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# COUNTERFEITING ROMAN SILVER COINS IN THE 1ST – 3RD CENTURIES A.D. STUDY ON ROMAN PROVINCES FROM MIDDLE DANUBE TO LOWER RHINE

**Abstract:** The newly written paper for Roman imperial silver coins is expanding the studied area of counterfeited silver coins discovered on archaeological sites by analyzing a whole geographic region stretching from the middle Danube in the East to the shores of the lower Rhine in the West.

Aiming to prove the existence of a centralized pattern regarding silver plated coins distribution, the study expanded its investigation to include the random appearance of hybrid and plated hybrid coins. Besides this the focus will remain on counterfeited pieces, their proportions and distribution, with a smaller case study for the Severian period during when most plated pieces were dated for.

Towards the end of the study new results can finally support previous debated arguments regarding coin distribution and patterns of distribution in frontier provinces, alongside with Rome's approach to silver plated pieces.

**Keywords:** *Roman Empire, silver, coins, Denarius, Antoninianus, numismatics, Dacia, Pannonia, Noricum, Raetia, Germania Superior, Germania Inferior, Gallia Belgica, hybrid, plates, graphs, coefficients.*

## INTRODUCTION

**T**he studied area includes sites from Roman provinces of Dacia, Pannonia, Noricum, Raetia, Germania Superior, Germania Inferior and Gallia Belgica. This layout was chosen because of its geographical and historical background, the Roman Danube and Rhine frontiers being settled in these regions between the I and III centuries A.D.

If we wanted to study the coin finds around these areas it was necessary to study various catalogues regarding Roman coins, to gather all silver denarius and antoninianus pieces and divide the coins by type and issuer's reign. Thus, we have genuine coins officially issued by Rome, plated pieces, hybrid coins and plated hybrid pieces.

Further on, the coins were inserted into graphs to represent the proportion of finds and monetary circulation for each site. After analyzing the sites all data was used to form new graphs which represent the monetary situation at the level of the provinces and regions, finally comparing the two major frontiers Danube vs. Rhine.

In these circumstances it was possible to study the situation of counterfeited and hybrid coins belonging to these areas and make a case study on the Severian period and the counterfeited coins dated at their period.

**Răzvan Bogdan Gaspar**

University Babeş-Bolyai of Cluj-Napoca  
gaspar.razvan.bogdan@gmail.com

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Chronological, all silver coins from Augustus (27BC-14AD) to Philip I (244-249) have been integrated in the study, denarius and antoninianus pieces. This way the “Golden Age” of the Roman Empire and the beginning of the “Downfall” are all recorded in coin finds, as historians can see the progressive debasement of silver coinage for this period.

Also, this period involves the conquest (106 AD) and abandonment (270-275) of Dacia, formation of Roman Pannonia (9 AD), annexation of Noricum, Raetia and Germania Superior during the I century AD and partially abandonment after the Alamanni attack of 250-260.

New historical sites are included in the studied area stretching from Vienna up the Danube and down the Rhine to Nijmegen, being included Roman sites such as Vindobona (Vienna, Austria) and Ovilava (Wels, Austria) situated in Noricum, Sorviodurum (Straubing, Germany), Castra Regina (Regensburg, Germany), Castra Vetoniana (Pfunz, Germany), Ingolstadt (Germany), Abusina (Eining, Germany), Augusta Vindelicorum (Augsburg, Germany) and Aislingen (Germany) for the province of Raetia.

In the case of Germania Superior we have the sites from Bad Cannstatt (Germany), Sumelocenna (Rottenburg am Neckar, Germany), Tabernae (Rheinzabern, Germany), Noviomagus (Speyer, Germany), Heidelberg (Germany), Miltenberg (Germany), Stockstadt (Germany), Nida (Germany), Rükkingen (Germany), Friedberg (Germany), Mogontiacum (Mainz, Germany), Hofheim (Germany), Wiesbaden (Germany), Zugmantel (Germany), Heldenbergen (Germany), Ober-Florstadt (Germany) and Butzbach (Germany), Germania Inferior sites from Mariaweiler (Germany), Nörvenich (Germany), Colonia Agrippina (Köln, Germany), Novaesium (Neuss, Germany) and Ulpia Noviomagus (Nijmegen, Holland), also Treverorum (Trier, Germany) located in Gallia Belgica.

All studied sites were later integrated in geographical regions to facilitate the study of counterfeited coin patterns and monetary circulation in the area. Consequently, sites situated in Roman Noricum and Raetia formed the Upper Danube region, sites from Germania Superior are represented by Upper Rhine area and sites from Germania Inferior and Belgica form the Lower Rhine area.

Regarding the chosen chronological time frame, between August (27BC-14AD) and Philip I (244 - 249), the reason behind this was influenced by the local history of the provinces. Dacia was included in the empire on 106 AD and abandoned between 270-275, Pannonia acquired after 9 AD, Noricum during the first half of the I century AD while Germania Superior and Raetia during the Flavian dynasty (70 - 90) and partially abandoned during the Alamanni attack of 250 - 260 AD.

To facilitate the acquisition of more historical information just by using some coin catalogs there were some methodological steps performed. First step was to find the right scientific material that covered the archaeological sites from Roman provinces of Noricum, Raetia, Germania Superior, Germania Inferior and Gallia Belgica, today part of Austria, Germany and the Netherlands.

Second, it was necessary to gather all silver coins dated between the reign of Augustus (27BC-14AD) and that of Philip I (244-249) so that a register could be created. This

chronological period was chosen because it represents both the days of glory for The Roman Empire and the beginning of its fall because of the debasement of the silver coins and scarcity of silver in genuine pieces.

Also, during this time frame part of the Roman provinces would go through transformations, Dacia will be integrated in 106 AD and abandoned between 270-275, Pannonia will be added in 9 BC, Noricum integrated in the first half of the I century, Raetia and Germania Superior added during the Flavian dynasty (70-90) and partially abandoned after the Alamanni attacks (250-260).

Third, pie charts that show type, number and proportion of coins and graphs that show distribution of the pieces according to the issuer were created for a better representation of the results.

For the fourth step, a modification of the Ravetz formula<sup>1</sup> was used in order to create monetary coefficients for the study regions. Thus, the used formula was:

$$\frac{\text{coins per issuer from all sites}}{\text{years of reign}} \times \frac{1000}{\text{total number of coins from all sites}}$$

Using the new formula, it was possible to represent the coin distribution for silver pieces, genuine and plated, on all studied regions regardless of quantity of discovered coins for each particular site.

#### MONETARY SITUATION ON STUDIED SITES:

First, we observe the individual sites and discovered silver coins to gather all pieces of the puzzle and asses the information.

Around the year 89 AD, Domitian (81-96) moves *Legio XIII Geminae* from Poetovio to **Vindobona<sup>2</sup> (Vienna, Austria)** where the soldiers raised a new *castrum* feting for a legion, which in time will become ground zero for the future city of Vienna<sup>3</sup>.

Later *Legio XIII Geminae* was send to fight with the Dacians at the lower Danube, in her place arriving *Legio X Geminae* from Nijmegen/Noviomagus which will remain here for the next three centuries<sup>4</sup>.

Using coin catalogs, it was possible to create pie charts and graphs showing the coin distribution on archaeological sites. Thus, for Roman Vindobona Fig. 1 we can see 281 silver coins that were dated between the I and III centuries AD<sup>5</sup>. From the total number of coins, 187 pieces with a proportion of 67% are genuine, 66 with a proportion of 23% are plated, 19 pieces with a proportion of 7% are plated hybrids and 9 coins representing 3% are hybrids.

Fig. 2 shows coin distribution based on issuer and his time of reign, the earliest pieces being dated to Vespasian (69-79) and most of genuine coins are dated during the Severian period, especially during the reign of Septimius Severus (193-211), Elagabalus (218-222) and Severus Alexander (222-235). In the case of plated coins most of them have shown on their surface the image of Septimius **Severus (193-211)**.

<sup>1</sup> CASEY 1974, 41.

<sup>2</sup> BÖRNER 2002, 241-252.

<sup>3</sup> VICI.ORG/VICI/1936.

<sup>4</sup> MASPOLI 2014.

<sup>5</sup> FMRÖ 1978.

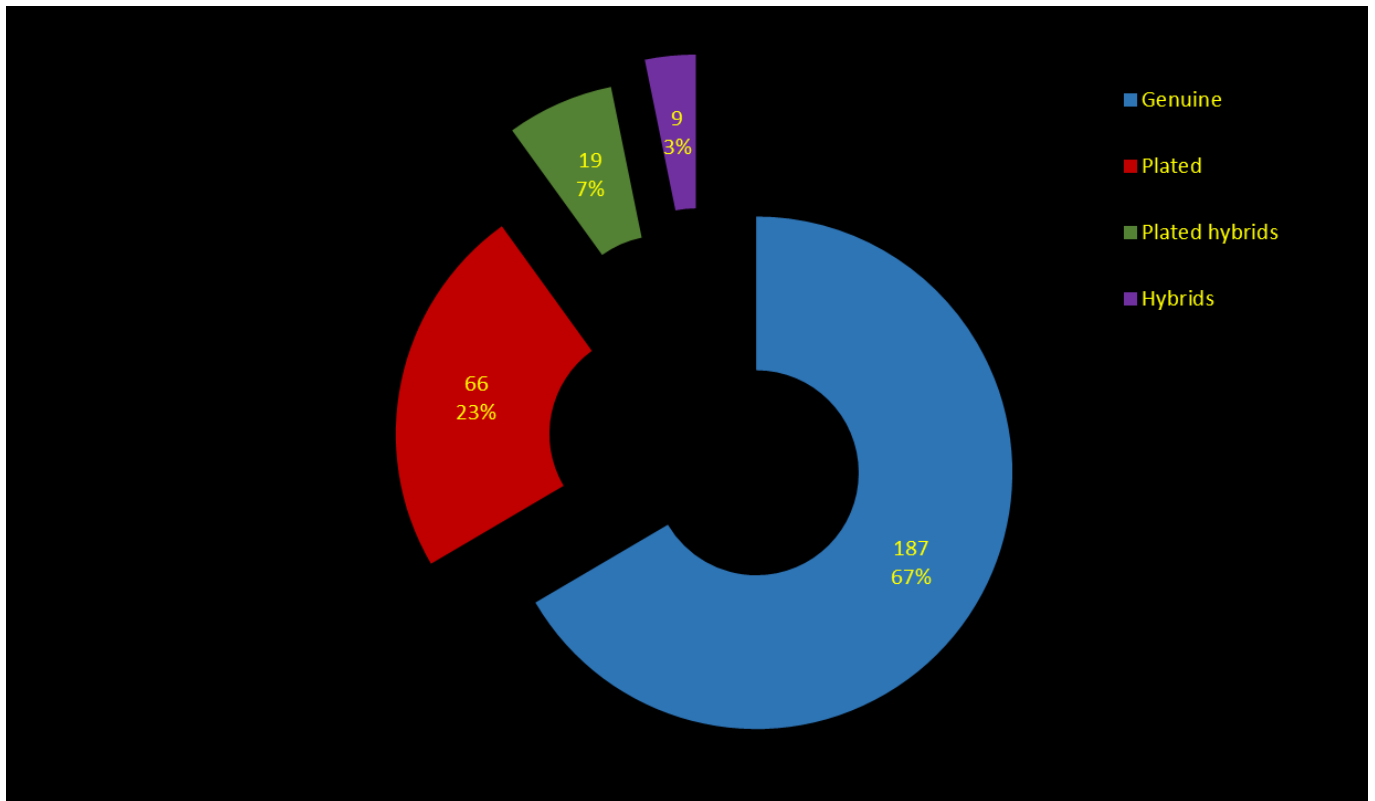


Fig.1. Graph of silver coins from Vindobona – number of coins and their proportion on the site;

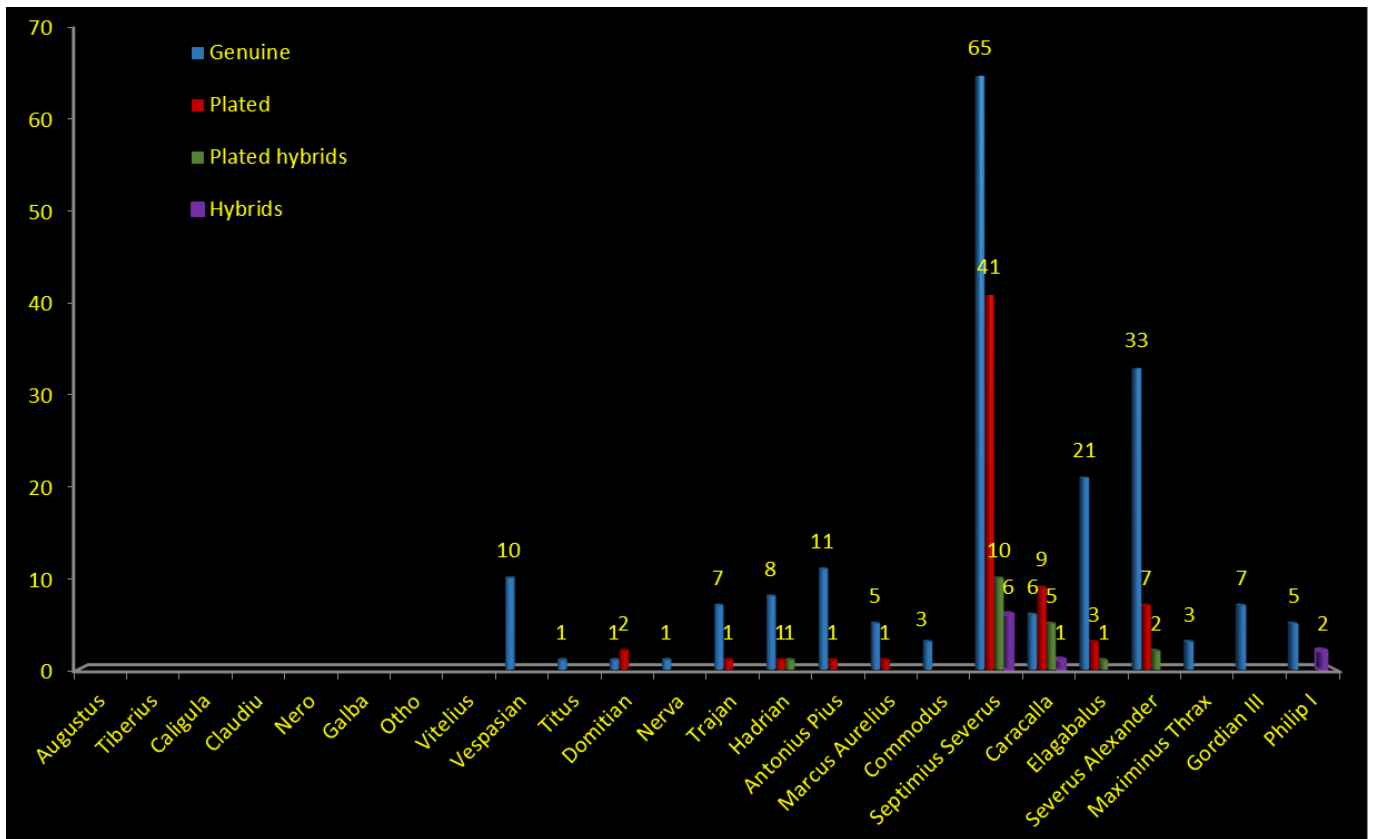


Fig.2. Graph of silver coins from Vindobona – number of pieces for each issuer;

Under the reign of Hadrian (117-138) **Ovilava**<sup>6</sup> (**Wels, Austria**) will receive the title of *Municipium Ovilavis*<sup>7</sup>,

<sup>6</sup> VICI.ORG/vici/2884.

<sup>7</sup> WINKLER 1981, 61-68.

sign that this settlement had a regional importance and it was able to govern the surrounding area by itself<sup>8</sup>.

<sup>8</sup> MIGLBAUER 1997, 165.

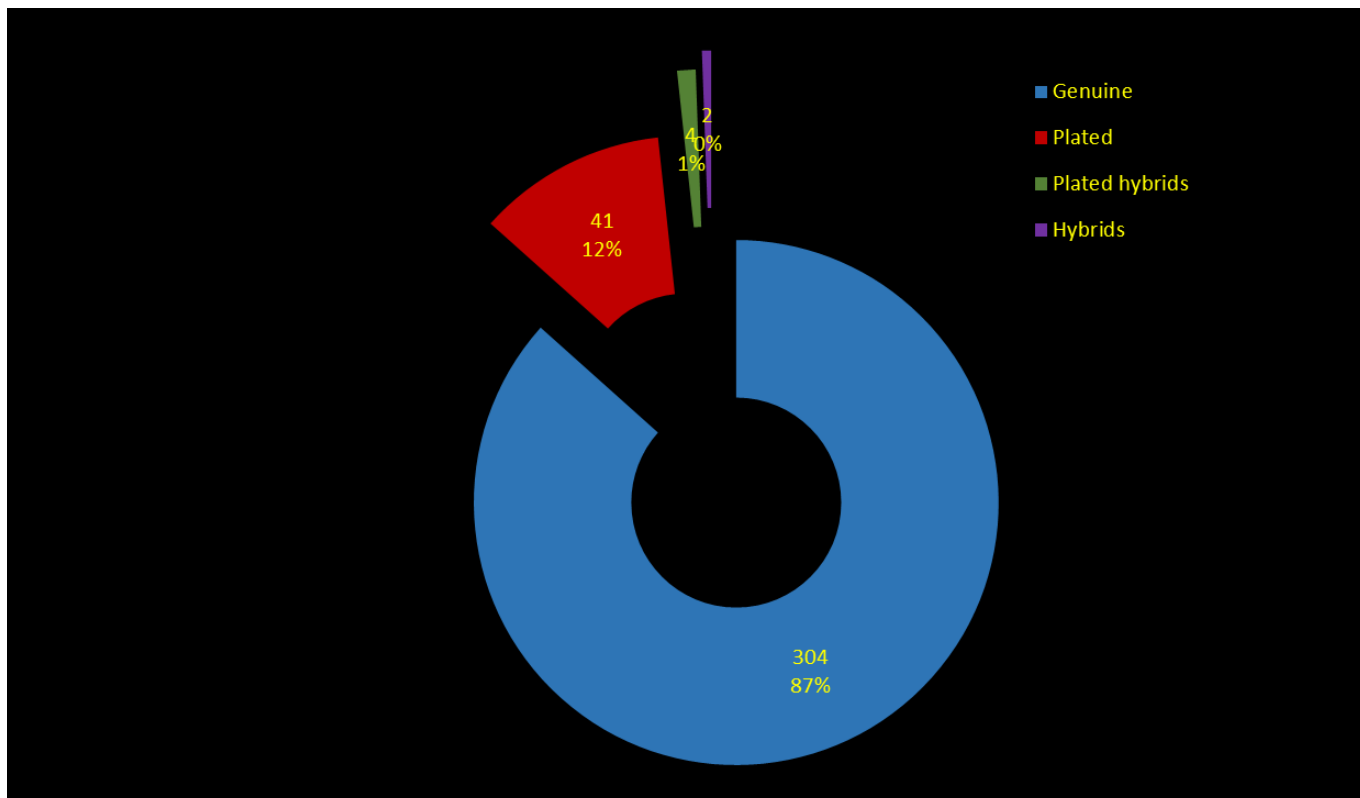


Fig.3. Graph of silver coins from Ovilava – number of coins and their proportion on the site;

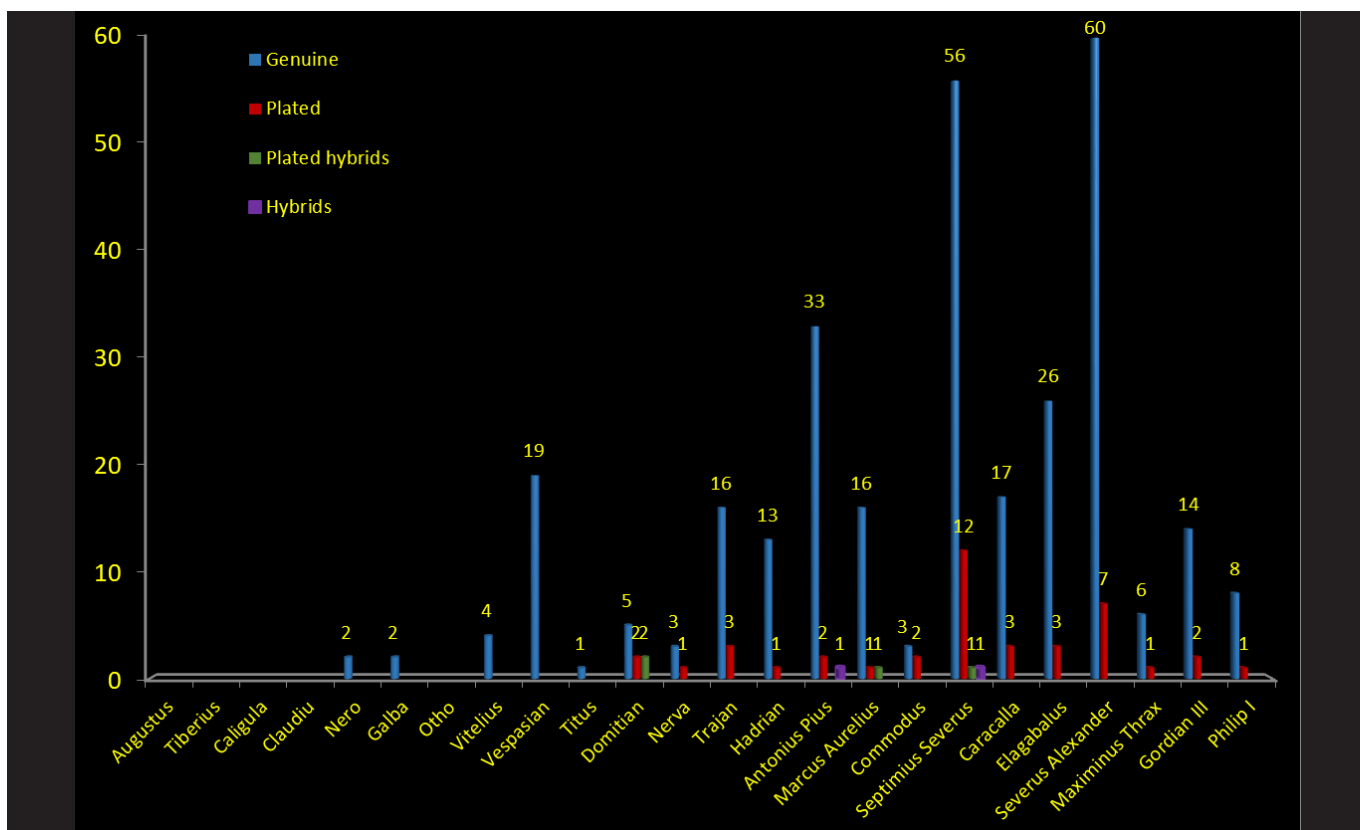


Fig.4. Graph of silver coins from Ovilava – number of pieces for each issue;

Fig. 3 shows the presence of 351 silver coins<sup>9</sup> on this site, 87% from the total number being genuine, 12% are plated, 1% identify as plated hybrids and 0,5% are hybrids.

<sup>9</sup> VONDROVEC 2003.

