

NOTAE NUMISMATICAE

ZAPISKI NUMIZMATYCZNE



Tom XV

MUZEUM NARODOWE W KRAKOWIE
SEKCJA NUMIZMATYCZNA
KOMISJI ARCHEOLOGICZNEJ PAN
ODDZIAŁ W KRAKOWIE

Kraków 2020

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Dear Readers,

It is with great pleasure that we present volume XV of *Notae Numismaticae – Zapiski Numizmatyczne* to you. In accordance with the principles that we have adopted, our texts are published in the conference languages with English and Polish abstracts. The whole of the present volume can be found as PDF's on the website of the National Museum in Krakow (<https://mnk.pl/notae-numismaticae-zapiski-numizmatyczne-1>), as are previously published volumes of the journal. The website also contains general information about the journal as well as information for prospective authors and reviewers.

The Editors

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Some Remarks on the Problem of Occurrence of *Denarii Subaerati* in Barbaricum

ABSTRACT: The rapid increase in the corpus of finds of *denarii subaerati* in the territory of Barbaricum in the last two decades has allowed us to expand our knowledge about the occurrence of these coins in this area. To date, only *subaerati* have been recorded in finds while recently previously unnoticed categories of non-silver *denarii* from unofficial issues have been noticed. Furthermore, it is possible to state with a very high probability that *denarii subaerati* were manufactured in eastern areas of Barbaricum at least since the end of the 3rd century. This of course does not mean that all *subaerati* that were found in Barbaricum were made there. On the other hand, it is still a very surprising conclusion, due to the fact that until recently it has been considered obvious that all *subaerati* found in Barbaricum are imports from the territory of the Empire. Thanks to new finds research on *subaerati* (and on *denarii* from irregular issues in general) which are situated within a broader context of examinations of finds of Roman coins and their imitations and copies in Barbaricum turn out to be more and more crucial for understanding of the role of Roman Imperial *denarii* (and Roman money in general) among the Barbarians in the Roman Period and the Migration Period.

KEY WORDS: coin finds, coin hoards, Roman coins, Barbaricum, *denarii subaerati*, barbarian imitations of coins

ABSTRAKT: *Kilka uwag na temat występowania denarii subaerati na terenie Barbaricum*

W ostatnim dwudziestoleciu nastąpił duży przyrost liczby znalezisk *denarii subaerati* na terenie Barbaricum. Pozwoliło to poszerzyć naszą wiedzę na temat występowania tych monet na owym obszarze. Dotychczas w znaleziskach rejestrowano jedynie występowanie subaeratów. Ostatnio odnotowano nowe, niedostrzegane

do tej pory kategorii niewykonanych ze srebra denarów z emisji nieoficjalnych. Ponadto udało się stwierdzić z bardzo dużym prawdopodobieństwem, że na wschodnich obszarach Barbaricum co najmniej od końca III w. wytwarzano *denarii subaerati*. Nie oznacza to oczywiście, że wszystkie subaeraty znajdujące w Barbaricum zostały wykonane w Barbaricum. Niemniej jednak jest to bardzo zaskakująca konstatacja, gdyż do niedawna uznawano za rzecz oczywistą, że wszystkie subaeraty znajdujące na terenie Barbaricum to importy z obszaru Imperium. Dzięki nowym znaleziskom badania nad subaeratami (i nad denarami z emisji nieoficjalnych w ogóle) posadowione w szerszym kontekście badań nad znaleziskami monet rzymskich, ich naśladownictw i kopii w Barbaricum w coraz większym stopniu okazują się być kluczowe dla zrozumienia roli, jaką denary rzymskie z okresu Cesarstwa (i pieniądz rzymski w ogóle) pełniły wśród Barbarzyńców w okresie rzymskim i w okresie Wędrówek Ludów.

