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CAST IMITATIONS ROMAN IMPERIAL DENARII FINDS IN PODILLYA REGION

ABSTRACT The study of the influence of the Roman Empire on the tribes of Chernyakhiv culture still remains controversial in many aspects. One of the mysterious questions is the existence in Podillya region of the cast copies made by the locals, of Roman denarii minted in I-III centuries AD. Archaeologists have discovered the remains of foundries in different parts of Podillya which have allowed the location of the centers of these coins production. But the question of the period of their production, their exact function in the life of the population, and the chronology of their circulation still remains uncertain. Gathering new evidence about finds of cast copies of Roman denarii in Podillya, we found a high concentration of finds in the Krasylivsky district of the Khmelnytsky region. This allows us to suggest the presence in this area of another potential center for their manufacture, which can be confirmed by the discovery of the remains of a foundry.

The chemical composition of the cast copies of Roman denarii from Podillya tends more towards bronze with a predominance of copper or tin in the alloy.

Publishing information about a new finds of cast copies of Roman denarii, and further localization of their sites, will help us to understand the relationship between the Roman Empire and the «Barbaric» world better, thus opening a new page in the cultural relationship between our lands with Rome.

Keywords: Roman coins, Barbaricum, coin counterfeits, manufacture centers, cast copies of denarii, Podillya region, new coin finds, XRF analysis

ABSTRAKT W pracy zaprezentowano znaleziska monet rzymskich z terenu Podola. Oceniono je, jako element wpływów rzymskich na tereny kultury czerniachowskiej, I-III w. n.e.

Analysis of the accumulated knowledge of previous researchers, and the publishing of new discoveries of coins has been identified by Academician Viktor Kotsur as one of the most recent trends in research in the field of medieval numismatics in Ukraine.¹ This holds true for research conducted for other historical periods. The study of ancient numismatics is rapidly increasing and becoming more popular in modern Ukraine. More specifically, Victor Kotsur has published some new finds of ancient coins from the Pereyaslav region, examining the coin collection of the National Historical and Ethnographic Reservation “Pereyaslav”.² Also, new finds of ancient and medieval coin have been published by professors

Vasyl Orlyk,³ Victor Kotsur and Lilia Tsyganenko,⁴ Dr. Mariusz Mielczarek has published a hoard of Olbian coins.⁵ Prof. Vasyl Orlyk has also given attention to a number of other important aspects of research into ancient numismatics in Ukraine, such as new finds of kizikins and the coins of Mithridates Eupator, and clarified the existing data on the circulation of money on the territory of the right bank of the Dnieper Forest-steppe area, from the fifth to the first centuries BC.⁶

Roman coins played an important role in the history of monetary circulation in Ukraine. Single finds and hoards have been found in almost all of the territory of our state, and the interest of

¹ Kotsur, 2013.

² Kotsur, 2020: 144-164.

³ Orlyk, Orlyk, 2020; Orlyk 2016.

⁴ Orlyk, Kotsur, Tsyganenko, 2019: 37-48; Orlyk, 2018: 13-14.

⁵ Mielczarek, Orlyk, 2019: 33-39.

⁶ Orlyk, 2020.

researchers in their study dates back to imperial times. The famous Ukrainian numismatist Vasyl Lyaskoronsky was most active at the turn of the nineteenth and twentieth centuries. In 1901 a scientific investigation into the Roman coins discovered in the Middle Dnieper was published,⁷ in 1927 he published the coin finds from the Kyiv region.⁸ Still unpublished, a manuscript devoted to the circulation of Roman coins in Southern Rus written by the same scholar in the same year. It is now held in the M. Maksymovych library in Kyiv along with the author's notes.⁹

Topographic works compiled by Mikhail Braichevsky in 1959¹⁰ and Vladislav Kropotkin in 1961¹¹ are distinguished by their complex character and wide coverage. Mykhailo Braichevsky's work "Roman Coin on the Territory of Ukraine" covers a significant array of data on the discovery of Roman coins throughout Ukraine. The author comprehensively publishes for the first time the finds known from pre-Soviet times, also adding information about the contents of hoards, and brief information on the circumstances of their discovery. Vladislav Kropotkin combines the finds of Roman coins from all over the USSR into the one topography. The work is based on finds published by predecessors from the pre 1941 period, supplemented by new data.

