase (La Tène C2).

The remaining coins of the Taurisci from the Czech Republic belong to the oppida period, i.e. La Tène C2/D1 to D2. The tetradrachms of the Gjurgjevac type (Cat. nos. 4.1, 7.1, 9.1 and 11.1) with a stylised head facing to the left and a horse facing to the right are the most frequent type. This type was struck in large quantities in the territory of the Taurisci.[37] The greatest quantity of such coins was found in the hoard of Gjurgjevac in Croatia – comprising 350 to 400 coins, of which some 144 coins have survived.[38] The tetradrachms of this type were struck with a number of different dies.[39] It is only on the exemplar from Pilsen (Cat. no. 4.1) that an actual combination of dies (60/128) can be identified. The coin from Zbečno-Sýkořice (Cat. no. 7.1) has disappeared and is known from its description only. The Staré Hradisko tetradrachm (Cat. no. 9.1) is a thickly silver-plated *subaeratus* (fourrée) which was struck with a die that has so far not been recorded elsewhere. A further *subaeratus* tetradrachm was recovered from the La Tène settlement of Klentnice (Cat. no. 11.1). The surface of this coin is covered with a silvery metal, but it is not clear whether it is actually silver. The location of the mint issuing Gjurgjevac type coins is not known. Current research dates this type of coin to the end of the 2nd century BC.[40] The presence of this type on the oppidum of Staré Hradisko, where it could have appeared during the last third of the 2nd century at the earliest, is significant from a chronological perspective, especially in terms of its long period of circulation.

A silver-plated *subaeratus* tetradrachm from the oppidum of Stradonice (Cat. no. 1.2), of the *Frontalgesicht* type, split in half at a later date, constitutes a new, so far unpublished find. Coins of this type have repeatedly attracted attention: Robert Göbl identified individual dies and their combinations in his typological study[41] and their distribution was mapped by Michael Mackensen.[42] Iconographically this type of coin is particularly interesting: the obverse shows a diadem motif and a frontal face beneath. On the reverse there is yet again a horse facing to the left, but complemented by an unfinished wavy line above its back. More recently Giovanni Gorini[43] has considered this type and updated its distribution map. The finds are mainly concentrated in Slovenia, and a further enclave with a clear concentration of finds is located in Lower Austria, especially on the oppidum of Oberleiserberg.[44] The Stradonice tetradrachm is thus apparently the northernmost occurrence of this particular type. The fact that it is a *subaeratus* and that it had been split is highly interesting. It raises the question whether this was done to test the coin, given that *subaerati* are rare among this type of tetradrachm. It was not possible to identify precisely the type of die; it may have been a combination of 78 (?) and 148.

Stradonice has also yielded two obols of the *Frontalgesicht* type (Cat. nos. 1.3–1.4). They are undoubtedly small denominations of tetradrachms of the same type.[45] Since we do not yet know where coins of this type were minted, these two obols are of great importance. Indeed (with a few exceptions) they do not occur in hoards. Besides the examples from Stradonice, only one obol of this type was known up to quite recently, at Celje.[46] It is only in 2011 that three more examples have been published: they were found on the Oberleiserberg,[47] i.e. once again outside their primary area of circulation. The coins of the *Frontalgesicht* type are dated to the end of the 2nd century BC,[48] in line with the tetradrachms, a dating that their presence on the oppidum of Stradonice would confirm in principle. The final analysis of the assemblages from Oberleiserberg will provide important insights into their chronology.[49] The area in which these coins originated is not known, but the fact that only one obol of this type was found at Celje[50] suggests that they were minted elsewhere.

35. Drda, Rybová 1998, 182–184.
36. Göbl 1973, Pl. 45/GG1.
37. Mackensen 1975, 263, Fig. 4. – Kos 1977, 46, Map 6.
38. Kos, Mirnik 2009.
39. Göbl 1973, 102–104, 128–130.
40. Kos, Mirnik 2009, 311.
41. Göbl 1973, 104–105, 130–131.
42. Mackensen 1975, 264, Fig. 5.
43. Gorini 2004.
44. Gorini 2004, 58, Fig. 1. – Militký 2011, 1200–1201.
45. Göbl 1973, 140.
46. Kos 1977, 112, No. 993, Pl. 40/20.
47. Militký 2011, 1200–1201.
48. Gorini 2004, 59.
49. Militký 2011, 1200–1201.
50. Kos 1977, 112, No. 993, Pl. 40/20.

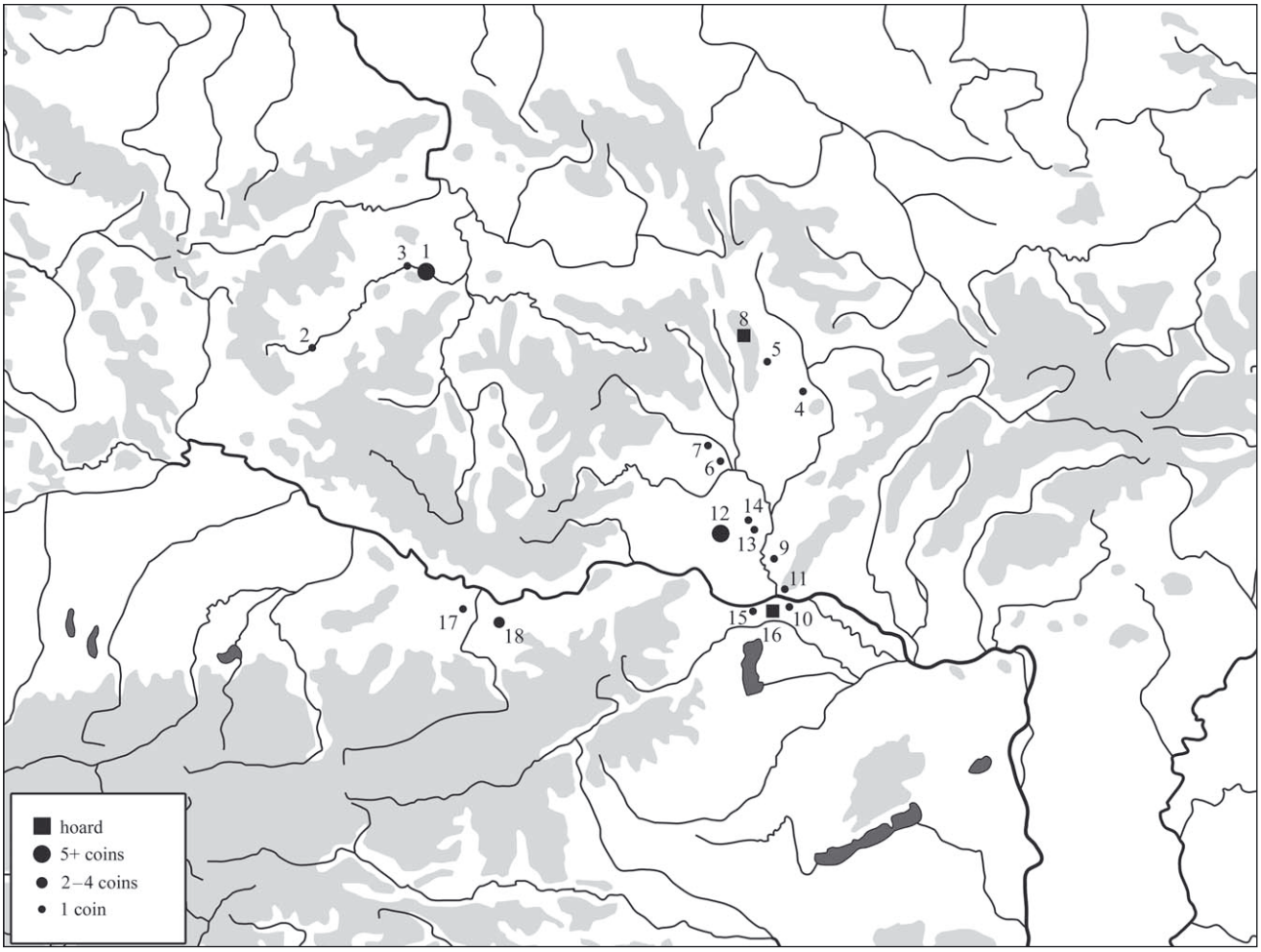

Fig. 2. Distribution of coins of the Taurisci in the Czech Republic and neighbouring regions. – 1. Stradonice. – 2. Plzeň. – 3. Zbečno-Sýkořice. – 4. Němčice nad Hanou. – 5. Malé Hradisko. – 6. Poštorná. – 7. Klentnice. – 8. Jevíčko. – 9. Zohor. – 10. Bratislava-Rusovce. – 11. Devín. – 12. Oberleiserberg. – 13. Drösing. – 14. Ringelsdorf-Niederabdorf. – 15. Carnuntum. – 16. Braunsberg. – 17. Traun. – 18. Neubau.

A tetradrachm of *Augentyp-Stamm* was apparently found in the Jevíčko hoard (Cat. no. 13.1) but the circumstances of discovery are obscure. According to Göbl's typology,[51] which identifies a series of different dies, this coin exhibits a combination of dies 84F and 172B. Such coins are known from Slovenia and Croatia, but also from Hungary.[52] They are likely to date to the first half of the 1st century BC.

A tetradrachm of the Taurisci of the Samobor C type was found in 1877 within the confines of the oppidum of Stradonice (Cat. no. 1.1). The coin belongs to group SC 18,[53] bearing a combination of dies 96 and 191. So far it is the only tetradrachm securely identified as coming from the oppidum itself. A new find of a Samobor C type coin, as yet unpublished, was made at Poštorná in southern Moravia (Cat. no. 10.1), from within the area of a lowland settlement. It belongs to group SC 23[54] and combines dies 102 and 202, which were substantially worn at the time the coin was struck. Finds of coins of the Samobor C type are concentrated in Slovenia[55] and appear to date to the first half of the 1st century BC.

Only two instances of obols of the Taurisci are present among the finds from the oppidum of Stradonice (Cat. nos. 1.5–1.6). The small coinage of the Taurisci is a highly complicated question: although there have been attempts at classifying it in detail,[56] these have only been based on a partial assessment. The typology is complicated by the relatively slight variations in the representation of horses on the reverse and the absence of an image on the obverse. Peter Kos even tried to correlate some of the items in the

51. Göbl 1973, 107–109, 133–134.
52. Mackensen 1975, 265, Fig. 6. – Kos 1977, 40–41, Map 3.
53. Göbl 1973, 112, 137.
54. Göbl 1973, 113, 138.
55. Kos 1977, 42–43, Map 4.
56. Göbl 1973, Pl. 46/JJ–KK. – Kos 1977, 22–33.

Celje hoard with actual types of Tauriscan tetradrachms.[57] A very large group of obols has been defined as belonging to the Karlstein variety (*Karlsteiner Art*[58]). This numismatic designation seems no longer appropriate today. The coins of the Karlstein type clearly belong to the Boii[59] and generally consist of a thin, shell-shaped metal disc with a clearly low weight. The obols of the Taurisci are generally heavier, much more massive discs. Even the representation of the horse facing left (and right in some rare instances) is stylistically different. The character of the blanks and the single-sided representation of the horse on obols of the Taurisci are more reminiscent of obols of the Boii of Roseldorf/Němčice I and II type,[60] which, however, are undoubtedly older (La Tène C2). Mackensen's[61] and Kos's[62] mapping of the distribution of Tauriscan obols shows that they occur in regions occupied by the Taurisci but also in western Noricum. They were present in large quantities in the Celje hoard,[63] but are also known from a series of other sites. At the same time the Celje assemblage[64] also attests to the massive import of western Norican obols of the Magdalensberg type.[65] The two obols of the Taurisci from Stradonice belong to types that have so far not been identified,[66] and whose exact provenance is unknown.

Issues of the Taurisci are also known from neighbouring regions: at least 35 coins, mostly single finds, are recorded (see Tab. 3). Slovakia appears to have had a light smattering of imports of Tauriscan coins (Tab. 3/1–3). A few single finds of tetradrachms of the Gjurgjevac type are recorded at Zohor[67] and Bratislava-Rusovce.[68] A tetradrachm of the *Frontalgesicht* type is known from Devín:[69] it is only known from a published drawing, and it seems to belong to a type whose dies have so far not been recorded. It is worth noting that coins of the Taurisci rarely appear in Slovakian assemblages, just as they are quite rare in Moravia. It is particularly significant that we do not encounter them at all on the oppidum of Bratislava, in contrast to western Norican coins. This must have wider historical and political implications, as we shall see below.

A clear concentration of coins of the Taurisci is recorded in Lower Austria (Tab. 3/4–32; Fig. 2). Let us mention a few sites that have produced such coins. A tetradrachm of the *Brezelohr* type, group A,[70] was recovered from the area of the Ringelsdorf-Niederabdorf 12 settlement, a tetradrachm of *Frontalgesicht* type[71] was found on the settlement of Drösing 18, and an obol of the Taurisci came from Carnuntum.[72] A hoard of some 100 tetradrachms contained within a vessel was discovered in the first half of the 18th century in an area east of Hainburg, probably on the hilltop settlement of Braunsberg. Besides coins of the Kroisbach and Velem types, tetradrachms of the *Frontalgesicht* type were apparently also present in this hoard.[73] The hoard has not survived, and we only know its composition from a single description. In any case the hoard is unique for this area.

The oppidum of Oberleiserberg is of fundamental importance for establishing what contacts Lower Austria north of the Danube had with the Taurisci.[74] The Oberleiserberg yielded a most interesting assemblage of 160 coins which has disappeared and which has never been published in its entirety.[75] The majority of the coins are coins of the Boii (gold denominations, obols of Roseldorf/Němčice II and mainly Karlstein types) but the range of imports is of particular interest. Contacts with regions occupied by the Taurisci are documented by the import of a substantial number of coins (25 coins) as well as by imitations of Tauriscan coins, the so-called local didrachms.[76] The intensive circulation of issues of the Taurisci on the site is demonstrated by the presence of two *subaerati* tetradrachms of the Gjurgjevac type, eight tetradrachms and three obols of the *Frontalgesicht* type, three tetradrachms of the *Brezelohr* type, group A, and nine obols with horse motif on the reverse (Tab. 3/4–28). It is the largest concentration of coins of the Taurisci on a single site north of the Danube. The frequency of coins of the *Frontalgesicht* type is especially noteworthy.

57. Kos 1977, 104–106, Nos. 739–761.
58. Kos 1977, 98–104, Nos. 461–738.
59. E.g. most recently Militký 2013, 108.
60. Dembski 1991. – Jandrasits 2005. – Kolníková 2006, 28–39. – Kolníková 2012a, 26–50.
61. Mackensen 1975, 262, Fig. 3.
62. Kos 1977, 51, Map 8.
63. Kos 1977, 98–104, Nos. 461–738.
64. Kos 1977, 88–98, Nos. 40–460.
65. The obols of the Taurisci occur in much smaller numbers in the assemblage from the Magdalensberg (Krmnicek 2010, 327–340, Nos. 668–744).
66. Kos 1977, 102, as Nos. 635–636.
67. Elschek, Kolníková 1996, 213–214, Fig. 1/2. – Kolníková 1996, 14, No. 10, Fig. 2/3.
68. Bazovský, Kolníková 2011, 103, No. IV/5, Fig. 1/3.
69. Kolníková 1996, 14, No. 10, Fig. 2/3.
70. Jedlička 2004, 82, 141, No. 7.2.1.
71. Jedlička 2004, 88.
72. Humer 2006, 51, No. 182.
73. Ruske 2011, 62, No. V3.
74. For a summary of the site, see Kern, Karwowski, Militký 2012.
75. Militký 2011. – Militký 2012a. The coin collection from this site is being prepared for publication by the author.
76. Militký 2011, 1200–1201.

Tab. 3. Finds of coins of the Taurisci from Slovakia, Lower and Upper Austria.

	Site	Denomination	Type	Type of find	References
1	Zohor, Slovakia	AR tetradrachm	Gjurgjevac	Single find	Elschek, Kolníková 1996, 213–214, Fig. 1/2
2	Bratislava-Rusovce, Slovakia	AR tetradrachm	Gjurgjevac	Single find	Bazovský, Kolníková 2011, No. IV/5
3	Devín, Slovakia	AR tetradrachm	*Frontalgesicht*	Settlement find	Kolníková 1996, No. 10, Fig. 2/3
4	Oberleiserberg, Lower Austria	AE/AR tetradrachm (*subaeratus*)	Gjurgjevac	Settlement find	Militký 2011, Pl. II/15
5	Oberleiserberg, Lower Austria	AE/AR tetradrachm (*subaeratus*)	Gjurgjevac	Settlement find	-
6	Oberleiserberg, Lower Austria	AR tetradrachm	*Frontalgesicht*	Settlement find	Militký 2011, Pl. II/16
7–13	Oberleiserberg, Lower Austria	AR tetradrachm	*Frontalgesicht*	Settlement find	-
14	Oberleiserberg, Lower Austria	AR obol	*Frontalgesicht*	Settlement find	Militký 2011, Pl. II/17
15–16	Oberleiserberg, Lower Austria	AR obol	*Frontalgesicht*	Settlement find	-
17	Oberleiserberg, Lower Austria	AR tetradrachm	*Brezelohr* / group A	Settlement find	Militký 2011, Pl. II/18
18–19	Oberleiserberg, Lower Austria	AR tetradrachm	*Brezelohr* / group A	Settlement find	-
20	Oberleiserberg, Lower Austria	AR obol		Settlement find	Militký 2011, Pl. II/19
21–28	Oberleiserberg, Lower Austria	AR obol		Settlement find	-
29	Drösing, Lower Austria	AR tetradrachm	*Frontalgesicht*	Settlement find	Jedlička 2004, 88
30	Ringelsdorf-Niederabdorf, Lower Austria	AR tetradrachm	*Brezelohr* / group A	Settlement find	Jedlička 2004, No. 7.2.1
31	Carnuntum, Lower Austria	AR obol		Settlement find?	Humer 2006, No. 182
32	Braunsberg, Lower Austria	AR tetradrachm	*Frontalgesicht* + further tetradrachm types	Hoard find	Ruske 2011, No. V3
33	Traun, Upper Austria	AR tetradrachm	*Frontalgesicht*	Single find	Prokisch 1999, No. B 34
34	Neubau, Upper Austria	AR obol		Settlement find	Prokisch 2004, No. A 211
35	Neubau, Upper Austria	AR obol		Settlement find	Prokisch 2004, No. A 212

The iconographic influences on local coinage represent a further level of contact between the inhabitants of the Oberleiserberg and the regions occupied by the Taurisci. It affects two out of the three groups of so-called local didrachms of Oberleiserberg type 1.[77] These coins imitate on the obverse the tetradrachms of the *Frontalgesicht* type,[78] which are the most numerous items imported to the site from the area occupied by the Taurisci. The second group of so-called local didrachms showing Tauriscan influences encompasses the type defined as Oberleiserberg type 3.[79] These coins have a head with laurel wreath facing left. Their stylish representations link them directly to the Norican tetradrachms of the *Tinco-Stufe*.[80] Göbl[81] even presumed that they had been struck with the same – but worn – die[82] and he defined the whole group as group B3.[83] Göbl's assumption does not appear to be very realistic, as a detailed comparison reveals that the obverse of types Oberleiserberg 3a and 3b were struck with two different dies. The presence of an identical head on the

77. Castelin 1972, 44, Fig. 3. – Göbl 1973, 104–105, Pl. 31/24–25. – Göbl 1983. – Göbl 1987. – Göbl 1994, 41. – Gorini 2004. – Karwowski, Militký 2011, 131–133. – Militký 2011, 1199–1201. – Militký 2012a, 51.

78. Göbl 1973, Pls. 30–31.

79. Göbl 1969, 65–66, Fig. 2. – Castelin 1972, 44–45, Figs. 2 and 4. – Göbl 1973, 118, Pl. 3/B3a. – Göbl 1983. – Göbl 1987. – Göbl 1992. – Göbl 1994. – Militký 2011, 1199–1201. – Militký 2012a, 51.

80. Göbl 1973, Pls. 2/B2/1–3 and 3/B2/4–9.

81. Göbl 1994, 41.

82. Compare with: Göbl 1973, Pl. 3/B2/8.

83. Göbl 1973, Pl. 3/B3.

obverse of a drachm in the Tótfalu hoard[84] is also highly significant. The reverse bears a horse motif but the coin is struck with two stylistically entirely different dies. The horse on variant 3a, of which two examples are available, is quite coarsely drawn. An almost identical horse design exists on the drachms of the Tótfalu type, mentioned above.[85] The horse depicted on the so far only example of type 3b is completely different and its prototype is clearly a Tauriscan coin – perhaps of the Samobor B type.[86] The different die used for its reverse, which is inspired by issues of the Taurisci, underlines the specific character of type 3b. Whether the drachms of the same group[87] were minted on the Oberleiserberg remains to be answered. This is quite likely from a typological perspective but they have not so far been found there. It will be necessary to consider the local types Oberleiserberg 1 and 3 in a broader context, that is, as a currency system on the border between the "gold" world of the Boii and the "silver" world of the Eastern Celts. The adoption of motifs derived from coins of the Taurisci, together with the massive influx of Tauriscan coins, points to a very strong current of influence in this region. Conversely it is striking that only three obols from the western Norican area are known from the region. This suggests that there was clearly less contact with western Noricum, for reasons so far unknown but reflecting a real situation that is not known from any other sources. The imported coins of the Taurisci and their influence on the local coinage clearly speak for close contacts. We can realistically suggest that a smaller community of Taurisci was settled permanently in the region, alongside the indigenous Boian population.

The evidence for coins of the Taurisci imported into Upper Austria (Tab. 3/33–35) must be taken into consideration to complete the overview of finds in the Austrian Danube area. The central place of Neubau has yielded two obols[88] and a tetradrachm of the *Frontalgesicht* type is known from the area of the Traun; the latter is a restruck coin of the Velem type.[89] It seems clear that imports of coins of the Taurisci were not frequent in this region.

The Coins of the Norici in the Czech Republic, Slovakia and the Danube Region of Austria

Today 22 coins from western Noricum have been recorded as having been found in the Czech Republic (Tab. 2; Fig. 3); only five of these were recovered in Moravia. With the exception of a few individual mentions,[90] these coins have not been the subject of any detailed study.

The obol of the *Kugelreiter* type from the area of the trade and production centre of Němčice nad Hanou (Cat no. 8.1)[91] must first be considered among the issues of the Norici. Recently a full study has been dedicated to this coinage,[92] taking 12 occurrences into account. This type of coin appears to be concentrated in Alpine regions.[93] The dies used on the exemplar from Němčice cannot be identified from the published drawing.[94] The *Kugelreiter* type obols were struck at the same time as the tetradrachms and are dated to the middle of the 2nd century BC.[95] The context of the Němčice coin constitutes further evidence that it belongs to the site's pre-oppidum phase (La Tène C2).

The majority of the Norican coins found in the Czech Republic belongs to the period of the oppida. However, let us first examine five coins that were not found on oppida. First, the site of Knínice has yielded two, so far unpublished, tetradrachms (see finds Cat. nos. 5–6). The coins were found on open land on the slope below "Nakléřovská výšina", i.e. along the historic route of communication known as the "Chlumecká stezka". The first of the two coins is a tetradrachm inscribed ADNAMATI (Cat. no. 6.1). Göbl's typological study of the western Norican tetradrachms bearing this inscription[96] identifies the combination of dies as 9a and 50. Coins of this type were frequently struck and are mainly found in hoards such as those of Gerlitzen,[97] Magdalensberg 1965,[98] *Teurnia* (=St. Peter in Holz)[99] or Moggio.[100] The second of the two Knínice coins is a tetradrachm inscribed NEMET (Cat. no. 5.1). This type was also examined by Göbl,[101] who classified its combination of dies as 10a and 53. A whole series of dies, as well as their occurrence in hoards, indicates that the NEMET type was extensively minted; examples were recovered at Eis,[102] Gerlitzen,[103] Magdalensberg 1965,[104] Magdalensberg 1976[105] and

84. Paulsen 1933, Pl. 43/980–984.
85. Paulsen 1933, Pl. 43/980–983.
86. Göbl 1973, Pl. 23:4/1–10.
87. Paulsen 1933, Pl. 43/979–985. – Göbl 1973, Pl. 3/B3/2L-h.
88. Prokisch 2004, 26–27, Nos. A 211–212.
89. Prokisch 1999, 46, No. B 35.
90. Drda, Ryboví 1998, 182–184.
91. Göbl 1973, Pl. 44/B2.
92. Kos 2013.
93. Kos 2013, 365, Fig. 5.
94. Kolníková 2012a, Fig. 63/943.
95. Kos 2013, 365.
96. Göbl 1973, 91–92, 120–121, Pls. 7–10.
97. Ruske 2011, 63, No. V6.
98. Ruske 2011, 67, No. V14.
99. Ruske 2011, 70, No. V25.
100. Luschin 1904.
101. Göbl 1973, 92–93, 122–123, Pls. 10–13.
102. Ruske 2011, 63, No. V5.
103. Ruske 2011, 63, No. V6.
104. Ruske 2011, 67, No. V14.
105. Ruske 2011, 67, No. V15.

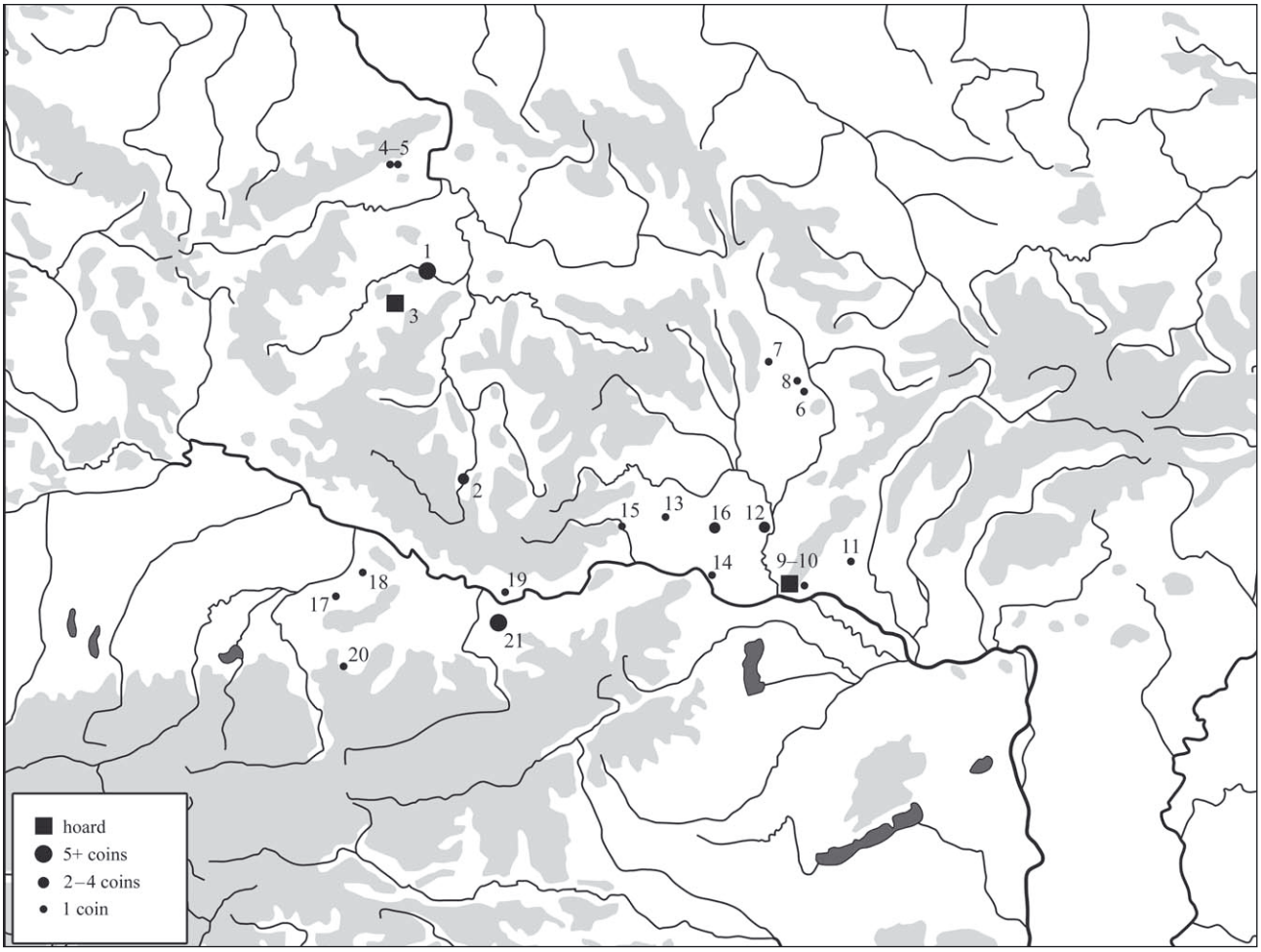

Fig. 3. Distribution of coins of the Norici in the Czech Republic and neighbouring regions. – 1. Stradonice. – 2. Třísov. – 3. Zbiroh. – 4–5. Knínice. – 6. Němčice nad Hanou. – 7. Malé Hradisko. – 8. Polkovice. – 9–10. Bratislava. – 11. Blatné. – 12. Drösing. – 13. Roseldorf. – 14. Vienna. – 15. Thunau. – 16. Oberleiserberg. – 17. Aigertsham. – 18. Minaberg. – 19. Mauthausen. – 20. Brandenberg. – 21. Neubau.

Teurnia (=St. Peter in Holz).[106] The coins of ADNAMATI and NEMET type were struck during the 1st century BC in an unknown location, possibly on the actual oppidum of Magdalensberg.[107]

The NEMET-inscribed tetradrachms are quite often associated with those bearing the ADNAMATI inscription. This suggests that the two Knínice examples are chronologically close. It is surely no coincidence that they are the only western Norican tetradrachms so far recovered in Bohemia. The two Knínice coins were found separately at a distance of *c.* 300 m from each other, which suggests that they did not come from a disturbed hoard. It is more likely that they represent votive deposits on the edge of the settlement. Votive deposits of coins in the La Tène period are a rare phenomenon in the Czech Republic, so far only represented by the coin from Strážné,[108] whose description is far from clear. Finds of Tauriscan and Norican obols, which were apparently used in votive deposits, are known from several Alpine passes.[109] The Knínice coins are likely to reflect the frequentation of a route known as the "Chlumecká stezka" (=*Kulmer Steig* or Kulm trail), which connects Chlumec (Kulm) with Pirna over the "Nakléřovská výšina" (Nollendorf pass), most probably already in existence in La Tène times. The coins are the first Celtic coins found in this region, but not the first archaeological finds to be made in the parish of Knínice. There is evidence of occupation during the Neolithic, Bronze Age, Early Iron Age, and the early and high medieval period, as summarised by Klaus Simon and Knut Hauswald.[110] Miloš Čižmář and Jiří Militký[111] have

106. Ruske 2011, 70, No. V25.

107. For a summary of the coinage, see Krmnicek 2010.

108. Sklenář 2011, 320, No. 739/1.

109. E.g. Dembski 2001. – Lippert, Dembski 2013.

110. Simon, Hauswald 1995.

111. Čižmář 2008. – Militký 2010b. The author also reports that Roman coins have been found most recently in the area of Nakléřovská výšina.

also published further elements of Knínice's occupation in the La Tène and Roman periods. Nonetheless, the discovery of tetradrachms of the Norici is an unusual find, and their presence suggests that the site was particularly significant.

A second discovery of Norican coins outside those found in oppida is of note: it was made in 1856 in Zbiroh (finds Cat. no. 3) but it is not known how many coins were involved. Only two obols survived: they are of the Magdalensberg type, variants IAc (Cat. no. 3.1) and IIc (Cat. no. 3.2) according to Göbl's[112] classification. Surely they represent what is left of an important deposit of imported Norican coins in Bohemia. As to who buried this hoard, the question remains open. Such coins were indeed not circulating in Bohemia and hence the hypothesis that the deposit was made by a member of the Norici who spent some time in Bohemia is not unreasonable. The find is the northernmost example of a hoard containing this type of coin in Europe.

Among Norican coins, the largest quantity (11 coins) has been recovered from the oppidum of Stradonice and all are single finds. There are two tetradrachms of *Tinco-Stufe* B2 (Nos. 1.7–1.8), most probably found by metal-detectorists in the area of the oppidum around the year 2003 (currently in a private collection). Unfortunately it is not possible to ascertain their relationship to the oppidum and thus their connection with Stradonice must remain uncertain. Göbl[113] is examining this group of tetradrachms, as is Alexander Ruske[114] in the context of a publication of a hoard of unknown provenance. The area where these tetradrachms were struck is so far unknown; they have mainly been found in the deposits of Malta,[115] surroundings of Villach[116] or Zollfeld.[117] If the two tetradrachms are really from the oppidum of Stradonice, then they constitute an exception in Bohemia. In this respect it is worth recalling that the Norican COPO tetradrachm allegedly from Stradonice[118] was actually found in Gurina.[119] Further coins of the Norici found on the oppidum of Stradonice consist of obols of the Magdalensberg type. The Stradonice collection, typologically assessed by Göbl,[120] contains variants IAa (Cat. no. 1.9), IAd (Cat. nos. 1.10–1.12), IAf (Cat. no. 1.13), IIh (Cat. nos. 1.14–1.15) and an unidentifiable type (Cat. no. 1.16). Type M1 (Cat. no. 1.17) is extremely rare. Obols of the Magdalensberg type are small western Norican coins with a smoothly convex obverse and various variants of a cross on the reverse.[121] These coins were struck, among others, on the oppidum of Magdalensberg, where they occur in large concentrations (in hoards and as single finds).[122] They have also been recovered in the hoards of Gurina[123] and Eis,[124] as well as in large quantities on Alpine passes.[125] The distribution of these obols has been mapped by Mackensen[126] and Kos,[127] who show that they occur in western Noricum but also in regions occupied by the Taurisci, as attested by their frequency in the hoard of Celje,[128] where they circulated as imported currency. The occurrence of obols of the Magdalensberg type together with obols of the Taurisci could be a significant chronological factor. Traditionally they are dated to a period after 50 BC.[129] It is however possible that some are older, i.e. datable to the first half of the 1st century BC, as the coin collections from oppida in the Czech Republic appear to indicate, at least to a degree. At Stradonice type M1 (Cat. no. 1.17, with a stylised laurel wreath on the obverse[130]) was recovered in addition to the standard variants of Magdalensberg type obols. This is a particularly important coin, of which two other examples are known from Bohemia. In any case the assemblage of Norican coins recovered at Stradonice is the richest north of the Danube, and a particularly valuable testimony of the close contacts that existed between the Boii and the Norici.

The evidence from Stradonice is complemented by two Norican obols from the oppidum of Třísov. The first was recovered in an excavation of 1977 (Cat. no. 2.1). The type is variant Göbl IAf.[131] The second was found in 2013 during an archaeological metal-detector survey in the southern part of the oppidum (Cat. no. 2.2) and is a Göbl M1[132] variant. Both Třísov coins suggest that the inhabitants of this site established contacts

112. Göbl 1973, Pl. 47.
113. Göbl 1973, 84–85, 117–118, Pls. 2–3.
114. Ruske 2007.
115. Ruske 2011, 67, No. V16.
116. Ruske 2011, 71, No. V26.
117. Ruske 2011, 71, No. V28.
118. Píč 1903, 11–12, Fig. 273.
119. Göbl 1973, 119, No. C3/3, Pl. 4/C3/3. – Dembski 1998, 88, No. 792, Pl. 41/792.
120. Göbl 1973, Pl. 47.
121. Obols of the Eis type, with the image of a head on the obverse, are related to these obols (Göbl 1973, Pl. 45/O–CC). The question is whether these are contemporary or older issues.
122. Krmnicek 2010, Nos. 56–559. – Ruske 2011, 66–67, Nos. V12–15.
123. Ruske 2011, 72, No. F1.
124. Ruske 2011, 63, No. V5.
125. Dembski 2001. – Lippert, Dembski 2013.
126. Mackensen 1975, 262, Fig. 3.
127. Kos 1977, 51, Map 8.
128. Kos 1977, 88–97, Nos. 40–460.
129. Kolníková 1996, 34. – Gorini 2009, 122.
130. Paulsen 1933, Pl. 26/608. – Göbl 1973, Pl. 44/M1.
131. Göbl 1973.
132. Göbl 1973.

with the Norici. The oppidum lies on a route that leads from Bohemia to the Middle Danube region, where the coins originated; thus they could have reached Bohemia along this route.

Moravia has far fewer coins of the Norici dating to the period of the oppida, but the quantitative difference with Bohemia has become less pronounced thanks to recent discoveries made in prospections by metal-detectorists. A most interesting find was made in the oppidum of Staré Hradisko (Cat. no. 9.2), a fragment of a *subaeratus* made of a silver-plated unknown alloy. It seems to be an unknown type of Norican tetradrachm. This unusual manner of production may have been influenced by the fact that it is not a standard coin. Recently three obols of the Magdalensberg type – one from the La Tène settlement of Polkovice (Cat. no. 12.1) and two of unknown Moravian provenance (Cat. nos. 14.1–14.2) – have also come to light. These coins indicate that coins of the Taurisci reached Moravia too, which seems quite logical from a geographic viewpoint.

Coins of the Norici reached neighbouring regions too, as attested by 60 coins (Tab. 4; Fig. 3). In Slovakia 41 western Norican coins have been recorded, the majority concentrated in the area of the oppidum of Bratislava (Tab. 4/1–39),[133] a figure boosted by the presence of a hoard. Bratislava itself has yielded a tetradrachm of the COPPO type.[134] The most important find of Norican coins in the area of the oppidum is that of a disturbed hoard, located on the southern slope of its acropolis, i.e. the site of the present-day castle hill. The hoard contained a tetradrachm of the ADNAMATI type, 13 obols of the Eis type, 25 obols of the Magdalensberg type and two Boian drachms of the Simmering type.[135] It is on the basis of this assemblage that Eva Kolníková advanced the idea of a so-called Norican phase at the oppidum of Bratislava.[136] Although the Norican coins from Bratislava represent the majority of coins found on sites north of the Danube,[137] they are few,[138] given that hardly any losses of individual coins (small obols) are documented.[139] Losses of single coins are a particularly significant indicator of actual circulation. The single tetradrachm of the COPPO type mentioned earlier represents the sum total of Norican imports into the oppidum of Bratislava. The hoard is one of the most important indicators of contact with Noricum and suggests that some Norici were actually present in Bratislava. On the other hand this hoard is not evidence of widespread local circulation of Norican coins on the oppidum. It must therefore not be taken as proof of a Norican incursion in the Middle Danube region after the defeat of the Boii in their war against the Dacians in 44/40 BC.[140] It is also uncertain whether the coins contained in the hoard can be dated to a period as late as the war against the Dacians.[141]

At this point it is appropriate to briefly consider the chronology of coins of the Eis and Magdalensberg type, which Gorini,[142] for example, has dated to as late as the period after 50 BC. There is no doubt that these coins were struck in Noricum at least as late as the second decade of the 1st century BC and that they apparently remained in circulation for a very long time at the Magdalensberg, even in the context of the developing Roman town in the first decade AD.[143] The question revolves around the beginning of the minting of Eis and Magdalensberg type obols. There is no unequivocal evidence, but there are some indications that these coins could have been struck at an early date. Today it is clear that the minting of obols among the Norici began at the same time as the introduction of tetradrachms of the *Kugelreiter* type[144] and that this small coinage was struck throughout the entire duration of Norican coins. The Magdalensberg type is unquestionably the more recent type of obol, and its production can be securely tied to the existence of Norican oppida. The current consensus is that this period ended in the course of the third quarter of the 1st century BC.[145] It is unlikely that the relatively common occurrence of these coins is closely related only to the final phases of these sites. The concurrent mass occurrence of obols of the Taurisci and Norici in the hoard of Celje,[146] where the Tauriscan element is represented by a varied range of types, indirectly points to the possibility of an early date for the obols of the Magdalensberg type.