SŁOWA KLUCZOWE: znaleziska monet, skarby monet, monety rzymskie, Barbaricum, *denarii subaerati*, barbarzyńskie naśladownictwa monet

In the 1980s, and especially in the 1990s, a considerable degree of emotion was provoked among Polish numismatists by the Roman coins which were discovered in the territory of the Przeworsk Culture settlement in Jakuszowice in Lesser Poland, in the southern part of the country.¹ This settlement is dated to a rather broad time period, i.e., from the Later Pre-Roman Period to the early phase of the Migration Period. Until the late 1990s, more than 100 Roman coins were discovered in the territory of this settlement. The lion's share of these, i.e., more than 90%, are Imperial *denarii* from the 1st–3rd century, with a preponderance of 2nd century issues.² In relation to the present-day state of the art, it can be said that this situation is typical for Przeworsk Culture settlements in southern and central Poland, where there are numerous finds of Roman coins, with special stress on Imperial *denarii*.³ However, this was not that obvious in the last decades of the 20th century. What is more, attention was paid to the occurrence of *denarii subaerati* among Imperial *denarii* that were found at Jakuszowice.⁴ On the basis of the assemblage of coins from Jakuszowice and of a much less numerous set of Roman coins that were

¹ The present article reports on the results of research completed within the *Barbarian Fakers. Manufacturing and use of counterfeit Roman Imperial denarii in East-Central Europe in antiquity* Project No. 2018/31/B/HS3/00137, carried out at the Faculty of Archaeology of the University of Warsaw, and funded from the resources of the National Science Centre, Poland. I am indebted to Prof. Aleksander Bursche from the Faculty of Archaeology of the University of Warsaw for invaluable remarks.

² BURSCHE, KACZANOWSKI and RODZIŃSKA-NOWAK 2000: 104–105.

³ See, e.g., ROMANOWSKI 2010: 31–36; IDEM 2012: 72–77; DULĘBA and ROMANOWSKI 2018: 71–79.

⁴ MORAWIECKI 1984: 21–23; BURSCHE 1996: *passim*; KUNISZ 1996: 22; BURSCHE 1997: 121–122; BURSCHE, KACZANOWSKI and RODZIŃSKA-NOWAK 2000: 112–117.

found in the territory of the Masłomęcz Group settlement in Gródek nad Bugiem in south-eastern Poland, Aleksander Bursche pointed out that there seemed to be a rule that as many as about $\frac{1}{4}$ of Imperial denarii that were found in settlements in Barbaricum were *subaerati*.⁵ An increase in the corpus of finds in the last two decades allowed for a statement that in general terms, the share of *subaerati* in finds from settlements – or, more broadly, in non-hoard finds that were discovered in the territory of present-day Poland – was probably not that high.⁶ On the other hand, it cannot be denied that such coins are quite numerous there.⁷ As regards territories which are situated farther off to the East, we have no tangible published data. However, *subaerati* are rather numerous among stray finds there, with special reference to Ukraine, in territories which were settled in later phases of the Roman Period by the population of the Chernyakhiv Culture.⁸ It is also worth noting that in the recent years the presence of a small number of Roman Republican *subaerati* was recorded in the territory of the Central European part of Barbaricum. This phenomenon has not been noticed previously.⁹

With regard to *subaerati*, A. Bursche pointed out yet another regularity which is still valid today. Such coins are very sporadically found in hoards of Roman Imperial denarii in the territory of Barbaricum and are much rarer in hoards than in non-hoard contexts.¹⁰ This is true at least in reference to territories of the Przeworsk, Wielbark and Chernyakhiv Cultures and to Bornholm. According to A. Bursche, these two types of finds reflect two spheres of use of Roman denarii in the territory of Barbaricum and *denarii subaerati* were present on a more considerable scale only in one of these.¹¹ In some areas of Barbaricum, e.g., in Sweden (including Gotland and Oland), *subaerati*

⁵ BURSCHE 1996: 34–35; in the assemblage of Imperial denarii from Jakuszowice the share of *subaerati* was 26%, and at Gródek nad Bugiem – 25%.

⁶ A verification of the actual share of *subaerati* among finds will only be possible after a sufficiently high number of denarii which are a representative statistical sample undergo conclusive examinations (e.g., metallographic analyses or X-ray photos).