Often the work of researchers focus on finds from the different regions: new Roman coin finds from Volyn¹² and Kharkiv¹³ regions are analysed by Kyrylo Myzgin; coin finds from the Transcarpathian region are published by Liana Vakulenko;¹⁴ coin finds from the Cherkassy region are investigated by Anatolii Shostopal,¹⁵ adding to his research new data in a work co-authored with Professor Vasyl Orlyk,¹⁶ the coin finds from Odessa region are presented in the publications of Professor Petro Karushkovski.¹⁷ Rare Polish-Lithuanian Commonwealth coins together with a denarius of Titus have been published by Andrii Boiko-Haharin and Kyrylo Myzgin.¹⁸ Roman coins

have also been discovered by archaeologists on the territory of the reservation "Museum of Folk Architecture and Life of the Middle Dnieper".¹⁹ The historiography of late Roman coin finds in Ukraine have been analyzed by Victor Kotsur, Andrii Boiko-Haharin and Volodymyr Kashperski.²⁰ This list does not pretend to be complete. It is obvious that Ukrainian numismatics today needs to have a comprehensive scientific study of the period when Roman coins were circulating in Ukraine, which would cover a number of problematic questions such as: the date at which Roman coins entered into and disappeared from circulation, reuse and the "second life" of coins, research into hoards and study of the production of counterfeit coins of Roman prototypes, paying special attention to gold counterfeits, as well as those plated with a surface layer of silver, or tin denarii and their cast copies, new finds of which will be discussed in this article.

Different aspects of "barbarian" imitations of Roman denarii coming from finds from the first to the third centuries AD have been studied by the Polish scholar Arkadiusz Dymowski,²¹ also Andrzej Romanowski has published an extraordinary barbarian imitation of second-century Roman denarii from Central Poland,²² Kyrylo Myzgin²³ and Serhii Kodatskyi²⁴ have published new finds of the imitative denarii in Ukraine, also Wital Sidarowicz has done the same for the new finds in Belarus.²⁵

Roman silver denarii coins were well known to the people of Podillya through trade, although a lot of modern researchers have doubts about which route this trade took that brought these coins into Eastern Europe, and through the presence of the Roman military at the interfluvium of the Middle Transnistria and the Southern Buh in the last quarter of the second to the second half of the third centuries AD.²⁶

The counterfeiting of coins began almost immediately after the first historical appearance of coins,²⁷ developing despite the most severe punishment. The procedure was especially exacerbated in times of cataclysm and crisis.²⁸ The new finds

⁷ Liaskoronskyi, 1901: 458.

⁸ Liaskoronskyi, 1927a: 30.

⁹ Liaskoronskyi, 1927b.

¹⁰ Braichevskyi, 1959.

¹¹ Kropotkin, 1961.

¹² Myzgin, 2019: 34.

¹³ Myzgin, 2014-2015: 276-287.

¹⁴ Vakulenko, 2010: 104.

¹⁵ Shostopal, 2007.

¹⁶ Orlyk, Shostopal, 2021: 17-31.

¹⁷ Karyshkovskij, 1971: 83-84.

¹⁸ Bojko-Gagarin, Myzgin, 2014: 240-247.

¹⁹ Priadko, Yurchenko, 2017: 84-91.

²⁰ Kotsur, Boiko-Haharin, Kashperskyi, 2021.

²¹ Dymowski, 2018; Dymowski, 2019;

²² Romanowski, 2015.

²³ Myzgin, 2017.

²⁴ Myzghin, Kodatskyi, 2021.

²⁵ Sidarowicz, 2017.

²⁶ Nadvirnjak, Pogorelec, Nadvirnjak, 2014.

²⁷ Bojko-Gagarin, 2017.

²⁸ Kotsur, Boiko-Gagarin, 2019; Orlyk, S., Boiko-Gagarin, 2017.

of cast Roman denarii of the first to third centuries AD in the Podillya region are well known to numismatists.

