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Pennies of the mint of Emden
in the name of Herman

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[PLATES 34–38]

Zusammenfassung: Untersucht wird die Münzprägung im Namen eines Heriman, die nach den Vorkommen in Schatzfunden zwischen ca.1045 und 1060 zu datieren ist. In der Vergangenheit sind als Münzherren Grafen des sächsischen Herzogshauses, von Werl und von Kalvelager diskutiert worden. Die schriftliche Überlieferung spricht gegen die Werler und Kalvelager. Die recht zahlreichen erhaltenen Pfennige lassen sich in fünf Stilgruppen einteilen, von denen die ersten noch einigermaßen in skandinavischen Schatzfunden vertreten sind, die jüngste aber fast nur noch in Russland. Die Belegung pro Vorderseitenstempel ist am Anfang höher als bei den späteren Ausprägungen. Es scheint auch, dass der Edelmetallgehalt in den etwa 15 Jahren der Prägung gesunken ist. Am Ende wurde die Münzprägung nach Jever verlagert.

The type

The coin type discussed in this article depicts a bust or a head facing right on one side and a long voided cross on the other. The cross has an arc at the end of each arm and a circle in the centre (Fig. 1).



Fig. 1. Coins of Emden in the name of ‘Herman’ as illustrated by Dannenberg

There are close contemporary parallels with this long cross design, namely the rare Dannenberg (abbreviated Dbg henceforth) no. 1789 which I have attributed to Minden, while Christoph Kilger gives it to Bremen.¹ There is also the anonymous type, Dbg 1293, which Kilger also thinks was struck at Bremen (Fig. 2).² The average weight of both types is heavier and the diameter is larger than that of the Herman coins, which consequently rules both of them out of the regular Emden series and its imitations.



Fig. 2. Coins with similar reverse design as illustrated by Dannenberg

¹ P. Ilisch, ‘Ein Mindener Pfennig aus dem 11. Jahrhundert’, *Numismatisches Nachrichtenblatt* 30 (1981), p. 372; C. Kilger, *Pfennigmärkte und Währungslandschaften. Monetarisierungen im sächsisch-slavisches Grenzland ca.965–1120*, *CNS, Nova Series* 15 (Stockholm, 2000), p. 183, group Nw I A. Kilger knew of only one coin (0.95 grams in Stockholm); another (1.05 grams) is in Münster.

² Kilger, p. 183, group Nw I B.

The identity of the mint

Hermann Dannenberg was the first to attribute coins in the name of Herman to the mint of Emden in his standard work on the coinage of the Empire under the Ottonians and Salians. These coins had hitherto been attributed to Andernach on the basis of a blundered inscription which had been read as AHNTON.³ Dannenberg was able to base this attribution on an article by Julius Friedländer,⁴ who had identified one of these coins when discussing a hoard from near Groningen published by the Dutch scholar Jan Hooft van Iddekinge. This hoard had also contained seven coins of Bernold Bishop of Utrecht (1026–54) of the mint of Groningen dating from the period 1040–54.⁵ Friedländer's coin clearly read HERIMAN and AMVTHON. He quoted the latter as a place name found in the land registers of the Abbey of Werden and, rightly, interpreted it as 'Emden'. After this the identity of the mint was no longer in doubt.

Emden had existed since the eighth to ninth centuries on a long spur of land parallel to the bank of the Ems just before it flows into the North Sea. As early as the tenth century there was a large settlement there reflecting the opportunities that existed for mooring ships and taking part in maritime trade.⁶

The identity of 'Herman'

This has remained elusive. Friedländer referred to a Hermann who is 'recorded between 1040 and 1050', without giving a source. Instead, referring to Fahne's *Westfälische Geschlechter*⁷ he identified this Hermann as a count of Ravensberg. Dannenberg contradicted this, drawing attention to a near contemporary coin from Jever (Dbg 596/7), which is not far from Emden, where on Dbg 596 'Herman' is combined with ODDO DVX (Fig. 3).



Fig. 3. Coins of Jever in the name of 'Herman' as illustrated by Dannenberg

He corrected Friedländer's Ravensberg to Kalvelage which, in the eleventh century, did not yet belong to Ravensberg, but thought that the Hermann on the coin was the brother of the Saxon Duke Ordulf who died in 1086.

The counts of Kalvelage were predecessors of the counts of Ravensberg. They included a Herman who is regarded by numismatists as dieing in 1051 but whose activities are otherwise unrecorded.

³ H. Dannenberg, *Die Münzen der sächsischen und fränkischen Kaiserzeit*, I. (Berlin, 1876), p. 298.

⁴ J. Friedländer, 'Nachtrag zu den Münzen der ostfriesischen Häuptlinge', *ZfN* 2 (1875), pp. 18–20.

⁵ J.E.H. Hooft van Iddekinge, *Numismatischer Anzeiger Correspondenzblatt des Münzforscher-Vereins* 5, no. 2 (1874).

⁶ Cf. *Reallexikon der Germanischen Altertumskunde* 7 (Berlin and New York, 1989), pp. 256–66 (also discusses the name).

⁷ A. Fahne von Roland, *Geschichte der Westfälischen Geschlechter* (Cologne, 1858).

A Westfalian 'Count Herman' is mentioned by chroniclers of the twelfth and thirteenth centuries as ruling the county of Vechta and it is agreed that he died in 1082. He was the second husband of Ethelinde the daughter of Otto of Northeim, duke of Bavaria 1061–70.⁸ The family is first mentioned as counts of Kalvelage in 1082 at Lohne (Oldenburg).

A 'Count Herman' is mentioned in 1017. His relationship with the later Herman and to Ethelinde is uncertain. Hömberg regarded him as a forerunner of the later counts of Cappenberg as well as the Kalvelage family.⁹

Dannenberg described two coins, under Emden, one with the legend HERMAN (Dbg 772) and the other reading HEREMON (Dbg 773) (Fig. 1). Both have a bust on the obverse and a voided cross on the reverse. There is considerable difference in the depiction of the bust on the two coins but it is not clear if Dannenberg based his distinction of the two types on the spelling of the name or the depiction of the bust. Consequently different authors of hoard publications either use Dbg 772 or Dbg 773, but it is unclear which criterium they use to differentiate the two.

Richard Gaettens attributed a coin in the Ludwisczce hoard with an Emden style voided cross to a Count Dietmar who was killed in 1048 and was the brother of Duke Bernhard II of Saxony (1011–59) (Fig. 4).¹⁰ This is unconvincing since it depends on reading the almost illegible reverse legend as a retrograde TIEIMA.