As we can see in Fig. 4, genuine coins are represented more for the reign of Vespasian (69-79) and during the Antoninian and Severian dynasty, especially Antoninus Pius (138-161), Septimius Severus (193-211) and Severus

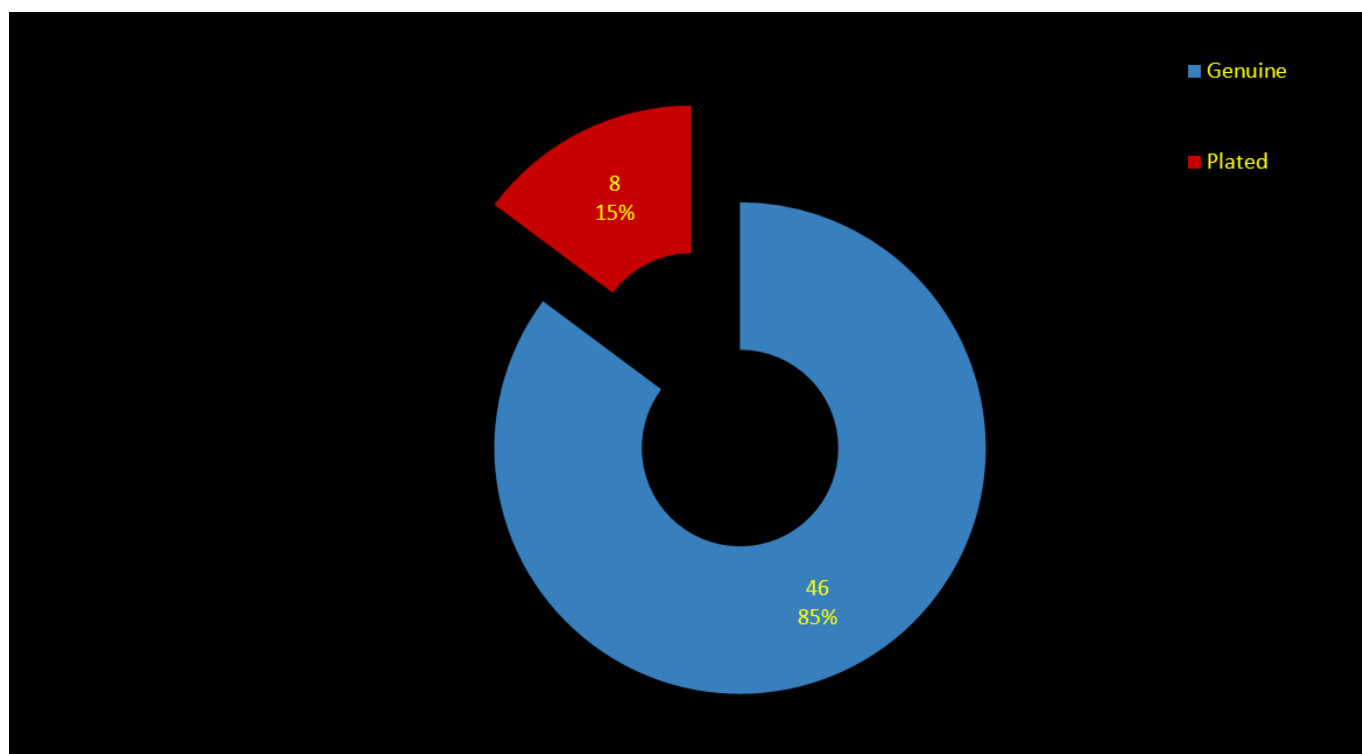


Fig.5. Graph of silver coins from Sorviodurum – number of coins and their proportion on the site;

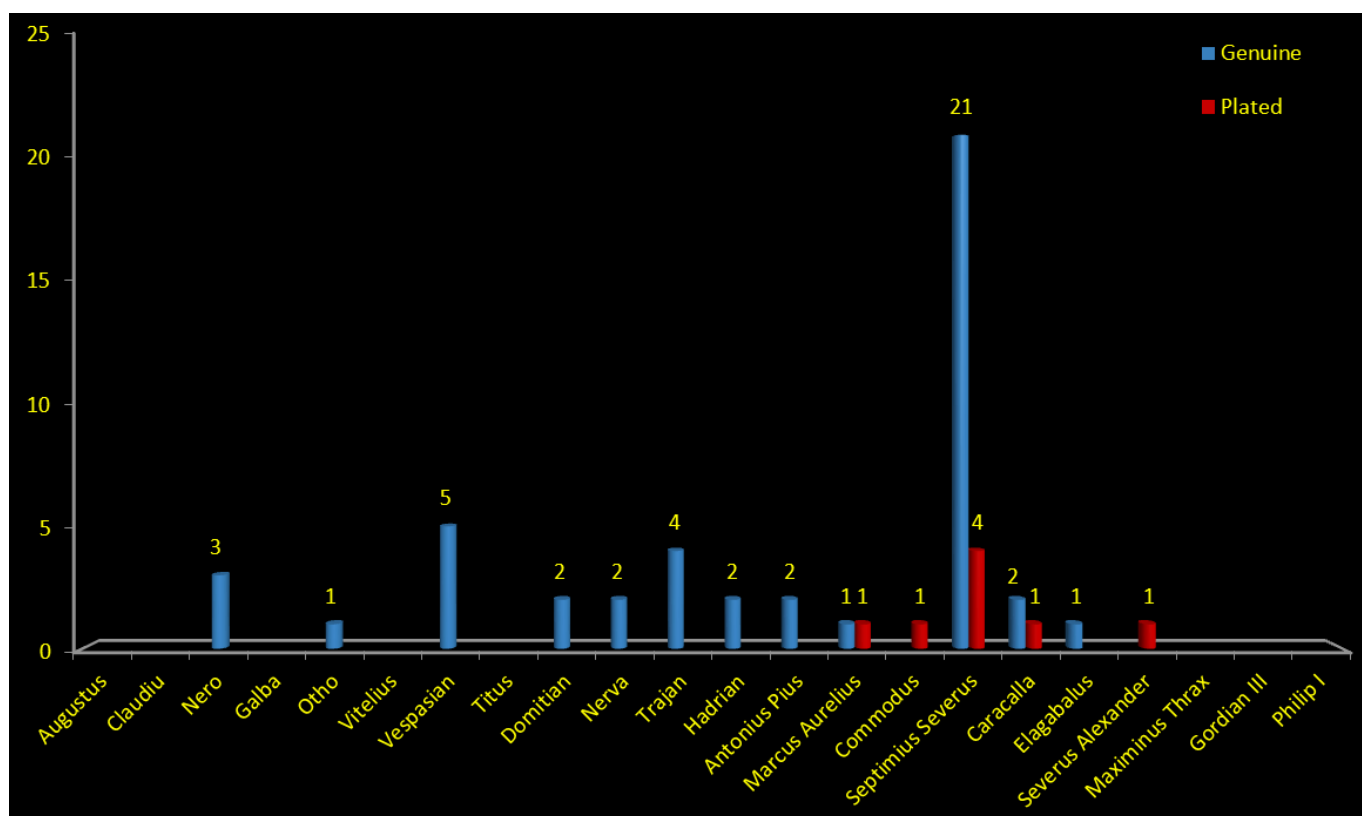


Fig.6 – Graph of silver coins from Sorviodurum – number of pieces for each issuer;

Alexander (222-235).

At **Sorviodurum (Straubing, Germany)** was the site of a Roman military camp<sup>10</sup>, which served as a strategic point along the Danube frontier for the I century AD<sup>11</sup>. The military camp served as garrison for *Cohors III Batavorum*

*equitata milliaria*<sup>12</sup> and later for *Cohors I Flavia Canathenorum milliaria sagittariorum*<sup>13</sup>. Alongside the camp was a military harbor which most likely was used from Vespasian (69-79) to Trajan (98-117) or Hadrian (117-138)<sup>14</sup>.

<sup>10</sup> VICI.ORG/vici/7263.

<sup>11</sup> WALKE 1965, 9-17. PRAMMER 1989, 6-7, 14-16.

<sup>12</sup> PRAMMER 1989, 22-29. AE 1995, 1185.

<sup>13</sup> AE 2005/1152. CIL III/11976. AE 2005/1153. SCHÖNBERGER 1985, 457.

<sup>14</sup> PRAMMER 1989, 73-78.

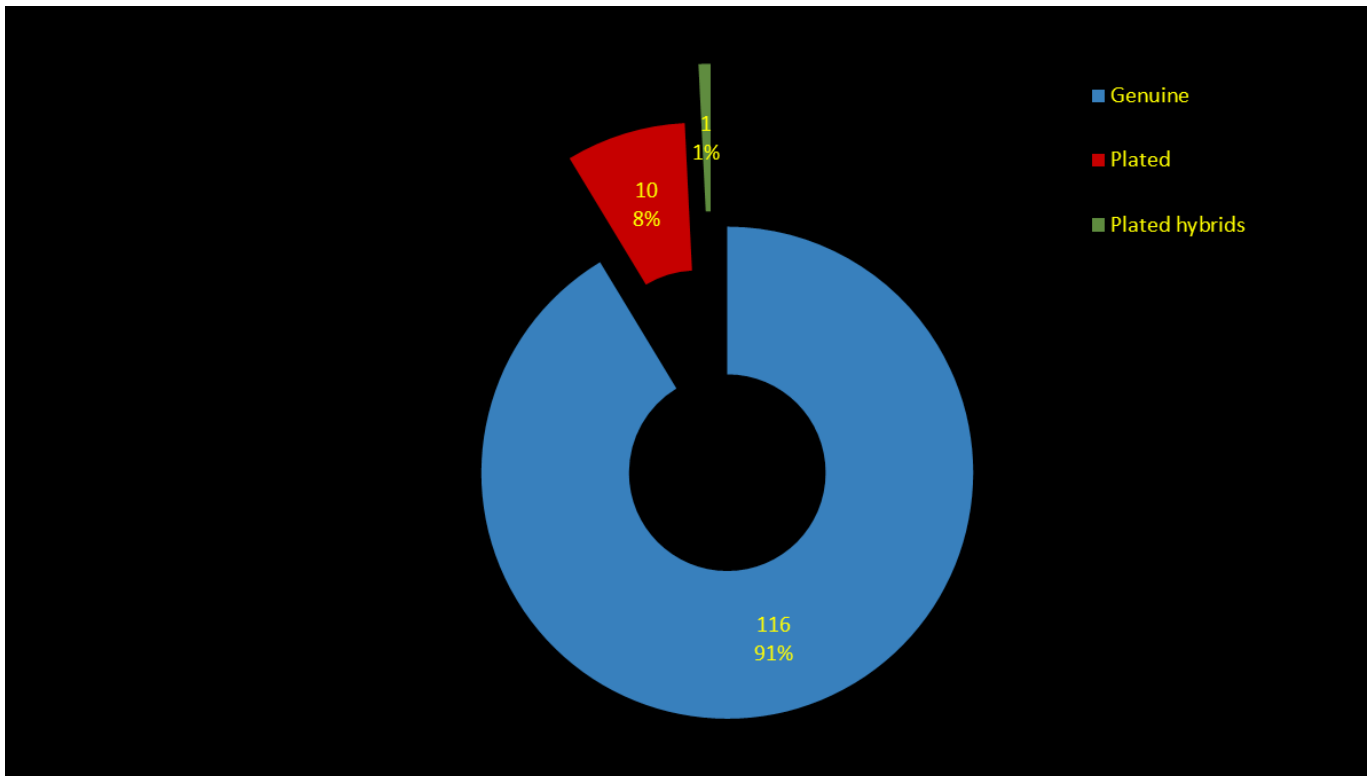


Fig.7. Graph of silver coins from Castra Regina – number of coins and their proportion on the site;

For this location, there have been identified 54 silver coins<sup>15</sup> from which 46 pieces representing 85% are genuine and 8 coins with a proportion of 15% are plated, as seen in Fig. 5.

We have coins dated under many issuers, Fig. 6, most of them are showing images dated under Septimius Severus (193-211).

**Castra Regina (Regensburg, Germany)** was a Roman legionary camp, situated on the shores of the Danube which expanded and established the foundation for the future town of Regensburg<sup>16</sup>. It served as garrison for *Legio III Italica*<sup>17</sup> which was brought here to protect this area of the limes.

There have been discovered 127 silver coins<sup>18</sup> as seen in Fig. 7, from which 116 representing 91% are genuine, 10 pieces with 8% are plated and one coin representing 1% is a plated hybrid.

Also, we can see in Fig. 8 that most of the genuine pieces have been dated for Vespasian (69-79), Severian dynasty and the beginning of the Military Anarchy period.

Roman camp of **Castra Vetoniana<sup>19</sup> (Pfunz, Germany)** was a cavalry camp erected around year 90 AD<sup>20</sup>. Here were identified 57 silver pieces<sup>21</sup> as seen in Fig. 9. From the total number of coins 52 with a proportion of 91% are genuine, four pieces with 7% are plated and one coin representing 2% is hybrid.

Also, we can observe how these pieces were dated for

<sup>15</sup> FMRD 1970, 152.

<sup>16</sup> Vici.Org/vici/9829.

<sup>17</sup> STROBEL 1999. ANTIKEFAN.DE/REGENSBURG. LIPPOLD 1979, 21–35.

<sup>18</sup> FMRD 1978, 51.

<sup>19</sup> VICI.ORG/vici/4435.

<sup>20</sup> FASSBINDER 2008, 163.

<sup>21</sup> FMRD 1963, 60.

the II and III centuries AD, Fig. 10, most of them being dated for Septimius Severus (193-211), Elagabalus (218-222) and Severus Alexander (222-235).

At 6 kilometers south from modern **Ingolstadt (Germany)**, there have been identified three Roman military camps dated at the I century AD<sup>22</sup>, unfortunately because of the movement of the shapeshifting Danube and modern rock excavations most of their layout was destroyed<sup>23</sup>.

Fortunately, there have been discovered 53 genuine silver coins<sup>24</sup> as shown in Fig. 11. These coins were arranged in order of represented issuer, and as seen in Fig. 12 the majority of them were dated to Septimius Severus (193-211).

At **Eining (Germany)** was a *castrum*<sup>25</sup> for a cavalry unit which's aim was to control the eastern area of the limes for this region<sup>26</sup>. Constructed under Titus (79-81) by *Cohors III Gallorum* using wood and earth elements<sup>27</sup>.

Later towards the end of Trajan's reign (98-117) the unit was replaced by a detachment of *Cohors II Tungrorum milliaria equitata*<sup>28</sup>. Around AD 153 *Cohors III Britannorum equitata* was brought here and helped raise the stone phase of the *castrum* under Antoninus Pius (138-161), place where the horseman remained until late antiquity<sup>29</sup>.

Thus in Fig. 13 we can observe the 172 silver pieces<sup>30</sup> discovered at Eining, 161 of them representing 94% are genuine, nine coins representing 5% are plated while two

<sup>22</sup> HÜSSEN 1995, 95–110.

<sup>23</sup> VICI.ORG/vici/16449.

<sup>24</sup> FMRD 1960.

<sup>25</sup> JÄGER 1993.

<sup>26</sup> VICI.ORG/vici/4438.

<sup>27</sup> FMRD 1970, 47.

<sup>28</sup> GSCHWIND 2004.

<sup>29</sup> COH-II-RAET.DE.

<sup>30</sup> FMRD 1970.

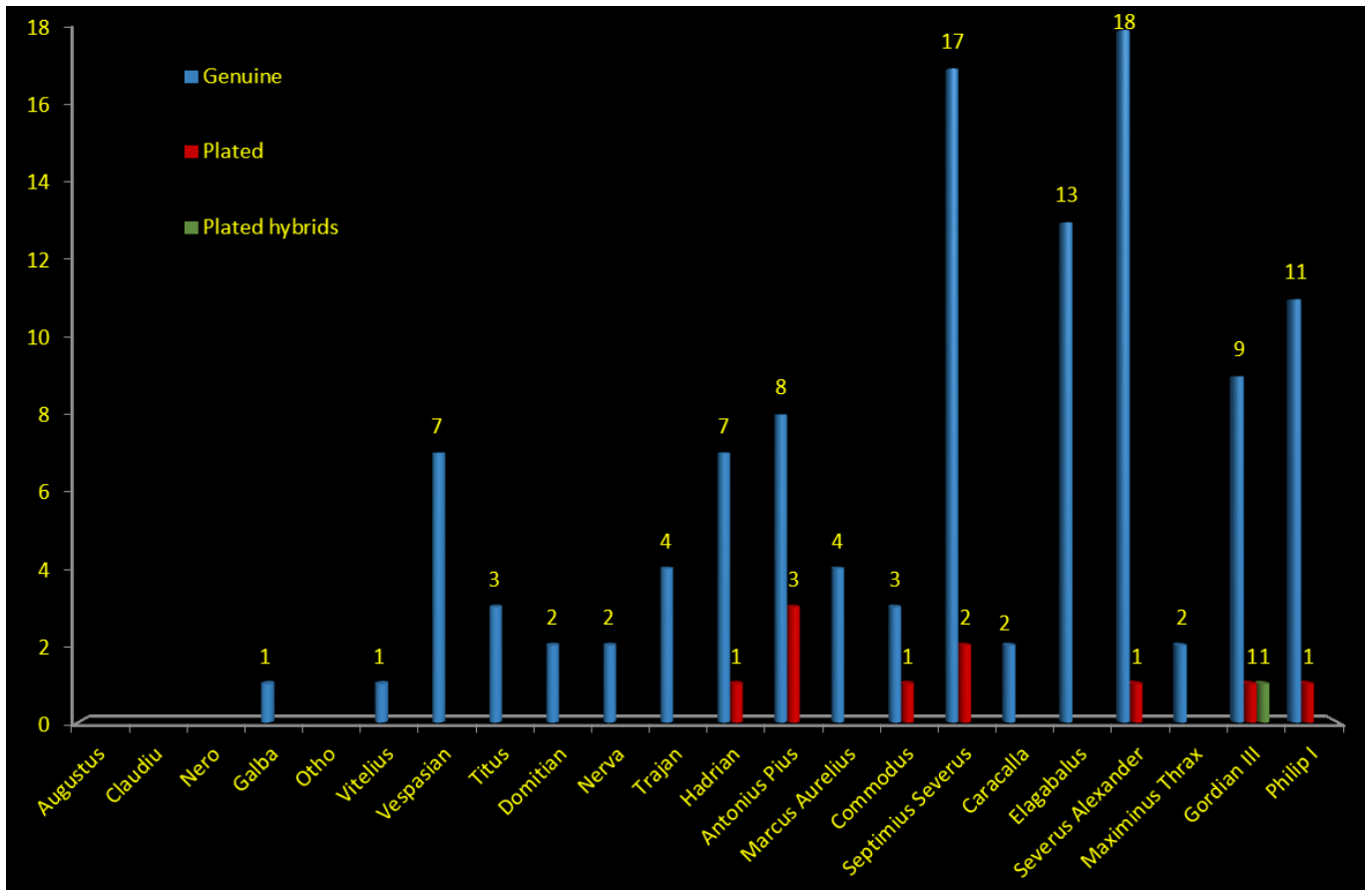


Fig.8. Graph of silver coins from Castra Regina – number of pieces for each issuer;

coins which represent 1% are hybrids.

Also, in Fig. 14 we can see how many of the coins were dated during the reign of Septimius Severus (193-211),

Elagabalus (218-222) and Severus Alexander (222-235).

**Augusta Vindelicorum<sup>31</sup> (Augsburg, Germany)** was a Roman town originating during the reign of Augustus

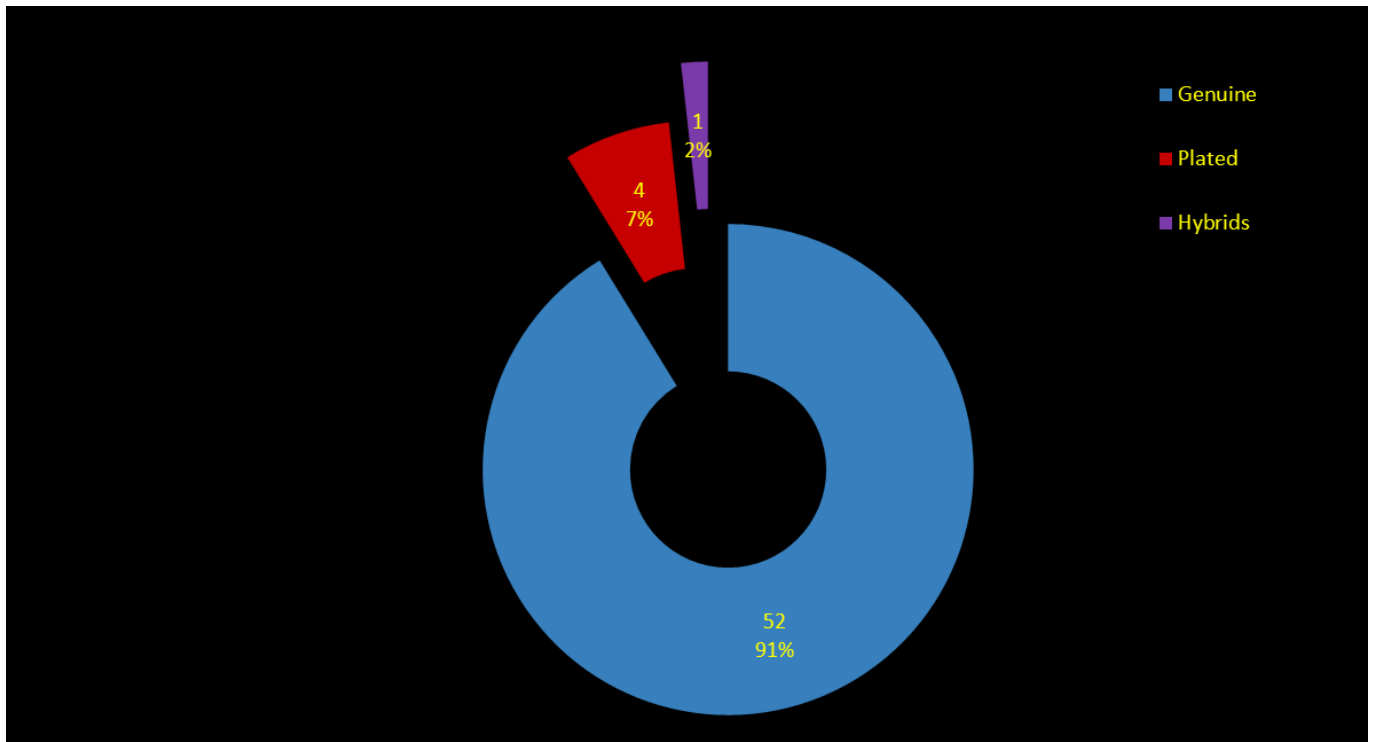


Fig.9. Graph of silver coins from Castra Vetoniana – number of coins and their proportion on the site;

<sup>31</sup> VICI.ORG/vici/22884.

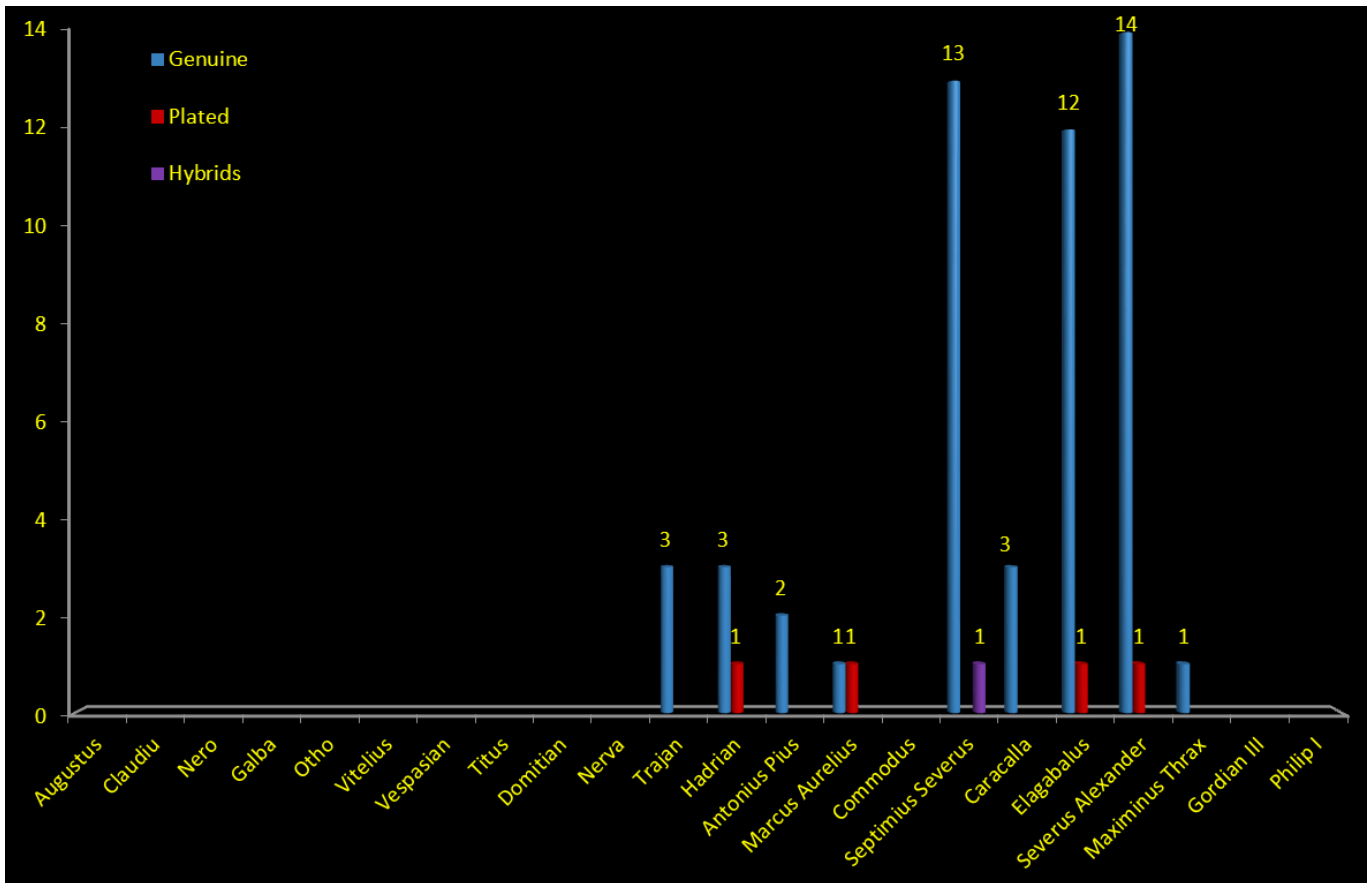


Fig.10. Graph of silver coins from Castra Vetoniana – number of pieces for each issuer;

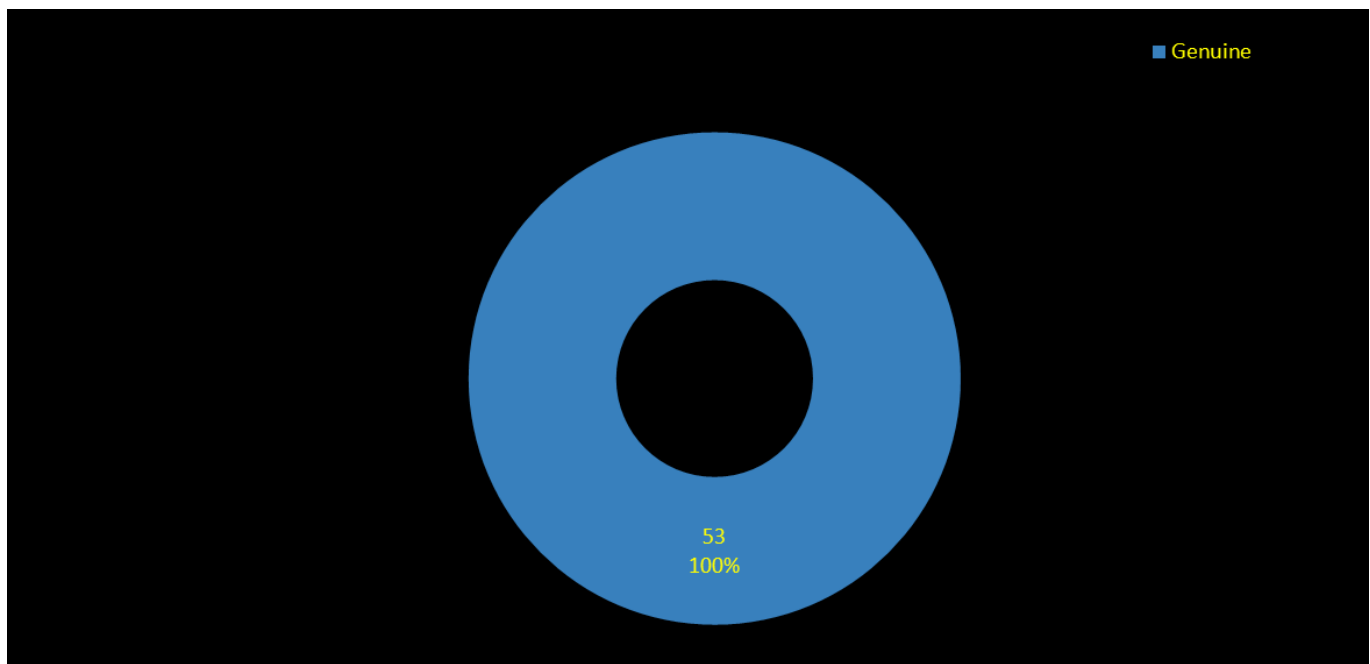


Fig.11. Graph of silver coins from Ingolstadt – number of coins and their proportion on the site;

(27 BC-AD 14) when the entire region was conquered by the romans and here was constructed a military camp<sup>32</sup>.

