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CELTIC TETRADRACHMS OF THE KUGELREITER TYPE**

Abstract: The author collected the evidence of all Celtic tetradrachms of the Kugelreiter type (the earliest tetradrachms attributed to the Celtic tribe of the Taurisci) with known provenance. On the basis of die studies, he established the relative sequence of their minting. Two distribution groups of tetradrachms of this type emerged (one centred in southeastern Austrian Carinthia (Kärnten), the second in the area of northeastern Italy), indicating at least two production centres and also indicating chronological differences. The recent proposal of an absolute chronology by G. Gorini was also disputed.

In 1973, at the time of the publication of R. Göbl’s fundamental Typologie und Chronologie der keltischen Münzprägung in Noricum, there was only a very scarce documentation for the coins of the Kugelreiter type. This was the earliest type of silver tetradrachms that are by K. Pink attributed to the Celtic tribe of the Taurisci and by R. Göbl to that of the Norici.¹ seven coins of his group A1 (minted with five obverse and seven reverse dies), three coins of his group AA1 (minted with one obverse and one reverse die), eight specimens of his group B1 (minted with five obverse and four reverse dies). Six coins of his later groups C1 and C2a (minted with two obverse and four reverse dies) were also documented.²

The hoard of Haimburg which was discovered in 1972 and published in 1989, brought to light a further 206 specimens of Göbl’s earlier groups A1, AA1 and B1 of coins of Kugelreiter type,³ and when later some further specimens from the hoard appeared on the market, this type of coins increased to at least 230 specimens.⁴ They were minted with 5 obverse

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RBN, 156, 2010, p. 73-102.
and 17 reverse dies,5 of which 4 obverse dies and 9 reverse dies were previously known.6 An additional 30 tetradrachms in the hoard were of the “east Norican = Tauriscan”7 FES type that gives the hoard of Haimburg further significance.

In 1998 additional evidence for the minting of coins of the Kugelreiter type came to light through the discovery of the hoard of Enemonzo in the northeastern part of Italy.8

This hoard shows a much more diverse typology of coins of the Kugelreiter type than the Haimburg hoard does. It comprises, besides 359 Roman Republican victoriatas, a further 40 Kugelreiter tetradrachms of generally three groups: 3 coins of group TKN B1c;9 the majority of coins in the hoard (32 specimens) are of group TKN C2a;10 while five coins are of group TKN C2b, erroneously attributed by Gorini to Göbl’s group A1d.11

17 coins published by Gorini in Appendix II to his monograph as “con tutta probabilità facevano parte del ripostiglio di Enemonzo” are most likely not part of this hoard.12 They are in all probability part of the Haimburg hoard, which was at the time of its discovery (1972) only partly documented, and coins from it still appear in the market.13

G. Gorini, when analyzing the hoard of Enemonzo in detail, had many more coins of the Kugelreiter type at his disposal than R. Göbl, especially the later group of these coins. For that reason he undertook to reconstruct minutely the sequence of dies for minting this type of “Norican” silver coins.

He proposed the following relative chronological sequence of minting for tetradrachms of the Kugelreiter type:

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5 As we have argued elsewhere, his no 159 is not part of the hoard (P. Kos, Sonder-typus der Kugelreitermunzen - Fundort Aquileia und nicht Schatzfund von Haimburg!, in MÖNG, 49, 2009, Heft Nr. 2, p. 1-5).
6 R. Göbl, Haimburg [n. 3], p. 27.
7 R. Göbl, TKN [n. 2], was dividing the minting into “west-Norican” and “east-Norican”. Later (R. Göbl, Hexadrachmenprägung [n. 3], p. 37) he was determining the “west-Norican” group as the coinage of Norici and the “east-Norican” group as the coinage of Taurisci.
9 G. Gorini, Enemonzo [n. 4], nos 8, 9, 38.
10 R. Göbl, TKN [n. 2], pl. 4.
13 See, for instance, the evidence collected by G. Gorini, Enemonzo [n. 4], p. 149-151 (Appendice I).
Gorini’s phase A

1 - The earliest coins as represented in the hoard of Haimburg (groups TKN A1, A1A, B1a, B1b).

Gorini’s phase B

2 - Coins with typical damage to the upper third hair lock on the obverse (group TKN B1c).

3 - Non-epigraphic coins as represented in the hoard of Enemonzo (without damage on cheek) (group TKN C2a).

4 - Coins showing big leaves of the laurel wreath (group TKN C2b).

5 - Coins with damage on cheek (group TKN C2a).

Gorini’s phase C

6 - Coins showing the Venetic letter X on the reverse (group C2a).

Gorini’s proposal for the relative chronological sequence of coins in the hoard of Enemonzo deserves a brief comment:

1) Group Göbl, TKN B1c (Gorini’s obverse die D1; reverse dies R6a, R15a)

Only one of these two reverse dies was originally known to Göbl in TKN. It was, however, linked with a different obverse than that in the hoard of Enemonzo. The new obverse with the typical damage to the upper third hair lock and the second reverse die were later documented by Göbl in the publication of the hoard of Haimburg.

Undoubtedly this group of coins is a later derivation of coins represented in the Haimburg hoard, where the obverse die is showing the beginning of damage in the area of the third hair lock but is still linked with the normal reverse die. Gorini classified this group as the very last issue appearing in the Haimburg hoard. One obverse and two reverse dies of this group documented in the Enemonzo hoard must have evidently been produced after the deposition of Haimburg hoard, since B1b coins with the early damage on the third lock in the Haimburg hoard (obverse die 2a) do not yet exhibit damage on the neck appearing on a later obverse die for minting the B1c group of coins (die 2b). Later this damage on the neck appears only on coins in the Enemonzo hoard.

