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IN-OUT AND NEAR. PATTERNS OF HOARDING IN PRE-, DURING- AND POST- ROMAN DACIA. THE BENEFITS OF USING A LARGE DATABASE – COIN HOARDS OF THE ROMAN EMPIRE PROJECT (CHRE)

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Abstract: The present paper is presenting the benefits of using huge database covering large areas – the Roman Empire and beyond – on a long chronological segment – 1st – 5th centuries AD.

As a case study was chosen the Roman province of Dacia (mainly nowadays Romania) as a territory on which the Roman coinage was documented before, during and after the Roman administration.

This paper intends to point out general and specific patterns of the coin hoarding in Dacia.

Keywords: *coin hoards, Dacia, CHRE, database, patterns.*

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Until now, the research on hoards has been limited by the access to the publications, which in most of the cases, were restricted to a certain territory. At the same time, the large territory and the long duration of the Roman Empire presented challenges for establishing general and specific patterns of coin hoarding.

The project run by the Ashmolean Museum and the Oxford Roman Economy Project, University of Oxford¹, – Coin Hoards of the Roman Empire (CHRE) – together with a continually growing network of collaborators,² has created the largest database of coin hoards of the Roman Empire.

The chronological frame has been chosen according to both historical background of the territory of Dacia and the interest on coin hoarding.

Dacia became a Roman province under the reign of Trajan, was under the Roman administration until the 2nd half of the 3rd century AD, and was partially re-conquered by Constantine I.

The changes of status mean that the pattern of coin hoarding on such a large territory is potentially of interest for both coin circulation as well as frontier studies.

¹ <http://chre.ashmus.ox.ac.uk>.

² <http://chre.ashmus.ox.ac.uk/content/collaborations>.

In this paper an attempt is made to analyse possible patterns of coin hoarding between Dacia and surroundings areas before, during and after the Roman administration in this area.

The paper intends to address aspects such as: the concentration area and chronological patterns of hoarding; hoarding behaviour; patterns of hoarding of specific coinages/denominations.

CONCISE HISTORY OF ROMAN DACIA

For a better understanding of the historical and economical importance of the territory under study, a short history on Dacia is useful, especially for those less familiar.³

The Dacian state reached its maximum expansion following the victorious campaigns of the Dacian king Burebista (middle of the 1st century BC) against the tribes of the Boii and Taurisci and the Greek cities of the Black Sea. It has been suggested by some authors that the kingdom of Burebista had as its putative boundaries to the west and north-west the rivers Middle Danube and Morava (today in Slovakia); to the north the Woody Carpathian Mountains (today in Ukraine); to the east the Greek city of Olbia on the river Tyras (today Nistru in Ukraine). The same authors consider the river Danube as the border of this kingdom to the south. It has been demonstrated that following the conquest of the Greek city of Apollonia (today Sozopol in Bulgaria), the southern border of Burebista's kingdom was probably the *Haemus* mountains (today the Balkan Mountains in Bulgaria).⁴ (map 1)

By the reign of the last Dacian king, Decebal (AD 87 - 106) this extended kingdom had fallen apart due to the centrifugal tendencies of local Dacian chieftains. Also, the Roman expansion had incorporated the territories between the river Danube and the Haemus mountains and between the river Danube and the Black Sea (today Dobrudja, Romania) with all the Greek cities.

At the time when Decebal was crowned as a king, the territory under his power had its capital, *Sarmizegetusa*, in the western part of the southern group of Carpathian Mountains (today Orăștie Mountains), and it was limited to the south-west, south-east and west by the Danube. To the east, it probably did not extend beyond the river Prut (today the eastern border of Romania); to the north it reached the Upper Tisa River (approximately, the northern border of Romania today), although there is no certainty as to whether the Dacian tribes from the north and north-west (today the regions of Maramureș and Crișana, Romania) were part of the kingdom or just allies.⁵ (map 2)

Following previous encounters, the Daco-Roman conflicts came to an aggravated state of conflict during the reign of Domitian (AD 81-95).

In AD 85, the Dacian mounted a strong attack on the territory of *Moesia* and the governor of the province, Oppius Sabinus, was killed in battle.⁶ In response, the emperor

Domitian personally travelled to the area and took radical measures. In AD 86 he divided *Moesia* into two smaller provinces, Superior and Inferior. The following year, the first expedition inside the Dacian kingdom was led by the general Cornelius Fuscus. The expedition ended in a disastrous defeat for the Romans. Fuscus was killed in the battle and the standards of the *legio V Alaudae* were captured by the Dacians.⁷

The Empire struck back in the following year, AD 88, when a new expedition was assembled under command of Tettius Iulianus. The battle took place at Tapae, probably located in the south-western part of the Carpathian Mountains, and the Romans won a hard-fought victory. However, the Romans could not exploit this success due to the defeats suffered by the emperor against the Quadi and Marcomani, and so a peace was signed between Domitian and Decebal⁸. The peace, according to Roman accounts, was shameful for the Empire,⁹ but the content of this treaty shows advantages for both sides: the Dacian king, Decebal, became *amicus et socius Populi Romani* and received money and specialists for his army, but in return, he had to keep the area of the Lower Danube safe from disturbance by his own people or other Barbarians. In addition, he had to allow Roman troops to pass through his territory towards the Marcomanic front.¹⁰

The peace lasted for more than 10 years until the new emperor, Trajan, decided that instead of paying large amounts of money¹¹ to the Dacians it was better to transform the territory into a province of the Empire. There were other reasons for this as well, such as the increase of the military power of the Dacians; the attraction of the fabulous Dacian treasure for the imperial finances and the general wealth of the territory.

The importance shown to these campaigns by the emperor is demonstrated by the massive concentration of troops involved in these two wars: 14 legions, 25 cavalry troops (*alae*) and circa 68 auxiliary cohorts. In total, over 175,000 soldiers took part in the conquest of *Dacia*.¹²

The first Dacian war started in AD 101. Trajan's strategy was to follow the same itinerary as the victorious Tettius Iulianus in AD 88.¹³ The Roman army crossed the Danube on a pontoon-bridge and entered into the Dacian kingdom through the south-east part of *Dacia*, today named Banat. The army was divided in two columns, one followed the road *Arcidava - Centum Putea - Bersobis*, the second column went through the Timiș-Cerna pass and met with the first column at *Tibiscum*.¹⁴ Again the main battle took place at *Tapae* and ended with a Roman victory.¹⁵ In the winter AD 101/102 a Barbarian coalition, including the Dacians, attacked the province of *Moesia Inferior*, and Trajan came himself to defeat it. In the spring of AD 102,

⁷ PETOLESCU 1995, 27.

⁸ Cassius Dio, 67, 7, 1-3.

⁹ Cassius Dio, 67, 7, 4; Plinius Iunior, *Panegyricus*, 12, 2.

¹⁰ PETOLESCU 1995, 28. For a detailed analyse of these events during the reign of Domitian, see STROBEL 1989, *passim*.

¹¹ Cassius Dio, 68, 6, 1.

¹² STROBEL 1984, 153-154.

¹³ STROBEL 1984, 171.

¹⁴ DIACONESCU 1997, 13.

¹⁵ Cassius Dio, 68, 8, 2; STROBEL 1984, 166.

³ Based on GĂZDAC 2010, 45-66.

⁴ DAICOVICIU 1972, 72-73.

⁵ DAICOVICIU 1972, 285.

⁶ Iordanes, 76.

Trajan began to move his troops towards the Dacian capital, Sarmizegetusa, while the governor of Moesia Inferior, Laberius Maximus, who was following a different route on the river Alutus (Olt),¹⁶ conquered other Dacian forts. At the same time an independent Pannonian army moved on the river valley and annihilated the Dacian fortified settlements from Pecica, Vărădia, Săvârşin, Bretea, Cozia and Deva.¹⁷ As Al. Diaconescu suggested, the “scenario of the first [Dacian] war indicates that the main purpose of Trajan was to encircle «the mountains of the Dacians» where the capital Sarmizegetusa was located”.¹⁸ (map 2)

In such a situation, Decebal was left with no option but to seek peace with the empire.

The second Dacian war broke out in AD 105 and Trajan left Rome for Moesia Inferior on the 4th of June. This time the strategy chosen by Trajan was different from the one used in the first Dacian war. The second Dacian war meant “the submission of the whole country”¹⁹: “*secunda expeditione in qua universa Dacia devicta est*”.²⁰ The emperor with the main part of his army crossed the Danube on the bridge built opposite of what was to be the future town of Drobeta. From here the army probably split in two columns. One followed the corridor of the rivers Timiș - Cerna (the old itinerary through Banat) and the other one went to the Vulcan pass. They met at Sarmizegetusa (map 2).

The capital was besieged and after a heroic resistance the Dacians surrendered. The king Decebal tried to escape to another Dacian fort, Ranistorum, but was followed by Roman cavalry led by Ti. Claudius Maximus²¹ and he committed suicide before being captured.²² By the summer of AD 106 the last Dacian strongholds were defeated.

The new province of *Dacia* included the territory between the Carpathian Mountains and the river Danube and river Olt (today named Oltenia); the territory between the Carpathian Mountains and the rivers Mureș and Tisa (today named Banat) and the northern, central and eastern parts of the internal space of the Carpathian Mountains (today named Transylvania). Thus, not all the territory of the former Dacian kingdom was integrated into the new province (map 3).

The new province founded in AD 106 was governed by a *legatus Augusti pro Praetore* of the senatorial order, a former consul (*vir consularis*). The first governor of whom we are aware was Iulius Sabinus (c. AD 106/107-109).

During the reign of the same emperor, the first administrative division of the province took place. The territories of Oltenia and, possibly, the south-east corner of Transylvania became Dacia Inferior, while the central part of Transylvania and Banat became Dacia Superior. Around the year AD 119, the north part of Dacia Superior became another administrative unit, Dacia Porolissensis²³.

According to some ancient authors²⁴, in this new reorganization, Dacia had a border of 1 million Roman steps, or 1,000 Roman miles, approximately 1,479 km. The river Danube separated Dacia from Moesia Superior and Moesia Inferior (map 3).

During the reign of M. Aurelius, Dacia Superior became Apulensis and Dacia Inferior became Malvensis, named after the most important towns in these areas: Apulum and Malva. The new reorganisation of the province was designed to place the three districts of Dacia under the sole administrative, military and jurisdictional command of a governor of consular rank, the *consularis trium Daciae*.

After the administrative reform of M. Aurelius in AD 168, the legion *5th Macedonica* was garrisoned at Potaissa (modern Turda). Until its abandonment, Dacia was a province with two legions garrisoned at Apulum (modern Alba Iulia) and Potaissa.

Apart from the two legions, numerous auxiliary troops were also stationed in this province. From epigraphic sources and military diplomas 16 *alae* (cavalry), about 50 *cohortes* (infantry), 15 *numeri* (ethnics or special troops) and the *equites* and *pedites singulares* (governor’s guards) are known.