Later the settlement will continue to grow so that in 121 AD during the reign of Hadrian (117-138) the town will receive the rank of *Municipium* under the name of *Municipium*

*Aelium Augustum*<sup>33</sup>.

In the case of silver pieces discovered at Augusta Vindelicorum, there have been discovered 120 coins<sup>34</sup> as seen in Fig. 15, from which 113 representing 94% are genuine, six pieces representing 5% are plated and one coin representing

<sup>32</sup> ROECK 2005. VICI.ORG/vici/22858.

<sup>33</sup> FMRD 1962.

<sup>34</sup> FMRD 1962, 31.



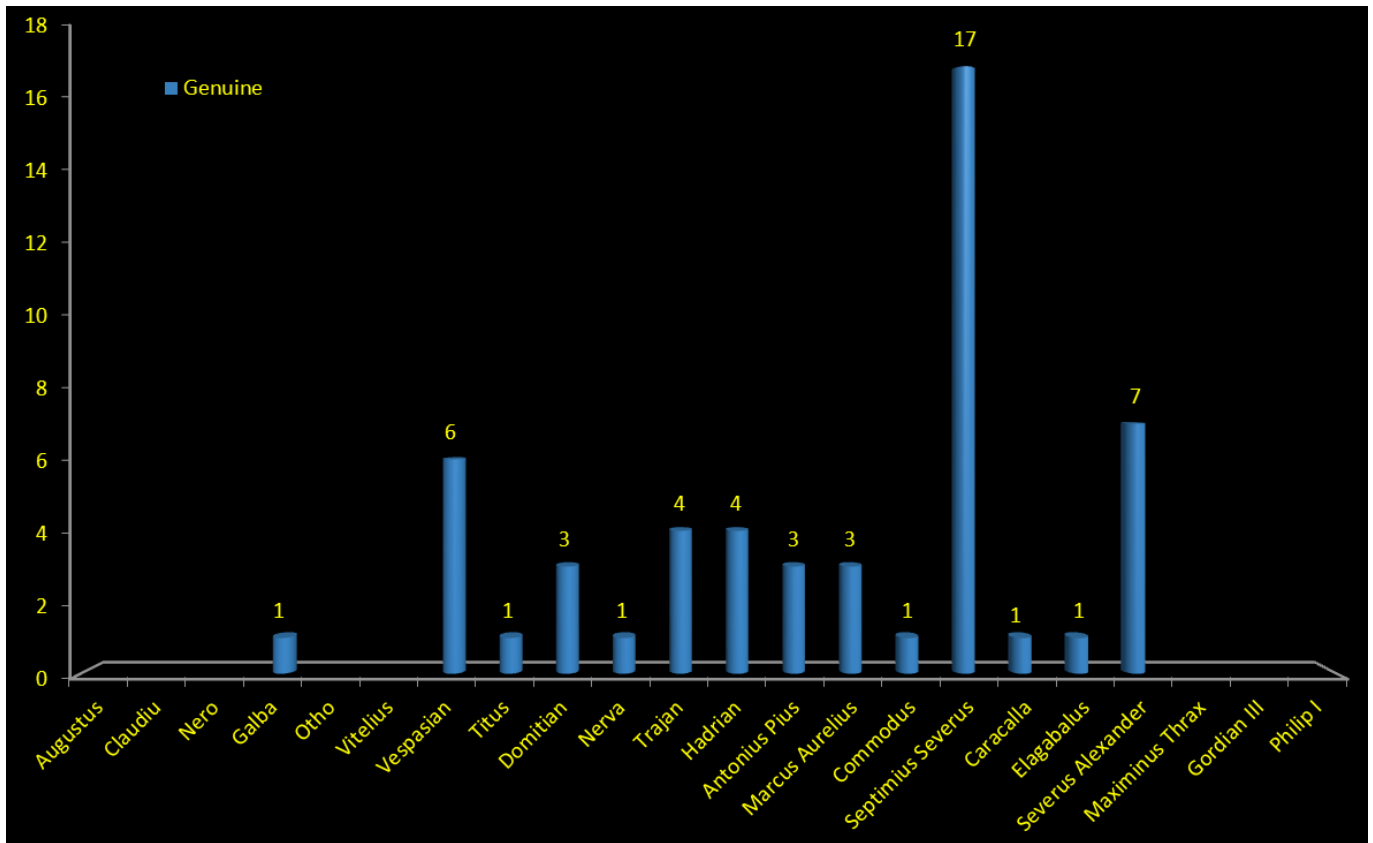


Fig.12. Graph of silver coins from Ingolstadt – number of pieces for each issuer;

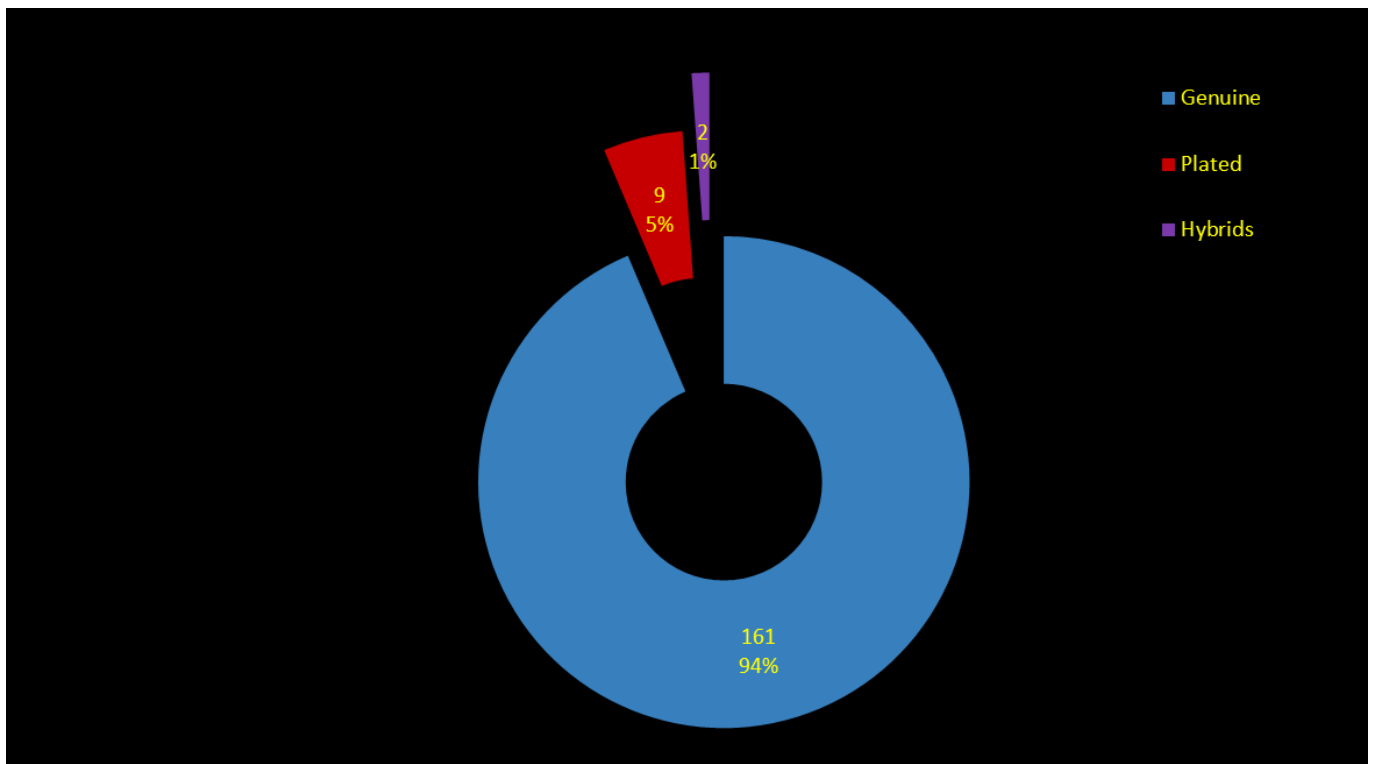


Fig.13. Graph of silver coins from Eining – number of coins and their proportion on the site;

1% is hybrid.

On the other hand, in Fig. 16 we can observe that most of the pieces were representing images dated during the reign of Vespasian (69-79), Trajan (98-117), Septimius

Severus (193-211) and Severus Alexander (222-235). Also, the few identified silver plated coins were dated for the Severian dynasty.

Roman fort of **Aislingen (Germany)** was constructed

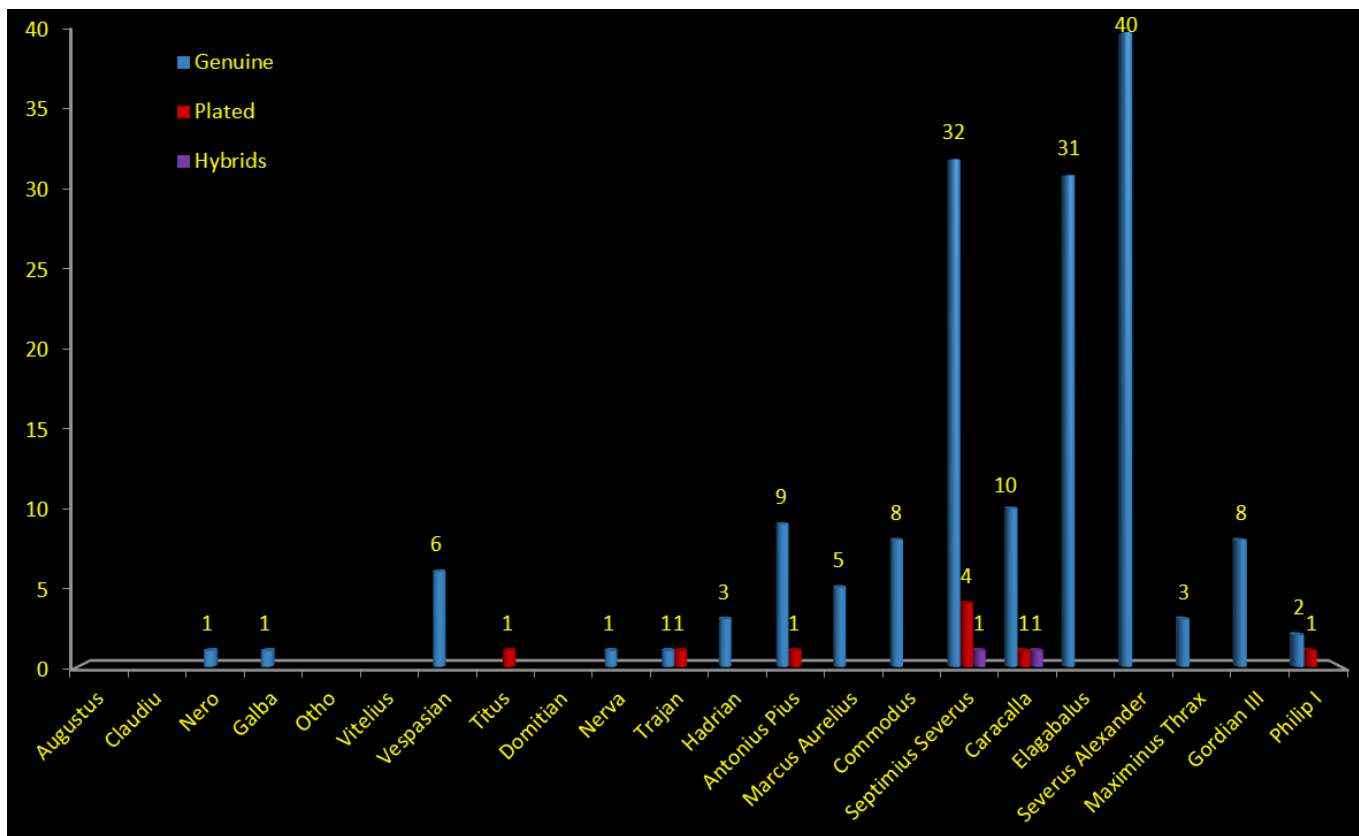


Fig.14. Graph of silver coins from Eining – number of pieces for each issuer;

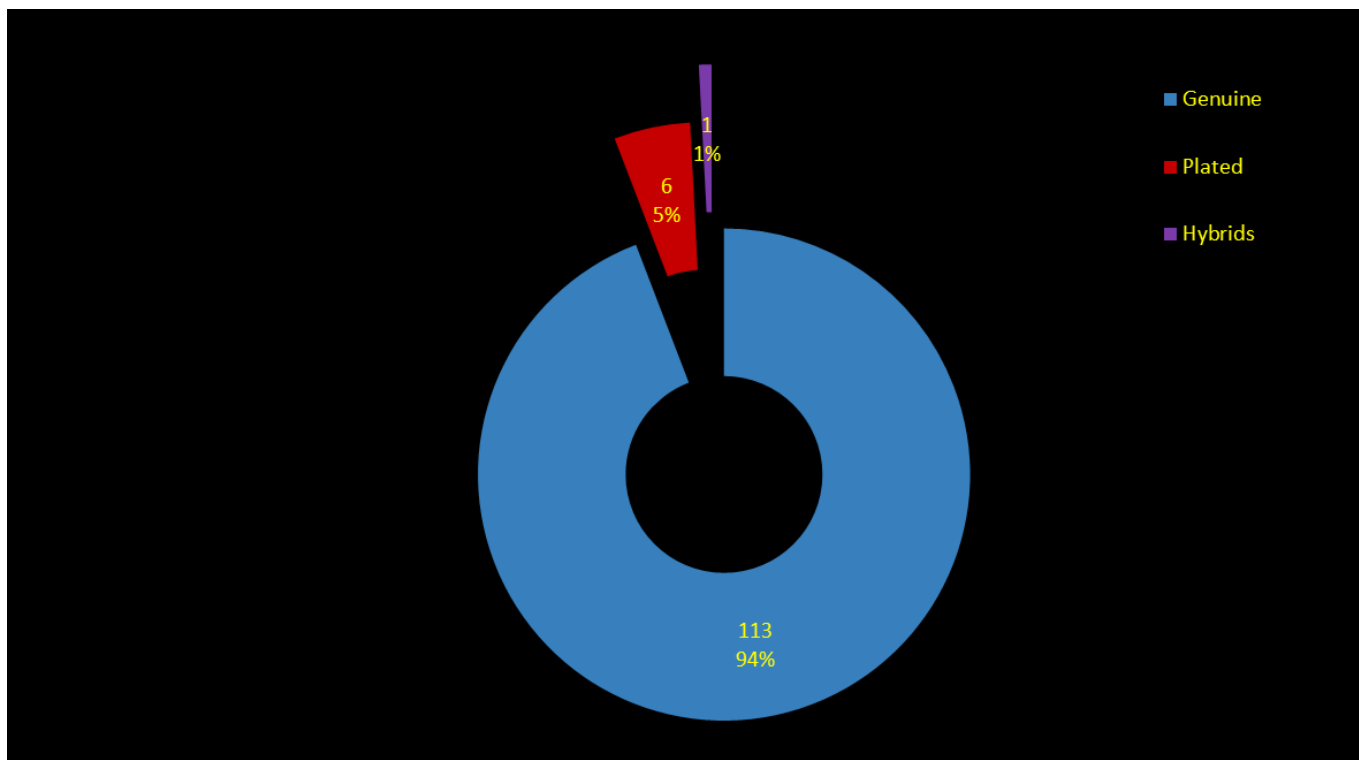


Fig.15. Graph of silver coins from Augusta Vindelicorum – number of coins and their proportion on the site;

in the first half of I century AD., later being destroyed during the civil war of 69 AD<sup>35</sup>. The vicus formed around the *castrum* managed to continue its existence even after this event<sup>36</sup>.

<sup>35</sup> VICI.ORG/vici/9743.

<sup>36</sup> WÖRISHOFER/SIGG/SEITZ 2005, 127–133.

On this archaeological site, there have been found 59 silver coins<sup>37</sup> all of them genuine as seen in Fig. 17. Most of them have been dated for Trajan (98-117), Antoninus Pius (138-161) and Septimius Severus (193-211).

<sup>37</sup> FMRD 1962, 114.

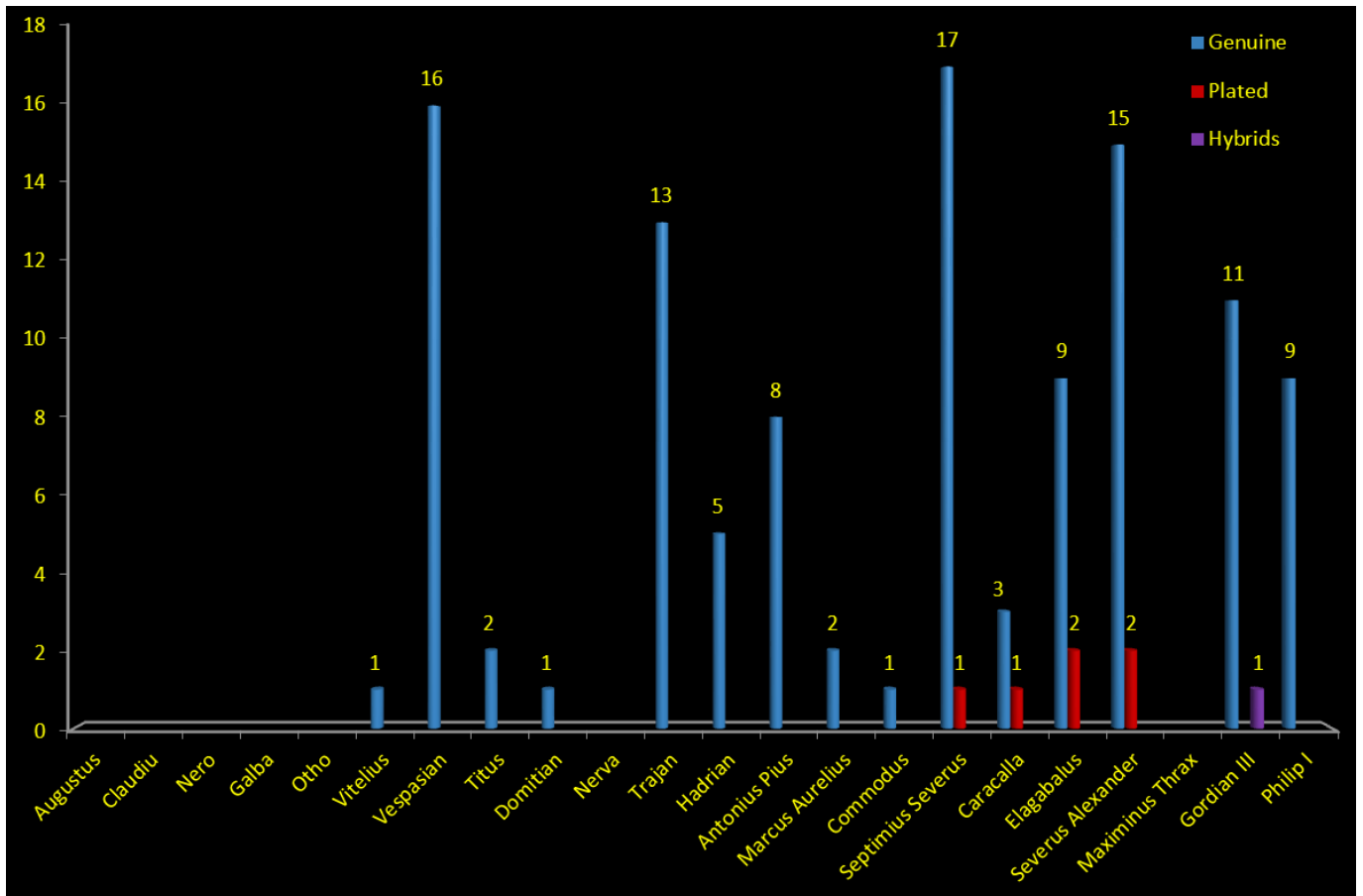


Fig.16. Graph of silver coins from Augusta Vindelicorum – number of pieces for each issuer;

When the Roman frontier moved on the Neckar river during the reign of Trajan (98-117) around 98 AD the territory of modern town **Rottenburg am Neckar (Germany)** also got under Roman authority, the town of

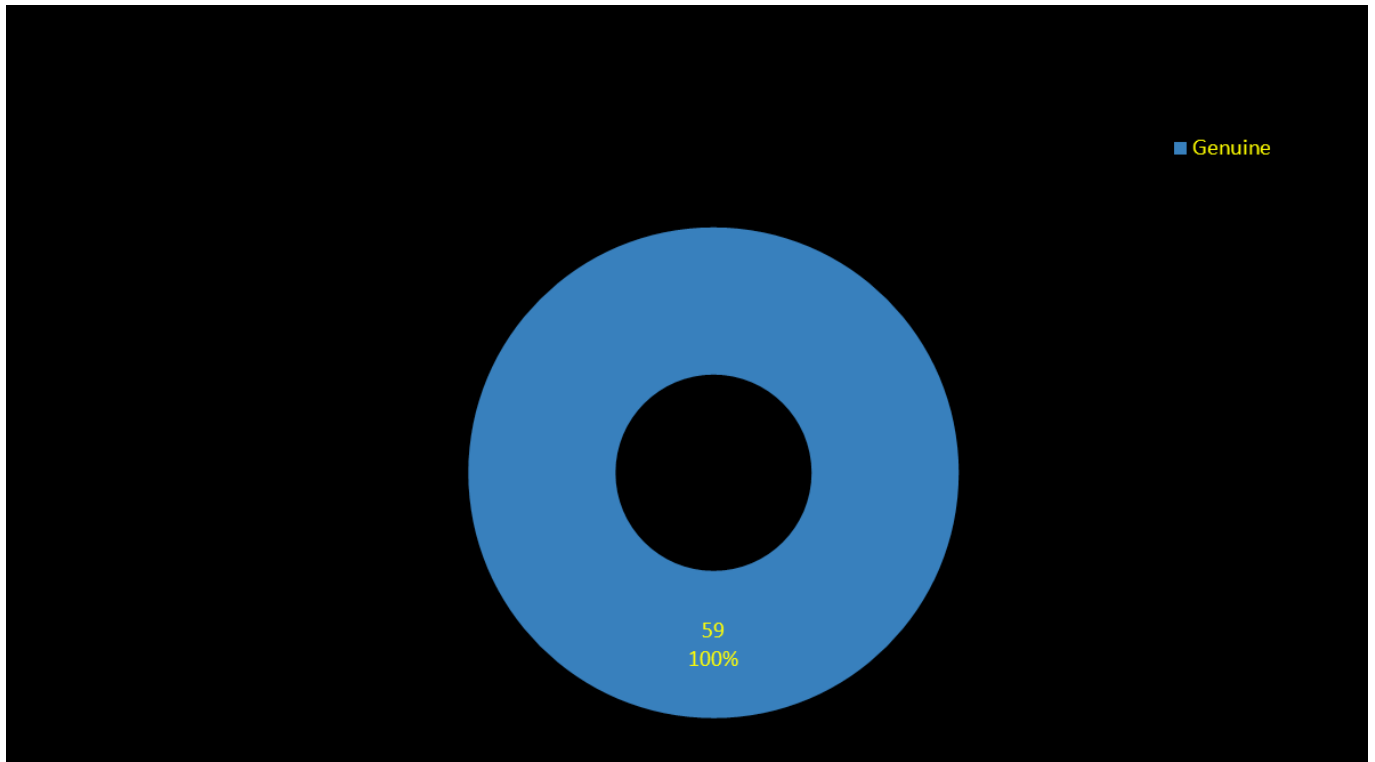


Fig.17. Graph of silver coins from Aislingen – number of coins and their proportion on the site;

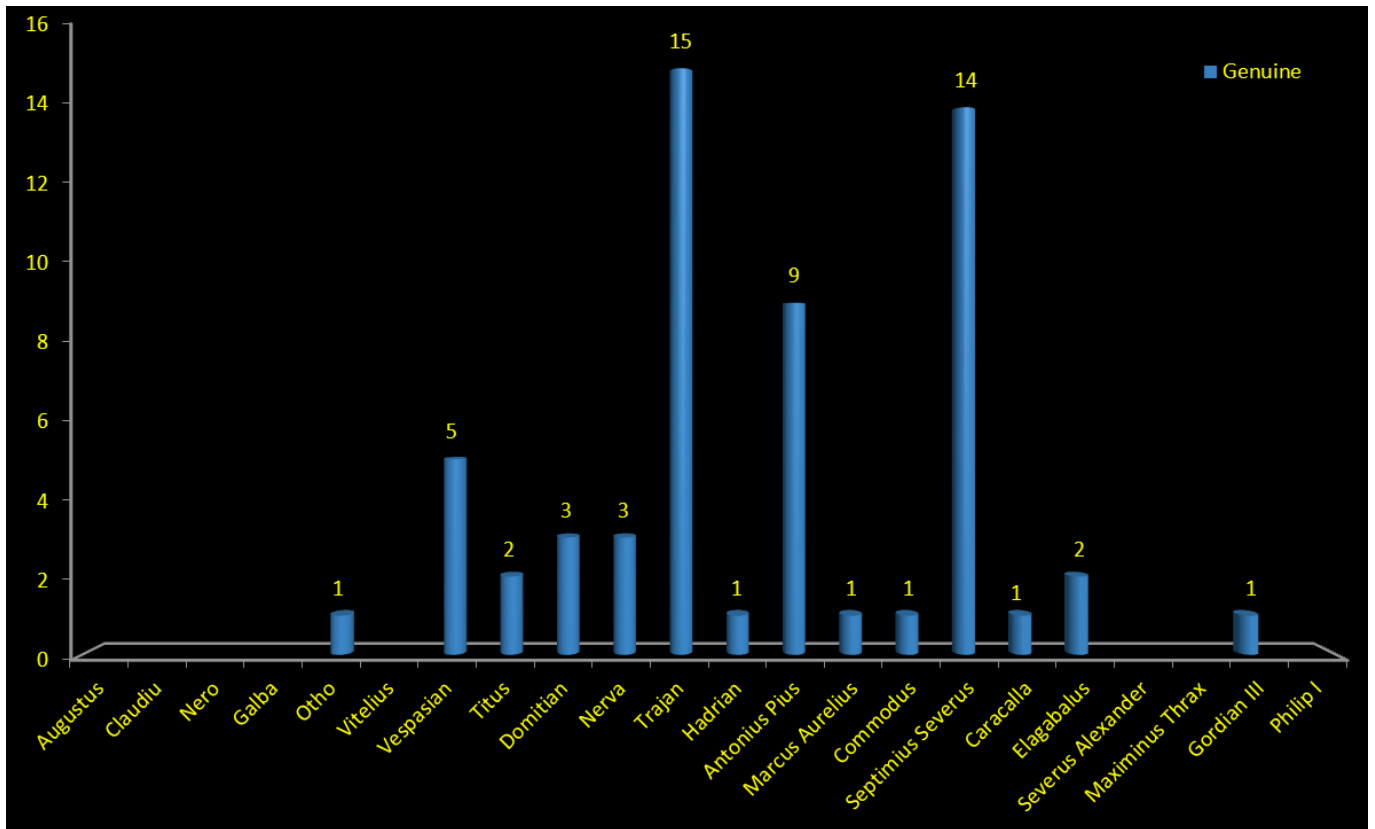


Fig.18. Graph of silver coins from Aislingen – number of pieces for each issuer;

