Wiadomości Numizmatyczne, R. LXVIII, 2024, z. 212
DOI 10.23858/WN68.2024.003

BO GUNNARSSON

# A GERMAN COIN GROUP WITH BYZANTINE-ARABIC MODELS AND AN OVERLOOKED "TYPE 7"

ABSTRACT: The present article highlights a remarkable group of German coins that includes examples with both Byzantine and Arabic models. It all started with a couple of auction sales of a type of coin that had one face with a German-inspired image of the emperor and the other face with an image imitating a Byzantine model. It turned out that the coins could be linked to the German coin group, published in 1968 by Vera Hatz and Ulla Linder Welin. A new, seventh type can now be linked to the group, and a number of new specimens are also presented, from finds and from sales. An analysis indicates that the group, previously associated with Franconia and the Middle Rhine region, was probably minted in a more easterly but still undefined location of the Empire.

ABSTRAKT: W artykule zaprezentowano niezwykłą grupę niemieckich monet, na których łączą się wzorce niemieckie, bizantyjskie i arabskie. Impulsem do nowych badań stały się egzemplarze ujawnione na rynku antykwarycznym, które miały jedną stronę z niemieckim wizerunkiem cesarza, a drugą z wizerunkiem wzorowanym na monetach bizantyjskich. Okazało się, że te nowe monety można powiązać ze znaną już wcześniej grupą denarów, opublikowaną w 1968 r. przez Verę Hatz i Ullę Linder Welin. Autor sugeruje, że cała grupa tych monet, wiązana dotychczas z Frankonią i rejonem środkowego Renu, została prawdopodobnie wybita w którejś ze wschodnich mennic Cesarstwa.

KEYWORDS: Viking Age, coin dies, die chains, imitations, coin hoards, weight analysis

SŁOWA KLUCZOWE: okres wikiński, stemple monet, łańcuchy połączeń stempli, naśladownictwa, skarby, analiza wagi

## Background[1]

"The large number of coin-hoards from Viking Age which have been brought together in Swedish museums, principally the Royal Coin Cabinet in Stockholm, has been the subject of study ever since numismatic research was initiated in this country." This is Bengt Thordeman's opening sentence in the preface to *Commentationes de Nummis Saeculorum IX–XI in Suecia repertis*.[2] He goes on to write that "Every year, one or more research-workers from England and Germany have come to Stockholm and worked with this project for shorter or longer periods." Some of the results were published in the above-mentioned volume, the first part of which was printed in 1961. The second volume,[3] published seven years later, contains an interesting study by Vera Hatz and Ulla S. Linder Welin entitled *Deutsche Münzen des 11. Jahrhunderts nach byzantinisch-arabischem Vorbild in den Schwedischen Funden der Wikingerzeit.*[4] The article deals with a small group of coins, describing six types of coins with German, Byzantine, and Arabic motifs. The group is splendidly illustrated in the article, which shows the connections between the types, with drawings of the coin images on the basis of the almost invariably badly struck specimens.

The lengthy article gives a detailed presentation of the coin group and its models, and it is a distinct example of the results produced at the time through international research collaboration, in this case between Swedish and German scholars. The group includes six types, of which types 1–5 are die-linked as shown in Fig. 1.[5] Type 6, with a Byzantine-inspired obverse and a reverse imitating an Arabic coin, has been included in the group by virtue of the similarities of the motifs and the Byzantine-Arabic combination. The group is stated to have been minted sometime after 1014 because one of the coin types names "Henricus Imperator" (emperor), identified as Henry II, who received his imperial title in 1014. It is mainly the different types that are described in the article, although an attempt is made to identify individual dies among the badly struck coins.

However, it is worth explaining the terms used in the article because they paint a somewhat confused picture compared to the nomenclature normally employed today. The coins are divided into "Type" with numerical designations, showing a typological combination of two coin faces as shown in Fig. 1. The figure also has "letter designations" that are related to each coin face but indicate related motifs.

---

[1] This is an updated, expanded, and translated version of an earlier article in Swedish entitled *En tysk myntgrupp med bysantinsk-arabiska förebilder och en förbisedd typ 7 published in Myntstudier, the online journal of the Stockholm Numismatic Institute at Stockholm University* – Gunnarsson 2020.

[2] Rasmusson, Lagerqvist (eds) 1961.

[3] Rasmusson, Malmer (eds) 1968.

[4] Hatz, Linder Welin 1968.

[5] Hatz, Linder Welin 1968, p. 24, Abb. 2.

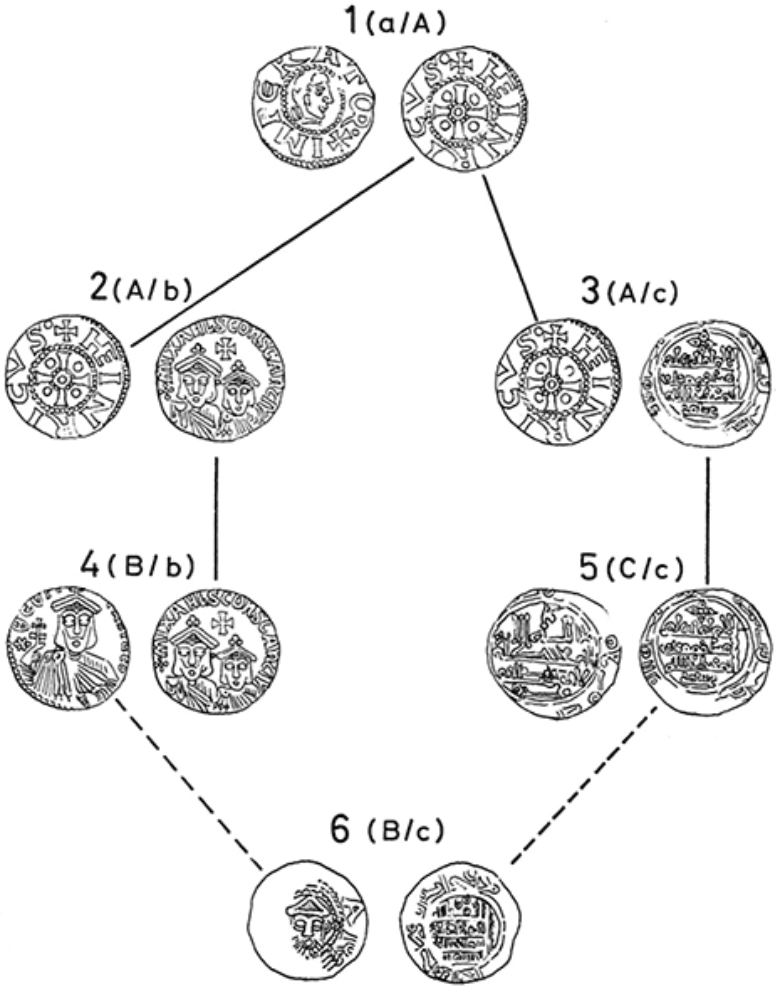


Fig. 1. Illustration of the group with the six types of coins. Reproduced from Hatz, Linder Welin 1968, fig. 2; image processed by the author

The common way to use letter designations in die chains are to define unique dies and not just similar motifs. One example is B, with the obverse motifs that are illustrated under types 4 and 6. The term for a subdivision of the "type" is a "variant." The difference between variants can be great, as is clearly demonstrated later in this article for type 1 var. I and var. II (Fig. 9). Hatz and Linder Welin have interpreted the inscriptions on the specimens in the Swedish material and reproduced the legible parts. The different specimens are identified by a "lowercase letter" following the terms type and variant. As already noted,

the coins are badly struck. What is clear from the illustrated inscriptions is that there seem to be differences between some dies that are presented as identical.[6]

In the article, types 1, 4, and 5 are classified in two variants each and type 6 in three. The die diagram in the article shows that a total of 19 different dies were used to mint the specimens in the Swedish collections. However, the identification of new specimens of this group of coins strongly suggests that the two variants of type 1 rather should be classified as two separate types. Out of a total of 25 known specimens only four belong to variant II. Both variants have an obverse with a right-facing portrait with a bare head. The inscription is +IMPERATOR (emperor). Variant II appears to have been struck with several different dies, as evidenced by variations in the details of the portrait. The additional specimen below seems to have further differences in the image. To determine this definitively, the actual coins would need to be discussed in detail. The reverse side of variant I (shown as the obverse for types 2 and 3) has a cross with a dot in each angle of the cross and a dot in the middle surrounded by a small circle. The inscription is +HEINRICVS˙, with H and E as a ligature (in one case, combined as type 2, the die cutter has added parts of the Byzantine inscription from the opposing die, resulting in the inscription +HEINRICAHLSCOnSτ). In the case of variant II, the fields in the angles of the cross also have several additional small dots, circles, and segments of circles (see Fig. 9). The three specimens in the Swedish collections have completely blundered inscriptions with combinations of the letters A, E, I, P, and O. By contrast, the fourth known specimen, from the find from Nousiainen in Finland, has a different inscription: HE----P·ERA.[7] Here too, it would be valuable to perform a detailed die analysis of the coins being badly struck.