Calculations suggest that there were 50-55,000 soldiers garrisoned in Dacia.²⁵

The ancient authors have different opinions about the moment when the province of Dacia was abandoned by the Roman army and administration. Eutropius, Rufus Festus and Iordanes speak about a double withdrawal of Roman administration from Dacia during the reigns of Gallienus and Aurelian; Aurelius Victor and Orosius consider that Dacia was lost under the reign of Gallienus; finally, the *Historia Augusta* affirms that this province was lost by the Romans only under the reign of Aurelian.²⁶ Another hypothesis suggests that *Dacia* was lost at the end of the sole reign of Gallienus, and Aurelian merely formalized the abandonment which had already occurred.²⁷

The period between the reign of Aurelian (AD 270-275) and the Tetrarchy (AD 284-306) in the territory of the former province of Dacia is characterised by the lack of information. Archaeological evidence suggests that while some of the southern regions were included again in the Empire under the reign of Constantine I, the territory inside the Carpathian arc lost its connection to the Roman world.²⁸ It is supposed that the population was organised in small administrative units. The main characteristic of the population left in *Dacia* is its romanization perpetuated beyond the Roman borders, “romanization without Empire”.²⁹

The reign of Constantine I (AD 306-337) marked the partial re-conquest by the Empire of the southern part

¹⁶ DAICOVICIU 1972, 326; DIACONESCU 1997, 14.

¹⁷ DIACONESCU 1997, 14.

¹⁸ DIACONESCU 1997, 15.

¹⁹ DIACONESCU 1997, 23.

²⁰ AÉ, 1934, no.2.

²¹ SPEIDEL 1970, 142-144.

²² CICHORIUS 1896, scene CXLV.

²³ PISO 1993, 34-36.

²⁴ Rufus Festus, 8, 2; Eutropius 6, 2, 2.

²⁵ BĂRBULESCU 1998, 62.

²⁶ For the loss of the province under Gallienus and Aurelian: Eutropius IX, 8; Rufus Festus, 8; Iordanes, *Romana*, 217; the loss of province under Gallienus only: Aurelius Victor 22-23; Orosius, VII, 22, 7; for the loss of Dacia under Aurelian only: *SHA*, Vita Aureliani, 39. Also see ILIESCU 1971, 425.

²⁷ PETOLESCU 1995, 124-126.

²⁸ BĂRBULESCU 1998, 96.

²⁹ BĂRBULESCU 1998, 96.

of the former territory of the province of Dacia. Drobeta and Sucidava became important centres on the left bank of the river Danube. In AD 328, a bridge linked Sucidava to Oescus and the road from Sucidava to Romula was repaired in this period.³⁰ At Sucidava, either under Diocletian or Constantine I, a *praefectus legionis quintae Macedonicae*³¹ is mentioned, and the 3rd and 4th cohorts of the legion were possibly garrisoned there.³² At Drobeta, the auxiliary fort experienced the construction work of a new building corps.³³ According to the literary sources Constantine I built many other forts and strongholds on the left bank of the Danube.³⁴ (map 3).

After a heavy defeat of the Taifales and the Visigoths by Constantius II (Caesar) in AD 332 in the southwest part of the former province of Dacia (today the region of Banat),³⁵ this area was confronted with many raids of different barbarian populations. After the reign of Constantine I, the emperors will not show the same interest to the territory of the former province. The arrival of the Huns in the second half of the 4th century AD marked the beginning of their dominance in the area of the Lower Danube. In AD 441, the Huns broke the Danube frontier and any connections between the Empire and the former province ceased.³⁶

COIN HOARDING

Following this timeline of the territory of Dacia, in order to establish general and specific patterns, the analysis of hoarding process can be divided on three main horizons:

- hoards ending with Roman imperial coins minted before the conquest of Dacia during Trajan's reign (AD 98-117);

The image shows a search interface for the CHRE database. At the top, there is a 'Terminal year' filter with a range from -27 to 89. Below this is a search bar for 'Hoard name'. The 'Data type' is set to 'Hoard'. There are input fields for 'City', 'County', and 'Region'. The 'Country' dropdown menu is open, showing options for Austria, Bulgaria, Croatia, Hungary, Romania, Serbia, and Slovenia.

Fig. 1. The use of filters in CHRE (<https://chre.ashmus.ox.ac.uk/search/>. Accessed on 26/06/2022).

³⁰ BĂRBULESCU 1998, 99.

³¹ *Notitia Dignitatum Or.* XLII, 39

³² TUDOR 1965, 91; TOROPU 1976, 19.

³³ BĂRBULESCU 1998, 100.

³⁴ Aurelius Victor, 41, 18.

³⁵ PETOLESCU 1995, 166; BENE 1996, 59.

³⁶ BENE 1996, 69.

- hoards ending with coins of minted during the time of the Roman administration of Dacia (AD 106-270);
- hoards ending with coins minted in the period after the official Roman withdrawal from Dacia (post AD 270).

For the same purpose, the comparison between Dacia's hoards and those from the surrounding Roman provinces, Pannoniae and Moesiae, is made by selecting in the CHRE application the nowadays countries covering those provinces (e.g. Austria, Bulgaria, Croatia, Hungary, Romania, Serbia, Slovenia) (figure 1)

In order to notice whether the Dacian wars (AD 101-102; 105-106) may have had an impact on the hoarding phenomenon two chronological segments were established. Certainly, one should be well aware that the most recent coin in a hoard may serve as *terminus post quem* criterion.

PRE-ROMAN DACIA

The first chronological segment is 27 BC to AD 89, from the conventionally admitted first year of the Early Empire to a date not too far but not too close either to the start of the first Dacian war in AD 101. The year AD 89 was chosen based on the filter criteria on CHRE, thus, the next segment can start with AD 90.

For this chronological segment, the CHRE database reveals 120 hoards found on the area of Middle and Lower Danube (figure 2).

Fifty-eight of them were discovered on the territory of the Dacian kingdom (figure 3).

The analysis of these hoards reveals the following patterns:

- a. the overwhelming dominance of the silver denomination – denarius;
- b. the large majority of hoards have a homogeneous composition;
- c. the republican denarius is the dominant coinage in these hoards;
- d. the largest number of hoards contain between 30 and 250 coins;
- e. on the basis of the most recent coins, it seems that there are two horizons of hoarding: Augustus-Tiberius and Vespasian;
- f. the distribution of hoards on the Dacian kingdom in the dawns of the Roman conquest suggest the concentration of hoards mainly in the vicinity of "roads" (river valleys) or in/around the Dacian/Carpiic settlements (e.g. Barboși,³⁷ Diaconi³⁸, Fitionești³⁹, Poiana⁴⁰, Râpile,⁴¹ Sfântu Gheorghe⁴²);

³⁷ <https://chre.ashmus.ox.ac.uk/hoard/16444>. (Accessed 26/06/2022).

³⁸ <https://chre.ashmus.ox.ac.uk/hoard/16455>. (Accessed 26/06/2022).

³⁹ <https://chre.ashmus.ox.ac.uk/hoard/16446>. (Accessed 26/06/2022).

⁴⁰ <https://chre.ashmus.ox.ac.uk/hoard/16423>; <https://chre.ashmus.ox.ac.uk/hoard/16424>; <https://chre.ashmus.ox.ac.uk/hoard/16425>. (Accessed 26/06/2022).

⁴¹ <https://chre.ashmus.ox.ac.uk/hoard/16283>. (Accessed 26/06/2022).

⁴² <https://chre.ashmus.ox.ac.uk/hoard/16435>. (Accessed 26/06/2022).

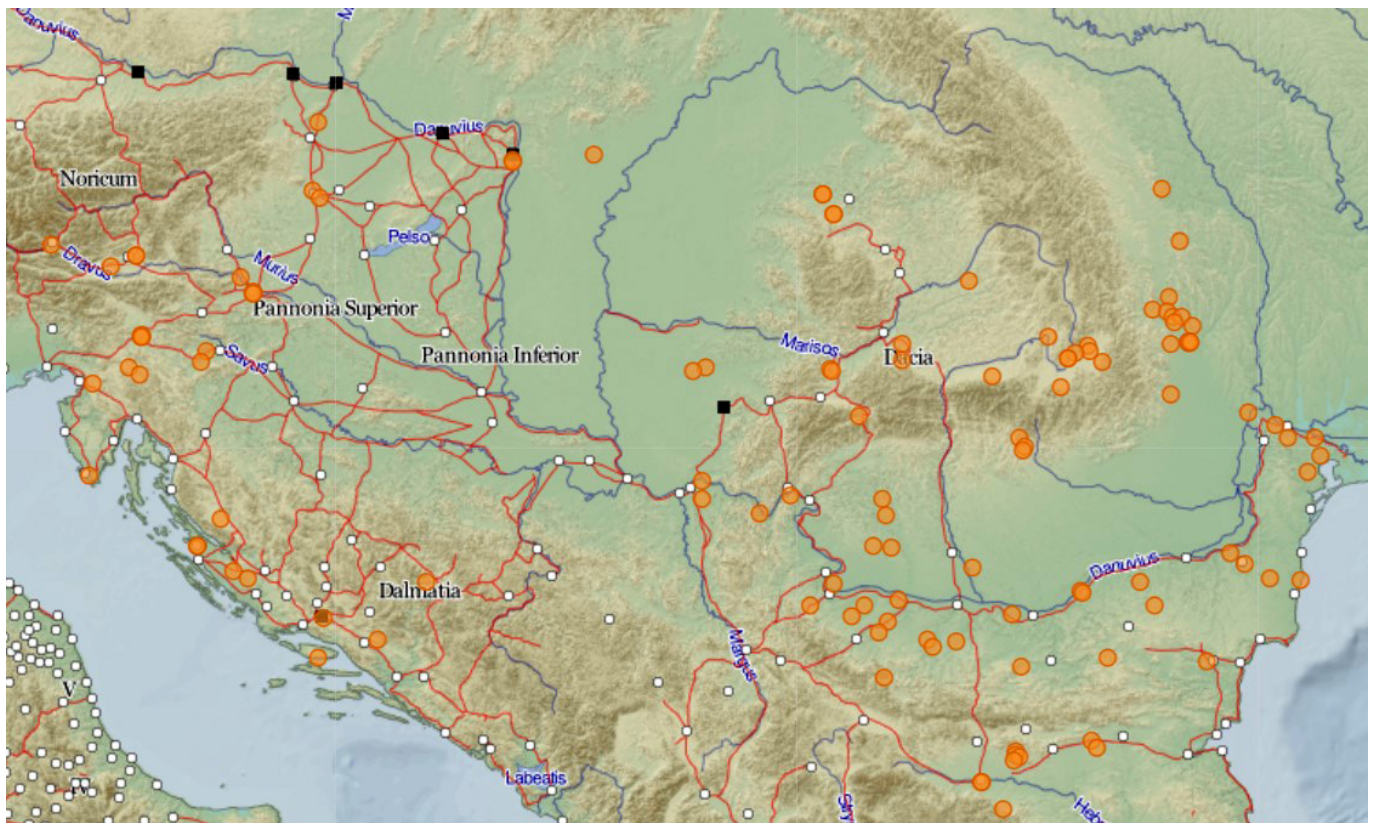


Fig. 2. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued: 27 BC - AD 89. (<https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

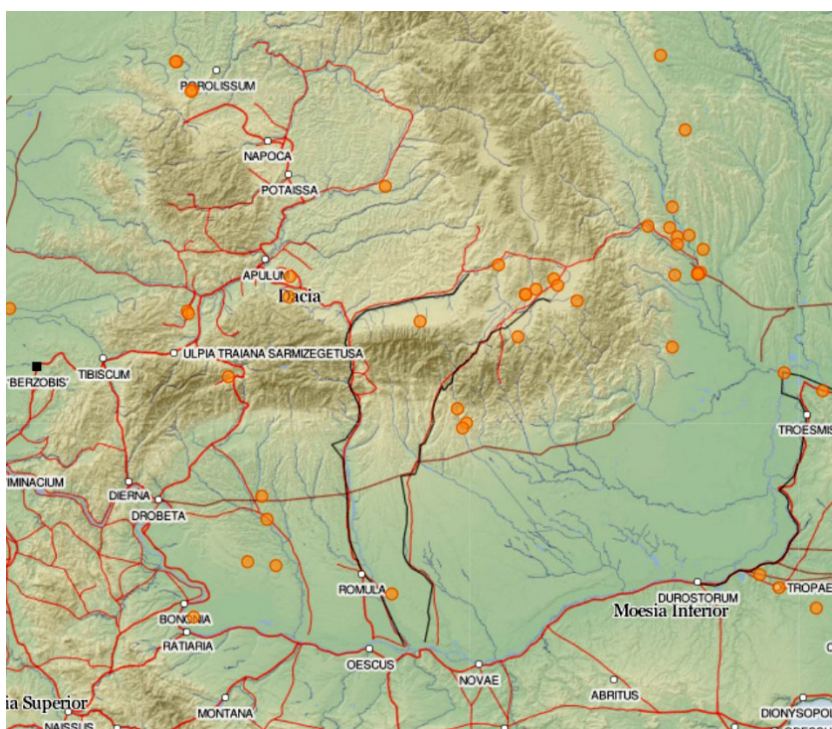


Fig. 3. The CHRE map of hoards' distribution within the Dacian realm, latest coins issued: 27 BC - AD 89 (<https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022)

Cernatul de Sus,⁴⁴ Conțești,⁴⁵ Fotoș,⁴⁶ Râpile,⁴⁷ Șpring⁴⁸).