Fig. 4. Ludwisczce hoard, no. 113 (1.5x)

Vera Jammer considered three 'Hermans'. Herman of Saxony, Herman of Kalvelage and Herman of Werl. She ruled out the last on account of the lack of evidence that the Werls possessed land in Friesland.¹¹ In a document from King Henry VII (1220–35) to Count Otto I of Ravensberg (†1244) the count is confirmed as having a mint in Emden granted by a predecessor. Jammer thought that the Kalvelage were the most likely people to be minting at Emden in the eleventh century. She identified a Count Herman, mentioned in 1020, as a member of the Kalvelage family. In 1051 a Count Bernhard of Kalvelage was said to be the 'son of Herman' so Jammer concluded that the Herman mentioned in 1020 must have been already dead by 1051. In 1063 Henry IV (1056–1106) transferred the estates of a 'Bernhard' in Emsgau, Westfalia and Enger, including rights of market, mint and tolls, to Adalbert the archbishop of Bremen (1043–72). Since, when this imperial grant was renewed in 1096, it was stated that the transfer had taken place 'with the agreement of Count Bernhard',

⁸ Cf. K.-H. Lange, *Die Grafen von Northeim 950–1144* (Kiel, 1958), pp. 142–5.

⁹ A.K. Hömberg, 'Geschichte der Comitatus des Werler Grafenhauses', *Westfälische Zeitschrift* 100 (1950), pp. 17, 105.

¹⁰ R. Gaettens, *Der Fund von Ludwisczce* (Halle, 1934), p. 55, no. 113.

¹¹ V. Jammer, *Die Anfänge der Münzprägung im Herzogtum Sachsen (10. und 11. Jahrhundert)* Numismatische Studien 3/4 (Hamburg, 1952), p. 92.

Jammer ruled out Herman of Saxony (†1086) the brother of Duke Bernhard who died in 1059. She regarded the coin in the Ludwische hoard as an imitation, the prototype of which was struck before 1048.

Documentary references to a 'count Herman'

There are no original sources for the western lands of the duchy of Saxony which identify a Count Herman with a specific family. It must not be forgotten that written sources in general are very sparse. The older documents of the bishopric of Münster, to which most of Friesland then belonged, were destroyed in a fire at the cathedral in 1123. By contrast the bishopric of Paderborn is over-represented through the information in the *vita Meinweri* [Life of Bishop Meinwerk †1036].

The following Count Hermans are recorded:

- 1007 Hermann possessor of a county in the lands of Helmarshausen.¹²
- 1015–36 Three counts (Udo, Herimann, Benno) recorded as witnesses in a Paderborn document.¹³
- 1015–36 Counts Udo, Benno, Amelung and Herimann recorded as witnesses to a property conveyance in East Saxony to Paderborn.¹⁴
- 1015–36 Counts Amelung, Herimann and Thiadric recorded as witnesses to an exchange in Paderborn.¹⁵
- 1015–36 Counts Udo, Herimann, Benno, Sifrid recorded as witnesses to a donation in the Leinegau to Paderborn.¹⁶
- 1015–36 Attestation of a donation to Paderborn through Count Herman.¹⁷
- 1016 Confirmation of a royal donation of the palace of Gahmen in the Gau Westfalia and the county of Herman.¹⁸
- 1016 Heriman count in the service of the bishop of Paderborn.¹⁹
- 1017 Property in the land of Hessen-Gau and the county of Herimans.²⁰
- 1020 The king presents a palace to the Paderborn Benedictines in the Saxon Gau of Westfalia the county of Herimann.²¹
- 1020 The king presents the Gau of Westfalia and county of Herimann.²²

¹² H.A. Erhard (ed.), *Westfälisches Urkundenbuch. Regesta historiae Westfaliae. Accedit Codex diplomaticus* (Münster, 1847), (in the following: *WUB* I) R.738.

¹³ *WUB* I R.778.

¹⁴ *WUB* I R.794.

¹⁵ *WUB* I R.796.

¹⁶ *WUB* I R.827.

¹⁷ *WUB* I R.828.

¹⁸ *WUB* I R.870.

¹⁹ *WUB* I R.867.

²⁰ *WUB* I R.881.

²¹ *WUB* I R.901.

²² *WUB* I R.906.

- 1024 Settlement between the bishop of Paderborn and Thietmar the brother of Duke Bernhard through the mediation of Counts Sigifrid (of Stade), Herimann of Westfalia, Benne, Amelung.²³
- 1024 Donation in the Gau of Hesse to Paderborn witnessed by Herman of Werla and Herimann the Younger.
- 1029 Counts Herimann, Udo, Eckihard witnesses to an exchange in Leinengau.²⁴
- 1032 Royal donation of the county of Count Heriman in the Gaus of Auga, Netega und Hessiga.²⁵
- 1032 Royal donation in the Leinengau and county of Herimanns to Paderborn.²⁶
- 1036 Count Heriman mentioned as protector of the abbey of Werden which also owned land in Friesland.²⁷
- 1043 Donation to Horhusen (Nieder-Marsberg), whereby Count Hermann gives land to his father Widekind, his wife Bertha und their sons Bardo, Widekind and Heinrich.²⁸
- 1052–76 Land previously donated by Conrad II in Navilgowe and the county of Hermans goes to Paderborn.²⁹
- 1065 Mengede (by Dortmund) in the Gau of Westfalia and the county of the count Heriman.³⁰

Herman of Saxony It is clear no specific Count Herman of Kalvelage can be tied in for sure with the date of the start of the Emden penny. The terminal date of 1051 for the coin type can be rejected as pure speculation.³¹

As an alternative to the ‘Kalvelagen’ it is worth considering Count Herman, the son of Bernhard II and the younger brother of the Saxon Duke Ordulf (†1071) who, during the lifetime of his father, that is before 1059, can be seen to have exercised comital rights. He was the protector of the bishopric of Minden, though the date is uncertain.³² That the duke’s sons always pursued their own interests can be seen by Ordulf’s attack on the Friesland territories which had been granted to Archbishop

²³ *WUB* I R.928, ‘The Herman of Westfalia mentioned here is without doubt the same man who appears above as Count of Werla’.

²⁴ *WUB* I R.960.

²⁵ *WUB* I R.977, C.CXXII.

²⁶ *WUB* I R.976.

²⁷ *WUB* I R.997.

²⁸ *WUB* I R.1035.

²⁹ *WUB* I R.1061, C.CXLIV.

³⁰ *WUB* I R.1097.

³¹ In current academic literature and in the trade 1051 is given as the latest possible date. A search for ‘Hermann’, ‘Emden’ and ‘Pfennig’ on the web gives hundreds of results for 1051. This is based on Jammer’s dissertation, p. 93 (‘Hermann muß 1051 bereits gestorben sein’) meaning that by 1051 he was already dead. Subsequent literature and the coin trade have taken this to mean that he died in 1051.

³² Cf. H.-J. Freytag, ‘Die Herrschaft der Billunger in Sachsen’, *Studien und Vorarbeiten zum Historischen Atlas Niedersachsens* 20 (Göttingen, 1951), p. 47.