⁷ DYMOWSKI 2011: 83; apart from hoards, *subaerati* are about 10% of finds of denarii. It must be noted, however, that among finds from Przeworsk Culture settlements from the territory of Lesser Poland the share of *subaerati* is still high (c. 20–25%) in the total assemblage of denarii which were found there; DULĘBA and ROMANOWSKI 2018: 71–79. In the case of Roman coins which were found in Wielbark Culture settlements, the only published assemblage is known from a site complex in afore-mentioned Gródek nad Bugiem. Bearing in mind that the state of research on finds of Roman coins in Wielbark Culture settlements is highly unsatisfactory, on the basis of very sparse data which is known to me it seems that *subaerati* are usually much less than c. 25% of the total number of denarii which are found at sites of this type. As far as the scale of occurrence of *subaerati* is concerned, both in the case of settlements of the Przeworsk and of the Wielbark Culture it is necessary to take considerable regional differences into consideration.

⁸ Dr Kyrylo Myzgin, personal communication, for which I am very obliged.

⁹ MILITKÝ 2013: 47; DYMOWSKI 2016: 76.

¹⁰ BURSCHE 1996: 36; PASZKIEWICZ 1999: 104–105; *subaerati* are less than a fraction of a percent in hoards of denarii (they were recorded, e.g., in Polish hoards from the following localities: Ossa-Rywałdzik, Tokary, Biłgoraj, Wojków, Żulice, as well as in a hoard from Robbedale in Bornholm). In a vast majority of hoards *subaerati* do not occur at all. See also BURSCHE 2004: 200; HORSNÆS 2013: 55.

¹¹ BURSCHE 2004: 200–202.

were not recorded at all, be it in hoards or in non-hoard contexts.¹² At present, it is difficult to say whether *subaerati* are actually absent among finds from these regions, or they simply went unnoticed (and thus were not discussed in scholarship). This may perhaps be related to the state of research, especially concerning territories in which the number of recorded finds that are other than hoards is low. For instance, this is the case with Sweden.¹³ Examples of Bohemia,¹⁴ and especially of Bornholm,¹⁵ demonstrate that if *subaerati* occur (almost) exclusively in non-hoard contexts and are relatively few (that is, their number is significantly lower than in the territory of Poland) they are difficult to identify, bearing in mind a poor state of recording of non-hoard finds. Yet another factor which does not facilitate identification of *subaerati* among finds is their visual similarity to silver coins. This is particularly true in the case of *subaerati* with entirely preserved silver outer layers.¹⁶

“Classic” *subaerati* are coins which were struck on previously prepared flans composed of a copper or copper alloy core which was covered with a relatively thick outer layer of silver. Various possible technologies of manufacture of such coins were discussed by Markus Peter.¹⁷ There are also coins whose cores are made from iron, that is, *denarii subferrati*.¹⁸ The latter have not been recorded so far in the territory of Barbaricum. On the other hand, within the framework of the phenomenon which has been until now discussed as the occurrence of *subaerati* in this territory, new and previously unnoticed categories of non-silver denarii from unofficial issues have been noticed. This became possible in result of more and more widespread use of metallographic examinations in research on coins from finds. It turned out that not all coins which were classified as *subaerati* had been or were covered with a layer of silver. First of all, in some cases the outer layer of the flan is made from base metal of a silvery colour, e.g., from an alloy with a preponderance of tin (Fig. 1).¹⁹ Secondly, it is extremely probable that part of coins which until recently have been commonly discussed as *subaerati* from which the external silver layer completely fell off (Fig. 2) are in fact coins made from

¹² See, e.g., LIND 1981: *passim*; IDEM 1988: *passim*.

¹³ In the near future it will be necessary to examine whether *subaerati* are actually absent in Swedish finds, especially in those from the territory of Gotland and Öland. In case they do occur, it will be indispensable to assess their share among coins which were discovered in hoards and in non-hoard contexts.

¹⁴ MILITKÝ 2013: 53–56.

¹⁵ HORSNÆS 2013: 52–55. Concerning other regions of present-day Denmark (see HORSNÆS 2010: *passim*) the issue of occurrence of *subaerati* has not been discussed in such a clear manner as in the case of Bornholm.