However, the weight analysis below confirms that type 1, variants I and II should be treated as two separate types.

Hatz and Linder Welin have presented each individual coin in the Swedish material with detailed descriptions of the obverse and reverse inscriptions insofar as they can be read. Hermann Dannenberg has also described parts of this group, with a detailed description under Dbg 1184–1186 (types 1–3, see Table 1 for comparative numbering).[8] Among other things, Dannenberg points to the unusual ligature of H and E and the fact that the dot and the small ring placed in the centre of the cross do not occur on other German coins. In Dannenberg's work one can find further variants of inscriptions. In the description and on the drawing of Dbg 1184, which corresponds to type 1, one can read +HEINRICVS˙, which corresponds to the dies described in the Swedish material. The other side, in contrast, has the inscription +MPERATOR, omitting the I, which does not appear in Hatz and Linder

---

[6] Within the framework of this study, it has not been possible to study the coins in detail at Royal Coin Cabinet in Stockholm.

[7] Salmo 1948, p. 323.

[8] Dannenberg 1876, pp. 460–462.

Welin's compilation.[9] Moving on to part 2 of Dannenberg, there is a second, clearer copy of Dbg 1186 (type 2), where the inscription +HEINRICVS is written without a dot after the S.[10]

## A seventh type

In addition to the fact that I believe that type 1, variant II, should be considered a separate type, there is an obvious additional type. The discovery of this seventh type in the group, overlooked by Hatz and Linder Welin, results from a couple of auction sales of a type of coin of Byzantine character. The first specimen was sold in 2015 at Warszawskie Centrum Numizmatyczne (WCN) and five years later a second, though not die-identical, specimen went under the hammer at the Classical Numismatic Group (CNG).[11] Both coins were weakly struck. It was at the latter sale that I began a detailed study of the two coins sold and found that the obverse belonged to Hatz and Linder Welin type 6 while the reverse, instead of having an Arabic model, was Byzantine-inspired.

Fig. 2. Type 7, the specimen from WCN auction 60, no. 112
(scale *c.* 1.5:1)

The new reverse shows Christ with a halo with a cross above it, raising his hand in blessing. The interpretation as a raised right hand is not entirely obvious. The coin was obliquely and weakly struck in places, with the result that it is not possible to determine whether there is any motif to the right of the image. There does not appear to be any inscription. My first thought when the coin was sold at WCN was that it was an unpublished type. However, when the second specimen came up for sale, it seemed unlikely that it could be a new, unknown type, with two sales within such a short period of time. It turned out that the solution had been close at hand when Hatz and Linder Welin wrote their article, but for some reason it was not noticed. An important find for the group was made in 1872 at Althöfchen, now Stary Dworek in Poland. The find was described by Julius Friedländer in an article

[9] Dannenberg 1876, p. 460, Taf. 53.
[10] Dannenberg 1894, p. 71, Taf. 93.
[11] CNG e-auction 459, 2020.

dated 19 August 1873, but not published until 1877.[12] The coins from the find that belong to the group are mentioned by Hatz and Linder Welin.[13] But what was not noticed was that the find also included a specimen of the type 7 as is defined in this article. The coin, together with one specimen of type 4 and one of type 2, is depicted in Friedländer's collections, Tafel I:8 and I:6–7 respectively. The find also included a specimen of type 1 and a halved specimen of type 5.

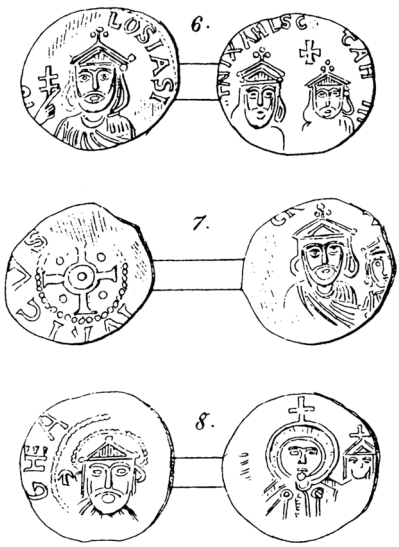


Fig. 3. The illustrations in Friedländer 1877. Reproduced from Friedländer 1877, Tafel I; image processed by the author

From Friedländer's depictions one can also see that to the right of the image of Christ there is a picture of a head wearing an imperial crown with a cross and possibly with *pendilia.* Here, too, there is no hint of any inscription. It also turns out that Dannenberg treated the coin type as Dbg 1241 with reference to Friedländer's article but without depicting it.[14] In Dannenberg, types 1–4 are listed as Dbg 1184–1186 and 1240.

[12] Friedländer 1877. See also FMP I.239:348–353.

[13] Hatz, Linder Welin 1968, pp. 18 and 22–23.

[14] Dannenberg 1876, p. 474.

Table 1. Comparison of the numbering in Hatz and Linder Welin, Dannenberg, and Friedländer, together with the newly defined type 7

| Hatz, Linder Welin 1968 | Dannenberg | Friedländer | Gunnarsson | FMP |
|---|---|---|---|---|
| Type 1 | Dbg 1184 | | | |
| Type 2 | Dbg 1186 | Friedländer, Tafel I:7 | | FMP I.239:350 |
| Type 3 | Dbg 1185 | | | |
| Type 4 | Dbg 1240 | Friedländer, Tafel I:6 | | FMP I.239:351 |
| Type 5 | Dbg – | | | |
| Type 6 | Dbg – | | | |
| | Dbg 1241 (not illustrated) | Friedländer, Tafel I:8 | Type 7 | FMP I.239:352 |

The second coin, which is much more badly struck, was sold at the Classical Numismatic Group (CNG) e-auction 459 in 2020. The coin, which comes from a Swedish collector who has lived in the United States for a long time, has an interesting find provenance: "ex 1917 Fardume Viking hoard."[15] The find at Fardume, Rute parish, Gotland, was unearthed in connection with the digging of drains in 1917. Underneath a large stone near the surface, a hoard was discovered, stored in a clay pot. The find, which contained hacksilver together with more than 302 coins, was partially scattered.[16] Exactly how many coins were in the find is unknown. What is interesting is that, in the same find, Hatz and Linder Welin registered two coins from the coin group they described, one of type 1 var. II and one of type 5.[17] Now one of the new type 7 can also be added to these.

Type 6, which is not die-linked to the group but is included because of the similarities between the motifs and through the Byzantine-Arabic combination, is rarer than types 1–5. Six specimens of type 6 are listed by Hatz and Linder Welin. Five of these come from Swedish finds, four of which are provenanced. The sixth specimen was presented in the *Berliner Münzblätter* 1933.[18] The fact that types 6 and 7 share obverse motifs and that type 7 occurs in two finds, Stary Dworek (Althöfchen) and Fardume, which also contain coins of types 1–5, makes it evident that types 6–7 are more closely linked to the group than merely through stylistic similarities.

A total of four specimens of the now defined type 7 are known:

a. Dbg 1241, weight 0.83 g;

b. Dbg 1241, weight 1.12 g;

[15] Carlsson, Gunnarsson 2022, pp. 114–115.

[16] Stenberger 1947, p. 179, find 444; Jonsson K. 1986, p. 22, G 114.

[17] Hatz, Linder Welin 1968, p. 37.

[18] Menadier 1933, p. 17; Hatz, Linder Welin 1968, p. 23.

One of these two specimens has a reference to the coin from Althöfchen illustrated by Friedländer in Tafel I:8. Unfortunately, the weight of the specimen is omitted by Friedländer, so it is not possible to determine which one of the two above belongs to the find (Fig. 3:8).

c. Gotland, Fardume, Rute. Classical Numismatic Group (CNG), e-auction 459, January 2020, no. 586, with the catalogue text: "From the HC Collection. Reportedly ex 1917 Fardume, Rute, Gotland Hoard."[19] Weight 1.21 g, diameter 18.5 mm, die axis 120° (Fig. 4);
d. Warszawskie Centrum Numizmatyczne (WCN), auction 60, April 2015, no. 112. Weight 1.01 g, diameter 18.6 mm, die axis 240° (Fig. 2).

Fig. 4. The coin with provenance Fardume 1917 (scale *c.* 1.5:1). Photo by the author

Both obverse and reverse dies are different if one compares coins of type 7, specimen c (from CNG e-auction) and specimen d (from WCN auction). On the other hand, the obverses of the coin depicted by Friedländer and 7d may have been struck with the same die.