From the methodological point of view, it is worth mentioning a particular case: the Răcari hoard.⁴⁹ Four aurei of Vespasian were found in the praetorium of the Roman auxiliary fort, beneath the floor. The archaeological context dates during the time of the Roman province. Thus, the archaeological context just provided quite a long *tpq* (circa 30 years) for these gold coins that were worth saving and easy to carry.

This chronological segment of 27 BC – AD 89 indicates the strong connection of a non-Roman territory to the Roman world, at least through the hoarding process. Except for the few hoards containing gold coins found in the area of the Middle and Lower Danube (e.g. Ljubljana 1961,⁵⁰ Cirkovce,⁵¹ Benkovac,⁵²

⁴⁴ <https://chre.ashmus.ox.ac.uk/hoard/16457>. (Accessed 26/06/2022).

⁴⁵ <https://chre.ashmus.ox.ac.uk/hoard/16438>. (Accessed 26/06/2022).

⁴⁶ <https://chre.ashmus.ox.ac.uk/hoard/16450>. (Accessed 26/06/2022).

⁴⁷ <https://chre.ashmus.ox.ac.uk/hoard/16283>. (Accessed 26/06/2022).

⁴⁸ <https://chre.ashmus.ox.ac.uk/hoard/16440>. (Accessed 26/06/2022).

⁴⁹ <https://chre.ashmus.ox.ac.uk/hoard/8959>. (Accessed 26/06/2022).

⁵⁰ <https://chre.ashmus.ox.ac.uk/hoard/8123>. (Accessed 26/06/2022).

⁵¹ <https://chre.ashmus.ox.ac.uk/hoard/6257>. (Accessed 26/06/2022).

⁵² <https://chre.ashmus.ox.ac.uk/hoard/16086>. (Accessed 26/06/2022).

g. when the container presence is known, it is a ceramic vessel of Dacian/Carpic manufacture (e.g. Bozieni,⁴³

⁴³ <https://chre.ashmus.ox.ac.uk/hoard/16454>. (Accessed 26/06/2022).

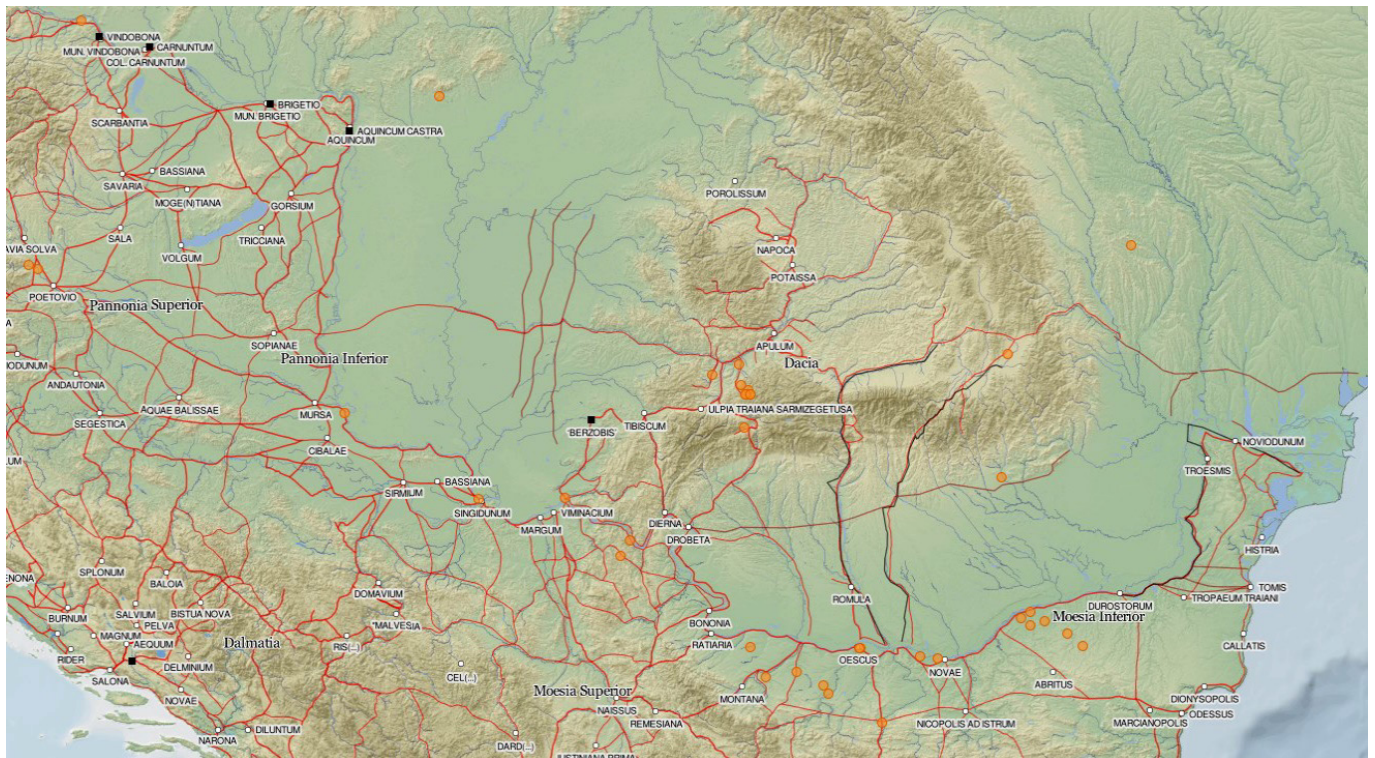


Fig. 4. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued: AD 90-106 (<https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

Ram,⁵³ Zvonigrad,⁵⁴ Szombathely-Herényi,⁵⁵ Kozloduy,⁵⁶ Budapest 1994,⁵⁷ Otočec⁵⁸), on the both side of the Danube River the most hoarded denomination was the *denarius*, especially, the republican one.

The next chronological segment selected is AD 90–106. It is a horizon of hoards that may have been buried/hidden in the outcome or during the Dacian wars of Trajan (AD 101-106). Certainly, the *tpq* aspect must be taken into account, too.

Thirty-nine hoards are revealed by CHRE for this chronological segment for the area of the Middle and Lower Danube (figure 4). Twelve of them were found on the territory of Dacia

The large majority of hoards have a composition of denarii. Unlike the previous sequence, for this chronological sequence, the imperial denarius is predominant in comparison with the republican one. The exceptions are the hoards: Grădiştea de Munte 1879, in which the Republican denarii are in a higher number – 589 republican denarii out of 783 pieces;⁵⁹ Grădiştea de Munte – 'Valea Mică-Ceata' – 100 out of 136⁶⁰ (Dacia) and Gradeshnitsa 1964 (Lower Moesia) – 428 out of 764.⁶¹

At the same time, we witness the first hoards containing bronze coins for this period on the area of the

Middle and Lower Danube (Belene 1946,⁶² Lazarovo 1911,⁶³ Svištov 2002⁶⁴). Unfortunately, in all these cases the latest coin(s) are not dated more precisely than the entire reign of Trajan (AD 98-117), therefore, there is a high possibility to have issues of Trajan minted in a period post AD 106.

It is worth mentioning here the hoard from Zemun containing 250 aurei.⁶⁵ At the moment, it is the only hoard of gold coins discovered on the area of the Middle and Lower Danube for this chronological segment.

The particularity revealed by CHRE for this segment comes from the distribution of hoards.

Analysing the map of hoards' distribution, it can be noticed one concentration group near the Danube in the province of Lower Moesia (figure 4) and another one in the area of the capital of the Dacian kingdom – Sarmizegetusa Regia (figure 5).

During both Dacian wars (AD 101-102; 105-106) the Roman army was targeting the capital. Beside the Roman military troops' movements, it is well known that in the winter of AD 101/102, in order to ease the pressure on the capital, a Dacian raid was organised alongside of the Danube in the province of Lower Moesia, ending with the Roman victory in the battle from Tropaeum Traiani (today, Adamclisi, Romania).⁶⁶

The hoards from Lower Moesia with a precise dating of the latest coins indicate a chronological range from latest

⁵³ <https://chre.ashmus.ox.ac.uk/hoard/16121>. (Accessed 26/06/2022).
⁵⁴ <https://chre.ashmus.ox.ac.uk/hoard/16126>. (Accessed 26/06/2022).
⁵⁵ <https://chre.ashmus.ox.ac.uk/hoard/5465>. (Accessed 26/06/2022).
⁵⁶ <https://chre.ashmus.ox.ac.uk/hoard/10108>. (Accessed 26/06/2022).
⁵⁷ <https://chre.ashmus.ox.ac.uk/hoard/16515>. (Accessed 26/06/2022).
⁵⁸ <https://chre.ashmus.ox.ac.uk/hoard/8865>. (Accessed 26/06/2022).
⁵⁹ <https://chre.ashmus.ox.ac.uk/hoard/5467>. (Accessed 26/06/2022).
⁶⁰ <https://chre.ashmus.ox.ac.uk/hoard/16477>. (Accessed 26/06/2022).
⁶¹ <https://chre.ashmus.ox.ac.uk/hoard/2673>. (Accessed 26/06/2022).

⁶² <https://chre.ashmus.ox.ac.uk/hoard/9815>. (Accessed 26/06/2022).
⁶³ <https://chre.ashmus.ox.ac.uk/hoard/9830>. (Accessed 26/06/2022).
⁶⁴ <https://chre.ashmus.ox.ac.uk/hoard/10195>. (Accessed 26/06/2022).
⁶⁵ <https://chre.ashmus.ox.ac.uk/hoard/2777>. (Accessed 26/06/2022).
⁶⁶ DAICOVICIU 1972, 325-326.