To return to the hoard of Norican coins from Bratislava, if it really belongs to an early period, i.e. before 44/40 BC, then a so-called Norican phase is out

133. For the site, see for example Pieta, Zachar 1993. – Čambal 2004. – Pieta 2008, 111. – Šedivý, Štefanovičová 2012, 161–190.
134. Kolníková 1996, 11–12, Fig. 2/1.
135. Kolníková 1996, 10–11, Figs. 3–5.
136. Kolníková 1996.
137. Kolníková 2012b, 214–215.
138. Militký 2013, 108.
139. Kolníková 2012b, 214–215.
140. For the sake of objectivity, let us note that the area occupied by the oppidum is built over today. It is thus not possible to survey its surface with metal detectors today. The range of coins available is therefore unlikely to be fully realistic (Kolníková 2012b, 214–215).
141. Dobesch 1994. – Dobesch 1995. – Pieta 2008, 45, 50.
142. Gorini 2009, 122.
143. Krmnicek 2010, 96–98.
144. Kos 2013.
145. Danielisová, Militký 2014, 58–62.
146. Kos 1977, 88–113.

Tab. 4. Finds of coins of the Norici from Slovakia, Lower and Upper Austria.

	Site	Denomination	Type	Type of find	References
1	Bratislava, Slovakia	AR tetradrachm	ADNAMATI	Hoard	Kolníková 1996, No. 39
2–14	Bratislava, Slovakia	AR obol	Eis	Hoard	Kolníková 1996, No. 1–13
15–39	Bratislava, Slovakia	AR obol	Magdalensberg	Hoard	Kolníková 1996, No. 14–38
40	Bratislava, Slovakia	AR tetradrachm	COPPO	Settlement find	Kolníková 1996, Fig. 2/1
41	Blatné, Slovakia	AR obol	Magdalensberg	Settlement find	–
42	Drösing, Lower Austria	AR tetradrachm	ADNAMATI	Settlement find	Jedlička 2004, 91
43	Drösing, Lower Austria	AR tetradrachm	NEMET	Settlement find	Jedlička 2004, 91, No. 7.2.6
44	Roseldorf, Lower Austria	AR tetradrachm	ADNAMATI	Single find	Dembski 1972, 49
45	Vienna	AR tetradrachm	COPO	Single find	Ruske 2011, No. F2
46	Thunau, Lower Austria	AR tetradrachm	*Tinco-Stufe* B2	Settlement find	Göbl 1987, Pl. 35:WN B2a
47	Oberleiserberg, Lower Austria	AR obol	Magdalensberg	Settlement find	Militký 2011, Pl. II/20
48	Oberleiserberg, Lower Austria	AR obol	Magdalensberg	Settlement find	–
49	Oberleiserberg, Lower Austria	AR obol	S(VICCA)	Settlement find	–
50	Aigertsham, Upper Austria	AR tetradrachm	*Kugelreiter*	Single find	Prokisch 1999, No. B 33
51	Minaberg, Upper Austria	AR tetradrachm	*Kugelreiter*	Single find	Prokisch 1999, No. B 34
52	Mauthausen, Upper Austria	AR tetradrachm	ATTA	Single find	Prokisch 2010, No. B 56
53	Brandenberg, Upper Austria	AR obol	Eis	Single find	Prokisch 2010, No. B 57
54	Neubau, Upper Austria	AR tetradrachm	*Kugelreiter*	Settlement find	Prokisch 1999, No. A 83
55	Neubau, Upper Austria	AR tetradrachm	*Kugelreiter*	Settlement find	Prokisch 2011, No. A 537
56	Neubau, Upper Austria	AR tetradrachm	*Kugelreiter*	Settlement find	Prokisch 2011, No. A 538
57	Neubau, Upper Austria	AR tetradrachm	TINCO	Settlement find	Prokisch 1993, No. A 44
58	Neubau, Upper Austria	AR obol	*Kugelreiter*	Settlement find	Prokisch 2011, No. A 539
59	Neubau, Upper Austria	AR obol	Magdalensberg	Settlement find	Prokisch 1993, No. A 45
60	Neubau, Upper Austria	AR obol	Magdalensberg	Settlement find	Prokisch 2004, No. A 210

of the question at Bratislava (at least from a numismatic perspective).[147] Moreover, it is interesting that no Norican coins are known from southwestern Slovakia; one would expect their presence to increase during a putative Norican incursion. So far only one obol has been recorded, on the site of Blatné.[148] Norican imports into Bratislava must therefore be seen as a very specific problem reflecting a complicated situation. Lower Austria, north and south of the Middle Danube, has yielded a number of Norican coins (Tab. 4/42–49). ADNAMATI and NEMET tetradrachms have been found on the La Tène settlement of Drösing 20,[149] an ADNAMATI tetradrachm is known from Roseldorf[150] and a COPO one from Vienna.[151] A fragment of a tetradrachm of *Tinco-Stufe* B2 stems from the settlement of Thunau.[152] Surprisingly the oppidum of Oberleiserberg has yielded only two obols of the Magdalensberg type[153] and one obol of the S(VICCA) type. This meagre quantity of Norican coins is surprising, compared to the many Tauriscan coins found on the site.

Western Norican prototypes also appear to have influenced the iconography of local coins in Lower Austria. These are the tetradrachms of the Drösing type[154] which imitate western Norican coins – especially of the NEMET and ATTA type.[155] It is likely that these coins were also struck on the settlement of Drösing 16. In this case too, the evidence suggests that thick imitation silver coins were produced north of the Danube, i.e. in a zone where tetradrachms were not normally produced. It points to a clear influence from western Noricum and

147. Finds of obols of the Karlstein type (Kolníková 1996, 34–38), which are clearly Boian coins (see most recently Militký 2013, 108) constitute an important argument in this respect.

148. I am grateful to Dr M. Budaj for drawing my attention to this unpublished find.

149. Jedlička 2004, 91, 152, No. 7.2.6.

150. Dembski 1972, 49.

151. Ruske 2011, 73, No. F2.

152. Göbl 1987, 248–249, Pl. 35/WN B2a.

153. Militký 2011, 1200.

154. Dembski 1992. – Dembski 1996. – Kostial 2003, 47, No. 153. – Jedlička 2004, 146–147.

155. Göbl 1973, Pl. 10–14.

Tab. 5. Find of coins of the Taurisci and Norici from oppida and central places (single finds and hoard finds).

Site	Taurisci		Norici		
	Tetradrachm	Obol	Tetradrachm	Obol	Total
Němčice nad Hanou (Cat. no. 8)	-	1	-	1	1 / 1
Stradonice (Cat. no. 1)	2	4	2?	9	6 / 11
Třísov (Cat. no. 2)	-	-	-	2	0 / 2
Staré Hradisko (Cat. no. 9)	1	-	1	-	1 / 1
Bratislava	-	-	1+(1)	(38)	0 / 1+(39)
Oberleiserberg	13	12	-	3	25 / 3
Drösing	-	-	2	-	0 / 2
Thunau	-	-	1	-	0 / 1
Neubau		2	4	3	2 / 7
Manching	-	-	1	-	0 / 1

to a close connection with the Oberleiserberg, where intensive reciprocal contacts with the area occupied by the Taurisci are documented.

A clear concentration of coins of the Norici is present in Upper Austria (Tab. 4/50–60; Fig. 3). Two tetradrachms of the *Kugelreiter* type are recorded from the sites of Aigertsham und Minaberg.[156] A tetradrachm of the ATTA type is known from Mauthausen,[157] and an obol of the Eis type was recovered in Brandenberg.[158] A relatively large number of western Norican coins comes from the central settlement of Neubau.[159] There three tetradrachms and an obol of the *Kugelreiter* type,[160] a TINCO tetradrachm[161] and two obols of the Magdalensberg type[162] have so far been found. The coins of the *Kugelreiter* type are an important element, providing evidence of relatively intensive contacts with Noricum already in the period preceding that of the oppida (i.e. La Tène C2). The finds of coins of the Norici in Upper Austria are also significant for Bohemia, given that the former is one of the regions from where such coins could have moved on to Bohemia.

156. Prokisch 1999, 45–46, No. B 33–34.
157. Prokisch 2010, 32–33, No. B 56.
158. Prokisch 2010, 32–33, No. B 57.
159. For the site, see Moser 2001.
160. Prokisch 1999, 44, No. A 83. – Prokisch 2011, 35, Nos. A 537–539.
161. Prokisch 1993, 28, No. A 44.
162. Prokisch 1993, 28, No. A 45. – Prokisch 2004, 26, No. A 210.

Conclusions

The coinage of the Taurisci and Norici represents a relatively prominent group among the coins imported into the area of the Czech Republic. It emerges that imports already began in Moravia in the period preceding the flourishing of the oppida, as attested by two obols (Cat. nos. 8.1–8.2) found at the trade and production centre of Němčice nad Hanou.[163] In Bohemia, there is so far no evidence of coins of the Taurisci and Norici in the pre-oppida period. On the other hand there is a clear concentration of Norican coins of the *Kugelreiter* type on sites pre-dating the oppida in Upper Austria (Tab. 4/50–51, 54–56 and 58).

The majority of Tauriscan and Norican coins recovered in the Czech Republic coincides with the oppida horizon. Their presence is particularly noticeable at the oppidum of Stradonice (Cat. no. 1), but also Třísov (Cat. no. 2). It is a matter of speculation whether the coinage in the area under study represents an influx into the region that is connected with the arrival of people, or whether it reflects the increasing penetration of long-distance trade. Both propositions are possible, but the evidence of the Zbiroh hoard (Cat. No. 3) suggests that the latter is more likely. Regular contacts of commercial and diplomatic character are also attested by the import of coins from other regions, especially Gaul and southern Bavaria.

The coins from central places and oppida are the most significant for our study. It is indeed these sites that show the most intensive evidence for exchange, and hence losses, considering that the assemblages that have survived represent a minute proportion of the original

163. Čižmář, Kolníková 2006. – Kolníková 2006. – Čižmář, Kolníková, Noeske 2008. – Kolníková 2012a. – Militký 2012b.

quantity of imported coins. In any case the finds from the oppida and central places north of the Danube provide a degree of objectivity, which makes their comparison an interesting exercise (see Tab. 5).

The overview in Table 5 shows that the contribution of Tauriscan and Norican coins to individual sites is quite uneven. Stradonice appears to show a relatively balanced situation with 6 Tauriscan and 11 Norican coins. The table illustrates two extremes: an overwhelming prevalence of coins of the Taurisci on the Oberleiserberg and their complete absence from Bratislava. The settlement of Drösing lies between these two oppida; there only Norican coins have been recovered, and it is also where the Drösing type, which clearly imitates Norican prototypes, was struck. It is also striking that coins minted in Bratislava are completely absent from the Oberleiserberg, especially the drachms of the Simmering type,[164] which are otherwise known from settlements in the Marchfeld,[165] the area of Vienna, and also Upper Austria.[166] Such a state of affairs is surely no coincidence and must reflect entirely different contacts, which are otherwise not provable. Bratislava was in contact with the Norici, and the Oberleiserberg with the Taurisci; the latter may, together with the Boii, have had a permanent foothold on the site. Most significantly, from a numismatic perspective, Bratislava was not in communication with the Oberleiserberg. Such a conclusion clearly goes beyond the usual remit of archaeological interpretation. In this context it is evident that the oppidum of Stradonice, i.e. the main centre of power, production and trade, kept up relations with both the Tauriscan and Norican regions. The concentration of finds of coins from these regions is significant, even though it is the furthest point in the area under study. On the other hand it is worth noting that coins of the Norici and Taurisci hardly occur in southern Bavaria, apart from a western Norican tetradrachm found at Manching.[167] It therefore appears that the Taurisci and Norici were in regular contact with different parts of the area occupied by the Boii during the period of the oppida; the latter was however surely not as unified as the interpretation of the archaeological sources appears to suggest. The coinage from the regions occupied by the Taurisci and Norici contributes to a better understanding of this situation.

164. See Göbl 1994, Pl. 8/23–33 for this type.
165. Jedlička 2004, 69, 84, 86, 90.
166. Prokisch 2010, 32, Nos. B 52–55.
167. Kellner 1990, 127, No. 793.

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References

Allen 1987
D. Allen, Catalogue of Celtic Coins in the British Museum with Supplementary Material from other British Collections. Volume I: Silver Coins of the East Celts and Balkan Peoples. London 1987.

Bannert, Piccottini 1972
H. Bannert, G. Piccottini, Die Fundmünzen vom Magdalensberg. Archäologische Forschungen zu den Grabungen auf dem Magdalensberg 2, Kärntner Museumsschriften 52, Klagenfurt 1972.

Bazovský, Kolníková 2011
I. Bazovský, E. Kolníková, Nové nálezy keltských mincí zo západného Slovenska (The recent finds of Celtic coins from western Slowakia), Slovenská numizmatika 19, 2011, 103–106.

Blanchet 1902
A. Blanchet, Recherches sur les Monnaies Celtiques de l'Europe centrale, Revue numismatique 6, 1902, 36–51, 157–173.

Brandt 2002
B. Brandt, Der Schatzfund von Tiesendorf: Vergleichende Studien zu spätkeltischen Büschelquinaren. Ausstellungskataloge der archäologischen Staatssammlung 32, Munich 2002.

Břeň 1956
J. Břeň, Oppidum Holubov-Třísov: Předběžná zpráva o výzkumu národního muzea z let 1954–55, Časopis Národního muzea – oddíl věd společenských 125, 1956, 5–16.

Břeň 1966
J. Břeň, Třísov – Keltské oppidum v jižních Čechách. Průvodce pravěkem 2, Prague 1966.

Břeň 1984
J. Břeň, Keltové v jižních Čechách. Katalog výstavy, České Budějovice 1984.

Břeň 1987
J. Břeň, K výrobě tuhové keramiky na keltském oppidu

v Třísově, okres Český Krumlov, Časopis Národního muzea – řada historická 156, 1987, 1–9.

Castelin 1972

K. Castelin, Spätkeltische „Didrachmen" in Noricum und im Karpatenbecken, Schweizer Münzblätter 22, 1972, 42–50.

Castelin 1978

K. Castelin, Keltische Münzen: Katalog der Sammlung im Schweizerischen Landesmuseum Zürich. Band I, Zurich 1978.

Čambal 2004

R. Čambal, Bratislavský hradný vrch – akropola neskoroláténského oppida (Der Bratislavaer Burghügel – die Akropolis von spätlatènezeitlichem Oppidum), Zborník Slovenského národného múzea 103, Archeologia - Supplementum 1, Bratislava 2004.

Čižmář 1993

M. Čižmář, Keltská okupace Moravy (doba laténská). In: V. Podborský (Ed.), Pravěké dějiny Moravy, Vlastivěda moravská. Země a lid NR 3, Brno 1993, 380–423.

Čižmář 1995

M. Čižmář, K mincovnictví na keltském oppidu Staré Hradisko (Coinage at the oppidum of Staré Hradisko / Moravia/), Archeologické rozhledy 47, 1995, 614–618.

Čižmář 2002a

M. Čižmář, Keltské oppidum Staré Hradisko (The Celtic Oppidum Staré Hradisko). Archeologické památky střední Moravy 4, Olomouc 2002.

Čižmář 2002b

M. Čižmář, Ökomische Struktur des Oppidums Staré Hradisko. In: C. Dobiat, S. Sievers (Eds.), Dürrnberg und Manching: Wirtschaftsarchäologie im ostkeltischen Raum. Bonn 2002, 297–313.

Čižmář 2008

M. Čižmář, Příspěvek k otázce spojnice mezi Čechami a Saskem v době železné (Ein Beitrag zur Frage der Verbindung zwischen Böhmen und Sachsen in der Eisenzeit). In: E. Černá, J. Kuljavceva Hlavová (Eds.), Archeologické výzkumy v severozápadních Čechách v letech 2003–2007. Sborník k životnímu jubileu Zdeňka Smrže. Příspěvky k pravěku a rané době dějinné severozápadních Čech, Most 2008, 229–239.

Čižmář, Kolníková 2006

M. Čižmář, E. Kolníková, Němčice – obchodní a industriální centrum doby laténské na Moravě (Němčice – a La Tène trading and industrial centre in Moravia), Archeologické rozhledy 58, 2006, 261–283.

Čižmář, Kolníková, Noeske 2008

M. Čižmář, E. Kolníková, H.-Ch. Noeske, Němčice-Víceměřice – ein neues Handels- und Industriezentrum der Latènezeit in Mähren, Germania 86, 2008, 655–700.

Danielisová, Militký 2014

A. Danielisová, J. Militký, Pozdně laténské spony z oppida Třísov, získané povrchovou prospekcí v letech 2008–2013 (Late La Tène brooches from the Třísov oppidum, acquired through surface prospection in years 2008–2013), Archeologické rozhledy 64, 2014, 40–66.

Dembski 1972

G. Dembski, Die keltischen Fundmünzen Österreichs, Numismatische Zeitschrift 87–88, 1972, 37–73.

Dembski 1991

G. Dembski, Neue Keltenmünzen aus Niederösterreich, Mitteilungen der Österreichischen Numismatischen Gesellschaft 31, 1991, 5–10.

Dembski 1992

G. Dembski, Rätselhafte Keltenmünzen, Mitteilungen der Österreichischen Numismatischen Gesellschaft 32, 1992, 21–26.

Dembski 1996

G. Dembski, Die „Rätselhaften Keltenmünzen" sind antik, Mitteilungen der Österreichischen Numismatischen Gesellschaft 36, 1996, 21–23.

Dembski 1998

G. Dembski, Münzen der Kelten: Kataloge der antiken Münzen, Reihe A: Griechen II: Massalia und Keltenstämme. Sammlungskataloge des Kunsthistorischen Museums 1, Vienna 1998.

Dembski 2001

G. Dembski, Die Fundmünzen vom Mallnitzer Tauern – norische und tauriskische Obole, Numismatische Zeitschrift 108–109, 2001, 33–52.

Dessewffy 1910

M. Dessewffy, Barbár Pénzei. Budapest 1910.

Dobesch 1994

G. Dobesch, Zur Chronologie des Dakerkönigs Burebista. In: R. Göbl, Die Hexadrachmenprägung der Gross-Boier. Ablauf, Chronologie und historische Relevanz für Noricum und Nachbargebiete. Vienna 1994, 51–68.

Dobesch 1995

G. Dobesch, Die Boier und Burebista. In: J. Tejral, J. Rajtár, K. Pieta (Eds.), Kelten, Germanen, Römer im Mitteldonaugebiet vom Ausklang der Latène-Zivilisation bis zum 2. Jahrhundert. Brno – Nitra 1995, 15–19.

Dobesch 2012

G. Dobesch, Regnum Noricum. In: S. Sievers, O. H. Urban, P. C. Ramsl (Eds.), Lexikon zur kel-

tischen Archäologie: L–Z. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 73, Vienna 2012, 1566–1568.

Dolenz, Piccottini 2012
H. Dolenz, G. Piccottini, Magdalensberg, Österreich. In: S. Sievers, O. H. Urban, P. C. Ramsl (Eds.), Lexikon zur keltischen Archäologie: L–Z. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 73, Vienna 2012, 1210–1211.

Drda, Rybová 1998
P. Drda, A. Rybová, Keltové a Čechy. Prague 1998.

Elschek, Kolníková 1996
K. Elschek, E. Kolníková, Nové nálezy keltských mincí z južného Záhoria (Neufunde keltischer Münzen aus dem südlichen Záhorie-Gebiet), Slovenská numizmatika 14, 1996, 213–214.

Fiala 1891
E. Fiala, Beschreibung böhmischer Münzen und Medaillen. Band I. Prague 1891.

Forrer 1908/1968
R. Forrer, Keltische Numismatik der Rhein- und Donaulande. Graz 1908/1968.

Gleirscher 2012
P. Gleirscher, Gurina, Österreich. In: S. Sievers, O. H. Urban, P. C. Ramsl (Eds.), Lexikon zur keltischen Archäologie: A–K. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 73, Vienna 2012, 709–711.

Göbl 1969
R. Göbl, Zwei keltische Münzen vom Oberleiserberg, Mitteilungen der Österreichischen Numismatischen Gesellschaft 16, 1969, 65–66.

Göbl 1973
R. Göbl, Typologie und Chronologie der keltischen Münzprägung in Noricum. Veröffentlichungen der Kommission für Numismatik 2, Vienna 1973.

Göbl 1983
R. Göbl, Neues zur post-norischen Keltenprägung, Litterae Numismaticae Vindobonenses 2, 1983, 181–185.

Göbl 1987
R. Göbl, Supplementa celtica 1, Litterae Numismaticae Vindobonenses 3, 1987, 247–252.

Göbl 1992
R. Göbl, Münzprägung und Geldverkehr der Kelten im Österreich. Vienna 1992.

Göbl 1994
R. Göbl, Die Hexadrachmenprägung der Gross-Boier: Ablauf, Chronologie und historische Relevanz für Noricum und Nachbargebiete. Vienna 1994.

Gorini 2004
G. Gorini, Cronologia e tipologia delle monete noriche "Frontalgesicht". In: R. Cunz (Ed.), Fundamenta Historiae: Geschichte im Spiegel der Numismatik und ihrer Nachbarwissenschaften. Festschrift für Niklot Klüßendorf zum 60. Geburtstag am 10. Februar 2004. Hannover 2004, 57–65.

Gorini 2005
G. Gorini, Il ripostiglio di Enemonzo e la monetazione del Norico. Numismatica Patavina 6, Padova 2005.

Gorini 2009
G. Gorini, Norican silver coinage. A reappraisal. In: J. van Heesch, I. Heeren (Eds.), Coinage in the Iron Age. Essays in Honour of Simone Scheers. London 2009, 117–122.

Hainzmann 2012
M. Hainzmann, Noreia. In: S. Sievers, O. H. Urban, P. C. Ramsl (Eds.), Lexikon zur keltischen Archäologie: L–Z. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 73, Vienna 2012, 1382–1383.

Hartmann 1985
A. Hartmann, Über Materialanalysen an Goldmünzen der keltischen Bojer, Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz 32, 1985, 660–674.

Hlava 2008
M. Hlava, Záchranný výzkum v předpolí oppida Třísov /okr. Český Krumlov/ roku 1958 (Die Rettungsgrabung des Jahres 1958 im Vorfeld des Oppidums Třísov /Kr. Český Krumlov), Archeologické výzkumy v jižních Čechách 21, 2008, 141–209.

Hlava 2009
M. Hlava, „Amulety" z oppida Třísov /okr. Český Krumlov („Amulette" aus dem Oppidum Třísov /Kr. Český Krumlov), Archeologické výzkumy v jižních Čechách 22, 2009, 115–123.

Humer 2006
F. Humer (Ed.), Legionsadler und Druidenstab: Vom Legionslager zur Donaumetropole. Katalogband. Horn 2006, 46–51.

Jablonka 2001
P. Jablonka, Die Gurina bei Dellach im Gailtal: Siedlung, Handelsplatz und Heiligtum. Klagenfurt 2001.

Jandrasits 2005
H. Jandrasits, Überlegungen zur Genese und Verbreitung der Kleinsilbermünzen des Typs Roseldorf, Römisches Österreich. Jahresschrift der Österreichischen Gesellschaft für Archäologie 28, 2005, 129–149.

Ječný 1921
J. Ječný, Soupis a rozbor nálezů mincí v jihozáp. Čechách

po stránce numismatické, Sborník Městského historického muzea v Plzni 6, 1921, 34–69.

Jedlička 2004

F. Jedlička, Ein Stück Bernsteinstraße im nordöstlichen Weinviertel: Ur- und frühgeschichtliche Streufunde als Beitrag zur Siedlungsgeschichte Niederösterreichs. Teil I: Raum, Zeit und alte Kulturen, Teil II: Münzgeld in keltischer und römisch-germanischer Zeit. Würnitz-Strasshof an der Nordbahn – Stockerau 2004.

Karasová 2002

Z. Karasová, Spony z keltského oppida na Třísově (Les fibules de l'oppidum celtique de Třísov), Památky archeologické 92, 2002, 226–258.

Karwowski, Militký 2011

M. Karwowski, J. Militký, The Oberleiserberg types in the context of Taurisci influences. In: M. Guštin, M. Jevtić (Eds.), The Eastern Celts: The Communities between the Alps and the Black Sea. Koper – Belgrade 2011, 131–136.

Kellner 1990

H.-J. Kellner, Die Münzfunde von Manching und die keltischen Fundmünzen aus Südbayern. Ausgrabungen in Manching 12, Stuttgart 1990.

Kern, Karwowski, Militký 2012

A. Kern, M. Karwowski, J. Militký, Oberleis, Österreich. In: S. Sievers, O. H. Urban, P. C. Ramsl (Eds.), Lexikon zur keltischen Archäologie: L–Z. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 73, Vienna 2012, 1399–1402.

Koblitz 1918

H. F. V. Koblitz, Beiträge zur keltischen Münzkunde Böhmens, Mitteilungen der Oesterreichischen Gesellschaft für Münz- und Medaillenkunde 14, 1918, 97–104.

Kolníková 1996

E. Kolníková, Norische Münzen im Oppidum Bratislava und in seinem Hinterland, Slovenská numizmatika 14, 1996, 9–57.

Kolníková 2006

E. Kolníková, Význam mincí z moravského laténského centra Němčice nad Hanou pre keltskú numizmatiku (Importance of coins from the Moravian late Iron Age centre Němčice nad Hanou for the Celtic numismatics), Numismatický sborník 21, 2006, 3–56.

Kolníková 2012a

E. Kolníková, Němčice. Ein Macht-, Industrie- und Handelszentrum der Latènezeit in Mähren und Siedlungen an ihrem Rande. Brno 2012.

Kolníková 2012b

E. Kolníková, Mince – svedectvo prosperity Keltov. In: J. Šedivý, T. Štefanovičová (Eds.), Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia, Bratislava 2012, 205–215.

Kos 1977

P. Kos, Keltski novci Slovenije (Keltische Münzen Sloweniens). Ljubljana 1977.

Kos 2007

P. Kos, The beginnings of the coinage of celtic tribes in the southeastern Alps, Slovenská numizmatika 18, 2007, 59–68.

Kos 2012

P. Kos, The VES· Group – the earliest tauriscan tetradrachms, Vjesnik Arheološkog muzeja u Zagrebu 45, 2012, 351–358.

Kos 2013

P. Kos, Silver fractions of the „Kugelreiter" tetradrachms, Arheološki vestnik (Ljubljana) 64, 2013, 353–366.

Kos, Mirnik 2009

P. Kos, I. Mirnik, The Durdevac Hoard. In: J. van Heesch, I. Heeren (Eds.), Coinage in the Iron Age. Essays in Honour of Simone Scheers. London 2009, 289–311.

Kostial 2003

M. Kostial, Kelten im Osten: Gold und Silber der Kelten in Mittel- und Osteuropa. Sammlung Lanz (2nd edition). Munich 2003.

Krmnicek 2010

S. Krmnicek, Münze und Geld im frührömischen Ostalpenraum: Studien zum Münzumlauf und zur Funktion von Münzgeld anhand der Funde und Befunde von Magdalensberg. Klagenfurt 2010.

Lazar, Kos 2012

I. Lazar, P. Kos, Celeia, Slovenien. In: S. Sievers, O. H. Urban, P. C. Ramsl (Eds.), Lexikon zur keltischen Archäologie: A–K. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 73, Vienna 2012, 318–321.

Lehrberger et. al. 1997

G. Lehrberger, J. Fridrich, R. Gebhard, J. Hrala (Eds.), Das prähistorische Gold in Bayern, Böhmen und Mähren: Herkunft – Technologie – Funde, Památky archeologické Supplementum 7, Prague 1997.

Lippert, Dembski 2013

A. Lippert, G. Dembski, Ein weitererer keltischer Münzopferplatz am Mallnitzer Tauern (Salzburg/Kärnten), Archäologisches Korrespondenzblatt 43, 2013, 523–534.

Luschin 1904

A. Luschin von Ebengreuth, Keltenmünzen von der Gerlitzenalpe und aus Moggio, Jahrbuch d. k.k. Zentralkommission 2/1, 1904, 75–102.

Mackensen 1973
M. Mackensen, Zur westnorischen Kleinsilberprägung, Jahrbuch für Numismatik und Geldgeschichte 23, 1973, 87–88.
Mackensen 1975
M. Mackensen, The state of research on the „Norican" silver coinage, World Archaeology 6, 1975, 249–275.
Meduna 1970a
J. Meduna, Das keltische Oppidum Staré Hradisko in Mähren, Germania 48, 1970, 34–59.
Meduna 1970b
J. Meduna, Staré Hradisko II. Katalog der Funde aus den Museen in Brno (Brünn), Praha (Prag), Olomouc, Plumlov und Prostějov. Fontes Archaeologiae Moravicae 5, Brno 1970.
Militký 1995
J. Militký, Nálezy keltských a antických mincí v jižních Čechách, Zlatá Stezka 2. Sborník Prachatického muzea, 1995, 34–67.
Militký 2004
J. Militký, Münzen. In: Z. Karasová, M. Schönfelder, Die Funde aus dem Oppidum „Hradiště" bei Stradonice (okr. Beroun, CZ) im Römisch-Germanischen Zentralmuseum Mainz, Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz 51, 2004, 219–242.
Militký 2005
J. Militký, Nálezy mincí na Českokrumlovsku, Sborník Národního muzea, Řada A – Historie 59, 2005, 1–88.
Militký 2010a
J. Militký, Keltské a antické mince z oppida Hradiště u Stradonic v bývalé fürstenberské sbírce na hradě Křivoklát a v Donaueschingen (Celtic and ancient coins from the Hradiště oppidum by Stradonice in the former Fürstenberg collection at the Křivoklát castle and in Donaueschingen), Numismatický sborník 24 (2009), 2010, 27–64.
Militký 2010b
J. Militký, Nález denáru císaře Nerona v Nakléřově / okr. Ústí nad Labem (Find of the denarius struck under Nero from Nakléřov / Ústí nad Labem district), Numismatický sborník 24/2009, 2010, 317–319.
Militký 2011
J. Militký, Die keltischen Münzen vom Oberleiserberg (Niederösterreich). In: N. Holmes (Ed.), Proceedings of the XIVth International Numismatic Congres, Glasgow 2009. II, Glasgow 2011, 1198–1206.
Militký 2012a
J. Militký, Die Fundmünzen vom Oberleiserberg. In: E. Lauermann, P. Trebsche (Eds.), Beiträge zum Tag der Niederösterreichischen Landesarchäologie 2012. Asparn/Zaya 2012, 49–55.
Militký 2012b
J. Militký, Keltské mince z areálu obchodně-produkčního centra v Němčicích nad Hanou (okr. Prostějov): Příspěvek k průběžné dokumentaci nálezového fondu (Celtic coins from the trading and production center of Němčice nad Hanou /Prostějov district: Contribution to the continuous documentation of finds), Numismatický sborník 26/2/2011, 2012, 163–178.
Militký 2013
J. Militký, Hromadný nález hexadrachem typu Biatec a stříbrného ingotu z neznámé lokality: K otázce původu stříbra u středoevropských Keltů (A group find of hexadrachms of the Biatec type and a silver ingot from an unknown locality: Contribution to the origin of silver in the case of the central European Celts), Numismatické listy 68, 2013, 99–122.
Militký, Vacinová 2012
J. Militký, L. Vacinová, Keltské, římské a raně byzantské mince /3. století před Kristem – 7. století po Kristu (Celtic, Roman and early Byzantine Coins /3rd century BC – 7th century AD). Národní Muzeum – Chaurova sbírka 10. Prague 2012.
Moser 2001
S. Moser, Die latènezeitliche Siedlung von Neubau bei Traun – neue Funde keltischer Schrötlingsformen aus ÖO, Jahrbuch des Oberösterreichischen Musealvereines Gesellschaft für Landeskunde 146, 2001, 97–128.
Radoměrský 1955
P. Radoměrský, Nálezy keltských mincí v Čechách, na Moravě a ve Slezsku. In: E. Nohejlová-Prátová, Nálezy mincí v Čechách, na Moravě a ve Slezsku 1. Prague 1955, 35–84.
Paulsen 1933
R. Paulsen, Die Münzprägungen der Boier. Leipzig – Vienna 1933.
Píč 1903
J. L. Píč, Hradiště u Stradonic jako historické Marobudum. Čechy na úsvitě dějin, Starožitnosti země České 2/2, Prague 1903.
Pieta 2008
K. Pieta, Keltské osídlení Slovenska: Mladšia doba laténska (Celtic Settlement in Slowakia: Late La Tène Period). Nitra 2008.
Pieta, Zachar 1993
K. Pieta, L. Zachar, Mladšia doba železná (laténska). In.: T. Štefanovičová (Ed.), Najstaršie dejiny Bratislavy. Bratislava 1993, 143–209.
Pink 1939/1974
K. Pink, Die Münzprägung der Ostkelten und ihrer Nachbarn (2nd edition). Braunschweig 1939/1974.

Prokisch 1993
B. Prokisch, Keltische Fundmünzen aus Oberösterreich: Die römischen Münzen des Stadtmuseums Nordico in Linz. Linz 1993.
Prokisch 1999
B. Prokisch, Neufunde keltischer Münzen in Oberösterreich aus den Jahren 1992 bis 1998, Numismatische Zeitschrift 106–107, 1999, 37–48.
Prokisch 2004
B. Prokisch, Neufunde keltischer Münzen in Oberösterreich aus den Jahren 1998 bis 2003, Numismatische Zeitschrift 111–112, 2004, 5–34.
Prokisch 2010
B. Prokisch, Neufunde keltischer Münzen in Oberösterreich aus dem Jahren 2005 bis 2009, Mitteilungen der Österreichischen Numismatischen Gesellschaft 50, 2010, 17–43.
Prokisch 2011
B. Prokisch, Die Fundmünzen aus den im Zusammenhang mit dem Bau der Umfahrungsstrasse der Ortschaft Neubau (MG Hörsing, VB Linz-Land OÖ) durchgeführten archäologischen Untersuchungen der Jahre 2005/2008, Numismatische Zeitschrift 118, 2011, 7–51.
Ruske 2007
A. Ruske, Teil eines Schatzfundes norischer Tetradrachmen, Numismatische Zeitschrift 115, 2007, 7–14.
Ruske 2011
A. Ruske, Die Fundregesten der antiken Münzhorte aus Österreich: Eine Zusammenstellung aller bekannten Münzdepots anhand der Literatur, Numismatische Zeitschrift 118, 2011, 53–181.
Rybová, Drda 1994
A. Rybová, P. Drda, Hradiště by Stradonice: Rebirth of a Celtic Oppidum. Prague 1994.
Simon, Hauswald 1995
K. Simon, K. Hauswald, Der Kulmer Steig vor dem Mittelalter: Zu den ältesten sächsisch-böhmischen Verkehrswegen über das Osterzgebirge, Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege 37, 1995, 9–98.
Sklenář 2011
K. Sklenář, Pravěké a raně středověké nálezy v Čechách do roku 1870: Pramenná základna romantického období české archeologie (Ur- und frühgeschichtliche Funde in Böhmen bis 1870: Quellenbasis der romantischen Phase der böhmischen Archäologie). Fontes Archaeologici Pragenses 36, Prague 2011.
Smejtek, Lutovský, Militký 2013
L. Smejtek, M. Lutovský, J. Militký, Encyklopedie pravěkých pokladů. Prague 2013.
Šedivý, Štefanovičová 2012
J. Šedivý, T. Štefanovičová (Eds.), Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. Storočia. Bratislava 2012.
Valentová 2013
J. Valentová, Oppidum Stradonice: Keramika ze starších fondů Národního muzea (The Stradonice Oppidum: Pottery from Early Collections of the National Museum). Fontes Archaeologici Pragenses 39, Prague 2013.
Venclová 1990
N. Venclová, Prehistoric Glass in Bohemia. Prague 1990.
Venclová 2008
N. Venclová (Ed.), Archeologie pravěkých Čech 7. Doba laténská, Prague 2008.
Venclová, Valentová 2012
N. Venclová, J. Valentová, Oppidum Stradonice: Výzkum Albína Stockéhor. 1929 (The Stradonice Oppidum: Investigations of Albín Stocký in 1929). Fontes Archaeologici Pragenses 38, Prague 2012.
Waldhauser 2001
J. Waldhauser, Encyklopedie Keltů v Čechách. Prague 2001.
Ziegaus 2010
B. Ziegaus, Kelten Geld: Münzen der Kelten und angrenzender nichtkeltischer Völkerschaften. Sammlung Christian Flesche. Munich 2010.

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A Typological Study of the La Tène *Knotenringe* in the Territory of the Boii

Monika Dębiec, Maciej Karwowski

Abstract: Small bronze rings with various arrangements of knot-like projections (*Knotenringe*) are a characteristic element of the oppida period in the eastern La Tène culture. A significant increase in discoveries in recent years in the zone of Boian coinage allows their precise typological classification. The *Knotenringe* are an example of the transfer of ideas along the corridor of the Amber Route. Their function, however, remains unknown.

Keywords: *Knotenringe*, typology, Boii, oppida period, La Tène culture.

Zusammenfassung: In der östlichen Latènekultur sind sogenannte „Knotenringe" sehr charakteristisch für die Oppidazeit. Ein signifikanter Anstieg ihrer Entdeckungen in den letzten Jahren in der Zone der boischen Münzprägung ermöglicht ihre genaue typologische Verteilung. Die Knotenringe sind ein Beispiel des Transfers von Ideen entlang des Korridors der Bernsteinstraße. Ihre Funktion bleibt unbekannt.

Schlüsselwörter: Knotenringe, Typologie, Boier, Oppidazeit, Latènekultur.

Small rings made of bronze, decorated on the outside with variously spaced knob-like projections in relief, are known in the literature as *Knotenringe* ("knot rings"). They are generally considered to be characteristic of the Late La Tène or oppida period. In Joseph Déchelette's opinion they are one of the artefacts that symbolise the unitary character of the La Tène culture over its entire range, from Gaul to the Carpathian Basin; he considered them one of the type-fossils of the phase that he defined as La Tène III.[1] This view was generally accepted and it commonly appears in the literature of the following decades.

The knots on the rings vary in size and shape, and show different arrangements and combinations, which enables us to classify them into characteristic types. Ioan Glodariu first established such a classification on the basis of finds from Dacia.[2] He distinguished four main types, based on the spacing between the knots: Type I is characterised by large intervals between the knots (three to five knots in all); Type II has smaller, regular intervals between knots; Type III hardly has any spaces between knots, which form an uninterrupted series around the whole ring; Type IV contains examples with irregular spacing. These main types were further subdivided into variants, depending on whether the knots appeared individually along the perimeter of the ring or whether they were accompanied by lateral knots. Aurel Rustoiu also attempted to classify the Dacian finds in a similar manner.[3] In his typology, which encompasses different kinds of rings, the *Knotenringe* belong to his Type 2, subdivided into sub-types a–d. They correspond to Glodariu's types I–IV.

Miloš Čižmář also proposed grouping the *Knotenringe* in his analysis of finds from Moravia.[4] He distinguishes between a variant "with three knots", where one knot on the outside of the ring is combined with two lateral knots to make a distinctive pattern. Another variant consists of an arrangement in which individual knots on the perimeter alternate with combinations of three knots (one on the outside and two on either side). Čižmář defined two further variants: *Knotenringe* with a knot on the outer perimeter alternating with two knots on the sides of the ring, and *Knotenringe* where the knots are so arranged that each knot consists of three small nodules.

Achim Leube classified the finds from assemblages recovered in the catchment area of the Oder that con-

1. Déchelette 1914, 970, Fig. 404.

2. Glodariu 1984, 64.

3. Rustoiu 1996, 106–107.

4. Čižmář 2002, 205–206.