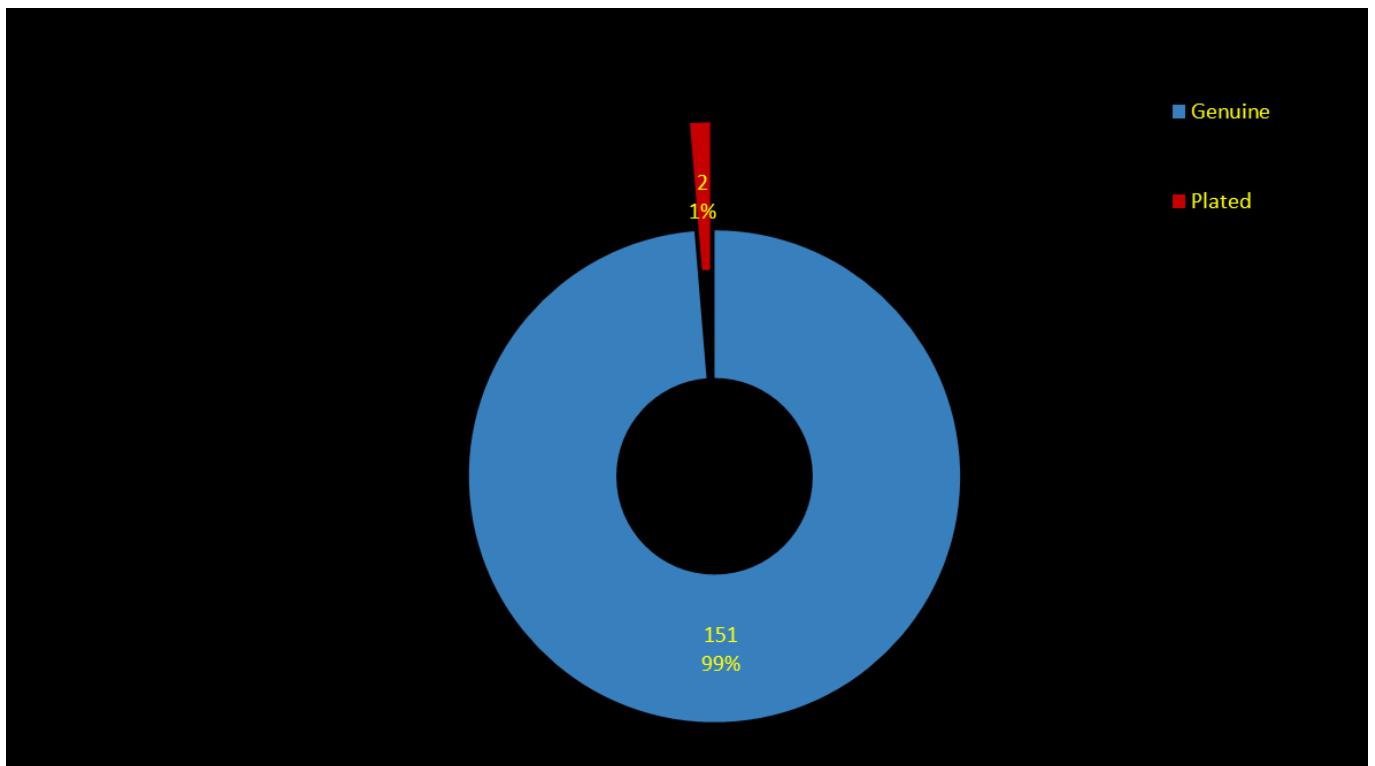


Fig.19. Graph of silver coins from Sumelocenna – number of coins and their proportion on the site;

**Sumelocenna** being settled here.

On this location, there have been identified 153 silver coins<sup>38</sup> as seen in Fig. 19, 151 on them representing 99% are genuine while two pieces which make up 1% are plated.

<sup>38</sup> FMRD 1964/3, 225.

When distributing these pieces according to the issuer as seen in Fig. 20 we can observe how the majority of coins are dated during Vespasian (69-79), the Antoninian period, the Severian Dynasty or beginning of Military Anarchy period. Highest values are reached during Septimius Severus (193-

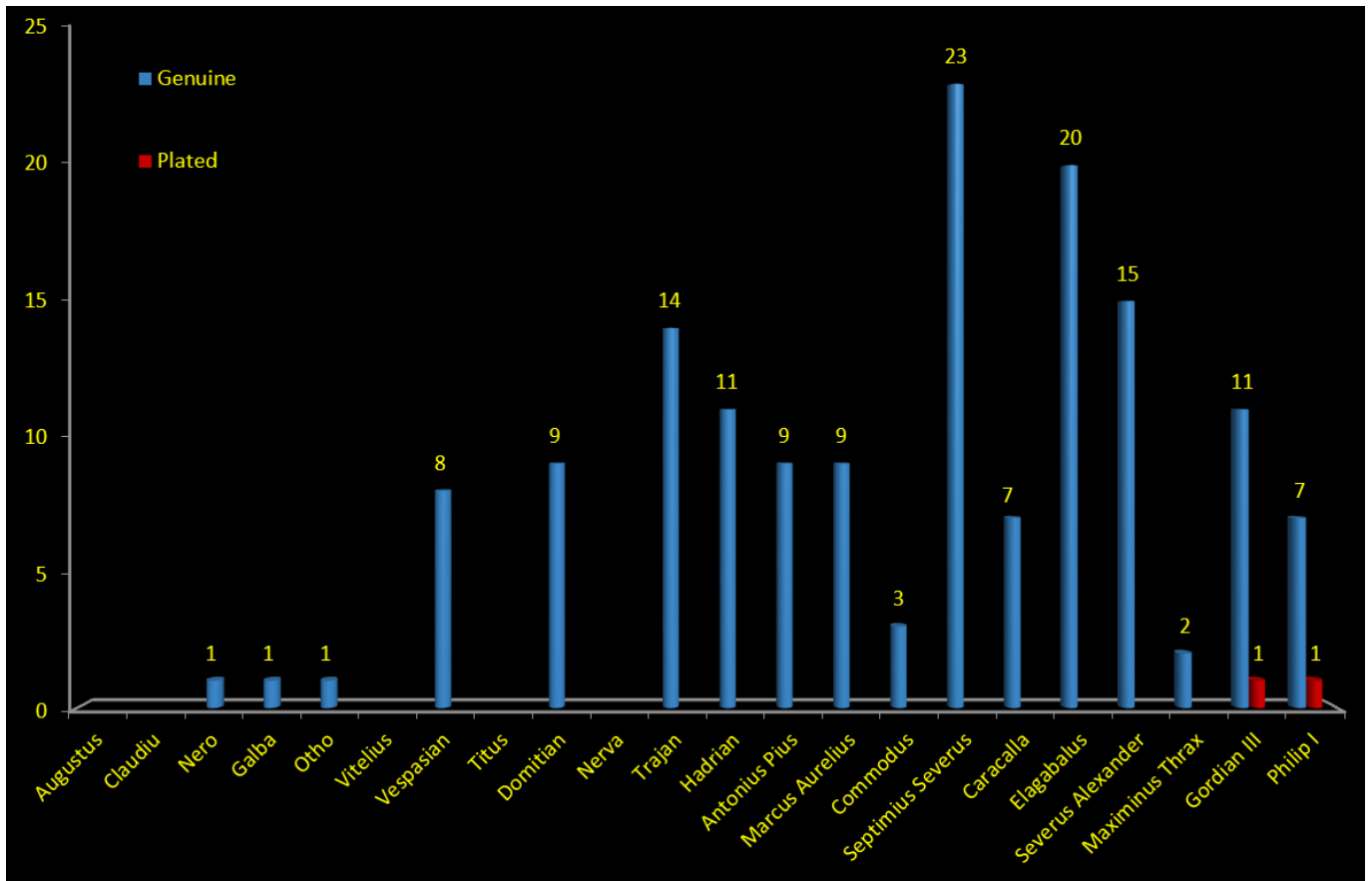


Fig.20. Graph of silver coins from Sumelocenna – number of pieces for each issuer;

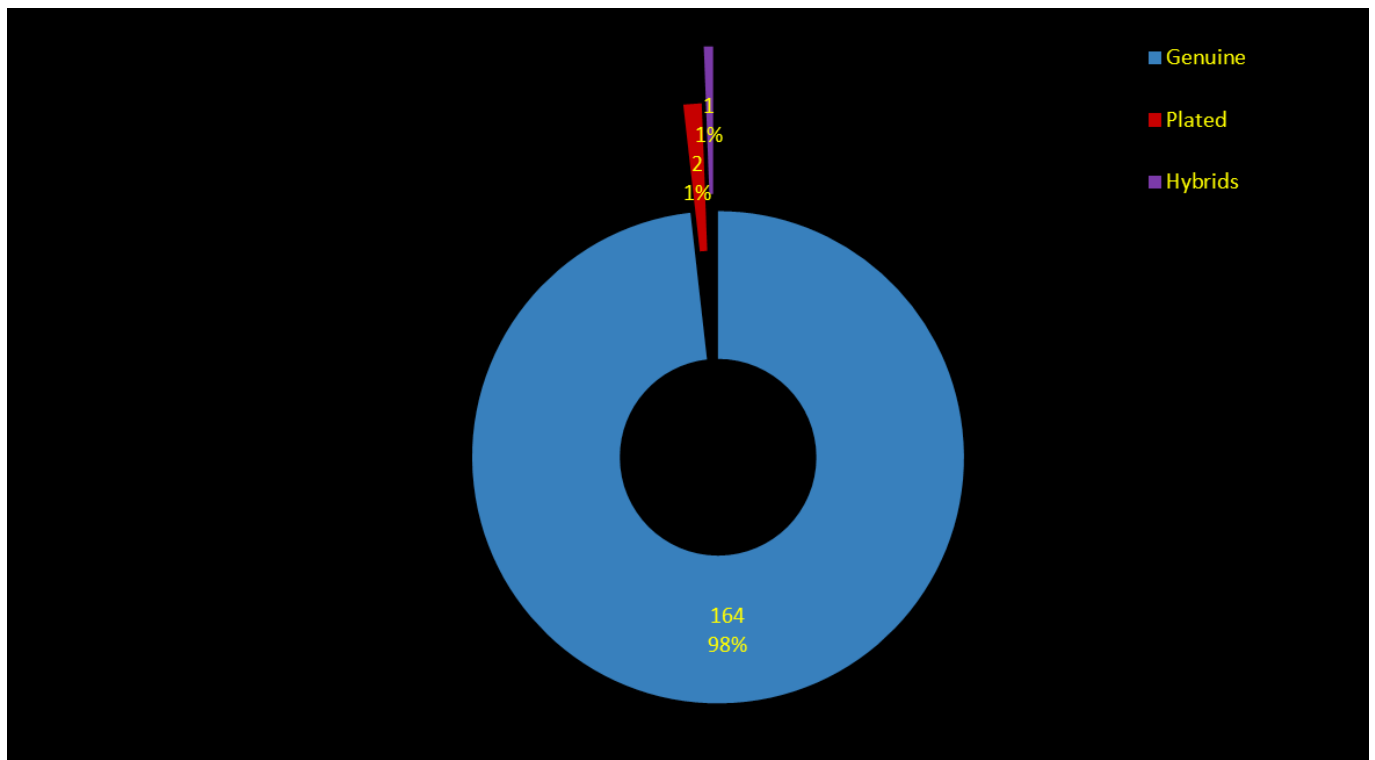


Fig.21. Graph of silver coins from Bad Cannstatt – number of coins and their proportion on the site;

211) and Elagabalus (218-222).

Close to modern town of Stuttgart, on the shore of the Neckar river, there use to be a Roman cavalry fort

... situated at **Bad Cannstatt (Germany)** around 85-90 AD<sup>39</sup>.  
 ... Close to this camp which was garrisoned by *Ala I Scubulorum*<sup>40</sup>

<sup>39</sup> VICI.ORG/vici/9681.

<sup>40</sup> DENKMALPFLEGE-SEITEN.DE. FMRD 1964, 259.

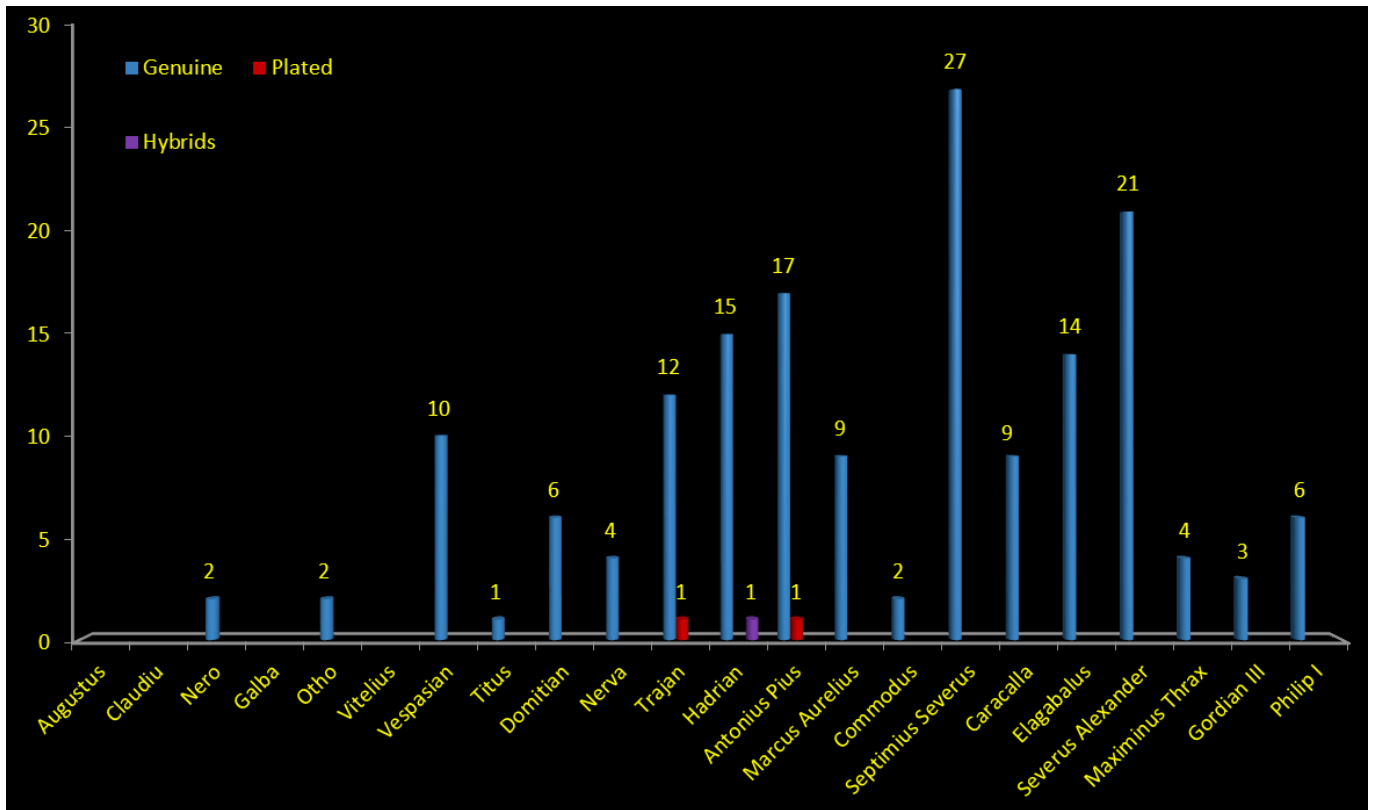


Fig.22. Graph of silver coins from Bad Cannstatt – number of pieces for each issuer;

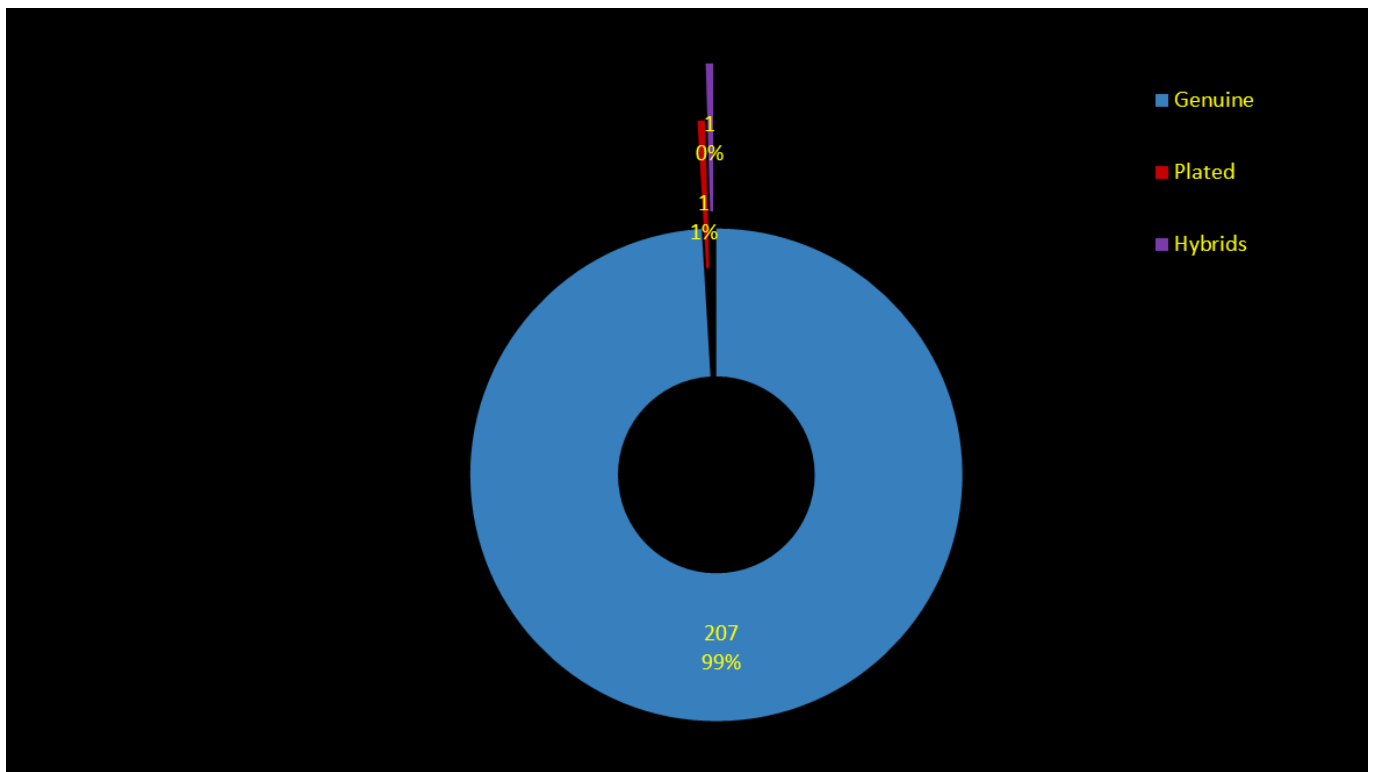


Fig.23. Graph of silver coins from Rheinabern – number of coins and their proportion on the site;

a civilian settlement appeared<sup>41</sup> that continued to survive even after the Roman troops were moved on the new expanded frontier around 150 AD<sup>42</sup>.

Thus, in Fig. 21 it's possible to see the 167 silver coins

<sup>41</sup> VICI.ORG/vici/14198.

<sup>42</sup> DENKMALPFLEGE-SEITEN.DE.

discovered at Bad Cannstatt<sup>43</sup>, 164 with a proportion of 98% are genuine, two coins representing 1% are plated and one piece representing 1% is hybrid.

Also, in Fig. 22 the distribution of these pieces is showed, the majority of genuine pieces are showing images

<sup>43</sup> FMRD 1964/4, 262.

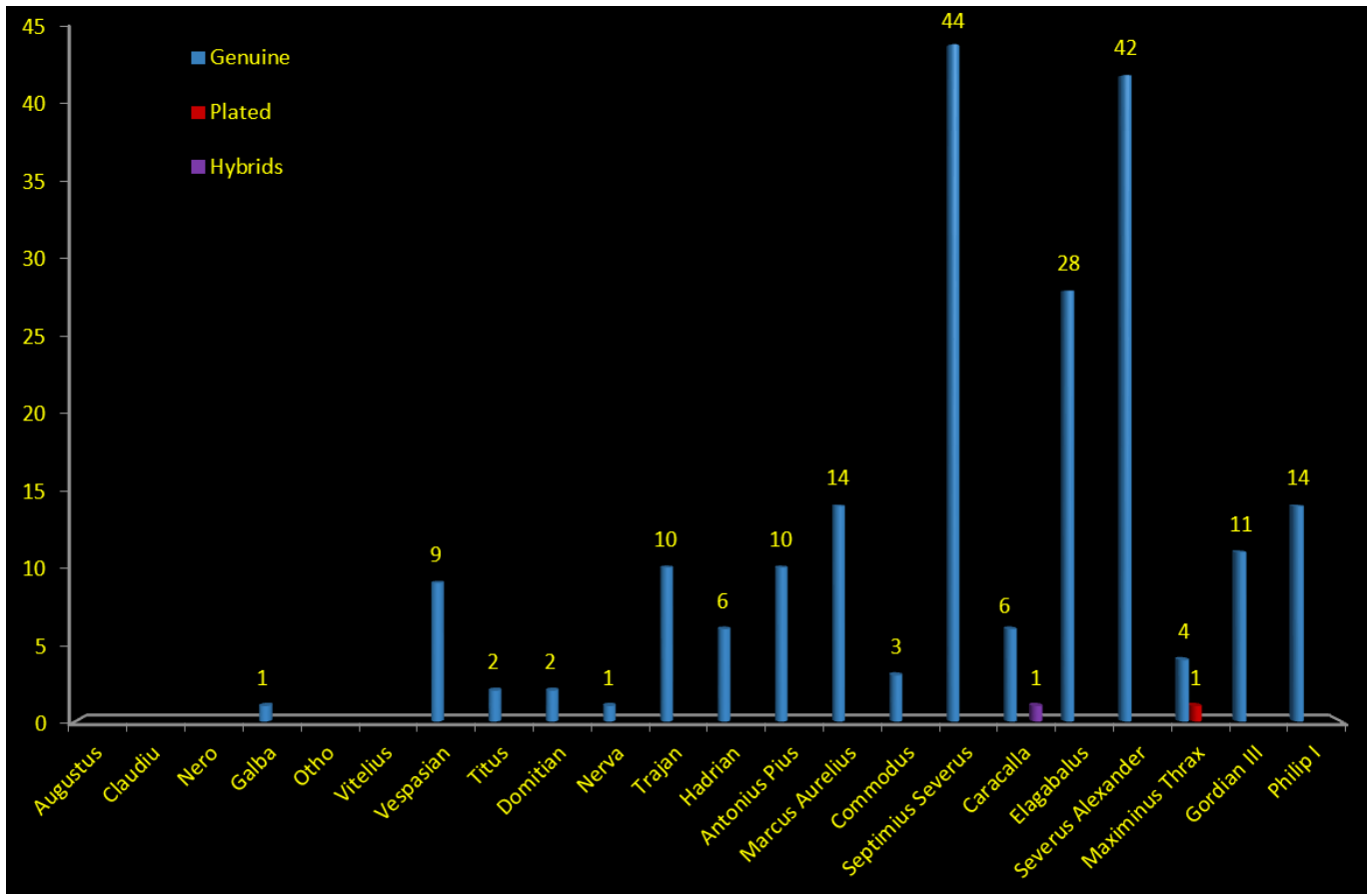


Fig.24. Graph of silver coins from Rheinzabern – number of pieces for each issuer;

dated during the reign of Vespasian (69-79), Antoninian and Severian period, especially under Septimius Severus (193-211) and Severus Alexander (222-235).

**Tabernae** was the Latin name of the Roman settlement situated under the modern town of **Rheinzabern (Germany)**<sup>44</sup>, an economic center for pottering manufacturing, especially Terra Sigillata from I century AD until late antiquity<sup>45</sup>.

Looking at Fig. 23 we find that there have been discovered 209 silver coins at Rheinzabern<sup>46</sup>, from witch 207 representing 99% are genuine, one piece is plated and one is a hybrid, both representing under 1%.

Meanwhile, Fig. 24 shows how the distribution of these coins spreads from Vespasian (69-79) until the beginning of the Military Anarchy at 235 AD. As seen in many other cases, most of the coins are dated for the period Severian period, especially during the reign of Septimius Severus (193-211), Elagabalus (218-222) and Severus Alexander (222-235).

Around the year 10 BC on the territory of modern **Speyer (Germany)**, a Roman *castrum* was constructed which became the foundation for the future town of **Noviomagus**<sup>47</sup>.