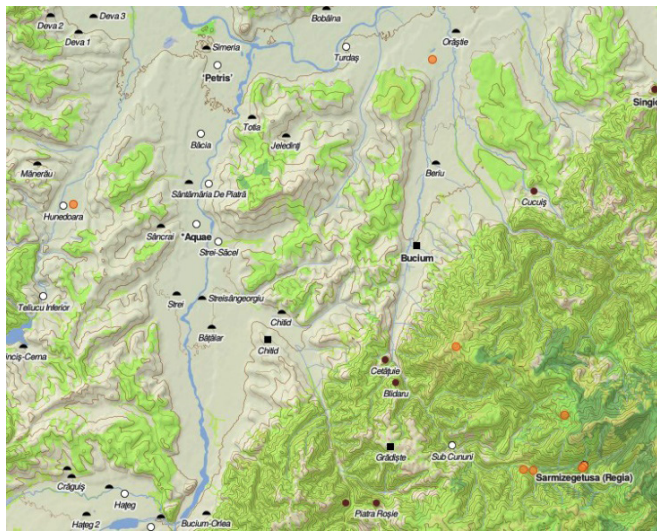


Fig. 5. Detail of the CHRE map of hoards' distribution in the area of the Dacian capital, Sarmizegetusa Regia, in during the Dacian wars of AD 101-106 (<https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

years of reign of Domitian until Trajan's one. Considering the presence of a solid container (e.g. ceramic vessel), the presence of jewellery beside coins (e.g. Gradeshnitsa 1964),⁶⁷ or specific hiding place such as a mine gallery (Majdanpek⁶⁸), and, above all, the fact that these hoards were not recovered, a violent event(s) within the chronological frame of the Dacian wars may have been the cause of this.

In the same category can be included the Zemun hoard. Two hundred and fifty aurei were found with a ceramic vessel ending with coins minted in AD 98-99.⁶⁹ However, as an isolated hoard on the map, it is difficult to connect it with the turmoil events that took place in the context of the Dacian wars.

The hoards found in the area of the Dacian capital, Sarmizegetusa, are more likely to be connected with the military events of the period AD 101-106 (figure 5).

The hoards of large number of denarii – 783 coins (Grădiştea de Munte 1879),⁷⁰ 513 (Grădiştea de Munte – "Sub Cununi"),⁷¹ 311 (Orăştie),⁷² 158 (Hunedoara 1810),⁷³ – may be regarded as emergency hoards buried in the time of the Dacian wars – the latest coins are dated within a narrow frame between AD 96 and AD 103. One can forward the hypothesis that these hoards belonged to Dacian owners, especially when beside the coins were discovered specific Dacian jewellery such as silver torques (Hunedoara 1810⁷⁴).

On the same line of ethnical attribution, the hoard Grădiştea de Munte 2013 – 'pocket money' category – six denarii found stuck together (Republic 2, Vespasian, Domitian, Trajan 2), may be attributed to a Roman military. The archaeological context indicates a fire layer in a Roman

military barrack. At the same time, the latest coin was minted in AD 101-102.⁷⁵ Without pushing too far the scenario on how these coins were lost/dropped/hidden it is worth mentioning that following the peace treaty of AD 102 a Roman unit was garrisoned in the Dacian capital. The annihilation of this unit was the first event of the second Dacian war (AD 105-106).⁷⁶

ROMAN DACIA (AD 106-270)

For the period of the Roman administration in Dacia, the CHRE reveals 1,098 hoards for the area of the Middle and Lower Danube (figure 6).

From this total, 261 come from the territory of Romania. Due to the work in progress of the CHRE, at the moment, it is not possible to filter the hoards by Roman provinces. However, as described above, one can have a picture of hoards distribution in the province of Dacia by excluding those hoards located eastward of the Carpathian Mountains (today, region Moldova Romania), westward, northward of the Apuseni Mountains (today, regions Crişana and Banat, Romania) (figure 7).

At the same time, the hoards coming from the Romanian region of Dobrudja (the Romanian territory between the Black Sea and the Danube River) belonged to the Roman province of Lower Moesia and later to Scythia Minor.

Therefore, at the moment, circa 128 hoards can be assigned to the Roman province of Dacia.

Such a large number of hoards for the region of the Middle and Lower Danube is a result of multiple elements:

- the largest period of analysis;
- the integration of a large territory in the Roman Empire and, implicitly, in the Roman monetary system (Dacia);
- a series of violent events that lead to the burial and non-recovery of the hoards.

As for the period of the Roman administration in Dacia, as well as for the surroundings provinces, I have already discussed the hoarding phenomenon in my previous works.⁷⁷ Therefore, I shall point out here the main features of this process.

The hoards found in the provinces from the Middle and Lower Danube – Dacia included – ending before the middle of the 3rd century AD mainly contain only single metal coins: gold, silver or bronze, but there are also a small number of hoards with mixed compositions. The hoards show that denarii disappeared gradually after the middle of the 3rd century AD. Later, the hoards contain mostly mixed silver denominations of denarii and antoniniani and, as a characteristic of the two Moesiae, some hoards contain only bronze provincial issues (e.g. Malinovo,⁷⁸ Nikjup 1983,⁷⁹ Ruen,⁸⁰ Preobrazhentsi⁸¹).⁸²

⁶⁷ <https://chre.ashmus.ox.ac.uk/hoard/2673>. (Accessed 26/06/2022).

⁶⁸ <https://chre.ashmus.ox.ac.uk/hoard/16113>. (Accessed 26/06/2022).

⁶⁹ <https://chre.ashmus.ox.ac.uk/hoard/2777>. (Accessed 26/06/2022).

⁷⁰ <https://chre.ashmus.ox.ac.uk/hoard/17492>. (Accessed 26/06/2022).

⁷¹ <https://chre.ashmus.ox.ac.uk/hoard/9340>. (Accessed 26/06/2022).

⁷² <https://chre.ashmus.ox.ac.uk/hoard/16464>. (Accessed 26/06/2022).

⁷³ <https://chre.ashmus.ox.ac.uk/hoard/16418>. (Accessed 26/06/2022).

⁷⁴ <https://chre.ashmus.ox.ac.uk/hoard/16418>. (Accessed 26/06/2022).

⁷⁵ <https://chre.ashmus.ox.ac.uk/hoard/17492>. (Accessed 26/06/2022).

⁷⁶ Dio Cassius 68.9.7; MATEI-POPESCU/ȚENTEA 2021, 601-610.

⁷⁷ GĂZDAC 2010; GĂZDAC 2022, 130-196.

⁷⁸ <https://chre.ashmus.ox.ac.uk/hoard/10153>. (Accessed 26/06/2022).

⁷⁹ <https://chre.ashmus.ox.ac.uk/hoard/10240>. (Accessed 26/06/2022).

⁸⁰ <https://chre.ashmus.ox.ac.uk/hoard/12327>. (Accessed 26/06/2022).

⁸¹ <https://chre.ashmus.ox.ac.uk/hoard/12326>. (Accessed 26/06/2022).

⁸² GĂZDAC 2010, 93.

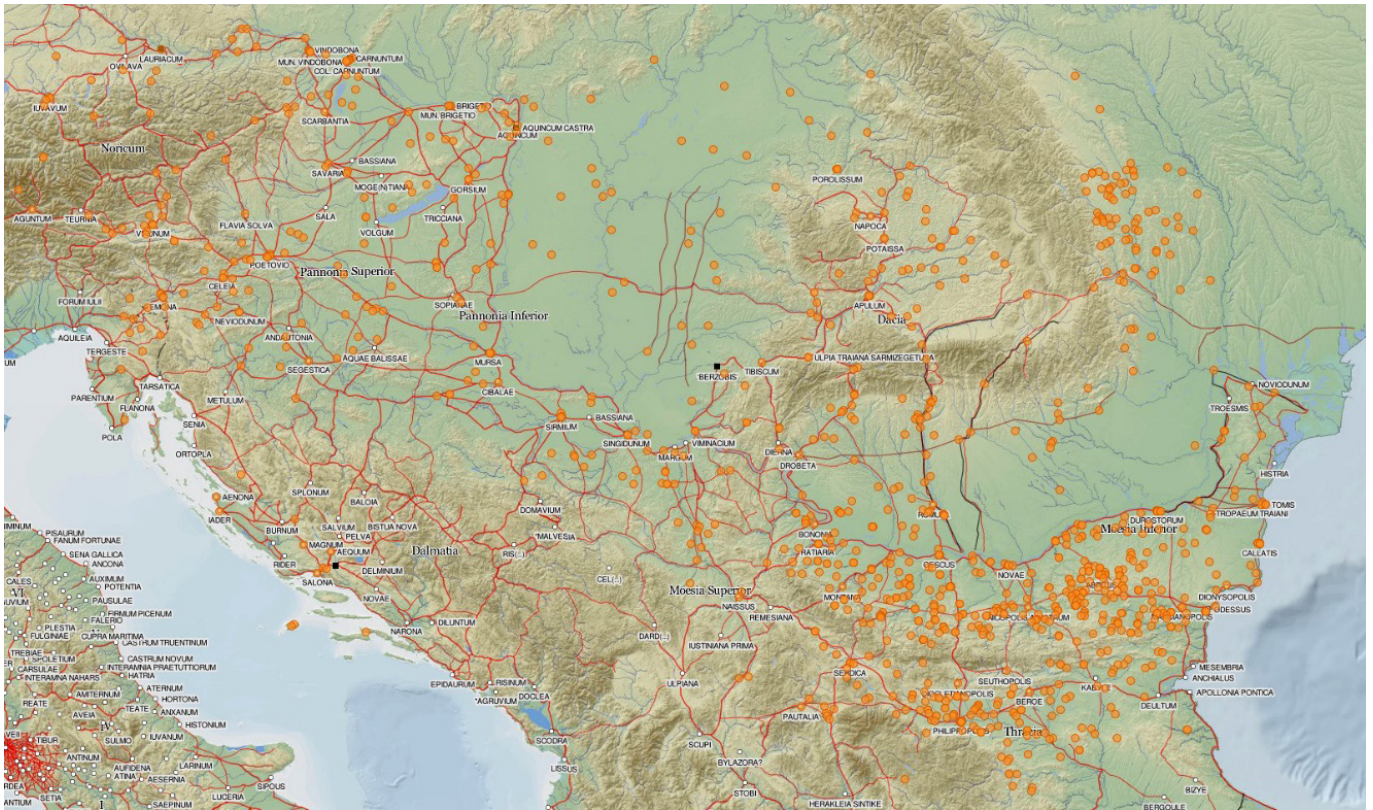


Fig. 6. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued: AD 106-270 (<https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