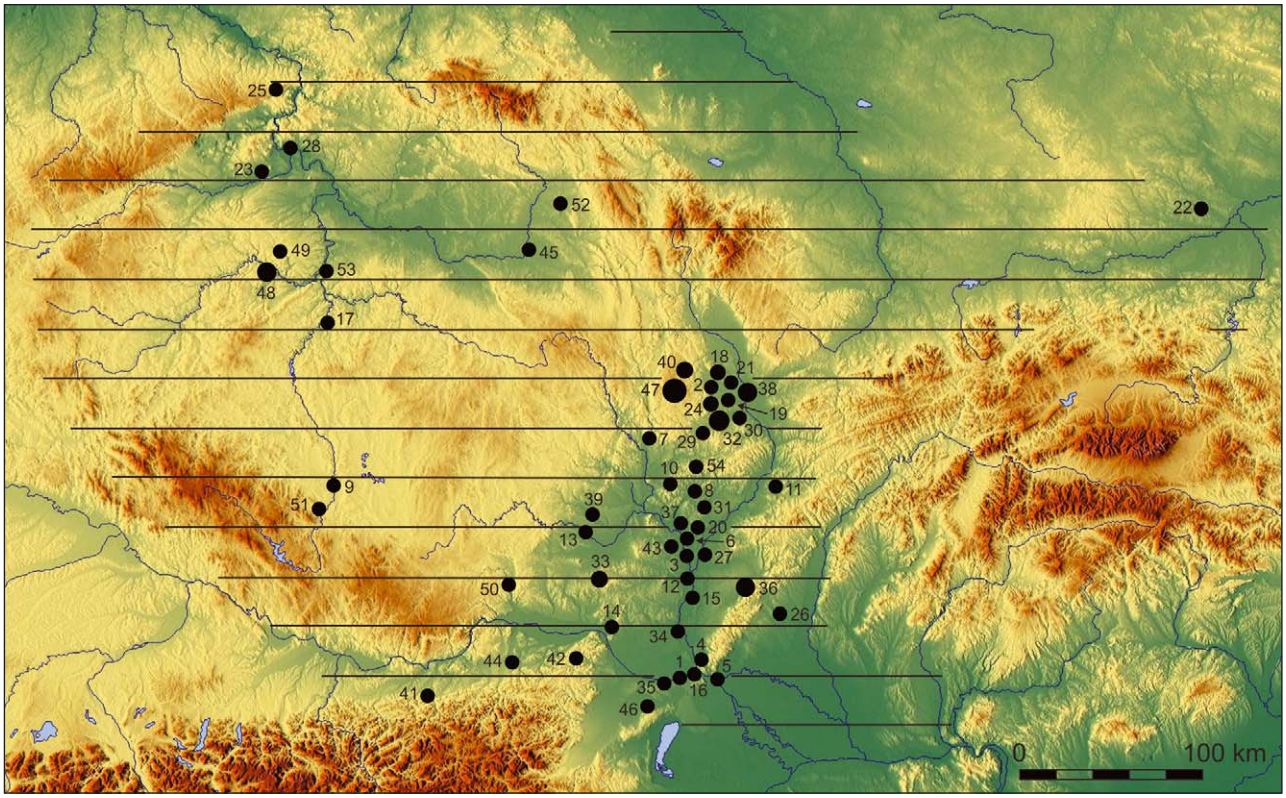

Fig. 1. Distribution of the *Knotenringe* discussed in this study and found within the zone of Boian coinage (finds outside this zone have not been mapped) – 1. Bad Deutsch-Altenburg. – 2. Bedihošť. – 3. Bernhardsthal. – 4. Bratislava-Devín. – 5. Bratislava-Rusovce. – 6. Břeclav. – 7. Brno-Obřany. – 8. Čejč. – 9. České Budějovice. – 10. Diváky. – 11. Dolní Němčí. – 12. Drösing. – 13. Dyjákovice. – 14. Enzersfeld im Weinviertel. – 15. Gajary. – 16. Hainburg an der Donau-Braunsberg. – 17. Hrazany. – 18. Hrubčice. – 19. Hruška. – 20. Hrušky. – 21. Ivaň. – 22. Jakuszowice. – 23. Klapý-Hazmburk. – 24. Klenovice na Hané. – 25. Krásný Les. – 26. Krížovany nad Dudváhom. – 27. Kúty. – 28. Litoměřice. – 29. Medlovice. – 30. Měrovice nad Hanou. – 31. Mutěnice. – 32. Němčice nad Hanou. – 33. Oberleiserberg. – 34. Oberweiden. – 35. Petronell-Carnuntum. – 36. Plavecké Podhradie-Pohanská. – 37. Podivín. – 38. Polkovice. – 39. Pravice. – 40. Ptení. – 41. Purgstall an der Erlauf. – 42. Purkersdorf. – 43. Reinthal. – 44. Sankt Pölten. – 45. Sezemice nad Loučnou. – 46. Sommerein. – 47. Staré Hradisko. – 48. Stradonice. – 49. Svárov. – 50. Thunau am Kamp. – 51. Třísov. – 52. Výrava. – 53. Závist. – 54. Ždánice (Graphics: M. Karwowski, after Orszak 2011; map groundwork: Free Software Foundation).

tained rings which stylistically resemble the *Knotenringe* and which are dated to the period of Roman influence.[5] He identified three main types, as well as a variant (Variant 1) with clusters of three knots, which is stylistically related to the La Tène *Knotenringe*.

The typological schemes outlined above formed the starting point for our assessment, which focuses on the systematic examination of the *Knotenringe* from the area of the so-called "Boian coinage zone".[6] It is located in the eastern La Tène culture zone of central Europe, i.e. Bohemia, Moravia, southwestern Slovakia, northeastern Austria and a few small enclaves in southern Poland. The typological scheme that we propose here is based on traits such as the number of knots, the way they are spaced and the manner of their arrangement.[7]

Two main types were identified in the collection that we have examined. The first (Type I) consists of rings with knots or groups of knots on the outside of the ring where the intervals are greater than the size of the individual knots; the second (Type II) contains rings where the interval between knots is equal or smaller than the size of the individual knots. In addition, each of these main

5. Leube 1975, 28.

6. E.g. Militký 2008, 122. – Militký, Karwowski 2013, 19–26.

7. The typological scheme presented here has its origins in an MA dissertation "Knotenringi z terenów środkowoeuropejskich Bojów" ("*Knotenringe* of the Central European Boian Region") by Monika Orszak (now Monika Dębiec) submitted in 2011 to the Institute of Archaeology of the University of Rzeszów in Poland, supervised by Prof. Dr Michał Parczewski and Dr Maciej Karwowski (Orszak 2011). The data consists of finds published up to 2008 and of records of numerous unpublished finds.

types was subdivided into sub-types A, B and C. This detailed classification is based on the differential number of knots and on the way they are distributed around the ring. The *Knotenringe* included in our typological scheme have a diameter generally ranging between *c.* 10 mm and *c.* 40 mm; in a few cases this diameter is marginally greater. Our typological analysis concerns 153 rings, divided into six sub-types. We also consider twelve finds which fall outside our typological scheme, which we have assigned to an "undefined" category. In all, the collection of *Knotenringe* that we have examined contains 165 rings from 54 archaeological sites (Fig. 1).[8]

Knotenringe of Type I

Rings with intervals between the knots or groups of knots that are greater than the individual knots.

Type IA

Evenly distributed groups of knots in groups of three, one on the outer surface of the ring and two on its sides; the number of knot groups ranges from three to twelve, depending on the spacing and size of the ring.

Forty-one examples of Type IA were identified in the collection gathered in the study area; this represents 25 % of the collection (Figs. 2–4). Type IA is the second-most frequent type after type IIB, presented below.

The largest assemblages of *Knotenringe* of Type IA in the Boian coinage zone are those from the oppida of Staré Hradisko in Moravia and Pohanská in Plavecké Podhradie in western Slovakia, each with six examples (respectively Nos. 30–35 and 20–25). At the oppidum of Pohanská four of the Type IA *Knotenringe* formed part of a rich hoard (Nos. 22–25). The open settlement of Klenovice na Hané in Moravia (Nos. 7–10) and the hilltop settlement on the Oberleiserberg in Lower Austria (Nos. 16–19) yielded four rings each. The oppida of Stradonice (Nos. 36–38) and Třísov (Nos. 39–41) in Bohemia and the open settlement of Drösing (Nos. 3–5) in Lower Austria each produced three. Two examples are known from the hoard of Krížovany nad Dudváhom in western Slovakia (Nos. 12–13). As for single finds of Type IA rings, the list includes the following: in Bohemia in the spring deposit of Krásný Les (No. 11), and from an unknown context in Sezemice nad Loučnou (No. 29); in Moravia: at the large open settlement of Němčice nad Hanou (No. 15), the nearby settlements of Hruška (No. 6) and Měrovice nad Hanou (No. 14), and in the hoard of Ptení (No. 26); in Lower Austria: from the settlements of Bernhardsthal (No. 2) in the Moravian Field (Marchfeld), and south of the Danube at Bad Deutsch-Altenburg (No. 1), Purkersdorf (No. 27) and Sankt Pölten (No. 28).

The knots on some of the *Knotenringe* of Type IA are quite uncharacteristically moulded: each is made up of several, usually three, smaller nodules or protuberances. The whole cluster looks like a cluster of grapes. Four instances of such *Knotenringe* have been recorded on the oppidum of Staré Hradisko: three of Type IA (Nos. 33–35) and one of Type IIA (No. 90), presented below. These particular rings have been defined as the "Staré Hradisko variant".[9] This variant is also encountered quite frequently on other sites, including two examples of Type IA at Plavecké Podhradie (No. 25) and Třísov (No. 41), and three examples of Type IB, discussed below (Nos. 48, 55 and 58). Two small rings made of silver and found attached to one of the Knotenringe from Plavecké Podhradie (No. 21) are an interesting additional element.

Type IB

Knots in groups of three, one on the outer surface of the ring and two on its sides, alternating with single knots on the outer surface of the ring; the number of groups ranges from six to a dozen, depending on the spacing and size of the ring.

Seventeen examples of Type IB were identified in the collection from the area defined as the Boian coinage zone; this represents 10.5 % of the collection (Fig. 5).

Four *Knotenringe* of Type IB were found on the oppidum of Stradonice in Bohemia (Nos. 52–55). In Moravia, the oppidum of Staré Hradisko (Nos. 49–51) and the hoard of Ptení (Nos. 46–48) have yielded three examples each. Further sites have produced single examples: in Bohemia at the hillfort of Hazmburk in Klapý (No. 44), from the river Malše in České Budějovice (No. 42) and from unknown contexts in Svárov (No. 56) and Výrava (No. 57); in Moravia in the settlement of Hrubčice (No. 43) and a grave at Ždánice (No. 58); in western Slovakia on the oppidum of Pohanská in Plavecké Podhradie (No. 43).

Three rings of Type IB possess knots that are composed of three smaller nodules or protuberances, i.e. they belong to the variant described above as the Staré Hradisko variant. They were found at Ptení (No. 48), Stradonice (No. 55) and Ždánice (No. 58). Two *Knotenringe*, from

8. All the finds are listed in the typological list appended to the end of this contribution. The finds numbers given in brackets in the text correspond to the numbers in the list. This numbering also corresponds to the finds that are illustrated. When preparing this list, we did not aim to make an inventory of all the *Knotenringe* that have been found in the area of Boian coinage but to present a reasonably full selection of the material under study.

9. See also Dębiec, Karwowski 2014, 670.

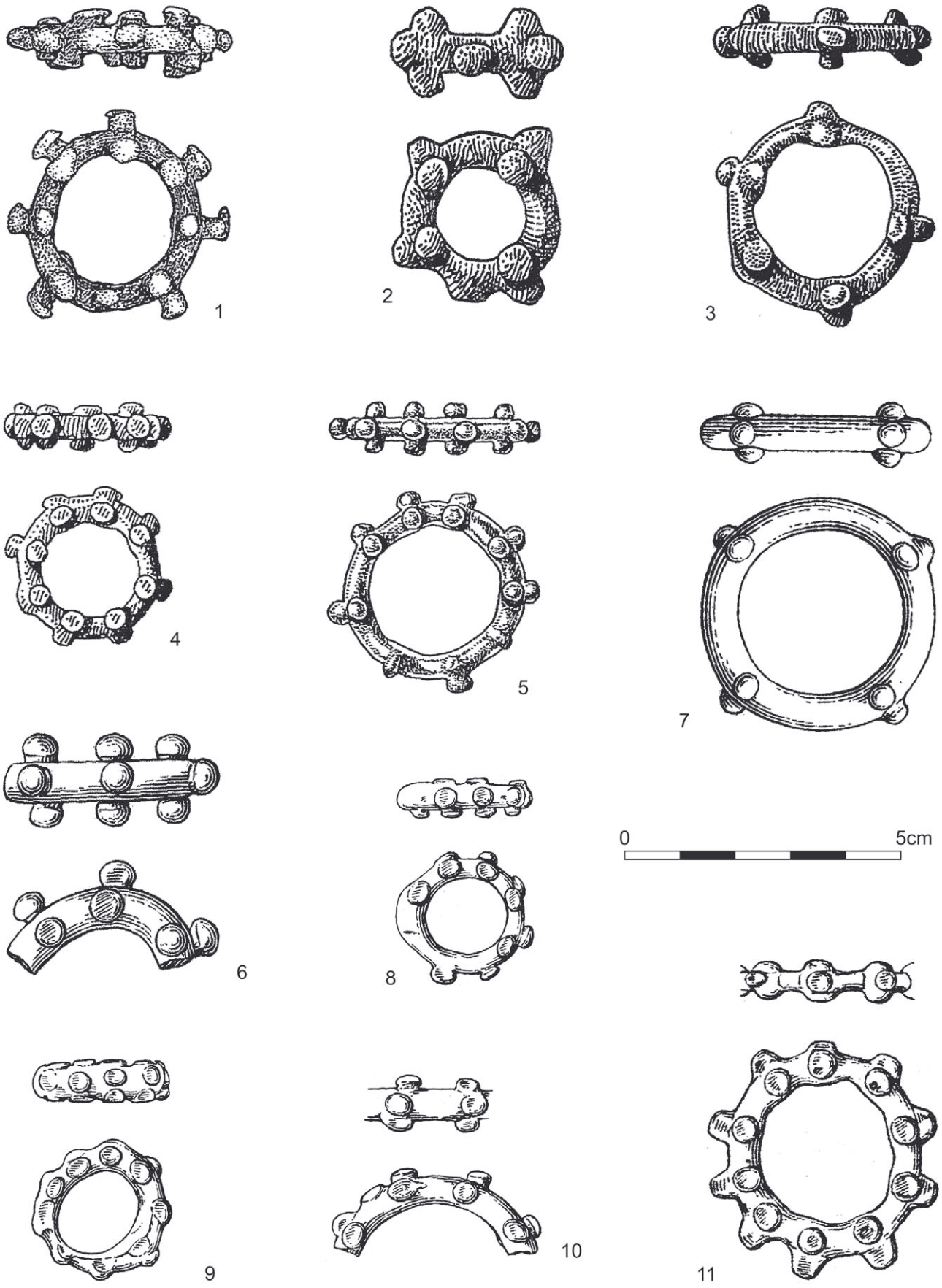

Fig. 2. *Knotenringe* of Type IA (the finds numbers correspond to those of the finds list) (after Grünewald 1980. – Turetschek 1984. – Jedlička 1995. – Jedlička 1997. – Čižmář 2008. – Allerbauer, Jedlička 2001. – Archive of M. Čižmář).

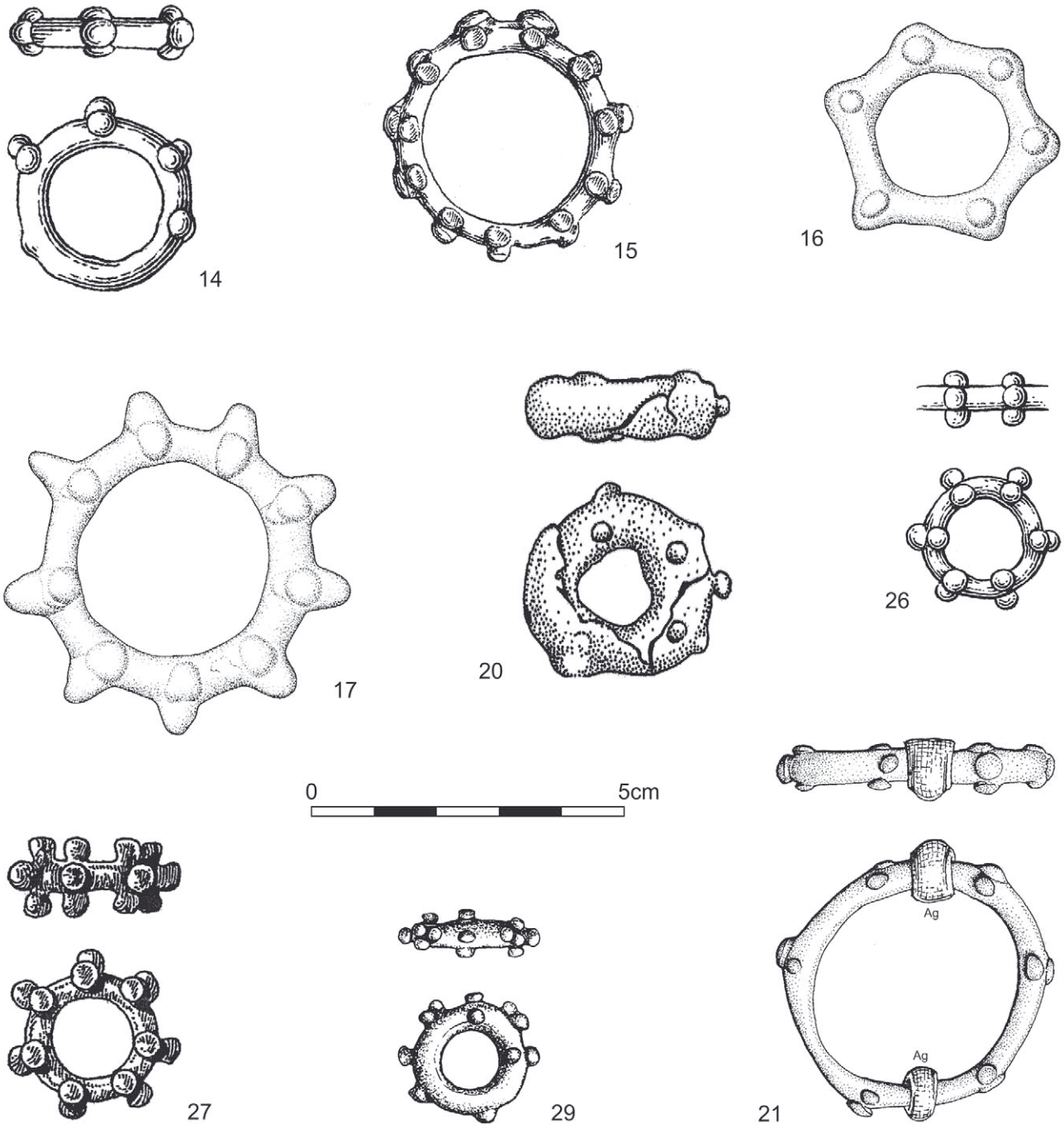

Fig. 3. *Knotenringe* of Type IA (the finds numbers correspond to those of the finds list) (after Zachar 1977. – Adler, Nowak 1988. – Pieta 2010. – Čižmář 2002. – Čižmář, Kolníková 2006. – Mangel, Jílek 2012. – Archive of M. Čižmář and M. Karwowski).

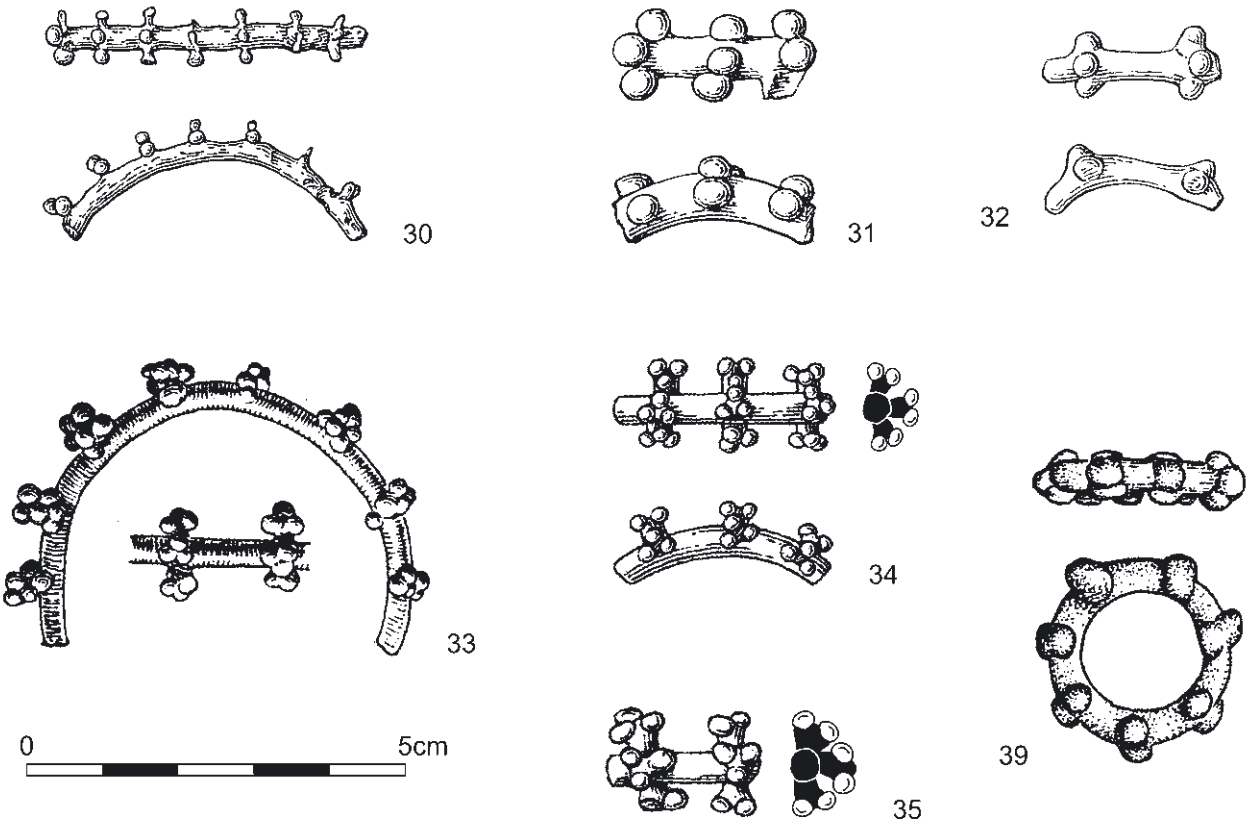

Fig. 4. *Knotenringe* of Type IA (the finds numbers correspond to those of the finds list) (after Meduna 1961. – Meduna 1970a. – Hlava 2009. – Archive of M. Čižmář).

Stradonice (No. 52) and Svárov (No. 56), possess an additional element, in the form of moulded rings around the knots.

Type IC

Individual knots on the outer surface of the ring, sometimes alternating with groups of two; on the few examples of this type that have survived the number of knots or groups of knots ranges from four to eight.

Six rings of Type IC have been identified in the collection, which represents a mere 3.5 % of the whole (Fig. 6). This type is the least well represented.

Two finds assigned to Type IC come from the oppidum of Stradonice in Bohemia (Nos. 63 and 64). All other finds are single finds: in Moravia the oppidum of Staré Hradisko (No. 62) and the open settlements of Dyjákovice (No. 59) and Klenovice na Hané (No. 60) yielded one each; in Lower Austria one such ring was recovered on the hilltop settlement on the Oberleiserberg (No. 61).

The *Knotenring* from Stradonice (No. 63) stands out for its form and quality. Its unevenly spaced knots are large and spherical. The Oberleiserberg ring (No. 61) possesses several idiosyncratic traits: instead of typical knots on its outer perimeter there are three clearly visible bulges and a cluster of five nodules set in the shape of a cross. The example from Klenovice (No. 60) is partly deformed, probably as a result of the secondary effects of fire.

Knotenringe of Type II

Rings with intervals between the knots or groups of knots which are equal to, or smaller than, the individual knots.

Type IIA

Densely spaced knots in groups of three, one on the outer surface of the ring and two on its sides; the number of groups ranges from one to several dozen, depending on the spacing and size of the ring.

Twenty-seven examples of Type IIA have been identified from the Boian coinage zone, which represents 16.5 % of the collection analysed (Figs. 7–8).

The *Knotenringe* of Type IIA are best represented in Moravia. The site of Ptení (Nos. 80–84) yielded five such rings, four from its hoard and one (No. 84) from the surface of the site. The oppidum of Staré Hradisko also has five recorded instances (Nos. 86–90). Two examples were recovered in the large open settlement of Klenovice

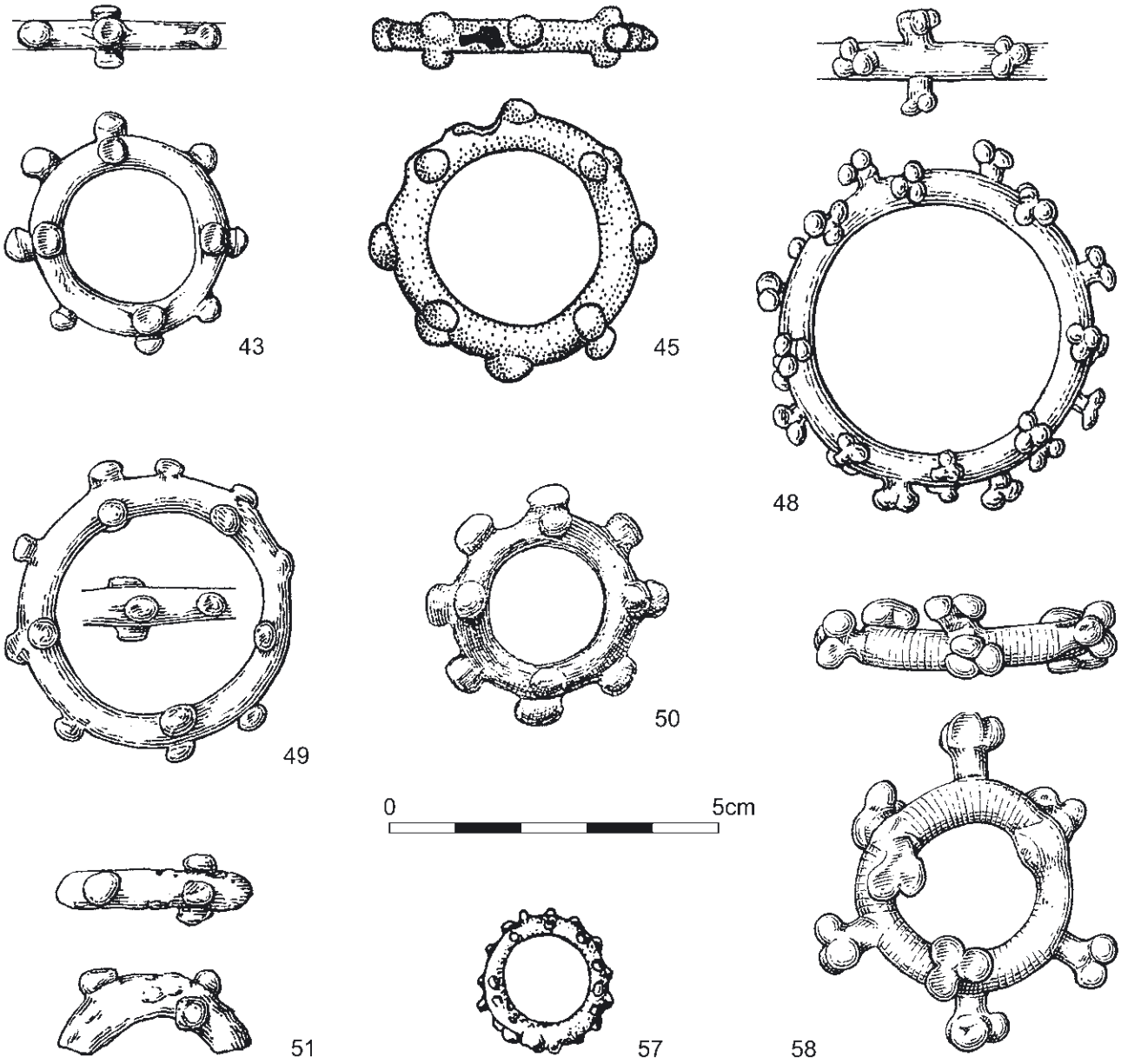

Fig. 5. *Knotenringe* of Type IB (the finds numbers correspond to those of the finds list) (after Meduna 1961. – Zachar 1977. – Čižmář 2002. – Čižmářová 2004. – Mangel, Jílek 2012. – Archive of M. Čižmář).

na Hané (Nos. 72 and 73). Single instances were found in the settlements of Němčice nad Hanou (No. 76), Hrubčice (No. 69), Hrušky (No. 70) and Polkovice (No. 79), as well as in unknown contexts in Bedihošť (No. 65) and Ivaň (No. 71). Type IIA *Knotenringe* have also been found in Bohemia – from the river Elbe in Litoměřice (No. 75) – and in western Slovakia, with two examples from the hilltop settlement of Devín in Bratislava (Nos. 66 and 67) and one each from the hoard recovered on the oppidum of Pohanská in Plavecké Podhradie (No. 78) and the hoard of Krížovany nad Dudváhom (No. 74). In Lower Austria single finds of this type are reported from the settlements on the Oberleiserberg (No. 77), Enzersfeld im Weinviertel (No. 68), Thunau am Kamp (No. 91), and, south of the Danube, from the settlement of Purgstall an der Erlauf (No. 82).

One of the *Knotenringe* from Staré Hradisko (No. 90) has knots which are made up of three smaller nodules or protuberances, i.e. it belongs to the Staré Hradisko variant, as described above.

Type IIB

The knots do not form groups on the outer surface of the ring and its sides but are densely distributed in three

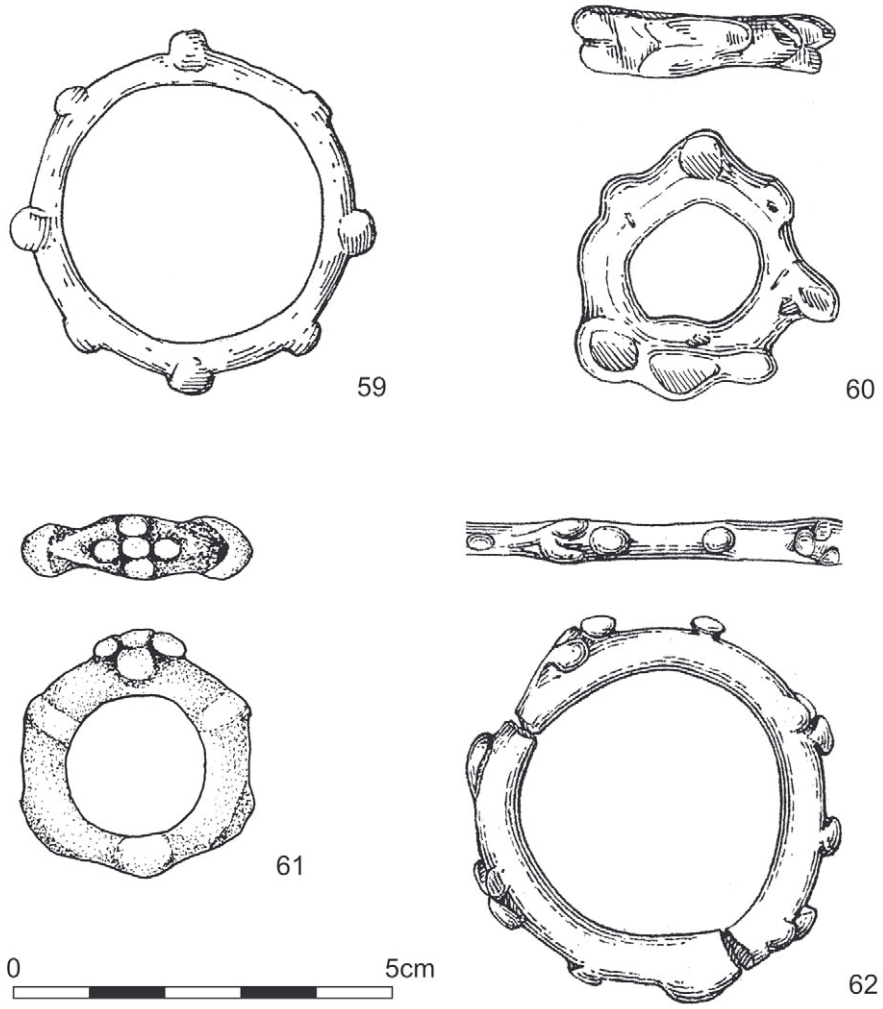

Fig. 6. *Knotenringe* of Type IC (the finds numbers correspond to those of the finds list) (after Meduna 1961. – Jílek, Mangel 2009. – Archive of M. Čižmář and M. Karwowski).

rows; the number of knots on the outer surface and sides does not have to be even but this is generally the case; the number of knots ranges from one to several dozen, depending on the spacing and size of the ring.

Forty-six examples of Type IIB have been recorded in the study area, which represents 28 % of the collection analysed (Figs. 9–11). This makes Type IIB the most frequently encountered type.

Numerous *Knotenringe* of Type IIB were found in the large open settlement of Němčice nad Hanou in Moravia, with as many as 11 examples (Nos. 107–117). Another five were recovered on the oppidum of Staré Hradisko in Moravia (Nos. 128–132), and three each in the settlement of Hrubčice (Nos. 102–104) and the oppidum of Stradonice (Nos. 133–135) in Bohemia. Four *Knotenringe* of Type IIB are known from Lower Austria, i.e. two from the hilltop settlement on the Oberleiserberg (Nos. 118 and 119) and two from the open settlement of Bernhardsthal (Nos. 92 and 93). Single finds of this type have been found in several locations: in Bohemia, on two oppida: Hrazany (No. 101) and Třísov (No. 137); in Moravia on the hilltop settlement of Brno-Obřany (No. 96), the open settlements of Diváky (No. 97), Dolní Němčí (No. 98), Měrovice nad Hanou (No. 105), Mutěnice (No. 106) and Polkovice (No. 124), as well as in undefined contexts in Břeclav (No. 95), Podivín (No. 123) and Pravice (No. 125); in western Slovakia in the hoard on the oppidum of Pohanská in Plavecké Podhradie (No. 122) and, south of the Danube, in the settlement of Bratislava-Rusovce (No. 94); in Lower Austria on the hilltop settlement of Thunau am Kamp (No. 136), the open settlements of Enzersfeld im Weinviertel (No. 99) and Oberweiden (No. 120), as well as on several sites located south of the Danube: the hilltop settlement on the Braunsberg in Hainburg an der Donau (No. 100), the open settlements of Petronell-

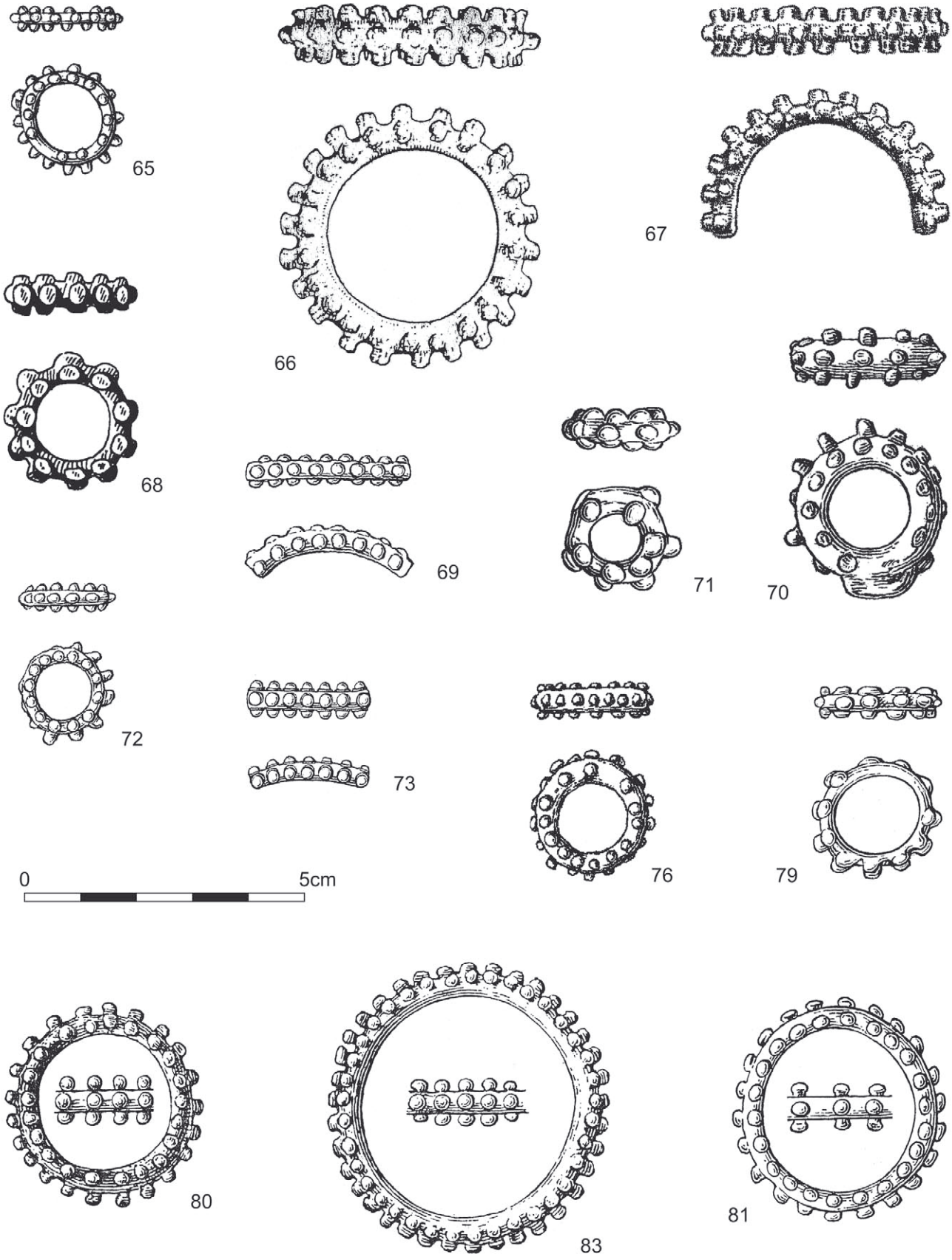

Fig. 7. *Knotenringe* of Type IIA (the finds numbers correspond to those of the finds list) (after Pieta, Zachar 1993. – Karl, Karl 1997. – Čižmář 2002. – Čižmář et al. 2008. – Archive of M. Čižmář).