The golden Roman coins did not escape the attention of the “barbarian” tribes, and their imitations are also known among the finds of the region.²⁹ Examining the findings of cast copies of Roman denarii in Ukraine, the scholars Kyrylo Myzgin and Serhii Kodatskyi have typified the study of this issue as one of the most pressing in numismatics.³⁰ The researchers Oleksandr Nadvirnyak and Oleh Pohorilets rightly note that in studying the issue of cast copies of Roman denarii of the I-III centuries AD has a several problems, including the following problems: where the cast copies of denarii came from, what is the chronology of their production and use, what role did they play in the everyday life and cults of the local population in the first third of the first millennium,³¹ and if they could be old counterfeits?³²

Carefully recording new data on Roman artefacts in the region, Oleksandr Nadvirnyak and Oleg Pohorilets managed to establish potential centres for making cast copies of Roman denarii, locate the remains of sprue from the casting, wasters, and foundry slag from a former mint. Such centres were found throughout Podillya:

1. Hoschanskyi district of Rivne region – half of a foundry mold taken from a denarius of Antoninus Pius was found;³³
2. Abrikosivka village, Kamyanets-Podilsky district, Khmelnytsky region;³⁴
3. Zagintsi village, Derazhnyansky district, Khmelnytsky region;³⁵
4. Korzhivtsi village, Derazhnyansky district, Khmelnytsky region – sprue and denarii with remnants of sprue were found;³⁶
5. Kormilche village, Chemerovets district, Khmelnytsky region;³⁷
6. Chornokozyntsi village, Kamyanets-Podilsky district, Khmelnytsky region – the center of production of denarii, coins with the remains

of sprue, production wasters of denarii, and foundry slag is discovered;³⁸

7. Tyvriv district of Vinnytsia region – remnants of production wasters of making copies of cast denarii were discovered.³⁹

Such is the significant concentration of the cast copies of Roman denarii of the I-III centuries discovered, that it clearly indicates that these coins belong to those made in Podillya.⁴⁰

In this article we shall relate the new data about the places of accidental discovery of cast copies of Roman denarii inside Podillya, thus expanding the accumulated knowledge about the area of their distribution. We also will try to locate another potential centre of their production. Nowadays in Ukraine, generally a negative view is taken regarding the rapid spread and popularization of unauthorized “black” archaeological searches using metal-detectors. This has, however, significantly increased the amount of numismatic material known. Some aspects of these newly discovered coins can be analysed, in particular study of the composition of the metal alloy and study of the technology of coin production, the study of die varieties and suchlike. Information on new finds of cast copies of Roman coins is shown in Table 1.

It is noteworthy that among the new finds there is a significant concentration of coin detection in the *Krasylivsky* district of Khmelnytsky region, which hypothetically may indicate that another potential production centre might lie here. Although, of course, to define this district as a new centre for the production of cast copies of denarii with certainty, it would be necessary to identify and investigate the remains of a workshop with slag, production wasters and moulds – that is, to establish a consistency of approach. Researchers Oleh Pohorilets and Oleksandr Nadvirnyak are rightly emphasizing that such a large number of already identified workshops allows researchers to begin the work on creating a map of production centres for cast copies of Roman denarii of I-III centuries AD.⁴¹ At this stage, among the cast copies from the *Krasylivsky* district, only one coin with a casting defect has been recorded (Fig. 13), which may indicate the probable place of its production in the same district.

²⁹ Więcek, Myzgin, 2018; Burshe, 2014.

³⁰ Myzghin, Kodatskyi, 2021: 54.

³¹ Nadvirniak, Pohorilets, 2018: 17.

³² Pohorilets, Nadvirniak, 2021: 179.

³³ Nadvirniak, Pohorilets, 2018: 18-19; Nadvirniak, Pohorilets, 2019: 35.

³⁴ Nadvirniak, Pohorilets, 2021: 66.

³⁵ Ibidem, 2021: 65.

³⁶ Nadvirniak, Pohorilets, 2018: 18-19; Ibidem, 2019: 35; Ibidem, 2021: 65.

³⁷ Nadvirniak, Pohorilets, 2021: 65.

³⁸ Nadvirniak, Pohorilets, 2018: 18-19; Ibidem, 2019: 35.

³⁹ Ibidem, 2018: 18-19; Ibidem, 2019: 35.

⁴⁰ Pohorilets, Nadvirniak, 2021: 177.