During Domitian's reign (81-96) the soldiers are transferred on the new frontier and the settlement will be administrated by civilians. During the III century, by the

same time with the Alamanni attacks and the abandonment of the extended *Limes Germanicus*, Speyer will become again a frontier town which will fall to invading barbarians around 275 AD<sup>48</sup>.

For the site of Speyer/Noviomagus there have been identified 56 silver coins<sup>49</sup>, showed in Fig. 25, from witch 55 pieces representing 98% are genuine and one coin representing 2% is plated.

In Fig. 26 we can see how most of the coins are dated at the Severian Dynasty and beginning of Military Anarchy.

The Roman settlement at **Heidelberg (Germany)** was formed by a military fort constructed around 70 AD and the surrounding *canabae* which appeared around the fort<sup>50</sup>. The *castrum* was originally made of wood<sup>51</sup> but it was later destroyed in a fire and rebuild in stone around 90 AD<sup>52</sup>.

Ever since 80/90 AD there used to be a wooden bridge over the Neckar river which was replaced by a stone based bridge around 200 AD<sup>53</sup>.

Graphs made for Heidelberg show the 30 silver pieces<sup>54</sup> discovered, all of them being genuine coins as seen in Fig. 27. We can also see the distribution of these pieces in Fig. 28 and how they were dated for the Flavian, Antoninian and Severian period.

Around the year 155 AD a Roman fort was constructed

<sup>44</sup> VICI.ORG/vici/2785.

<sup>45</sup> PLEIADES.STOA.ORG.

<sup>46</sup> FMRD 1965, 91.

<sup>47</sup> VICI.ORG/vici/2784.

<sup>48</sup> CÜPPERS 2005.

<sup>49</sup> FMRD 1965, 503.

<sup>50</sup> LUDWIG 1997, 37.

<sup>51</sup> VICI.ORG/vici/10492.

<sup>52</sup> LUDWIG 1997, 37.

<sup>53</sup> LUDWIG 1997, 44.

<sup>54</sup> FMRD 1980, 75.

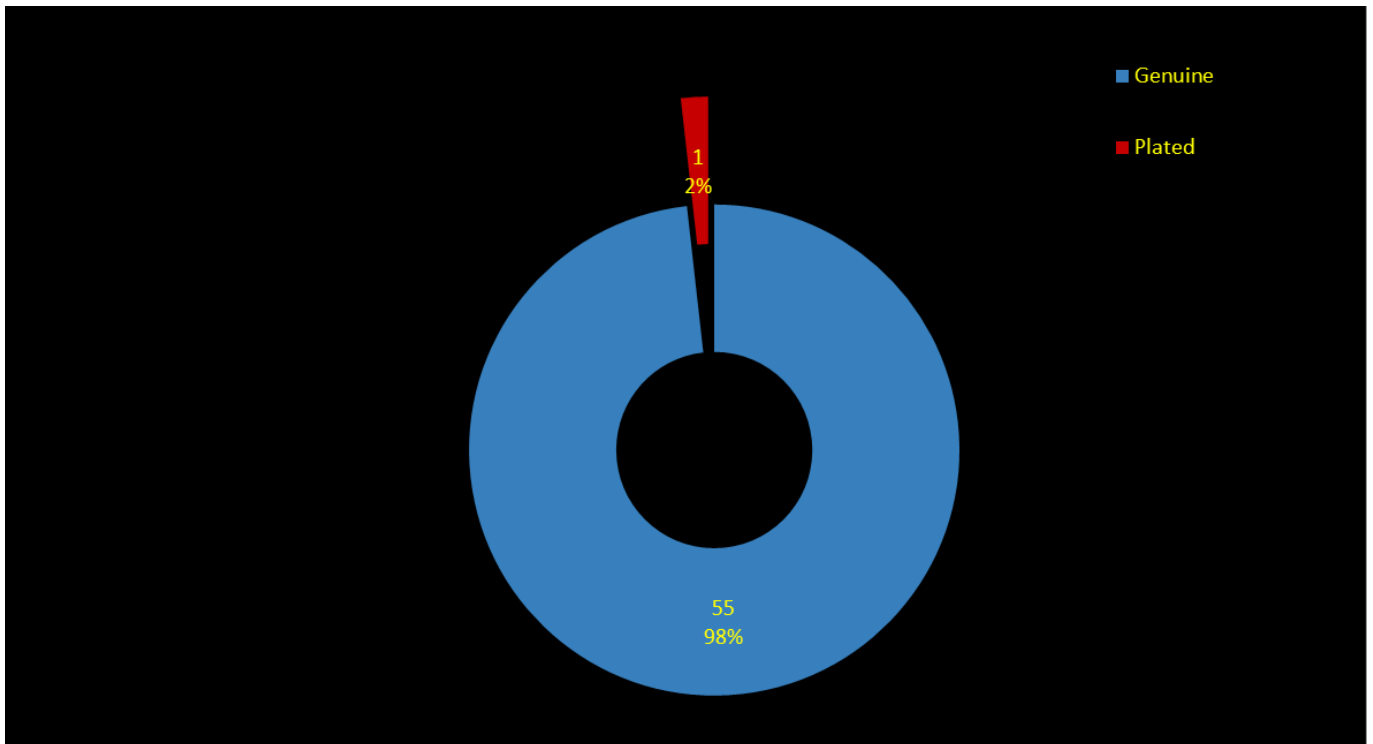


Fig.25. Graph of silver coins from Speyer – number of coins and their proportion on the site;

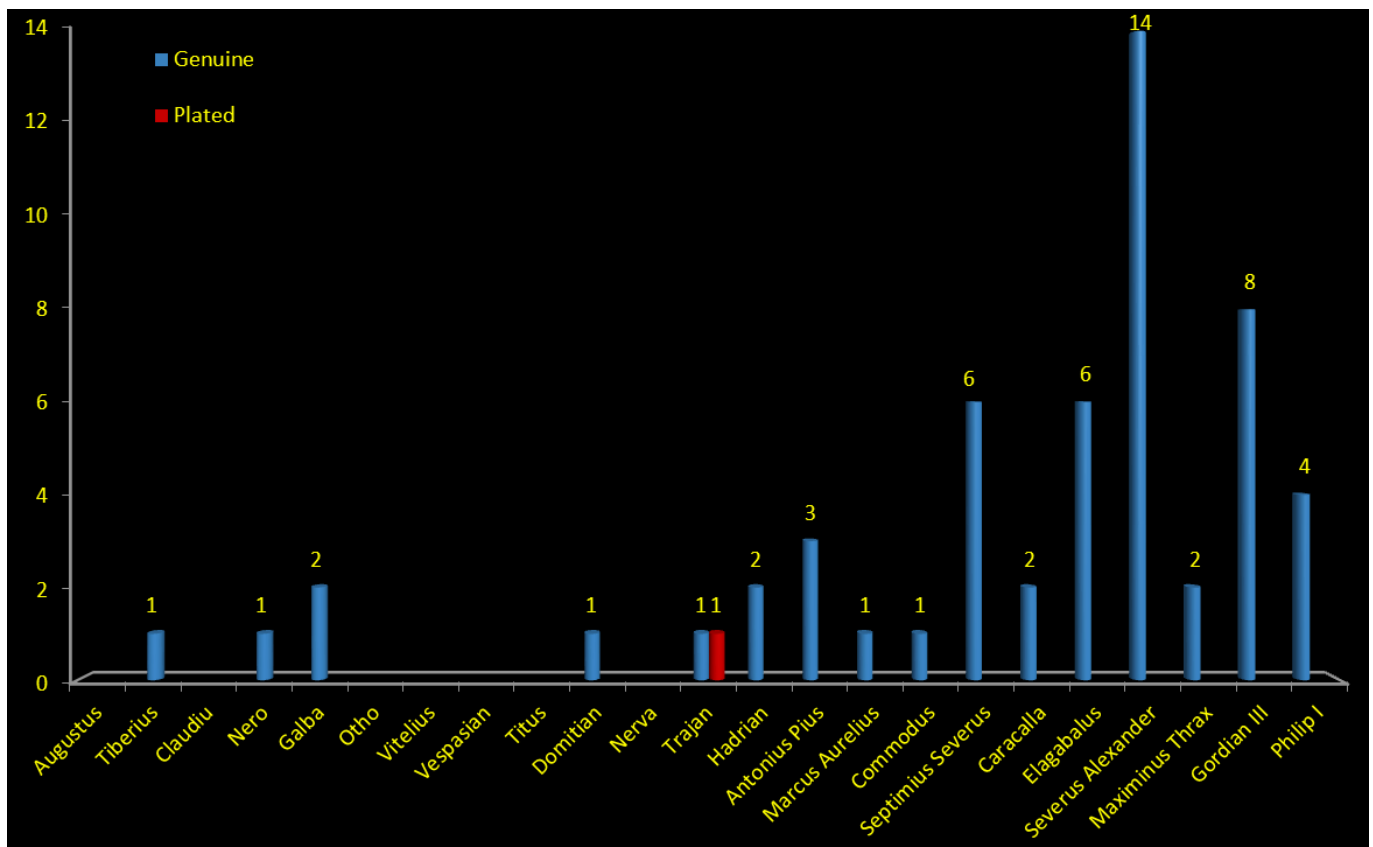


Fig.26. Graph of silver coins from Speyer – number of pieces for each issuer;

close to modern **Miltenberg (Germany)**, a cavalry camp with the purpose of keeping a watch on where the *limes* meet the Main river<sup>55</sup>.

This camp, initially raised using wood and earth

by *Cohors I Sequanorum et Rauracorum equitata* and later reinforced using stone<sup>56</sup>.

There have been discovered 75 silver pieces<sup>57</sup>, all of them identified as genuine as see in Fig. 29, most of them

<sup>55</sup> Vici.Org/vici/9805.

<sup>56</sup> FMRD 1975, 120.

<sup>57</sup> FMRD 1975, 121.



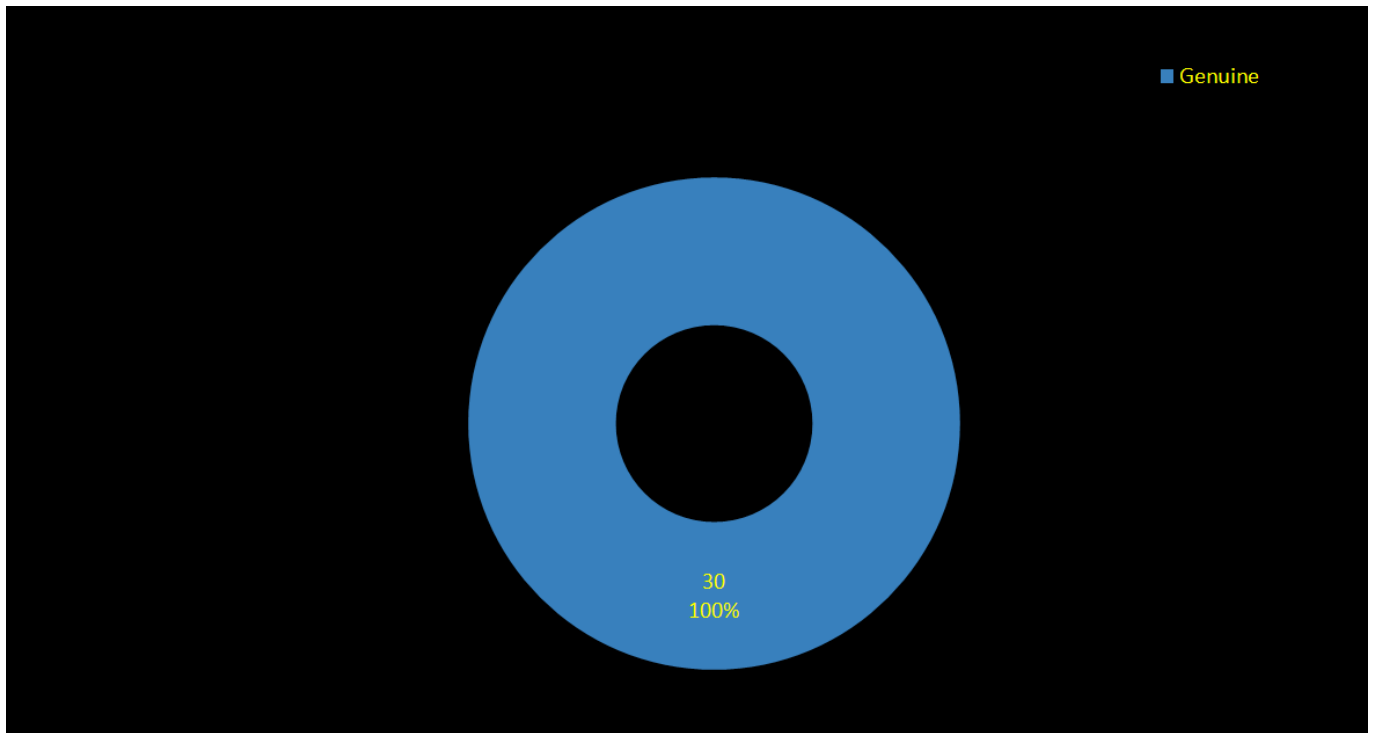


Fig.27. Graph of silver coins from Heidelberg – number of coins and their proportion on the site;

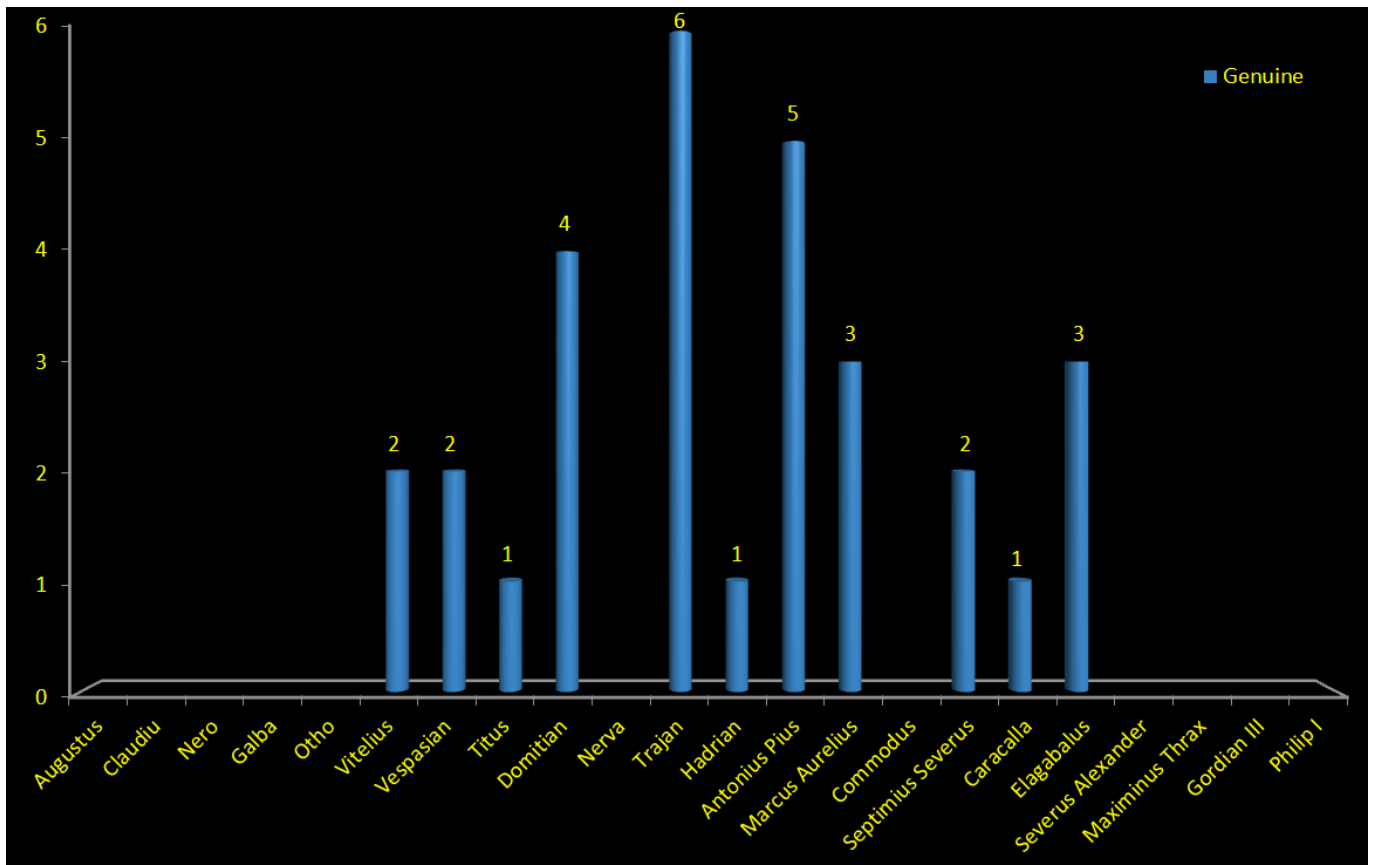


Fig.28. Graph of silver coins from Heidelberg – number of pieces for each issuer;

were dated for Septimius Severus (193-211) as seen in Fig. 30.

Close to **Stockstadt am Main (Germany)** were identified two Roman forts, one of them made using earth

and wood<sup>58</sup> while the second using stone<sup>59</sup>. With the help of archaeological discoveries, the arriving of the garrison was dated between 90-100 AD<sup>60</sup>.

<sup>58</sup> VICI.ORG/vici/10369.

<sup>59</sup> VICI.ORG/vici/4407.

<sup>60</sup> BAATZ 1969, 71. KORTÜM 1998, 5–65. SCHÖNBERGER 1985, 465.

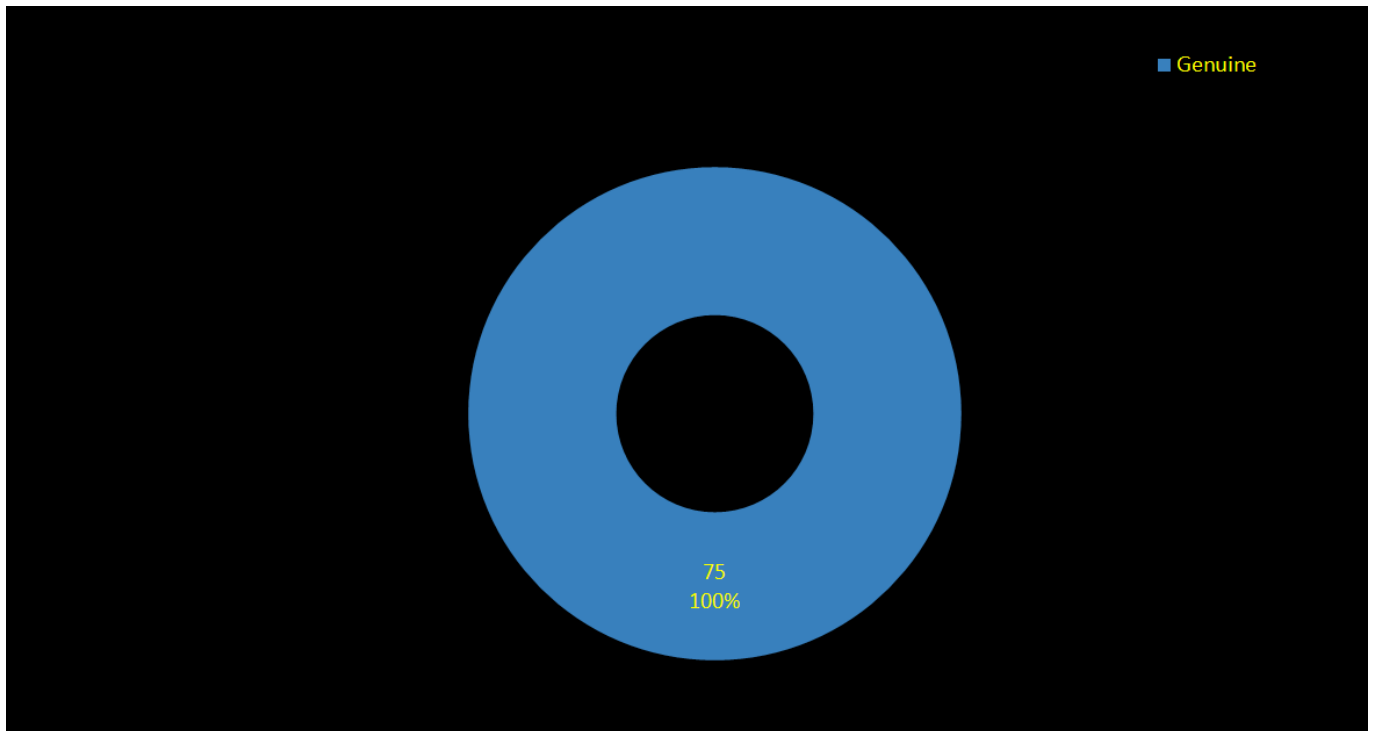


Fig.29. Graph of silver coins from Miltenberg – number of coins and their proportion on the site;

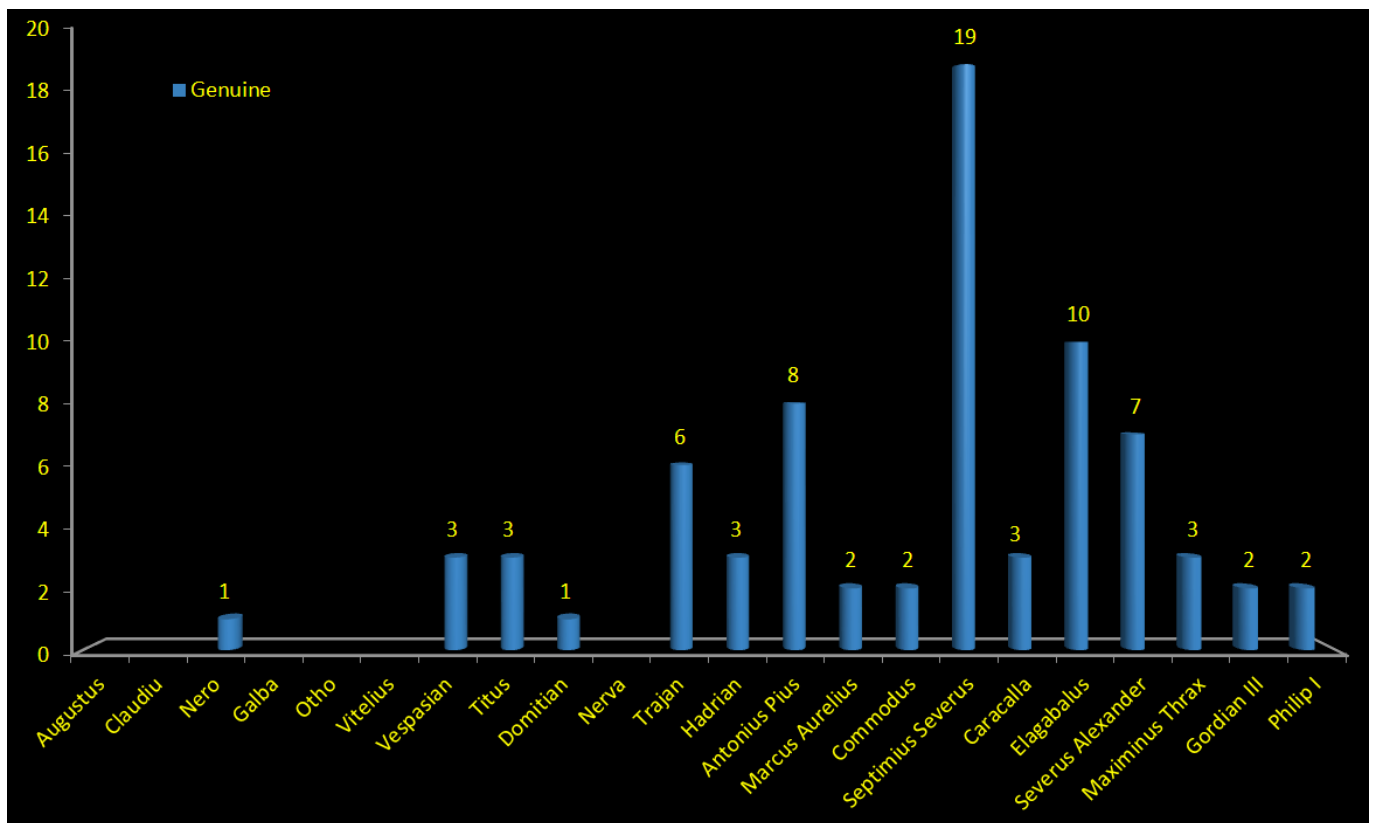


Fig.30. Graph of silver coins from Miltenberg – number of pieces for each issuer;

This fort served as garrison for *cohors III Aquitanorum equitata civium Romanorum*<sup>61</sup> until it was relocated at the beginning of the II century<sup>62</sup>. In her place was brought *cohors II Hispanorum equitata Pia Fidelis* which only remained until

the middle of the II century<sup>63</sup> being replaced by *cohors I Aquitanorum veterana equitata*<sup>64</sup>.

Therefore, on the site from Stockstadt am Main there were discovered 144 silver pieces<sup>65</sup> all of them being genuine

<sup>61</sup> SCHÖNBERGER 1985, 465.

<sup>62</sup> FMRD 1975, 25.

<sup>63</sup> CASTRITUS/CLAUSS/HEFNER 1977, 237–308. SCHÖNBERGER 1985, 465.

<sup>64</sup> CIL XIII/11780. CIL XIII/11782. SCHÖNBERGER 1985, 465.

<sup>65</sup> FMRD 1975, 28.