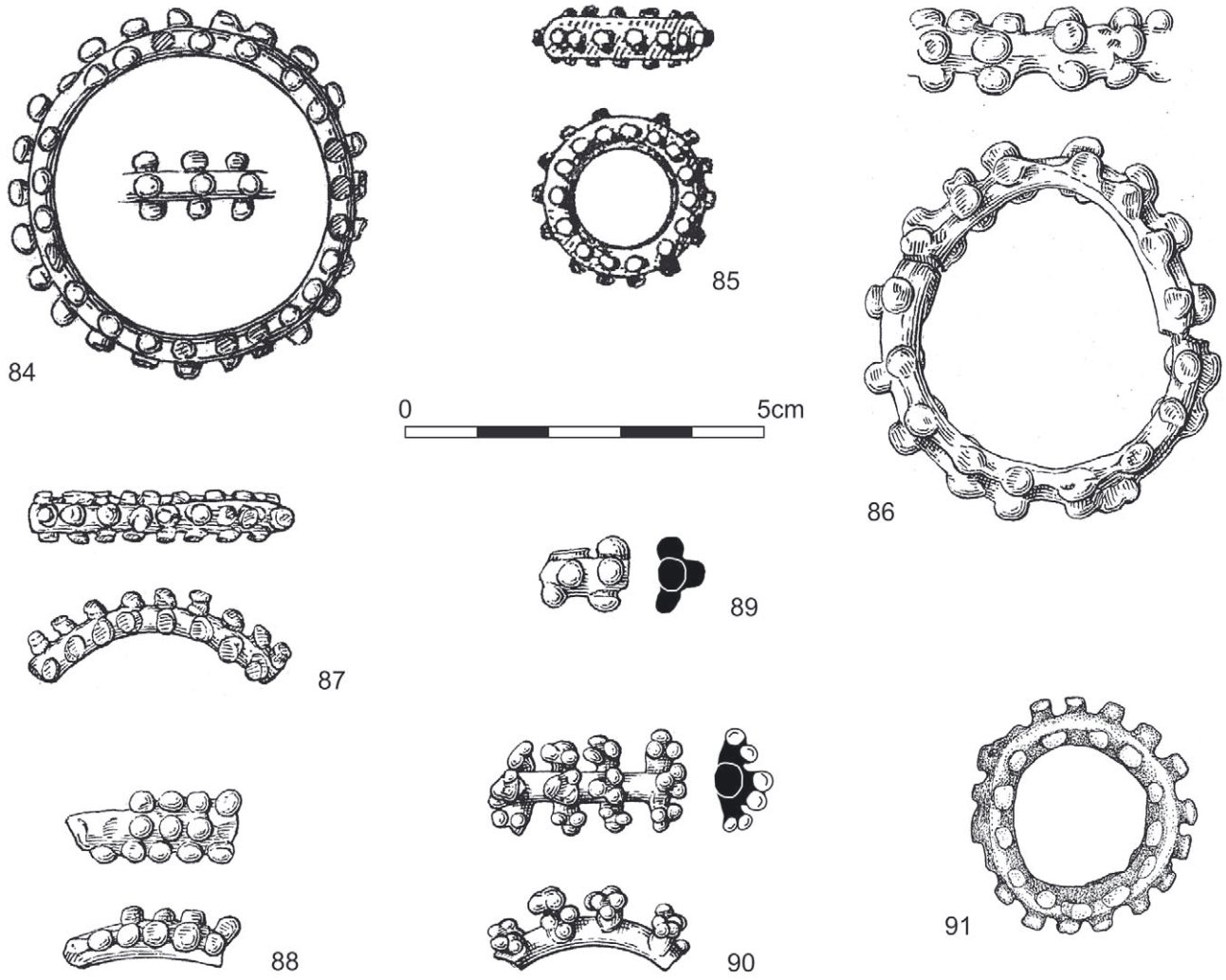

Fig. 8. *Knotenringe* of Type IIA (the finds numbers correspond to those of the finds list) (after Čižmář 1985. – Rausch 1992. – Archive of M. Čižmář and M. Karwowski).

Carnuntum (No. 121) and Sommerein (No. 127), and from an unknown context in Sankt Pölten (No. 126).

Suspension loops are a fairly infrequent element on *Knotenringe*. In the case of the Type IIB ring from Thunau (No. 136) the loop was probably formed when two knots, cast with the ring in one piece, became conjoined. Distinct bulges or protuberances preserved on the perimeter of a few other rings of this type – from the Oberleiserberg (Nos. 118 and 119), Bernhardsthal (No. 93) and Hainburg (No. 100) – may be the remnants of other such loops.

A small gold *Knotenring* from Petronell-Carnuntum (No. 121; Fig. 12) is particularly noteworthy. So far it is the only *Knotenring* in the collection that we have assembled that is not made of bronze.

Type IIC

The knots do not form distinct groups, they are densely distributed along the outer perimeter of the ring, but appear more sparsely on the sides of the ring, at wide intervals; generally the number of knots on the outer surface is at least double that of the knots on the sides; the number of knots ranges from one to several dozen, depending on the spacing and size of the ring.

Sixteen examples of Type IIC have been recorded in the zone of Boian coinage, which represents 9.5 % of the collection analysed (Fig. 13).

Most Type IIC rings have been recovered in Moravia: two each come from the oppidum of Staré Hradisko (Nos. 151 and 152), from the settlement of Němčice nad Hanou (Nos. 142 and 143) and from the hoard of Ptení (Nos. 149

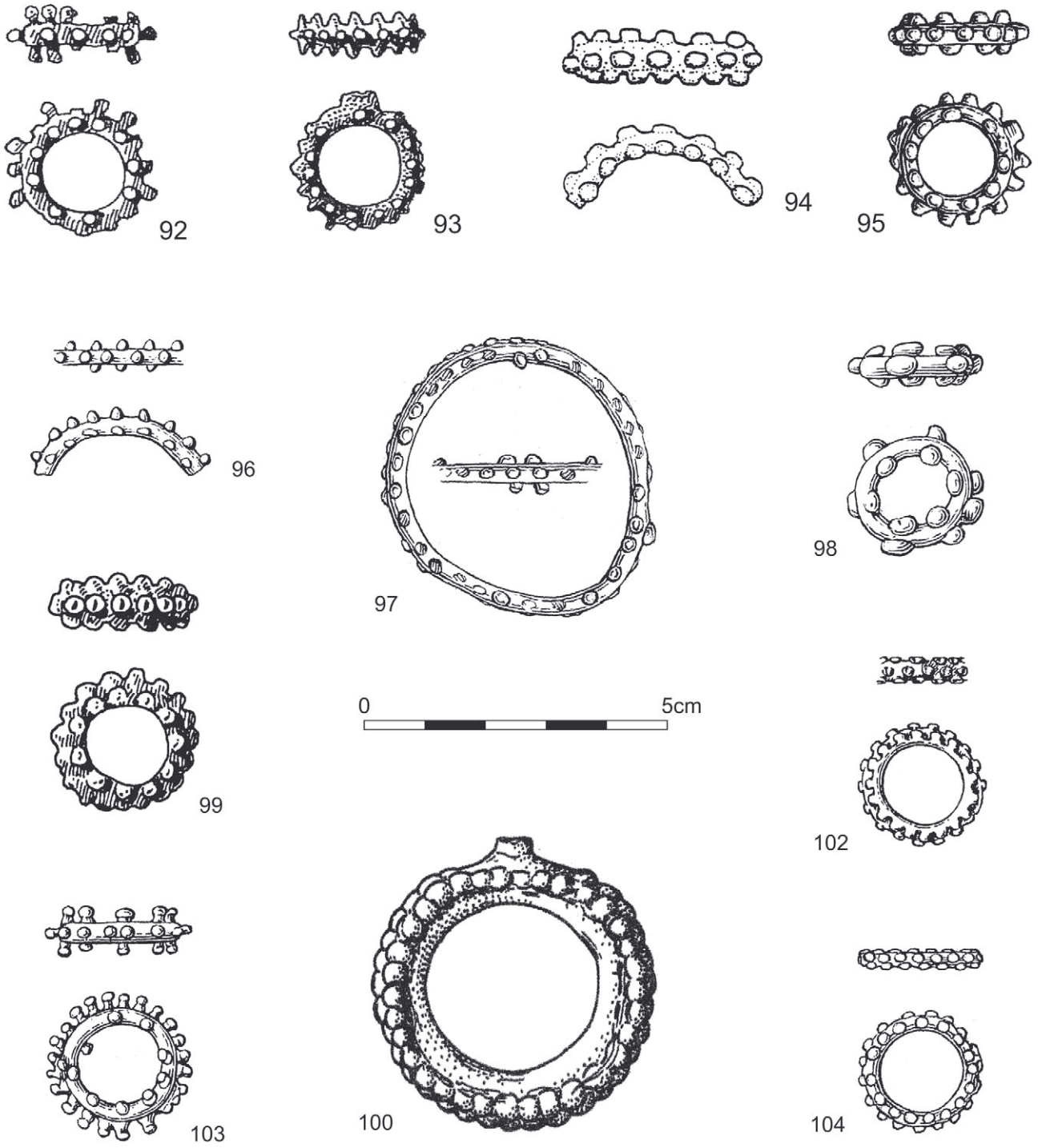

Fig. 9. *Knotenringe* of Type IIB (the finds numbers correspond to those of the finds list) (after Adler 1995. – Urban 1995. – Karl, Karl 1997. – Bazovský 2002. – Čižmář et al. 2009. – Archive of M. Čižmář).

and 150), single rings occur on the open settlements of Hrubčice (No. 140), Hrušky (No. 141) and Polkovice (No. 148), while the Břeclav find (No. 138) comes from an undefined context. Three such rings formed part a rich hoard discovered on the oppidum Pohanská in Plavecké Podhradie in western Slovakia (Nos. 145–147). The oppidum of Stradonice in Bohemia has yielded a single find (No. 153), as has the hilltop settlement on the Oberleiserberg in Lower Austria (No. 144); in western Slovakia the find from Gajary (No. 139) is without context.

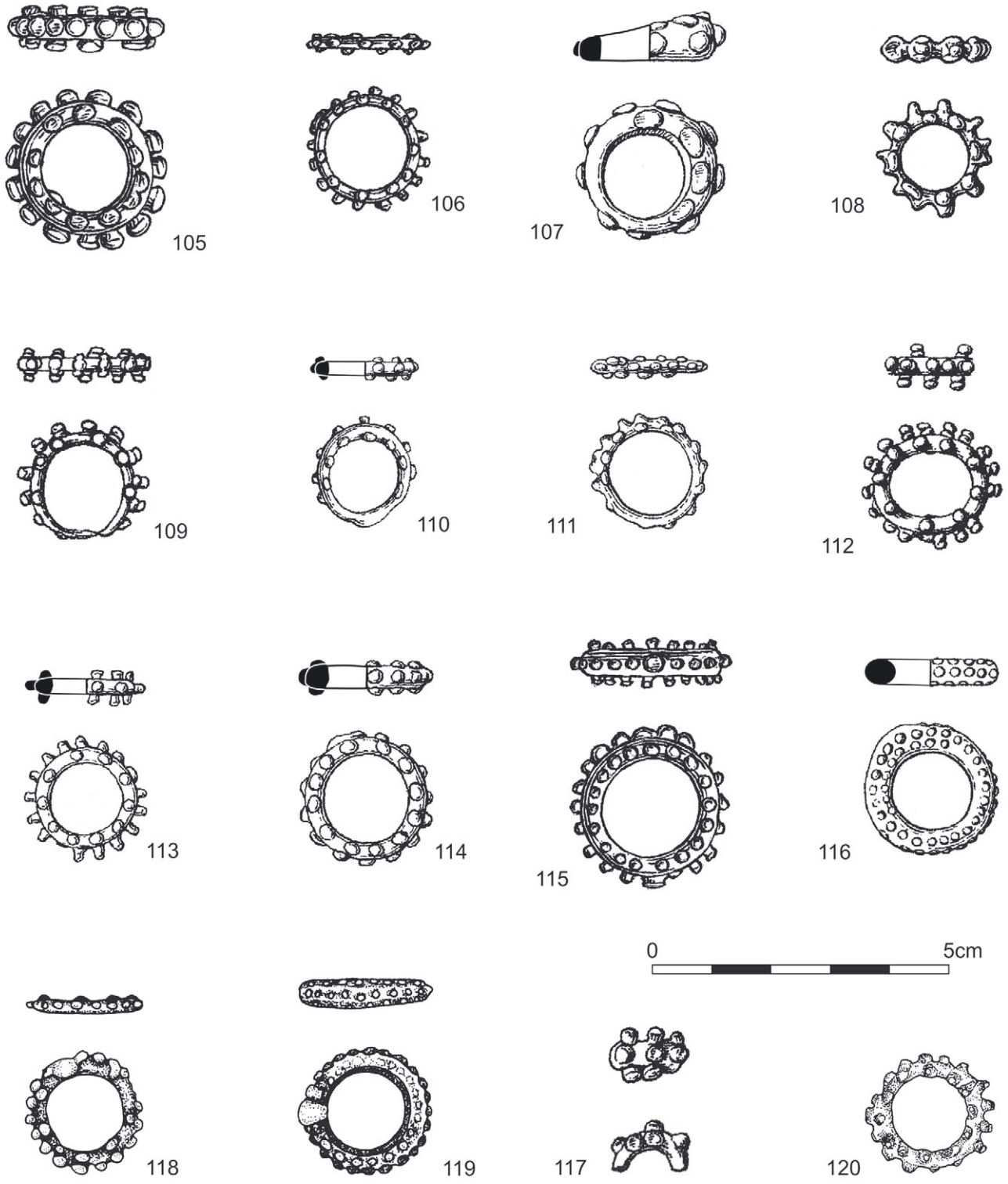

Fig. 10. *Knotenringe* of Type IIB (the finds numbers correspond to those of the finds list) (after Archive of M. Čižmář and M. Karwowski).

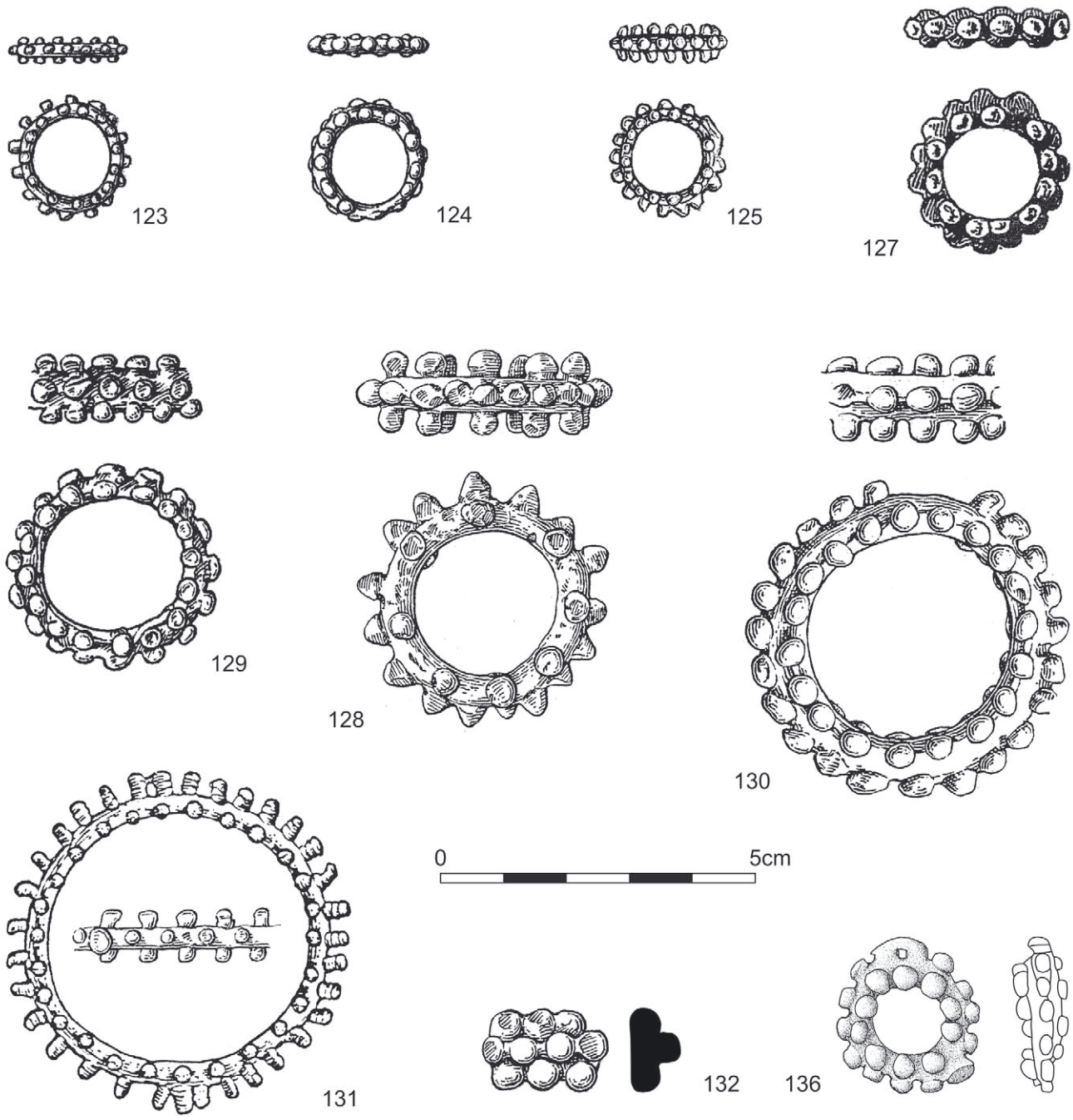

Fig. 11. *Knotenringe* of Type IIB (the finds numbers correspond to those of the finds list) (after Schutzbier 1988. – Meduna 1965. – Karwowski 2006. – Archive of M. Čižmář).

Fig. 12. Unusual gold *Knotenring* of Type IIB from Petronell-Carnuntum in Lower Austria (No. 121) (after Humer 2006).

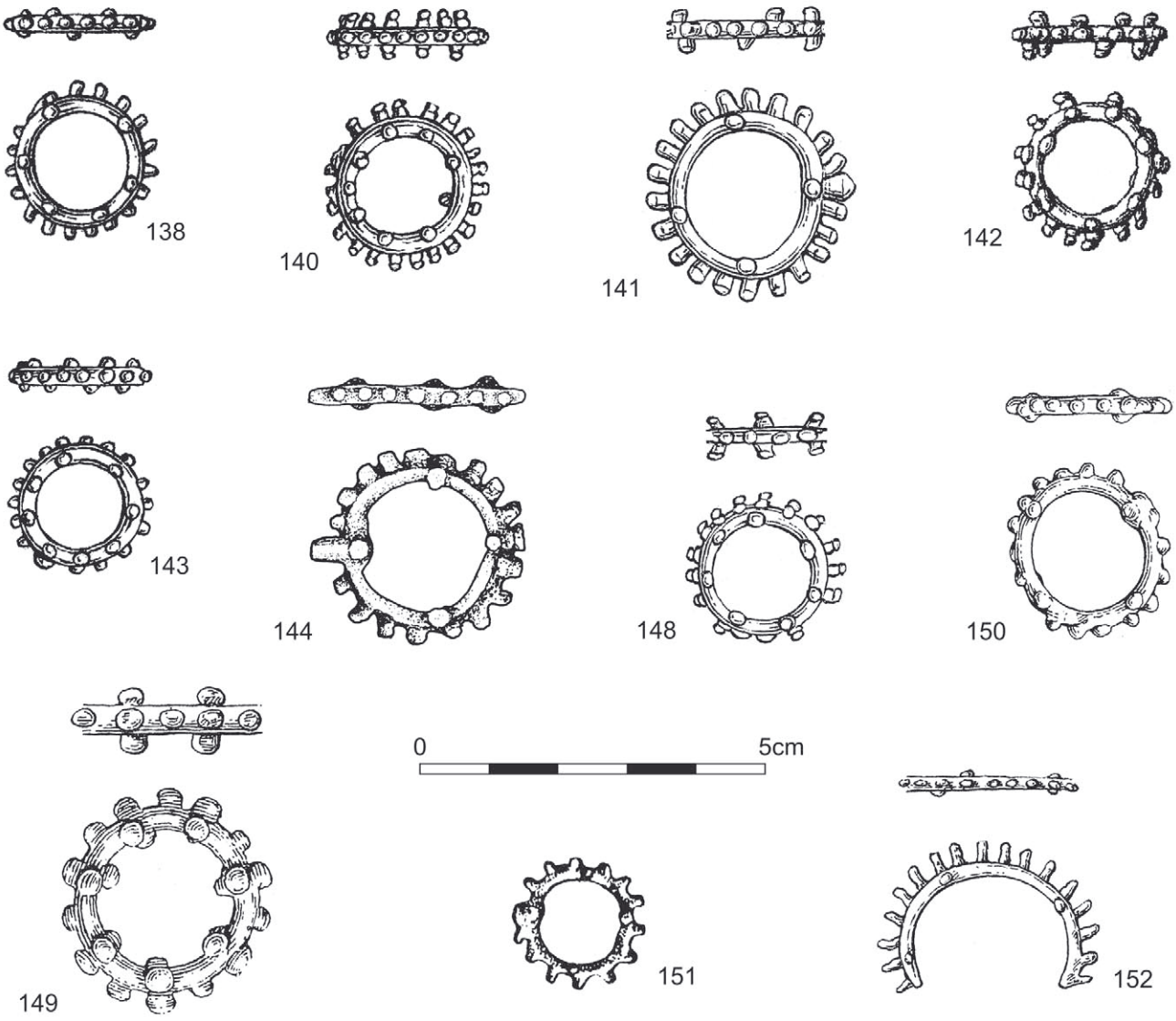

Fig. 13. *Knotenringe* of Type IIC (the finds numbers correspond to those of the finds list) (after Meduna 1970b. – Čižmář 2002. – Karwowski 2009. – Archive of M. Čižmář).

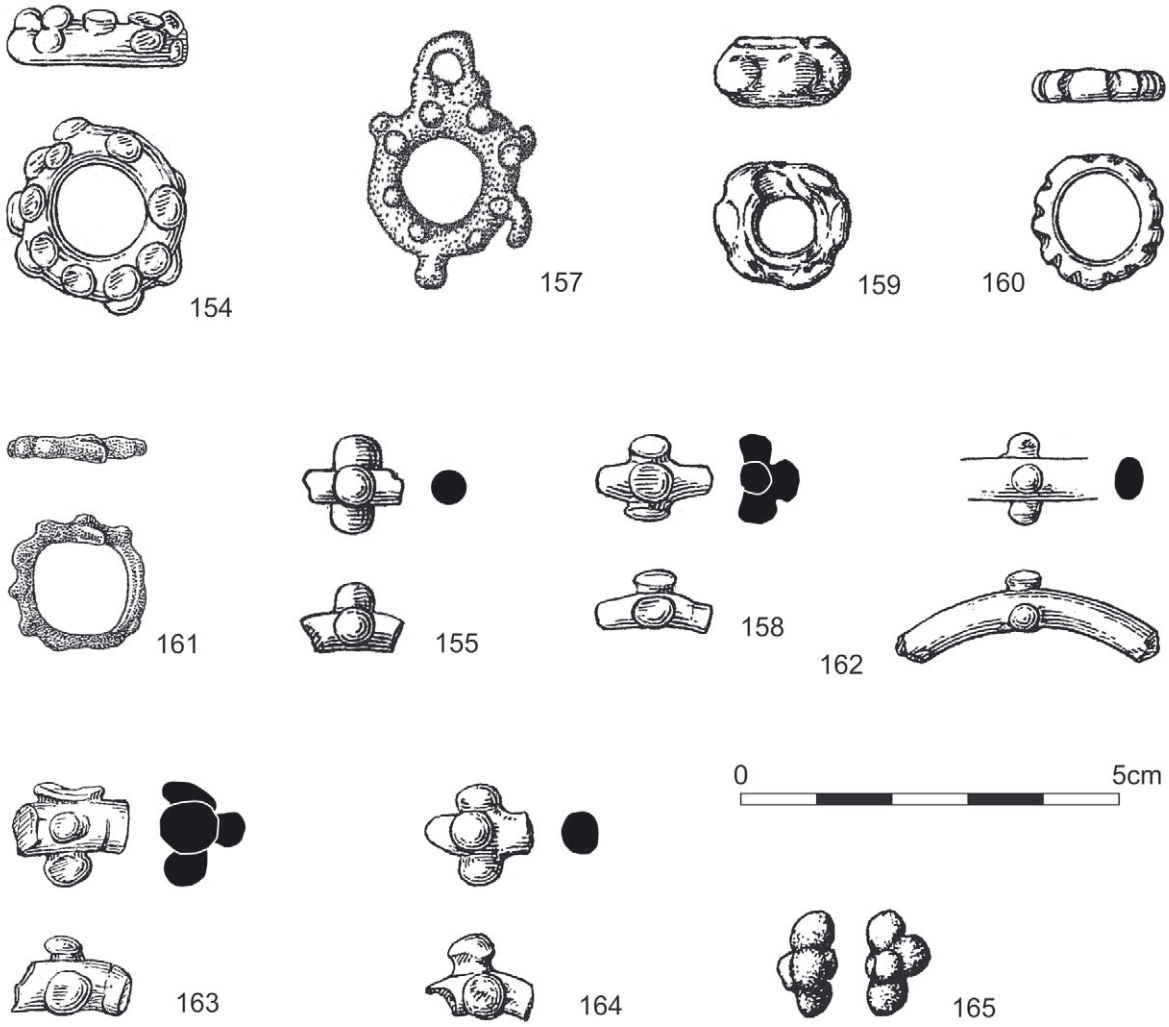

Fig. 14. *Knotenringe* of undefined type (the finds numbers correspond to those of the finds list) (after Meduna 1961. – Zachar 1976. – Motyková, Drda, Ryová 1990. – Jedlička 1998. – Archive of M. Čižmář).

A characteristic trait of several *Knotenringe* of Type IIC consists of elongated knots and, frequently, the presence of one clearly larger knot, as recorded at Staré Hradisko (Nos. 151 and 152) and among single finds from Gajary (No. 139), Hrubčice (No. 140), Hrušky (No. 141) and the Oberleiserberg (No. 144). The unusually massive ring from Stradonice (No. 153) is atypical. Its knots, which are distributed along its sides, are double.

Typologically Undefined *Knotenringe*

A small collection of *Knotenringe* from the Boian coinage zone could not be classified, either because they were too poorly preserved, or the publication did not permit identification, or because their unusual traits rendered them typologically unclassifiable. Twelve such finds were assigned to the "undefined" category, which represents 7.5 % of the collection studied (Fig. 14).

The group consists mainly of small fragments that retain characteristic clusters of three knots, from Moravian sites such as the oppidum of Staré Hradisko (Nos. 162–164) and the open settlements of Čejč (No. 155) and Medlovice (No. 158), as well as from the oppidum of Závist (No. 165) in Bohemia. These fragments could belong to any of the types defined above.

Five small, complete *Knotenringe* were also assigned to the "undefined" category because they are atypical. The ring from the settlement of Kúty in western Slovakia (No. 157) clearly has more knots on the sides of the ring than on the outer surface, and it also has a large loop. The latter, as can be deduced from the publication of this find, could have been added at a later stage. The ring from the settlement of Čejč in Moravia (No. 154) also has a greater number of knots on the sides of the ring sides than on the outer surface.

Three fully preserved *Knotenringe* were also classified in the "undefined" category because they merely had bulges, rather than actual knots, fairly densely distributed around the outer surface of the ring. The settlement of Němčice nad Hanou in Moravia yielded two examples of such rings (Nos. 159 and 160), and a further example was recovered on the settlement of Reinthal in Lower Austria (No. 161).

In one case – a find from the settlement of Jakuszowice in Lesser Poland (No. 156) – the published information suggests that we were dealing with a *Knotenring*, but it cannot be attributed to a type. This find is all the more important that it is the only *Knotenring* so far discovered on a La Tène culture settlement north of the Carpathians.

Rings, which, in addition to knots, possess zoomorphic ornamentation, are stylistically and probably also chronologically related to the *Knotenringe* presented in this study. However, we believe that they belong to a separate class of finds, and they will therefore not be discussed in detail here. Moreover they have been the subject of extensive study. H. Dannheimer[10] was the first to consider these rings, in the context of the publication of a find from Garching near Munich in Bavaria, and he cited a number of parallels. The most comprehensive overview of this class of artefacts is owed to C. Tappert who collected all the finds of rings with zoomorphic design known to her and established a typological scheme.[11] Both authors consider, from a typological perspective, that these rings belong to the Late La Tène *Knotenringe* but that they constitute a special group.[12] The animals represented on these small, carefully made rings, suggest that the function of these rings is linked to the symbolic realm.[13]

Knotenringe which possess additional elements inside the ring (most often in the shape of a cross, less frequently a human figure or other motif) indicate that we are dealing with a similar situation. Such artefacts are generally interpreted as pendants or amulets with a symbolic meaning and have been discussed in the literature.[14] Although typologically the presence of "knots" connects these rings to the *Knotenringe* under study, they form a fairly heterogeneous group, which we have excluded from our analysis.

Large bronze rings with an inside diameter of *c.* 7 to 10 cm and decorated with differentially spaced knots have also been left out of the classification that we propose here. The decoration of these rings is sometimes very similar to that of the *Knotenringe*, especially those of types IA and IB. Large rings with triple knots occur in burials of the La Tène culture and are dated to the Early La Tène or beginning of the Middle La Tène period.[15] Presumably these large "*Knotenringe*" are artefacts which are linked to the "Plastic Style" and which were used as bracelets or anklets. In the zone of Boian coinage they are known from burial assemblages[16] but also from Late La Tène settlements and oppida.[17] Several such rings were found in the hoard discovered on the oppidum of Pohanská in Plavecké Podhradie[18] associated with *Knotenringe* of Type IA (Nos. 22–25), IIA (No. 78), IIB (No. 122) and IIC (Nos. 145–147) (Fig. 15). It cannot therefore be excluded that the style of the large rings inspired our *Knotenringe*, and that some of them were produced simultaneously following the same trends. We nevertheless consider that the large rings need to be studied as a separate class of artefacts.

The idea of producing small rings with regularly spaced groups of knots probably originated in southeast-

10. Dannheimer 1975, 60–65.

11. Tappert 2000.

12. Dannheimer 1975, 61. – Tappert 2000, 173.

13. Rings with animal ornamentation are also known from the Boian coinage zone but were not taken into account in C. Tappert's study (Tappert 2000, 208–213). In Bohemia such finds were made on the oppida of Stradonice (Pič 1903, Pl. XI/13. – Dannheimer 1975, 63, Fig. 3/3) and Třísov (Hlava 2009, 119–120, Fig. 1/15); in Moravia in the hoard of Ptení (Čižmář 2002, 203, Fig. 3/1) and on the large open settlement of Klenovice na Hané (Archive of M. Čižmář); in Upper Austria on the large open settlement of Neubau near Linz (Gruber 2007, 58–59, figure on p. 58); in Lower Austria on the hilltop settlement on the Oberleiserberg (Archive of M. Karwowski) and from an unknown context in Petronell-Carnuntum (Humer 2006, 46, Fig. 51); in western Slovakia at the hilltop settlement of Devín in Bratislava (Pieta 2010, Fig. 88/1 and 136/14) and in two deposits on the oppidum of Pohanská in Plavecké Podhradie (Pieta 2010, 228, Fig. F23/2) and Krížovany nad Dudváhom (Kraskovská 1943, 234, Pl. I/20. – Zachar 1987, 152, Fig. 197).

14. Božič 1998, 143–144. – Čižmař 2002, 204–205, 217. A few rings found in the Boian coinage zone which have an element in the shape of a cross inside the ring, and which have not been considered in the publications, must be mentioned. They come from the open settlement of Čejč and from an unknown context in Podivín in Moravia (Archive of M. Čižmář), as well as from the hilltop settlement on the Oberleiserberg in Lower Austria (Archive of M. Karwowski). Another example, from the oppidum of Stradonice in Bohemia, has a circle set on three knots inside the ring (Pič 1903, Pl. XI/12). Given that they also have knots on the outer side, these rings are typologically related to Type IA (Oberleiserberg, Stradonice) or IIC (Čejč, Podivín).

15. Balke 1999, 63–65. – Bujna 2005, 71, Fig. 55.

16. E.g. Trugly 1996, 173, Fig. 142/2. – Čižmařová 2004, 185, figure on p. 185.

17. E.g. Pič 1903, Pl. XI/15, 20. – Stuppner 1984, 269, Fig. 383. – Stuppner 1990, 200, Fig. 473. – Plachá 1997, 150, Fig. 112/2. – Pieta 2010, 338, Fig. F23.

18. Pieta 2010, 338, Fig. F23.

Fig. 15. Four *Knotenringe*, part of the deposit on the oppidum of Pohanská in Plavecké Podhradie in western Slovakia (the finds numbers correspond to those of the finds list) (after Pieta 2010).

ern Europe, especially in Transylvania, Dobruja and Moldova, as well as on the northern coast of the Black Sea.[19] This is attested by numerous finds from these regions dated to the 4th and 3rd centuries BC.[20] Further, moulds for manufacturing *Knotenringe* have been recorded in the Greek colonies of Olbia and Tyras on the Black Sea.[21] The rings made there are typologically linked to the rings of types IA and IC in our classification. Nevertheless they differ from the majority of the central European rings in the arrangement and spacing of their knots. Relatively close parallels can be found in Transylvania, Dobruja and Moldova,[22] but also at the Púchov culture hillfort of Obírka in Loučka in the area of the Moravian Gate.[23] Type IC is the least less well represented group in our collection, but parallels for this type are more frequent in southeastern Europe.[24]

The influx of *Knotenringe*, or of the idea of producing such artefacts, into the Boian coinage zone most probably came via the regions which are associated with the occupation of the Celtic Scordisci and Taurisci, i.e. the southeastern fringes of the La Tène cultural sphere.[25] This is suggested by quite numerous finds from these regions.[26] In this context, it must be noted that such finds are distinctly fewer in the neighbouring area occupied by the Celtic Norici. Only four items are known from the latter's main centre on the Magdalensberg in Carinthia.[27]

19. Čižmář 2002, 205.
20. Glodariu 1984, 70–71. – Moscalu 1990, 148–151.
21. Furmanska 1958, 48, Fig. 2/1–2; Pl. IV/5. – Samojlova 1988, Fig. 16/1.
22. Glodariu 1984, Fig. 1/9. – Moscalu 1990, Fig. 1/18 and 2/11, 16, 17.
23. Čižmař, Salaš 2009, Fig. 7/11.
24. Glodariu 1984, 64–67, Fig. 1/1-4. – Moscalu 1990, 150–151, Figs. 1/8 and 2/1, 7. – See also Warneke 1999, 83–85.
25. Čižmář 2002, 205.
26. Božič 1993, 190–193. – Guštin, Cunja, Predovnik 1993, 18–20.
27. Müller-Karpe 1951, 647, Fig. 12/14. – Deimel 1987, 62–63, 208–209, Pls. 44/21, 23 and 45/1.

While *Knotenringe* are known from practically the entire La Tène culture, their presence in the west is far less well attested in archaeological assemblages. The Bohemian Basin, i.e. the western part of the Boian coinage zone, forms the western limit of the relatively frequent occurrence of *Knotenringe*. The clearest concentration of finds is in the wide "corridor" of the so-called Amber Route, which encompasses Moravia but also eastern Lower Austria and western Slovakia (Fig. 1). The largest collection of La Tène *Knotenringe*, comprising 25 rings, comes from the Moravian oppidum of Staré Hradisko.[28] The presence of 17 rings at the settlement of Němčice nad Hanou in Moravia is of great interest because finds of the Late La Tène period are rare on that site.[29] The distinct concentration of *Knotenringe* in Moravia suggests quite convincingly that these finds were made locally and were not imports.[30] Similar quantities of finds are otherwise only recorded on the Bohemian oppidum of Stradonice and the hilltop settlement of Velem St. Vid in Transdanubia, located to the south of the Boian coinage zone in western Hungary.[31] The few examples found in key Bavarian La Tène sites, i.e. west of the Boian zone, contrast starkly with the more numerous finds further east. The oppidum of Manching has yielded only three *Knotenringe*,[32] while the settlements of Egglfing[33] and Berching-Pollanten[34] each have a single instance recorded.

Knotenringe have been found in the region of the Púchov culture in northeastern Moravia and northwestern Slovakia, that is, regions on the immediate borders of the Boian coinage zone. They have been recorded, among others, in the area of the Moravian Gate, one of the key stretches of the Amber Route. A couple of instances are mentioned from the hillforts of Obírka in Loučka[35] and Požaha in Jičina.[36] A further example comes from the Púchov culture settlement centre of Liptovská Mara[37] in northern Slovakia.

The presence of *Knotenringe* north of the La Tène culture zone, in particular on sites of the Przeworsk and Oksywie cultures in Poland,[38] raises interesting questions. These sites are located in the northern section of the Amber Route which leads through the Moravian Gate. On the other hand, *Knotenringe* are hardly represented in the Jastorf culture, though stylistically similar bracelets decorated with knots are known from several sites of this culture.[39] The only instance of an actual *Knotenring* is the find of Gubin in the province of Lubusz in Poland.[40]

All the burial assemblages that are well recorded indicate that the *Knotenringe* under study did not become common in central Europe much earlier than the beginning of the Late La Tène period. The dating of this class of artefacts was mainly addressed by scholars concerned with the southeastern part of the La Tène culture zone. Both M. Guštin[41] and D. Božič[42] have considered the *Knotenringe* in their chronological classifications of the Mokronog group; they assign them fairly securely to the early phase of the Late La Tène period. J. Meduna[43] shared this opinion, based on the assemblage from House 1/64 at the oppidum of Staré Hradisko in Moravia. This assemblage contained a *Knotenring* of Type IIB (No. 131), associated, among other finds, with a Nauheim type fibula. He also dated the *Knotenringe* from the nearby hoard of Ptení, which belong to types IA (No. 26), IB (Nos. 46–48), IIA (Nos. 80–83) and IIC (Nos. 149 and 150), to this phase.

In the current state of research, it does not seem possible to give precise indications about which types of *Knotenringe*, as defined by us, are earlier and which are later. In Glodariu's scheme[44] the earlier forms do not have so many and such regular clusters of knots on the outer surface of the ring (in particular our Type IC, but also types IA and IB) and as time goes on the intervals between knots become closer (Types IIA and IIB). The rings with densely spaced knots on the outer surface of the ring and only a few knots on its lateral sides (Type IIC) may have been the antecedents of the latest rings. Such a chronological scheme is in part endorsed by burial assemblages. The earliest burials of the Przeworsk and Oksywie cultures which yielded *Knotenringe* exclusively contain rings of Type IA.[45] These burials are dated to phase A2 of the pre-Roman period, which roughly

28. See also Dębiec, Karwowski 2014.
29. Čižmař, Kolníková 2006, 267, 279.
30. Čižmář 2002, 205–206. It should be noted that the great concentration of *Knotenringe* observed in Moravia is largely owed to the more advanced state of research on many sites, itself linked to the use of metal-detectors.
31. Miske 1908, Pls. XL/54–63, XLV/2–4, 15 and XLVI/4, 7–9, 12–15.
32. van Endert 1991, 118; Pl. 5/128–130.
33. Uenze 2000, 4, Fig. 11/17.
34. Schäfer 2010, 67–68, Fig. 46/2517.
35. Čižmař, Salaš 2009, Fig. 7/10–11.
36. Pieta 1982, 59, Pl. XIII/17, 21. – Čižmař 1996, 177, Fig. 3/9–11.
37. Pieta 1982, 59, Pl. XIII/16.
38. Balke 1999, 75–76, Fig. 10.
39. Brandt 2001, 107–108.
40. Domański 1975, 31, 131, Pl. XXXVI/f.
41. Guštin 1977, 72–74, Pl. 19/8. – Guštin 1984, 333–335, Fig. 25/8.
42. Božič 1987, 876–78, Fig. 46/10, Pl. LXXXVIII/8. – See also Božič 1993, 192–193, Fig. 3. – Božič 2008, 50-54, Fig. 23/10–13.
43. Meduna 1996, 102–103.
44. Glodariu 1984, 67–69, Fig. 6.
45. See for example Pietrzak 1987, 18–19, Pl. LXIV. – Wierzbicki 1991, 49–51, Figs. 3/2 and 3/3.

corresponds to LT D1 or possibly the end of LT C2.[46] However, let us note that Type IA rings are also known from burials of LT D2 date.[47] *Knotenringe* of Type IA and IB have also been found in burials of the Mokronog group, dated to LT D1.[48]

It is still quite uncertain what function our *Knotenringe* fulfilled. Among the "creative forces" behind the artefacts of the La Tène culture there was a predilection for various objects of personal adornment in the form of rings. Grave goods such as various small rings, armlets and bracelets, and the characteristic neck rings (torques) formed a substantial element of the panoply right from the beginning of the La Tène culture, with clearly visible links to Hallstatt traditions. But the typical *Knotenringe* appear late in the La Tène cultural repertoire, i.e. only in its developed stage or oppida period. Yet stylistically they are linked to items of personal adornment current in the Middle La Tène period decorated with rows of small nodules or in the so-called pseudo-filigree technique.[49]

The shape and size of the *Knotenringe* suggests that they may have been pendants or finger rings. They may also have served as linking elements, for example on belts, or formed part of horse gear.[50] Traces of use give some indications as to what the *Knotenringe* were used for. There are indeed clear traces of use-wear on one side of the rings, or defects such as missing knots or damage to parts of knots. These traces are the result of substantial tension from tying (see for example Nos. 9, 14, 88, 107, 109–111). In many cases such damage could have been the result of faults in the production of the rings.