⁴¹ Nadvirniak, Pohorilets, 2021: 67.

Table 1. New finds of cast copies of Roman denarii in Podillya

№	Picture	Size (mm)	Weight (g)	Region / Oblast	District	Settlement
1	Fig. 1.	17,52	2,57	Vinnitsia	Pohrebyshchensky	Adamivka
2	Fig. 2.	17,62	2,40	Khmelnytsky	Polonsky	Chervone
3	Fig. 3.	17,56	2,17	Khmelnytsky	<i>Krasylivsky</i>	
4	Fig. 4.	17,40	2,44	Khmelnytsky	Dunayevetsky	Slobidka Rakhnivska
5	Fig. 5.	18,25	2,65	Khmelnytsky	Gorodotsky	Horodok
6	Fig. 6.	16,93	1,90	Khmelnytsky	<i>Krasylivsky</i>	
7	Fig. 7.	18,42	2,28	Khmelnytsky	<i>Krasylivsky</i>	
8	Fig. 8.	18,50	1,98	Khmelnytsky	<i>Krasylivsky</i>	
9	Fig. 9.	16,43	1,66	Khmelnytsky	<i>Krasylivsky</i>	
10	Fig. 10.	17,34	2,84	Khmelnytsky	<i>Krasylivsky</i>	
11	Fig. 11.	16,64/17,35	2,45	Khmelnytsky	<i>Krasylivsky</i>	
12	Fig. 12.	17,56	3,53	Vinnitsia	Gaisinsky	Kuzmintsi
13	Fig. 13.	20,65	3,02	Khmelnytsky	<i>Krasylivsky</i>	

Table 2. The chemical composition of cast copies of Roman denarii from finds of historical Podillya

Photo	Weight	The proportion of an element, %							
		Fe	Cu	Ni	Zn	Pb	Ag	Sn	Sb
Fig. 14.	2,52 g.	0.864	37.8	0.157	0.093	10.638	0.263	50.18	
Fig. 15.	2.45 g.	0.084	61.20	0.109	0.52	4.989	0.837	32.02	0.235

The composition of the metal of cast copies of Roman denarii is quite similar – identical technology was used for their manufacture. Based on measurements using the XRF method of the composition of the alloy used to produce cast copies of denarii, Kyrylo Myzgin and Serhii Kodatskyi divided them into three groups. The first group includes samples of alloys based on copper, lead and tin, with a predominant percentage of tin. The second group consists of products from alloys on the basis of tin, copper and lead, with comparable values of tin and copper. The third group comprises

products from alloys of copper, tin and lead, in which copper predominates.⁴²

In investigating the composition of the metal used in cast copies of the Roman denarii from I-III centuries AD from the discoveries of the Khmelnytsky region, Alexander Nadvirnyak and Oleg Pohorilets came to the conclusion that the composition of the metal alloy, from which they are made is quite similar to the mirrors typical

⁴² Myzghin, Kodatskyi, 2021: 54.

for the Chernyakhiv culture, likewise being made of copper alloy.⁴³ For the analysis, two mirrors found in the Kirovohrad region were selected, on the reverse side of which were castings of Roman denarii.⁴⁴

We were able to investigate two cast copies of Roman denarii from finds from the territory of historical Podillya for the chemical composition of the metal alloy, using a portable device Expert 3L Mobile. The research was carried out in the laboratory of the Institute for Analytical Control Methods in Kiev under the supervision of an experienced metallurgist Eduard Morgunov. The data on the quantitative fractions of chemical elements in the alloy are listed in Table 2.

The measurements obtained enable us to establish that both coins are made from an alloy of a similar structure, as far as the chemical elements in its composition are concerned. For example, the second test sample of a cast copy of a Roman denarius has almost one and a half times more copper in its base composition, and the amount of lead and tin also predominates. Thus, the first coin studied belongs to the third group, and the second to the second group according to the classification of Kyrylo Myzgin and Serhii Kodatskyi given above.

The cast copies of Roman denarii founded in Belarus, in the collection of the Belarus National University and in private collections, published by Vitaly Sidorovich and Ksenia Ermalitskaya,⁴⁵ also fit into the defined groups as regards their composition: the finds from the Grodno region parallel the first sample we studied, and the finds from the Minsk region the second.