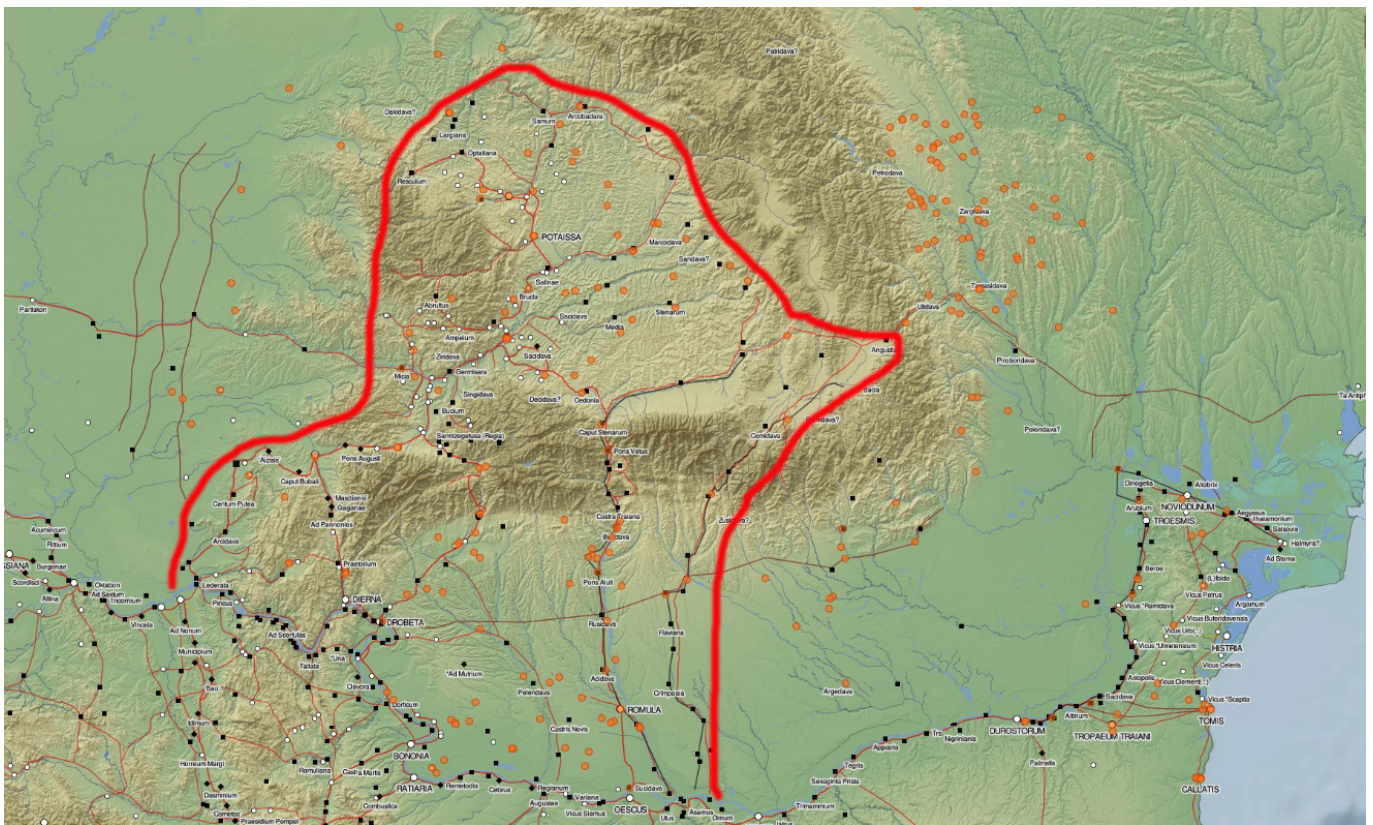


Fig. 7. The hoards in Roman Dacia ending with coins minted during the period of AD 106-270 (based on <https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

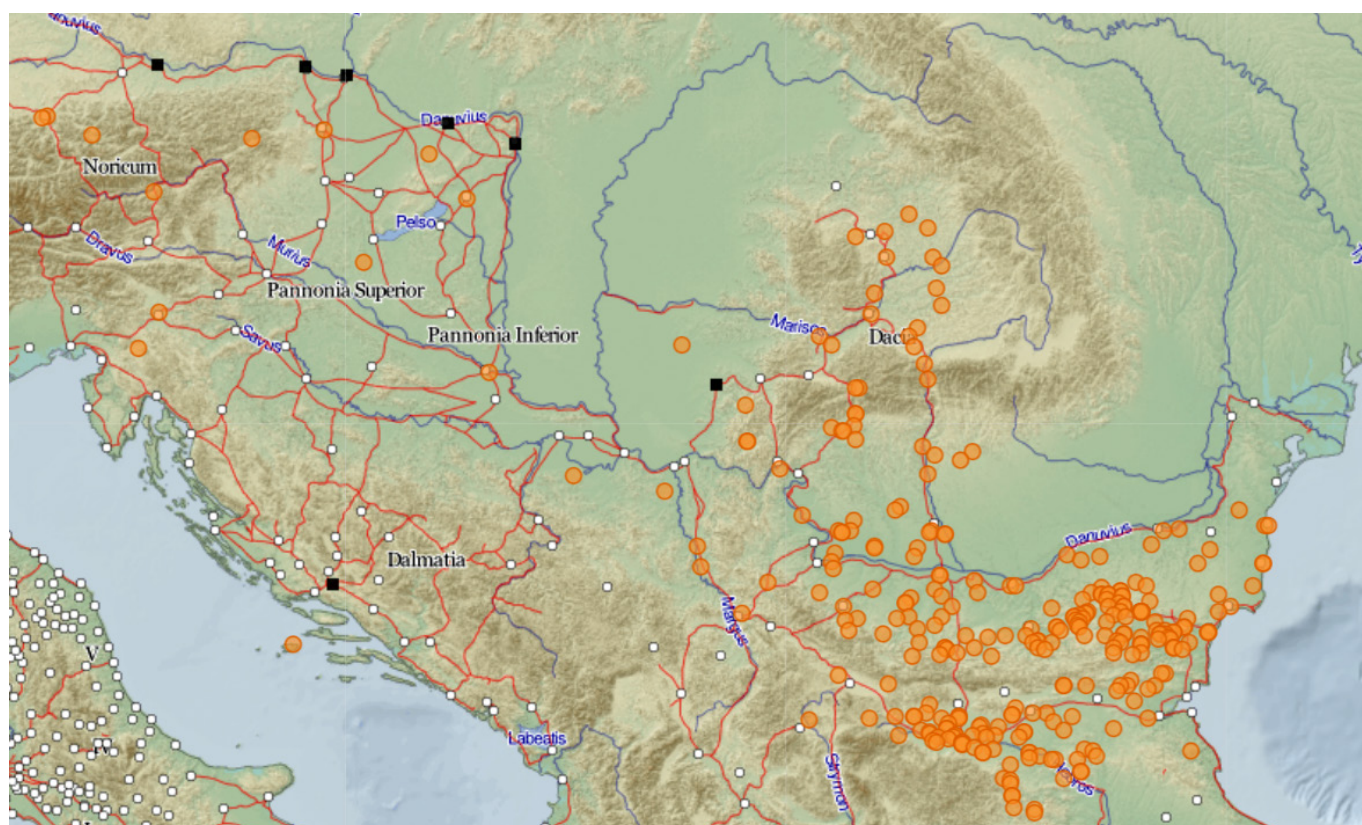


Fig. 8. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued: AD 238-247 (<https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

At the moment, a particular aspect that was revealed for the province of Dacia is the presence of what I called 'civilian' and military hoards. By 'civilian' hoards, I understand those hoards found within or near civilian settlements while 'military' hoards are those found within the forts or nearby (200 m from the walls).⁸³

There are two contrasting patterns of denomination hoarding between these categories of hoards:

- a. the 'civilian' hoards (e.g. Alba Iulia 1995,⁸⁴ Bârca 1961,⁸⁵ Bârca 1962,⁸⁶ Galicea Mare,⁸⁷ Jieț-Popi,⁸⁸ Tunarii Vechi,⁸⁹ Visuia⁹⁰) with a larger quantity of denarii than antoniniani, with the percentage varying from 62.8% (Galicea Mare) to 83.8% (Alba Iulia 1995);
- b. the 'military' hoards (Ioneștii Govorii,⁹¹ Slăveni 1967,⁹² Slăveni 1974⁹³) which have a substantial quantity of antoniniani varying from 94.49% (Slăveni 1967) to hoards consisting entirely of antoniniani: Ioneștii Govorii, Slăveni 1974.

'This difference may be explained by the way in which the coins entered the hoards. The 'civilian' hoards indicate

that the denarius was still regarded as a coinage with a higher intrinsic value than the silver radiate. The different content of 'military' hoards may be linked with the mode of payment of *stipendium* and *donativa* to the soldiers. It is significant that in the hoards Ioneștii Govorii,⁹⁴ Slăveni 1974⁹⁵ even the coins issued under Caracalla and Elagabalus consist of antoniniani only. This suggests that the soldiers' pay was made mainly in antoniniani.⁹⁶

As previously mentioned, one benefit of using a huge database such as the CHRE is to have the possibility to see the distribution of hoards by many filters.⁹⁷ Such filters are: the terminal years of hoards; the option to select multiple countries at the same time.

This give us the possibility to throw a new light on the long-debated aspect whether hoards are proofs of historical violent events.

In the case of the Roman provinces from the Middle and Lower Danube, I choose four key violent events that were mentioned by ancient literary sources: the Carpic war under Philip I (AD 245-247);⁹⁸ the invasion of Goths in AD 251; the barbarian raids and civil wars in Pannonia (AD 258-260);⁹⁹ the barbarian raids in Lower Moesia (AD 254-258) which continued until AD 268-269.¹⁰⁰

⁸³ GĂZDAC 2022, 130-196.

⁸⁴ <https://chre.ashmus.ox.ac.uk/hoard/3135>. (Accessed 26/06/2022).

⁸⁵ <https://chre.ashmus.ox.ac.uk/hoard/2631>. (Accessed 26/06/2022).

⁸⁶ <https://chre.ashmus.ox.ac.uk/hoard/7744>. (Accessed 26/06/2022).

⁸⁷ <https://chre.ashmus.ox.ac.uk/hoard/2639>. (Accessed 26/06/2022).

⁸⁸ <https://chre.ashmus.ox.ac.uk/hoard/2643>. (Accessed 26/06/2022).

⁸⁹ <https://chre.ashmus.ox.ac.uk/hoard/2645>. (Accessed 26/06/2022).

⁹⁰ <https://chre.ashmus.ox.ac.uk/hoard/2642>. (Accessed 26/06/2022).

⁹¹ <https://chre.ashmus.ox.ac.uk/hoard/2640>. (Accessed 26/06/2022).

⁹² <https://chre.ashmus.ox.ac.uk/hoard/5316>. (Accessed 26/06/2022).

⁹³ <https://chre.ashmus.ox.ac.uk/hoard/2647>. (Accessed 26/06/2022).

⁹⁴ <https://chre.ashmus.ox.ac.uk/hoard/2640>. (Accessed 26/06/2022).

⁹⁵ <https://chre.ashmus.ox.ac.uk/hoard/2647>. (Accessed 26/06/2022).

⁹⁶ GĂZDAC 2010, 140.

⁹⁷ <https://chre.ashmus.ox.ac.uk/search/>. (Accessed 26/06/2022).

⁹⁸ Zosimos, I, 20.

⁹⁹ Eutropius, IX, 8, 2; SHA, Triginta Tyranni, 9 and 10, 1; Aurelius Victor, 33, 2.