A symbolic or religious function, for example as amulets, cannot be excluded. Indeed functional and symbolic uses need not be mutually exclusive. The unique gold *Knotenring* of Type IIB from Petronell-Carnuntum in Lower Austria (No. 121; Fig. 12) may have had an especially significant symbolic meaning. In this context, let us note that in the zone of Boian coinage, which is largely based on gold, gold artefacts that are not coins are very rare.[51]

Some insight into the function of *Knotenringe* may be gained from burial assemblages. However, such assemblages are practically non-existent in the Boian coinage zone, and we need to examine those of neighbouring regions: the region of the Mokronog group in Slovenia, associated with the area occupied by the Celtic Taurisci, and the Przeworsk and Oksywie culture groups in Poland, which are linked to eastern Germanic tribes. In several instances the *Knotenringe* found in burials belong to multi-part necklaces that include glass and amber beads, as is the case in Slovenia[52] and northern Poland.[53] Parallels for these rings, used as decorative elements in a necklace, are also known among several burials of the Roman period.[54]

Some *Knotenringe* have small loops for hanging them on strings, cords or small chains. Only two examples in the collection under study possess such a loop: a Type IIB ring from the hilltop settlement in Thunau am Kamp in Lower Austria (No. 136) and a *Knotenring* in the "undefined" category from the settlement of Kúty in western Slovakia (No. 157).

Some scholars have suggested that *Knotenringe* could have acted as the equivalent of a currency.[55] Such suggestions appear not to be founded on solid archaeological or numismatic data. There are no *Knotenringe* in any of the well-known hoards of Celtic coins; they are however known from a series of treasures and hoards which contained items of personal adornment and jewellery. In the Boian coinage zone the hoard of Ptení in Moravia is the best known: it had ten *Knotenringe* of types IA (No. 26), IB (Nos. 46–48), IIA (Nos. 80–83) and IIC (Nos. 149 and 150) associated with two rings bearing animal ornament, two circular pendants with human figures inside the ring, two further pendants in the shape of a shoe and a basket and a series of glass and amber beads.[56] Two similar deposits were found in western Slovakia. The first is a very rich hoard of over 60 different objects made of iron, glass and bronze, including nine *Knotenringe* of Type IA (Nos. 22–25), IIA (No. 78), IIB (No. 122) and IIC (Nos. 145–147), discovered on the oppidum of Pohanská in Plavecké Podhradie.[57] The second is the hoard of Križovany nad Dudváhom,[58] which contained a series of bronze objects, including three *Knotenringe* of Type IA (Nos. 12 and 13) and IIA (No. 74).

46. Dąbrowska 1988, 62.
47. See for example Bokiniec 2005, 17–18, 144, Pls. XV and CLIX/1963.
48. See for example Guštin 1977, 83, Pl. 19. – Dular 1991, 88, Pl. 51/13–31.
49. See Pieta 2006, 139.
50. See for example Glodariu 1984, 70, Fig. 7. – Droberjar 1999, 97. – Pieta 2006, 139.
51. Militký, Karwowski 2013, 29–30.
52. E.g. Dular 1991, 88, Pl. 51/13–31.
53. E.g. Pietrzak 1987, 18–19, Pl. LXIV/42. – Wierzbicki 1991, 49–51, Fig. 3/3.
54. E.g. Keller 1984, 64–67, Pl. 4/7, 5/3 and 7/5. – Skorupka 2001, 78, 101–102, Pls. 85/7 and 119/9.
55. Dembski 1995, 72. – Jedlička 2004, 92–95.
56. Meduna 1996, 98–102, Figs. 2–3. – Čižmář 2002, 200–204, Figs. 1–4.
57. Pieta 2010, 338, Fig. F23.
58. Kraskovská 1943, 233–234, Pl. I/19–26. – Pieta 2010, 338.

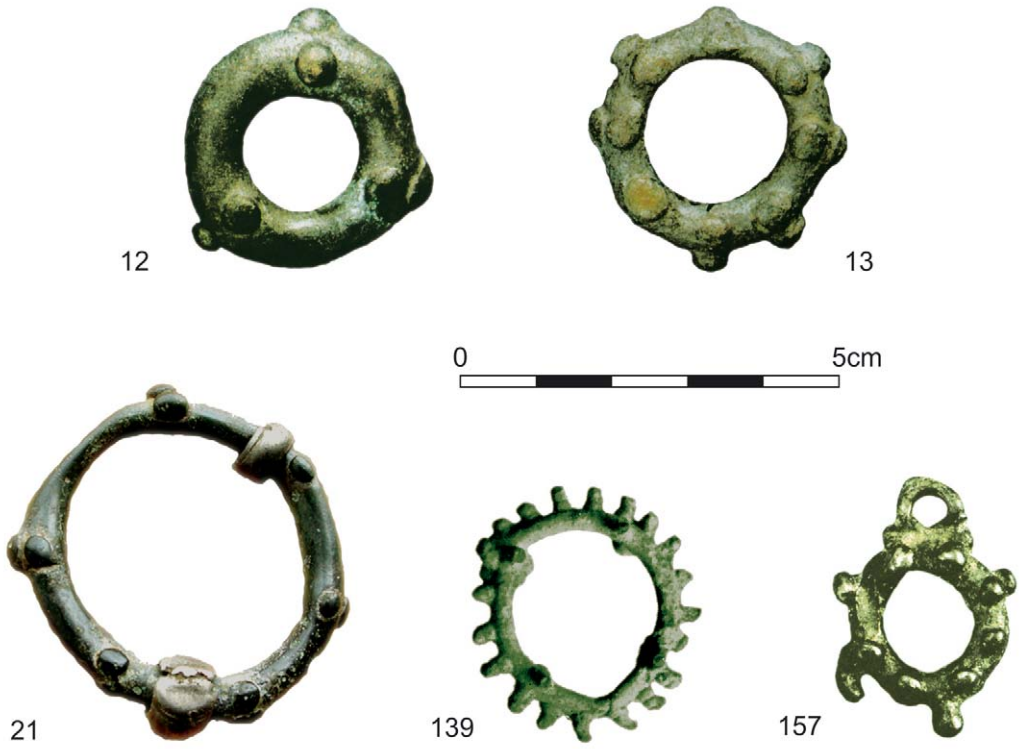

Fig. 16. *Knotenringe* of various types from Slovakian sites: from the deposit of Krížovany nad Dudváhom (Nos. 12–13), the oppidum of Pohanská in Plavecké Podhradie (No. 21), the settlement in Kúty (No. 157), and from an undefined context in Gajary (No. 139) (the finds numbers correspond to those of the finds list) (after Filip 1956. – Zachar 1987. – Pieta 2010).

Knotenringe have also been found in hoards outside the zone of Boian coinage. In particular the hoard from the La Tène hilltop settlement of Schwarzenbach in southern Lower Austria is worth noting: it contained a dozen deliberately destroyed *Knotenringe*.[59] The decoration on two of these indicates that they belong to the Staré Hradisko variant.[60] The assemblage also contained prestigious bronze bracelets, among which one decorated with the figure of a ram, as well as other smaller bronze objects.[61] Objects of personal adornment, including glass beads, were found together with *Knotenringe* in the hoard of Szárazd-Regöly[62] in Transdanubia.

Finds, including *Knotenringe*, made in watery places constitute a further context worthy of note. A ring of Type IA from Krásný Les (No. 11) in northern Bohemia was found together with other objects in a spring close to the Nakléřov Pass in the Ore Mountains.[63] The site lies on a trade route, which suggests a connexion with supra-regional exchange. Two further *Knotenringe* were found in rivers in Bohemia: a Type IB ring from the river Malše in České Budějovice (No. 42) and a Type IIA ring from the Elbe in Litoměřice (No. 75). Outside the Boian coinage zone, a *Knotenring* was recovered from a river in Gruča in Slovenia.[64] Similar finds from watery contexts are also known in the western La Tène culture. There the assemblages include bronze rings with animal ornamentation, which stylistically resemble the typical *Knotenringe*.[65] The sites are always located on important routes of communication and their contexts suggest votive (sacrificial) deposition.

List of Finds

Knotenringe of Type IA

Bad Deutsch-Altenburg (District of Bruck an der Leitha, Lower Austria)

1. Fig. 2/1 (Grünewald 1980, 398, Fig. 371).

59. Urban 1998, 803–804, Fig. 2/3–6, 8–18 and Fig. 4.
60. Urban 1998, Fig. 2/6, 13.
61. Urban 1998, 799–806.
62. Hunyady 1942, Pls. XXXVI/4–13 and XXVII/15, 20–23.
63. Čižmář 2008, 233.
64. Božič 1993, 190.
65. Tappert 2000, 197.

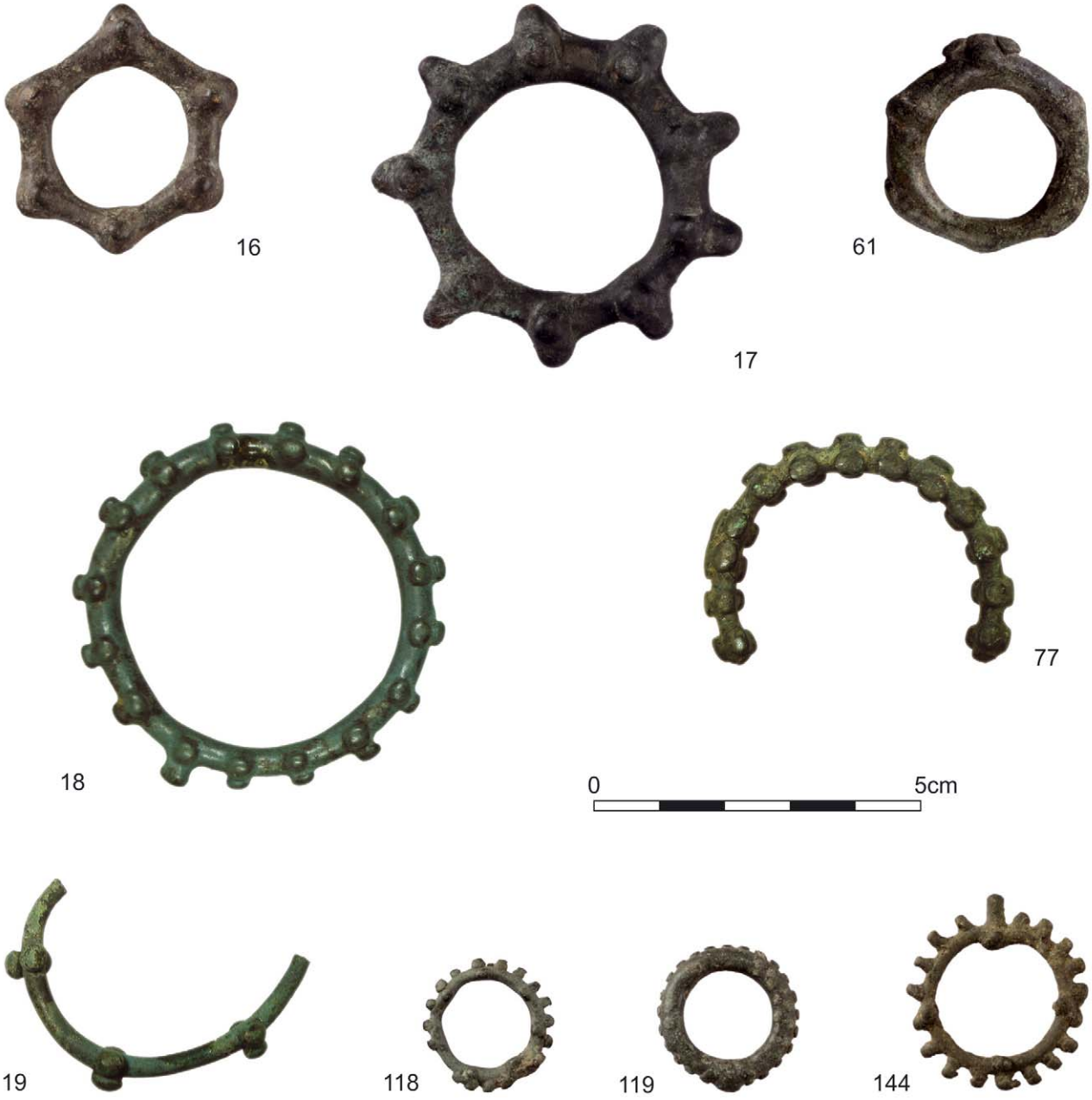

Fig. 17. *Knotenringe* of various types from the hilltop settlement on the Oberleiserberg in Lower Austria (the finds numbers correspond to those of the finds list) (Archive of M. Karwowski).

Bernhardsthal (District of Mistelbach, Lower Austria)
2. Fig. 2/2 (Allerbauer, Jedlička 2001, 614, Fig. 533).

Drösing (District of Gänserndorf, Lower Austria)
3. Fig. 2/3 (Jedlička 1995, 535, Fig. 507).
4. Fig. 2/4 (Jedlička 1997, 462, Fig. 378).
5. Fig. 2/5 (Turetschek 1984, 267, Fig. 368).

Hruška (District of Prostějov, Moravia)
6. Fig. 2/6 (Archive of M. Čižmář, Brno).

Klenovice na Hané (District of Prostějov, Moravia)
7. Fig. 2/7 (Archive of M. Čižmář, Brno).
8. Fig. 2/8 (Archive of M. Čižmář, Brno).
9. Fig. 2/9 (Archive of M. Čižmář, Brno).
10. Fig. 2/10 (Archive of M. Čižmář, Brno).

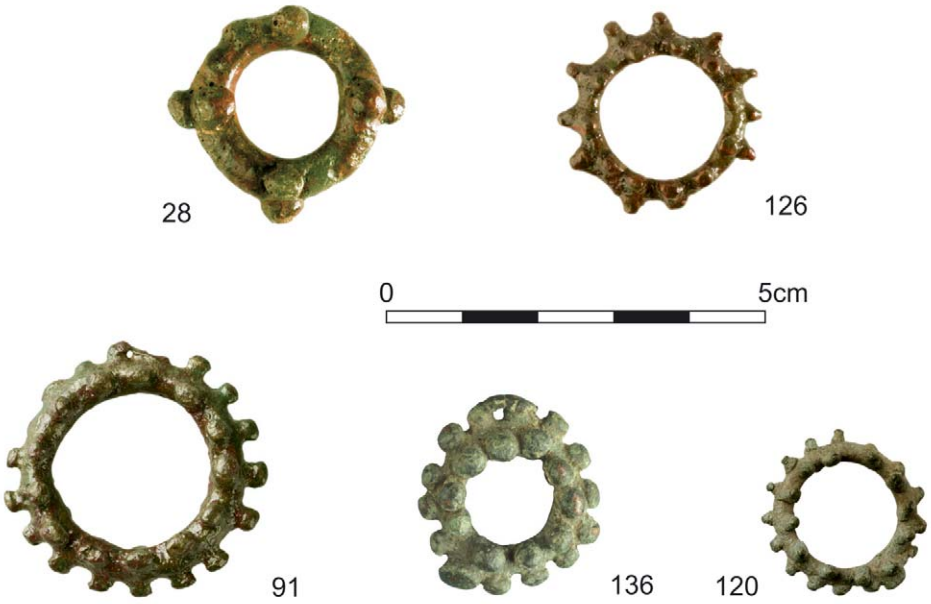

Fig. 18. *Knotenringe* of various types from Lower Austrian sites: from a lowland and hilltop settlement in Thunau am Kamp (Nos. 91 and 136) and the settlements of Oberweiden (No. 120) and Sankt Pölten (Nos. 28 and 126) (the finds numbers correspond to those of the finds list) (after Humer 2006. – Archive of M. Karwowski).

Krásný Les (District of Ústí nad Labem, Bohemia)
11. Fig. 2/11 (Čižmář 2008, 230, 233, Fig. 3/2).

Krížovany nad Dudváhom (District of Trnava, Slovakia)
12. Fig. 16/12 (Kraskovská 1943, 234, Pl. I/22. – Filip 1956, 418–419, Pl. CIV/15. – Zachar 1987, 152, Fig. 197).
13. Fig. 16/13 (Kraskovská 1943, 234, Pl. I/21. – Filip 1956, 418–419, Pl. CIV/11. – Zachar 1987, 152, Fig. 197).

Měrovice nad Hanou (District of Přerov, Moravia)
14. Fig. 3/14 (Archive of M. Čižmář, Brno).

Němčice nad Hanou (District of Prostějov, Moravia)
15. Fig. 3/15 (Čižmář, Kolníková 2006, 264, Fig. 2/13. – Čižmář, Kolníková, Noeske 2008, 660, Fig. 3/13).

Oberleiserberg (District of Korneuburg, Lower Austria)
16. Fig. 3/16 and 17/16 (Archive of M. Karwowski, Vienna).
17. Fig. 3/17 and 17/17 (Archive of M. Karwowski, Vienna).
18. Fig. 17/18 (Mitscha-Märheim, Nischer-Falkenhof 1929, 400, Pl. VI/3. – Archive of M. Karwowski, Vienna).
19. Fig. 17/19 (Mitscha-Märheim, Nischer-Falkenhof 1929, 400–401, Pl. VI/16. – Archive of M. Karwowski, Vienna).

Plavecké Podhradie-Pohanská (District of Malacky, Slovakia)
20. Fig. 3/20 (Paulík 1976, 174, Fig. 44/2. – Zachar 1977, 38, Fig. 1/7).
21. Fig. 3/21 and 16/21 (Pieta 2010, Fig. 136/4 and F21/3).
22. Not illustrated (Pieta 2010, 338, Fig. F23/2).
23. Fig. 15/23 (Pieta 2010, 338, Fig. F23/1).
24. Fig. 15/24 (Pieta 2010, 338, Fig. F23/1).
25. Not illustrated (Pieta 2010, 338, Fig. F23/2).

Ptení (District of Prostějov, Moravia)
26. Fig. 3/26 (Čižmář 2002, 203, Fig. 3/4).

Purkersdorf (District of Wien-Umgebung, Lower Austria)
27. Fig. 3/27 (Adler, Nowak 1988, 244, Fig. 571).

Sankt Pölten (St. Pölten, Lower Austria)
28. Fig. 18/28 (Humer 2006, 45, Fig. 49).

Sezemice nad Loučnou (District of Pardubice, Bohemia)
29. Fig. 3/29 (Mangel, Jílek 2012, 84, Fig. 2/9).

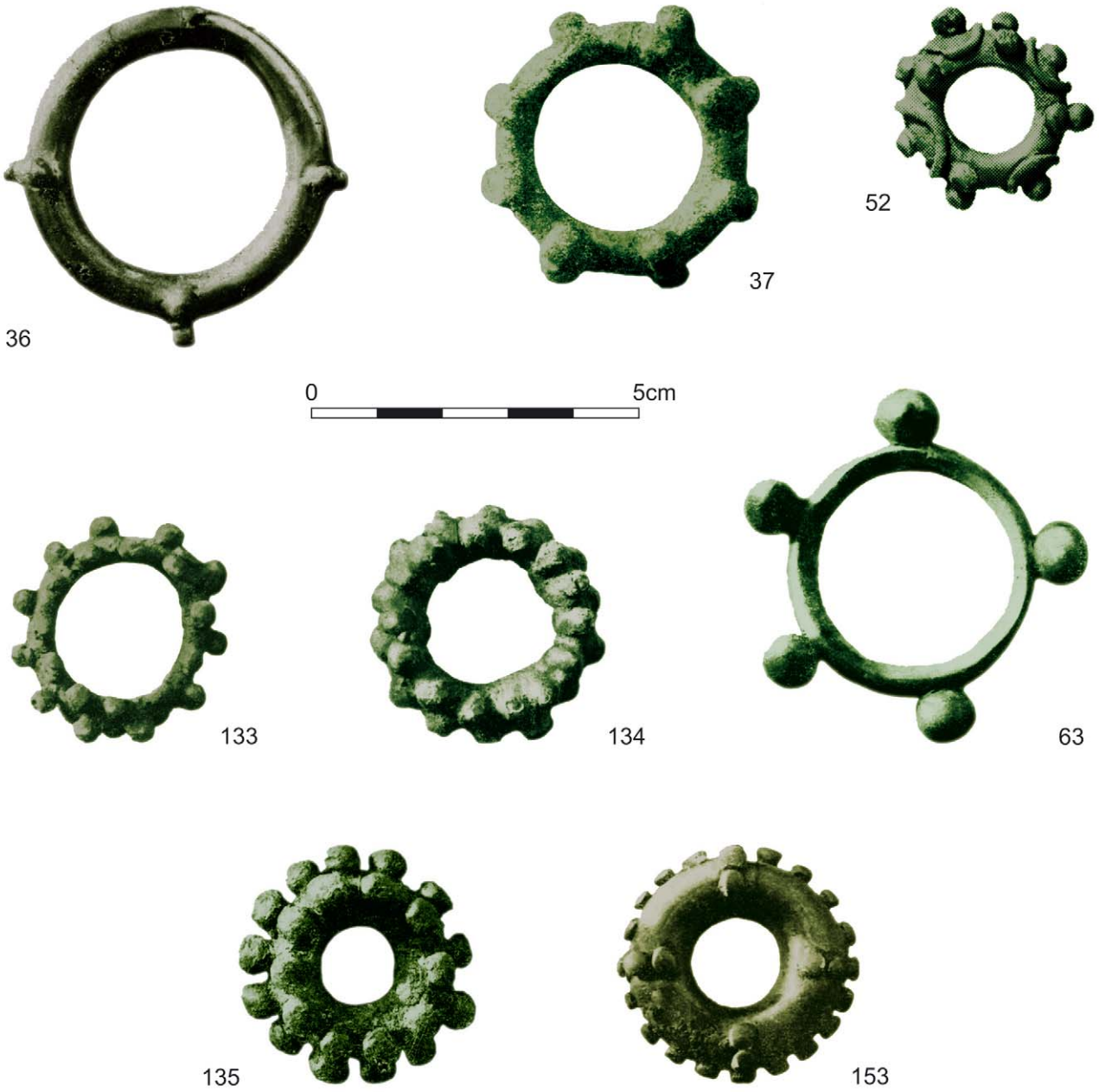

Fig. 19. *Knotenringe* of various types from the oppidum of Stradonice in Bohemia (the finds numbers correspond to those of the finds list) (after Pič 1903. – Filip 1956).

Staré Hradisko (District of Prostějov, Moravia)

30. Fig. 4/30 (Dębiec, Karwowski 2014, No. 1. – Archive of M. Čižmář, Brno).
31. Fig. 4/31 (Meduna 1970a, 139, Pl. 8/1. – Dębiec, Karwowski 2014, No. 2).
32. Fig. 4/32 (Dębiec, Karwowski 2014, No. 3. – Archive of M. Čižmář, Brno).
33. Fig. 4/33 (Meduna 1961, 7, Pl. 10/19. – Dębiec, Karwowski 2014, No. 4).
34. Fig. 4/34 (Dębiec, Karwowski 2014, No. 5. – Archive of M. Čižmář, Brno).
35. Fig. 4/35 (Dębiec, Karwowski 2014, No. 6. – Archive of M. Čižmář, Brno).

Stradonice (District of Beroun, Bohemia)

36. Fig. 19/36 (Pič 1903, Pl. XI/14).
37. Fig. 19/37 (Pič 1903, Pl. XI/17).
38. Not illustrated (Pič 1903, Pl. XI/2).

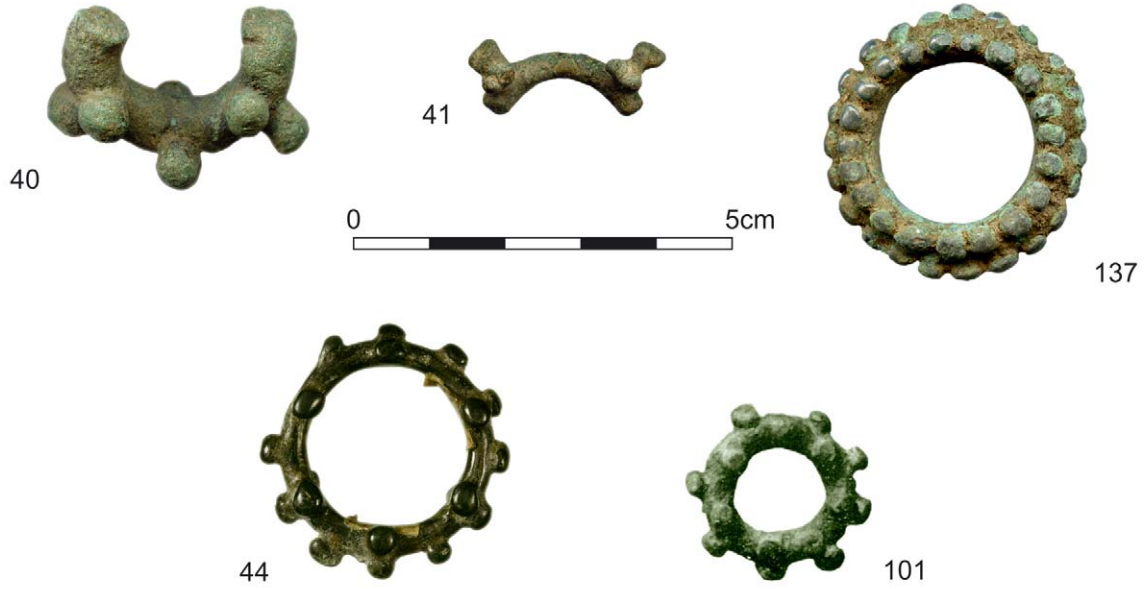

Fig. 20. *Knotenringe* of various types from Bohemian sites: from the oppida of Třísov (Nos. 40, 41 and 137) and Hrazany (No. 101) and the hillfort of Hazmburk in Klapý (No. 44) (the finds numbers correspond to those of the finds list) (after Jansová 1965. – Archive of J. Militký and Regionální muzeum v Teplicích).

Třísov (District of Český Krumlov, Bohemia)
39. Fig. 4/39 (Hlava 2009, 110, Fig. 1/14).
40. Fig. 20/40 (Archive J. Militký, Prague).
41. Fig. 20/41 (Archive J. Militký, Prague).

Knotenringe of Type IB

České Budějovice (České Budějovice, Bohemia)
42. Not illustrated (Waldhauser 2001, 182, figure on p. 182).

Hrubčice (District of Prostějov, Moravia)
43. Fig. 5/43 (Archive of M. Čižmář, Brno).

Klapý-Hazmburk (District of Litoměřice, Bohemia)
44. Fig. 20/44 (Filip 1956, 352, Pl. XXVIII/2. – Archive of Regionální muzeum v Teplicích).

Plavecké Podhradie-Pohanská (District of Malacky, Slovakia)
45. Fig. 5/45 (Paulík 1976, 174, Fig. 44/1. – Zachar 1977, 38, Fig. 1/6).

Ptení (District of Prostějov, Moravia)
46. Not illustrated (Schulz 1891, 878–879, Fig. 4/No. 4. – Čižmář 2002, 200, Fig. 2/1)
47. Not illustrated (Schulz 1891, 880, Fig. 4c. – Čižmář 2002, 200, Fig. 2/3).
48. Fig. 5/48 (Čižmář 2002, 203, Fig. 3/7).

Staré Hradisko (District of Prostějov, Moravia)
49. Fig. 5/49 (Lipka, Sněтina 1912, 88, Pl. IV/10. – Meduna 1961, 7, Pl. 10/18. – Dębiec, Karwowski 2014, No. 7).
50. Fig. 5/50 (Lipka, Sněтina 1912, 88, Pl. IV/12. – Meduna 1961, 7, Pl. 1/13. – Dębiec, Karwowski 2014, No. 8).
51. Fig. 5/51 (Meduna 1961, 7. – Dębiec, Karwowski 2014, No. 9. – Archive of M. Čižmář, Brno).

Stradonice (District of Beroun, Bohemia)
52. Fig. 19/52 (Filip 1956, Pl. CXXVII/32. – Waldhauser 2001, 103, figure on p. 103).
53. Not illustrated (Pič 1903, Pl. XI/8).
54. Not illustrated (Pič 1903, Pl. XI/18).
55. Not illustrated (Pič 1903, Pl. XI/3).

Svárov (District of Kladno, Bohemia)
56. Not illustrated (Schulz 1891, 878, Fig. 3).

Výrava (District of Hradec Králové, Bohemia)
57. Fig. 5/57 (Mangel, Jílek 2012, 84, Fig. 2/5).

Ždánice (District of Hodonin, Moravia)
58. Fig. 5/58 (Čižmářová 2004, 350, figure on p. 351).

Knotenringe of Type IC

Dyjákovice (District of Znojmo, Moravia)
59. Fig. 6/59 (Jílek, Mangel 2009, 307, Fig. 2/4).

Klenovice na Hané (District of Prostějov, Moravia)
60. Fig. 6/60 (Archive of M. Čižmář, Brno).

Oberleiserberg (District of Korneuburg, Lower Austria)
61. Fig. 6/61 (Karwowski 2009, 119, Fig. 6. – Archive of M. Karwowski, Vienna).

Staré Hradisko (District of Prostějov, Moravia)
62. Fig. 6/62 (Meduna 1961, 7, 8, Pl. 10/14, 16. – Dębiec, Karwowski 2014, No. 10)

Stradonice (District of Beroun, Bohemia)
63. Fig. 19/63 (Pič 1903, Pl. XI/4).
64. Not illustrated (Pič 1903, Pl. XI/1).

Knotenringe of Type IIA

Bedihošť (District of Prostějov, Moravia)
65. Fig. 7/65 (Archive of M. Čižmář, Brno).

Bratislava-Devín (District of Bratislava IV, Slovakia)
66. Fig. 7/66 (Pieta, Zachar 1993, 197, Fig. 115/15. – Pieta 1996, Fig. 3/2. – Humer 2006, 17, Fig. 6/50).
67. Fig. 7/67 (Pieta, Zachar 1993, 197, Fig. 115/14. – Humer 2006, 18, Fig. 6/51).

Enzersfeld im Weinviertel (District of Korneuburg, Lower Austria)
68. Fig. 7/68 (Karl, Karl 1997, 497, Fig. 539).

Hrubčice (District of Prostějov, Moravia)
69. Fig. 7/69 (Archive of M. Čižmář, Brno).

Hrušky (District of Břeclav, Moravia)
70. Fig. 7/70 (Archive of M. Čižmář, Brno).

Ivaň (District of Prostějov, Moravia)
71. Fig. 7/71 (Archive of M. Čižmář, Brno).

Klenovice na Hané (District of Prostějov, Moravia)
72. Fig. 7/72 (Archive of M. Čižmář, Brno).
73. Fig. 7/73 (Archive of M. Čižmář, Brno).

Krížovany nad Dudváhom (District of Trnava, Slovakia)
74. Not illustrated (Kraskovská 1943, 234, Pl. I/23. – Filip 1956, 418–419, Pl. CIV/14).

Litoměřice (District of Litoměřice, Bohemia)
75. Not illustrated (Zápotocký 1969, 310, Fig. 20/4. – Waldhauser 2001, 311, figure on p. 311).

Němčice nad Hanou (District of Prostějov, Moravia)
76. Fig. 7/76 (Archive of M. Čižmář, Brno).

Oberleiserberg (District of Korneuburg, Lower Austria)
77. Fig. 17/77 (Mitscha-Märheim, Nischer-Falkenhof 1929, 400, Pl. VI/2. – Archive of M. Karwowski, Vienna).

Plavecké Podhradie-Pohanská (District of Malacky, Slovakia)
78. Not illustrated (Pieta 2010, 338, Fig. F23/2).

Polkovice (District of Přerov, Moravia)
79. Fig. 7/79 (Čižmář et al. 2008, Fig. 4/20).

Ptení (District of Prostějov, Moravia)
80. Fig. 7/80 (Meduna 1996, 102, Fig. 2/3. – Čižmář 2002, 202, Fig. 3/6).
81. Fig. 7/81 (Čižmář 2002, 203, Fig. 3/5).
82. Not illustrated (Schulz 1891, 880, Fig. 4b. – Čižmář 2002, 200, Fig. 2/4).
83. Fig. 7/ 83 (Červinka 1914, Fig. 7/2. – Meduna 1996, 102, Fig. 2/6. – Čižmář 2002, 202, Fig. 3/8).
84. Fig. 8/84 (Archive of M. Čižmář, Brno).

Purgstall an der Erlauf (District of Scheibbs, Lower Austria)
85. Fig. 8/85 (Rausch 1992, 304, Fig. 987).

Staré Hradisko (District of Prostějov, Moravia)
86. Fig. 8/86 (Dębiec, Karwowski 2014, No. 11. – Archive of M. Čižmář, Brno).
87. Fig. 8/87 (Čižmář 1985, Fig. 29/10. – Dębiec, Karwowski 2014, No. 12).
88. Fig. 8/88 (Dębiec, Karwowski 2014, No. 13. – Archive of M. Čižmář, Brno).
89. Fig. 8/89 (Dębiec, Karwowski 2014, No. 14. – Archive of M. Čižmář, Brno).
90. Fig. 8/90 (Lipka, Snětina 1912, 88, Pl. IV/1. – Dębiec, Karwowski 2014, No. 15. – Archive of M. Čižmář, Brno).

Thunau am Kamp (District of Horn, Lower Austria)
91. Fig. 8/91 and 18/91 (Archive of M. Karwowski, Vienna).

Knotenringe of Type IIB

Bernhardsthal (District of Mistelbach, Lower Austria)
92. Fig. 9/92 (Adler 1995, 557, Fig. 640).
93. Fig. 9/93 (Adler 1995, 554, Fig. 606).

Bratislava-Rusovce (District of Bratislava V, Slovakia)
94. Fig. 9/94 (Bazovský 2002, 30, Pl. VI/10).

Břeclav (Břeclav, Moravia)
95. Fig. 9/95 (Archive of M. Čižmář, Brno).

Brno-Obřany (Brno-Maloměřice a Obřany, Moravia)
96. Fig. 9/96 (Archive of M. Čižmář, Brno).

Diváky (District of Břeclav, Moravia)
97. Fig. 9/97 (Archive of M. Čižmář, Brno).

Dolní Němčí (District of Uherské Hradiště, Moravia)
98. Fig. 9/98 (Čižmář et al. 2009, 145, Fig. 7/11).

Enzersfeld im Weinviertel (District of Korneuburg, Lower Austria)
99. Fig. 9/99 (Karl, Karl 1997, 497, Fig. 528).

Hainburg an der Donau-Braunsberg (District of Bruck an der Leitha, Lower Austria)
100. Fig. 9/100 (Urban 1995, 157, Fig. 106/716. – Humer 2006, 33, Fig. 28/114).

Hrazany (District of Příbram, Bohemia)
101. Fig. 20/101 (Jansová 1965, Fig. 22/3).

Hrubčice (District of Prostějov, Moravia)
102. Fig. 9/102 (Archive of M. Čižmář, Brno).
103. Fig. 9/103 (Archive of M. Čižmář, Brno).
104. Fig. 9/104 (Archive of M. Čižmář, Brno).

Měrovice nad Hanou (District of Přerov, Moravia)
105. Fig. 10/105 (Archive of M. Čižmář, Brno).

Mutěnice (District of Hodonín, Moravia)
106. Fig. 10/106 (Archive of M. Čižmář, Brno).

Němčice nad Hanou (District of Prostějov, Moravia)
107. Fig. 10/107 (Archive of M. Čižmář, Brno).
108. Fig. 10/108 (Archive of M. Čižmář, Brno).
109. Fig. 10/109 (Archive of M. Čižmář, Brno).
110. Fig. 10/110 (Archive of M. Čižmář, Brno).
111. Fig. 10/111 (Archive of M. Čižmář, Brno).
112. Fig. 10/112 (Archive of M. Čižmář, Brno).
113. Fig. 10/113 (Archive of M. Čižmář, Brno).
114. Fig. 10/114 (Čižmář, Kolníková 2006, 264, Fig. 2/14. – Čižmář, Kolníková, Noeske 2008, 660 Fig. 3/14. – Archive of M. Čižmář, Brno).
115. Fig. 10/115 (Archive of M. Čižmář, Brno).
116. Fig. 10/116 (Archive of M. Čižmář, Brno).
117. Fig. 10/117 (Archive of M. Čižmář, Brno).

Oberleiserberg (District of Korneuburg, Lower Austria)
118. Fig. 10/118 and 17/118 (Archive of M. Karwowski, Vienna).
119. Fig. 10/119 and 17/119 (Archive of M. Karwowski, Vienna).

Oberweiden (District of Gänserndorf, Lower Austria)
120. Fig. 10/120 and 18/120 (Archive of M. Karwowski, Vienna).

Petronell-Carnuntum (District of Bruck an der Leitha, Lower Austria)
121. Fig. 12 (Humer 2006, 46, Fig. 52).

Plavecké Podhradie-Pohanská (District of Malacky, Slovakia)
122. Not illustrated (Pieta 2010, 338, Fig. F23/2).

Podivín (District of Břeclav, Moravia)
123. Fig. 11/123 (Archive of M. Čižmář, Brno).

Polkovice (District of Přerov, Moravia)
124. Fig. 11/124 (Archive of M. Čižmář, Brno).

Pravice (District of Znojmo, Moravia)
125. Fig. 11/125 (Archive of M. Čižmář, Brno).

Sankt Pölten (St. Pölten, Lower Austria)
126. Fig. 18/126 (Humer 2006, 45, Fig. 50).

Sommerein (District of Bruck an der Leitha, Lower Austria)
127. Fig. 11/127 (Schutzbier 1988, 267, Fig. 393).

Staré Hradisko (District of Prostějov, Moravia)
128. Fig. 11/128 (Dębiec, Karwowski 2014, No. 16. – Archive of M. Čižmář, Brno).
129. Fig. 11.129 (Dębiec, Karwowski 2014, No. 17. – Archive of M. Čižmář, Brno).
130. Fig. 11/130 (Skutil 1947, 113, Fig. 62. – Meduna 1970a, 12. – Dębiec, Karwowski 2014, No. 18. – Archive of M. Čižmář, Brno).
131. Fig. 11/131 (Meduna 1965, Pl. 12/16. – Meduna 1970b, Fig. 7/1. – Dębiec, Karwowski 2014, No. 19).

132. Fig. 11/132 (Dębiec, Karwowski 2014, No. 20. – Archive of M. Čižmář, Brno).

Stradonice (District of Beroun, Bohemia)
133. Fig. 19/133 (Pič 1903, Pl. XI/19).
134. Fig. 19/134 (Pič 1903, Pl. XI/21).
135. Fig. 19/135 (Pič 1903, Pl. XI/22).

Thunau am Kamp (District of Horn, Lower Austria)
136. Fig. 11/136 and 18/136 (Karwowski 2006, 49, Figs. 25/1794 and 26/1794. – Archive of M. Karwowski, Vienna).

Třísov (District of Český Krumlov, Bohemia)
137. Fig. 20/137 (Archive J. Militký, Prague).

Knotenringe of Type IIC

Břeclav (Břeclav, Moravia)
138. Fig. 13/138 (Archive of M. Čižmář, Brno).

Gajary (District of Malacky, Slovakia)
139. Fig. 16/139 (Eisner 1933, 177, Pl. LIX/9. – Filip 1956, 415, Pl. CIV/18. – Zachar 1977, 38, Fig. 3/3).

Hrubčice (District of Prostějov, Moravia)
140. Fig. 13/140 (Archive of M. Čižmář, Brno).

Hrušky (District of Břeclav, Moravia)
141. Fig. 13/141(Archive of M. Čižmář, Brno).

Němčice nad Hanou (District of Prostějov, Moravia)
142. Fig. 13/142 (Archive of M. Čižmář, Brno).
143. Fig. 13/143 (Archive of M. Čižmář, Brno).

Oberleiserberg (District of Korneuburg, Lower Austria)
144. Fig. 13/144 and 17/144 (Karwowski 2009, 119, Fig. 6. – Archive of M. Karwowski, Vienna).

Plavecké Podhradie-Pohanská (District of Malacky, Slovakia)
145. Fig. 15/145 (Pieta 2010, 338, Fig. F23/1 and 2).
146. Fig. 15/146 (Pieta 2010, 338, Fig. F23/1 and 2).
147. Not illustrated (Pieta 2010, 338, Fig. F23/2).

Polkovice (District of Přerov, Moravia)
148. Fig. 13/148 (Archive of M. Čižmář, Brno).