Adalbert of Bremen by Henry III (1039–56). This took place during the lifetime of Bernhard that is, once again, before 1059. The consequence of this was that Adalbert made Ordulf's brother Hermann his vassal in order to be sure of his loyalty.³³ This was ultimately unsuccessful since after Herman had served the archbishop on the Hungarian campaign in 1063 he demanded a larger fief and turned violently against the archbishop when it was refused.³⁴

The hoard evidence

The hoard evidence suggests that the Emden coinage in the name of Herman began around 1045. The hoards in question are:

Pilgård, Sweden, *tpq* 1046.³⁵

Stöckow / Stojkowo, Pommerania, Poland, dated 1047 or later by coins of Svend Estridsen (1047–76) and a coin of Bishop Bernold of Utrecht from the mint of Deventer. The latter can only have been struck after 1046 because it was in that year that minting rights passed from the king to the bishop. The hoard contained one example of Dbg 772.³⁶

Sanda, Dalarna, Sweden, *tpq* 1047.³⁷

Blacksta, Södermanland, Sweden, *tpq* 1050.³⁸

Naginscina, *tpq* 1055.³⁹

In his study of the occurrence of types in Swedish coin hoards Kjellgren has found that a duration of issue of only about six years, which is what one would expect, is not confirmed by the hoard evidence.⁴⁰ Kilger states that the attribution of Jammer was widely accepted but refrained from putting forward any opinion of his own on the question of the identity of the count. He added that coins of Bernhard, the supposed successor of Hermann, are unknown. Following the observations of Kjellgren he continues:

‘according to the hoards the AMVTHON-pennies must have continued to be struck after the accession / coming to power [*Regierungsantritt*] of Count Bernhard I in 1051 and continued to circulate as a valid currency in the Emsgau.’⁴¹

³³ Adam of Bremen III 41, 44. W. Trillmich and R. Buchner (eds), *Quellen des 9. und 11. Jahrhunderts zur Geschichte der Hamburgischen Kirche und des Reiches* (Darmstadt, 1961, 1968), pp. 378–9, 382–3.

³⁴ R. Bork, *Die Billunger. Mit Beiträgen zur Geschichte des deutsch-wendischen Grenzraumes im 10. und 11. Jahrhundert* (Dissertation, Greifswald, 1951), pp. 165–9.

³⁵ G. Hatz, *Handel und Verkehr Handel und Verkehr zwischen dem Deutschen Reich und Schweden in der späten Wikingerzeit: die deutschen Münzen des 10. und 11. Jahrhunderts in Schweden* (Lund, 1974), no. 256.

³⁶ G. Horosko, P. Ilisch, D. Malarczyk, J. Pininski, T. Nowakiewicz, *Frühmittelalterliche Münzfunde in Polen*, vol. III (Warsaw, 2016), pp. 482–507.

³⁷ CNS 16, 1. (Stockholm, 1979), hoard no. 8. The *tpq* 1057 given in the account of the hoard is based on the false identification of coin no. 8. 335. The latest coin is no. 8.34 struck by Archbishop Eberhard of Trier (1047–66).

³⁸ Statens historiska museum, Stockholm (SHM) 7218.

³⁹ V. Potin, ‘Der zweite Münzfund von Naginšcina. Bestand und Forschungsergebnisse’, *XII. Numismatischer Kongress. Akten* (Berlin, 2000), pp. 962–5.

⁴⁰ R. Kjellgren, *Myntningen i Friesland under vikingatiden* (Dissertation, Stockholm University, 1993), pp. 17–18.

⁴¹ Kilger, *Pfennigmärkte und Währungslandschaften*, p. 52.

The use of the term ‘accession’ *Regierungsantritt* indicates a lack of understanding, of the situation in the tenth and eleventh centuries.⁴² In the course of the second half of the twentieth century the misunderstanding developed that the death of count Herman of Kalvelage in 1051 would necessarily mean the immediate accession of a new count. This would not necessarily have been the case in the eleventh century. In any case Jammer only established that 1051 was the *terminus ante quem* for the death of Herman. One must also point out that in the eleventh century a county was the embodiment of the office of count. As such he guaranteed the maintenance of peace and the rule of law in the name of the king and in lands in a specific area. One cannot deny that by the eleventh century the office had become virtually hereditary and in the hands of the upper nobility. The Salians attempted to re-assert their legal control of the office but without success.⁴³

The present corpus

The coins of Herman of Emden have survived in large numbers. In the 1960s and 1970s Peter Berghaus collected black and white photographs, as part of a planned corpus of early Frisian coinage, which he passed on to me. I have been able to add to this.⁴⁴ A complete corpus is at present not feasible because of the large numbers of coins in Russia which are inaccessible. Altogether I have 482 photographs on a card index and 62 digital images which is a big enough sample for valid results.

The large numbers of surviving coins as well as the multitude of recognisable dies make a systematic die analysis impractical. This is especially the case as the reverses are weakly struck, in contrast to the obverses. The weak striking on the edge is caused by the hammering of the edges to make them round. Traces of this are still occasionally recognisable on coins of Emden.

<i>Group</i>	<i>Obv. legend</i>	<i>Rev. centre</i>	<i>O in rev. legend</i>	<i>A of Amuthon</i>
1	HERIMAN	Pelleted circle	Long O	A
2	HERIMAN	Pelleted circle	Mostly long O	H
3A	Blundered with two crosses	Pelleted circle	Pelleted ⊙	A
3B	Blundered with two crosses	Pelleted circle	Plain O	A
3C	Blundered with two crosses	Crossed lines	Plain O	H
4A	HERMAN or NERMAN	Pelleted circle	Pelleted ⊙	A
4B	HERMAN or NERMAN	Pelleted circle	Peleted ⊙	A
5A	HEREMON or, mostly, NEREMON	Small circle	Plain O	A
5B	NERMON	Crossing lines	Plain O	A

⁴² For the office of duke in Saxony see H.-W. Goetze, ‘Das Herzogtum der Billunger – ein sächsischer Sonderweg’, *Niedersächsisches Jahrbuch für Landesgeschichte* 66 (1994), pp. 167–97.

⁴³ Cf. B. Borgholte, ‘Graf’ in *Lexikon des Mittelalters*, vol. 4, columns 1633–4 and ‘Grafschaft’, in *Lexikon des Mittelalters*, vol. 4, columns 1635–6.

⁴⁴ The author thanks Kenneth Jonsson, Anton Mikhelsen and Oleg Trost’yansky for complementing the material which Berghaus photographed between 1962 and 1977 in Brussels, Cambridge, Helsinki, Copenhagen, Leningrad, Oslo, Stockholm and Tallinn.

Note on die numbers: each die has been given an individual number including the first three letters of the obverse legend and then a number. These are purely for convenience and there is no suggestion that the numbers or letters suggest an order.

GROUP 1

Obv. **†HERIMAN** Bust right with small head.