14 G. Gorini, Enemonzo [n. 4], p. 28-29.
15 Ibid., nos 8, 9, 38.
16 R. Göbl, TKN [n. 2], pl. 2 no 6 (rev. die 16x).
17 R. Göbl, Haimburg [n. 3], cat. no 159. On p. 30 he is arguing that the horse on the reverse has typical characteristics of the “east Norican” horse depictions.
18 R. Göbl, TKN [n. 2], pl. 2, dies 2 – 1x. In., Haimburg [n. 3], cat. nos 116-158.
19 G. Gorini, Enemonzo [n. 4], p. 28-29.
20 R. Göbl, TKN [n. 2], pl. 2 no 5.
21 Ibid., pl. 2 no 6.
One coin of this type, obtained from the coin dealer G. Bernardi in Trieste, should be, according to Gobl, also part of the Haimburg hoard. The coin, however, was found in Aquileia before 1968. Therefore, the coin cannot be taken into consideration as part of Haimburg hoard and must not be treated as a link between the hoards of Enemonzo and Haimburg as stated by Gorini.

2) Group Gobl, TKN C2a (Gorini’s obverse die D2 [with damage on the cheek]; reverse dies Rv1a, Rv3a, Rv5a, Rv8a, Rv9a and obverse dies D4; reverse dies Rv13a [without letter], Rv4a and Rv14a [letter X])

This group represents the nucleus of the Celtic coins in the Enemonzo hoard. Gorini postulated the use of two different obverse dies, the earlier one showing damage on the cheek. Exact comparison of the obverse dies of all 32 specimens, however, confirms the use of only one obverse die, on which at a later stage damage to the cheek in the form of a short line appeared (24 specimens). 8 specimens display no damage on the obverse. On 26 specimens (24 specimens with damage on the obverse, 2 specimens without damage) the normal Kugelreiter is depicted on their reverse. On 6 specimens without damage on the obverse the letter T (the Venetic letter X) appears on the reverse. Altogether 5 reverse dies were used in this group. Gobl listed in this group only coins with the Venetic letter X since the coins without legend were at that time not documented for this group.

The detailed analysis confirms the 30 years old hypothesis for the relative sequence of the use of different reverse dies of group C2a, as expressed in the publication of a part of the Most na Soči hoard. Chronologically the first were coins with the Venetic letter X; this can be proven by an almost unworn obverse die, which does not yet show any damage on the cheek. Two reverse dies were used. Coins with the reverse without the Venetic letter (two reverse dies) but still without damage on the obverse were minted subsequently. Finally, the damage occurred on the same but
worn obverse die, and with it 24 coins in the hoard were minted using 3 different reverse dies (always without Venetic letter X). The very last coins minted in this group are the specimens with two dots in front of the horse on the reverse (Enemonzo nos 3, 4, 7, 11, 16, 17, 19, 20, 25, 28, 31, 40), since their obverse die shows the greatest attrition.

The relative sequence is postulated on the basis of the attrition of the obverse die manifested most markedly in the area of the face. The average weights are of minor importance since the differences between the average weights of the three groups do not exceed 2 per cent.

- Obv. die without damage; letter X on the rev. - 11.39g
- Obv. die without damage; Kugelreiter without letter. - 11.64g
- Obv. die with damage; Kugelreiter without letter. - 11.52g

3) Group Göbl, TKN C2b (Gorini’s obverse die D3; reverse dies R2a, R10a, R11a, R12a)\(^{29}\)

This group displays entirely different characteristics when compared to the majority of coins in the Enemonzo hoard (C2a) and must have evidently been produced by a different mint-master than group C2a. Already for this very reason this small group of coins could not have been minted between Gorini’s issues D2 and D4.\(^{30}\)

Gorini erroneously attributed these five coins to the group TKN A1d.\(^{31}\) The obverse, however, belongs to the group TKN C2b (die 3b1)\(^{32}\) and was regarded by Göbl as a derivation from obverse die 3a in the group C2a.\(^{33}\) One obverse die was used, while for the minting of the reverse three dies were applied. Meticulous examination shows that the obverses of all five coins of this group in the Enemonzo hoard were minted with the very same die as the coin with the Venetic legend, which was erroneously read as VOKK.\(^{34}\) Also the reverse shows all the peculiar characteristics of the reverse with the Venetic legend, which must have appeared when the die was refreshed or re-cut. In any case, the obverse attested in the Enemonzo hoard seems to show less wear in comparison to the coin with the Venetic inscription and must therefore be regarded as its predecessor. This is probably the missing link, which was unknown to Göbl in 1973.\(^{35}\)

\(^{29}\) G. GORini, Enemonzo [n. 4], nos 2, 21, 22, 23, 30.

\(^{30}\) As suggested by G. GORini, Enemonzo [n. 4], p. 28.

\(^{31}\) Ibid., p. 26.

\(^{32}\) R. GOBL, TKN [n. 2], pl. 4 no 6.

\(^{33}\) Ibid., p. 86.


\(^{35}\) R. GOBL, TKN [n. 2], p. 86.
Technical aspects

230 coins of the *Kugelreiter* type documented to date in the Haimburg hoard were minted with 5 obverse dies and 17 reverse dies (ratio 1:3.4).\(^6\) The die-linkage attests an intertwining of dies for minting coins of the *Kugelreiter* type in the Haimburg hoard that indicates the hoard’s extremely compact composition and the minting of coins in a single phase within a very short span of time.\(^7\) The compact composition of the hoard is further corroborated by the average weights of individual groups of coins minted with different die combinations. They barely show any significant differences in weights. All dies were produced by one die-cutter and the coins must have been minted in one (travelling)\(^3\) mint or workshop.\(^3\)

Their state of preservation with absolutely no signs of attrition by use demonstrates their immediate hoarding without any previous drifting into circulation.\(^4\)

![Die-linkage of tetradrachms of the *Kugelreiter* type in the hoard of Haimburg.](image)

The Enemonzo hoard attests to the use of 3 obverse dies and 10 reverse dies for the minting of 40 tetradrachms of the *Kugelreiter* type (ratio 1:3.3).\(^4\)

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\(^6\) R. GÖBL, *Haimburg* [n. 3].

\(^7\) See scheme of *ibid.*, pl. 22.


\(^3\) R. GÖBL, *Haimburg* [n. 3], p. 30, prefers to speak of a workshop rather than mint. He was convinced that the hoard of Haimburg further corroborates the idea of producing coins in a “travelling workshop”.