¹⁰⁰ Zosimos, I, 31, 34-35; SHA, vita Valeriani. 10, 2-3, 11, 13, 2; SHA, vita

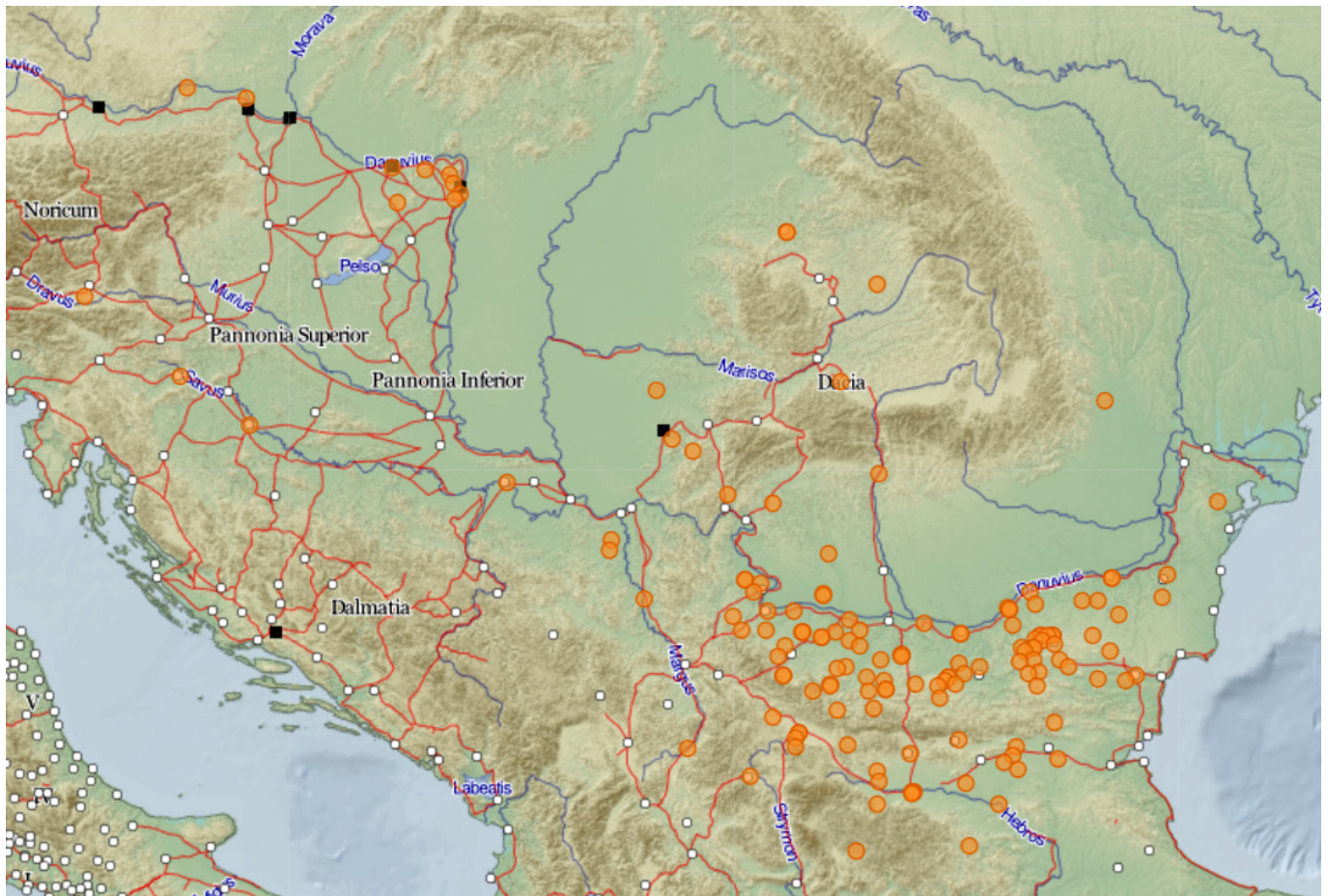


Fig. 9. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued AD 250-251 (<https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

In order to have objective results, methodologically, the chronological filter was set to key-years to avoid as much as possible the 'contamination' – hoards appearing on more than one chronological segment – as these facts have happened within a narrow time frame. Certainly, this aspect could not be entirely avoided as the *tpq* element is just a relative criterion.

In the case of the Carpic war, the terminal years of the latest coin was set to AD 238-247. The *tpq* factor was considered here in the manner that hoards ending with coins of Gordian III (AD 238-244) could have easily been buried in the time of the Carpic War. Again, there is no warranty that some of the hoards could have even a later date of concealment.

Still, the result provided by CHRE distribution map of hoards clearly presents a strong concentration of hoards exactly in the provinces most affected by this war, Dacia, Lower Moesia and Thrace. In comparison, the other adjacent provinces (Pannoniae, Upper Moesia, Dalmatia) show a much lower number of hoards (figure 8).

For the fiercely invasion of the Goths in AD 251 that had a huge impact on the Roman world after the battle of Abrittus (Lower Moesia) and the death of the emperor Trajan Decius on the battlefield, the terminal years filter was set to AD 250-251. On this way, the hoards ending with the reign of Philip I (AD 244-249) were not included, although, they could

have been easily concealed also during the time of the Gothic invasion or even later. Certainly, the same situation may apply to hoards with the latest coin(s) from AD 250-251.

Despite selecting such an extreme narrow time frame, the CHRE map is relevant to point out what means a dramatic invasion on a territory. The province of Lower Moesia presents a massive concentration of hoards in comparison with any other adjacent province (figure 9).

For the remaining two events the terminal years filter was set for AD 253-260 for the same methodological reasons as previously explained. As an exception, in this case, the sole reign of Gallienus (AD 260-268) was not included in order to avoid the 'contamination' with a possible hoarding horizon caused by the Goths' invasion in AD 268/269.

Again, the CHRE map reveal massive concentrations of hoards in the war zones. Pannonia came under a series of external raids by Suebi and Sarmatians,¹⁰¹ which culminated in the war of AD 258-260 against the barbarians,¹⁰² followed by a civil war against the usurpers Ingenuus and Regalianus (AD 260).¹⁰³ The Lower Danube, especially the territories of Lower and Upper Moesia, reveal the other concentration of hoards' finds that were most likely caused by the barbarian raids of the AD 254-258 (figure 10).

¹⁰¹ Eutropius, IX, 8, 2; SHA, *Triginta Tyranni*, 10, 1.

¹⁰² MÓCSY 1974, 209.

¹⁰³ SHA, *Triginta Tyranni*, 9 and 10, 1; Aurelius Victor, 33, 2.

Gallieni, 5, 6; Aurelius Victor, 33, 3.

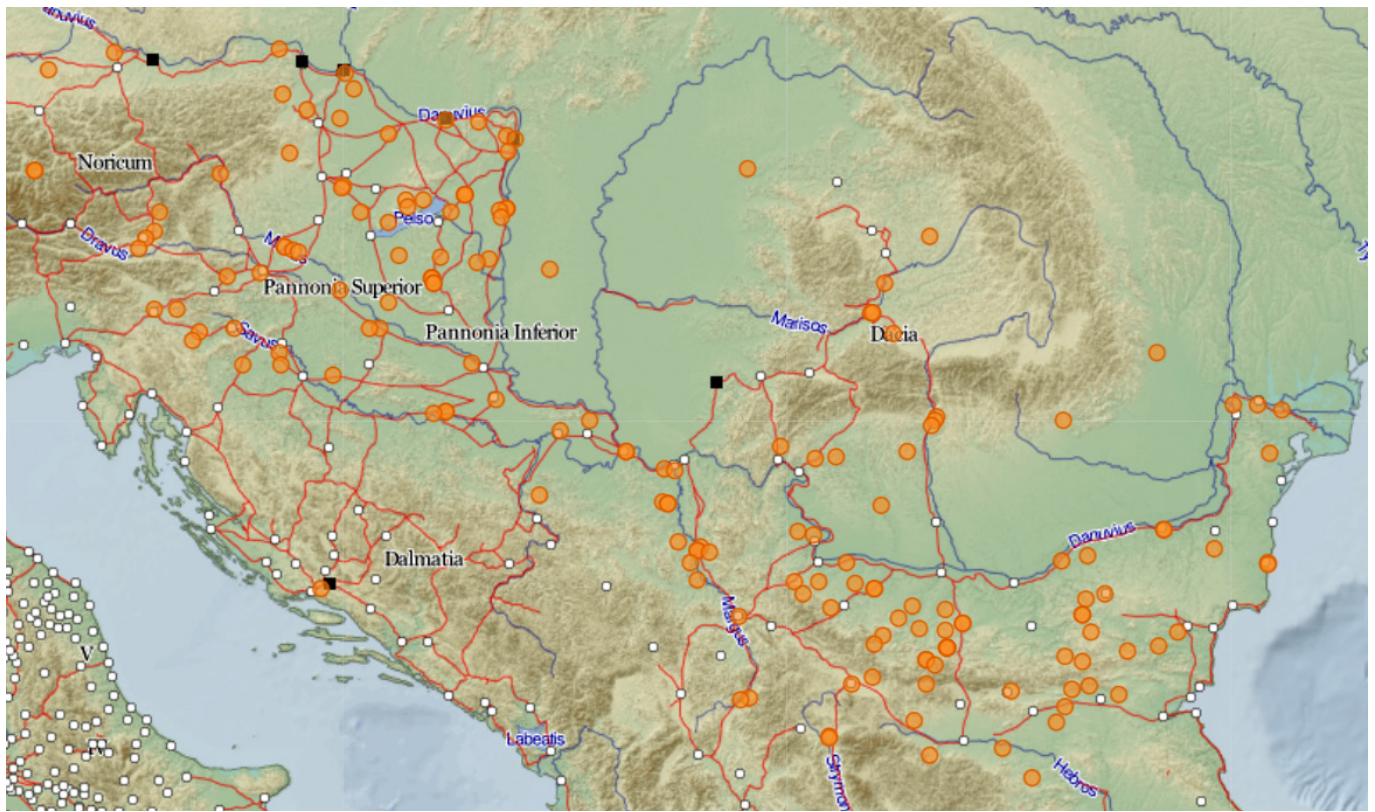


Fig. 10. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued AD 253-260 (<https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