Rev. **†A MV TH Ⓞ N** Long voided cross with an arc at the end of each arm; pelleted circle in centre of cross.

The Ⓞ of the place name is circular and has a pellet in the middle. The group corresponds to Dannenberg 772.

This type was first identified in the aforementioned hoard discovered in the vicinity of Groningen and discussed by Friedländer. It was found together with seven Groningen pfennigs of the bishop of Utrecht, struck after 1040, and probably other coins.⁴⁵ The present whereabouts of this hoard coin is unknown to the author. It is said to have found its way into what is now the Ostfriesisches Landesmuseum.

Only one die is recorded for the obverse. Two dies are recorded for the reverse, one of which occurs on only one specimen.

HER1 6 specimens, average weight 0.78 grams:

Reverse die 1

Private collection in Russia: 0.77 g (**Pl. 34, 1**)

St Petersburg, ex Vichmjaz hoard 1934 nos 4951, 4952: 0.94, 0.81 g

Stockholm, unrecorded provenance: 0.83, 0.66 g

Reverse die 2

Münster, ex Denmark hoard 1996 (*tpq* 1056): 0.67 g (**Pl. 34, 2**)

GROUP 2

Obv. **†HERIMAN** Bust right but reduced to a head with a vestigial breast composed of a few lines.

Rev. **†A MV TH ON** Long voided cross with an arc at the end of each arm; pellet in centre. The **A** at the beginning recalls group 1 but several dies have **†H-HV-TH-ON**.

This second group is also early as is shown by its occurrence in the Sanda hoard, (*tpq* 1047) and in the Blacksta hoard (*tpq* 1051) as well as in the Stora Bjers III hoard (*tpq* 1051).⁴⁶ The following varieties exist. The average weight of 49 examples is 0.736 grams.

HER13 *Obv.* **†IERIMAN**, **A** is similar to an **N**
Rev. with **†A-MV-TH-ON**

⁴⁵ Friedländer, 'Nachtrag', pp. 18–23, at pp. 18–19.

⁴⁶ Stora Bjers hoard, Ksp.Stenkyrka, Gotland. Visby, Gotlands Fornsal Inv. No. GF C9708.

The reverse die of a piece from the Arkhangelsk hoard (*tpq* 1112) links this die to the first class.⁴⁷

11 specimens from 5 hoards (**Pl. 34, nos 3–4**)

HER6 *Obv.* **†HERMIAN**

Rev. **†A-MV-TH-ON** One example has **†H-HV-TH-ON**

6 specimens from 4 hoards (**Pl. 34, 5**)

HER12 *Obv.* **†HERMIAN**, with **MI** ligate

Rev. **†H-HN** (also **HH-TH-ON**)

8 specimens from 4 hoards (**Pl. 34, 6**)

HER21 *Obv.* **†IERIMNN**

Rev. **†H-IHI-TH-ON**

16 specimens from 9 hoards (**Pl. 34, 7**)

HER5 *Obv.* **HERMNAN**, with **MN** ligate

Rev. Cross without central circle and pellet

4 specimens from 3 hoards (**Pl. 34, 8**)

Legend **†H-HH-TH-OH** cf. group 4D

N+I-1 *Obv.* **HERMIVN**

Rev. Cross without central circle and pellet

13 specimens from 7 hoards (**Pl. 34, 9**)

GROUP 3

The next related group has blundered obverse legends. The earlier coins retain the pelleted **⊙** on the reverse which becomes a plain **○** in the later ones. The final **N** of the mint name is more like an **A** which is also the case in the third group. As a coin of this type was present in the Sundbro hoard (*tpq* 1051) the fourth group is to be dated to around 1050. This date is supported by the presence of several specimens in the Kuusamo hoard (*tpq* 1054) as well as another in the Sundbro hoard, Uppland (*tpq* 1051).

There is an interesting concordance with the legends found in the sub group 3a with that of Dannenberg 1311. This was attributed by Wilhelm Jesse to Stade in Lower Saxony and then by Klaus Giesen to an unidentified mint in Frisia and dated to 1040–50.⁴⁸ The Fitzwilliam Museum specimen, from the Grierson collection (fig. 5a),⁴⁹ and a coin with the same die in a private Russian collection, also have the legend **†VSEHO†R...** (Fig. 5b).⁵⁰

⁴⁷ E.N. Nosov, O.V. Ovsyannikov, V.M. Potin, 'The Arkhangelsk hoard', *Fennoscandia archaeologica*, IX (1992) pp. 3–21; V. Potin, 'Über einen neuen Schatzfund westeuropäischer Denare im Norden Russlands', in B. Kluge (ed.), *Fernhandel und Geldwirtschaft. Beiträge zum deutschen Münzwesen in sächsischer und fränkischer Zeit* (Sigmaringen, 1993), pp. 277–86. The illustrated coin is from a parcel of some 260 coins not included in the official report.

⁴⁸ K. Giesen, 'Überlegungen zum Typ Dannenberg 1311', *JMP* 95 (2008), pp. 65–83.

⁴⁹ © The Fitzwilliam Museum, Cambridge CM.PG. 2994-2006.

⁵⁰ O.V. Trost'yansky, 'Клад западноевропейских монет X–XI вв. из деревни Обращиха', *Средневековая Нумизматика Восточной Европы*, 8 (Moscow, 2020) pp. 77–128.



Fig. 5. Coins of an uncertain Frisian mints with obverse legend **†VSEHO†R** (1.5x)

Group 3A

Reverses with **⊙**. The **As** are clearly written as **A** but often inverted.

Obv. **†VSEHO†VRM** (and similar) Bust right with small head, on which there is a diadem, usually consisting of five pearls. Below the chin there is a suggestion of a beard.

Rev. **†A HN TH ⊙H** (or **†A HN TH ⊙**) Long voided cross with an arc at the end of each arm; pellet with dot in centre.

The **⊙** of the place name is circular and has a pellet in the middle. The group corresponds to Dannenberg 772.

VSE6 *Obv.* **†V2EHO†VRM**
7 specimens from 3 hoards (**Pl. 34, 10**)

VSE1 *Obv.* **†V2EHO†VRM**
Rev. die linked with VSE4 and VSE8.
15 specimens from 5 hoards (**Pl. 34, 11**)

VSE4 *Obv.* **†V2ERH†V2ERM**
23 specimens from 7 hoards, reverse die linked with VSE1 and VSE8 (**Pl. 34, 12**)

VSE9 *Obv.* **†V2EHO†VRM**
3 specimens from 1 hoard (**Pl. 35, 13**)

VSE8 *Obv.* **†V2EN†VRM**
4 specimens from 3 hoards, reverse die linked to NER11 (group 4)

A broken specimen from this group was present in the Sundbro hoard, Bälunge sn, Uppland, SHM 6471, whose *tpq* is 1051. (**Pl. 35, 14**)

Group 3B

As group 3A but with plain **⊙** in reverse legend.