For types 4 and 5, the prototypes can be identified. The model for the Byzantine-inspired coin is a solidus of Emperor Theophilus (829–842), while the Arabic coin is modelled on a dinar of Caliph Hisham II (976–1009; 1010–1013), struck in al–Andalus, Spain, 391–392 AH (1000/1001–1001/1002).[20] For type 7, on the other hand, there is no direct counterpart. Coins that may have served as models include both a silver and a gold coin of the Byzantine Emperor John I Tzimiskes (969–976), a miliaresion[21] for the obverse and a stamenon nomisma[22] for the reverse (Fig. 5). On the silver coin, one can see an image of the emperor surrounded by a circle and topped by a cross. At the side of the image on each face are the letters I/ω and A/N forming the name John. The shared obverse motif on types 6 and 7 has several similarities. In addition to the cross above the head, there is a symbol to the left side of the head which is an upside-down rendering

[19] https://auctions.cngcoins.com/lots/view/4-8KSRK/germany-uncertain-11th-century-ar-pfennig-18mm-120-g-4h [accessed 15.12.2024].

[20] Hatz, Linder Welin 1968, p. 9, note 33, pp. 11–13; Dannenberg 1876, pp. 460–462.

[21] Sear 1987, no. 1792.

[22] Sear 1987, nos 1785–1788.

of the letter combination I/ω. For the reverse motif, modelled on the nomisma, the die cutter focused on the depiction of the Christ figure and did not allow enough space for the emperor's image, which is instead added as a minimal image on the right side of the flan. It is only in Friedländer's illustration that the image of the emperor is clearly seen (Fig. 3:8). On the specimen from Fardume it is possible to discern a line and a small part of the cross belonging to the emperor's image, while the coin from WCN is so weakly struck that there is scarcely any hint of an image.

Fig. 5. Detail enlargements of the John I Tzimiskes (969–976) miliaresion and stamenon nomisma, both of which may have served as inspiration to the die cutter for the type 7 motifs. Photos by Magnus Wijk (Myntauktioner i Sverige AB, auction 32, no. 19) and public domain; cropped and processed by the author

## Weight analysis

From an analysis of the weight, it is not so obvious that types 6 and 7 should belong to the group. For the Swedish specimens, the weights are stated in the article by Hatz and Linder Welin, but there is no information about the weight of the foreign finds and collections. Dannenberg notes the weight of 11 coins of types 1–3.[23] For the coins added in this article, the weight data come from the relevant informants and from the author. A general point regarding weight data is that in some cases there is no information as to whether the coins are damaged in such a way that the weight has been reduced. For one of the coins of type 4 from the Swedish material, there is a note that it is perforated, "gelocht."[24] The coin weighs 1.62 g, but its diameter is not known. Despite this, the coin has been included in the weight analysis because the effect of the hole is considered to be negligible in the overall comparison. A rough calculation shows that a 2.5 mm hole would result in a weight loss for the coin in question of about 0.03 g. For some coins we also have new weight data that, when compared with Hatz and Linder Welin's, show differences of a few hundredths of a gram.

[23] Dannenberg 1876, p. 460, nos 1184, 1186 and 1185.

[24] Hatz, Linder Welin 1968, p. 32, no. 4g.

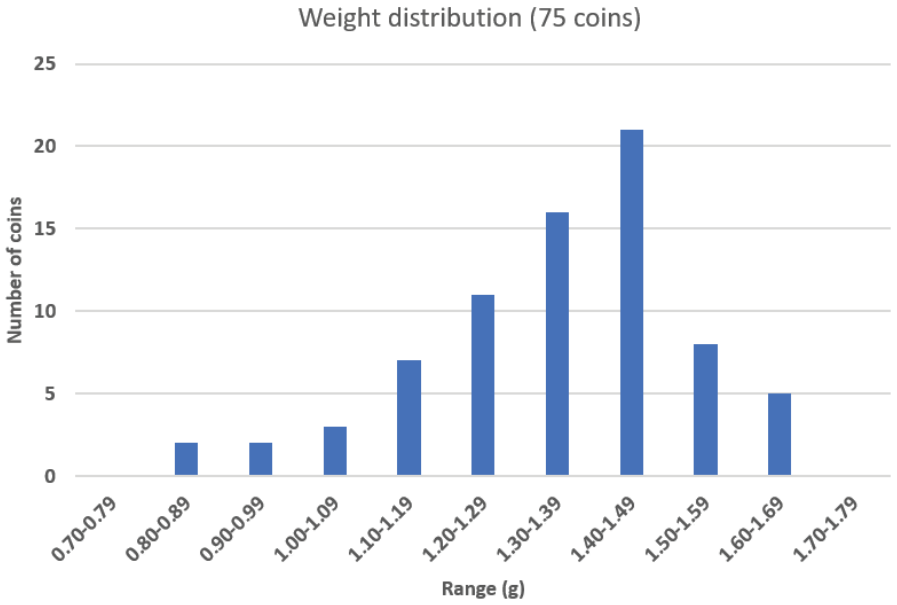


Fig. 6. Weight distribution of the total group of 75 coins distributed in ranges of 0.1 g. Prepared by the author

In total, there is information on the weight of 75 whole coins. Their average weight is 1.34 g, with a spread from 0.83 to 1.64 g. The weight distribution, as shown in the graph in Fig. 6, shows that it is not corresponding to a normally distributed curve, which one would expect from coin production that followed a set weight standard. What we see is a skewed distribution towards lower weight ranges.

A more detailed analysis of the weight distribution by type shows that types 6 and 7 are in a significantly lower range than the other types (Fig. 7). At first glance, it might seem that types 6 and 7 could not possibly belong to the group.

The greatest spread is seen in type 1 and type 5. If we examine the figures for type 1, we see that the difference between variant I and II is significant. If we exclude type 1, variant II and present it separately, we see that in terms of weight it is on a par with type 6 and 7 (Fig. 8). Correspondingly, if we look at type 5, we see that the coin with the lowest weight in the group, 0.94 g, belongs to variant II of the type, as the only registered specimen.

If we separate the heavier coins from the lighter types as above (type 1 var. II, type 5 var. II, type 6, and type 7) we obtain the average weights 1.40 g (58 coins) and 1.08 g (14 coins) for each group. The result is that the heavy group has a weight distribution with a much more normal distribution than that seen in Fig. 6, which in turn indicates a controlled coinage made to a set weight standard. In the low weight group, the number of specimens is too small to assess the normal distribution, but the analysis

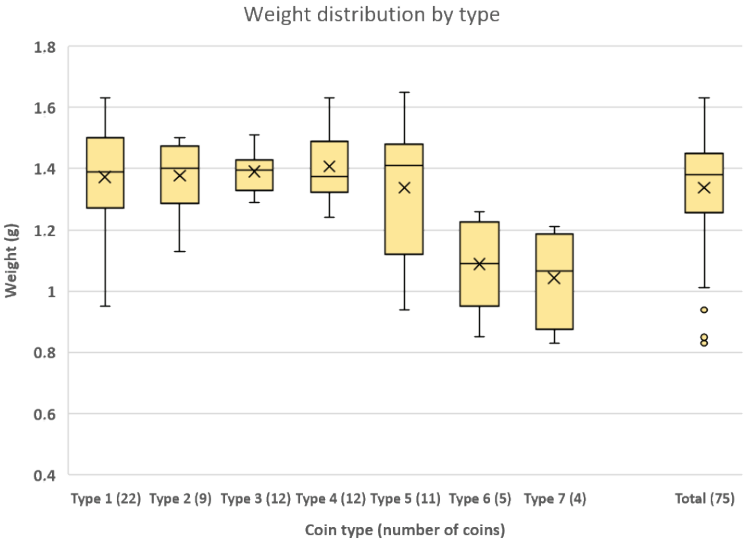


Fig. 7. The box chart illustrates the median, lower and upper quartiles, and minimum and maximum per type. The quartile distance is illustrated by the length of the box. In addition, the chart has been supplemented with the distribution of the total population. Prepared by the author

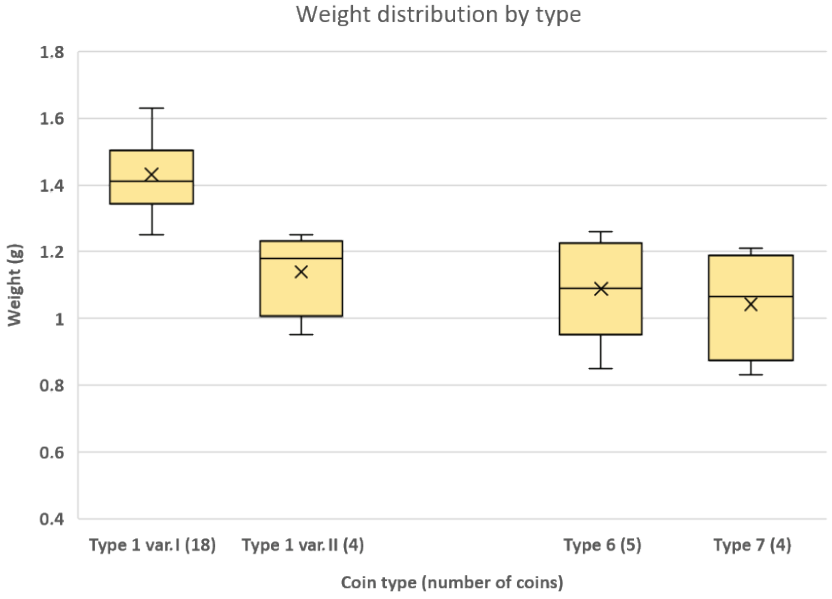


Fig. 8. Type 1, variants I and II are shown separately for comparison with the low-weight types 6 and 7. Prepared by the author

shows that they are well assembled within a lower weight range. All in all, the total group, with stylistically similar variants but with different weights, is nevertheless considered to be geographically cohesive but with two issues probably separated in time. The indication is clear, but it should be pointed out that the statistics are based on a relatively small number of coins with weight data.