Ptení (District of Prostějov, Moravia)
149. Fig. 13/149 (Červinka 1914, Fig. 7/1. – Meduna 1996, 102, Fig. 2/5. – Čižmář 2002, 202, Fig. 3/3).
150. Fig. 13/150 (Schulz 1891, 880, Fig. 4d. – Meduna 1996, 100, Fig. 2/4. – Čižmář 2002, 202, Fig. 3/2).

Staré Hradisko (District of Prostějov, Moravia)
151. Fig. 13/151 (Meduna 1970b, Fig. 7/2. – Dębiec, Karwowski 2014, No. 21).
152. Fig. 13/152 (Dębiec, Karwowski 2014, No. 22. – Archive of M. Čižmář, Brno).

Stradonice (District of Beroun, Bohemia)
153. Fig. 19/153 (Pič 1903, Pl. XI/5).

Typologically undefined Knotenringe

Čejč (District of Hodonin, Moravia)
154. Fig. 14/154 (Archive of M. Čižmář, Brno).
155. Fig. 14/155 (Archive of M. Čižmář, Brno).

Jakuszowice (Kazimierza County, Lesser Poland)
156. Not illustrated (Karwowski 1997, 53).

Kúty (District of Senica, Slovakia)
157. Fig. 14/157 and 16/157 (Zachar 1976, 45, Fig. 15/1 and 16/1. – Zachar 1977, 38, Fig. 1/1. –Zachar 1987, 152, Fig. 197).

Medlovice (District of Vyškov, Moravia)
158. Fig. 14/158 (Archive of M. Čižmář, Brno).

Němčice nad Hanou (District of Prostějov, Moravia)
159. Fig. 14/159 (Archive of M. Čižmář, Brno).
160. Fig. 14/160 (Archive of M. Čižmář, Brno).

Reinthal (District of Mistelbach, Lower Austria)
161. Fig. 14/161 (Jedlička 1998, 812, Fig. 521).

Staré Hradisko (District of Prostějov, Moravia)
162. Fig. 14/162 (Lipka, Sněтina 1912, 88, Pl. IV/15. – Meduna 1961, 7, Pl. 10/12. – Dębiec, Karwowski 2014, No. 23).
163. Fig. 14/163 (Dębiec, Karwowski 2014, No. 24. – Archive of M. Čižmář, Brno).
164. Fig. 14/164 (Meduna 1961, 6. – Dębiec, Karwowski 2014, No. 25. – Archive of M. Čižmář, Brno).

Závist (District of Praha-západ, Bohemia)
165. Fig. 14/165 (Motyková, Drda, Ryбová 1990, 348, Fig. 38/4).

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References

Adler 1995

H. Adler, Bernhardsthal, Fundberichte aus Österreich 33/1994, 1995, 554, 557.

Adler, Nowak 1988

H. Adler, H. Nowak, Purkersdorf, Fundberichte aus Österreich 26/1987, 1988, 244.

Allerbauer, Jedlička 2001

S. Allerbauer, F. Jedlička, Bernhardsthal, Fundberichte aus Österreich 39/2000, 2001, 614–616.

Balke 1999

B. Balke 1999, Unikatowa bransoleta znad Mogilanki. In: J. Andrzejowski (Ed.), COMHLAN: Studia z archeologii okresu przedrzymskiego i rzymskiego w Europie Środkowej dedykowane Teresie Dąbrowskiej w 65. rocznicę urodzin. Warsaw 1999, 61–79.

Bazovský 2002

I. Bazovský, Bronzové predmety z doby laténskej a rímskej z Bratislavy-Rusoviec, Zborník Slovenského národného múzea 96, Archeológia 12, 2001, 23–44.

Bokiniec 2005

E. Bokiniec, Podwiesk, Fundstelle 2: Ein Gräberfeld der Oksywie-Kultur im Kulmer Land. Monumenta Archaeologica Barbarica 11, Warsaw – Toruń 2005.

Božič 1987

D. Božič, Keltska kultura u Jugoslaviji: Zapadna grupa: izvori za istoriju Tauriska. In: S. Gabrovec (Ed.), Praistorija jugoslavenskih zemalja 5: Željezno doba. Sarajevo 1987, 855–897.

Božič 1993

D. Božič, O latenskih najdbah na območju Ptuja. In: B. Lamut (Ed.), Ptujski arheološki zbornik ob 100-letnice muzeja in Muzejskega društva. Ptuj 1993, 189–204.

Božič 1998

D. Božič, Neues über die Kontakte längs der Bernsteinstraße während der Spätlatènezeit, Arheološki vestnik 49, 1998, 141–156.

Božič 2008

D. Božič, Late La Tène-Roman cemetery in Novo mesto: Ljubljanska cesta and Okrajno glavarstvo: Studies on fibulae and on the relative chronology of the Late La Tène period. Katalogi in Monografije 39, Ljubljana 2008.

Brandt 2001

J. Brandt, Jastorf und Latène: Kultureller Austausch und seine Auswirkungen auf soziopolitische Entwicklungen in der vorrömischen Eisenzeit. Internationale Archäologie 66, Rahden/Westf. 2001.

Bujna 2005

J. Bujna, Kruhový šperk z laténskych ženských hrobov na Slovensku. Nitra 2005.

Červinka 1914

I. L. Červinka, Kultura gallská na Moravě, Časopis Moravského muzea 14/1, 1914, 159–200.

Čižmař 1985

M. Čižmař, Grabung des keltischen Oppidums Staré Hradisko (Katastralgebiet Malé Hradisko) im Jahre 1983 (Bez. Prostějov), Přehled výzkumů 1983, 1985, 34–35.

Čižmař 1996

M. Čižmař, Die Stellung der Púchov-Kultur auf dem Gebiet der Mährischen Pforte. In: Z. Woźniak (Ed.), Kontakte längs der Bernsteinstraße (zwischen Caput Adriae und den Ostseegebieten) in der Zeit um Christi Geburt. Krakow 1996, 173–182.

Čižmař 2002

M. Čižmař, Laténský depot ze Ptení k poznání kontaktů našeho území s jihem, Památky archeologické 93/2, 2002, 194–225.

Čižmař 2008

M. Čižmař, Příspěvek k otázce spojnice mezi Čechami a Saskem v době železné. In: E. Černá, J. K. Hlavová (Eds.), Archeologické výzkumy v severozápadních Čechách v letech 2003–2007. Sborník k životnímu jubileu Zdeňka Smrže. Most 2008, 229–239.

Čižmář, Kolníková, Noeske 2008

M. Čižmař, E. Kolníková, H.-C. Noeske, Němčice-Víceměřice – ein neues Handels- und Industriezentrum der Latènezeit in Mähren, Germania 86/2, 2008, 655–700.

Čižmař et al. 2008

M. Čižmař, J. Čižmařová, M. Kejzlar, E. Kolníková, Detektorová prospekce lokalit z doby laténské na Moravě, Přehled výzkumů 49, 2008, 125–131.

Čižmař et al. 2009

M. Čižmař, J. Čižmařová, M. Kejzlar, E. Kolníková, Detektorová prospekce archeologických lokalit na Moravě v roce 2008, Přehled výzkumů 50, 2009, 139–152.

Čižmař, Kolníková 2006

M. Čižmař, E. Kolníková, Němčice – obchodní a indu-

striální centrum doby laténské na Moravě, Archeologické rozhledy 58, 2006, 261–290.

Čižmař, Salaš 2009
M. Čižmař, M. Salaš, Nové hradiště v Moravské bráně, Archeologické rozhledy 61, 2009, 63–76.

Čižmařová 2004
J. Čižmařová, Encyklopedie Keltů na Moravě a ve Slezsku. Prague 2004.

Dannheimer 1975
H. Dannheimer, Zu zwei älteren keltischen Fundstücken aus der Münchener Schotterebene, Archäologisches Korrespondenzblatt 5, 1975, 59–67.

Dąbrowska 1988
T. Dąbrowska, Wczesne fazy kultury przeworskiej: Chronologia – zasięg – powiązania. Warsaw 1988.

Décheletте 1914
J. Décheletте, Manuel d'archéologie préhistorique celtique et galloromaine 2/3 : Second age du fer ou époque de La Tène. Paris 1914.

Deimel 1987
M. Deimel, Die Bronzekleinefunde vom Magdalensberg, Archäologische Forschungen zu den Grabungen auf dem Magdalensberg 9. Kärntner Museumsschriften 71, Klagenfurt 1987.

Dębiec, Karwowski 2014
M. Dębiec, M. Karwowski, Celtic Knotenringe from Staré Hradisko. In: J. Čižmářová, N. Venclová, G. Březinová (Eds.), Moravské křižovatky: Střední Podunají mezi pravěkem a historií. Brno 2014, 667–680.

Dembski 1995
G. Dembski, Vorrömische und keltische Funde aus dem nordöstlichen Niederösterreich, Mitteilungen der Österreichischen Numismatischen Gesellschaft 35/4, 1995, 65–72.

Domański 1975
G. Domański, Studia z dziejów środkowego Nadodrza w III-I wieku p.n.e. Wrocław 1975.

Droberjar 1999
E. Droberjar, Dobřichov-Pičhora: Ein Brandgräberfeld der älteren römischen Kaiserzeit in Böhmen (Ein Beitrag zur Kenntnis des Marbod-Reichs). Fontes Archaeologici Pragenses 23, Prague 1999.

Dular 1991
A. Dular, Prazgodovinska grobišča v okolici Vinjega vrha nad Belo cerkvijo. Katalogi in monografije 26, Ljubljana 1991.

Eisner 1933
J. Eisner, Slovensko v pravěku, Práce Učené Společnosti Šafaříkovy v Bratislavě 13. Bratislava 1933.

van Endert 1991
D. van Endert, Die Bronzefunde aus dem Oppidum von Manching: Kommentierter Katalog. Die Ausgrabungen in Manching 13, Stuttgart 1991.

Filip 1956
J. Filip, Keltové ve středni Evrope. Monumenta Archaeologica 5, Prague 1956.

Furmanska 1958
A. I. Furmanska (А. І. Фурманська), Ливарні форми з розкопок Ольвії, Археологични памятки УРСР 7, 1958, 40–60.

Glodariu 1984
I. Glodariu, „Brăţările" cu nodozităţi Latène tîrzii în Dacia, Acta Musei Napocensis 21, 1984, 63–80.

Gruber 2007
H. Gruber, Die keltische Siedlung von Neubau bei Linz, Archäologie in Deutschland 3, 2007, 58–59.

Grünewald 1980
M. Grünewald, Bad Deutsch-Altenburg, Fundberichte aus Österreich 18/1979, 1980, 398.

Guštin 1977
M. Guštin, Relativna kronologija grobov „Mokronoške skupine". In: M. Guštin (Ed.), Keltske Študie. Posavski muzej Brežice 4, Brežice 1977, 67–103.

Guštin 1984
M. Guštin, Die Kelten in Jugoslawien: Übersicht über das archäologische Fundgut, Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz 31, 1984, 305–363.

Guštin, Cunja, Predovnik 1993
M. Guštin, R. Cunja, K. K. Predovnik, Podbočje/Stari grad. Posavski muzej Brežice 9, Brežice 1993.

Hlava 2009
M. Hlava, „Amulety" z oppida Třísov (okr. Český Krumlov), Archeologické výzkumy v jižních Čechách 22, 2009, 115–123.

Humer 2006
F. Humer (Ed.), Legionsadler und Druidenstab – Vom Legionslager zur Donaumetropole: Katalogband. St. Pölten 2006.

Hunyady 1942
I. v. Hunyady, Die Kelten im Karpatenbecken: Tafelband. Dissertationes Pannonicae 2/18, Budapest 1942.

Jansová 1965
L. Jansová, Hrazany: keltské oppidum na Sedlčansku. Památníky naší minulosti 3, Prague 1965.

Jedlička 1995
F. Jedlička, Drösing, Fundberichte aus Österreich 33/1994, 1995, 535–536.

Jedlička 1997
F. Jedlička, Drösing, Fundberichte aus Österreich 35/1996, 1997, 462.

Jedlička 1998
F. Jedlička, Reinthal, Fundberichte aus Österreich 36/1997, 1998, 812.
Jedlička 2004
F. Jedlička, Ein Stück Bernsteinstraße im nordöstlichen Weinviertel: Münzgeld in keltischer und römisch-germanischer Zeit. Stockerau 2004.
Jílek, Mangel 2009
J. Jílek, T. Mangel, Dyjákovice (okr. Znojmo), Přehled výzkumů 50, 2009, 307–308.
Karl, Karl 1997
A. Karl, V. Karl, Enzersfeld, Fundberichte aus Österreich 35/1996, 1997, 496–499.
Karwowski 1997
M. Karwowski, Keltische Glasfunde im polnischen Gebiet, Przegląd Archeologiczny 45, 1997, 33–71.
Karwowski 2006
M. Karwowski, Thunau am Kamp – Eine befestigte Höhensiedlung (Grabung 1965–1990): Die latènezeitlichen Siedlungsfunde. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 61, Vienna 2006.
Karwowski 2009
M. Karwowski, A Celtic hilltop settlement on Oberleiserberg in Lower Austria, Światowit - Supplement Series B: Barbaricum 8, Warsaw 2009, 115–131.
Keller 1984
E. Keller, Die frühkaiserzeitlichen Körpergräber von Heimstetten bei München und die verwandten Funde aus Südbayern. Münchner Beiträge zur Vor- und Frühgeschichte 37, Munich 1984.
Kraskovská 1943
L. Kraskovská, Novozískane laténske pamiatki v Slovenskom múzeu, Sborník Muzeálnej spoločnosti slovenskej (Sborník Slovenského národného múzea venovaný 50-ročnému jubileu Muzeálnej slovenskej spoločnosti) 36–37/1942–1943, 1943, 227–235.
Leube 1975
A. Leube, Die römische Kaiserzeit im Oder-Spree-Gebiet. Veröffentlichungen des Museums für Ur- und Frühgeschichte Potsdam 9, Berlin 1975.
Lipka, Snětina 1912
F. Lipka, K. Snětina, Staré Hradisko: Gallské oppidum na Moravě, Časopis Moravského musea zemského 12/1, 73–92.
Mangel, Jílek 2012
T. Mangel, J. Jílek, Drobné laténské nálezy z východních Čech I, Archeologie východních Čech 1/2011, 2012, 81–90.
Meduna 1961
J. Meduna, Staré Hradisko. Katalog nálezů uložených v muzeu města Boskovic. Fontes Archaeologiae Moravicae 2, Brno 1961.
Meduna 1965
J. Meduna, Wiederaufnahme der Grabungsarbeiten auf dem keltischen Oppidum Staré Hradisko, Přehled výzkumů 1964, 1965, 47–50.
Meduna 1970a
J. Meduna, Staré Hradisko II. Katalog der Funde aus den Museen in Brno (Brünn), Praha (Prag), Olomouc, Plumlov und Prostějov. Fontes Archaeologiae Moravicae 5, Brno 1970.
Meduna 1970b
J. Meduna, Das keltische Oppidum Staré Hradisko in Mähren, Germania 48, 1970 34–59.
Meduna 1996
J. Meduna, Das Depot von Ptení (Kr. Prostějov), und die Handelsbeziehungen Mährens während der Spätlatènezeit. In: Z. Woźniak (Ed.), Kontakte längs der Bernsteinstraße (zwischen Caput Adriae und den Ostseegebieten) in der Zeit um Christi Geburt. Krakow 1996, 97–115.
Militký 2008
J. Militký, Mincovnictví v době laténské. In: N. Venclová (Ed.), Archeologie pravěkých Čech 7. Doba laténská, Prague 2008.
Militký, Karwowski 2013
J. Militký, M. Karwowski, Gold und Silber bei den Boiern und ihren südöstlichen Nachbarn – numismatische und archäologische Überlieferung. In: M. Hardt, O. Heinrich-Tamaska (Ed.), Macht des Goldes, Gold der Macht. Herrschafts- und Jenseitsrepräsentationen zwischen Antike und Frühmittelalter im mittleren Donauraum. Forschungen zur Spätantike und Mittelalter 2, Weinstadt 2013, 17–31.
Miske 1908
K. Miske, Die prähistorische Ansiedlung Velem St. Vid. 1: Beschreibung der Raubbaufunde. Vienna 1908.
Mitscha-Märheim, Nischer-Falkenhof 1929
H. Mitscha-Märheim, E. Nischer-Falkenhof, Der Oberleiserberg: Ein Zentrum vor- und frühgeschichtlicher Besiedlung. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 2/5, 1929, 391–438.
Moscalu 1990
E. Moscalu, Piese de podoabă din mediul traco-getic şi scitic: Inele şi brăţări ornamentate cu butoni, Arheologia Moldovei 13, 1990, 149–154.
Motyková, Drda, Rybová 1990
K. Motyková, P. Drda, A. Rybová, Oppidum Zavist – Prostor brány A v předsunutém šijovém opevněni, Památky archeologické 81, 1990, 308–433.

Müller-Karpe 1951
H. Müller-Karpe, Zeugnisse der Taurisker in Kärnten, Carinthia I 141/1–3, 1951, 594–677.
Orszak 2011
M. Orszak, Knotenringi z terenów środkowoeuropejskich Bojów. Unpublished MA Thesis, University of Rzeszów, Institute of Archaeology, Rzeszów 2011.
Paulík 1976
J. Paulík, Keltské hradisko Pohanská v Plaveckom Podhradí. Fontes Archeologického ústavu slovenského národného múzea v Bratislave 3, Bratislava 1976.
Pič 1903
J. L. Pič, Hradiště u Stradonic jako historické Marobudum. Čechy na úsvitě dějin 2, Prague 1903.
Pieta 1982
K. Pieta, Die Púchov-Kultur, Studia Archaeologica Slovaca 1. Nitra 1982.
Pieta 1996
K. Pieta, Römischer Import der Spätlatènezeit in der Slowakei, Arheološki vestnik 47, 1996, 183–195.
Pieta 2006
K. Pieta, Ein junglatènezeitlicher Stieranhänger aus Udiča/Slovakei. In: W.-R. Teegen, R. Cordie, O. Dörrer, S. Rieckhoff-Hesse, H. Steuer (Ed.), Studien zur Lebenswelt der Eisenzeit. Festschrift für Rosemarie Müller. Ergänzungsbände zum Reallexikon der Germanischen Altertumskunde 53, Berlin 2006, 133–147.
Pieta 2010
K. Pieta, Die keltische Besiedlung der Slowakei: Jüngere Latènezeit. Archaeologica Slovaca Monographiae 12, Nitra 2010.
Pieta, Zachar 1993
K. Pieta, L. Zachar, Mladšia doba železná (laténska). In: T. Štefanovičová (Ed.), Najstaršie dejiny Bratislavy. Bratislava 1993, 143–209.
Pietrzak 1987
M. Pietrzak, Cmentarzysko z młodszego okresu przedrzymskiego i wpływów rzymskich w Rumi, woj. gdańskie. In: B. Went (Ed.), Rumia: Cmentarzysko z młodszego okresu przedrzymskiego i okresu wpływów rzymskich. Gdańsk 1987, 1–210.
Plachá 1997
V. Plachá, Výsledky výskumu Národnej Kultúrnej Pamiatky Devín v rokoch 1994–1995, Archeologické výskumy a nálezy na Slovensku v roku 1995, 1997, 150–151.
Rausch 1992
A. Rausch, Purgstall, Fundberichte aus Österreich 30/1991, 1992, 304.
Rustoiu 1996
A. Rustoiu, Metalurgia bronzului la Daci (sec. II î. Chr. – sec. I d. Chr.). Tehnici, ateliere și produse de bronz. Bibliotheca Thracologica 15, Bucharest 1996.
Samojlova 1988
T. L. Samojlova (Т. Л. Самойлова), Тира в VI–I вв. до н.э. Kiev 1988.
Schäfer 2010
A. Schäfer, Die Kleinfunde der jüngerlatènezeitlichen Siedlung von Berching-Pollanten, Lkr. Neumarkt i.d. Oberpfalz. Marburger Studien zur Vor- und Frühgeschichte 24, Rahden/Westf. 2010.
Schulz 1891
W. Schulz, Bronzeringe mit angesetzten Warzen in den Sammlungen des Prager Museums, Zeitschrift für Ethnologie der Deutschen Gesellschaft für Völkerkunde und der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte 23, 1891, 877–880.
Schutzbier 1988
H. Schutzbier, Sommerein, Fundberichte aus Österreich 24–25/1985–1986), 1988, 267.
Skorupka 2001
T. Skorupka, Kowalewko 12. Cmentarzysko birytualne ludności kultury wielbarskiej (od połowy I w. n.e. do początku III w. n.e.): Archeologiczne badania ratownicze wzdłuż trasy gazociągu tranzytowego III: Wielkopolska 3. Poznań 2001.
Skutil 1947
J. Skutil, Moravské prehistorické výkopy a nálezy: Oddělení moravského pravěku Zemského musea 1937–1945, Časopis Zemského musea v Brně 33/1/1946, 1947, 45–134.
Stuppner 1984
A. Stuppner, Ringelsdorf, Fundberichte aus Österreich 22/1983, 1984, 269.
Stuppner 1990
A. Stuppner, Ringelsdorf, Fundberichte aus Österreich 28/1989, 1990, 200.
Tappert 2000
C. Tappert, Ein keltischer Widderkopfring aus Straubing und verwandte Tierprotomringe, Jahresbericht des Historischen Vereins für Straubing und Umgebung 100/1998, 2000, 173–217.
Trugly 1996
A. Trugly, Nové nálezy v zbierke Podunajského múzea, Archeologické výskumy a nálezy na Slovensku v roku 1994, Nitra 1996, 173–174.
Turetschek 1984
F. Turetschek, Drösing, Fundberichte aus Österreich 22/1983, 1984, 267.

Uenze 2000
H. P. Uenze, Die jüngerlatènezeitliche Siedlung von Egglfing, Bayerische Vorgeschichtsblätter 65/2000, 2000, 1–38.
Urban 1995
O. H. Urban, Keltische Höhensiedlungen an der mittleren Donau vom Linzer Becken bis zur Porta Hungarica 2: Der Braunsberg. Linzer archäologische Forschungen 23, Linz 1995.
Urban 1998
O. H. Urban, Ein keltisches Bronzedepot mit Amulettring aus Schwarzenbach bei Wiener Neustadt. In: C. Tuczay, U. Hirhager, K. Lichtblau (Eds.) Ir sult sprechen willekomen: Grenzenlose Mediävistik. Festschrift für Helmut Birkhan zum 60. Geburtstag. Bern 1998, 798–807.
Waldhauser 2001
J. Waldhauser, Encyklopedie Keltů v Čechách, Prague 2001.
Warneke 1999
T. F. Warneke, Hallstatt- und frühlatènezeitlicher Anhängerschmuck: Studien zu Metallanhängern des 8.–5. Jahrhunderts v. Chr. zwischen Main und Po. Internationale Archäologie 50, Rahden/Westf. 1999.
Wierzbicki 1991
J. Wierzbicki, Przyczynek do studiów nad chronologią schyłku osadnictwa kultury pomorskiej we wschodniej części Pomorza Środkowego (Mikorowo, woj. Słupsk, stanowisko 5), Materiały Zachodniopomorskie 37, 1991, 47–61.
Zachar 1976
L. Zachar, Neskorolaténske sídlisko pri Kútoch, Zborník Slovenského národného múzea 70, História 16, 1976, 31–53.
Zachar 1977
L. Zachar, Príspevok k poznaniu neskorolaténskeho obdobia na Záhorí, Zborník Slovenského národného múzea 71, História 17, 1977, 35–58.
Zachar 1987
L. Zachar, Keltische Kunst in der Slowakei. Bratislava 1987.
Zápotocký 1969
M. Zápotocký, K významu Labe jako spojovací a dopravní cesty, Památky archeologické 60/1, 1969, 277–366.

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The Pottery with Thickened Club Rim at the End of the Late La Tène Period in the Middle Danube Region (Mineralogical and Petrographic Characteristics)

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Abstract: Pottery with thickened club rim is a typical vessel form of the last phase of the La Tène period at the oppidum of Bratislava and in its hinterland. This type of vessel is also found outside the region, in Styria and Lower Austria (e.g. Oberleiserberg), which points to possible geopolitical connections.

Keywords: La Tène culture, Middle Danube area, ceramics, petrographic analysis.

Zusammenfassung: Im Oppidum von Bratislava und seinem Hinterland sind Töpfe mit sogenanntem kolbenförmig verdicktem Rand eine typische Gefäßform der letzten Phase der Spätlatènezeit. Außerhalb dieser Region kommen diese Gefäßtypen auch in der Steiermark sowie in Niederösterreich (Oberleiserberg) vor. Das weist auf mögliche geopolitische Zusammenhänge hin.

Schlüsselwörter: Latènekultur, mittlerer Donauraum, Keramik, petrografische Analyse.

The latest phase of the Late La Tène period in the area of present-day southwestern Slovakia has so far remained quite obscure. The so-called Celto-Dacian occupation is assumed to have taken place in the region, following the defeat of the Boii (?). The inhabitants of what is now southwestern Slovakia were the descendants of the indigenous Celtic population but probably also of the Dacians (?) who had remained there in the wake of the expansion and wars of the second half of the 1st century BC under King Burebista. Unfortunately there are no finds from this period and horizon recorded at the oppidum of Bratislava or from its vicinity, or rather: we are not in a position to identify them. The only evidence consists of hand-made "Dacian pottery". This raises the question whether the Dacian invasion in the region of the oppidum of Bratislava under Burebista was more than a purely military operation. It may indeed represent the demise of the military and political power of the Boii and their allies, the Taurisci, in the Middle Danube region.

Judging by the current state of research, and especially because there are hardly any traces of their presence in the archaeological record, it seems unlikely that the Dacians remained for more than a short time in the area of present-day Bratislava. After Burebista's death the continued presence of the Dacians – possibly under pressure from the neighbouring Norici – probably became untenable. Dacian pottery, which appears rarely in archaeological contexts in Bratislava, need not necessarily be linked to the military invasion. Instead, it could have been imported. Dacian ceramics have, as is known, a certain formal and chronological uniformity. Finds of Dacian attribution are better represented in southwestern Slovakia, especially in the valleys of the rivers Hron, Ipeľ and Nitra and around the city of Nitra.[2] The most important site of this chronological horizon is located in Šurany, locality of Nitriansky Hrádok-Zámeček, district of Nové Zámky. The pottery found there is however very mixed, and it is impossible to ascribe it to either the material culture of the Dacians or the Celts.[3]

A specific and characteristic form of vessel (Fig. 1) emerges in the last phase of the Late La Tène period in southwestern Slovakia and in its centre, Bratislava and surrounding areas. These are pots with so-called club rims, the rims being thickened, straight or chamfered, or triangular in section, decorated with comb impressions applied regularly, irregularly or in a metope motif.

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2. Točík 1959, 841–842. – Pieta 1982b. – Březinová, Katkin 2004, 155–156. – Bednár, Březinová, Ptáčková 2005, 115–116. – Březinová 2006, 9–10. – Luštíková 2007. – Pieta 2008.

3. Točík 1959, 841–842. – Březinová 2010, 113–114 with further references.

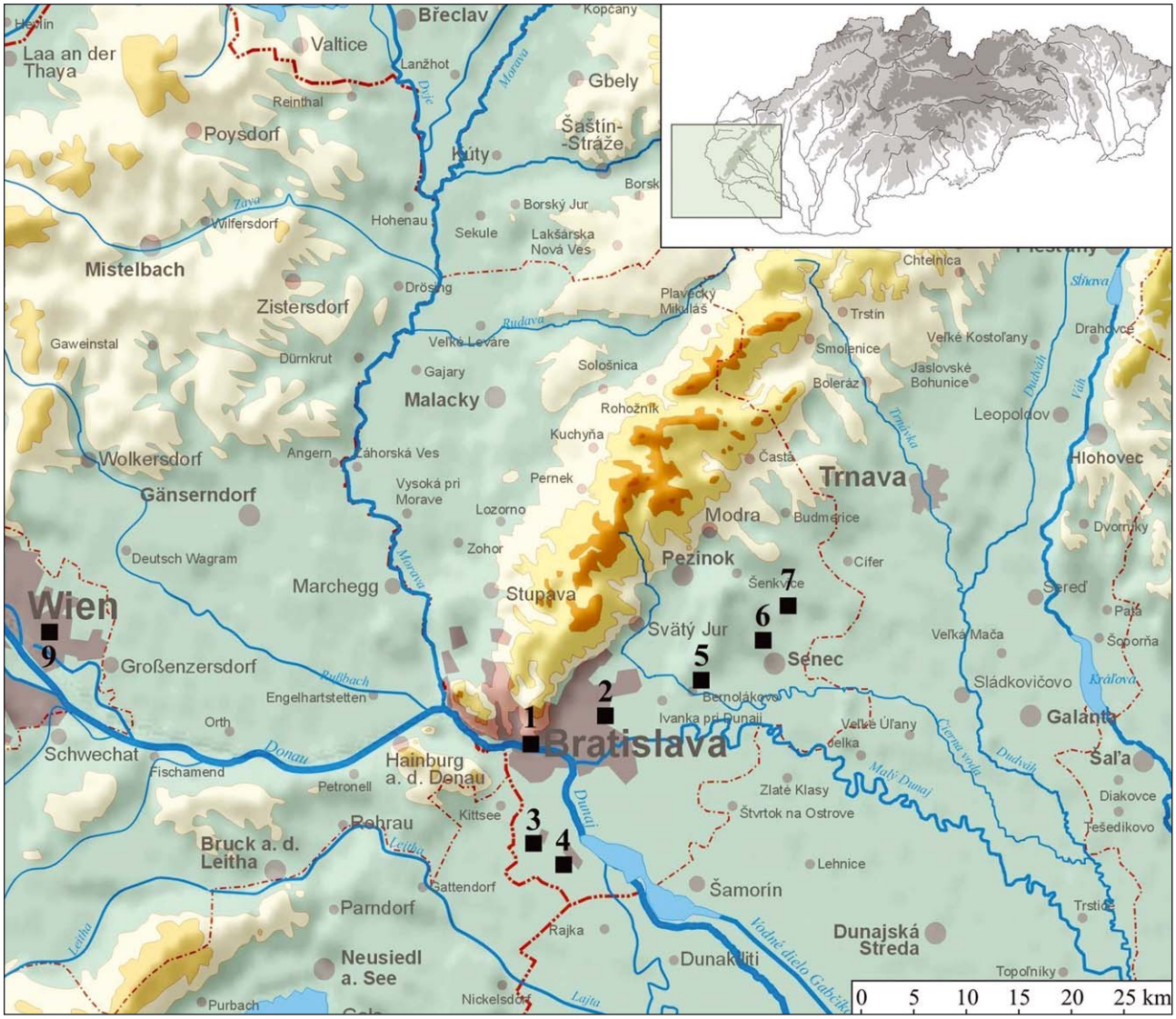

Fig. 1. Distribution of pottery with thickened club-shaped rim in southwestern Slovakia in the region of Bratislava and in neighbouring Lower Austria. – Slovakia: – 1. Bratislava, Old Town sites: Bratislava Castle, Vydrica, Mudroňova Street, Old Town, Námestie Slobody. – 2. Bratislava-Vajnory, site of Probstové. – 3. Bratislava-Jarovce, site of Kilometrák. – 4. Bratislava-Rusovce, site of Za parkom kaštieľa, Ilýrska Street, Ľanoviská. – 5. Bernolákovo. – 6. Senec-Svätý Martin. – 7. Blatné, site of Čihákovský mlyn. – Lower Austria: – 8. Oberleiserberg. – 9. Vienna-Aspern.

The pottery – in Slovak "hrniec s kyjovito zosilneným okrajom" (pots with club-shaped rim)[4] – was defined by L. Zachar on the basis of the finds from Bratislava.[5] It has often been assumed in the specialist literature that this type of pottery was hand-made, without using a potter's wheel. In fact relatively large quantities of such vessels are wheel-turned or have been finished on a potter's wheel, or the rim was wheel-turned and applied later to the body of the vessel. The pots are quite small, with a rim between 15 and 25 cm in diameter. Up to recently this interesting type of pottery was known from the hinterland of the oppidum of Bratislava only. It is dated to the end of the Late La Tène occupation of this settlement.

Pottery with thickened club rim was recovered from the area of Bratislava Castle (Fig. 2/1–5),[6] in the former Vydrica Lane along the Danube below the castle defences (Fig. 2/9–11),[7] in today's Námestie Slobody (Freedom Square) (Fig. 2/6–8),[8] and on Site 1 in Ulicá Mudroňova, some 200 m west of the castle. The latter also yielded fragments of clay trays for casting small Celtic silver coins

4. The rim can be thickened, straight or chamfered.
5. Zachar 1981, 41.
6. Čambal 2004, 58, Pl. XXIX.
7. Čambal, Kovár, Hanuš 2012.
8. Jansák 1955, 195–221.

of the Karlstein type, a fragment of an iron fibula with spoon-shaped bow, and part of a so-called astragal belt.[9] Further sherds of pottery of the same type have been found in various locations in the old town of Bratislava.[10]

Similar vessels have been recorded in the vicinity and surroundings of the oppidum (up to 25 km from the centre of Bratislava),[11] for example in Senec-Svätý Martin, feature 3/78 (Fig. 3/1–8),[12] in Blatné (Fig. 3/9, 10),[13] in Bernolákovo (Fig. 3/11) and in Bratislava-Vajnory (Fig. 3/12).[14] To the south of the Danube in present-day Bratislava, which historically belonged to Pannonia, pottery of this type was recovered in Bratislava-Rusovce "za parkom kaštieľ" (behind the castle park) (Fig. 4/1, 2, 5, 6),[15] in Ilýrska ulica (Fig. 4/3, 4) and at a location named "Ľanoviská" (Fig. 4/10–15).[16] A further fragment comes from Bratislava-Jarovce (Fig. 4/16).[17]

Nitra has yielded similar pottery but there the shape of the vessels is quite different from that discovered in Bratislava. Only one rim sherd from the castle defences (Nitriansky hrad) can be attributed to the Bratislava type (Fig. 3/13).[18]

All the sites mentioned in Bratislava and surroundings, as well as Nitra, are dated to the Late La Tène phase LT D2 on the basis of the club-rimmed pottery found there (Fig. 1).

A comparison with pottery with thickened, straight or chamfered club rims from Austria and Slovenia – particularly from the eastern Alpine zone, especially Styria – is of particular interest (Figs. 5–6). There the sites that have yielded similar vessel types are concentrated in a relatively small area. Some 30 such sites have so far been recorded in Styria, in a region that was occupied by the Taurisci and Norici. So far the assemblages from Södingberg near Köflach (Fig. 6/6–10), Lebing (Fig. 6/11) and Frauenberg near Leibnitz (Fig. 6/1–5) have been published.[19] Wolfgang Artner considers these vessels to be one of the main types of phase LT D2[20] and he has suggested that the pottery with thickened club rim in the region occupied by the Taurisci represents "Norican ware".[21]

Further finds have been recorded at Dietenberg near Voitsberg (Austria)[22] and in the surroundings of Stari Grad near Podbočje and Cvinger near Stična in Slovenian Lower Carniola (Dolenjska).[23] Parallels for our vessel type are also known from Lower Austria, in Vienna (Wien-Aspern[24]) and the Oberleiserberg (Fig. 3/14–19).[25] A few examples have been recovered on the Magdalensberg.[26] But they are completely absent from the fortified sites of the Middle Danube valley, such as the Braunsberg near Hainburg,[27] the Leopoldsberg,[28] Schwarzenbach,[29] Thunau am Kamp,[30] Velem Szentvid, or Budapest Gellérthegy-Tabán.[31] They are also missing from the assemblages from the fortified sites of Kulm bei Weiz, Poštela and Meljski Hrib near Maribor[32] in the southeastern Alpine region.

The club-rimmed pottery is associated with "Dacian pottery"[33] in the area of Bratislava. But since there are no similar forms in the actual "Dacian" pottery, there is no proof that the latter originated in Dacia. It is therefore recommended that when analysing finds assemblages the possibility of geopolitical relationships be investigated. It is not unthinkable that the political and territorial expansion of the kingdom of the Norici in the last third of the 1st century BC had some repercussions. The expansion of the Norici took place after the demise of Boian power in the middle of the 1st century BC, brought about by the invasion of the Middle Danube valley by the Dacian king Burebista.[34]

Our pottery type, together with cauldron-shaped tripod pots and the Békásmegyer type of bowl, is particularly characteristic of the LT D2 phase in the area

9. Kolníková 1996. – Bazovský, Gregor 2009, 131–132.
10. Polla 1979, Fig. 33/7, 8. – Zachar 1981, 49, Figs. 8/16 and 15/5. – Zachar 1982, 42, Fig. B/1. – Zachar, Rexa 1988, 64, 66; Fig. 15/13. – Pieta, Zachar 1993, Figs. 89/1 and 92/1. – Musilová, Lesák 1996, Pl. IV/11–13. – Resutík 2007, 109, Pls. 1/1, 2, 5; 2/8, 11; 7/1–4.
11. Čambal 2011, 106.
12. Čambal, Mináč, Zachar 2010, 141–145.
13. Bartík et al. 2009, 23, Fig. 3/1–18.
14. Studeníková, Zachar 1980, 198–199.
15. Bazovský 2004, 107.
16. Bazovský 2002a, 32, Pl. I. – Bazovský 2004, 96, Fig. 1/D.
17. Bazovský 1996, 25, Fig. 3/7–9. – Bazovský 2002b.
18. Bednár, Březinová, Ptáčková 2005, 144, 146. – Březinová 2009, 57.
19. Artner 1998–1999. – Groh et al. 2009, 348. – Tiefengraber 2009, 269–270, with further references.
20. Artner 1998–1999, 234.
21. Artner 1998–1999, 229. – Tiefengraber 2009, 260.
22. Kramer 1994, Pl. 45/ 9, 10.
23. Tiefengraber 2009, 260.
24. Unpublished finds, information from P. C. Ramsl.
25. Kern 1996, 385–393. – Karwowski, Militký 2011, 131–136. – Unpublished finds, M. Karwowski.
26. Schindler-Kaudelka, Zabehlicky-Scheffenegger 1995, 181, Fig. 5/59–61.
27. Urban 1995.
28. Urban 1999.
29. Tiefengraber 2009, 260.
30. Karwowski 2006.
31. Bónis 1969.
32. Tiefengraber 2009, 260.
33. Musilová, Lesák 1996, 98.
34. Dobiáš 1964, 30. – Dobesch 1995, 18.