\(^4\) *ibid.*, p. 35.

\(^4\) G. GORINI, *Enemonzo* [n. 4], p. 27, 51-52.
Die-linkage clearly demonstrates three different groups of coining and the compactness of minting within one of the individual groups, where clearly uninterrupted coining took place in a short span of time. Thus, three typologically different obverse dies demonstrate the activity of different die-cutters. However, the coining of the coins of all three groups in one workshop cannot be excluded.

The state of preservation of the coins in the hoard implies their almost immediate hoarding.

**Relative chronology**

The analysis of the typology of Celtic coins in the Enemonzo hoard contradicts Gorini’s assumption 1) that group 1 represents a link between the Haimburg and Enemonzo hoards; 2) that the epigraphic reverses in group 2 follow the non-epigraphic ones; 3) that the minting of group 3 interrupted the issuing of coins of group 2 without the letter and those with the Venetic letter X.

On the contrary, it can be concluded that group 1 (B1c) in the hoard of Enemonzo is without any doubt a later derivation of coins of group B1b as represented in the Haimburg hoard. No direct links between the hoards of Enemonzo and Haimburg can therefore be established.

Group 2 must have been minted in a single phase using only one obverse die, beginning with coins with the Venetic letter X, and followed by coins without the letter X on the reverse.

Group 3 was the last one minted in the Enemonzo hoard and was immediately followed (still using the same obverse die) by new reverse dies with the Venetic inscriptions (“VOKK” = .N.NO.L., BOIO, CAVA).

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Fig. 2. Die-linkage of coins in the hoard of Enemonzo.

See note 22 above.

For the reading see P. Kos, op. cit. [n. 34].
Two coins with the legend N.NO.L. weigh 10.32g and 9.62g respectively, which is in accordance with our proposed relative chronological sequence.

According to the aforementioned facts, the relative chronological sequence of dies in the Enemonzo hoard should be as follows:

Group 1 (B1c) - average weight: 11.73g (3 specimens)

- Obverse die without damage; Venetic letter X on the rev.: 11.39g (6 specimens)
- Obverse die without damage; Kugelreiter without letter: 11.64g (2 specimens)
- Obverse die with damage; Kugelreiter without letter: 11.52g (24 specimens)

Group 2 (C2a) - average weight: 11.51g (32 specimens)

- Obverse die without damage; Venetic letter X on the rev.: 11.39g (6 specimens)
- Obverse die without damage; Kugelreiter without letter: 11.64g (2 specimens)
- Obverse die with damage; Kugelreiter without letter: 11.52g (24 specimens)

Group 3 (C2b) - average weight: 11.47g (5 specimens)

The average weights of the three groups could support this proposed sequence of dies, but since they exhibit a less than 2.5 per cent difference they would hardly be relevant for establishing the relative chronology.

Absolute chronology

Gorini’s suggestion for an absolute chronology resulted from his proposal of a relative chronological sequence of minting for different groups of coins of the Kugelreiter type. He divided the minting of coins of the Kugelreiter type into three phases. Phase A would comprise mostly coins as represented in the hoard of Hainburg (A1, A1A, B1) and was dated to the period 180-160 BC. He speculatively attributed these first issues to the * king Cincibilis, who reigned in Noricum between 178-170/169 BC, probably among the Taurisci".15

In phase B (dated to 160-130 BC) the coins as represented in the hoard of Enemonzo (B1c, C2a, C2b) would have been minted, in his phase C, however, the coins with the Venetic legend X (C2a) would have been produced in the period between 130-120/115 BC. According to Gorini, coins of the Kugelreiter type would therefore have been minted during a long period between ca. 180 and 120/115 BC. He based his chronology upon

44 G. Gorini, Enemonzo [n. 4], p. 28-29.
45 Ibid., p. 60.
46 Ibid., p. 61.
47 Ibid., p. 29.
certain historical events,\textsuperscript{49} as reported by the literary sources. However, his proposed chronology has not been supported by arguments that would be founded on facts; a basic mistake was thus committed, which so often occurs when interpreting coin finds.\textsuperscript{50} In the same way Göbl dated the burial of the hoard of Haimburg to 60 BC and later to 64/63 BC,\textsuperscript{51} connecting it with the unsuccessful attack of the Boii on Noreia as reported by Caesar.\textsuperscript{52} This groundless hypothesis collapsed at the moment of the discovery of the hoard of Enemonzo.

Gorini based his absolute chronological classification of the minting of different groups of coins of the \textit{Kugelreiter} type on his dating of the burial of the hoard of Enemonzo in 130/125 BC.\textsuperscript{53} In my opinion, however, this is not a sound enough basis for dating the beginning of minting of the earliest coins of \textit{Kugelreiter} type five decades earlier. Also the duration of minting of the individual phases is fixed arbitrarily.

A span of \textit{ca.} 60 years for producing coins of all three groups of the \textit{Kugelreiter} type (TKN A1, B1, C1 and C2) is far too long to comply with the conclusion that the composition of the hoards of Haimburg, Enemonzo and Most na Soči indicates a short-term minting of coins and their rapid (if not immediate) hoarding soon afterwards.

In principle, I am convinced that any attempt at fixing the absolute dates of minting of coins of various types can merely generate sheer speculative hypotheses.

The only feasible and more or less reliable chronological placement of the minting of \textit{Kugelreiter} type tetradrachms that would be acceptable on the basis of known facts is as follows: groups C2a (either with the Venetic letter X or without it) and C2b (still without Venetic legends on the reverse) must have been minted during the first decades of the second half of the second century BC. The minting of the earliest coins of the \textit{Kugelreiter} type (groups A and B) could be placed in the last decades of the first half or around the mid-second century BC as I have pointed out on an earlier occasion.\textsuperscript{54} It is also impossible to imagine the constant (regular) minting over the course of a whole year but rather periodical short-term minting on multiple singular occasions, as dictated by the moment-

\textsuperscript{49} G. Gorini, \textit{Enemonzo} [n. 4], p. 19.