The material also includes eight halved coins distributed among three of the types (Table 2). For four of the coins there are illustrations showing that they have a straight-edged cut, which indicates that they were cut in the mint.[25] Weight data are available for five coins, four of which belong to the heavier weight group. Unfortunately, there is no information about the coin from Stary Dworek (Althöfchen), nor is it stated which variant of type 5 it belongs to or whether it has a straight or broken edge. The specimen from Ciechanów I,[26] has the bewilderingly low weight of 0.33 g. The drawing shows a coin that is carefully divided in two, but with a seemingly uneven cut. The double weight of a whole specimen would be 20% lower than that of the lightest recorded whole specimen in the group. The difference is so striking that one might question whether the weight is correctly reported. The find was discovered in 1868 and the coins were scattered, but according to an early account, two more halved or cut ("zerschnittenes") coins of type 3 were included.[27] Apart from these unclear points, and based on known data, one can see that it is the high weight group that has halved coins with straight-edged cuts. The fact that they are cut and not broken indicates that they were cut in half in the mint itself, to give a lower nominal value, a half-pfennig. During the Viking Age, there were about 170 active mints in Germany. The standard of weight varied from one part of the country to another, and from several mints there is evidence of the half-pfennig, in the form of minted coins (obols) and/or officially halved coins. It was in areas with a high weight standard that the need for a half-pfennig existed. K. Jonsson has devoted an article to the subject, showing that the largest concentration of halved coins in Northern Europe for this period is found among the mints of Saxony, Lower Lotharingia, and Franconia.[28] Other examples of officially cut coins have been discussed by e.g. B. Malmer for Danish coins.[29] An interesting addition is that Dannenberg, under Dbg 1738, mentions an obol struck with an Arabic inscription similar to Dbg 1185/ type 3.[30] In addition to what he wrote about the group in 1876, he writes, in translation, of the badly struck coin: "As bad as the condition of this coin may be, it is nevertheless a pleasing phenomenon in that it provides evidence that this wonderful minting was not, as one might assume, temporary and limited, but in fact regular and extensive."

---

[25] Jonsson K. 2004, pp. 3–4.

[26] FMP III.16:244, Taf. X.16:244.

[27] FMP III, p. 64, note 31.

[28] Jonsson K. 2004.

[29] Malmer 2023, p. 72.

[30] Dannenberg 1894, p. 718, Taf. 93.

Table 2. Details of known halved specimens

| Type | Var. | Provenance | Weight (g) | Cut | Illustration |
|---|---|---|---|---|---|
| 1 | I | Finland, Raisio, Tuomaala | n.d. | n.d. | |
| | | | | | |
| 4 | – | Sweden, Gotland, Ardre, Halsgårde | 0.69 | straight edge | Fig. 33 |
| 4 | – | Sweden, Medelpad, Stige, Indal | 0.70 | n.d. | |
| 4 | – | KMK, SHM 17535 | 0.64 | straight edge | Hatz, Linder Welin 1968, Tafel III 4d |
| | | | | | |
| 5 | I | KMK, SHM 14487 | 0.74 | straight edge | Hatz, Linder Welin 1968, Tafel IV 5:Ic |
| 5 | I | Estonia, Saaremaa, Varpe | n.d. | straight edge | Fig. 25 |
| 5 | n.d. | Poland, Stary Dworek (Althöfchen) | 0.53 | n.d. | |
| 5 | n.d. | Poland, Ciechanów | 0.33 | uneven edge | FMP III.16:244 |

Following the interpretation that we have here two issues separated in time, it is interesting to analyse the *tpq* of the finds. In type 1, +HEINRICVS/+IMPERATOR can be clearly read, and the interpretation in Hatz and Linder Welin[31] and elsewhere is that this refers to Henry II (1002–1024) who bore the title of emperor from 1014. Type 4 is modelled on a solidus from Emperor Theophilus minted between 832 and 839, while type 5 is modelled on an Arabian dinar from Caliph Hisham II, minted in 1000/01–1001/02.[32]

There are no finds containing coins from the group with a *tpq* earlier than 1014, which could have been possible if minting with type 4 or type 5 had started. In general, it must be pointed out that Swedish finds with *tpq* in the interval 1003–1017 are very scarce. The earliest finds of the group – Estonia, Saarema, Varpe, a find in LUHM from an unregistered location with *tpq* 1014, and Rute, Koparve and Hejde, Ekeskog with a *tpq* of 1017 – contain coins that follow the higher weight standard. The earliest find with coins following the lower weight standard is the Polish find from Stary Dworek (Althöfchen) with *tpq* 1018. In general, Table 3 shows that the high-weight types occur in early finds. Although the comparison is based on a small amount of data, it supports the assumption that there were two issues separated in time.

[31] Hatz, Linder Welin 1968, p. 5.

[32] Hatz, Linder Welin 1968, p. 9, note 33, pp. 11–13; Dannenberg 1876, pp. 460–462.

Table 3. Finds with the earliest *tpq* for category 1, with only coins from the higher weight standard, and for category 2, which also contains coins from the lower weight standard. The *tpq* of the Swedish finds has been updated since Hatz, Linder Welin published their article. The table therefore has columns with both this date and the later update published by Jonsson K. 1986

| Find | Find no. *) | *tpq* *) | *tpq* in Hatz, Linder Welin 1968 **) | Types included (no. if more than one coin/type) |
|---|---|---|---|---|
| *Category 1* | | | | |
| Estonia, Saaremaa, Varpe | ***) | 1014 | – | 5 |
| LUHM, w/o findspot | – | – | 1014 | 5 |
| Sweden, Gotland, Rute, Koparve | G 98 | 1017 | 1014 | 4 |
| Sweden, Gotland, Hejde, Ekeskog | G 96 | 1017 | 1014 | 3 |
| Sweden, Gotland, Hellvi, Kännungs | G 107 | 1018 | 1014 | 1(2) |
| Sweden, Gotland, Väskinde, L. Mickelsgård | G 104 | 1018 | 1014 | 5 |
| Poland, Kowal | III:59 | 1018 | – | 1(2), 3(3) |
| *Category 2* | | | | |
| Poland, Stary Dworek (Althöfchen) | I:239 | 1018 | – | 1, 2, 4, 5, 7 |
| Sweden, Gotland, Rute, Fardume | G 114 | 1024 | 1024 | 1, 5, 7 |
| Sweden, Gotland, Västerhejde, Nygårds | G 143 | 1036 | 1036 | 6 |

*) For Swedish finds, find numbers and *tpq* according to Jonsson K. 1986.
For Polish finds, find numbers and *tpq* according to FMP I and III.
**) *Tpq* in the original article before the update according to Jonsson K. 1986.
***) Information provided by Ivar Leimus. The find, discovered in 2019, consists of 28 coins with an estimated *tpq* of 1014.

## Place and scale of minting

It is unknown where the coin group was minted and how large the production was. Mainz or areas on the River Maas have been suggested, but not with any certainty.[33] If we take a given group of coins such as the one described here and look at the number of specimens in one find, this indicates that the group was cohesive, coming from the same geographical area and circulating for a limited period of time before deposition. Several finds within one geographically limited area may also indicate that the types of coins circulated in the area and thus also serve as a pointer to seek the mint within the area or adjacent to its direct trade routes. Finds with a late *tpq* in relation to the probable minting date of the coin group may also contain interesting information. The aspects that need to be taken into account are how the hoard was built up, whether it is a "family hoard", "kin hoard" or a randomly lost purse. Family hoards are active hoards that were used for

[33] Kluge 1991, pp. 35, 148.

day-to-day trading, while kin hoards are passive ones that were gradually built up with the addition of coins over a long period of time.[34] An example of a kin hoard containing a type 5 coin is the find from Hemse, Ocksarve, with a *tpq* of 1120, where it has been established that the coins were collected over six generations.[35] A condition for ascertaining which type of hoard we are dealing with is, of course, that the finds are well documented and include all coins belonging to the find. Unfortunately, there are many older finds where this is not the case.