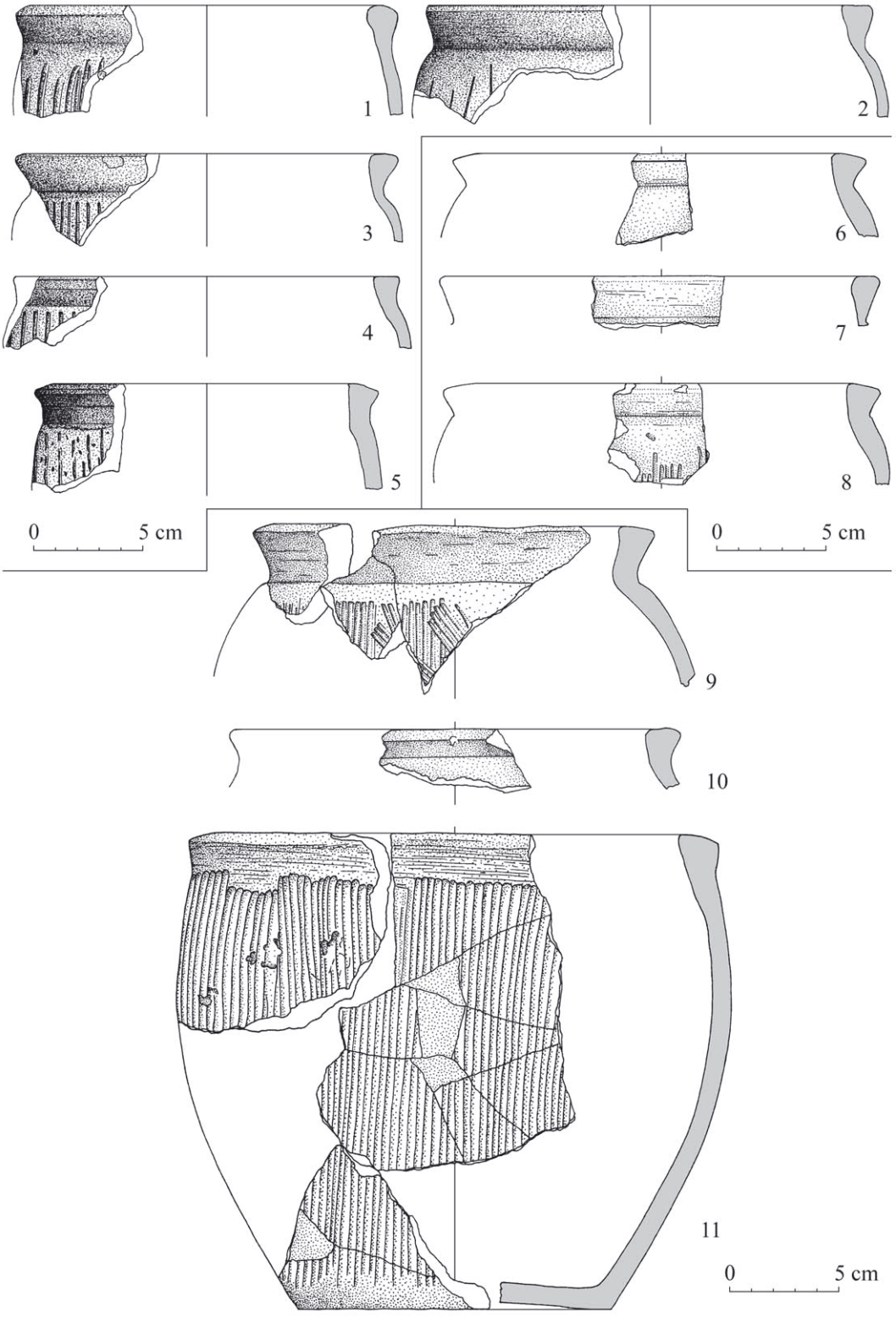

Fig. 2. Pottery with thickened club-shaped rim. – 1–5. Bratislava Castle (after Čambal 2004, modified). – 6–8. Námestie Slobody (Data: Čambal). – 9–11. Outer Bailey Lane Vydrica (after Čambal, Kovár, Hanuš 2012).

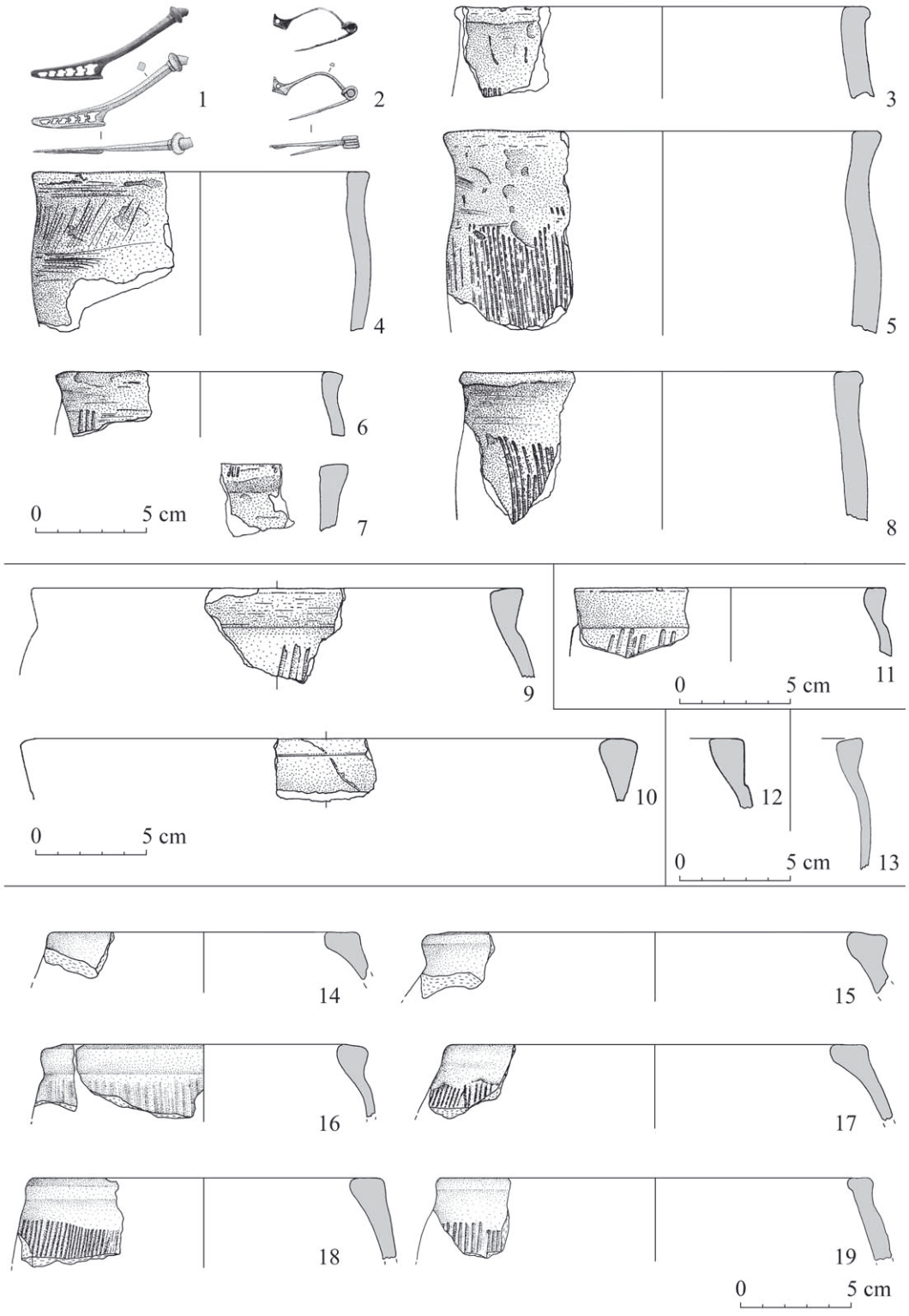

Fig. 3. – 1. Fibula of the Almgren 18a2 type. – 2. Fibula of the Gorica type. – 3–8. Pottery with thickened club-shaped rim from Senec-Svätý Martin (after Čambal, Miná č, Zachar 2010). – 9–10. Blatné, site of Čihákovský mlyn (Data: Čambal). – 11. Bernolákovo (Data: Čambal). – 12. Bratislava-Vajnory, feature 3/79 (after Studeníková, Zachar 1980, modified). – 13. Nitra Castle (after Bednár, Březinová, Ptáčková 2005, modified). – 14–19. Oberleiserberg, Lower Austria (Data: Karwowski).

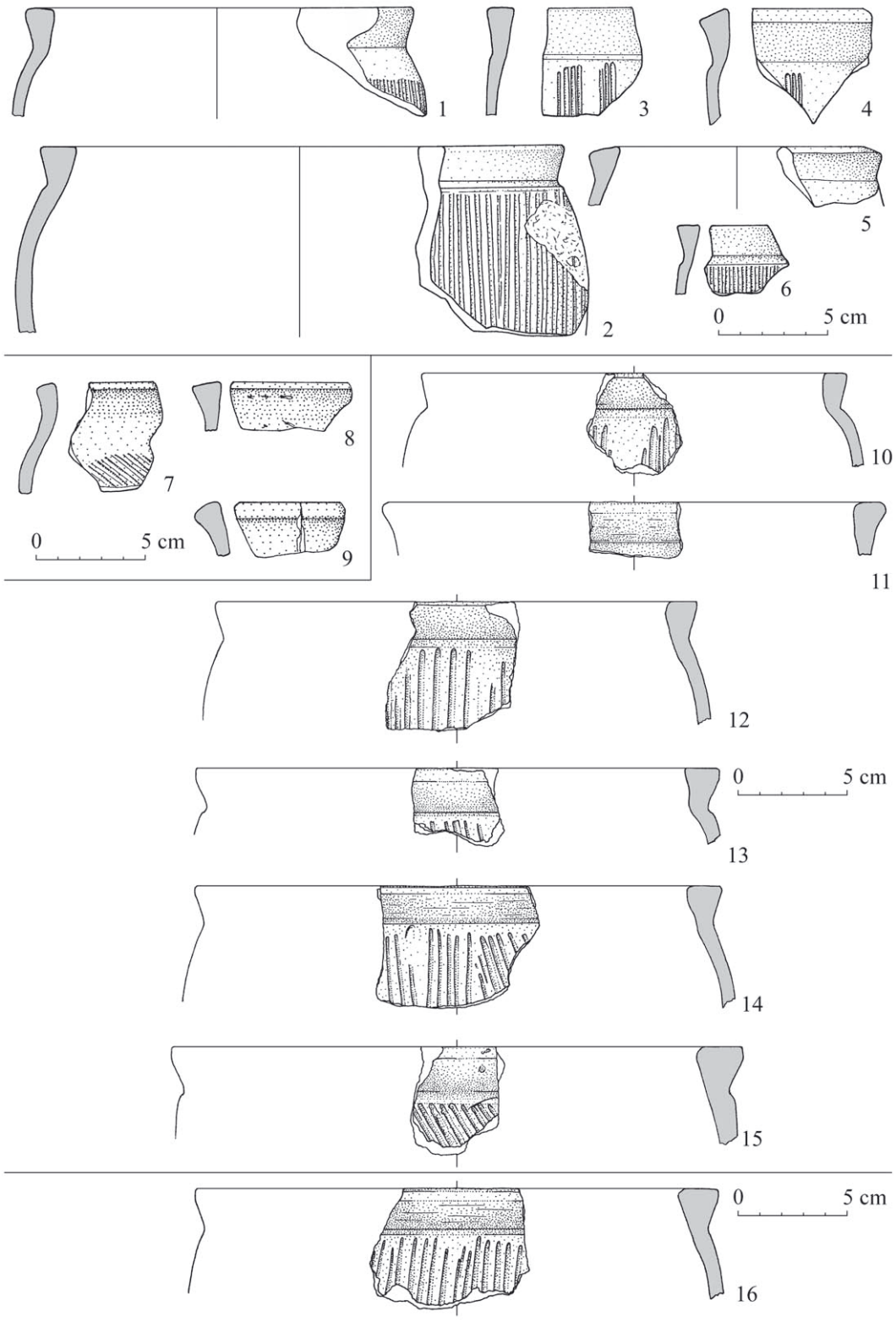

Fig. 4. Pottery with thickened club-shaped rim. – 1, 2, 6. Bratislava-Rusovce, site of Za parkom kaštieľa feature No. 54/98 (after Bazovský 2004, modified). – 3–4. Bratislava-Rusovce, Ilýrska Street, feature No. 24/03 (after Bazovský 2004, modified). – 5. Bratislava-Rusovce, site of Za parkom kaštieľa feature No. 21/98. – 7–9. Bratislava, Mudroňova Street, feature No. 1 (after Bazovský, Gregor 2009, modified). – 10–15. Site of Ľanoviská in the district of Rusovce (Data: Bazovský). – 16. – rim from Bratislava-Jarovce, site of Kilometrák (Data: Bazovský).

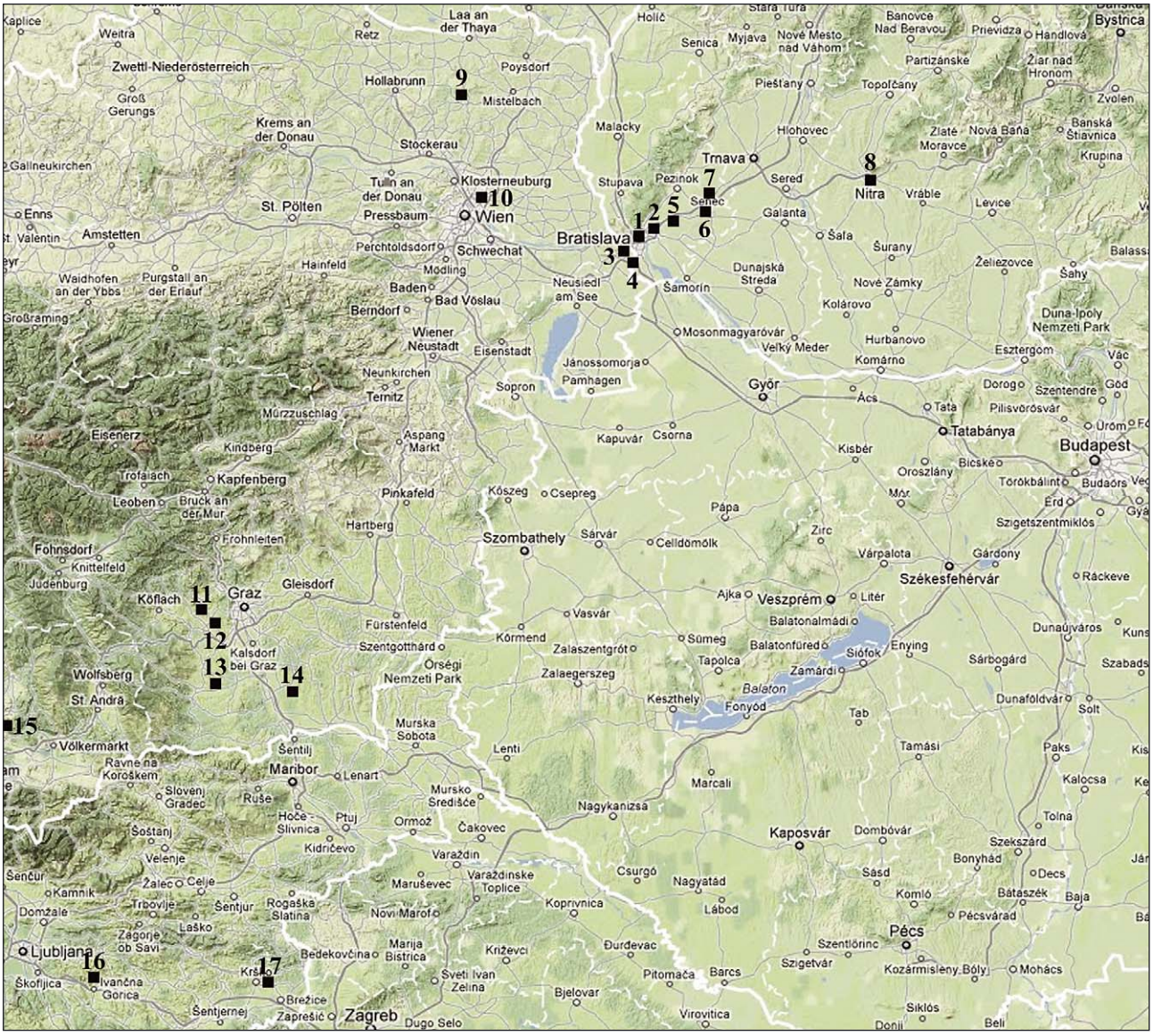

Fig. 5. Distribution of pottery with thickened club-shaped rim in the Middle Danube region, in southwestern Slovakia, Lower Austria, Styria and Slovenian Lower Carniola. – Slovakia – 1. Bratislava, Old Town sites: Bratislava Castle, Vydrica, Mudroňova Street, Old Town, Námestie Slobody. – 2. Bratislava-Vajnory. – 3. Bratislava-Jarovce. – 4. Bratislava-Rusovce. – 5. Bernolákovo. – 6. Senec-Svätý Martin. – 7. Blatné. – 8. Nitra. – Lower Austria – 9. Oberleiserberg. – 10. Vienna-Aspern. – Austrian Styria – 11. Södingberg near Köflach. – 12. Dietenberg near Voitsberg. – 13. Lebing. – 14. Frauenberg near Leibnitz. – 15. Magdalensberg. – Lower Carniola (Slovenia) – 16. Cvinger near Stična. – 17. Stari Grad near Podbočje.

of the oppidum of Bratislava.[35] Pots of this type often occur together with fibulae of the Jezerine, Gorica, Alésia and Almgren 18 types, and Norican coins of the Karlstein type.[36] Currently it seems that pottery with thickened club rim is found exclusively in southwestern Slovakia, in Bratislava and within an area up to 25 km east of the town. The sites of Bratislava-Vajnory, Bernolákovo, Senec-Svätý Martin and Blatné are located in this zone, south of the Little Carpathians (Malé Karpaty Mountains). So far no finds of club-rimmed pottery are known from the region between the Little Carpathians and the Marches (the so-called Záhorie region);[37] neither do they occur in Moravia[38] or in the Púchov culture area of northern Slovakia.[39]

The questions relating to the origins of this type of pottery and the date and reasons for its beginnings

35. Zachar, Rexa 1988, 64, 66, Fig. 15/13. – Urban 1996 , 198, 199, Figs. 1/4 and 3.
36. Čambal et al. 2014, with further references.
37. Paulík 1976. – Zachar 1976, 41–45. – Zachar 1977, 44–56.
38. Meduna 1980a. – Meduna 1980b. – Čižmář 1993.
39. Pieta 1982a.

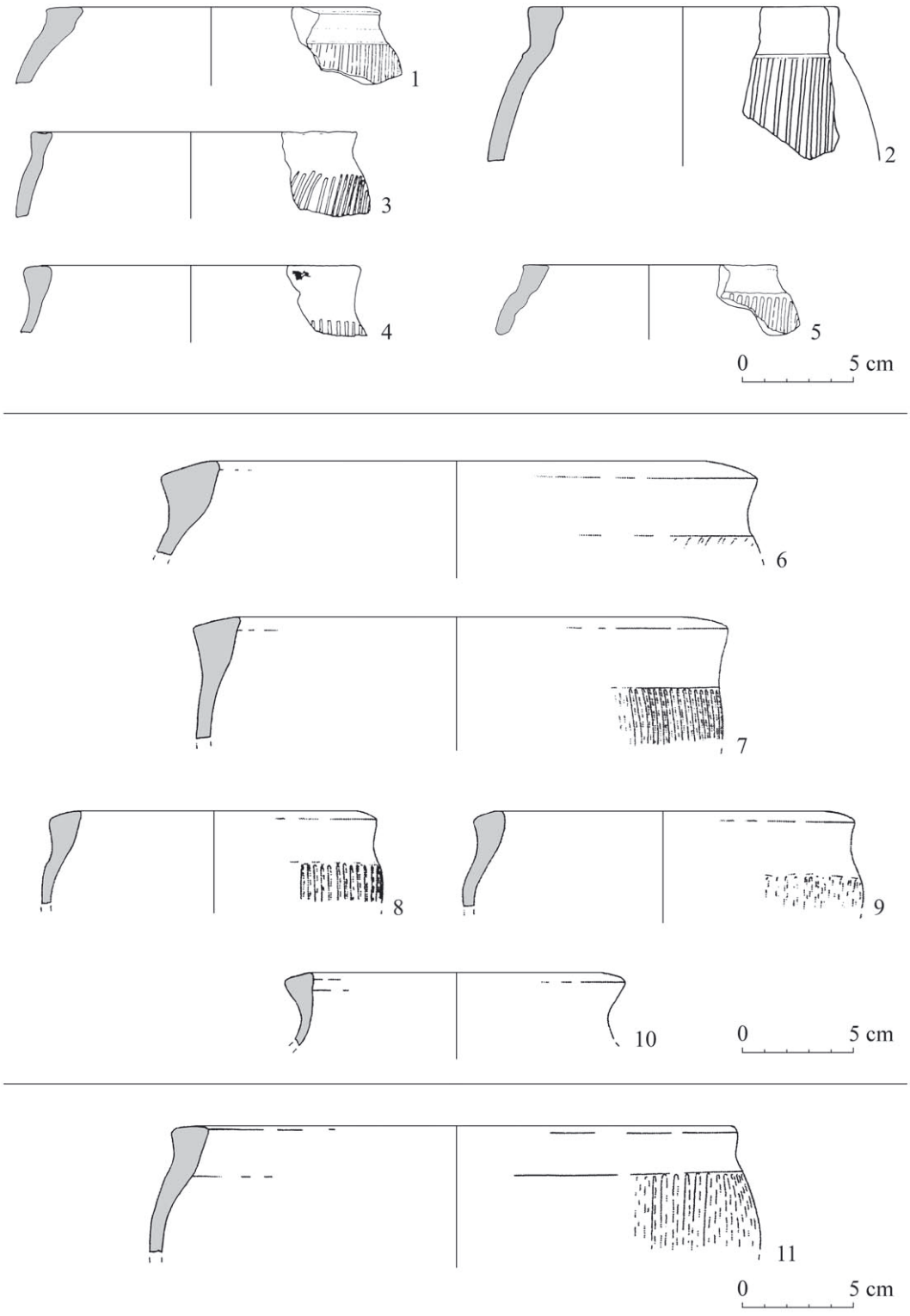

Fig. 6. Pottery with thickened club-shaped rim from Styria. – 1–5. Frauenberg near Leibnitz (after Artner 1998–1999, modified). – 6–10. Södingberg near Köflach (after Tiefengraber 2009, modified). – 11. Lebing (after Tiefengraber 2009, modified).

remain open. Could it be connected to changes in ethnic composition? It is not impossible that this form of vessel is directly linked to the Norici who had occupied the oppidum of Bratislava shortly before, i.e. after 44 BC, after the fall of the Boii and after the Dacians had left this part of present-day Slovakia. The presence of club-rimmed pottery on the edge of the oppidum's hinterland south of the Little Carpathians may support this hypothesis. It would also support the interpretations of Austrian scholars, who attribute the presence in Styria of this type of pottery to a Norican ethnic group within a Tauriscan environment. The rest of the Boii later moved south of the Danube, where they established the *civitas Boiorum* between Lake Neusiedl and the Leitha River.[40] The fortified circuit inside the later medieval castle of Devín survived even longer.[41] It was even taken to be Carnuntum I, mentioned in AD 6 in connexion with the expedition of Tiberius against Maroboduus.[42] How long the autochthonous Boii cohabited with the Norici in the vicinity of present-day Bratislava also remains an open question. It is assumed that this continued at least until the beginning of the Augustan Principate, although it is possible that it endured until the end of the century.

The remains of walls dated to the second half of the 1st century BC recently discovered in the area of Bratislava Castle may shed new light on these hypotheses. They too could be interpreted as evidence for the expansion of Norican power.[43] It remains to be seen whether the architectural elements uncovered at Bratislava Castle can be interpreted as belonging to Carnuntum I. There is however another possible explanation. Rome may have lent political support to the Norici in the area of Bratislava[44] because it was an important political and economic centre on the Amber Route. Ultimately there was still a relatively strong, originally Celtic, infrastructure in place in the LT D2 phase (after the death of Burebista in 44 BC or shortly afterwards).

40. Urban 1999, Fig. 183/4. – Varsik 1999, 629.
41. Pieta, Zachar 1993. – Pieta 1996, 190. – Pieta, Plachá 1999, 179–205.
42. Urban 1999, 229.
43. Lesák, Vrtel, Kováč 2011, 32, 33. – Musilová 2011, 202–203, Figs. 3, 4 and 12.
44. Zachar 1982, 45.

Mineralogical and Petrographic Characteristics of the Pottery with Thickened, Straight or Chamfered Club-shaped Rim

Analytical methods

Thirty-three samples were selected from vessels with thickened, straight or chamfered club-shaped rim, from which petrographic slides were prepared. The section was oriented vertically on the sherd so that not only the body but also the rim was captured. The thin-sections were analysed in polarised light with an Amplival-Carl Zeiss Jena.

Geological composition of selected sites

Bratislava

Several sherds from a series of sites in the city of Bratislava were selected for analysis. They come from Bratislava Castle (BA-Burg), Mudroňová ulica, Vydrica and Námestie Slobody. The region of Bratislava is geologically quite diverse but the sites are all more or less located in Staré Mesto (Old Town). Therefore we shall concentrate on the geological setting of this part of the town.

A large part of Staré Mesto lies on granitic rock of the Bratislava massif. The most common granitic rock types range from two-mica granite to granodiorite; biotite granodiorite and leucocratic granite are less frequent.[45] The granitic rock is often cut with veins of coarse-grained pegmatite and fine-grained aplite. In many cases the granitic rock was affected by Alpine folding.[46] Apart from granitic rock, smaller parts of amphibolitic diorites are found in Staré Mesto. The best outcrops of diorite are located in the area of Bratislava-Kalvarienberg and Hlboká cesta, while porphyric variants occur in the outcrop on Okániková ulica.[47] The Quaternary sediments, which have a complex structure, constitute a significant component of the geology of Bratislava. They vary greatly in terms of distribution and surface spread, and may be of fluvial or deluvial origin. The fluvial accumulations of the Danube (lower Pliocene–Holocene) are dominant. These sediments are made of gravelly, sandy, silty or clayey sand deposits representing different facies of the Danube riverbed.[48]

Deluvial sediments from the Pliocene to the Holocene are found mainly at the foot of the Little Carpathians, in greatly variable concentrations. These sediments consist of silty or sandy clays. Apart from deluvial fan or cone

45. Cambel, Vilinovič 1987. – Petrík et al. 2001.
46. Marko, Uher 1992.
47. Ozdín, Uher, Bačík 2007. – Uher, Kohút 2009.
48. Pristaš et al. 1992.

deposits, aeolian sediments have also been identified in the area of Bratislava, in particular in the area of Mlynská dolina. In this case the aeolian sediments consist of loess deposited on the river terraces of the Danube.[49]

Rusovce, Jarovce

The wider area around the urban districts of Ruscove and Jarovce consists entirely of Quaternary sediments, occurring mainly as fluvial deposits and smaller deposits of aeolian sediments (later Pleistocene–Holocene). The lithological composition of the fluvial sediments represents different facies of the Danube River, like the fluvial deposits of Bratislava-Staré Mesto. They consist mainly of gravel, sandy gravel, sand and silt, clayey, or sandy-silty deposits located in the floodplain.[50] Aeolian sediments consist of sandy to clayey sediments, which were reworked by the wind.

Senec and Bernolákovo

The region between Senec and Bernolákovo is formed by Quaternary and Tertiary deposits from the Danube Basin. Quaternary (Pleistocene-Holocene) deposits consist of fluvial, deluvial and aeolian sediments. The Tertiary sediments are represented by the Neogene Beladice formation. Fluvial sediments are composed of gravel, medium- to fine-grained sand, silt and clay of the floodplain facies. Deluvial sediments are represented by layers of silt, which were reworked by small temporary streams – therefore some of these sediments can be described as fluvio-deluvial. They consist of clay, sandy silt or washed-out loess. Aeolian sediments are made up of calcareous loess or fine-grained sandy loess. The Miocene Beladice formation (Pannon-Pont) consists mainly of silt and sand.[51]

Nitra

The geological composition of the Nitra region is also very diverse. The town itself lies at the meeting point of the Danube Basin and the Tribeč Mountains. The infilling of the Danube Basin consists of monotonous Neogene sediments, whereas the Tribeč mountain range, which belongs to the core mountains, has a complicated geological composition. The crystalline rock of the Tribeč mountain range consists of two blocks separated by a Tertiary fault oriented northwest to southeast. The southern block, which is partly overlain by the town of Nitra, consists mainly of granodiorite to tonalite. A large part of Upper Mesozoic series is represented by the Lower Triassic Lúžna formation, which consists of quartz arenites. The Middle Triassic is represented by dolomitic calcareous rocks, separated from the Jurassic crinoids and black to grey limestone by a tectonic fault line.[52]

The geological composition of the Danube Basin in the nearest surrounding of Nitra is fairly monotonous from a lithological point of view. It consists primarily of Neogene sediments belonging to the Beladice and Volkovce formations. Pale grey to green-grey sandy-silty or clayey sediments are found in the Beladice formation. The Volkovce formation, which is found above the former, consists of coarse gravelly to sandy deposits. The sediments of this formation were primarily formed in a limnic environment.

Quaternary deluvial and fluvial sediments are found in a substantial part of the region, while aeolian sediments also occur sporadically. Deluvial sediments consist primarily of silty or sandy loams and clays which were transported over short distances. Fluvial sediments of the Holocene, generally silty or silty-loams or clays occur in the floodplain of the river Nitra. Aeolian loess deposits are rare in Nitra.[53]

Oberleiserberg

Geologically the nearest surroundings of the archaeological site on the Oberleiserberg in the parish of Klement in Lower Austria belong to the so-called "Waschberg zone" which stretches from southwest of Stockerau to the northeast towards the Pollau Mountains. The crest of the mountains in this zone separates the molasse from the flysch zone, forming the boundary between the Carpathians and the Alps. The Leiser Mountains where the Oberleiserberg is located belong to the so-called "Klippenzone" (cliff zone). The individual mountains in this zone consist mainly of Jurassic sedimentary rock.[54]

The oldest Jurassic sediments belong to the Klentnitz formation near Ernstbrunn, and consist of (organodetritic) limestone, which occurs on the Oberleiserberg itself. Locally there are also mucronate (sharply pointed) layers of the Upper Cretaceous formation, consisting of sand, sandstone and marl. Tertiary marine sediments occur mainly in the form of sand, sandstone, clay-stone and clay. These Tertiary sediments are found among the deposits of the original Danube (*Ur-Donau*), i.e. gravels, sand and clay. Today these sediments outcrop on the crest of individual rises, because erosion caused an inversion of the relief. Loess forms part of the Quaternary Pleistocene sediments, while various fluvial and deluvial

49. Pristaš et al. 1992.
50. Pristaš et al. 1992.
51. Pristaš et al. 1992. – Maglay et al. 2005.
52. Ivanička et al. 1998. – Bakoš, Ferenc, Žitňan 2009.
53. Ivanička et al. 1998.
54. Schnabel 2002. – Kohler-Schneider, Heiss 2010.

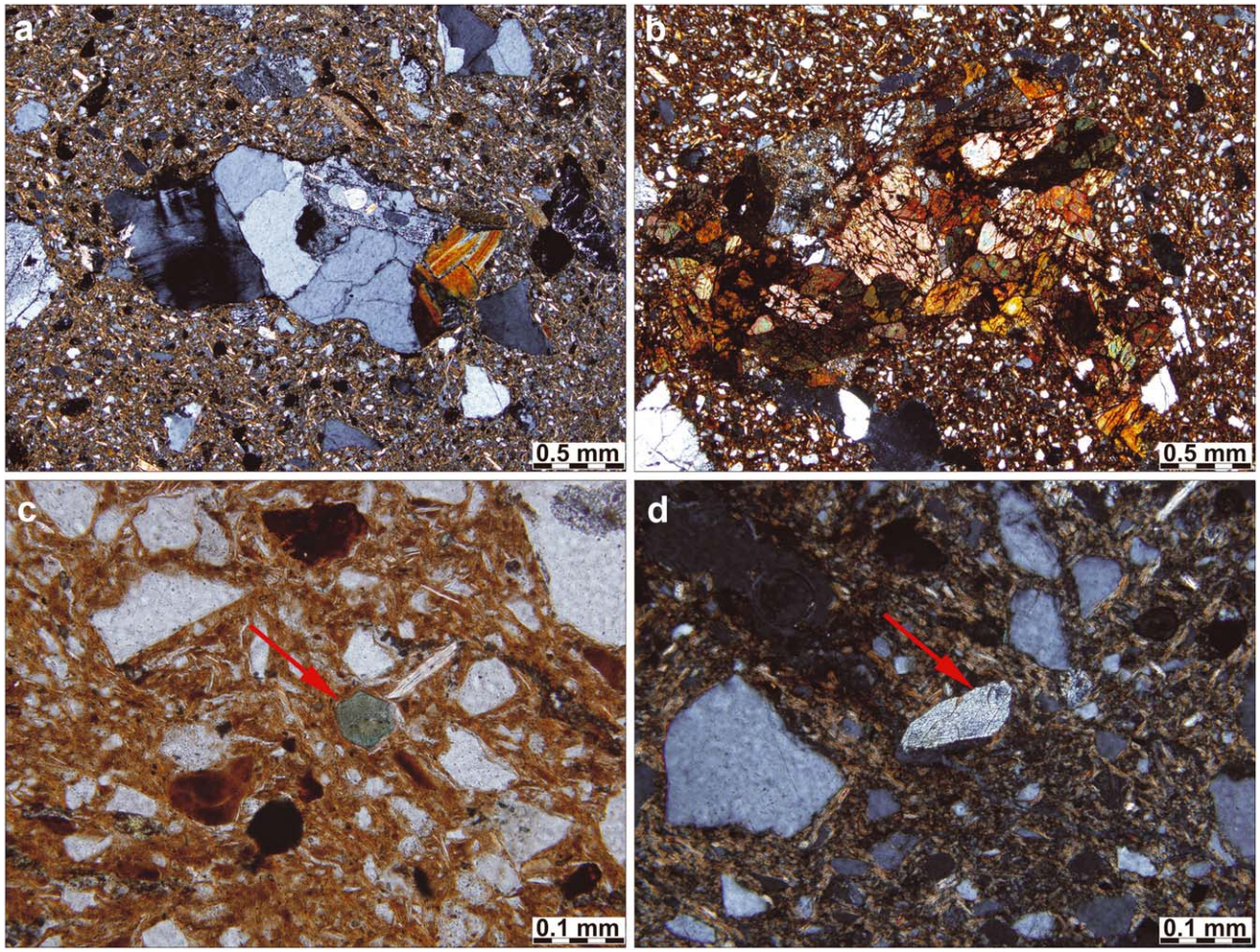

Fig. 7. Characteristic fragments of minerals and rocks of group BA. – a: Fragment of granitic rock (crossed polarisers). – b: Fragment of diorite (crossed polarisers). – c: Fragment of tourmaline (plane polarised light). – d: Fragment of amphibole (plane polarised light).

(stony, clayey) sediments are the most recent, Holocene sediments.[55]

Results

Mineralogical-petrographic composition of the pottery with thickened, straight or chamfered club rim

The 33 sherds of club-rimmed pottery selected from 10 sites (nine in Slovakia and one in Austria) were divided into four groups, each group containing sherds of similar mineralogical-petrographic composition. Group BA (Bratislava) contained sherds from Bratislava Castle, Mudroňova ulica, Vydrica and Námestie Slobody, as well as Jarovce and Rusovce. Group SC (Senec) had sherds from Senec and Bernolákovo, group NR (Nitra) sherds from Nitra and group OB (Oberleiserberg) sherds from the Oberleiserberg in Austria. With a few exceptions the pottery of all four sherd groups was made in an almost identical manner.

Bratislava group (BA, Fig. 7)

This group includes 20 sherds from the sites of Bratislava Castle, Mudroňova ulica, Vydrica, Námestie Slobody, Jarovce and Rusovce. All the analysed samples have an anisotropic optical character and, following the modified Wentworth scale,[56] they can be divided into coarse grained (14 sherds) and semi-fine (6 sherds) pottery. The distribution of the temper (non-plastic inclusions) is clearly bimodal.[57] The structure of the matrix is randomly or weakly oriented and weakly-oriented pores running parallel to the rim of the ceramic appear to be typical.

55. Riedl 1960. – Schnabel 2002. – Kohler-Schneider, Heiss 2010.

56. Ionescu, Ghergari 2002.

57. Bagnasco et al. 2001.

Tab. 1. Overview of the mineralogical and petrographic composition of the pottery of group BA (sites: Bratislava Castle, Mudroňova ulica, Vydrica, Námestie Slobody).

Sample	9	10	11	12	24	21	17	22	7	18	28
Locality	BA Castle	BA Castle	BA Castle	BA Castle	BA Castle	Mudroňova	Vydrica	Vydrica	N. Slobody	N. Slobody	N. Slobody
Group	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA
Matrix	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic
Structure	Oriented	Oriented	Oriented	Oriented	Oriented	Oriented	Oriented	Oriented	Oriented	Oriented	Oriented
Granulometry	Semi-fine	Semi-fine	Coarse	Coarse	Semi-fine	Coarse	Semi-fine	Coarse	Semi-fine	Semi-fine	Coarse
Quartz	+	+	+	+	+	+	+	+	+	+	+
K-feldspars	+	+	Microline/ Perthite	+	Microline	Weathered	+	+	Perthite	+	+
Plagioclases	+	+	+	+	+	+	+	+	+	+	+
Muscovite	+	+	+	+	+	+	–	+	+	+	+
Biotite	+	+	–	+	+	+	+	–	+	+	+
Calcite	–	–	Micritic	–	–	–	–	–	–	–	–
Pyroxene	–	–	–	–	–	–	Clinopyrox-enes	–	–	Clinopyrox-enes	Clinopyrox-enes
Amphibole	+	+	–	–	+	+	+	+	+	+	+
Epidote	–	+	–	–	–	–	+	–	–	–	–
Zircon	+	+	+	+	–	–	–	–	–	–	+
Garnet	+	–	–	+	+	+	+	–	–	–	+
Tourmaline	–	–	–	–	–	–	+	–	–	+	+
Granitic rocks	+	+	+	+	–	–	+	+	+	–	+
Diorite	–	–	–	–	–	–	–	–	+	–	–
Phyllite	–	–	–	–	–	–	–	–	–	–	–
Siltstone	–	–	–	+	–	+	–	–	–	–	–
Sandstone	–	–	–	–	–	+	+	–	–	+	+

Tab. 2. Overview of the mineralogical and petrographic composition of the pottery of group BA (sites: Rusovce and Jarovce).

Sample	3	4	5	6	8	13	14	15	19
Locality	Rusovce	Rusovce	Rusovce	Rusovce	Rusovce	Rusovce	Rusovce	Rusovce	Jarovce
Group	BA	BA	BA	BA	BA	BA	BA	BA	BA
Matrix	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic
Structure	Chaotic	Oriented	Oriented	Chaotic	Oriented	Oriented	Oriented	Weakly oriented	Chaotic
Granulometry	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse
Quartz	+	+	+	+	+	+	+	+	+
K-feldspars	+	+	Perthite	Weathered	Perthite	Perthite	Perthite	+	+
Plagioclases	Weathered	+	+	+	+	+	+	+	+
Muscovite	+	+	+	+	+	+	+	+	+
Biotite	+	–	+	–	+	+	+	+	+
Calcite	–	–	Micritic	–	Secondary	Micritic	Micritic	–	–
Pyroxene	–	–	–	Orthopyroxenes/Clinopyroxenes	–	–		–	–
Amphibole	–	+	–	–	+	+	+	+	+
Epidote	–	–	–	–	+	–	–	–	–
Zircon	–	–	–	–	–	–	+	–	–
Garnet	–	+	–	–	–	–	–	–	–
Rutile	–	–	–	–	–	–	–	–	–
Granitic rocks	+	–	–	–	+	+	–	–	–
Phyllite	–	+	–	–	+	–	–	–	–
Siltstone	–	–	–	–	–	+	–	–	–
Sandstone	–	+	+	+	+	–	+	+	+

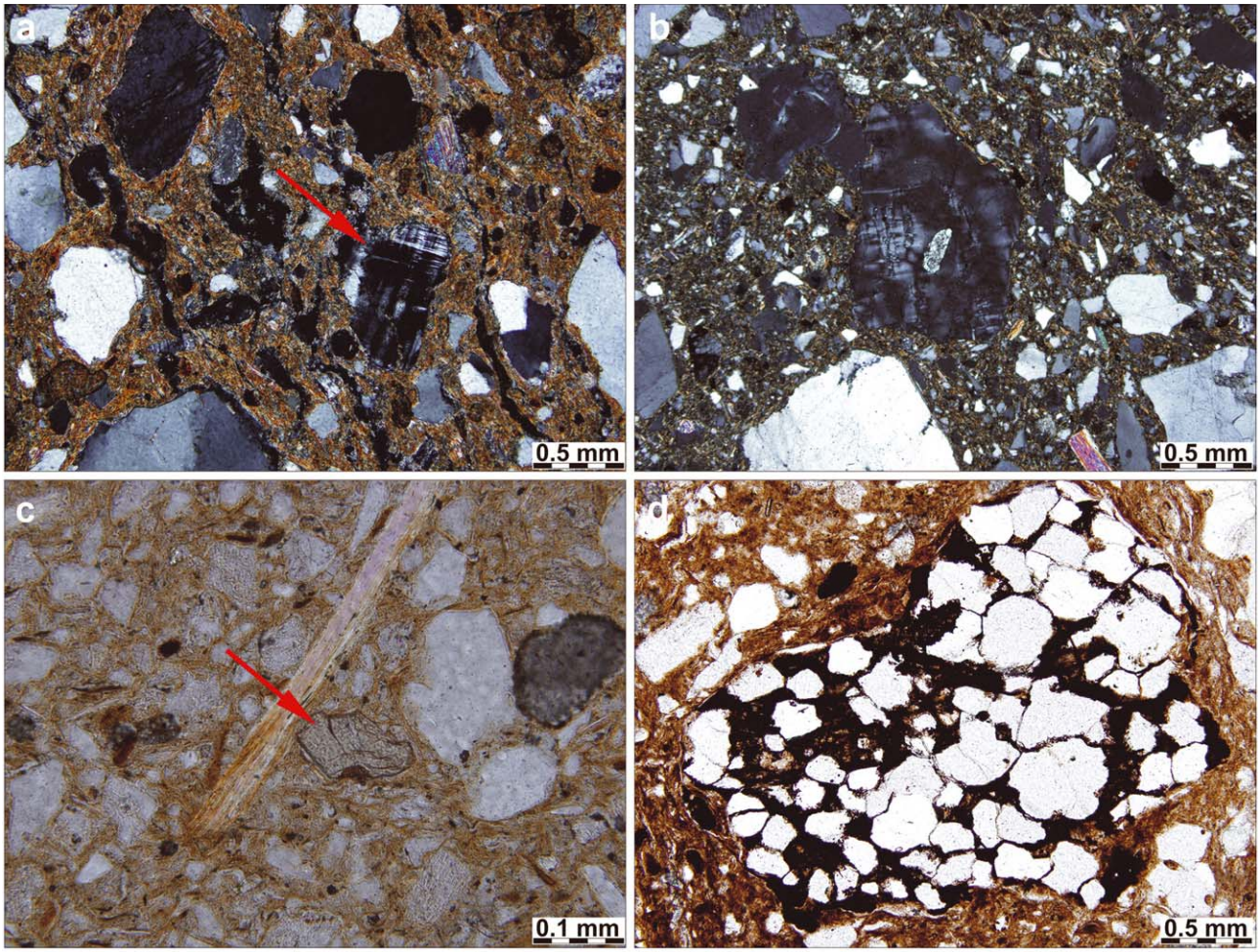

Fig. 8. Characteristic fragments of minerals and rocks of group SC. – a: Fragment of microline (crossed polarisers). – b: Fragment of perthitic feldspar (crossed polarisers). – c: Fragment of amphibole with strong pleochroism (plane polarised light). d: Fragment of sandstone with iron-rich matrix (plane polarised light).