¹⁶ HORSNÆS 2013: 53–54; PASZKIEWICZ 1999: 104–105. A visual similarity of *subaerati* and all-silver coins may also influence erroneous identification of silver coins as *subaerati*. This especially concerns silver coins where the metal on the surface is exfoliated and spalled (see MITKOWA-SZUBERT 1989: 54). Doubts in such cases can only be clarified by metallographic examinations or X-ray analyses.

¹⁷ PETER 1990: 24–29.

¹⁸ IDEM 2011: 110–111.

¹⁹ WRZESIŃSKI 2016: 137; HENSEL 2016: 232. The coin which was discussed in this publication was found in an early medieval context but it is absolutely certain that it was manufactured in Antiquity.

homogeneous flans of base metal which imitated silver (Fig. 3).²⁰ In cases which have been recorded so far, the alloy which was used in the manufacture of such coins was bronze with a high content of tin or possibly with a strong addition of lead in the same time.²¹ Such alloys are remarkable for their silvery colour. High-tin bronze with no addition of lead in a larger quantity than trace is very fragile and thus cannot be used for the manufacture of coins by striking. A flan made from such metal would break when struck with a die. When lead is added to high-tin bronze, the alloy becomes more elastic. Thanks to this, it is possible to use, at least theoretically, the technology of striking.²² In recent years in the territory of the Chernyakhiv Culture in present-day Ukraine there have been discoveries of remains of workshops dealing with casting of Roman Imperial denarii with the use of silver-like bronze alloys.²³ This is a direct and irrefutable proof for the manufacture of such coins in the territory of Barbaricum.

In this place, we come to what is perhaps the most interesting discovery of recent years with regard to “classic” *subaerati* in Barbaricum. In his publications from 2015 and 2018 the Ukrainian numismatist Oleg Anokhin discussed a large die-chain composed of 166 imitations of denarii and of 5 imitations of aurei which were discovered (as stray finds) in Ukraine and in Moldova.²⁴ O. Anokhin did not give a name to this chain. Together with Kyrylo Myzgin, we called it ONAV Group, after the piece-punch with ONAV letters, which was commonly used for preparation of coin dies within this die chain.²⁵ In another publication I demonstrated that some denarii from the ONAV Group were not imitations but copies.²⁶ This, however, is of secondary importance for further considerations which are offered below. What is

²⁰ DULĘBA and ROMANOWSKI 2018: 81–82.

²¹ *Ibidem*, with further reading concerning Polish finds.

²² These theories are founded upon commonly known properties of copper alloys which are discussed in basic publications on materials science. I know no results of representative experimental research concerning the manufacture of coins from the mentioned alloys by means of striking or casting.

²³ ANOKHIN 2015: 10–13; NADVIRNYAK and POGORILETS 2018: 19–21. Moulds for casting of Roman denarii from the 3rd century with traces of copper alloys were also discovered in a non-Roman context in the territory of present-day Scotland (HOLMES and HUNTER 2001: 168–174).

²⁴ ANOKHIN 2015: 21; IDEM 2018: 35–38.

²⁵ DYMOWSKI and MYZGIN 2022 (forthcoming).

²⁶ DYMOWSKI 2021: 111–115. A difference between an imitation and a copy is founded on manufacturing ways. The production process of copies consists of a mechanical transfer of obverses and reverses from the original coin. The copies do not bear any traces of correcting the images and/or legends at any stage of the technological process (e.g., making a casting mould, coin die, etc.). Any differences or interference in the images/letters on the coin which is understood as a copy must have been unintentional and must have resulted from the imperfection of the used technology. On the other hand, imitations are coins struck or cast with dies or moulds, which were produced having an original coin as a model. This was done either by creating “by hand”, or as a result of the mechanical transfer of the images and legends from the original coin, which were then intentionally modified. When analysing a coin which is a product of a Barbarian workshop, in the case of imitation images and legends are Barbarised to a varying extent. There are no such traces of Barbarisation on copies (DYMOWSKI and MYZGIN 2020 (forthcoming); MYZGIN, DYMOWSKI and CHEMURANOV 2020: 370, footnote 70; cf. SIDAROVICH 2017: 129, footnote 18; DYMOWSKI 2019: 150–151).