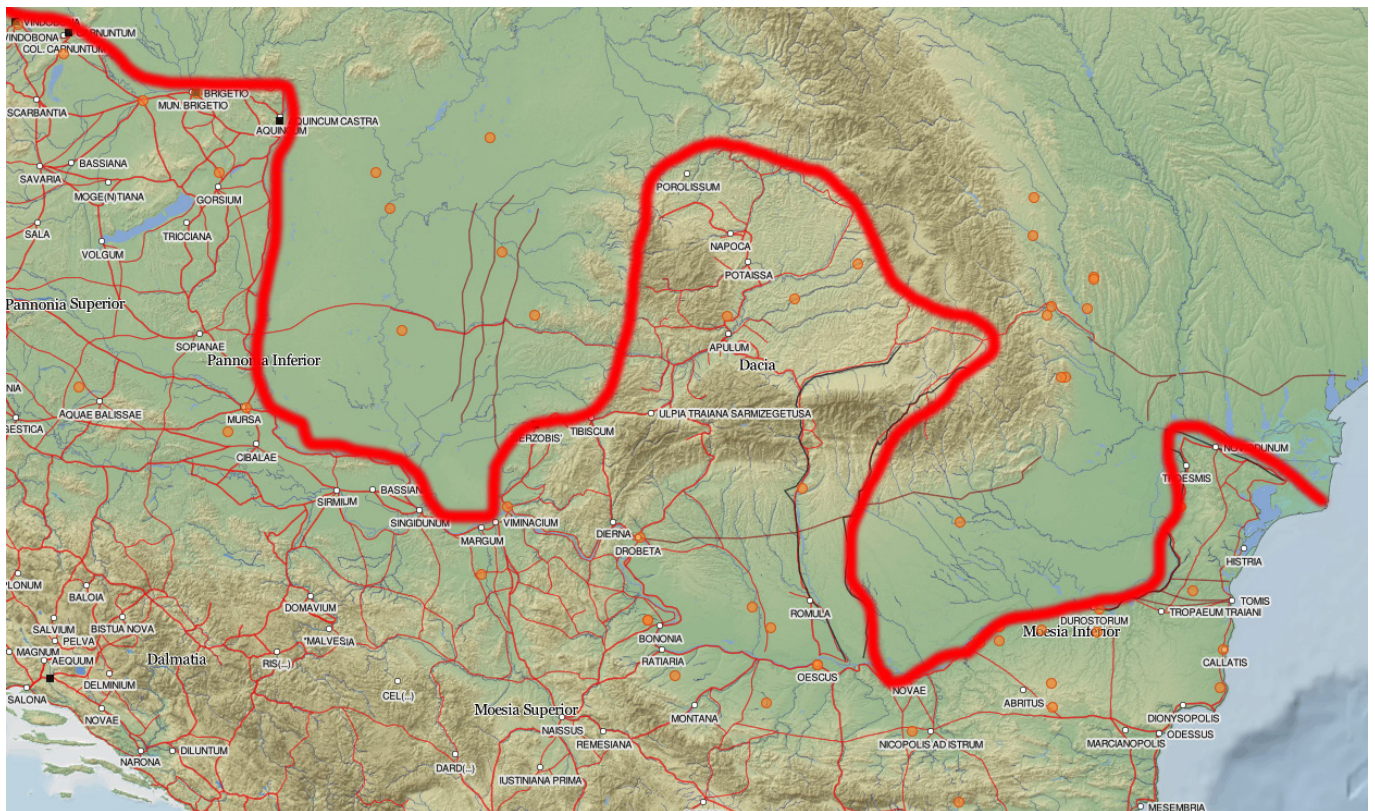


Fig. 11. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued AD 120-140 (based on <https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

An indirect argument that may support the hypothesis that large concentration of hoards on certain area(s) at a certain time are the results of known historical

episodes of collective violence, is the analysis of what means a 'peacetime' sequence from the numerical point of view of hoards and their mapping.



Fig. 12. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued AD 270-300 (based on <https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

To observe this aspect, a conventional period of twenty years was set in the CHRE's terminal year filter. The period chosen was AD 120-140 as there is no information on heavy violent events by ancient literary sources on the area of the Middle and Lower Danube. The choice of 20 years segment was adopted to match the interval analysed for the 'wartime' episodes – AD 246-268.

The CHRE map of hoards reveals 'only' 74 finds for the area of Lower and Middle Danube. However, in fact, only 30 hoards were discovered on the territories of the Roman provinces from this area (Dacia, Pannoniae, Dalmatia, Moesia) (figure 11).

In the case of Dacia, seven hoards are known for this period. Furthermore, some of them may raise the question whether they are 'emergency hoards': Belcinu – 24 denarii;¹⁰⁴ Locusteni – 11 denarii;¹⁰⁵ Bereni – 57 dupondi and asses.¹⁰⁶ At the same time the hoard Drobeta-Turnu Severin 1964 containing 7 aurei of Hadrian was found in a funerary context, the eastern necropolis of the former Roman colonia.¹⁰⁷

Beside the low number of discoveries, the fact that there is no noticeable concentration of hoards on a specific area can be considered as an argument for 'peacetime' period from the hoarding process point of view.

POST-ROMAN DACIA (AD 270-400)

The Roman administration and army started to withdraw from Dacia around AD 270. During the reign of Constantine I, the southern part of the former Roman Dacia province was re-conquered.¹⁰⁸

Are these major political events also reflected by the hoarding phenomenon?

Using the CHRE database, its filters, one can see two distinctive patterns for the territory of former province of Roman Dacia.

- a. The period of AD 270-230 is one of a very low number of hoards (2) for the territory of the former Roman province of Dacia, while the territories from the Middle and Lower Danube, still under the Roman administration, present a much higher number of hoards (65) (figure 12);
- b. The period of AD 300-400 is one of a similar number of hoards in the provinces of the Roman Empire (59) while on the former territory of Roman Dacia the number is highly increasing (22) (figure 13). At the same time, it can be noticed that the large majority of them are concentrated on the far southwest part of ex-Roman Dacia, the territory reconquered by the Romans during the reign of Constantine I.

¹⁰⁴ <https://chre.ashmus.ox.ac.uk/hoard/2594>. (Accessed 26/06/2022).
¹⁰⁵ <https://chre.ashmus.ox.ac.uk/hoard/2591>. (Accessed 26/06/2022).
¹⁰⁶ <https://chre.ashmus.ox.ac.uk/hoard/2597>. (Accessed 26/06/2022).
¹⁰⁷ <https://chre.ashmus.ox.ac.uk/hoard/2590>. (Accessed 26/06/2022).

¹⁰⁸ See the chapter on the history of Roman Dacia.

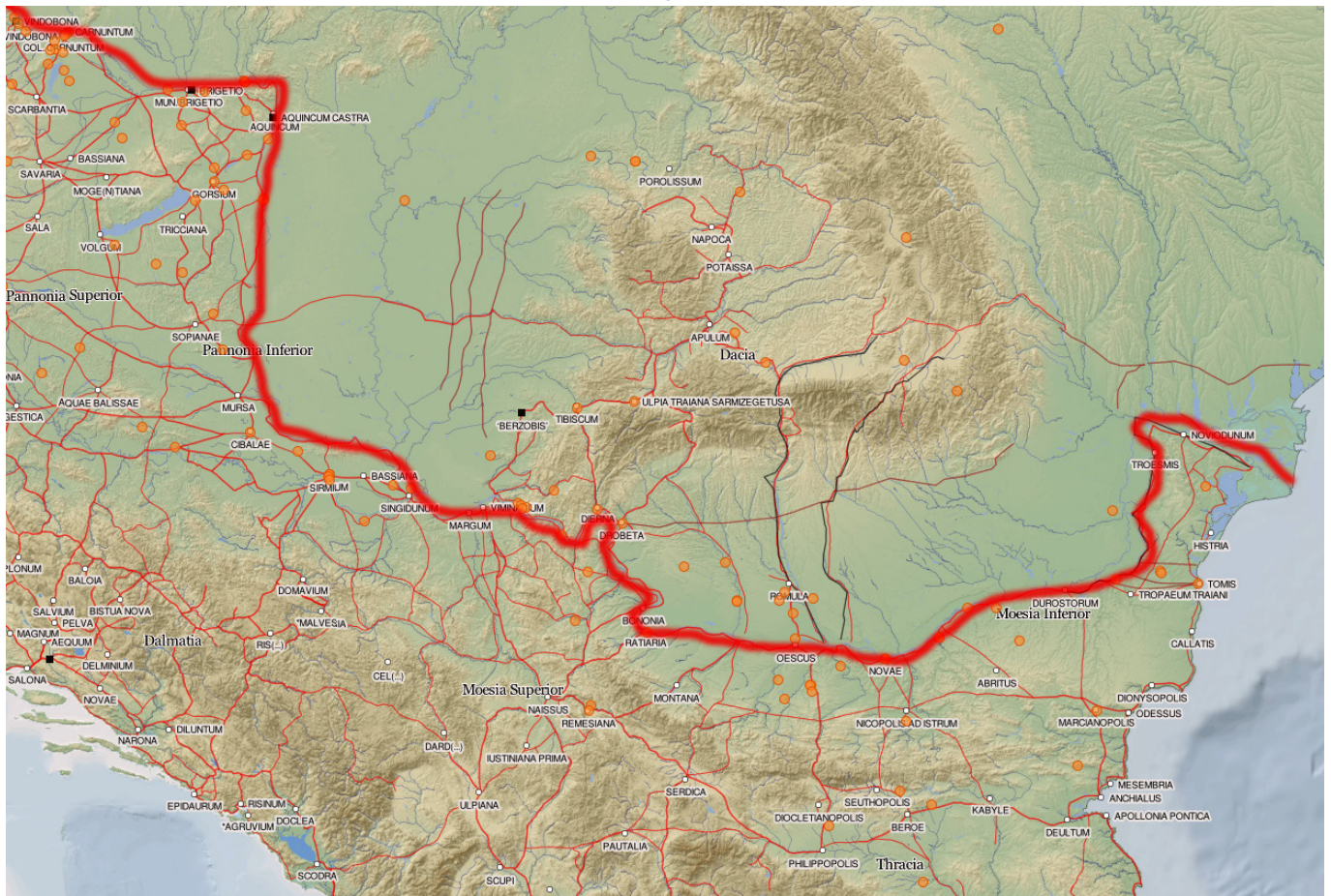


Fig. 13. The CHRE map of hoards' distribution at the Middle and Lower Danube, latest coins issued AD 300-400 (based on <https://chre.ashmus.ox.ac.uk>. Accessed 26/06/2022).

The CHRE database analysis for the last two periods mentioned here indicate the overwhelming dominance of the antoniniani (hoards) until the monetary reform of Diocletian. Still, denarii were very scarcely found only in the very large hoards (e.g. Nagyberki 1911 – 2,611 coins,¹⁰⁹ Komin – 300,000 coins¹¹⁰).

The hoards ending with the Tetrarchs are characterised by the diversity of the metal hoarded: gold (e.g. Komárom-Szőny 1946);¹¹¹ antoniniani (e.g. Dunaujváros 1993 A);¹¹² argentei (e.g. Sisak 1953);¹¹³ nummi (e.g. Pleven 1979)¹¹⁴ or mixed: antoniniani, argentei, nummi (e.g. Esztergom-Burg 1763 B);¹¹⁵ argentei and nummi (e.g. Carnuntum 2002).¹¹⁶

The territory of the former Roman province of Dacia became in the 4th century AD a buffer zone between the Roman Empire and the new incoming populations (Goths, Gepids, Huns). The temporary return of the Roman administration in the south area during the reign of Constantine I together with the politics of paying local chieftains has led to a map of hoards with a large diversity of

composition. The evidence reveals large hoards of gold and jewellery (e.g. Şimleu Silvaniei 1797),¹¹⁷ siliquae (Sibiu¹¹⁸, Caracal 1850,¹¹⁹ Celei,¹²⁰ Drânic,¹²¹ Redea,¹²² Viespeşti¹²³), hoards of old coins and denominations such as denarii, solidi, and jewellery (Valea Strîmbă),¹²⁴ and those of coins of low value: asses, antoniniani, nummi (Gherla,¹²⁵ Jupa 1925¹²⁶). In the area occupied by the Roman Empire the hoards are mainly consisting of nummi (Drobeta-Turnu Severin 2000-2014,¹²⁷ Măceşti,¹²⁸ Moldova Nouă,¹²⁹ Moldova Veche,¹³⁰ Orşova 1934,¹³¹ Pojejena¹³²).