\textsuperscript{50} P. Kos, \textit{Interpretacija (antičnih) novčnih najdb: metodologija - njene možnosti in pasti} / \textit{Interpretation of (Roman) Coin Finds. Methodology: Its Potentials and Pitfalls}, in \textit{ArchSlov}, 48, 1997, p. 97-115 has drawn attention to the risk of such misleading interpretations.

\textsuperscript{51} R. Göbl, \textit{Hexadrachmenprägung [n. 1]}, p. 39.

\textsuperscript{52} R. Göbl, \textit{Haimburg [n. 3]}, p. 36.


tary needs of the mint-masters in question.\textsuperscript{55} I do not believe, however, that a longer span of time would separate the minting of different groups of coins of Kugelreiter type.

**Attribution of the minting**

Göbl ascribed the minting of coins of the Kugelreiter type to the people of the Norici.\textsuperscript{56} Gorini at first attributed the minting of Kugelreiter type coins with the Venetic letter $X$ (= $T$) to the people of the Taurisci (the letter $T$ reputedly representing the first letter of the tribe’s name).\textsuperscript{57} and coins of the very same type but without letter $T$ to the people of the Carni.\textsuperscript{58} The minting of coins of the Kugelreiter type with other Venetic legends was ascribed by him to the Histri, Iapodes and Liburni.\textsuperscript{59} In his later monograph on the Enemonzo hoard Gorini revised his opinion stating that non-epigraphic Kugelreiter coins and coins with the Venetic letter $X$ were minted by the Taurisci, while successive issues with Latin legends would have been minted by the Carni.\textsuperscript{60} According to Gorini, the minting of coins with the legend BOIO should be linked with the tribe of the Boii.\textsuperscript{61}

\textsuperscript{55} As I have stressed already in P. Kos, op. cit. [n. 54], p. 63. Also G. Gorini, Enemonzo [n. 4], p. 52, assumed the minting of his phase B in short intervals of time.

\textsuperscript{56} R. Göbl, Hexaderachmenprägung [n. 1], p. 37.


\textsuperscript{59} G. Gorini, Mommsen [n. 57], p. 203; Id., Cronologia e tipologia [n. 57], p. 59; Id., Nuove indagini [n. 57], p. 298.

\textsuperscript{60} G. Gorini, Enemonzo [n. 4], p. 64.

\textsuperscript{61} Ibid., p. 65.
Neither of his suggestions seems plausible. I tend to remain unconvinced that the Venetic letter X (= T) should be interpreted as the first letter of the tribe’s name (Taurisci). Altogether 39 coins of the C2a group have been documented until now, all minted with the same obverse die, i.e. uninterruptedly in a very short span of time. Of these only 9 specimens (23%) show the letter T on the reverse. Why would the name of the minting people be noted only on such a small part of the coinage?

There is no evidence at all of coin finds originating from archaeological excavations in the areas of the Histri, Iapodes or Liburni that would support his idea. In the settlement area of the Histri, only one Celtic (Norican) coin has been found so far. Not a single Celtic coin has been found in the settlement areas of the Iapodes and Liburni. Besides, neither the Histri, the Iapodes, nor the Liburni were of Celtic origin.

Additionally, distribution maps of different groups of coins of the Kugelreiter type also strongly contradict his minting attribution scheme.

A close look at the distribution map of coins of the Kugelreiter type can be significant; however, the individual groups of Kugelreiter coins should be mapped separately.

Circulation areas of different groups of coins of the Kugelreiter type

To have a better insight into the circulation areas of individual groups of coins of the Kugelreiter type, all known specimens of this type of tetradrachms with known sites of discovery should be listed.

List of sites where the Kugelreiter tetradrachms were documented (246 specimens)

In the following list, the finds of coins of the Kugelreiter type are presented. Only coins of groups TKN A1, AA1, B1, C1 and C2 (only groups a and b) are considered. I do not take into account coins of groups TKN A2 (TINCO type), A3 (COPPO type), B2 (so called “Tinco-Stufe”), and B3. Since the coins of these three groups are not represented in the hoards of Haimburg and Enemonzo, they must obviously belong to a much later phase of Norican minting. I do also not take into account later tetradrachms of group C2b with Venetic legends.

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53 See fig. 2 below.
54 Only coins of groups TKN A1, AA1, B1, C1 and C2 (here only groups a and b) are considered. In terms of methodology, G. Gorini, Enemonzo [n. 4], p. 54, fig. 5, incorrectly mapped also the tetradrachm from Moimacco (A. Tagliapietra, Coloni e legionari romani nel Friuli celtico, 1, Pordenone, 1986, p. 40, 47), which belongs, however, to the later group B2 („Tinco-Stufe” according to R. Gob, TKN [n. 2], pl. 2).
• **Kugelreiter A1 (138 specimens)**

1. **Haimburg (hoard) – 134 specimens of A1 group**


   *Comment:* Dies IIIb – 5 were used for the minting of the coin from Zollfeld (no 3). The obverse die IIId was used for the minting of the coins found in Celje (no 4) and in the area of Wien (no 5).

2. **Aquileia (A1; dies 1-1)**


   Museo Archeologico di Aquileia.

   *Comment:* The coin was minted with dies 1-1a as used for the minting of coins nos 1-8 in the Haimburg hoard.
3. **Zollfeld (A1; dies: 1b–2)**


*Comment:* The coin was minted with dies IIb – 5 as used for the minting of coins cat. nos 54-78 in the Haimburg hoard.

4. **Celje (A1; dies: 1c–3)**

R. Göbl., TKN [n. 2], p. 116, no 4; P. Kos, *Keltski novci Slovenije / Keltsche Münzen Sloweniens* (Situla, 18), Ljubljana, 1977, p. 84, no 1; pl. 1, 2.

*Comment:* The obverse of the coin was minted with die IId as used for the minting of coins nos 107-115 in the Haimburg hoard. The same obverse die was also used for the minting of the coin found in the vicinity of Wien (no 5).