Table 4. Finds with three or more specimens from the group

| Find | *tpq* *) | Find no. *) | Number of coins from the group | Types included (no. if more than one coin/ type) |
|---|---|---|---|---|
| Poland, Ciechanów **) | 1045 | III.16 | 6 | 3(3), 5(3) |
| Poland, Stary Dworek (Althöfchen) | 1018 | I:239 | 5 | 1, 2, 4, 5, 7 |
| Poland, Kowal | 1018 | III.59 | 5 | 1(2), 3(3) |
| Finland, Nousiainen | 1036/45 | ***) | 4 | 1(2), 1 var. II, 4 |
| Poland, Kuyavia (Kujawy) | 1027 | III.215 | 3 | 4(3) |
| Sweden, Gotland, Alva, Gandarve (2009) | 1023 | – | 3 | 2, 3, 4 |
| Sweden, Gotland, Rute, Fardume | 1024 | G 114 | 3 | 1, 5, 7 |
| Sweden, Medelpad, Indal, Stige | 1023 | S 58 | 3 | 3, 4(2) |

*) For Swedish finds, find numbers and *tpq* according to Jonsson K. 1986. For Polish finds, find numbers and *tpq* according to FMP I and III.
**) Two more type 3 coins may have been included (FMP III, p. 64, note 31).
***) Salmo 1948, pp. 75: 147–151, 93: 100.

Table 4 shows the finds that contain three or more coins from the group. The three finds with the most coins from the group are all Polish. Looking at all the finds presented in the catalogue below of known specimens broken down by type, but disregarding the Gotlandic examples, we see that most have been found in Poland, with 12 finds, for 11 of which the location is specified. All in all, this casts doubt on the western areas that have been suggested as the possible site of production for the group and indicates instead that the origin should be sought further to the east. In this context, we should also consider where coinage to a high weight standard took place during the relevant time period for the group.

A total of 41 specimens are reported from Swedish finds, and in this article another 12 coins are added, some of Swedish provenance and some from the systematic collection at KMK. There are now 66 specimens in total from other Euro-

[34] Persson 1999; Odebäck 2009.
[35] Jonsson K. 2014, p. 551.

pean museums and from sales (the figure is somewhat uncertain because there are some ambiguities in Hatz and Linder Welin's article in relation to Dannenberg and others). Since we do not know the minting place, it is likely that several coins have been registered as anonymous in collections, which means that additional specimens could probably be found at KMK and other museums. The type distribution of the total of 119 registered specimens shows that type 1 var. I, type 3, and type 5 have an equal distribution of about 16–18%, type 2 about 5 percentage points lower, and type 4 about 5 percentage points higher. The low-weight types account for 5% or lower (Fig. 9).

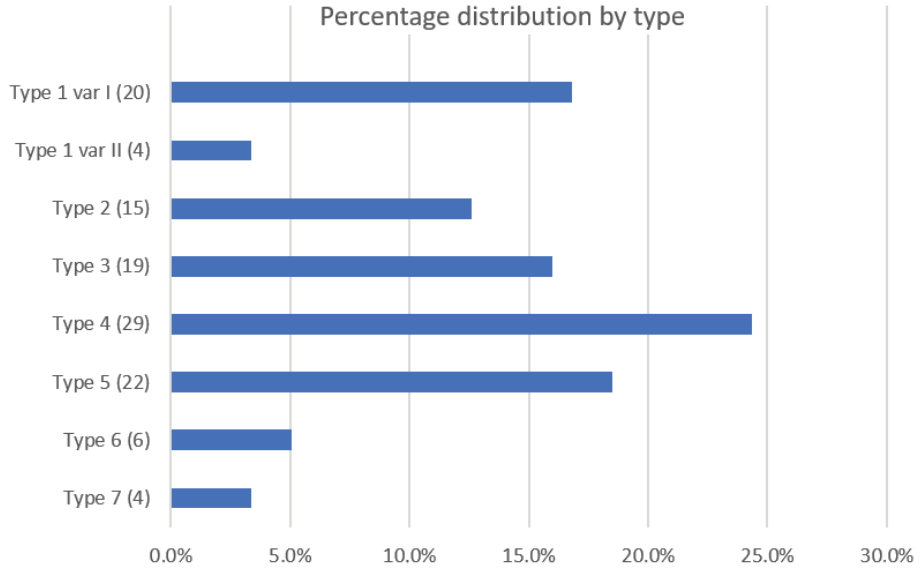


Fig. 9. Percentage distribution by type of the 119 known specimens.
Prepared by the author

The fact that several dies were used in the different types shows that the coinage was not only on a marginal scale. Originally, Hatz and Linder Welin presented 19 different dies that were used for the Swedish material in the group. With the additions in this article, the number is up to at least 25 dies, and there are no doubt more in the foreign material that it has not been possible to study in detail. There are methods, based on the number of known obverse and reverse dies and preserved coins, that can be used to calculate the approximate volume of coinage from a mint. Since there is great uncertainty regarding the number of dies in this case, no calculation has been attempted. However, a commonly used rule of thumb is that up to 10,000 coins may have been struck with one pair of dies.

## Additional types?

There is yet another type of coin that can in all probability be included in the group. Since I only have access to written sources and drawings, this will be treated for the time being as a probable addition, and therefore it has not been discussed in detail in this article, nor has it been included in the supplemented picture of the coin group in Fig. 13.

Dannenberg depicts two coins as nos 1273 and 1742. These coins have a portrait face that is very similar to type 1/Dbg 1184 (Fig. 10). The partially legible inscription is an unambiguous IMPERATOR. On Dbg 1742, where the start of the inscription is legible, it begins with two I's. The other face has a small cross but it is not inscribed in a circle as in the case of type 1. Unfortunately, there is no information on the weight of the two coins, and no provenance is stated for Dbg 1742. The second coin, Dbg 1273, comes from the Polish find from Ciechanów (see also FMP III.16:245). Dannenberg also writes that the coin is a "Nachahmung des Denars von Heinrich II, no. 1184," that is to say, already here Dannenberg points out the similarity to type 1 in the coin group described.


Fig. 10. The coins as depicted by Dannenberg. Reproduced from Dannenberg 1876 and 1894; image processed by the author

Dbg 1742 has no specified provenance. In the Polish find from Rawicz there is a coin in FMP I.212 under no. 129 with the description: "Av. Kopf n. r., Legende: +IIMP.....O, Rv. .....RCIPM..... um ein Kreuz im Feld." The inscription corresponds well to that of Dbg 1742, although there is a slight discrepancy in R versus P. In volume 2 of Dannenberg, where Dbg 1742 is depicted, there is a description of the find from Rawicz[36] and it is obvious, although not stated, that this find is the provenance of the coin.

If the two reverses are oriented in the same way, the cross and the letters R and C coincide, which in turn may indicate that the two coins, if they had been fully struck, may have had the same inscription (Fig. 11). Most of Dannenberg's drawings seem to have been executed with great accuracy, but there are also examples where coins are more simply drawn. If it were possible to locate the two coins, a die analysis would provide answers.

[36] Dannenberg 1894, p. 529, no. 69.

Fig. 11. The reverses of Dbg 1742 and 1273, oriented with the R and C in the inscription in the same position. Reproduced from Dannenberg 1876 and 1894; image processed by the author

Another indication that they belong to the group is that in both finds there are also coins from the other types in the group. In the find from Ciechanów I there are (at least)[37] three coins each of type 3 and type 5 and in the find from Rawicz one coin of type 4.


Fig. 12. Dannenberg 1743 with a motif similar to that of type 7. Reproduced from Dannenberg 1876 and 1894; image processed by the author

Another coin that both Dannenberg and Friedländer consider in comparison with Friedländer, Tafel I:8 – i.e. what is defined here as type 7 – is Dbg 1743 (Fig. 12). In this article I have avoided elaborating on the argument concerning this coin and its possible connections to the group and type 7, even though there are significant similarities between them. Dannenberg makes some comparisons with coin types from Mainz, but also points out that the forward-facing head with a halo and a small cross over it occurs on Bohemian coin types. After a lengthy discussion of the coin, Dannenberg concludes by saying that a great deal of obscurity surrounds this coin, or in his own words, "Es ruht aber grosses Dunkel auf dieser Münze."

## Conclusion

For a future assessment of where and when this coin group was minted, and of the scale of the coinage, the present article can be summed up as follows:

To the six different types of the group, a new seventh type has been added, with Byzantine-inspired obverse and reverse motifs. One of the variants under type 1

[37] Two more coins of type 3 may have been included, see FMP III, p. 64, note 31.

should also be classified as a separate type. The original group has been expanded with 25 new coins to comprise 119 known specimens, for 76 of which we have weight data. The results of a weight analysis show that the group was manufactured to comply with two different weight standards. The heavier group has an average weight of 1.40 g and the lighter group 1.08 g. For the higher weight standard, a lower nominal, a half-pfennig, was also produced at the mint in the form of coins cut in half. The assessment is that the coins were made at the same mint, but as two different issues in terms of time and weight, with the heaviest being the earliest. The coins are almost invariably badly struck, which makes it difficult to carry out a detailed die analysis. For the Swedish material, the original article presents 19 different dies, and this study adds at least six new ones, giving at least 25 dies used in the minting of the group. Ten of the newly added coins have a find provenance, and in addition it has turned out to be possible to identify the provenance of one of the coins previously registered as of unknown provenance. Nine auction sales are also reported, of which seven coins were sold by Polish auction houses. It is likely that there are additional types that can be added to the group, such as Dbg 1273 and 1742.