The average weight based on 51 examples for group 3 A-B is 0.727 grams.

VSE7 *Obv.* **†V2ERH†V2ERM**
Rev. die linked to VSE1 and VSE4 (from group 3A)
6 specimens from 4 hoards (**Pl. 35, 15**)

- VSE2 *Obv.* **†V2EHO†VRM**
9 specimens from 4 hoards (**Pl. 35, 16**)
- VSE5 *Obv.* **†V2EHO†VRM**
3 specimens from 1 hoard (**Pl. 35, 17**)

Group 3C

As group 3A without circle in the centre of the voided cross. The average weight of 48 individual coins in group 3C is 0.724 grams.

- VSE7 *Obv.* **†[]II†V2ER[]**
1 specimen from 1 hoard (see group 3B same obverse die)
(**Pl. 35, 18**)
- VSE5 *Obv.* **†V2EH†V2EHR**
8 specimens from 2 hoards (**Pl. 35, 19**)
- VSE3 *Obv.* **†V2EWR†V2EMR**
7 specimens from 2 hoards (**Pl. 35, 20**)
- VSE10 *Obv.* **[]†V[]**
2 specimens from 2 hoards (**Pl. 35, 21**)
- VSE11 *Obv.* **†V2EOHPR[]HR:**
6 specimens from 2 hoards (**Pl. 35, 22**)
- SEV1 *Obv.* **†SEVOV†RESDH**
Salmo 31:33 and 36?; at least 4 reverse dies, reverse die linked to VSE11
23 specimens from 8 hoards (**Pl. 35, 23**)
- SEA2 *Obv.* **†SEΛOV†SEOV**
Salmo 31:32 and 34?
12 specimens from 5 hoards (**Pl. 35, 24**)
- SEA1 *Obv.* **†SEΛOV†RESDV**
3 specimens from 1 hoard (**Pl. 36, 25**)

GROUP 4

The fourth group has an obverse legend **†HERMAN** or **†NERMAN** (the **R** touches the **M**) and on the reverse there is a clear pellet in the **O** (⊙) of the mint name. The initial letter gradually turns from **H** to **N** so that sometimes it is subjective which letter is to be read. The place name on the reverse starts, after the small cross, with a clearly written **A**. The last letter is variable between **H** and **I**. The number of verifiable dies indicates a considerable issue. The beginning of the fourth group can be dated to around 1050 meaning that all coins of the first, second and third groups must have been struck in the period c.1045 to 1050. A transition from group 3 to group 4 is shown by die N50. The average weight on the basis of 104 coins is 0.72 grams.

Group 4A

- HER3 *Obv.* † HER...IAN,
Rev. †A-MN-TH-ON
 This obverse die is stylistically tightly connected with the second group. All recorded coins are from Scandinavian hoards.
 5 specimens from 5 hoards
- HER4 *Obv.* †HERIMAN
 4 specimens from 2 hoards (Pl. 36, 26)
- HER9 *Obv.* †HERMAN
 2 specimens from 1 hoard (Pl. 36, 27)
- HER2 *Obv.* †HERMAN with RM ligate
 10 specimens from 4 hoards (Pl. 36, 28)
- HER14 *Obv.* HERMAN
 9 specimens from 2 hoards (Pl. 36, 29)
- HER16 *Obv.* †HERMA[] with RM ligate
 1 specimen from 1 hoard (Pl. 36, 30)
- HER20 *Obv.* †HERIMAN with RI ligate
 1 specimen with unknown provenance
- HER21 *Obv.* ??
 12 specimens from 8 hoards Pl. 36, 31
- HER22 *Obv.* []HERM[] with RM ligate
 1 specimen from 1 hoard (Pl. 36, 32)
- NER50 *Obv.* †NER [?] †AN, the first cross is wedge-shaped, the second cross consists of connected triangles
Rev. die is linked to NER43
 2 specimens with uncertain provenance (Pl. 36, 33)
- NER43 *Obv.* †NERMAN, with RM ligate
 4 specimens from 2 hoards (Pl. 36, 34)
- NER2 *Obv.* †NERMAN, with RM ligate
 24 specimens from 5 hoards (Pl. 36, 35)
- NER4 *Obv.* † NERMAN with RM ligate
 6 specimens from 4 hoards (Pl. 36, 36)
- NER5 *Obv.* † NERMAN, with RM ligate, with small O over junction
 6 specimens from 2 hoards (Pl. 37, 37)
- NER6 *Obv.* †NERMAN, with RM ligate, with small O in centre of reverse cross
 3 specimens from 1 hoard (Pl. 37, 38)
- NER8 *Obv.* †NERMANC
 1 specimen from 1 hoard (Pl. 37, 39)

- NER9 *Obv.* †NERMAN, with RM ligate
5 specimens from 2 hoards
- NER13 *Obv.* †NERMAN, with RM ligate
7 specimens from 3 hoards
- NER11 *Obv.* NERMAN, with RM ligate, O over the RM
Rev. die linked to group 3A (VSE8)
6 specimens from 3 hoards (Pl. 37, 40)
- NER3 *Obv.* †NERMAN, with RM ligate. O over the RM
10 specimens from 5 hoards (Pl. 37, 41)
- NER5 *Obv.* †NERMAN, RM ligate with an O over the RM
7 specimens from 4 hoards (Pl. 37, 42)
- NER41 *Obv.* †NERMAN, O over the RM
2 specimens from 2 hoards
- NER7 *Obv.* †NERMAN, with RM ligate, O over the RM
6 specimens from 4 hoards (Pl. 37, 43)
- NER40 *Obv.* †NERMAN with RM ligate
6 specimens from 3 hoards
- NER15 *Obv.* †NERMAN with RM ligate
1 specimen with uncertain provenance (Pl. 37, 44)
- NER16 *Obv.* †NERMAN with RM ligate
1 specimen from 1 hoard
- HER23 *Obv.* †HERMANS
Rev. †A-HH
1 specimen from 1 hoard
- NER44 *Obv.* † NERMAN, with RM ligate
4 specimens from 4 hoards
- NER45 *Obv.* † NE AN
1 specimen without hoard provenance
- NER46 *Obv.* † NERMAN probably with RM ligate
1 specimen from 1 hoard (Pl. 37, 45)
- IER47 *Obv.* †IERMMAI, with RM ligate with O above
2 specimens from 2 hoards (Pl. 37, 46)
- IER48 *Obv.* †IEMR...N
1 specimen from 1 hoard (Pl. 37, 47)
- IER49 *Obv.* †IEЯ...И retrograde legend
1 specimen from 1 hoard (Pl. 37, 48)

Group 4B

This stands out because of a cruder style of die cutting, where the chin of the count is pushed much more forward than on the other dies. Furthermore the **As** of the count's name on three dies have no cross bar(?). **RM** is always ligate. The average weight, based on the 11 weights recorded below coins, is 0.63 grams which is significantly below the average weight of the other issues. Some of the coins may therefore be imitations but care must be taken with such a small sample.