5. **Vicinity of Wien (A1; dies: 1c–4)**

R. Göbl., TKN [n. 2], p. 116, no 5.

*Comment:* The obverse of the coin was minted with die IId as used for the minting of coins nos 107-115 in the Haimburg hoard. The same obverse die was also used for the minting of the coin found in Celje (no 4).
• **Kugelreiter AA1 (8 specimens)**

6. **Haimburg (hoard) – 7 specimens of AA1 group**


*Comment:* The obverse die IV (nos 160-165) was used also for the minting of the coin from Eis (no 7).

7. **Eis bei Völkermarkt (AA1; dies: 5x-1x)**


Museum Villach. 11.50g.

*Comment:* The coin from Eis was minted with the same obverse die IV as nos 160-165 in the Haimburg hoard.

• **Kugelreiter B1 (50 specimens)**

8. **Haimburg (hoard) – 42 specimens of B1a and 2 coins of B1b group**


Comment: The obverse was minted with the same obverse die Va as nos 166-205 in the Haimburg hoard. For the reverse no analogy can be found.

10. Enemonzo (hoard) – 3 coins of B1c group

G. GORINI, Enemonzo [n. 4], nos 8, 9, 38.

Comment: The same obverse die was used for the minting of all three coins of this group in the Enemonzo hoard as well as for the coin from Aquileia (no 12). The same reverse die was used for the minting of coins nos 8 and 9 in the hoard and for the coin from Aquileia (no 11). The same reverse die was used for the minting of coin no 38 in the hoard as well as for the coin from Aquileia (no 12).
11. Aquileia – (B1c; dies: 2b-16x)


M. Buora also mentioned the second coin of type “B1 con R/ tipo Göbl 16x” (Le monete celitiche del Friuli: la documentazione archeologica, in Numismatica e archeologia del celtismo padano. Atti del convegno internazionale Saint-Vincent, 1989, Aosta, 1994, p. 12, no 3) citing again G. Gorini, Ritrovamenti di monete celitiche nelle Venezie, in Keltische Numismatik und Archäologie (BAR International Series, 200), Oxford, 1984, n. 28, where, however, the specimen is not mentioned.

Museo Archeologico di Aquileia.

Note: According to Gorini, the coin should be kept by Civiche Raccolte Archeologiche e Numismatiche in Milano. The coin, however, was not published by N. Vismara, SNG Italia. Milano. Civiche Raccolte Numismatiche. Vol. VI, Macedonia-Thracia. 1. Macedonia greca. Paonia-Emissioni di area celtica, Milano, 1999. Obviously, only one coin of this type has been published as found in Aquileia.

Comment: The coin was minted with the same reverse die as the B1c coins nos 8 and 9 in the hoard of Enemonzo. A coin with the same obverse and reverse die is kept in the Dreer collection in Klagenfurt with unknown provenance (R. Göbl., TKN [n. 2] p. 117, no 6, pl. 2, B1 no 6).
12. Aquileia – (B1c; dies: ?-?)


Private collection.

Note: R. Göbl, *Haimburg* [n. 3], p. 23, no 159, published this coin incorrectly as part of the Haimburg hoard. The coin was later incorporated into the Lanz Collection: M. Kostial, *Kellen im Osten. Gold und Silber der Kellen in Mittel- und Osteuropa. Sammlung Lanz*, München, 1997, p. 41, no 114 (identified – following Göbl – as part of the Haimburg hoard). The exact comparison of the physical details of the coins published by Ciceri and Göbl enables, however, the conclusion that the coin from both publications is in fact the very same specimen; see P. Kos, *Sonderotypus der Kugelreitermünze – Fundort Aquileia – nicht aus dem Schatzfund von Haimburg!*, in *MONG*, 49, 2009, Heft Nr. 2, 1-5.

Comment: The coin was minted with the same obverse die as all three specimens in the hoard of Enemonzo (no 9). The reverse die is the same as used for coin no 38 in the Enemonzo hoard.

- **Kugelreiter C1** (2 specimens)

13. Zuglio (found in the vicinity of the church of S. Pietro in Carnia, «Plan de Vincule») – (C1a; dies: 3-26)


The Maria Gortani Collection in Tolmezzo.
Comment: The coin was minted with the same obverse and reverse dies as the second coin from Zuglio (no 14), as well as with the same reverse die as the coin in the Museo Civico in Torino with an unknown provenance (R. Göbl, TKN [n. 2], p. 118, no 1).

14. Zuglio – (C1a; dies: 3–26)


Museo delle arti e tradizioni popolari, Tolmezzo.

Comment: The coin was minted with the same obverse and reverse dies as the second coin from Zuglio (no 13), as well as with the same reverse die as the coin in the Museo Civico in Torino with an unknown provenance (R. Göbl, TKN [n. 2], p. 118, no 1).

• Kugelreiter C2a (40 specimens)

15. Enemonzo (hoard) – C2a (32 coins)

G. Gorini, Enemonzo [n. 4], nos 1, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40.

Comment: The same obverse die was used for the minting of nos 1, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40 in the Enemonzo hoard, for all three coins in the hoard of Most na Soči (no 19), for the coin from the area of Alpi Carniche (no 18), for the coin found in Cividale (no 17), and for both coins from the Višnja gorà hoard (no 20).

The obverses of coins nos 1, 3, 4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 25, 27, 28, 29, 31, 34, 35, 36, 40 show later damage on the cheek.
Coins nos 3, 4, 7, 11, 16, 17, 19, 20, 25, 28, 31, 40 in the Enemonzo hoard were minted with the same reverse die (exhibiting two dots in front of the horse) as the coin from Cividale (no 17).

Coins nos 5, 24, 26, 33, 37, 39 show the letter X on the reverse under the horse. For the minting of these coins two reverse dies were used (die 1: nos 26 and 33; die 2: nos: 5, 24, 37 and 39). With die 1 the specimen (inv. no 6661) in the hoard of Most na Soči (no 19) and the coin from the area of the Alpi Carniche (no 18) were also minted, as well as the coin in the hoard of Višnja gora (no 20).

Coins nos 1, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40 in the Enemonzo hoard without letter X on the reverse were minted with five dies. The same die as for minting coins cat. 1 and 29 was used also for minting the coins with inv. nos 15474 in 15475 in the hoard of Most na Soči (no 19).