The mineralogical-petrographic composition of all the sherds, except for No. 7 from Námestie Slobody, is almost identical (Tab. 1). The petrographic composition of the latter sample revealed coarse grains of diorite, which occurs naturally at the sites of Hlboká cesta and Okánikova ulica.[58] The same rock type was also used for constructing the stone-fronted earthen Celtic rampart of Bratislava uncovered in the archaeological excavations at Ventúrska ulica 7 and west of the Church of the Poor Clares.[59] Further, sherds with microcline and perthitic feldspars are characteristic for the composition of this group of pottery (Tabs. 1–2). The feldspar is often strongly weathered. Among the accessory minerals, which generally occur in the shape of well-rounded grains, amphiboles with green pleochroism, zircons, garnet and epidote were identified. Rarely, grains of tourmaline and pyroxenes were also identified (Tabs. 1–2). The fragments of rock consist primarily of angular to rounded grains of granitic rocks and various kinds of sandstone (mainly coarse sandstone) and siltstone. Grains of well-rounded micritic limestone and radiolarite were also identified in rare cases.

Senec group (SC, Fig. 8)

The Senec group SC contains sherds from the sites of Bernolákovo and Senec. As in the previous group, the mineralogical-petrographic composition of the temper in the samples is identical. The optical character of the matrix is anisotropic, except for sample No. 27 (from Senec) which shows isotropic optical character. Samples No. 23 (Bernolákovo) and 27 (Senec), according to the modified Wentworth scale, belong to the semi-fine pottery and the rest of this group can be assigned to coarse grained pottery (Tab. 3). The distribution of non-plastic inclusions in both the semi-fine and coarse-grained pottery is bimodal.

58. Ozdín, Uher, Bačík 2007.
59. Vrtel 2012.

Tab. 3. Overview of the mineralogical and petrographic composition of the pottery of group SC (sites: Senec and Bernolákovo).

Sample	20	23	2	25	26	27
Locality	Bernolákovo	Bernolákovo	Senec	Senec	Senec	Senec
Group	SC	SC	SC	SC	SC	SC
Matrix	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Anisotropic	Isotropic
Structure	Oriented	Oriented	Chaotic	Weakly oriented	Chaotic	Fluidal
Granulometry	Coarse	Semi-fine	Coarse	Coarse	Coarse	Semi-fine
Quartz	+	+	+	+	+	+
K-feldspars	Microcline	+	Microcline	+	+	+
Plagioclases	+	–	+	+	+	+
Muscovite	+	+	+	–	–	+
Biotite	+	+	–	+	+	–
Calcite	–	–	–	Micritic	Micritic	–
Pyroxene	–	–	Clinopyroxenes	–	–	–
Amphibole	+	–	–	+	+	–
Epidote	–	+	–	–	–	–
Zircon	–	–	+	–	–	–
Garnet	+	+	+	–	–	–
Granitic rocks	–	–	+	–	–	–
Silicite	–	–	–	–	–	+
Quartz arenite	+	+	–	–	+	–

The structure of the matrix is either chaotic to fluidal or oriented. The presence of fragments of minerals including microcline or fine-leaved muscovite is characteristic of the mineralogical-petrographic composition of the temper. The accessory minerals consist mainly of well-rounded grains of amphiboles, zircon, epidote and garnet (Tab. 3). The composition of fragments of rocks is quite poor, with only various kinds of sandstone, dominated by quartz arenite, an a few fragments of silicites (Tab. 3).

Nitra group (NR, Fig. 9)

This group contains four samples from the site of Nitra-Galéria. The optical character of the samples is anisotropic except for sample No. 6 which is isotropic (Tab. 4). The sherds belong to coarse-grained to semi-fine ceramics, following the modified Wentworth scale. The distribution of the temper is bimodal, like in the other groups, and the non-plastic inclusions themselves are generally sub-angular to angular, with exceptionally a few well-rounded grains. The mineralogical-petrographic composition of this group is characterised by the presence of alkali feldspar, plagioclase feldspar and biotite. The plagioclase feldspars are strongly affected by weathering. Transformation of biotite to chlorite is also clearly visible. Fragments of micritic calcite were identified in sample No. 30. Among the accessory minerals, perfectly rounded grains of amphiboles and rounded grains of titanite and epidote, more rarely of orthopyroxenes, were present (Tab. 4). Fragments of rock consist of grains of granitic rock and various types of sandstone. Fragments of phyllite and silicites are rarer.

Oberleiserberg group (OB)

This group contains samples that all come from the site of Oberleiserberg in Lower Austria. The optical character of the samples is anisotropic (samples Nos. 31 and 32) to isotropic (sample No. 30) (Tab. 4). All the sherds belong to coarse grained pottery according to the modified Wentworth scale. Similar to previous groups the distribution of non-plastic inclusions is bimodal. The mineralogical-petrographic analysis of all the sherds in this group reveals large fragments of muscovite (Tab. 4). The accessory minerals are represented by sillimanite and garnet (Tab. 4) and smaller amounts of orthopyroxenes and amphiboles with green pleochroism. The grains of these minerals are rounded to angular. Fragments of rock consist of well-rounded to subangular grains of micaceous schist and various kinds of sandstone.

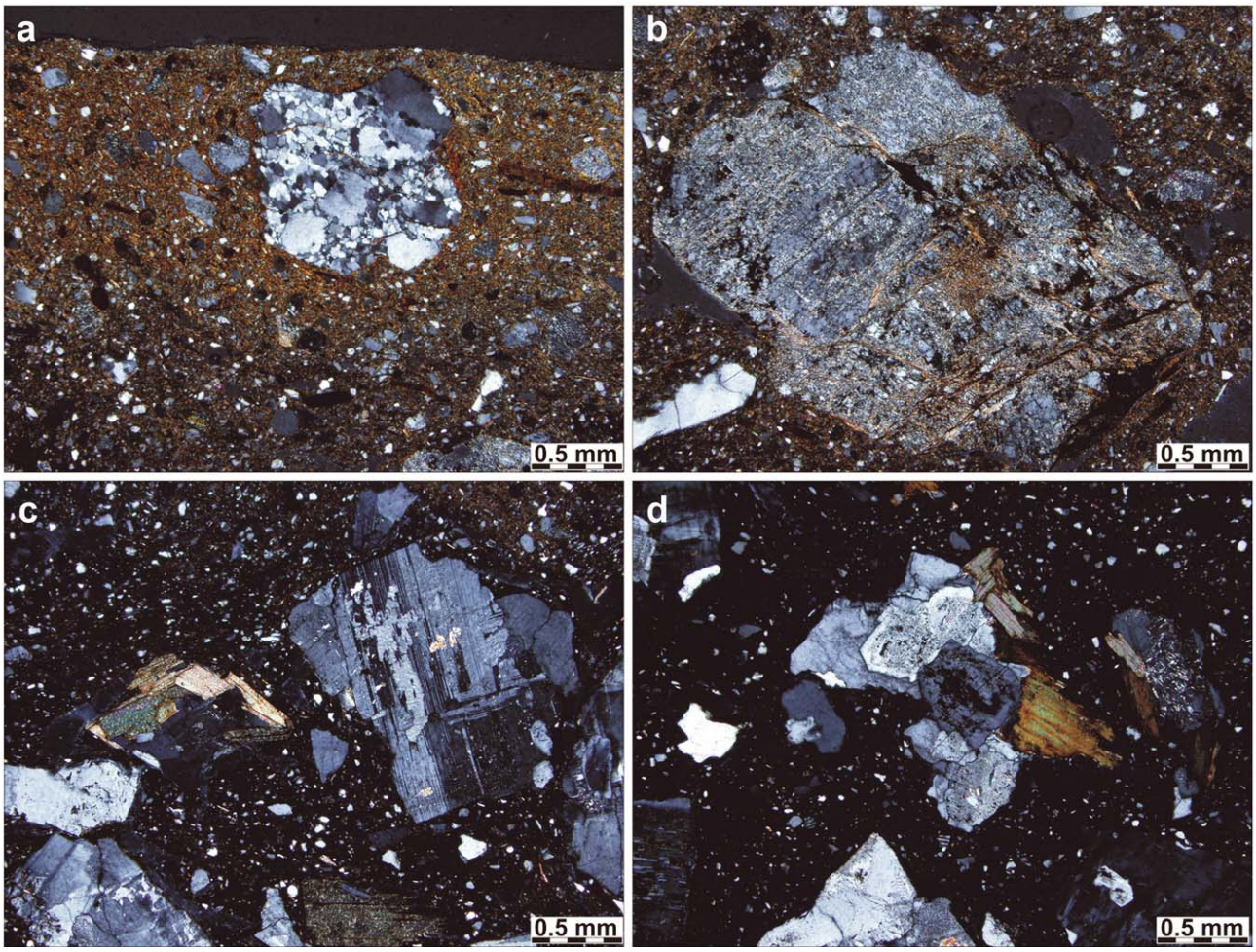

Fig. 9. Characteristic fragments of minerals and rocks of group NR. – a: Fragment of gravel sandstone (crossed polarisers). – b: Badly weathered feldspar (crossed polarisers). – c: Fragments of plagioclases and biotites (crossed polarisers). – d: Fragment of granitic rock (crossed polarisers).

Discussion

The club-rimmed sherds analysed show common characteristics, even though they had been divided into four groups. Each group contains sherds whose temper composition is the same. The sherds from a given site or group of sites (e.g. group BA with several sites in Bratislava including Jarovce and Rusovce) contain minerals or rock fragments that are almost identical to those found in the geological composition of these locations. The common attributes of the club-rimmed pottery from all the sites analysed are: optical character of the matrix, types of grains and bimodal distribution of non-plastic inclusions or structural characteristics of the matrix. Nearly all the sherds display anisotropic optical character; only some samples show isotropic optical character. The optical character of the matrix corresponds to clays with a predominance of illite,[60] which means that all sherds were made from illitic clays. Based on the grain size, samples can be divided into coarse-grained and semi-fine pottery. The bimodal distribution of the non-plastic inclusions confirms that temper was added to the plastic ceramic paste during clay processing. The structure of the matrix ranges from chaotic through fluidal to weakly oriented.

Provenance of the raw materials

Bratislava group (BA)

This group contains sherds from various sites in Bratislava itself (Staré Mesto – Old Town) and its vicinity (Jarovce and Rusovce). The presence of microcline (alkali feldspar) and perthitic feldspar are common features in this group. The specific association of heavy minerals including amphiboles with green pleochroism, epidote, zircon, garnet and tourmaline are a further characteristic attribute. All mentioned minerals, with the exception of zircon, are well rounded. Typical rock fragments are granites,

60. Ionescu et al. 2007.

Tab. 4. Overview of the mineralogical and petrographic composition of the pottery of groups NR (site: Nitra) and OB (site: Oberleiserberg).

Sample	1	16	29	30	31	32	33
Locality	Nitra-Galéria	Nitra-Galéria	Nitra-Galéria	Nitra-Galéria	Oberleiser-berg	Oberleiser-berg	Oberleiser-berg
Group	NR	NR	NR	NR	OB	OB	OB
Matrix	Anisotropic	Isotropic	Anisotropic	Anisotropic	Isotropic	Anisotropic	Anisotropic
Structure	Chaotic	Chaotic to fluidal matrix	Chaotic	Chaotic	Fluidal	Chaotic	Chaotic
Granulometry	Coarse	Coarse	Semi-fine	Coarse	Coarse	Coarse	Coarse
Quartz	+	+	+	+	+	+	+
K-feldspars	Weathered	+	Weathered	+	+	+	+
Plagioclases	Weathered	+	Weathered	+	+	–	+
Muscovite	–	–	–	–	+	+	+
Biotite	+	+	+	+	–	–	–
Calcite	–	–	–	Micritic	–	–	–
Pyroxene	Orthopyrox-enes	–	–	–	Orthopyrox-enes	–	–
Amphibole	+	–	+	+	–	–	+
Epidote	+	–	+	–	–	–	–
Garnet	–	–	–	–	–	+	+
Titanite	–	+	–	+	–	–	–
Sillimanite	–	–	–	–	+	+	+
Granitic rocks	–	+	–	+	–	–	–
Mica schists	–	–	–	–	+	+	+
Phyllite	–	–	–	+	–	–	–
Silicite	–	–	–	+	–	+	–
Sandstone	+	–	+	+	+	+	+

diorite or radiolarites. Granitic rocks and diorite come directly from the area of the Old Town, where they also occur as natural outcrops (e.g. on Bratislava's castle hill, Okánikova ulica)[61] or they can be found as debris in slope deposits. A further clear indication that local material was used is provided by the composition of heavy minerals which is almost identical to that of sandy or gravelly sand sediments of the Danube River. Besides these minerals, well-rounded grains of microline, micritic limestone and radiolarite also correspond to the petrographic composition typical of the Danube's sandy sediments.[62] The clay used, whose optical character corresponds to clay with predominant illite,[63] was extracted either from the sedimentary deposits of the Danube or from clay-stone slope deposits. The presence of fine-leaved muscovite reflects the use of clayey river sediments. The presence of well-rounded and angular to subangular grains may correspond to the mixing of various types of plastic as well as non-plastic raw materials. The plastic material could therefore have come directly from the Danube's sedimentary deposits and the temper, which was added on purpose, could have come from the slope deposits. In the case of the pottery from Jarovce and Rusovce, both the plastic and non-plastic materials probably derive directly from river deposits, as attested by well-rounded grains of minerals and rock.

Senec group (SC)

The mineralogical-petrographic composition of the sherds from Senec and Bernolákovo resembles that of group BA but the SC group contains far fewer rock fragments in its composition. The temper is characterised by the presence of well-rounded alkali feldspar (mostly microline) and heavy minerals – amphiboles with green pleochroism, epi-

61. Cambel, Vilinovič 1987. – Petrík et al. 2001. – Ozdín, Uher, Bačík 2007.

62. Divileková, Gregor 2009.

63. Ionescu et al. 2007.

dotes, zircon, garnet and fewer pyroxenes (clinopyroxenes and orthopyroxenes). Rock fragments are rare, consisting of micritic limestone, granitic rock and various kinds of sandstone, among which quartz arenite is dominant. As in the previous group the optical character of the matrix corresponds to that of illitic clays. The composition of the matrix, together with fine-leaved muscovite, corresponds to that of river sediments, which are present in the floodplain facies in the vicinity of both sites.[64] As in the previous group, both the plastic and non-plastic raw materials were obtained from the surrounding area of the two sites. Whereas the temper, which was added to the clay on purpose, originates from sand sediments, the plastic material was extracted from clayey deposits in the floodplain.

Nitra group (NR)

This group consists entirely of samples from the site of Nitra-Galéria. Their mineralogical composition is almost identical. They are characterised by the presence of weathered plagioclases, which in some spots are totally replaced with weathering products (sericitisation). The weathered plagioclases and the formation of chlorite from biotite are typical for the granodiorites to tonalites of the Tribeč Mountains,[65] which occur in the region of Zobor. The minerals titanite and epidote as well as granite rocks are also typical (Tab. 4). The identified orthopyroxenes are also a characteristic of the composition of the La Tène pottery from Nitra.[66] Besides granitic rocks, the presence of quartz arenite characterises all samples from the Nitra (NR) group. The distribution of the temper is bimodal, i.e. the non-plastic inclusions were added to the clay paste on purpose and all fractions of the temper are angular to subangular. It is possible that the weathering products of quartz arenites and granitic rocks were used for making the pottery. Such weathering materials usually were transported only over short distances, which is why they preserved their angular and subangular shapes. The source of the raw materials is located exactly on the line of contact between the uplands and the Danube lowlands. Even today several deposits are exploited for ceramic production in this area.[67]

Oberleiserberg group (OB)

The sherds from the site of Oberleiserberg contain temper in which minerals such as muscovite and sillimanite, as well as metamorphic rocks such as micaceous schist are dominant. Fewer fragments of garnets and orthopyroxenes were identified among the minerals, and among the rock fragments, grains of various kinds of sandstone appear to be typical. The geological composition of the nearest surroundings of the site, however, shows the presence of carbonates (predominantly organodetritic material belonging to the Cretaceous carbonate platform of Ernstbrunn)[68], which were not identified in the temper of the selected sherds; mucronite layers of the Upper Cretaceous and Quaternary fluvial sediments of the original Danube are located in the wider area. The precise petrographic composition of these sediments was not available for study. It is therefore not clear whether the Oberleiserberg club-rimmed pottery was made from raw materials available near the site or whether it was imported. Detailed petrographic analyses would resolve this question. At present let us note that all the pottery sherds analysed were made from the same material.

Conclusions

The samples of club-rimmed pottery sherds from a series of sites in western Slovakia (Bernolákovo, Bratislava, Nitra, Senec) and Lower Austria (Oberleiserberg) were divided into groups based on the mineral-petrographic characteristics of the non-plastic inclusions. A comparison of the composition of the fragments with the geological composition of the studied areas where relevant samples were found enabled us to resolve the question of whether this pottery was imported or not. The fact that the individual groups only contain pottery whose mineralogical and petrographic composition is identical, and similar to the geological composition of the sites and their surroundings, is worth noting. It indicates that only locally available raw materials (both plastic and non-plastic) were used in the production of the club-rimmed pottery. The samples from group BA, i.e. sherds from Bratislava Castle, Mudroňova ulica, Námestie Slobody, Vydrica, Jarovce and Rusovce, show that mainly fluvial sediments from the Danube were used. Similar selection criteria for raw materials are detected in the SC group (sherds from Bernolákovo and Senec). The Quaternary clayey sediments (alluvial sediments) were used as source for raw materials of pottery produced in Nitra.

The samples from the OB group, which contain the sherds from the site of Oberleiserberg, pose more of a problem. The detected grains or fragments of minerals and rocks are typical for metamorphic rocks. Carbonatic rocks which are outcropping directly at the studied locality were not noted in the composition of selected

64. Maglay et al. 2005, 147.
65. Ivanička et al. 1998, 34–35.
66. Gregor, Březinová 2008.
67. Ivanička et al. 1998, 198.
68. Schnabel 2002.

samples. Given that there is little information available on the petrographic composition of potential sources of raw material for the production of pottery there – which includes mostly Tertiary sediments (the so-called mucronite layers) and Quaternary river deposits – it has proved impossible to establish whether the club-rimmed pottery on the Oberleiserberg was imported or not.

References

Artner 1998–1999

W. Artner, Der Frauenberg bei Leibnitz, Steiermark, in der Spätlatènezeit und in der vorclaudischen Kaiserzeit, Archaeologia Austriaca 82–83, 1998–1999, 221–341.

Bagnasco et al. 2001

B. M. Bagnasco, A. Casoli, G. Chiari, R. Compagnoni, P. Davit, P. Mirti, Mineralogical and chemical composition of transport amphorae excavated at Locri Epizephiri (southern Italy), Journal of Cultural Heritage 2, 229–239.

Bakoš, Ferenc, Žitňan 2009

F. Bakoš, Š. Ferenc, P. Žitňan, Hydrotermálna polymetalická mineralizácia na lokalite Velčice-Horné Štôlne v Tribeči, Mineralia Slovaca, 41, 103–114.

Bartík et al. 2009

J. Bartík, R. Čambal, Z. Farkaš, M. Vrablec, Prieskum dna vodnej nádrže v Blatnom, AVANS – Ročenka Archeologické výskumy a nálezy na Slovensku 2007, 2009, 23.

Bazovský 1996

I. Bazovský, Prieskum v Bratislave-Jarovciach, AVANS – Ročenka Archeologické výskumy a nálezy na Slovensku 1996, 25.

Bazovský 2002a

I. Bazovský, Bronzové predmety z doby laténskej a rímskej z Bratislavy-Rusoviec, Zborník Slovenského národného múzea 96, Archeológia 12, 2002, 33–44.

Bazovský 2002b

I. Bazovský, Zoomorfná spona z Bratislavy-Jaroviec, Zborník Slovenského národného múzea 96, Archeológia 12, 2002, 139–141.

Bazovský 2004

I. Bazovský, Sídlisko z neskorej doby laténskej v Bratislave-Rusovciach, Zborník Slovenského národného múzea 98, Archeológia 14, 2004, 95–108.

Bazovský, Gregor 2009

I. Bazovský, M. Gregor, Mincové dávkovacie platničky z Mudroňovej ulice v Bratislave, Zborník Slovenského národného múzea 103, Archeológia 19, 2009, 131–152.

Bednár, Březinová, Ptáčková 2005

P. Bednár, G. Březinová, S. Ptáčková, Neskorolaténske osídlenie hradného návršia v Nitre, Študijné zvesti – Archeologického ústavu Slovenskej akadémie vied 37, 2005, 115–185.

Bónis 1969

E. B. Bónis, Die spätkeltische Siedlung Gellérthegy-Tabán in Budapest. Budapest 1969.

Březinová 2006

G. Březinová, Sídliská a sídliskové nálezy z laténskej doby na juhozápadnom Slovensku, Študijné zvesti – Archeologického ústavu Slovenskej akadémie vied 40, 2006, 9–50.

Březinová 2009

G. Březinová, Neskorolaténske osídlenie Nitry. In: M. Karwowski, E. Droberjar (Eds.), Powiazania i kontakty w świecie barbarzyńskim. Archeologia Barbarzyńców 2008, Rzeszów 2009, 55–70.

Březinová 2010

G. Březinová, Sídlisko z neskorolaténskej polohy Zámeček v Šuranoch, Nitrianskom Hrádku. In: J. Beljak, G. Březinová, V. Varsik (Eds.), Archeológia barbarov 2009, Hospodárstvo Germánov, sídliskové a ekonomické štruktúry od neskorej doby laténskej po včasný stredovek. Archaeologica Slovaca Monographiae Communicationes X, Nitra 2010, 113–130.

Březinová, Katkin 2004

G. Březinová, S. Katkin, Sídliskový objekt z doby laténskej v Nitre-Malom seminári, Študijné zvesti – Archeologického ústavu Slovenskej akadémie vied 36, 2004, 155–175.

Cambel, Vilinovič 1987

B. Cambel, V. Vilinovič, Geochémia a petrológia granitoidných hornín Malých Karpát. Bratislava 1987.

Crişan 1969

I. H. Crişan, Ceramica Daco-Getică: Cu specialăpriviere la Transilvania. Bucharest 1969.

Crişan 1970

I. H. Crişan, Zur Frage der dako-getischen Besiedlung auf dem Gebiet der Slowakei, Študijné zvesti Č Archeologického ústavu Slovenskej akadémie vied 18, 1970, 83–106.

Čambal 2004

R. Čambal, Bratislavský hradný vrch – akropola neskorolaténskeho oppida, Zborník Slovenského národného múzea, Archeológia Supplementum 1, 2004.

Čambal 2011

R. Čambal, Sídliskové objekty zo strednej a neskorej doby laténskej v Slovenskom Grobe, Zborník Slovenského národného múzea 105, Archeológia 21, 2011, 83–114.

Čambal, Mináč, Zachar 2010

R. Čambal, V. Mináč, L. Zachar, Laténske objekty

3/78 a 7/78 zo Senca-Svätého Martina. In: J. Beljak, G. Březinová, V. Varsik (Eds.), Archeológia barbarov 2009, Hospodárstvo Germánov, sídliskové a ekonomické štruktúry od neskorej doby laténskej po včasný stredovek. Archaeologica Slovaca Monographiae Communicationes X, 2010, 131–154.

Čambal, Kovár, Hanuš 2012

R. Čambal, B. Kovár, M. Hanuš, Typológia neskorolaténskej keramiky Bratislavy-Vydrice: Predbežné výsledky. In: G. Březinová, V. Varsík (Eds.), Archeológia na prahu histórie. K životnému jubileu Karola Pietu. Nitra 2012, 117–136.

Čambal et al. 2009

R. Čambal, M. Gregor, K. Harmadyová, N. Hlavatá-Hudáčková, E. Halásová, Dácka keramika z bratislavského oppida a Devína. In: M. Karwowski, E. Droberjar (Eds.), Archeologia Barbarzyńców 2008: Powiazania i kontakty w świecie barbarzyńskim. Collectio Archaeologica Resoviensis XIII, Rzeszów 2009, 77–99.

Čambal et al. 2014

R. Čambal, I. Bazovský, G. Březinová, B. Kovár, M. Karwowski, Problematika hrncov s tzv. "kyjovitým" okrajom zo záveru neskorej doby laténskej v stredodunajskom priestore. In: B. Komoróczy (Ed.), Archeologie barbarů 2011: Sociální diferenciace barbarských komunit ve světle nových hrobových, sídlištních a sběrových nálezů. Spisy Archeologického ústavu AV ČR Brno 44, 2014, 63–77.

Čižmář 1993

M. Čižmář, Keltská okupace Moravy (doba laténská). In: V. Podborský s Kolektivem, Pravěké dějiny Moravy: Vlastivěda Moravská: Země a lid: Nová řada. Svazek 3, Pravěké dějiny Moravy, Brno 1993, 380–423.

Divileková, Gregor 2009

D. Divileková, M. Gregor, Mineralogicko-technologická charakteristika gotických a renesančných neglazovaných kachlíc z hradu Devín, Archaeologia Historica 34, 2009, 301–318.

Dobiáš 1964

J. Dobiáš, Dějiny československého území před vystoupením Slovanů. Prague 1964.

Dobesch 1995

G. Dobesch, Die Boier und Burebista. In: J. Tejral, K. Pieta, J. Rajtár (Eds.), Kelten, Germanen, Römer im Mitteldonaugebiet vom Ausklang der Latène-Zivilisation bis zum 2. Jahrhundert im Mitteldonaugebiet. Materialien des VII. Internationalen Symposiums „Grundprobleme der frühgeschichtlichen Entwicklung im nördlichen Mitteldonaugebiet", 13.–16. Dez. 1994. Brno – Nitra 1995, 15–19.

Gregor, Březinová 2008

M. Gregor, G. Březinová, Technológia výroby laténskej keramiky z Nitry-Šindolky: mineralogicko-petrografické štúdium, Ve službách archeologie, 2008/1, 85–96.

Groh et al. 2009

S. Groh, V. Lindinger, H. Sedlmayer, G. Tiefengraber, Siedlungsarchäologie am Beispiel der Fundplätze Södingberg und Rannersdorf in der Steiermark, Schild von Steier 21/2008, 2009, 315–371.

Ionescu, Ghergari 2002

C. Ionescu, L. Ghergari, Modeling and firing technology – reflected in the textural features and the mineralogy of the ceramics from neolithic sites in Transylvania (Romania), Geologica Carpathica 53, Special CD issue.

Ionescu et al. 2007

C. Ionescu, L. Ghergari, M. Horga, G. Rădulescu, Early Medieval ceramics from the Viile Tecii archaeological site (Romania): an optical and XRD study, Studia Universitatis Babeş-Bolyai, Geologia 52/2, 2007, 29–35.

Ivanička et al. 1998

J. Ivanička, J. Hók, M. Polák, J. Határ, J. Vozár, A. Nagy, K. Fordinál, J. Pristaš, V. Konečný, V. Šimon, L. Kováčik, M. Vozárová, A. Fejdiová, O. Marcin, D. Liščák, P. Macko, A. J. Lanc, J. Šantavý, V. Szalaiová, Vysvetlivky ku geologickej mape Tribeča: Geologická služba Slovenskej republiky, Vydavateľstvo Dionýza Štúra, Bratislava 1998, 247.

Janšák 1955

Št. Janšák, Hrnčiarska dielňa z neskorého laténu v Bratislave, Slovenská archeológia 3, 1955, 195–221.

Karwowski 2006

M. Karwowski, Thunau am Kamp – Eine befestigte Höhensiedlung (Grabung 1965–1990): Die latènezeitlichen Siedlungsfunde. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 61, Vienna 2006.

Karwowski, Militký 2011

M. Karwowski, J. Militký, The Oberleiserberg types in the context of *Taurisci* influences. In: M. Guštin, M. Jevtić (Eds.), The Eastern Celts: The Communities between the Alps and the Black Sea. Koper – Belgrade 2011, 131–136.

Kern 1996

A. Kern, Spätlatènezeitliche Funde vom Oberleiserberg, MG Ernstbrunn, NÖ. In: E. Jerem, A. Krenn-Leeb, J.-W. Neugebauer, O. H. Urban (Eds.), Die Kelten in den Alpen und an der Donau. Akten des Internationalen Symposions St. Pölten, 14.–18. Oktober

1992. Archaeolingua Studien zur Eisenzeit im Ostalpenraum, Budapest – Vienna 1996, 385–393.

Kohler-Schneider, Heiss 2010

M. Kohler-Schneider, A. G. Heiss, Archäobotanische Untersuchungen der latènzeitlichen Siedlung von Michelstetten, Niederösterreich. In: E. Lauermann (Ed.), Die latènezeitliche Siedlung von Michelstetten: Die Ausgrabungen des Niederösterreichischen Museums für Urgeschichte in den Jahren 1994–1999. Archäologische Forschungen in Niederösterreich 7, 2010, 117–147.

Kolníková 1996

E. Kolníková, Norische Münzen im Oppidum Bratislava und in seinem Hinterland, Slovenská numizmatika 14, 1996, 9–57.

Kramer 1994

M. Kramer, Laténefunde der Steiermark. Kleine Schriften aus dem Vorgeschichtlichen Seminar Marburg 43, 1994.

Lesák, Vrtel, Kováč 2011

B. Lesák, A. Vrtel, J. Kováč, Archeologický výskum nádvoria Bratislavského hradu 2008–2010: Predbežné výsledky, Projekt: Slovenská architektonická revue 53/4–5, 2011, 29–39.

Luštíková 2007

L. Luštíková, Dácka keramika na území Slovenska. Východoslovenský pravek VIII, Nitra 2007, 77–95.

Maglay et al. 2005

J. Maglay, J. Pristaš, A. Nagy, K. Fordinál, M. Elečko, M. Havrila, S. Buček, M. Kováčik, J. Hók, I. Baráth, P. Kubeš, Ľ. Kucharič, P. Malík, A. Klukanová, P. Liščák, M. Ondrášik, J. Zuberec, P. Baláž, J. Čurlík, P. Šefčík, Vysvetlivky ku geologickej mape Podunajskej nížiny – Trnavskej pahorkatiny 1:50 000. Štátny geologický ústav Dionýza Štúra, Bratislava 2005.

Marko, Uher 1992

F. Marko, P. Uher, Postintruzívna deformácia granitoidov južného okraja bratislavského masívu (Malé Karpaty), Mineralia Slovaca 24, 367–379.

Meduna 1980a

J. Meduna, Die latènezeitlichen Siedlungen in Mähren. Prague 1980.

Meduna 1980b

J. Meduna, Die latènezeitlichen Siedlungen und Gräberfelder in Mähren (Katalog). Brno 1980.

Musilová 2011

M. Musilová, Bratislavaer Burg – Arx Boiorum im Lichte der neuesten archäologischen Funde Archäologische Forschung – Winterreithalle, Anodos, Studies of the Ancient World 10/2010, 2011, 187–205.

Musilová, Lesák 1996

M. Musilová, B. Lesák, Neskorolaténske osídlenie na Hlavnom námestí č. 7 (Kutscherfeldov palác) v Bratislave, Zborník Slovenského národného múzea 90, Archeológia 6, 1996, 87–105.

Ozdín, Uher, Bačík 2007

D. Ozdín, P. Uher, P. Bačík, Amfiboly a minerály skupiny epidotu v porfyrickom diorite na lokalite Bratislava – Okánikova ulica, Mineralia Slovaca 39/4, 2007 (Geovestník 4).

Paulík 1976

J. Paulík, Keltské hradisko Pohanská v Plaveckom Podhradí. Martin 1976.

Petrík et al. 2001

I. Petrík, M. Kohút, I. Broska, P. Uher, Ľ. Hraško, M. Janák, D. Plašienka, V. Bezák, Granitic plutonism of the Western Carpathians. Bratislava 2001.

Pieta 1982a

K. Pieta, Die Púchov-Kultur. Nitra 1982.

Pieta 1982b

K. Pieta, Probleme der Erforschung der dakischen Besiedlung in der Slowakei, Thraco-Dacica 3, 1982, 35–46.

Pieta 1996

K. Pieta, Römische Import der Spätlatènezeit in der Slowakei, Arheološki vestnik 47, 1996, 183–195.

Pieta 2008

K. Pieta, Keltské osídlenie Slovenska: Mladšia doba laténska. Archaeologica Slovaca Monographiae, Studia XI, Nitra 2008.

Pieta, Plachá 1999

K. Pieta, V. Plachá, Die ersten Römer im nördlichen Mitteldonauraum im Lichte der neuen Grabungen in Devín. In: Th. Fischer, G. Precht, J. Tejral (Eds.), Germanen beiderseits des spätantiken Limes. Cologne – Brno 1999, 179–205.

Pieta, Zachar 1993

K. Pieta, L. Zachar, Neskorolaténske oppidum v historickom jadre mesta. In: T. Štefanovičová a Kol., Najstaršie dejiny Bratislavy. Bratislava 1993, 148–209.

Polla 1979

B. Polla, Bratislava – západné suburbium: výsledky archeologického výskumu. Bratislava 1979.

Pristaš et al. 1992

J. Pristaš, J. Horniš, R. Halouzka, J. Maglay, V. Konečný, J. Lexa, A. Nagy, D. Vass, J. Vozár, D. Andreg, Geologický ústav Dionýza Štúra. Bratislava 1992.

Resutík 2007

B. Resutík, Východné suburbium bratislavského oppida –

archeologický výskum na Hlavnom námestí 8, Zborník Slovenského národného múzea 101, Archeológia 17, 2007, 97–120.

Riedl 1960

H. Riedl, Beiträge zur Morphologie des Gebietes der Leiser Berge und des Falkensteiner Höhenzuges, Mitteilungen der Österreichischen Geographischen Gesellschaft 102, 65–75.

Schindler-Kaudelka, Zabehlicky-Scheffenegger 1995

E. Schindler-Kaudelka, S. Zabehlicky-Scheffenegger, Die bodenständige Keramik vom Magdalensberg: Ein Anfang. In: J. Tejral, K. Pieta, J. Rajtár (Eds.), Kelten, Germanen, Römer im Mitteldonaugebiet vom Ausklang der Latène-Zivilisation bis zum 2. Jahrhundert im Mitteldonaugebiet. Materialien des VII. Internationalen Symposiums „Grundprobleme der frühgeschichtlichen Entwicklung im nördlichen Mitteldonaugebiet“, 13.–16. Dez. 1994. Brno – Nitra 1995, 177–198.

Schnabel 2002

W. Schnabel, Legende und kurze Erläuterung der Geologischen Karte von Niederösterreich 1:200 000. Geologische Bundesanstalt, Land Niederösterreich, Vienna 2002.

Studeníková, Zachar 1980

E. Studeníková, L. Zachar, Pokračovanie záchranného výskumu v Bratislave-Vajnoroch, AVANS – Ročenka Archeologické výskumy a nálezy na Slovensku 1979, 1980, 198.

Tiefengraber 2009

G. Tiefengraber, Befestigte mittel- und spätlatènezeitliche Flachlandsiedlungen im Südostalpenraum. In: G. Tiefengraber, B. Kavur, A. Gaspari (Eds.) Keltskije študije II: Studies in Celtic Archaeology. Papers in Honour of Mitja Guštin. Montagnac 2009, 259–281.

Točík 1959

A. Točík, K otázke osídlenia juhozápadného Slovenska na zlome letopočtu, Archeologické rozhledy 11, 1959, 841–874.

Uher, Kohút 2009

P. Uher, M. Kohút, STOP 1 Bratislava – Karlova Ves, Líščie údolie. In: M. Kohút, L. Šimon, Spoločný geologický kongres Českej a Slovenskej geologickej spoločnosti. Štátny geologický ústav Dionýza Štúra, Bratislava 2009, 225–226.

Urban 1995

O. H. Urban, Keltische Höhensiedlungen an der mittleren Donau, 2: Der Braunsberg. Linzer Archäologische Forschungen 23, 1995.

Urban 1996

O. H. Urban, Zur Chronologie der jüngeren Latènezeit in Ostösterreich, Arheološki vestnik 47, 1996, 197–207.

Urban 1999

O. H. Urban, Der Leopoldsberg: Archäologische Forschungen auf dem Wiener Hausberg, Wiener Archäologische Studien 2, Vienna 1999.

Varsik 1999

V. Varsik, Ländliche Besiedlung im Hinterland des Kastells Gerulata: Siedlung der autochtonen Bevölkerung in Rusovce. In: N. Gudea, Roman Frontier Studies. Proceedings of the XVIIth International Congress of Roman Frontier Studies. Zalău 1999, 629–642.

Vrtel 2012

A. Vrtel, Keltské oppidum v Bratislave. In: J. Šedivý, T. Štefanovičová (Eds.), Dejiny Bratislavy 1, Od počiatkov do prelomu 12. a 13. storočia. Brezalauspurc na križovatke kultúr. Slovart, 2012, 164–179.

Zachar 1976

L. Zachar, Neskorolaténske sídlisko pri Kútoch, Zborník Slovenského národného múzea 70, História 16, 1976, 31–53.

Zachar 1977

L. Zachar, Príspevok k poznaniu neskorolaténskeho obdobia na Záhorí, Zborník Slovenského národného múzea 71, História 17, 1977, 35–58.

Zachar 1981

L. Zachar, Neskorolaténske vrstvy na Partizánskej ulici v Bratislave, Zborník Slovenského národného múzea 75, História 21, 1981, 35–54.

Zachar 1982

L. Zachar, Príspevok k problematike bratislavského oppida, Zborník Slovenského národného múzea 76, história 22, 1982, 31–49.

Zachar, Rexa 1988

L. Zachar, D. Rexa, Beitrag zur Problematik der spätlatènezeitlichen Siedlungshorizonte innerhalb des Bratislavaer Oppidums, Zborník Slovenského národného múzea 82, História 28, 1988, 27–72.

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