Fig.31. Graph of silver coins from Stockstadt am Main – number of coins and their proportion on the site;

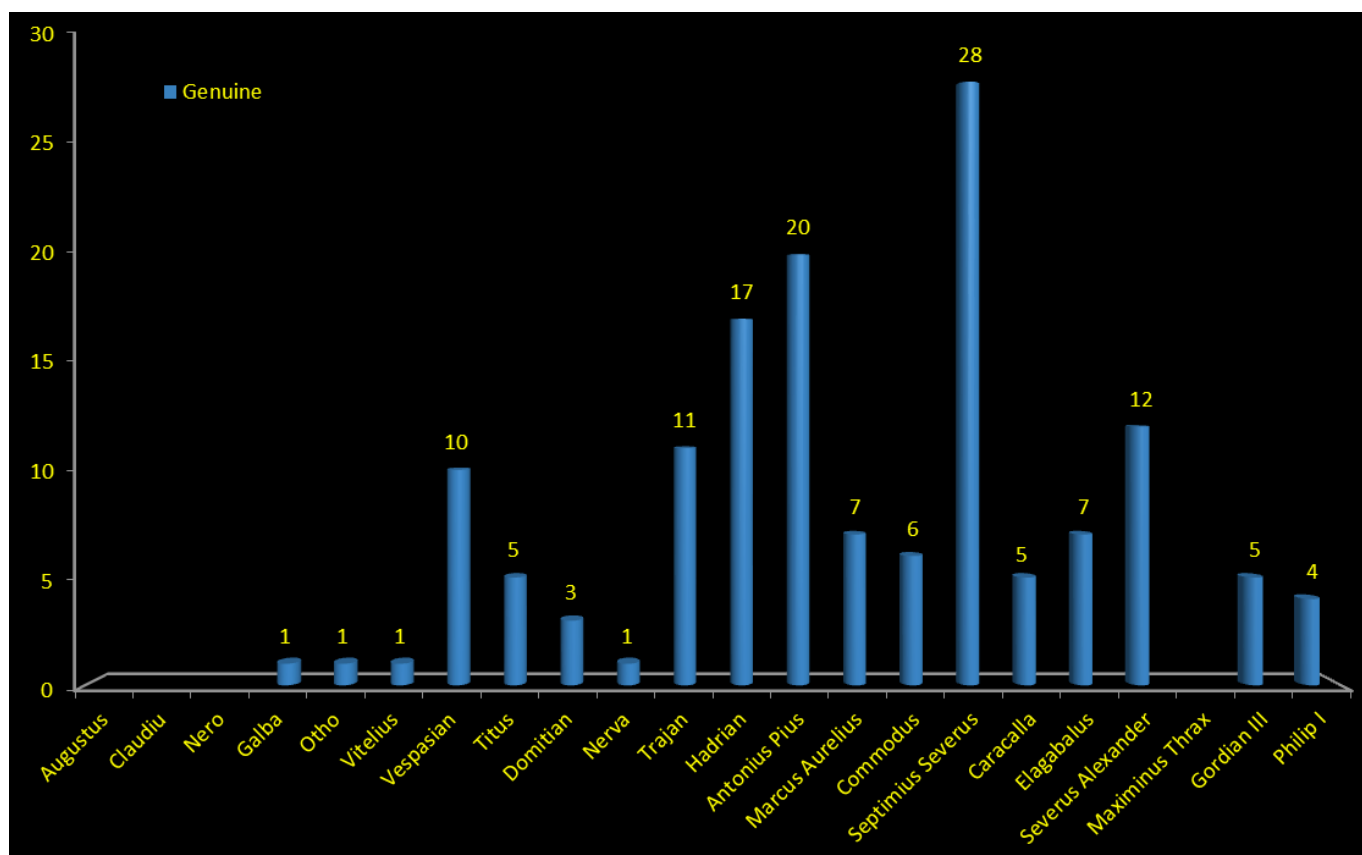


Fig.32. Graph of silver coins from Stockstadt am Main – number of pieces for each issuer;

as seen in Fig. 31. After distributing the coins according to their issuer and his time of reign we get the graph from Fig. 32, from which we can observe how many of the coins are dated during the reign of Hadrian (117-138), Antonius Pius (138-161) and Septimius Severus (193-211).

**Nida** was a settlement located north-west from

modern city of **Frankfurt am Main**<sup>66</sup> (**Germany**), first Roman finds in the area date back during the reign of Vespasian (69-79)<sup>67</sup>.

The area received some kind of “special” attention

<sup>66</sup> VICL.ORG/vici/10379.

<sup>67</sup> FORUM/NIDA.

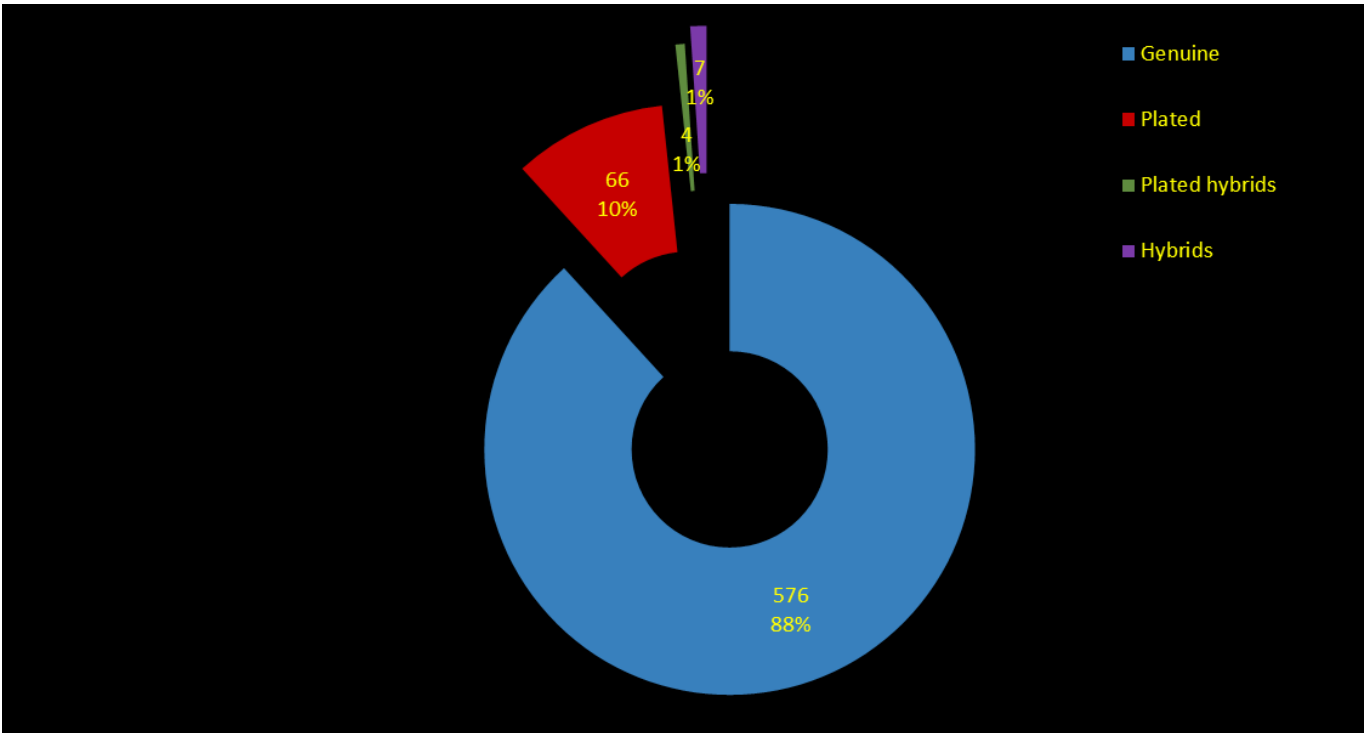


Fig.33. Graph of silver coins from Nida – number of coins and their proportion on the site;

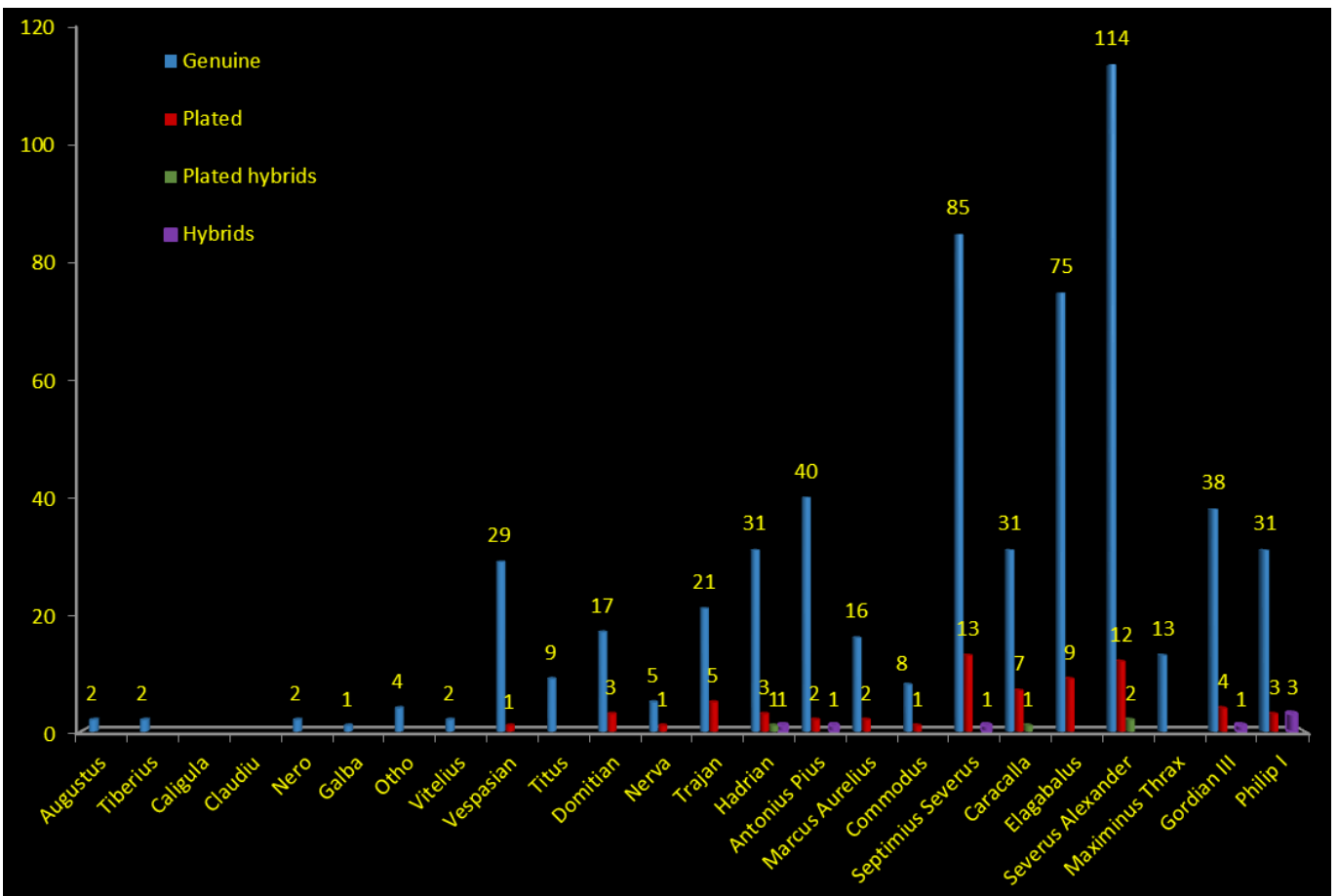


Fig.34. Graph of silver coins from Nida – number of pieces for each issuer;

from the Roman High Command since archaeological there have been identified ten military encampments which were active around 75 AD<sup>68</sup>, among the recognized troops were

..... *Ala I Flavia Gemina*<sup>69</sup>, *Cohors XXXII Voluntariorum Civium*

<sup>68</sup> FASOLD 1998, 14.

..... <sup>69</sup> CIL XIII/7365, CIL XIII /11948. SCHÖNBERGER 1985, 461.

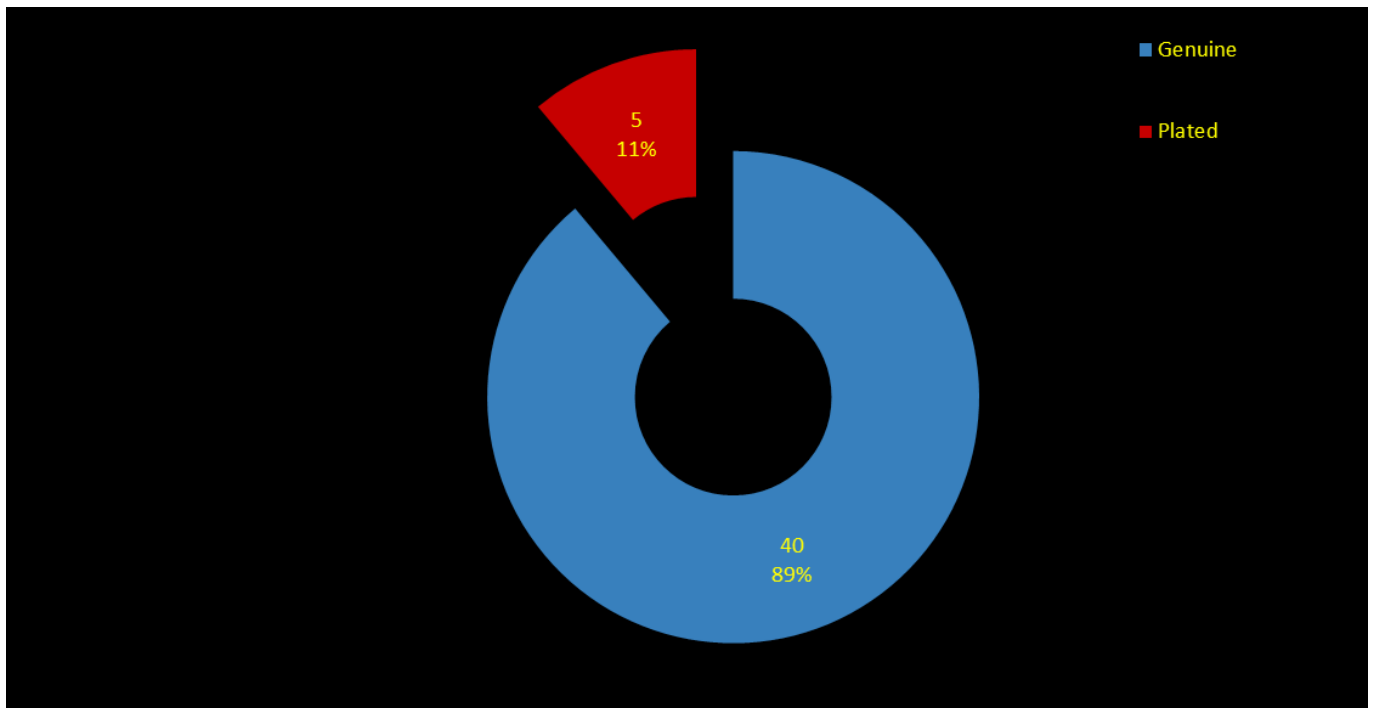


Fig.35. Graph of silver coins from Ruckingen – number of coins and their proportion on the site;

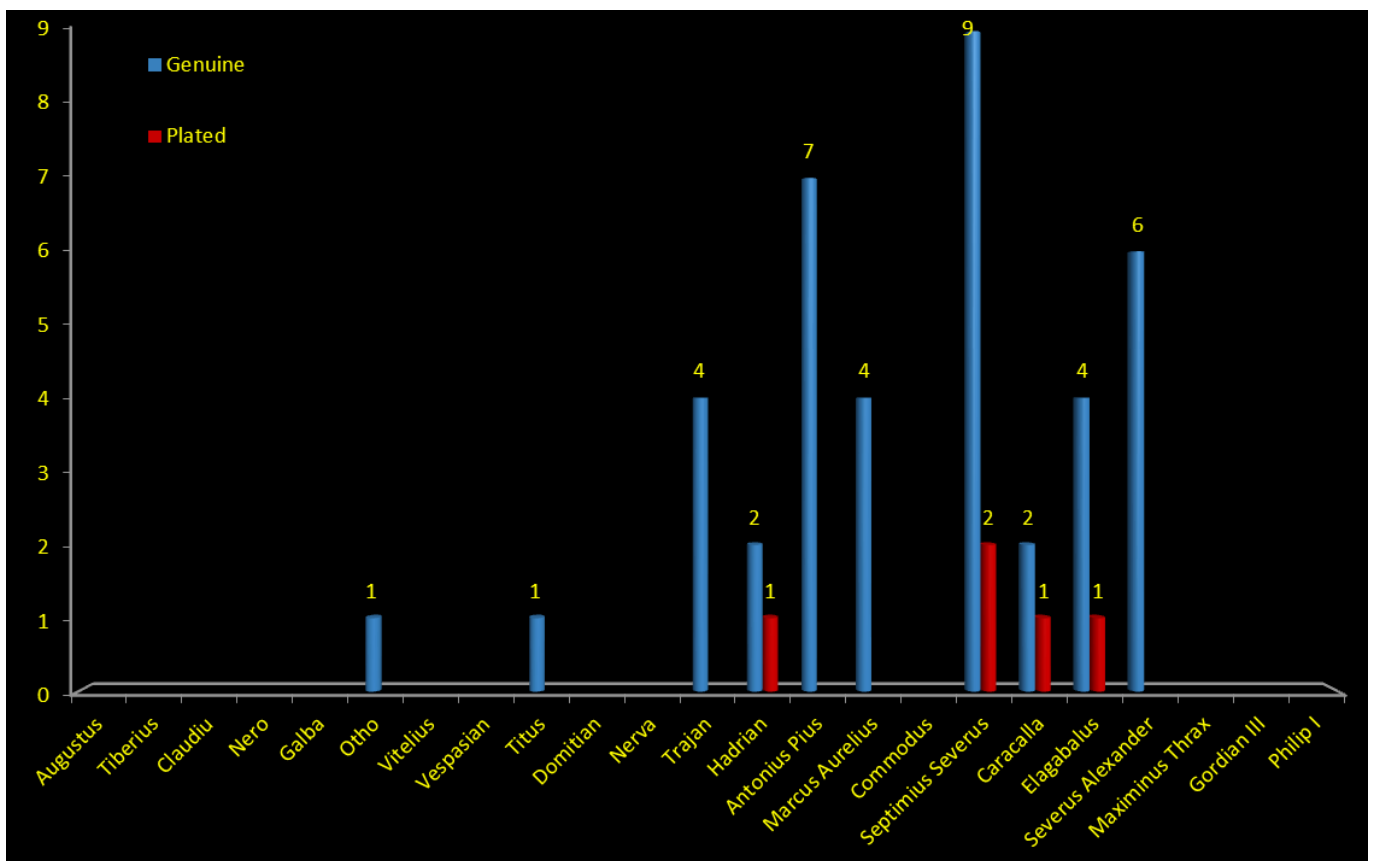


Fig.36. Graph of silver coins from Ruckingen – number of pieces for each issuer;

Romanorum<sup>70</sup> and Cohors IIII Vindelicorum<sup>71</sup>.

During the reign of Trajan (98-117) the soldiers were moved on new defensive positions<sup>72</sup> and the civil settlement

<sup>70</sup> CIL XIII /7362, CIL XIII /7381, CIL XIII /7382, CIL XIII /7383. SCHÖNBERGER 1985, 461.

<sup>71</sup> CIL XIII /7331, CIL XIII /11947, AE 1978/542.

<sup>72</sup> FORUM/NIDA.

will expand in the former military quarters where new monumental buildings were raised<sup>73</sup>.

Thus, in the area of Nida there were discovered 653 silver coins<sup>74</sup>, 576 representing 88% are genuine, 66

<sup>73</sup> HULD-ZETSCHKE 1994, 18–19.

<sup>74</sup> FMRD 1989b.

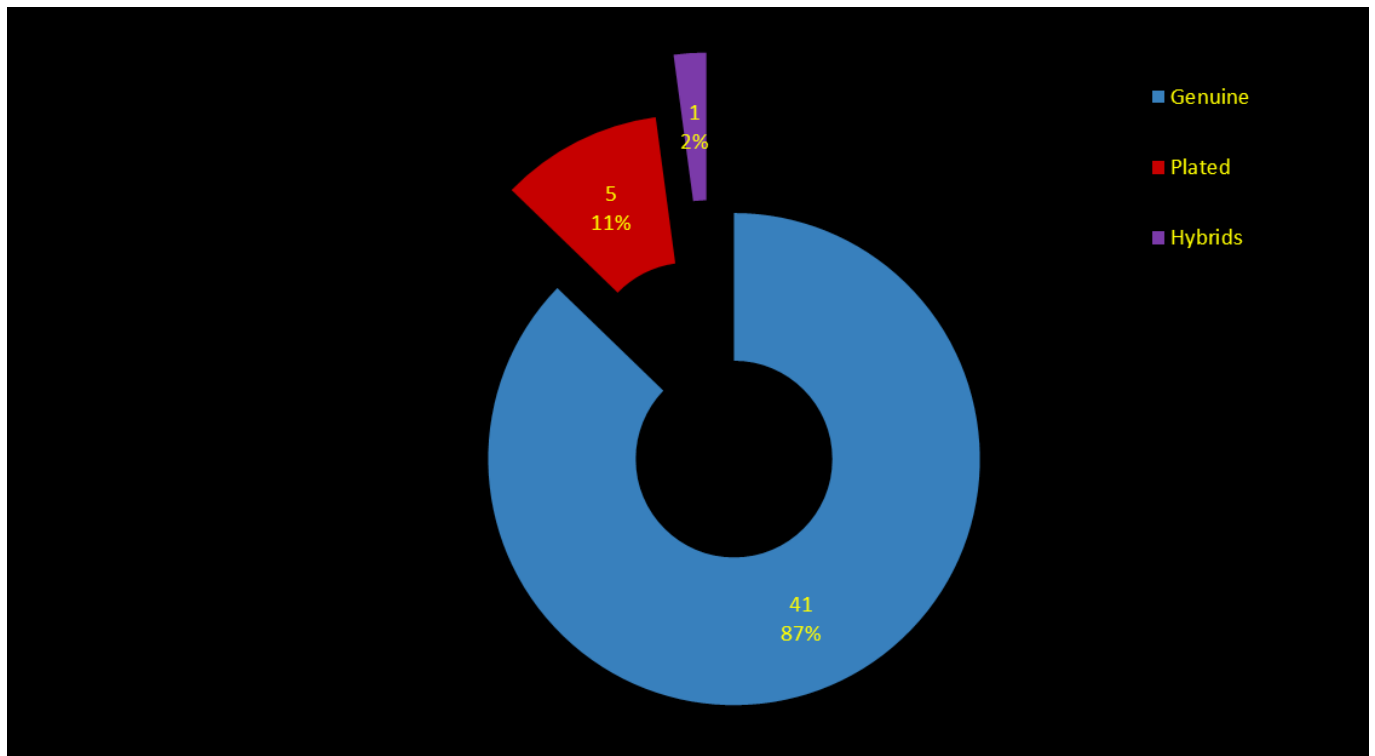


Fig.37. Graph of silver coins from Friedberg – number of coins and their proportion on the site;

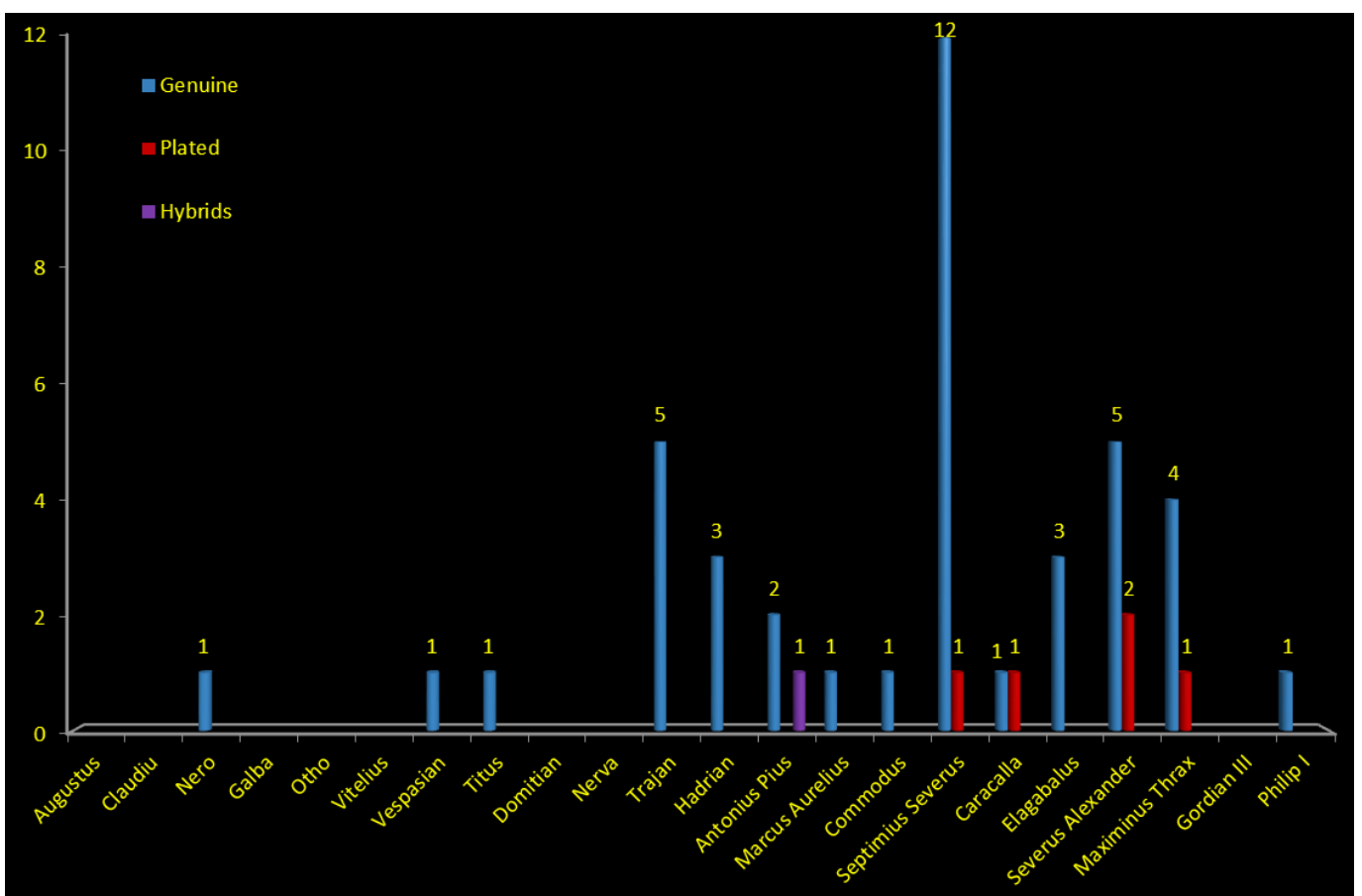


Fig.38. Graph of silver coins from Friedberg – number of pieces for each issuer;

representing 10% are plated, four coins representing 1% are plated hybrids and another seven pieces representing 1% are hybrids, as seen in Fig. 33.