With the exception of Gotland, the finds are clearly concentrated in Poland, making it more likely that the minting place should be sought further east than the areas in Germany that have been suggested, albeit with hesitation. The early issue includes heavy coins, by German standards, and a weight analysis of coins which also places them in a chronological context for the different mints in Germany could provide valuable clues to the area in which we should seek the origin of this remarkable group of coins.

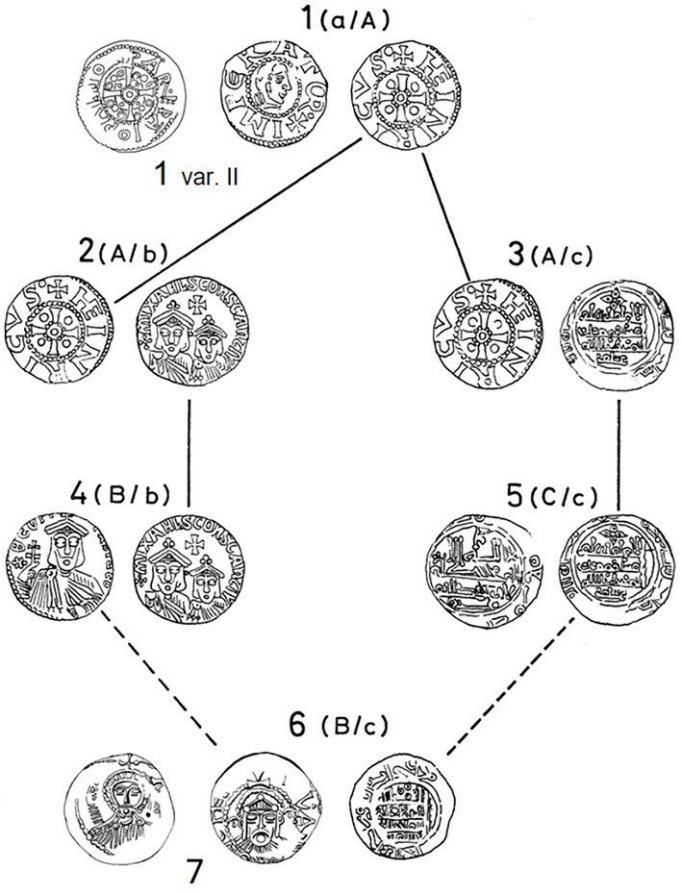


Fig. 13. The illustrated coin group supplemented with type 1 var. II and the new type 7. Reproduced from Hatz, Linder Welin 1968; image processed with added drawings by the author

## Catalogue, new specimens

| Type | Var. | Provenance | Weight (g) | Diameter (mm) | Die axis (°) | Note | Fig. no. |
|---|---|---|---|---|---|---|---|
| 1 | I | Münzen & Medaillen Deutschland, Auction 28, no. 200 | 1.50 | – | – | a) | 14 |
| 1 | II | Sweden, KMK, Systematic Collection | 1.18 | 18.2 | – | a) | 15 |
| | | | | | | | |
| 2 | – | Sweden, Gotland, Alva, Gandarve (2009) | 1.43 | 18.6 | 330 | b) | 16 |
| 2 | – | Öland, Stora Haglunda, Alböke (2009) | 1.33 | 17.5 | – | a) | 17 |
| 2 | – | WCN e-auction 170420, no. 139296 | 1.12 | 18.2 | 315 | | 18 |
| 2 | | Poland, Łask I | 1.50 | 17.0 | – | | 30 |
| | | | | | | | |
| 3 | – | Sweden, Gotland, Alva, Gandarve (2009) | 1.42 | 17.7 | – | b) | 19 |
| 4 | – | Sweden, Gotland, Alva, Gandarve (1952) | 1.60 | 17.6 | 120 | a) | 20 |
| 4 | – | Sweden, Gotland, Alva, Gandarve (2009) | 1.24 | 17.4 | 135 | b) | 21 |
| 4 | – | Sweden, Gotland, Ardre, Halsgårde (1998) | 0.69 | 17.3 | 45 | a) | 33 |
| 4 | – | Sweden, Öland, Stora Haglunda, Alböke (2009) | 1.36 | 17.9 | – | a) | 22 |
| 4 | – | Sweden, Öland, Bredsättra, Skedstad (2009–) | 1.27 | 18.0 | 20 | h) | 31 |
| 4 | – | Sweden, Västergötland, Fyrunga, Stommen (1951–) | – | 17.4 | 315 | a) | 32 |
| 4 | – | Sweden, KMK, Systematic Collection | – | 17.6 | 135 | a) | 23 |
| 4 | – | WCN auction 62 (Nov 2015), no. 158 | 1.31 | – | – | | 24 |
| 4 | – | Frankfurter Münzhandlung, Auction 155, no. 501 | 1.40 | – | 240 | | 34 |
| | | | | | | | |
| 5 | I | Estonia, Saaremaa, Varpe (2019) | – | – | 135 | c) | 25 |
| 5 | I | WCN auction 66 (Sept 2016), no. 156 | 1.12 | 18.2 | 90 | | 26 |
| 5 | I | WCN e-auction 190926, no. 186776 | 1.41 | – | – | | 27 |
| 5 | I | WCN e-auction 200102, no. 193522 | 1.49 | 19.9 | 0 | d) | 28 |
| 5 | I | Antykwariat Numizmatyczny Michał Niemczyk | 1.48 | 18.5 | – | e) | 29 |

| Type | Var. | Provenance | Weight (g) | Diameter (mm) | Die axis (°) | Note | Fig. no. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 7 | – | Dannenberg 1241a | 0.83 | – | – | f) | (3) |
| 7 | – | Dannenberg 1241b | 1.12 | – | – | f) | (3) |
| 7 | – | Sweden, Gotland, Rute, Fardume (1917) | 1.21 | 18.2 | 120 | g) | 4 |
| 7 | – | WCN auction 60 (Nov 2015), no. 112 | 1.01 | 18.2 | 315 | | 2 |

**Notes**
a) Information from Kenneth Jonsson.
b) Jonsson K. 2017, nos 1489–1491.
c) Information from Ivar Leimus. Find discovered in autumn 2019, total 28 coins, *tpq* 1014.
d) Same specimen as WCN auction 73 (Nov 2019), no. 50.
e) Information from Mateusz Bogucki.
f) One of the specimens Dbg 1241a or b is from Stary Dworek (Althöfchen), Friedländer Tafel I:8, see Fig. 3.
g) Ex H.C. collection, CNG e-auction 459 (Jan 2020), no. 586.
h) Jonsson E. 2013, p. 24.

## Picture catalogue, new specimens

Where the dimensions are registered according to the catalogue of specimens, the coins are reproduced on a scale of *c.* 1:1 unless otherwise stated. Coins lacking measurements are adapted to correspond to other images in the catalogue. The combinations of obverses and obverses follow the illustrations in Fig. 1. The specimens, Figs 2–4 can be found in the text above.

Source of figures:
Fig. 14: courtesy of Münzen & Medaillen GmbH
Figs 15–17, 19–23, 32–33: Kenneth Jonsson, Numismatic Institute, Stockholm University
Fig. 25: Ivar Leimus, Estonian History Museum
Figs 29–30: provided by Mateusz Bogucki, Institute of Archaeology and Ethnology of the Polish Academy of Sciences
Fig. 24, 27: courtesy of Warszawskie Centrum Numizmatyczne
Fig. 2, 4, 18, 26, 28: the author
Fig. 31: Florent Audy, Economy Museum, Stockholm. The Royal Coin Cabinet
Fig. 34: courtesy of Frankfurter Münzhandlung

Fig. 14

Fig. 15

Fig. 16

Fig. 17

Fig. 18

Fig. 19

Fig. 20

Fig. 21

Fig. 22

Fig. 23

Fig. 24

Fig. 25

Fig. 26

Fig. 27

Fig. 28

Fig. 29

Fig. 30

Fig. 31

Fig. 32

Fig. 33

Fig. 34

0 2 cm

Figs 14, 24, 25, 27, 34
of unknown diameter, scale approx.