In the composition of the coins analysed, our attention is also drawn to the presence of silver in very considerable quantitative fractions, which may indicate a silvering that is present on the surface. Similar measurement results were obtained by Kyrylo Myzgin and Oleksandr Buhai using the PIXE method to analyse the cast copies of Roman denarii found on the territory of historic Podillya.⁴⁶

Conclusions

The study of the influence of the Roman Empire on the tribes of Chernyakhiv culture still remains controversial in many respects. One of the

mysterious questions is the existence in Podillya of cast copies made by locals corresponding to prototypes of Roman denarii of the I-III century AD. Archaeologists have discovered the remains of foundries in different parts of Podillya permitting the location of production centres for these coins. But the problems of the chronology of their production, the exact role they played in the life of the population, and the chronology of their use, remain unresolved. Collecting the evidence supplied by new finds of cast copies of Roman denarii in Podillya, we have noted the high concentration of finds in the Krasylivsky district of Khmelnytsky region. The presence of a sample with a casting defect amongst the coins recovered suggests that there is a potential the location of another centre for their production in this area. In addition, this area with a high concentration of finds of cast copies of Roman denarii lies placed equidistant from the already identified areas which have been proven to be production centres, which is a further indication of the possibility of establishing a production of such coins there.

The chemical composition of the newly discovered cast copies of Roman denarii from finds made in Podillya tends more towards bronze alloys in which copper or tin dominate. The presence of significant particles of silver may indicate the presence of a layer of silver on the surface of these coins, which serves as additional evidence that the cast copies of denarii actually belong to the products of counterfeiters made to the detriment of monetary circulation.

Among the published coins there are some damaged samples, probably broken during their time of use. This also confirms that among the probable purposes of these products could be the production of coins to make up for a deficit in monetary circulation – one result of the activities of counterfeiters. Exposed counterfeits were thrown away, which explains the significant number of their finds, but some coins were previously disposed of to avoid re-use, breaking them or breaking off a fragment.

The accumulation of evidence of new finds of cast copies of Roman denarii and further location of their sites, the gradual discovery of problematic “white” spots on this issue will help us to understand better the relationship of the Roman Empire with the “Barbarian” world, to open a new page in our understanding of the cultural relations between our lands and Rome, and the new realities of life among settlements of the Chernyakhiv culture.

⁴³ Nadvirniak, Pohorilets, 2018: 18.

⁴⁴ Ibidem, 2019: 32.

⁴⁵ Ermalickaja, Sidorovich, 2021: 34.

⁴⁶ Buhai, Myzghin, 2021: 41-43.

Illustrations



Fig. 1. Cast copy of a Roman denarius of Marcus Aurelius (161-180)



Fig. 2. Cast copy of a Roman posthumous denarius issue of Antoninus Pius (138-161)



Fig. 3. Cast copy of a Roman denarius, probably of Antoninus Pius (138-161)(?). Conclusive identification is impossible because of the poor state of preservation



Fig. 4. Cast copy of a Roman posthumous denarius of Antoninus Pius, 161 AD, with the image of the funeral pyre



Fig. 5. Cast copy of a Roman denarius of Trajan (98-117) with Fortuna on the reverse



Fig. 6. Cast copy of a Roman denarius of Marcus Aurelius (161-180)



Fig. 7. Cast copy of a Roman denarius of I-III centuries AD. Further identification is impossible because of the poor condition of preservation



Fig. 8. Cast copy of a Roman denarius, probably of Faustina the Younger. Further identification is impossible because of the poor condition of preservation



Fig. 9. Cast copy of a Roman denarius of Antoninus Pius (138-161)



Fig. 10. Cast copy of a Roman denarius of Lucius Verus (161-169)



Fig. 14. Cast copy of a Roman denarius of Lucius Verus (161-169)



Fig. 11. Cast copy of the Roman denarius of I-III century AD. Further identification is impossible because of the poor condition of preservation



Fig. 12. Cast copy of a Roman denarius of Trajan (98-117)



Fig. 13. Cast copy of a Roman denarius probably of Julia Domna (?). Further identification is impossible because of the poor condition of preservation



Fig. 14. Cast copy of a Roman denarius of Antoninus Pius (138-161)

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