Regarding the distribution of coins for this location Fig. 34 was created, we can see that there were discovered coins with the image of issuers from the beginning of the I

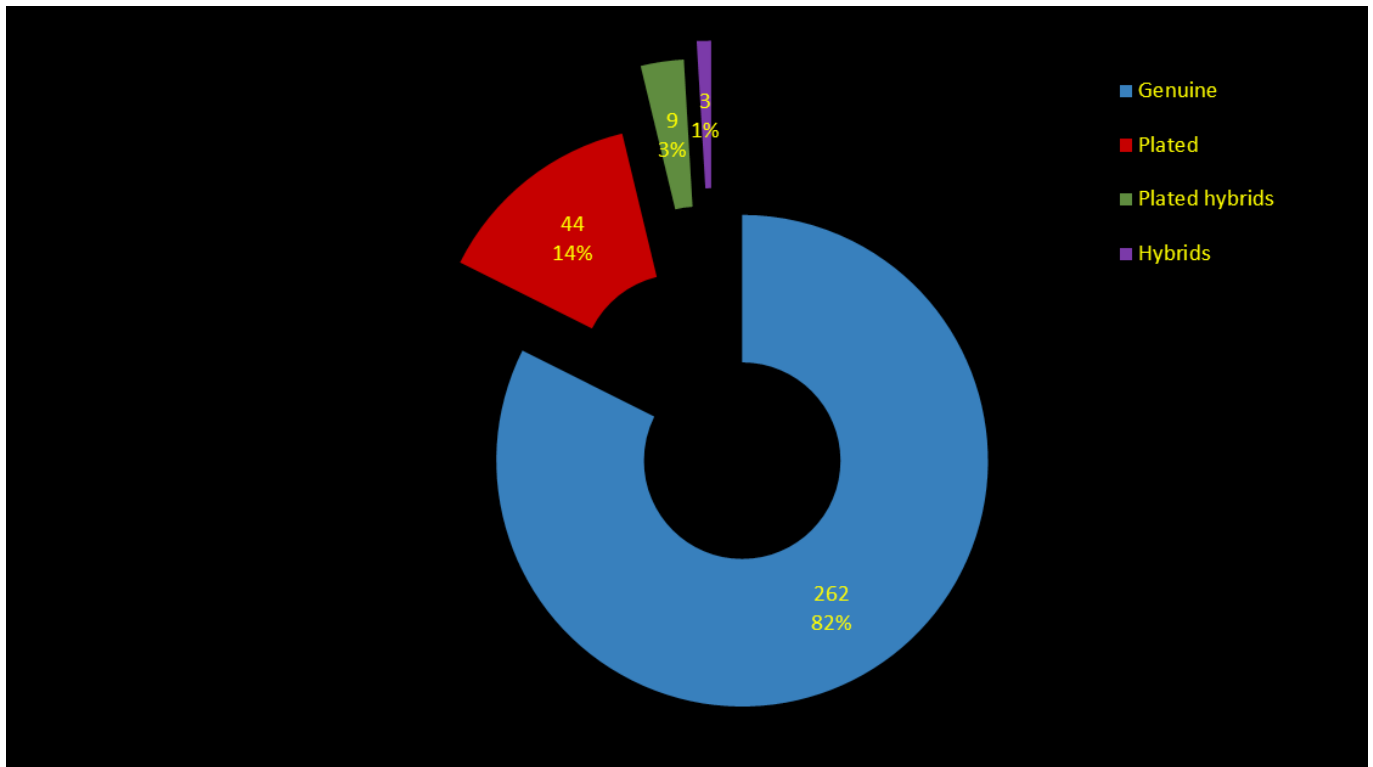


Fig.39. Graph of silver coins from Mogontiacum – number of coins and their proportion on the site;

century. By the time of Vespasian (69-79) the coin index goes visible up, the highest values being recorded for the Severian Dynasty when the coin index doubles in quantity for issuers like Septimius Severus (193-211), Elagabalus (218-222) and Severus Alexander (222-235).

Roman *castrum* of **Rückingen (Germany)** was situated at 300 m from the *limes*<sup>75</sup>, constructed between 110-125 AD during the reign of Trajan (98-117) and Hadrian (117-138)<sup>76</sup> and served as garrison for *Cohors III Dalmatarum pia fidels* which was brought here in the same period<sup>77</sup>.

For this location, there have been discovered 45 silver coins<sup>78</sup> as seen in Fig. 35, from which 40 pieces which form 89% are genuine and five coins are plated with a representation of 11%. Fig. 36 shows the distribution of these pieces, not very helpful because of the small number of coins for this site.

At **Friedberg (Germany)** used to be a Roman fort dated at the I century AD, more exactly during the military expeditions carried out by Germanicus<sup>79</sup>. The fort was abandoned and during the reign of Vespasian (69-79) a new camp was built in this area which was used until the frontier was moved further east and the troops along with it.

There have been identified 47 silver pieces<sup>80</sup> as seen in Fig. 37. From these coins 41 were identified as genuine representing 87%, five were plated representing 11% and one piece is a hybrid representing 2%.

Also, in Fig. 38 we can see how these coins were distributed according to the issuer represented on them,

many of them being dated for during Septimius Severus (193-211).

The origin of **Mogontiacum (Mainz, Germany)** is close related with the first legionary camp erected by Drusus in 13-12 BC on a strategic hill near the shore of the river Rhine<sup>81</sup>. This first camp could garrison two Roman legions, first arrived here were most likely *Legio I Germanica* și *V Alaudae*<sup>82</sup>.

The garrison from Mainz was transferred, other troops will pass through here like *Legio XIV Gemina* and *XVI Gallica*, *Legio XIII Gemina* and *II Augusta*<sup>83</sup>. In the end *Legio XXII Primigenia* will garrison the fort and maintain it until the middle of the IV century.

For Mainz/Mogontiacum, showed in Fig. 39, there have been discovered 318 silver coins<sup>84</sup>, 262 of them with a proportion of 82% are genuine, 44 with a proportion of 14% are plated, nine pieces with 3% are plated hybrids and three coins with 1% are hybrids.

Looking at Fig. 40 we can see how these pieces were distributed, very high values during the reign of Septimius Severus (193-211), Elagabalus (218-222) and Severus Alexander (222-235).

On the territory of modern **Hofheim-Main-Taunus (Germany)**, there used to be two Roman forts but none are visible anymore at the surface of the soil<sup>85</sup>. One of them was constructed around 72 AD using stone and was soon surrounded by a civilian *vicus*<sup>86</sup>.

According to Fig. 41, at Hofheim-Main-Taunus were

<sup>75</sup> FMRD 1994a, 99.

<sup>76</sup> REUTER 2004, 97–106.

<sup>77</sup> FMRD 1994a, 100.

<sup>78</sup> FMRD 1994a.

<sup>79</sup> VICI.ORG/vici/4414.

<sup>80</sup> FMRD 1989a.

<sup>81</sup> VICI.ORG/vici/9754. WITTEYER 1999, 1026.

<sup>82</sup> LIVIUS.ORG/MOGONTIACUM-MAINZ.

<sup>83</sup> LIVIUS.ORG/MOGONTIACUM-MAINZ.

<sup>84</sup> FMRD 2006a, 33.

<sup>85</sup> VICI.ORG/vici/8150.

<sup>86</sup> NUBER 1983.

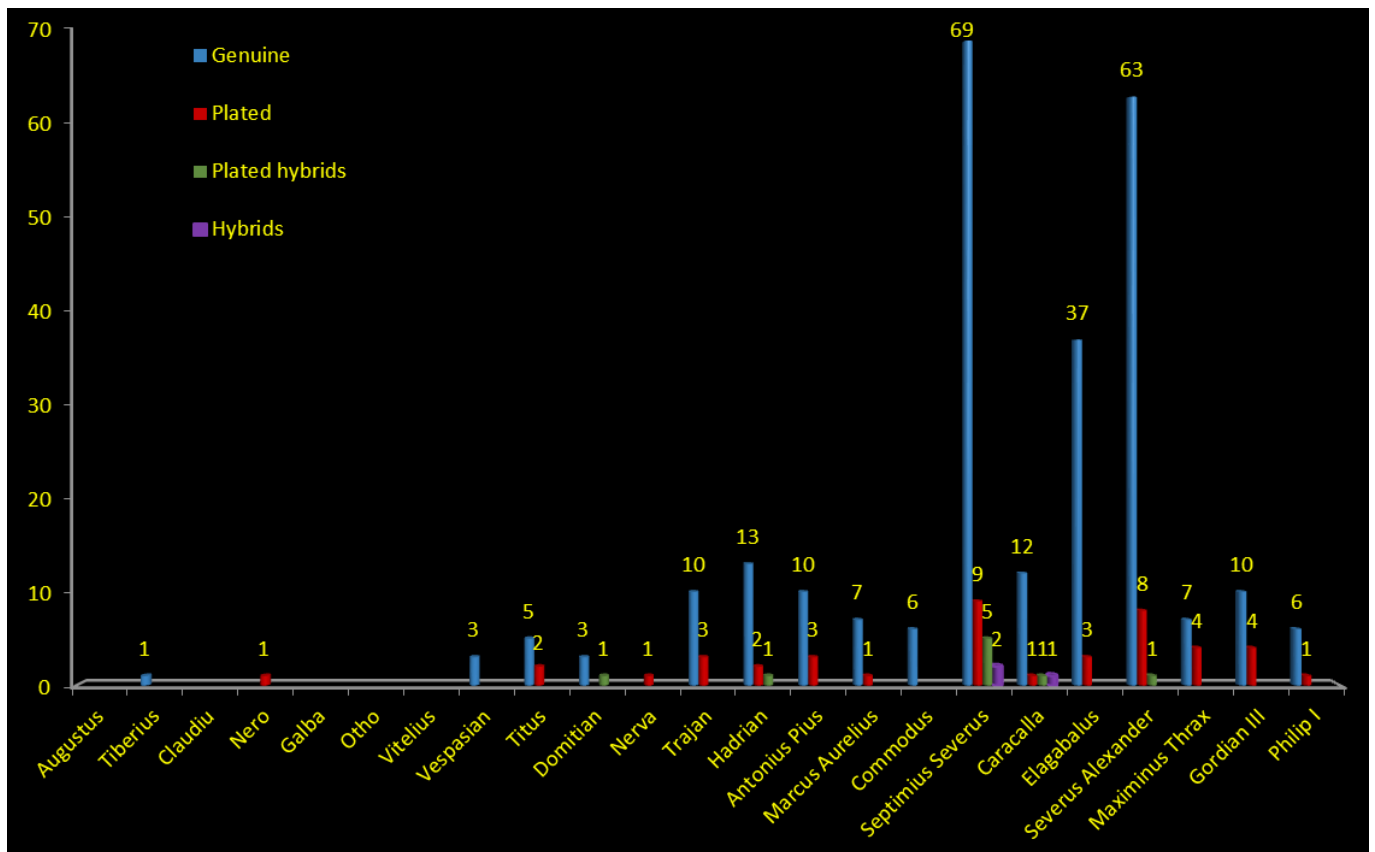


Fig.40. Graph of silver coins from Mogontiacum – number of pieces for each issuer;

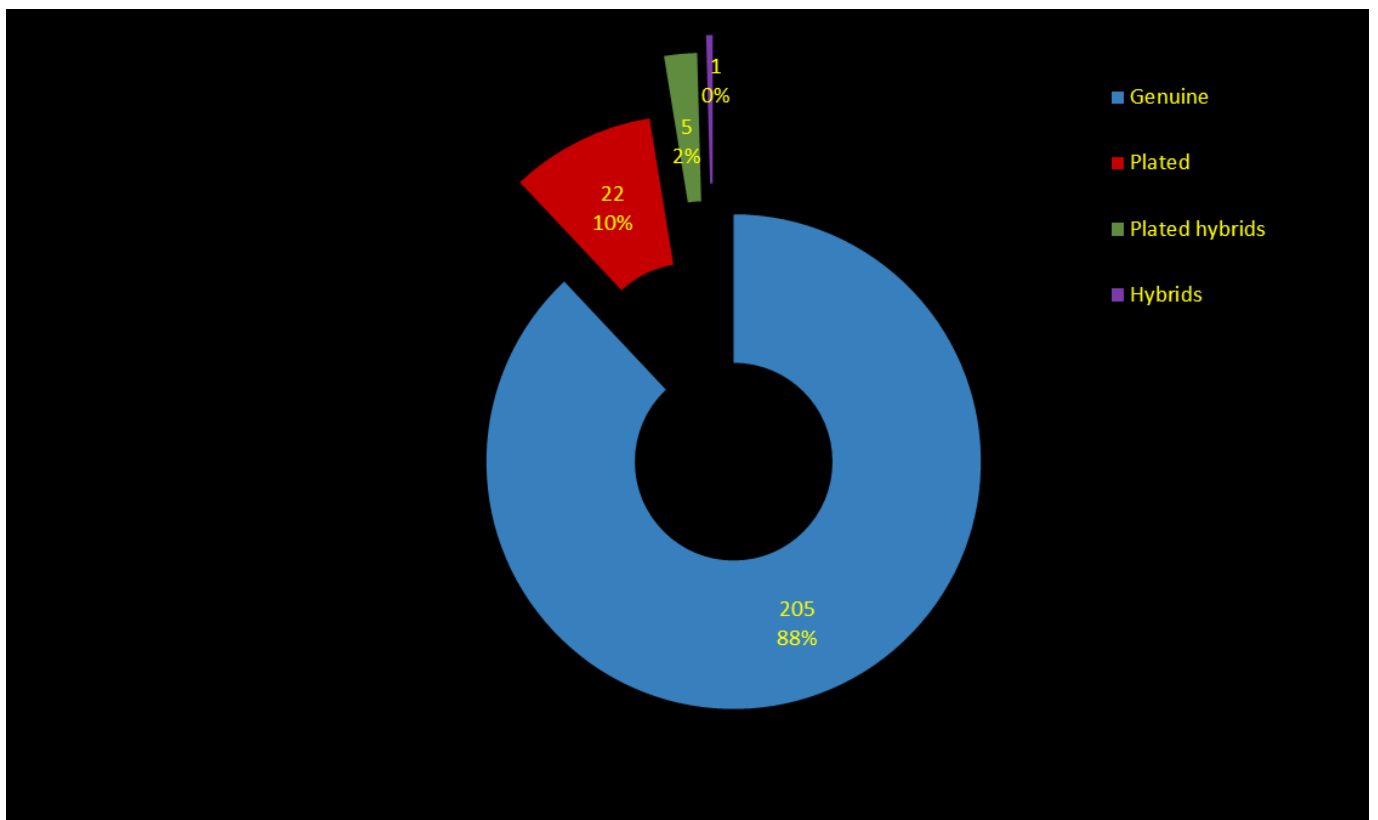


Fig.41. Graph of silver coins from Hofheim-Main-Taunus – number of coins and their proportion on the site;

discovered 233 silver coins<sup>87</sup>, 205 of these were identified as genuine representing 88% of the total number of coins, 22 pieces are plated representing 10%, five coins are plated

<sup>87</sup> FMRD 1994a.



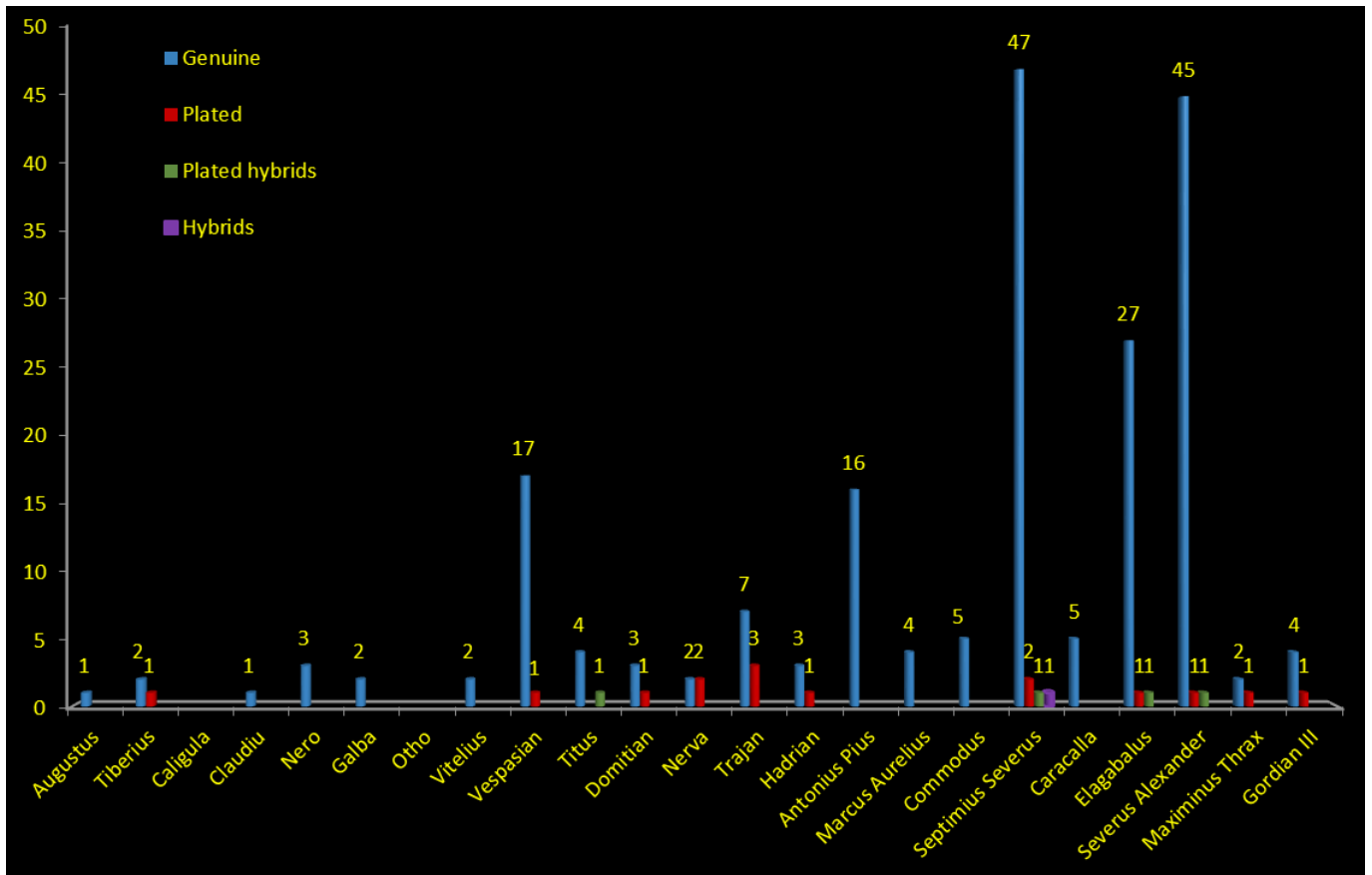


Fig.42. Graph of silver coins from Hofheim-Main-Taunus – number of pieces for each issuer;

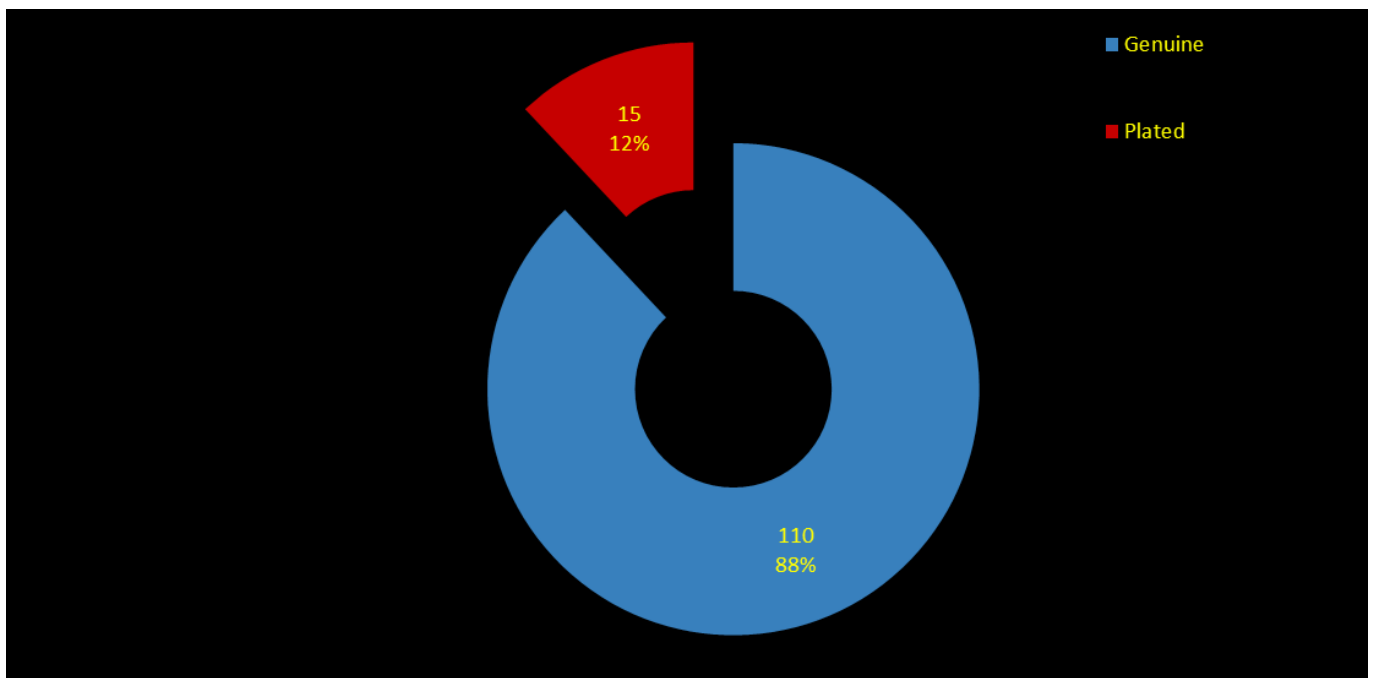


Fig.43. Graph of silver coins from Wiesbaden – number of coins and their proportion on the site;

hybrids with a proportion of 2% and one coins is a hybrid representing 1%.

Looking at Fig. 42, we can observe that many coins were dated during the period of Vespasian (69-79), Antonius Pius (138-161), Septimius Severus (193-211), Elagabalus (218-222) and Alexander Severus (222-235).

**Aquae Mattiacorum** was the Roman name of the settlement located near modern **Wiesbaden (Germany)**. Here was the place where a *castrum* was built<sup>88</sup> and a civilian settlement was raised around it<sup>89</sup>.

<sup>88</sup> VICI.ORG/vici/9759.

<sup>89</sup> VICI.ORG/vici/9758.