## Catalogue, known specimens by type

The catalogue is a compilation of the specimens in Hatz and Linder Welin's study together with the new ones that have been added in the present study.

| Find/Provenance | | | *tpq* | Reference | Type 1 var. I | Type 1 var. II | Type 2 | Type 3 | Type 4 | Type 5 | Type 6 | Type 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweden** | | | | | | | | | | | | |
| Go | Atlingbo | Myrände | 1036 | G 138 | | | | | 1 | | | |
| Go | Alva | Gandarve (1952) | 1047 | G 162 | | | | 1 | | | | |
| Go | Alva | Gandarve (2009) | 1056/60 | – | | | 1 | 1 | 1 | | | |
| Go | Ardre | Halsgårde | 1036 | – | | | | | 1 | | | |
| Go *) | Boge | Laxarve | 1036 | G 140 | | | 1 | | | | | |
| Go | Bunge | Enge | 1047 | G 158 | | | | | | | 1 | |
| Go | Ekeby | Österby | 1079 | G 189 | | | 1 | 1 | | | | |
| Go | Hejde | Ekeskog | 1017 | G 96 | | | | 1 | | | | |
| Go | Hellvi | Kännungs | 1018 | G 107 | 2 | | | | | | | |
| Go | Hemse | Oxarve | 1120 | G 215 | | | | | | 1 | | |
| Go | Lärbro | Liffride | 1070 | G 183 | | | | | 1 | | | |
| Go | Rone | Findarve | 1089 | G 201 | 1 | | | 1 | | | | |
| Go | Rone | Stale | 1036 | G 141 | 1 | | 1 | | | | | |
| Go | Rute | Fardume | 1024 | G 114 | | 1 | | | | 1 | | 1 |
| Go | Rute | Koparve | 1017 | G 98 | | | | | 1 | | | |
| Go | Stenkyrka | Garde (1935) | 1048 | G 169 | 1 | | | | | | | |
| Go | Stenkyrka | Garde (1866) | 1053 | G 171 | 1 | | | | | | | |
| Go | Stenkyrka | Stora Bjärs | 1053 | G 173 | | | | | | 1 | | |
| Go | Väskinde | Lilla Mickelsgård | 1018 | G 104 | | | | | | 1 | | |
| Go | Västerhejde | Nygårds | 1036 | G 143 | | | | | | | 1 | |
| Go | Öja | Petes | 1077 | G 188 | | | | | | | 1 | |
| Go | Öja | Sibbenarve | 1085 | G 194 | | | | | 1 | | | |
| Öl | Alböke | Stora Haglunda (1927) | 1085 | S 112 | | | | | | | 1 | |
| Öl | Alböke | Stora Haglunda (2009) | 1023 | – | | | 1 | | 1 | | | |
| Öl | Bredsättra | Skedestad | 1029 | – | | | | | | 1 | | |
| Bl | Hjortsberga | Johannishus | 1120 | DS 132 | 1 | | 1 | | | | | |
| Vg | Fyrunga | Stommen | 1056 | S 102 | | | | | 1 | | | |
| Me | Indal | Stige | 1023 | S 58 | | | | 1 | 2 | | | |

| Find/Provenance | | | *tpq* | Reference | Type 1 var. I | Type 1 var. II | Type 2 | Type 3 | Type 4 | Type 5 | Type 6 | Type 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | KMK w/o findspot 1 | | 1024 | | 1 | 1 | | | | | | |
| | KMK w/o findspot 2 | | 1107 | | 1 | | | | | | | |
| | KMK w/o findspot 3 | | -- | | 1 | | | | | | | |
| | KMK w/o findspot 4 *) | | 1038 | | | | | | 1 | | | |
| | KMK w/o findspot 5 | | 1084 | | | | | | 1 | | | |
| | KMK systematic coll. | | -- | | | 1 | 2 | | 2 | | 1 | |
| | LUHM w/o findspot | | 1014 | | | | | | | 1 | | |
| | | | | | | | | | | | | |
| **Norway** | Egersund | Årstad | 1029 | Screen find 24 | | | | | | 1 | | |
| | | | | | | | | | | | | |
| **Finland** | Lieto | Anttila | 1060 | Talvio 112 | | | | 1 | | | | |
| | Nousianen | Nikkilä | 1036/45 | Talvio 115 | 2 | 1 | | | 1 | | | |
| | Rasio | Tuomola | *c.*1050 | Talvio 121 | 1 | | | | | | | |
| | w/o findspot | | -- | | | | | | | 1 | | |
| | | | | | | | | | | | | |
| **Estonia** | Saaremaa | Varpe | 1014 | Leimus e-mail | | | | | | 1 | | |
| | | | | | | | | | | | | |
| **Germany** | Mecklenburg | Schwaan | 1024 | PSW V:164 | 1 | | | | | | | |
| | Coll. Dannenberg | | -- | | | | 2 | 2 | 2 | | | 1 |
| | Coll. Grote | | -- | | 1 | | | 1 | | 2 | | |
| | Berlin w/o findspot | | -- | | 1 | | | | 2 | 1 | | |
| | | | | | | | | | | | | |
| **Poland** | Ciechanów**) | | 1045 | FMP III.16:239-244 | | | | 3 | | 3 | | |
| | Dąbrowa (Dombrowo) | | 1040/74 | FMP II.32:- | | | | | 1 | | | |
| | Kinno-Skubarczewo (Kinno) | | 1025 | FMP I.106:495 | 1 | | | | | | | |
| | Kowal | | 1018 | FMP III.59:293-297 | 2 | | | 3 | | | | |
| | Kujawien I (Kujawy) | | 1027 | FMP III.215:341 | | | | | 3 | | | |
| | Łask I | | 1040 | FMP III.70:192 | | | 1 | | | | | |

| Find/Provenance | | | *tpq* | Reference | Type 1 var. I | Type 1 var. II | Type 2 | Type 3 | Type 4 | Type 5 | Type 6 | Type 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Łupawa (Lupow) | | 1042/60 | FMP II:136:- | | | | 1 | | | | |
| | Rawicz | | 1035 | FMP I.212:219 | | | | | 1 | | | |
| | Stary Dworek (Althöfchen) | | 1018 | FMP I.239: 349-353 | 1 | | 1 | | 1 | 1 | | 1 |
| | Trzebuń | | 1046 | FMP III.181:80 | | | | 1 | | | | |
| | Wielowieś | | 1027 | FMP I.263:- | | | | | | 1 | | |
| | w/o findspot | | -- | | | | | 1 | | | | |
| | | | | | | | | | | | | |
| **Belarus** | Ludvishche | | *c.*1060 | | | | | | | 1 | | |
| | | | | | | | | | | | | |
| **Russia** | Lodejnoe Pole III | | 1095 | | | | | | 2 | | | |
| | | | | | | | | | | | | |
| Other provenances/ auctioneers, dealers: | | | | | | | | | | | | |
| Frankfurter Münzhandlung | | | -- | | | | | | 1 | | | |
| Berliner Münzblatt 53, 1933 | | | -- | | | | | | | | 1 | |
| Münzen & Medallien Deutschland | | | -- | | 1 | | | | | | | |
| Warszawskie Centrum Numizmatyczne | | | -- | | | | 2 | | 1 | 3 | | 1 |
| Antykwariat Numizmatyczny Michał Niemczyk | | | -- | | | | | | | 1 | | |

Find references and *tpq* for Swedish finds according to Jonsson K. 1986.

*) Hatz, Linder Welin, *KMK w/o findspot 4*, specimen 2f, originates from the find from Gotland, Boge, Laxarve, CNS 1.2.12.80.

**) Two more halved or cut ("zerschnittenes") type 3 coins may have been included (FMP III, p. 64, note 31).

***) There are different statements about the number of specimens; the number used here comes from Hatz, Linder Welin 1968, p. 23.

****) Hatz, Linder Welin 1968, p. 23. The specimen is not identified in FMP II:36.


## Acknowledgements

The author would like to extend his gratitude to Alan Crozier for translating the article and to Florent Audy, Mateusz Bogucki, Kenneth Jonsson, Bernd Kluge, Marek Kondrat, Ivar Leimus, and Magnus Wijk for illustrations and additional information.

## Abbreviations

| | |
|---|---|
| B | Blekinge, Sweden. |
| *c.* | circa. |
| CNG | Classical Numismatic Group. |
| CNS | *Corpus nummorum saeculorum IX–XI qui in Suecia reperti sunt*. |
| Coll. | Collection. |
| Comm NS | *Commentationes de nummis saeculorum IX–XI in Suecia repertis. Nova series.* |
| Dbg no. | number with reference to Dannenberg 1876 and 1894. |
| FMP | *Frühmittelalterliche Münzfunde aus Polen*, Inventar I–V. |
| Go | Gotland, Sweden. |
| KMK | Kungliga Myntkabinettet/Royal Coin Cabinet, Stockholm. |
| LUHM | Lund University Historical Museum. |
| Me | Medelpad, Sweden. |
| n.d. | no data. |
| Öl | Öland, Sweden. |
| Sear no. | number with reference to Sear 1987. |
| *tpq* | *terminus post quem*. |
| Vg | Västergötland, Sweden. |
| WCN | Warszawskie Centrum Numizmatyczne. |

## Bibliography


| | |
|---|---|
| CNS 1.2 | Malmer 1977. |
| PSW | Kiersnowski 1964. |
| Screen | Screen 2013. |
| Talvio | Talvio 2002. |

FMP I

2017 T. Szczurek, B. Paszkiewicz, A. Tabaka, M. Bogucki, P. Ilisch, D. Malarczyk, T. Nowakiewicz, P. Kaźmierczak, A. Kędzierski, M. Sikora, W. Nakielski, *Frühmittelalterliche Münzfunde aus Grosspolen*, Warszawa (=Frühmittelalterliche Münzfunde aus Polen. Inventar I, eds M. Bogucki, P. Ilisch, S. Suchodolski).