16. Cividale (found in 1824 between Prestento and Grupignano) – (C2a; die 3a–)


![Sketch of della Torre](image)

Note: B. Callegher erroneously determined the coin as type «ACCAIO or COPPO ».

17. Cividale – (C2a; die 3a–)


Note: Buora (1994) erroneously noted that the coin was minted with dies 3a-28 (i.e. with the letter X beneath the coin). The same coin (according to the same weight of 11.13g) was published by Mackensen, who is convinced that the letter X is only faintly to be perceived - (p. 251). The evidence of the Enemonzo hoard, on the contrary, proves that on this die – not known by Göbl – the letter X never appears. Vitri assumed that Cortenovis and della Torre (above, no 16) published the same coin. Since Cortenovis died in 1801 and della Torre published a coin that had been found in 1824, that cannot be the case.

Comment: The same obverse die was used for the minting of coins nos 1, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40 in the Enemonzo hoard, of all three coins in the hoard of Most na Soči (no 19) and both coins in the hoard of Višnja gora (no 20). The same reverse die was used also for minting of nos 3, 4, 7, 11, 16, 17, 19, 20, 25, 28, 31, 40 in the Enemonzo hoard.

18. Probably from the area of the Alpi Carniche – (C2a; dies: 3a-28)

M. Buora, Il Cortenovis, l’Asquini e le ricerche sui documenti cellici, in M. Moreno (ed.), Delle medaglie Carnico-Iliriche del P. Angelo Maria Cortenovis: [facsimile del ms. 588 del Fondo principale della Biblioteca Civica di Udine], Passariano, 2003, p. 113, fig. on pl. 25 and 26; no 11 (the same coin, p. 22). The coins were incorporated into the collection of Cardinal Borgia.
Comment: The sketch of the coin implies the use of the same dies as for the minting of coins nos 26 and 33 in the hoard of Enemonzo, of the specimen (inv. no LJ6661) in the hoard of Most na Soči (no 19), and of coin no 25 in the hoard of Višnja gora (no 20).

19. Most na Soči (Slovenia) (part of the hoard) – C2a (3 specimens)


![Coin images]

Comment: The same obverse die was used for the minting of all three coins in the hoard Most na Soči (coin inv. no 15474; exhibiting damage on the cheek), for the coins nos 1, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40 in the Enemonzo hoard, for the coin from Cividale (no 17), and for both coins in the hoard of Višnja gora (no 20). The same reverse die as documented for coin inv. no 6661 was used for the minting of coins nos 26 and 33 in the hoard of Enemonzo and of coin no 25 in the hoard of Višnja gora (no 20). The same reverse die as used for the minting of coins inv. nos LJ15474 and LJ15475 was used for the minting of coins nos 1 and 29 in the hoard of Enemonzo.

20. Višnja gora (Slovenia) (hoard?) – C2a (2 specimens)

(26 tetradrachms and one small silver coin were apparently found together. The find consisted of 24 Tauriscan tetradrachms of the Samobor/SC 14 type, two Norican tetradrachms of the Kugelreiter type, and a small silver coin with the depiction of a horse.)

Comment: The same obverse die was used for the minting of all three coins in the hoard of Most na Soči (coin inv. no LJ15474; exhibiting damage on the cheek), for the coins nos 1, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40 in the hoard of Enemonzo, and for the coin from Cividale (no 17).

The same reverse die was used for the minting of coin no 25 in the hoard of Višnja gora, for coin inv. no LJ6661 in the hoard Most na Soči (no 19), and for coins nos 26 and 33 in the hoard of Enemonzo.

- **Kugelreiter C2b (8 specimens)**

  21. Enemonzo (hoard) – C2b (5 specimens)

  G. Gorini, *Enemonzo* [n. 4], nos 2, 21, 22, 23, 30.

  **Comment:** The coin no 21 was minted with the same obverse and reverse dies as the coin found in the area of Zollfeld (no 22).

  22. Zollfeld or its environs – (C2b; dies 3b–?)

  (Bought from a dealer, hence the site indication is uncertain)

  G. Dembski, *Zwei antike Kleinhörte aus Kärnten*, in MÖNG, 36, 1996, p. 66 A5 (he determined the coin as showing the Venetic inscription “VOKK”).

  **Comment:** The coin was minted with the same obverse and reverse dies as the coin no 21 in the Enemonzo hoard.

  23. Neubau (Oberösterreich) – (C2b; dies: 3b2–?)

Enemonzo [n. 4], p. 75, n. 144 suggested that the specimen would show the letter X on the reverse.

Comment: The coin was minted with the same obverse and reverse dies as the coin from Minaberg (no 24).

24. Minaberg (Reichersberg bei Ried, Oberösterreich) – (C2b; dies: 3b2–?)

B. PROKISCH, Neufunde keltischer Münzen in Oberösterreich aus den Jahren 1992 bis 1998, in NZ, 106-107, 1999, p. 46, B34. He determined the obverse die as C2 3b1, while the reverse die should be sought, according to him, as around no 30 (inscription “VOKK”).

Comment: The coin was minted with the same obverse and reverse dies as the coin from Neuburg (no 23).

• Undeterminable tetradrachms of Kugelreiter type

25. Zuglio

M. BUORA, Il Cortenovis, l’asquini e le richere sui documenti celtici, in M. MORENO (ed.), Delle medaglie Carnico-Illiriche del P. Angelo Maria Cortenovis: [facsimile del ms. 588 del Fondo principale della Biblioteca Civica di Udine], Passariano, 2003, p. 31, fig. on p. 120.

65 "Vielleicht Umschnitt aus 28?"
Comment: The exact type of the coin cannot be established. It was kept in the Gortani Collection in Zuglio.

26. Rauterburg (Diex, Völkermarkt) Kugelreiter (12.23g)

G. Dembski, Die keltischen Fundmünzen Österreichs, in NZ, 87-88, 1972, p. 46 (referring only to the find as reported by a woman; the specimen was not seen by him); F. Dick, FMRÖ 11/3 Kärnten 7c/1(1) p. 325, no 1 (indicating Diex as a finding site).