¹⁰⁹ <https://chre.ashmus.ox.ac.uk/hoard/2898>. (Accessed 26/06/2022).
¹¹⁰ <https://chre.ashmus.ox.ac.uk/hoard/4064>. (Accessed 26/06/2022).
¹¹¹ <https://chre.ashmus.ox.ac.uk/hoard/7546>. (Accessed 26/06/2022).
¹¹² <https://chre.ashmus.ox.ac.uk/hoard/2837>. (Accessed 26/06/2022).
¹¹³ <https://chre.ashmus.ox.ac.uk/hoard/4189>. (Accessed 26/06/2022).
¹¹⁴ <https://chre.ashmus.ox.ac.uk/hoard/2771>. (Accessed 26/06/2022).
¹¹⁵ <https://chre.ashmus.ox.ac.uk/hoard/2905>. (Accessed 26/06/2022).
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¹¹⁹ <https://chre.ashmus.ox.ac.uk/hoard/4302>. (Accessed 26/06/2022). 13 kilos of siliquae.
¹²⁰ <https://chre.ashmus.ox.ac.uk/hoard/4362>. (Accessed 26/06/2022). 11.5 kilos of siliquae.
¹²¹ <https://chre.ashmus.ox.ac.uk/hoard/4312>. (Accessed 26/06/2022).
¹²² <https://chre.ashmus.ox.ac.uk/hoard/4347>. (Accessed 26/06/2022).
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¹³⁰ <https://chre.ashmus.ox.ac.uk/hoard/9209>. (Accessed 26/06/2022).
¹³¹ <https://chre.ashmus.ox.ac.uk/hoard/9167>. (Accessed 26/06/2022).
¹³² <https://chre.ashmus.ox.ac.uk/hoard/9328>. (Accessed 26/06/2022). 7 kilos of nummi.

CONCLUSIONS

A large database doubled by a broad diversity of filters – such as the CHRE – can clearly reveal a large palette of general and specific patterns of the hoarding process of the Roman imperial coinage, both within the Empire's borders and beyond.

In the case presented here – the hoarding phenomenon on the territory of Romania, broadly the Dacian kingdom and the nucleus of the Roman province of Dacia – the CHRE facilities have pointing out the acceptance of the Roman republican and imperial denarius as the main denomination in the hoards found in pre-Roman Dacia with the same frequency as in the adjacent Roman provinces from the Middle and Lower Danube.

The integration of Dacia in the Roman Empire, implicitly adopting its monetary mechanism for more than 150 years, together with a series of turmoil events, has revealed a huge number of hoards, again, in concordance with the surrounding Roman areas.

Furthermore, the hoarding process can offer a clear picture on the meaning of the Roman withdrawal from a province and a temporary come back few decades later. The abandonment of Dacia towards the end of the 3rd century AD made the territory to look like a 'terra deserta' regarding the number of hoards on the CHRE map for the period of AD 270-300 in comparison with the territories, still, under Roman administration (figure 12). The return of the Romans, even on a small area from the former Roman province of Dacia, and the clash with the new incomers from the east, is clearly visible on the CHRE map of hoards for the 4th century AD (figure 13) not only by the increase of the hoards' number but also for the different composition of these hoards: gold and silver for the incomers, bronze and old coins for the locals.

On the other side, as it has been already demonstrated for Dacia 'the owners of hoards were trying to keep coins of high precious metal content. Altogether, the hoards found in Dacia as well as in the surrounding area indicate that the denarii disappeared gradually from circulation after the middle of the 3rd century AD. The hoards ending before the middle of the 3rd century contain mainly coins of a single metal: gold, silver or bronze, with only a few cases of hoards of mixed composition. After the middle of the 3rd century AD, hoards mostly contain single metal, but mixed denominations of denarii and antoniniani.¹³³

¹³³ GĂZDAC 2010, 174.

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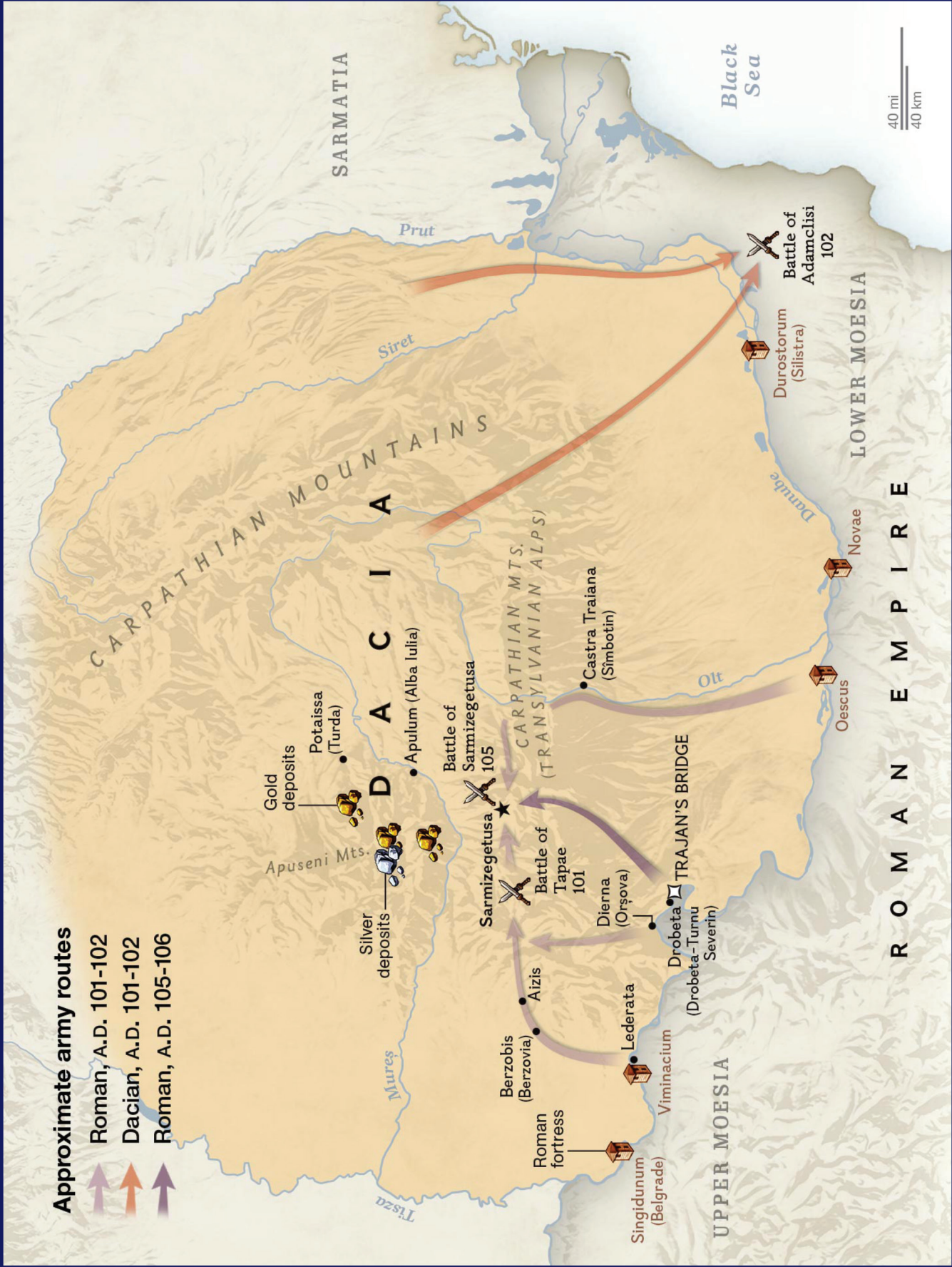
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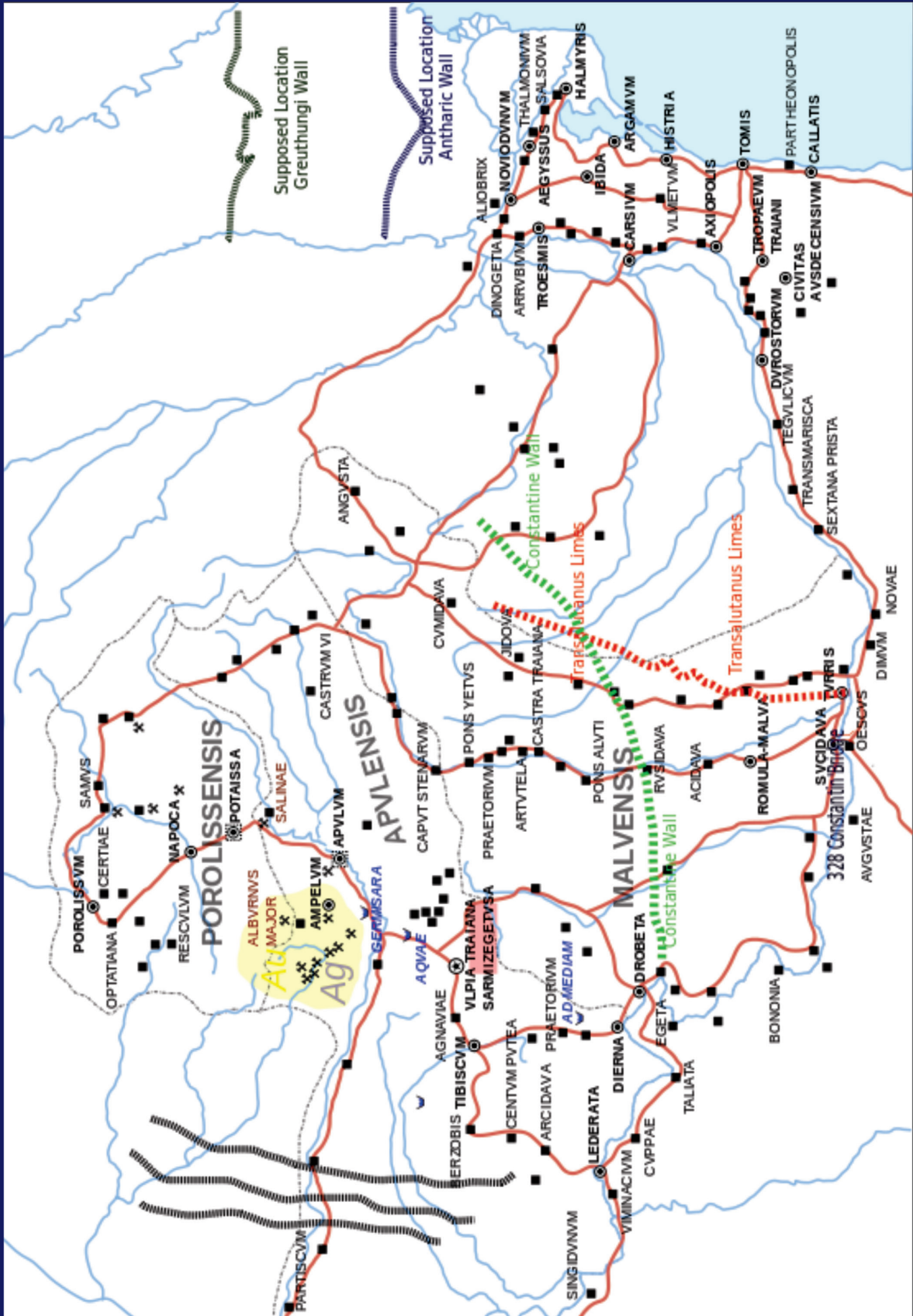
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Map 1. The Dacian realm under king Burebista (circa 82-44 BC).
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Map 2. The Dacian wars (AD 101-106). (<https://www.nationalgeographic.com/trajan-column/article.html>. Accessed 25/06/2022).



Map 3. Roman Dacia and the 4th century AD Roman possessions. (https://www.nicepng.com/ourpic/u2e6r5o0r5r5r5q8_map-showing-the-eastern-border-of-the-roman/. Accessed 25/06/2022).