- HER15 *Obv.* † **HERMAN** with **RM** ligate
2 specimens (0.67, 0.68 g) from 1 hoard (**Pl. 38, 49**)
- HER18 *Obv.* † **HERMAI** with **RM** ligate
3 specimens (0.52, 0.59, 0.62 g) from 1 hoard (**Pl. 38, 50**)
- NER8 *Obv.* † **NERMAI** with **RM** ligate
3 specimens (0.51, 0.58, 0.64 g) from 2 hoards (**Pl. 38, 51**)
- HER11 *Obv.* † **HERMIAI** with **RM** ligate
1 specimen (0.72 g), without hoard provenance (**Pl. 38, 52**)
- IHER1 *Obv.* † **IHERMAN** with **RM** ligate
2 specimens (0.631, 0.76 g), without hoard provenance
(**Pl. 38, 53**)
- IHR1 *Obv.* † **IHRMAI** with **RM** ligate
1 specimen from Vichmjaz hoard (**Pl. 38, 54**)

GROUP 5

The legend on the obverse now reads **HEREMON**.⁵¹ There is no pellet in the **O** of **AMVTHON**. The **A** is always clear. The **V** is always either an **H** or an **N**. In the centre of the voided cross on the reverse there is a small circle either without a pellet or a weak compass point. The beard is usually pointed. This group appears for the first time in the Ludwisczko hoard (*tpq* 1059) (no. 108). The coins of this group are to be dated to c. 1050–60, though the majority would have been struck in the second half of the decade, that is between 1055 and 1060. Remarkably, the largest number of pieces from the Karelian hoards published by Salmo belong to this fifth group, especially those from the Rautu II (*tpq* 1068) and Heinjoki (*tpq* 1068) hoards.⁵² As die duplicates are seemingly very rare I only show a representative selection.

Group 5A

- HER7 1 specimen (possibly 2) from 1 hoard
- HER10 2 specimens from 2 hoards, reverse die linked with NER28
- HER17 1 specimen from 1 hoard

⁵¹ There appears to be a letter **I** (or in one case **Ʒ**) between the **R** and the **E**. I consider this to be a kinked part of the tail of the letter **R**. In earlier groups this is part of the **RM**-ligature.

⁵² H. Salmo, *Deutsche Münzen in vorgeschichtlichen Funden Finnlands* (Helsinki, 1948), pp. 127–8, nos 31.1–25.

- HER19 6 specimens (**HEREMON**) from 3 hoards (**Pl. 38, 55**)
- HER22 2 specimens, without hoard provenance
- NER28 1 specimen from 1 hoard, reverse die linked with HER10
- HER50 1 specimen from 1 hoard
- HER51 4 specimens from 3 hoards
- NER1 2 specimens (**NERIEMON**) from 1 hoard, reverse die linked with NER17 (**Pl. 38, 56**)
- NER17 3 specimens (**NEREMON**) from 3 hoards
- NER21 1 specimen from 1 hoard
- NER22 1 specimen from 1 hoard
- NER24 1 specimen from 1 hoard
- NER26 3 specimens from 2 hoards
- NER27 1 specimen from 1 hoard
- NER29 4 specimens from 1 hoard

Group 5B

This is a subgroup without the circle in the centre of the reverse cross but with crossing lines instead (cf. also 4C). The obverse legend on all dies reads (in so far as they are readable) **NEREMON**. The top line of the mint name usually ends with **N**, the end of the bottom line usually ends with **N** or, more rarely, **H**.

- NER14 3 specimens from 2 hoards
- NER19 1 specimen from 1 hoard **+NEREMON (Pl. 38, 57)**
- NER25 1 specimen from 1 hoard
- NER30 3 specimens from 1 hoard
- NER91 1 specimen from 1 hoard
- NER92 1 specimen from 1 hoard
- NER93 3 specimens from 3 hoards
- NER94 1 specimen from 1 hoard
- NER95 1 specimen from 1 hoard
- NER96 1 specimen from 1 hoard
- NER97 1 specimen from 1 hoard
- NER98 1 specimen from 1 hoard
- NER99 1 specimen from 1 hoard
- NER100 2 specimens from 1 hoard
- NER101 2 specimens from 1 hoard
- NER102 1 specimen from 1 hoard
- NER103 1 specimen from 1 hoard
- NER104 1 specimen from 1 hoard

IER105 1 specimen from 1 hoard ~~†~~IEREMON (Pl. 38, 58)

NER106 1 specimen from 1 hoard

NER107 1 specimen from 1 hoard

In addition there are a further nine specimens, apparently mostly singletons.

The 5B group, in my view, marks the end of striking in Emden. This abundant subtype is present in the Vichmjaz hoard (*tpq* 1068).⁵³ It is missing, however, in the slightly older hoard from Golgolema (*tpq* 1056?), also located in the Ladoga region.⁵⁴ It was also present in the Novgorod hoard, whose *terminus post quem* based on the coins is 1068 but whose archaeological context indicates a burial date after c. 1090. Of the five Emden coins in this hoard four belong to group 5 and a fragment to group 3.⁵⁵

In the reconstructable part of the Venngarn 1789 hoard (*tpq* 1079) there are 19 pieces from group 5 as opposed to 25 from the older groups.⁵⁶ The average weight of 16 pieces group 5B is 0.71 grams. This hoard is rather exceptional in Sweden because of the high percentage of Frisian coins it contained.

Group	Golgolema	Vichmjaz	Skadino	Pskov	Venngarn
3A–B	32	0	7	2	3
3C	17	0	2	1	6
4	35	21	11	7	12
5A	15	14	3	5	13
5B	0	19	0	0	6

Table 1. Number of examples found in hoards⁵⁷

Two specimens have a die which apparently links them with groups 4 or 5. They have the legend ~~†~~IIIRMOH. There are two different reverse dies one of which reads, as normal, ~~†~~A-HH TH-OH (Skadino hoard⁵⁸ 0.64 grams) the other has the reverse legend retrograde (Golgolema hoard 0.79 grams). Whether or not these dies belong to the regular Emden series or are the product of an imitative mint is unclear.

⁵³ Summary in V.M. Potin, 'Топография находок западноевропейских монет X–XIII вв. на территории древней Руси', *Труды Государственного Эрмитажа IX (Numizmatika 3)* (Leningrad, 1967), pp. 153–5. Full details of the hoard remain unpublished.

⁵⁴ Potin, pp. 155–6, no. 229. The data given here refer to the part of the Golgolema hoard in the Ermitage in St Petersburg. Two other parcels from the hoard exist: one from the original find in private hands, while another was subsequently found with a metal detector.