the most significant is the fact that at least part of the denarii from the ONAV Group are *subaerati*. Although I had no opportunity to examine or even see the original coins, photos published by O. Anokhin leave no doubt that coins which are partially deprived of silver coatings under which one can see metal that looks like copper or copper alloy are *subaerati* (Figs. 4a–d).²⁷ On the basis of photographs it seems that *subaerati* in the ONAV Group are enough numerous to raise doubts whether the denarii which seem to be all-silver coins and which were classified into the same die-chain are in fact all-silver denarii. It cannot be excluded that all the denarii from the ONAV Group are actually *subaerati*. As said above, O. Anokhin classified the imitations of aurei into the same die-chain. A majority of these imitations – with regard to the number of recorded types (i.e., coins that were struck with the same pairs of dies) – are modelled after late issues from the end of the 3rd century.²⁸ For this reason, the workshop where the ONAV Group coins were made operated not earlier than the end of the 3rd century.²⁹ Of course, this would be true if one assumed that all the coins from this group come from one workshop, which is not obvious.³⁰ Taking into consideration the territorial distribution of the finds, this putative workshop was in all probability located in the territory of present-day Ukraine.³¹ All this allows to state with a very high probability that *denarii subaerati* were manufactured in eastern areas of Barbaricum at least since the end of the 3rd century. This of course does not mean that all *subaerati* that were found in Barbaricum were made there. On the other hand, it is still a very surprising conclusion, due to the fact that until recently it has been considered obvious that all *subaerati* found in Barbaricum are imports from the territory of the Empire.³²

The source basis which was discussed above is modest, but it is possible to make an attempt at answering fundamental questions related to *denarii subaerati* in the territory of Barbaricum. For what purpose did the Barbarians manufacture such coins? Did they consider them counterfeit? Or, were such coins perhaps intentionally accepted by the Barbarians in the same way as full-value silver-made

²⁷ This also applies to pretty numerous finds of imitative denarii other than those from the ONAV Group which were discovered in the territory of Ukraine and Moldova; ANOKHIN 2015: 70–204; cf. MYZGIN, DYMOWSKI and CHEMURANOV 2020: 366–369.

²⁸ Finds of imitations of aurei from the turn of the 3rd and 4th century are typical for territories which were occupied by the population of the Chernyakhiv Culture in later phases of the Roman Period (see ANOKHIN 2015: 34–69). Researchers who deal with barbarian imitations of gold coins classify such finds as the Eastern European Group of gold imitations of Roman coins; see MYZGIN, VIDA and WIĘCEK 2018.

²⁹ DYMOWSKI and MYZGIN 2020 (forthcoming); cf. ANOKHIN 2018: 35–38.

³⁰ One must take into consideration a possibility that some coins which are discussed as having been made with the use of the same die (or a pair of dies) are in fact imitations (or copies) which were manufactured with the use of dies that were mechanically transferred from “original” coins from the ONAV Group. In such a case, we would be dealing with imitations of imitations (or copies of copies); cf. DYMOWSKI and MYZGIN 2022 (forthcoming).

³¹ *Ibidem*.

³² BURSCHE 2004: 201.

coins were? All this implies an assumption that Roman denarii fulfilled a monetary function in the territory of Barbaricum. This was certainly not a money function to a full extent, as it was the case in the Empire, where 4–5 other denominations were simultaneously in use.³³ To a various extent, in different territories and in different periods within later phases of the Roman Period and the Early Migration Period, denarii may have been used as a medium of payment, a means of exchange and a standard of value.³⁴