FMP II

2016 D. Gorlińska, S. Suchodolski, P. Ilisch, D. Malarczyk, T. Nowakiewicz, J. Piniński, M. Bogucki A. Kowalówka, M. Kulesza, *Frühmittelalterliche Münzfunde aus Pommern*, Warszawa (=Frühmittelalterliche Münzfunde aus Polen. Inventar II, eds M. Bogucki, P. Ilisch, S. Suchodolski).

FMP III

2015 D. Gorlińska, S. Suchodolski, M. Bogucki, P. Ilisch, D. Malarczyk, T. Nowakiewicz, P. Chabrzyk, K. Mitkowa-Szubert, J. Piniński, A. Romanowski, G. Śnieżko, M. Widawski, M. Zawadzki, *Frühmittelalterliche Münzfunde aus Masowien, Podlachien und Mittelpolen*, Warszawa (=Frühmittelalterliche Münzfunde aus Polen. Inventar III, eds M. Bogucki, P. Ilisch, S. Suchodolski).

Carlsson H., Gunnarsson B.

2022 *Hans Carlssons numismatiska minnen. Del 3 – Ask med mynt från Fardume*, Svensk Numismatisk Tidskrift 5 (september), pp. 114–115.

Dannenberg H.

1876 *Die deutschen Münzen der Sächsischen und Fränkischen Kaiserzeit*, Bd. 1, Berlin.

1894 *Die deutschen Münzen der Sächsischen und Fränkischen Kaiserzeit*, Bd. 2, Berlin.

Friedländer J.

1877 *Der Fund von Althöfchen*, Münzstudien 8, pp. 267–300.

Gunnarsson B.

2020 *En tysk myntgrupp med bysantinsk-arabiska förebilder och en förbisedd typ 7*, Myntstudier 1, pp. 19–37 <https://www.su.se/polopoly_fs/1.594911.1643639751!/menu/standard/file/Myntstudier2020_1.pdf> [accessed 6.12.2024]

Hatz V., Linder Welin U.S.

1968 *Deutsche Münzen des 11. Jahrhunderts nach byzantinisch-arabischem Vorbild in den schwedischen Funden der Wikingerzeit,* [in:] *Commentationes de Nummis Saeculorum IX–XI, in Suecia repertis II*, eds N.L. Rasmusson, B. Malmer, Stockholm, pp. 1–38, Tafel I–IV.

Jonsson E.

2013 *En rik handelsmans silverskatt*, Stockholm.

Jonsson K.

1986 *Viking-Age hoards and late Anglo-Saxon coins*, Stockholm.

2004 *Myntets delar och delade mynt under vikingatiden*, Myntstudier 5, pp. 1–12.

2014 *The English Element in the 2012 Övide Hoard, Eskelhelm par., Gotland*, [in:] *Early Medieval Monetary History. Studies in Memory of Mark Blackburn*, eds R. Naismith, M. Allen, E. Screen, Farnham, pp. 545–569.

2017 *The turn of the tide – the 2009 Gandarve hoard*, [in:] *Nummi et Humanitas. Studia ofiarowane Profesorowi Stanisławowi Suchodolskiemu w 80 rocznicę urodzin*, eds M. Bogucki, W. Garbaczewski, G. Śnieżko, Warszawa, pp. 451–486.

Kiersnowski R.

1964 *Wczesnośredniowieczne skarby srebrne z Połabia. Materiały*. Wrocław-Warszawa-Kraków.

Kluge B.

1991 *Deutsche Münzgeschitche von der späten Karolingerzeit bis zum Ende der Salier (ca. 900 bis 1125)*, Sigmaringen.

Menadier J.

1933 *Die Mankusen des Königs Offa von Mercia*, Berliner Münzblätter 53, pp. 4–10, 17, 41–49, 59–65.

Malmer B. (ed.)

1977 *Catalogue of Coins from the Viking Age found in Sweden. 1. Gotland. 2. Bäl-Buttle*, Stockholm (=Corpus nummorum seaculorum IX–XI qui in Suecia reperti sunt).

2023 *Serpents and Crosses. Scandinavian coinage from the time of Louis the Pious, Cnut the Great, Harthacnut, and Anund Jakob*, Stockholm (=Commentationes de Nummis Seaculorum IX–XI in Suecia repertis. Nova series 14, ed. B. Gunnarsson).

Odebäck K.

2009 *Familje- och släkt-skatter under äldre vikingatid*, Myntstudier 2, pp. 9–25.

Persson C.

1999 *Aktiv och passiv-klassificering av vikingatida skattfynd utifrån myntsammansättningen*, [in:] *Samlad Glädje*, eds K. Holmberg, H. Nilsson, Uppsala, pp. 127–132.

Rasmusson N.L., Lagerqvist L.O. (eds)

1961 *Commentationes de Nummis Saeculorum IX–XI in Suecia repertis I*, Stockholm.

Rasmusson N.L., Malmer B. (eds)

1968 *Commentationes de Nummis Saeculorum IX–XI in Suecia repertis II*, Stockholm.

Salmo H.

1948 *Deutsche Münzen in vorgeschichtlichen Funden Finnlands* (=Finska Fornminnesföreningens tidskrift XLVII).

Talvio T.

2002 *Coin and coin finds in Finland AD 800–1200*, Vammala (=ISKOS 12, ed. T. Edgren).

Screen E.

2013 *Sylloge of Coins of the British Isles 65. Norwegian Collections*, part I*, Anglo-Saxon Coins to 1016*, Oxford.

Sear D.R.

1987 *Byzantine Coins and their Value*, London.

Stenberger M.

1947 *Die Schatzfunde Gotlands der Wikingerzeit II. Fundbeschreibung und Tafeln*, Stockholm.

## GRUPA NIEMIECKICH MONET Z WZORCAMI BIZANTYJSKO-ARABSKIMI I PRZEOCZONYM „TYPEM 7”

(Streszczenie)

W artykule zaprezentowano niezwykłą grupę niemieckich monet, na których łączą się wzorce niemieckie, bizantyjskie i arabskie. Grupa ta, opracowana i opublikowana w 1968 r. przez Verę Hatz i Ullę S. Linder-Welin, składała się z sześciu typów, z których pierwszych pięć łączyło się w jeden łańcuch połączeń stempli. Cała grupa, w związku z wystąpieniem w typie 1 legendy “Henricus Imperator”, przypisana została Henrykowi II, który został cesarzem w 1014 r. i wiązana była z Frankonią i rejonem środkowego Renu. Pozostałe typy wzorowano na solidzie cesarza Teofila (829–842) oraz na andaluzyjskim dirhamie Kalifa Hiszama II (976–1009; 1010–1013) z 1000/1001–1001/1002 r.

Impulsem do nowych badań stały się egzemplarze ujawnione na rynku antykwarycznym, które autor wydzielił jako nowy typ 7, wzorowane na miliaresionie oraz nomismie Jana I Tzimiskesa (969–976). Autor odnalazł ponadto inne egzemplarze tego typu, pochodzące z dawnych znalezisk, m.in. ze skarbu ze Starego Dworku.

Obecnie można wyróżnić 19 stempli oraz 119 monet wchodzących w skład całej grupy. Ich znaleziska koncentrują się w Szwecji, przede wszystkim na Gotlandii, następnie Polsce, Finlandii, Niemczech, Norwegii, Estonii, Białorusi i Rosji. Na podstawie analizy metrologicznej, autor wydzielił też dwie podgrupy – monety lżejsze (typ 1, wariant II, typ 5, war. II, typy 6 i 7) oraz cięższe (typ 1, war. I, typy 2–4, typ 5, war. I), które w jego opinii różnią się datowaniem – monety cięższe są starsze, a lżejsze młodsze. Autor sugeruje, wbrew wcześniejszym ustaleniom, że cała grupa tych monet została prawdopodobnie wybita w którejś ze wschodnich mennic Cesarstwa.

Adres autora/The author’s address:
Bo Gunnarsson
Independent scholar, affiliated to Stockholm Numismatic Institute at Stockholm University
bosse.gunnarsson@live.com
ORCID: https://orcid.org/0009-0003-1484-2719