⁵⁵ P.G. Gaidukow, N.N. Faradshtshewa, 'Новы новгородский клад западноевропейских монет XI века' in: 'Города и весисредневековой руси', *Археология, История, Культура* (Moscow, 2015), pp. 521–7.

⁵⁶ K. Jonsson, 'The numismatic evidence for Frisian trade in Sweden in the late Viking Age', in R. Kiersnowskiet *et al.* (eds), *Moneta Mediaevalis. Studia numizmatyczne i historyczne ofiarowane Profesorowi Stanisławowi Suchodolskiemu w 65. rocznicę urodzin* (Warsaw, 2002), pp. 233–44. It is here calculated according to the photos of Peter Berghaus.

⁵⁷ Peter Berghaus visited Leningrad in 1962 and 1969 and was able to photograph coins in these partially published hoards.

⁵⁸ N. Bauer, 'Nachträge zu den russischen Funden abendländischer Münzen des 11 und 12 Jahrhunderts', *ZfN* 42 (1935), pp. 161–71; V.M. Potin, 'Топография находок западноевропейских монет X–XIII вв. на территории Древней Руси', in: *Труды Государственного Эрмитажа (Numizmatika 3)* (Leningrad, 1967), p. 134, no. 170.

Group 5C

This subgroup is probably not a separate issue

Obv. with HEREMON

Rev. ☉ with dot in the A of †A-MH-TH-ON

NER23 1 specimen, with unknown provenance

The dating of group 5 to about c.1060 is based on the Ludwisczce hoard (*tpq* 1059 where all the main types are represented).⁵⁹

Metrology

The weights declined only minimally during the sequence of issues. Ulrich Zwicker analysed an Emden penny from group 5A and the result gave a fineness of only 38.6% silver. Whatever one's reservations about the accuracy of the methods used there seems little doubt that by this stage the fineness had declined. The same applies to the later coinages in the name of Hermann from Jever which Zwicker, using the same methods, recorded as 47.2 and 47.5% silver. A drilled out sample showed a high proportion of copper.⁶⁰

Some specimens of the 5th group have a yellowish tone, which might indicate that the silver was alloyed with brass. This also corresponds with the figure of 40–50% silver content which had been determined for Frisian coinages in the melted metal of the Venngarn 1789 hoard, which is atypical for a Swedish hoard because of its high Frisian proportion.⁶¹ The poor metal may also be one of the reasons why coins of Emden and other Frisian pennies ceased to appear in hoards from Gotland after the middle of the eleventh century when a strong decline of coin imports from the German Empire is recorded. Jonsson supposes that the poor-silver Frisian coins replaced the finer Gotland coins in the lands of the Rus.⁶² The contact with Russia probably took place directly thus bypassing the Scandinavian intermediate trade.⁶³

Imitations

These are not common and, as far their provenance is known, originate exclusively from Russia and Finland.⁶⁴ These cannot be discussed here.

⁵⁹ Gaetgens, *Ludwisczce*, p. 54, nos 107–111.

⁶⁰ U. Zwicker, N. and Z. Gale, *Otto-Adelheid-Pfennige, Untersuchungen zu Münzen des 10./11. Jahrhunderts*, *CNS Nova Series* 7 (Stockholm, 1991), pp. 59–146, at pp. 88–9.

⁶¹ Jonsson, 'Numismatic evidence for Frisian trade', p. 237.

⁶² Jonsson, 'Numismatic evidence for Frisian trade', p. 239; K. Jonsson, 'The turn of the tide – the 2009 Gandarve hoard', *Nummi et humanitas, Studia ofiarowane Profesorowi Stanisławowi Suchodolskiemu w 80 rocznice urodzin* (Warsaw, 2017), p. 454.

⁶³ B. Kluge, 'Bemerkungen zur Struktur der Funde westeuropäischer Münzen des 10. und 11. Jahrhunderts im Ostseeraum', *Zeitschrift für Archäologie* 12 (1978), pp. 181–90.

⁶⁴ Cf. P. Ilisch, 'The Frisian impact on coin import in the Baltic Sea area and Russia', in *Конференция 2017 года будет посвящена крупнейшему археологу-нумизмату Швеции - Брите Мальмер* (The Viking Era in Eastern Europe and Numismatic Objects of the 8th–11th Centuries', *Collected papers*) (St Petersburg, 2019), pp. 155–66.

The transfer of minting to Jever

It seems that there was no minting of coins in Emden after *c.*1060. Instead minting was transferred to Jever, where pennies of the same weight standards with the **HEREMON** legend were struck.⁶⁵ (Fig. 3)

This is shown by the make up of the Ludwiscze hoard, where 10 ‘Hermann’ coins are from Emden and only two from Jever. In later hoards the relative numbers shifted. The style of die cutting in Jever is identical to that of Emden, showing that the minting was in effect a continuation. The style of the portrait is similar, as is the vestigial tail of the **R** found on group 5. Kilger dates the commencement of minting at Jever to *c.*1060, so the Emden coinage must have come to a stop before this date.⁶⁶ This may be connected with the death of the duke of Saxony, Bernhard II, in 1059. Of special interest in the context of the move of the mint is a coin which was part of a new, not yet published, hoard from the Leningrad oblast in Russia, buried after 1068.⁶⁷ It shows on the obverse a crowned frontal head with **HEREMON** around as on the usual Jever type Dannenberg 597 whereas for the reverse a die from Emden group 5 was used (Fig. 6).



Fig. 6. Coin of Jever with ‘Emden’ reverse

It is noteworthy that the die coverage in the early groups (1 to 4) is reasonably good, whereas in the later group 5 most dies could only be recorded from single examples. The reason is the decline in coin exports to Sweden in about the middle of the eleventh century. This more or less paralleled the establishment of a national royal coinage in Denmark, so it seems likely that the coins exported to the core areas of Denmark after the middle of the eleventh century were melted down and re-coined into Danish coinage. This correlates with the observation that the later Emden groups are barely present in hoards from Sweden and Denmark.

SOURCES OF THE COINS ILLUSTRATED:

HOARDS, COLLECTIONS, AUCTIONS

Arkhangelsk hoard (*tpq* 1112): V.M. Potin, ‘The Arkhangelsk hoard’, *Fennoscandia archaeologica*, IX (1992), pp. 3–21.

Bendig collection: private collection of Hanfried Bendig, Bremen.

‘Denmark’ 1996 hoard (*tpq* 1056): photographic record in Münster Landesmuseum, dispersed in trade.

⁶⁵ Dannenberg, nos 596, 597.

⁶⁶ Kilger, *Pfennigmärkte und Währungslandschaften*, pp. 180, 328, 354.

⁶⁷ I am grateful to Oleg Trost’yansky for this information and also for the kind permission to use his photo.