27. Gurina

K. Pink, Einführung in die keltische Münzfunde (3rd ed.), Wien, 1974, p. 55 (he refers only to an unspecified coin of the Kugelreiter type in a private collection in Hermagor, giving no details); G. Dembski, Die keltischen Fundmünzen Österreichs, in NZ, 87-88, 1972, p. 46 follows Pink’s data.

- Tetradrachms erroneously documented as the Kugelreiter type

28. Niederdorf (zw. Treffen und Niederdorf) – known also as the Gerlitzen hoard

The coin of the group AA1 is noted by F. Dick, FMRÖ 11/3 Kärnten 6/14(3), p. 269, no 2. A. Luschin v. Ebengreuth, Keltenmünzen von der Gerlitzenalpe und aus Maggio, in Wiener Prähistorische Zeitschrift, II/1, 1904, p. 74-79 – cited by Dick, does not mention this specimen. The coin is also not mentioned by K. Pink, Einführung in die keltische Münzfunde (3rd ed.), Wien, 1974, p. 55. F. Dick stated that the coin was kept in the Museum der Stadt Villach where, however, it is not documented.

Note: The examination of the Celtic coins in the Villach Museum was kindly made possible by Dr. K. Karpf.

29. Magdalensberg (excavated on the forum in 1952) – Kugelreiter B1

Note: The coin was badly corroded and only after cleaning was it possible to determine it: NEMET; TKN 10b - ?; subaerat. The autopsy was generously made possible by Dr. Heimo Dolenz (Landesmuseum f. Kärnten, Klagenfurt).

The map of sites where coins of the Kugelreiter type have been found is clearly showing two distribution (= circulation) areas (= groups) of coins of the Kugelreiter type (Fig. 3). Since their mixing in hoards has not been attested, I am convinced that they must differ also chronologically. Two circulation areas almost certainly indicate at least two production centres.

The very first group (A1 and AA1) is centred in southeastern Austrian Carinthia (Kärnten), implying the beginning of minting of these coins somewhere in the area of modern Völkermarkl, contradicting again the thesis that the first mint of silver tetradrachms was operating at

Fig. 3. Distribution map of tetradrachms of Kugelreiter type (1 - Wien (1 A1); 2 - Celje (1 A1); 3 - Eis (1 AA1); 4 - Hamborg (134 A1; 7 AA1; 42 B1a; 2 B1b); 5 - Zollfeld (1 A1; 1 C2b); 6 - Višnja gora (2 C2a); 7 - Most na Soči (3 C2a); 8 - Gividale (2 C2a); 9 - Zaglio (2 C1a); 10 - area of Alpi Carniche (1 C2a); 11 - Enemonzo (3 B1c; 32 C2a; 5 C2b); 12 - Aquileia (1 A1; 1 B1b; 2 B1c).
Magdalensberg. 146 coins of these early groups are documented on six sites.

A further 42 coins of group B1a and two coins of group B1b are documented predominantly in the Haimburg hoard. Only one further specimen of B1b group was found in Aquileia and was die-linked with specimens in the hoard of Haimburg.

Altogether 191 coins of the Kugelreiter groups A1, AA1, B1a and B1b have been documented to date on seven sites. Of these, 185 coins (97%) were documented only in the Haimburg hoard. 5 obverse dies and 21 reverse dies (1:4.2) were used for the minting of these 190 coins. Coins in the hoard of Haimburg barely show any signs of wear and must have been hoarded immediately after their minting. All the coins from six other sites are die-linked with the coins in the Haimburg hoard, indicating the minting of all coins of these earliest groups in the same centre.

The evidence implies a short term minting of all documented coins of early groups of the Kugelreiter type and hardly any penetration of these coins into circulation. The analysis of the Haimburg hoard suggests their rapid hoarding.

After the minting of the last issue in the Haimburg hoard (TKN B1b; die combination 2a-16; average weight 11.84g) we have no evidence whatsoever for immediate subsequent minting in the area of southern Carinthia. The minting must have moved from the area of Austrian Carinthia to the area of northeastern Italy where the coins of the group B1c (die combination TKN 2b – 16x) – also attested in Aquileia – must have been produced. They were followed by the use of a new transformed and damaged obverse die linked with the reverse die 16x and later with a new reverse die showing a peculiar horse with the characteristics of the “east Norican” horse depictions, both reverse types being represented in the Enemonzo hoard (no 38). The average weight of these coins is 11.73g, which also confirms their later minting in comparison to the Haimburg specimens. Four coins are documented only in Enemonzo and Aquileia and never appear in other areas. One specimen minted with the same obverse and reverse dies as coins in the Enemonzo hoard was documented also in Aquileia. The second specimen from Aquileia was minted with the same specific reverse die 16x (as attested in the Enemonzo hoard), the obverse, however, already exhibits damage on the neck (which does not appear on coins from the Haimburg hoard).

Soon afterwards the minting of the coins of the group TKN C2a must have commenced in Friuli in northeastern Italy.


67 We have shown elsewhere that this specimen published by R. Gori, as a part of the Haimburg hoard actually originates from Aquileia; see note 22 above.
In Friuli, Carnia and neighbouring part of western Slovenia five sites with 39 coins of the Kugelreiter C2a type were documented (of these 32 coins [82%] in the hoard of Enemonzo and 3 [7.7%] in the hoard of Most na Soči). At all sites coins were minted with the same dies. All 39 coins of group C2a from Enemonzo, Zuglio, Cividale, Most na Soči and Višnja gora are die linked and were minted with 1 obverse die and 9 reverse dies.