In my opinion, *denarii subaerati* in Barbaricum are counterfeit coins. They were made there for the sake of gain, in order to deceive their users. A few arguments can be offered in support of such a hypothesis. First of all, as cases of adapting of Roman Imperial denarii found in Barbaricum to non-monetary functions are very rare,³⁵ it is difficult to propose a different way of use of such coins than as money. Secondly, *subaerati* were intentionally manufactured in such a manner that they were extremely similar to silver coins. This was done with the use of technology which was rather simple at the stage of preparation of the flan, but was more labour-consuming than preparation of a homogeneous piece of base metal of silvery colour. This implies that it was intended to deceive users of such coins, who were supposed to be convinced that these coins were manufactured from silver. It is difficult to say whether the Barbarians took over the idea and skill of making *subaerati* from the Romans or it took place independently from Roman influences. The last possibility is not very probable, bearing in mind a very widespread occurrence of *subaerati* in the Mediterranean world in Antiquity. Thirdly, the Barbarians highly valued silver (and gold). They used it as a raw material for making ornaments and hoarded it in the form of coins or other artefacts. This is why one should suppose that they highly valued denarii, especially due to the fact that these were made from silver and not for other reasons, e.g., because such coins were provided with an Imperial stamp. Fourthly, denarii which are discovered in the territory of Barbaricum in hoards, that is, in a context that implies the use of such coins as a standard of value, are full-value coins which frequently co-occur with other artefacts made from precious metals. *Subaerati* are almost exclusively found in non-hoard contexts, in all probability due to the fact that such coins were used in a different sphere than that which was first of all related to the function of the standard of value. As correctly indicated by A. Bursche, these spheres intermingled rather poorly.³⁶ Therefore, if a full-value silver coin was treated as the standard of value within the sphere of use which is

³³ Cf. IDEM 2008: 397–399.

³⁴ *Ibidem*: 397–407.

³⁵ As opposed to gold and gilded coins (in this context one can mention aurei from the 1st–3rd centuries and their imitations), which were much more often pierced or provided with loops than denarii.

³⁶ BURSCHE 2004: 200.

evident for us on the basis of the hoards,³⁷ the manufacture and use of *subaerati* (which are hypothetically considered counterfeit money) suggests the use of denarii by the Barbarians as a medium of payment and/or means of exchange within the framework of a phenomenon which resembled money circulation. The more so because full-value denarii mixed with *subaerati* are found in high numbers in Barbarian settlements. This is difficult to explain otherwise than by the fact of common use of these coins, obviously as part of larger transactions, bearing in mind the considerable value of a single denarius.³⁸

Therefore, considering the new and increasingly exciting discoveries related to *denarii subaerati* in Barbaricum, it seems indispensable to pay homage to Andrzej Kunisz. He was not misled when he claimed in 1996 that the recording of occurrence of *subaerati* in Polish finds was one of the most important achievements of Polish research on finds of Roman coins in the course of three preceding decades.³⁹ Research on *subaerati* (and on denarii from irregular issues in general) which are situated within a broader context of the examinations of finds of Roman coins and their imitations and copies in Barbaricum turn out to be increasingly crucial for the understanding of the role of Roman Imperial denarii (and Roman money in general) among the Barbarians in the Roman Period and the Migration Period. There is still a long way to go before a full understanding is achieved. However, an impressive increase in the source basis which has taken place in the last two decades allows the hope of new discoveries which will shed even more light on this intriguing issue.

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³⁷ Cf. *Ibidem*: 200–202.

³⁸ A low number of coins of low denominations (including bronze coins from the 1st–3rd centuries) that are found in Barbaricum (except for a very peculiar situation in territories inhabited by the Balt tribes) suggests that Roman coins were not commonly used there as a medium of payment and/or means of exchange in small-scale transactions of daily life. Therefore, in the future it would be worth considering how to explain the function played by bronze coins among the Barbarians and how this is related to the role of denarii (and gold coins).

³⁹ KUNISZ 1996: 22.

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PLATE 1

Fig. 1. *Denarius subaeratus* of Antoninus Pius covered with a tin layer, found in Dziekanowice, Poland (collection of the Museum of the First Piasts at Lednica)

Photo: A. Dymowski

Fig. 2. Bronze core of *denarius subaeratus* (?) of Hadrian, found in Wieluń, Poland (unknown collection)

Photo: A. Dymowski

Fig. 3. Barbarian (?) copy of denarius of Trajan made of base metal alloy (Cu + Si + Pb), found in Jastrzębniki, Poland (collection of the Regional Museum in Kalisz)

Photo: A. Dymowski

Figs. 4a–d. *Denarii subaerati* from the ONAV Group, found in Ukraine (after Anokhin 2019)

Photo: © University of Warsaw