- Golgolema hoard (*tpq* 1056?): V.M. Potin, 'Топография находок западноевропейских монет X-XIII вв. На территории древней Руси' *Труды Государственного Эрмитажа IX (Numismatika 3)* (Leningrad, 1967), pp. 155–6, no. 229.
- Kuusamo hoard, Helsinki (*tpq* 1054): there is no full listing. Most recent note in T. Talvio, *Coins and Coin Finds in Finland* (Helsinki, 2002), p. 164.
- Leningradskaja Oblast hoard: O.V. Trost'yansky, 'Клад западноевропейских монет X–XI вв. из деревни Обращиха', *Средневековая Нумизматика Восточной Европы*, 8 (Moscow, 2020) pp. 77–128.
- Ludwiscze hoard 107b (*tpq* 1059): R. Gaetgens, *Der Fund von Ludwiscze* (Halle, 1934). This coin Schulte colln *M&M* (Weil am Rhein) 28 (30 October 2008) lot 130.
- Pskov hoard: now in Munich, date of acquisition uncertain.
- Skadino 1928 hoard: N. Bauer, 'Nachträge zu den russischen Funden abendländischer Münzen des 11 und 12 Jahrhunderts', *ZfN* 42 (1935), pp. 161–71, no. 10; V.M. Potin, 'Топография находок западноевропейских монет X–XIII вв. на территории Древней Руси', in: *Труды Государственного Эрмитажа IX (Numismatika 3)* (Leningrad, 1967), p. 134, no. 170.
- Stroganov collection: formed by Sergei Stroganov (1794–1884) and his son Alexander Stroganov (1813–64) said to have consisted of c.60,000 coins. Transferred to the State Hermitage in Leningrad in 1925.
- Sundbro hoard, Uppland (*tpq* 1051) (Stockholm): unpublished.
- Trost'yansky collection: private collection, Cheboksary, Russia.
- Vengarn 1789 hoard (*tpq* 1079) (Stockholm): unpublished.
- Vichmjaz 1934 hoard (*tpq* 1068) (St Petersburg): summary in V.M. Potin, 'Топография находок западноевропейских монет X-XIII вв. На территории древней Руси', *Труды Государственного Эрмитажа IX (Numismatika 3)* (Leningrad, 1967), pp. 153–5. Full details of the hoard remain unpublished.

COINS ILLUSTRATED ON PLATES 34–38

GROUP 1

- | | | | |
|----|--------|-------------------------|--------|
| 1. | HER1-1 | Trost'yansky collection | 0.77 g |
| 2. | HER1-2 | 'Denmark' 1996 hoard | 0.67 g |

GROUP 2

- | | | | |
|----|-------|--|--------------|
| 3. | HER13 | Arkhangelsk hoard | fragment wnr |
| 4. | HER13 | Trost'yansky ex Leningradskaja Oblast hoard, pierced | 0.83 g |
| 5. | HER6 | Vichmjaz hoard | 0.72 g |
| 6. | HER12 | Trost'yansky collection | 0.81 g |

7.	HER21	Golgolema hoard	0.72 g
8.	HER5	Golgolema hoard	0.66 g
9.	N+I1	Vichmjaz hoard	wnr

GROUP 3

Group 3A

10.	VSE6	Golgolema hoard	0.81 g
11.	VSE1	Golgolema hoard	0.81 g
12.	VSE4	Golgolema hoard	0.70 g
13.	VSE9	Golgolema hoard	0.79 g
14.	VSE8	Skadino hoard	0.67 g

Group 3B

15.	VSE7	Golgolema hoard	0.64 g
16.	VSE2	Golgolema hoard	0.67 g
17.	VSE5	Bendig collection	0.68 g
18.	VSE7	Bendig collection	wnr
19.	VSE5	Golgolema hoard	0.74 g
20.	VSE3	Golgolema hoard	0.79 g
21.	VSE10	Kuusamo hoard	wnr
22.	VSE11	Bendig collection	0.63 g
23.	SEV1	Golgolema hoard	0.69 g
24.	SEA2	Stockholm (Venngarn) hoard	0.70 g
25.	SEA1	Stockholm (Venngarn) hoard	0.83 g

GROUP 4

Group 4A

26.	HER4	Golgolema hoard	0.83 g
27.	HER9	Skadino hoard	0.92 g
28.	HER2	Golgolema hoard	0.69 g
29.	HER14	Vichmjaz hoard	wnr
30.	HER16	Vichmjaz hoard	wnr
31.	HER21	Vichmjaz hoard	wnr
32.	HER22	Golgolema hoard	0.79 g
33.	NER50	Trost'yansky collection	0.69 g
34.	NER43	Ludwisczce hoard 107b	0.75 g
35.	NER2	Bendig collection (<i>WAG</i> (Arnsberg) auction 25, lot 1860)	0.82 g

36.	NER4	Skadino hoard	0.70 g
37.	NER5	Golgolema hoard	0.76 g
38.	NER6	Skadino hoard	0.85 g
39.	NER8	Golgolem hoard	0.67 g
40.	NER11	Golgolema hoard	0.63 g
41.	NER3	Golgolema hoard	0.71 g
42.	NER5	Stockhom (Venngard) hoard	0.66 g
43.	NER7	Skadino hoard	0.70 g
44.	NER15	Stroganov collection	0.72 g
45.	NER46	Pskov hoard	0.70 g
46.	IER47	Vichmjaz hoard	wnr
47.	IER48	Golgolema hoard	0.79 g
48.	IER49	Golgolema hoard	0.78 g

Group 4B

49.	HER15	Stroganov collection	0.68 g
50.	HER18	Pskov hoard	0.52 g
51.	NER8	Skadino hoard	0.58 g
52.	HER11	Stroganov collection	0.72 g
53.	IER	Golgolema hoard	0.70 g
54.	IHRI	Vichmjaz hoard	wnr

GROUP 5

Group 5A

55.	HER19	Bendig collection	0.67 g
56.	NER1	Vichmjaz hoard	0.82 g

Group 5B

57.	NER19	Vichmjaz hoard	wnr
58.	IER105	Vichmjaz hoard	wnr

PLATE 34
(All 1.5x)



1



2



3



4



5



6



7



8



9



10



11



12



ILISCH, PENNIES OF THE MINT OF EMDEN IN THE NAME OF HERMAN (1)

PLATE 35
(All 1.5x)



13



14



15



16



17



18



19



20



21



22



23



24



ILISCH, PENNIES OF THE MINT OF EMDEN IN THE NAME OF HERMAN (2)

PLATE 36
(All 1.5x)



ILISCH, PENNIES OF THE MINT OF EMDEN IN THE NAME OF HERMAN (3)

PLATE 37
(All 1.5x)



ILISCH, PENNIES OF THE MINT OF EMDEN IN THE NAME OF HERMAN (4)

PLATE 38
(All 1.5x)



49



50



51



52



53



54



55



56



57



58



ILISCH, PENNIES OF THE MINT OF EMDEN IN THE NAME OF HERMAN (5)