<table>
<thead>
<tr>
<th>Group (TKN)</th>
<th>Enemonzo</th>
<th>Aquileia</th>
<th>Area of Alpi Carniche</th>
<th>Most na Soči</th>
<th>Cividale</th>
<th>Višnja gora</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1c</td>
<td>nos 8, 9 - rev. (die 16x)</td>
<td>rev. 70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1c</td>
<td>no 38 - obv., rev.</td>
<td>obv., rev. 71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2a</td>
<td>nos 1, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40 - obv.</td>
<td>obv.</td>
<td>L.16661, 15474, 15475 - obv.</td>
<td>obv.</td>
<td>nos 25, 26 - obv.</td>
<td></td>
</tr>
</tbody>
</table>

The coins of groups 1 (TKN B1c) and 2 (TKN C2a) as represented in the Enemonzo hoard generally never occur outside the area of northeastern Italy (Friuli), with the exception of the hoard of Višnja gora in central Slovenia where two specimens of group C2a appear. 73 The occur-

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70 L. Ciceri, Monete gallo-carniche trovate ad Aquileia, in Aquileia, Udine, 1968, p. 104, fig. 3.
71 Ibid., p. 103 fig. 2.
72 M. Buora, Il Cortenovis, l’asquini e le richere sui documenti celtici, in M. Moreno (ed.), Delle medaglie Carnico-Iliriche del P. Angelo Maria Cortenovis: [facsimile del ms. 588 del Fondo principale della Biblioteca Civica di Udine], Passariano, 2003, p. 31, 113, pl. 21 no 11.
73 M. Buora, Le monete celte del Friuli, op. cit. [n. 69], p. 11 already established the fact that the coins of groups C1 and C2 are limited to the “capoluogo carnico” and assumed the local minting.
rence of coins showing die linkage between different sites is also significant, since it attests a limited circulation area of these coins, a short-lived minting somewhere in this area (outlined on the distribution map), but also short-lived circulation of coins as demonstrated by mostly unworn coins on these sites. The coins of group C2a from Frauenberg and Manching cannot be seriously taken into consideration since they are much worn, underweight, and subaerat.

The Enemonzo hoard demonstrates that the unique group TKN C2b without a Venetic inscription was also minted in the area of Friuli and Carnia. It is documented with 5 coins in the Enemonzo hoard and with one specimen found in the area of Zollfeld, its obverse die being linked with all specimens in the hoard, its reverse being die-linked with specimen no 21 from the Enemonzo hoard. For the minting of all coins of this group one obverse die and three reverse dies were used (1:3). The specimen from Zollfeld was imported from Carnia to the area of Carinthia probably by trade. Immediately after the termination of the minting in northeastern Italy the first coins with the Venetic legends (groups TKN C2b and C2c) were produced, using the same obverse die as the specimen in the Enemonzo hoard. The location of the production of these tetradrachms cannot be hypothesized. Unfortunately there are no finding sites documented for these coins with the exception of a specimen from Warmbad Villach with the inscription BO10 CAVA.

The north Etruscan (Venetic) alphabet that was characteristic for northeastern Italy (Lagole, Valle di Cadore) and was also applied on the first legends on tetradrachms of the Kugelreifer type, but had previously already been used on the very first “east Norican = Tauriscan” tetradrachms of the VARAZDIN type (legend VES.), would additionally indicate the influence of the communities in north-eastern Italy on the coinage of the Norici and Taurisci.

74 The latter fact has already been stated by G. Gorini, Enemonzo [n. 4], p. 54, 61.
78 R. Göbl, TKN [n. 2], pl. 19, no 6.
Both tetradrachms of the Kugelreiter type C2b found in Minaberg and Neubau are jointly die-linked. I do not take them into consideration on the distribution map since both specimens are underweight (9.86g and 10.27g) in comparison to the Enemonzo specimens with an average weight of 11.47g. The obverse and reverse dies are of rough execution and therefore are later than the production of dies for minting the specimens in the Enemonzo hoard, which, however, must evidently have influenced their production. Both specimens could therefore rather be treated like local contemporary forgeries.

Both specimens from Višnja gora were, significantly, deposited together with Tauriscan tetradrachms of the Samobor C 14 type, which implies their simultaneous circulation. We have shown elsewhere that the coins of Samobor C type have been minted at the latest in the fourth decade of the second century BC, if not slightly earlier, since the hoard from the Ljubljanica was deposited at that time. This fact, indeed, further confirms our proposal for dating the minting of tetradrachms C2a of the Kugelreiter type.

Conclusions

These facts make it impossible to follow Gorini’s chronological proposal. Not merely must his proposed sequence of the minting of different groups of coins be rejected, as argued above, it is also impossible that the described sequence of minting coins of the Kugelreiter type should stretch throughout a long period of six decades.

In the following table my proposal for relative and absolute chronology of minting coins of this type is compared to that of Gorini.

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P. Kos and A. Šemček, *Skupna najdba keltskih in rimskih novcev v reki Ljublja*.

On basis of the documentation it should once again be stressed that the minting of various issues of coins of the Kugelreiter type was short lasting, of smaller volume, minted only sporadically, and that hardly any penetration into the circulation is attested. The majority of minted coins (ca. 90-97% of documented coins) have been hoarded very soon after their minting. The function of these very early silver coins of the local Celtic peoples in the southeastern Alps was therefore evidently not to serve for the monetization of the economy.⁸⁰

<table>
<thead>
<tr>
<th>Gorini Absolute chronology</th>
<th>Relative chronology</th>
<th>Kos Absolute chronology</th>
<th>Relative chronology</th>
</tr>
</thead>
<tbody>
<tr>
<td>180-160 BC</td>
<td>groups A1, AA1, B1a, B1b</td>
<td>last decades of the first half or around the middle of the second century BC</td>
<td>groups A1, AA1, B1a, B1b</td>
</tr>
<tr>
<td></td>
<td>B1c</td>
<td></td>
<td>B1c</td>
</tr>
<tr>
<td></td>
<td>C2a (obv. – no damage)</td>
<td></td>
<td>C2a (obv. – no damage; letter X on the rev.)</td>
</tr>
<tr>
<td>160-130 BC</td>
<td>C2b (rev. – without inscription)</td>
<td>first decades of the second half of the second century BC</td>
<td>C2a (obv. – no damage; rev. without letter)</td>
</tr>
<tr>
<td></td>
<td>C2a (damage on the check)</td>
<td></td>
<td>C2a (obv. – damage on the check)</td>
</tr>
<tr>
<td>130-120/115 BC</td>
<td>C2a (letter X on the rev.)</td>
<td></td>
<td>C2b (rev. – without inscription)</td>
</tr>
</tbody>
</table>