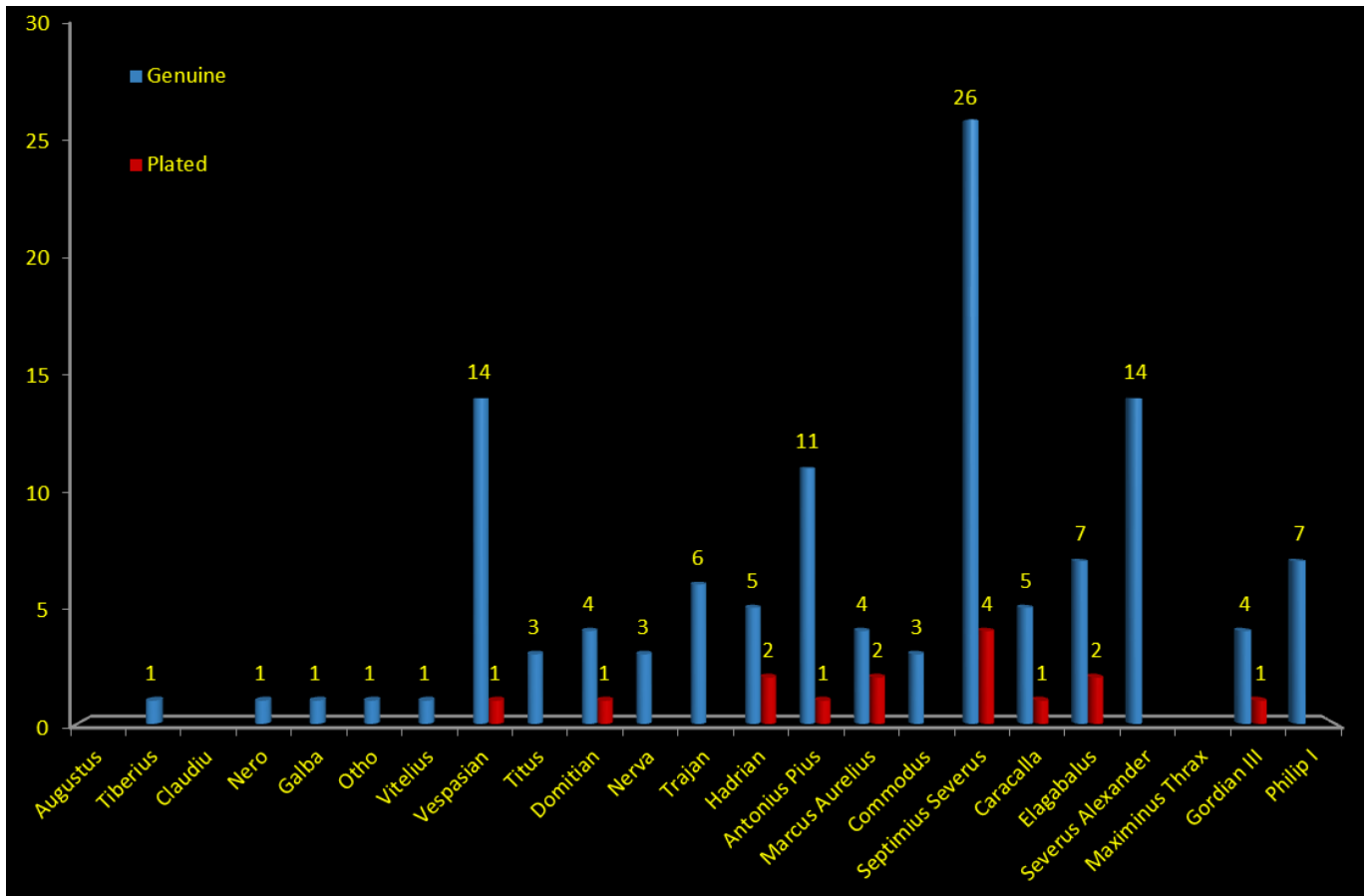


Fig.44. Graph of silver coins from Wiesbaden – number of pieces for each issuer;

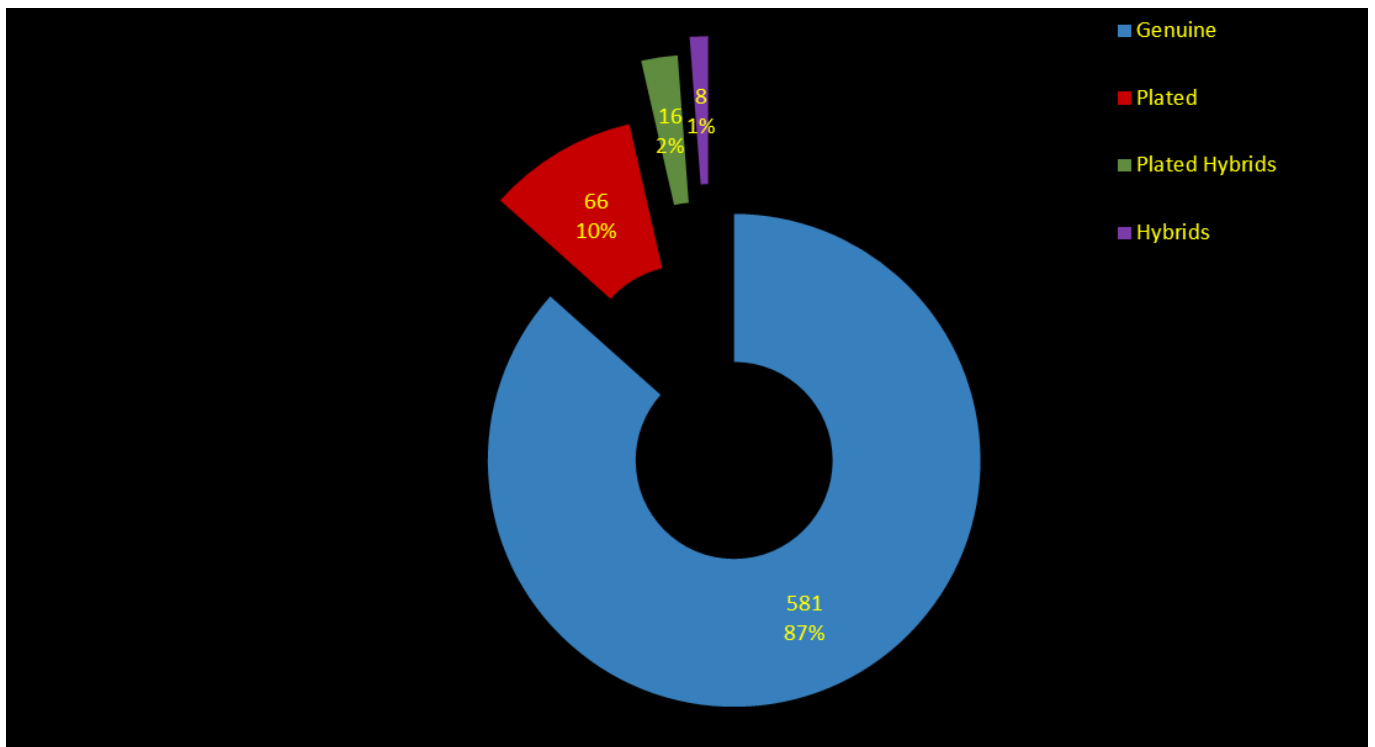


Fig.45. Graph of silver coins from Zugmantel – number of coins and their proportion on the site;

First Roman finds were dated before the Flavian period, the stone version of the fort being build most likely during Domitian's (81-96) period<sup>90</sup> while the *vicus* appeared

by the same time<sup>91</sup>.

For Wiesbaden/Aquae Mattiacorum 125 silver coins

<sup>90</sup> RITTERLING 1909.

<sup>91</sup> TAUNUS-WETTERAU-LIMES/WIESBADE.

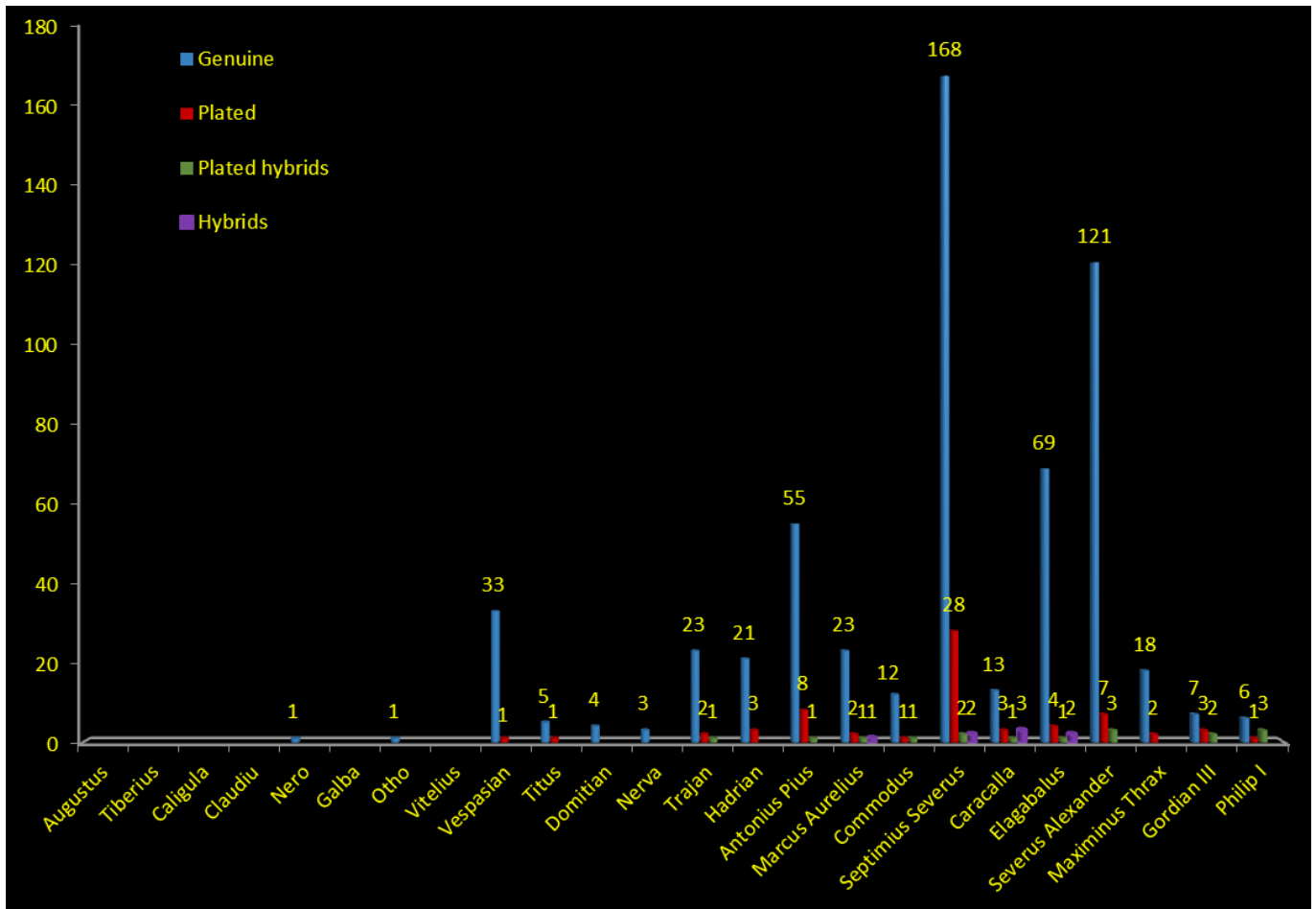


Fig.46. Graph of silver coins from Zugmantel – number of pieces for each issuer;

were found<sup>92</sup> as seen in Fig. 43, 110 identified as genuine with a proportion of 88% and 15 coins are plated and represent 12%.

Also, looking at Fig. 44 we can observe how these coins were dated for issuers all along the first three centuries AD, many genuine pieces being dated during the period of Vespasian (69-79), Antonius Pius (138-161), Septimius Severus (193-211) and Severus Alexander (222-235).

The Roman fort of **Zugmantel (Germany)** was a strategic camp<sup>93</sup> on the German frontier, garrisoned by the time of Caracalla (211-217) by *Cohors I Treverorum equitata* which will receive the extension of *Maximiniana*<sup>94</sup> under the reign of Maximinus Thrax (235-238). Around this camp a civilian settlement will be built as well<sup>95</sup>.

Archaeological discoveries have brought to light 671 silver coins<sup>96</sup>, 581 with a proportion of 87% are genuine, 66 coins with a proportion of 10% are plated, 16 pieces with a proportion of 2% are plated hybrids and eight pieces representing 1% are hybrids, as seen in Fig. 45.

In the case of silver pieces issued by each separate issuer we have Fig. 46, we can observe high coin values dated during the reign of Vespasian (69-79), for the Antoninian period and Maximinus Thrax (235-238). On the other hand, for the Severian dynasty we can see 2-3 times more

discovered coins, especially with images dated at Septimius Severus (193-211), Elagabalus (218-222) and Severus Alexander (222-235).

Roman fort from **Heldenbergen (Germany)** was situated in Germania Superior, around the fort a civilian settlement was built<sup>97</sup>.

On the site from Heldenbergen there have been identified 70 silver pieces<sup>98</sup>, Fig., 47, 68 of them representing 97% are genuine while two coins representing 3% are plated.

In Fig. 48, we can see how these pieces are distributed among reigning periods, first coins are dated at Vespasian (69-79) while most of them are dated for Septimius Severus (193-211).

At **Ober-Florstadt (Germany)** used to be a Roman *castrum*<sup>99</sup> that was constructed after 90 AD<sup>100</sup>. First detachments that arrived here were part of *Legio XXII Primigenia* from Mainz, stamped bricks with their sigil being discovered here<sup>101</sup>. These units were later replaced by *Cohors XXXII voluntariorum civium Romanorum*<sup>102</sup> which stayed here until the region was abandoned<sup>103</sup>.

Here there were discovered 79 silver coins<sup>104</sup>, as seen

<sup>92</sup> FMRD 1994b.  
<sup>93</sup> VICI.ORG/vici/4409.  
<sup>94</sup> CIL XIII/11971.  
<sup>95</sup> SOMMER 1988.  
<sup>96</sup> FMRD 1994b.

<sup>97</sup> VICI.ORG/vici/9802.  
<sup>98</sup> FMRD 1989a.  
<sup>99</sup> VICI.ORG/vici/4451.  
<sup>100</sup> FRICKE 2007.  
<sup>101</sup> FMRD 1989a, 246.  
<sup>102</sup> FMRD 1989a, 246.  
<sup>103</sup> OLDENSTEIN-PFERDEHIRT 1983, 303-348.  
<sup>104</sup> FMRD 1989a.

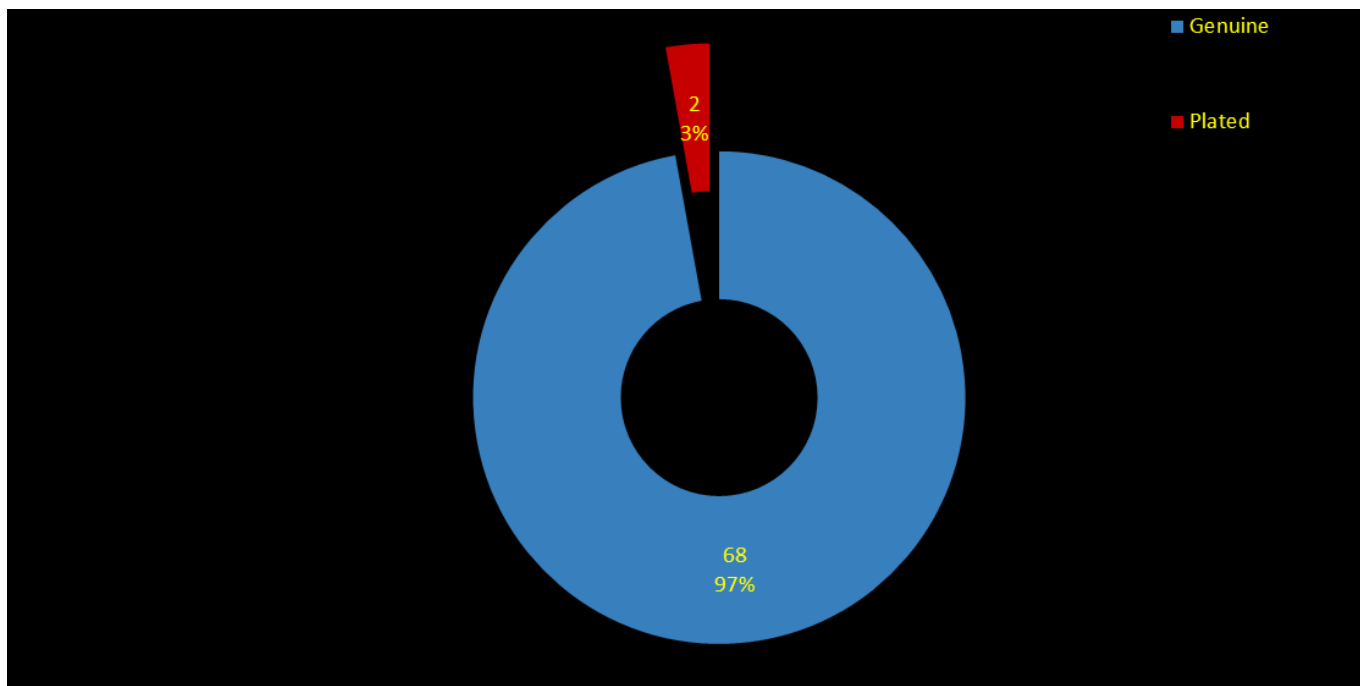


Fig.47. Graph of silver coins from Heldenbergen – number of coins and their proportion on the site;

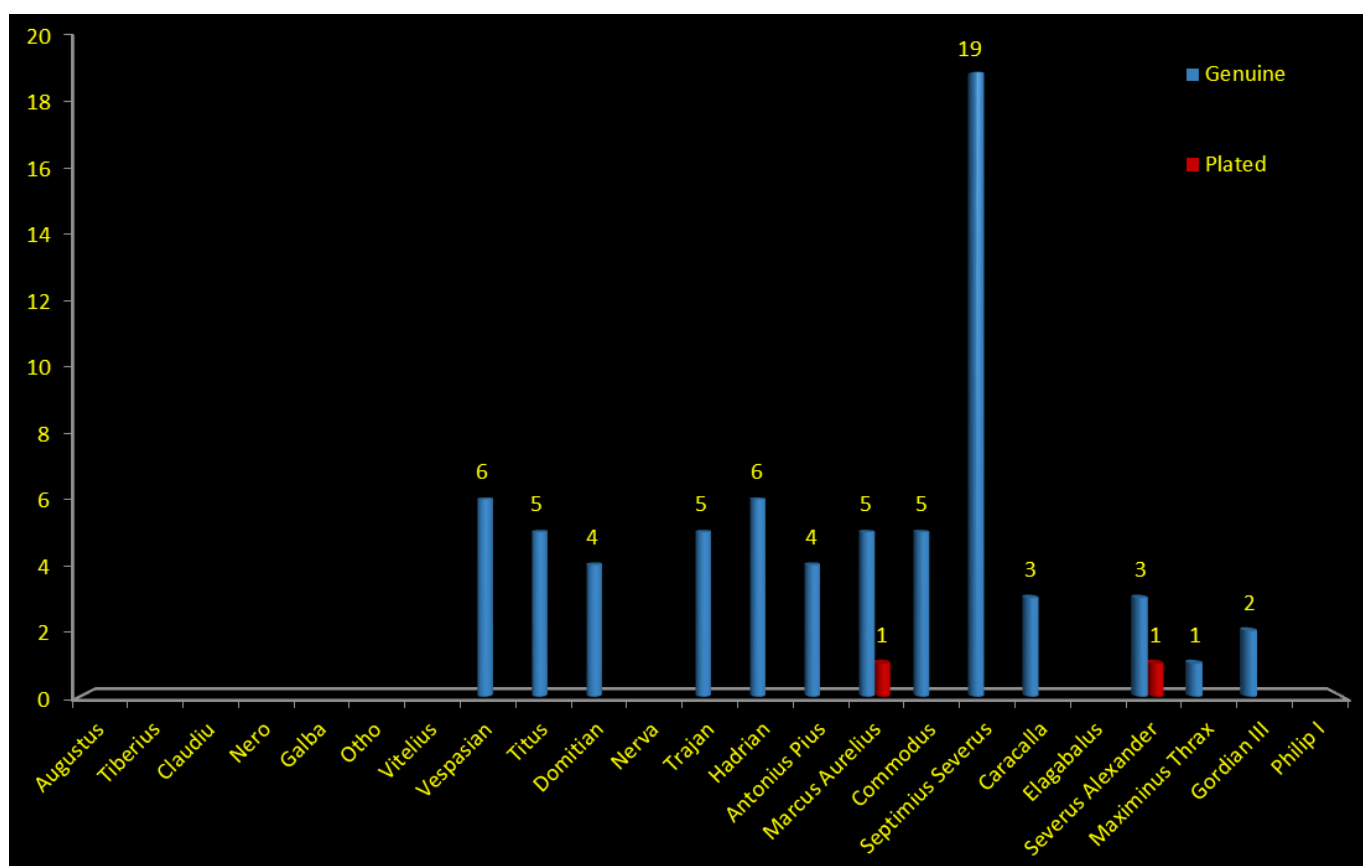


Fig.48. Graph of silver coins from Heldenbergen – number of pieces for each issuer;

in Fig. 49, 74 pieces with a proportion of 94% are genuine, four coins with a proportion of 5% are plated and one piece representing 1% is hybrid.

Fig. 50 on the other hand shows the distribution of the coins, facilitating to observe the high quantity of pieces for Septimius Severus (193-211), Elagabalus (218-222) and

Severus Alexander (222-235).

At **Butzbach (Germany)** used to be a Roman *cohors* fort which was keeping a watch on this section of the frontier<sup>105</sup>. The fort was constructed out of earth and wood around 90 AD during Domitian (81-96) by *cohors II Raetorum*

<sup>105</sup> VICI.ORG/vici/4450.

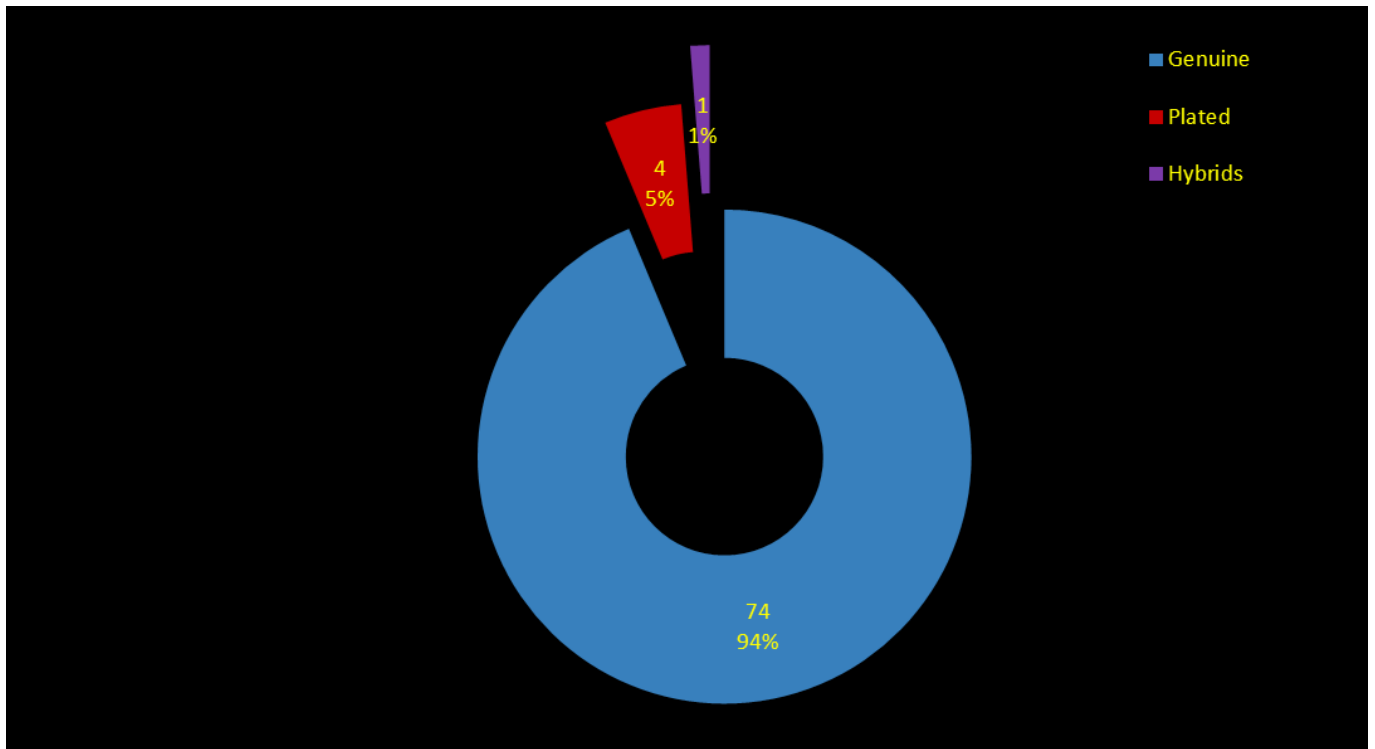


Fig.49. Graph of silver coins from Ober-Florstadt – number of coins and their proportion on the site;

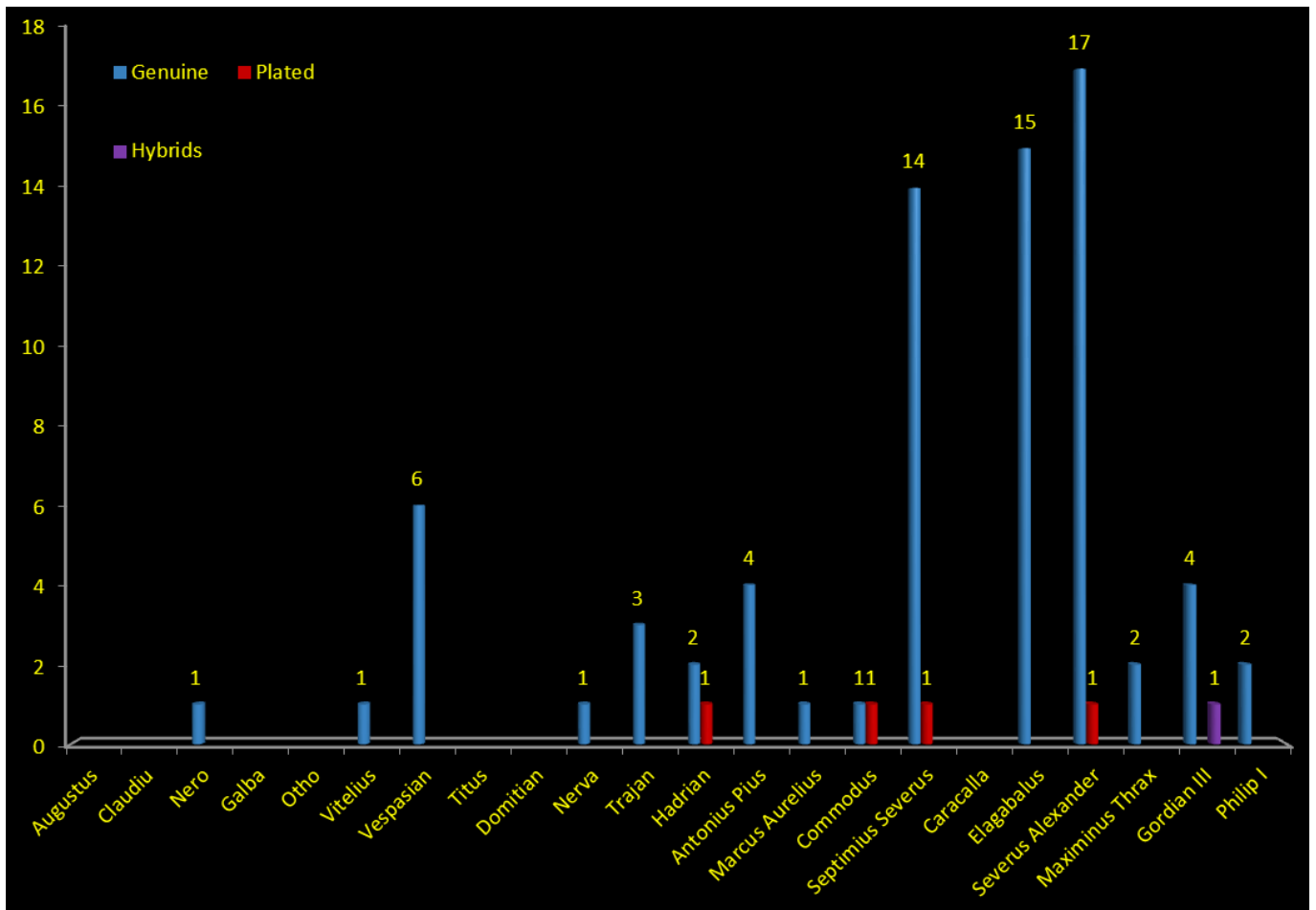


Fig.50. Graph of silver coins from Ober-Florstadt – number of pieces for each issuer;

*civium Romanorum*<sup>106</sup>, later around 135 AD the unit will be  
<sup>106</sup> KORTÜM 1998, 5–65.

replaced by *cohors II Augusta Cyrenaica equitata* which will erect the stone phase of the fort.

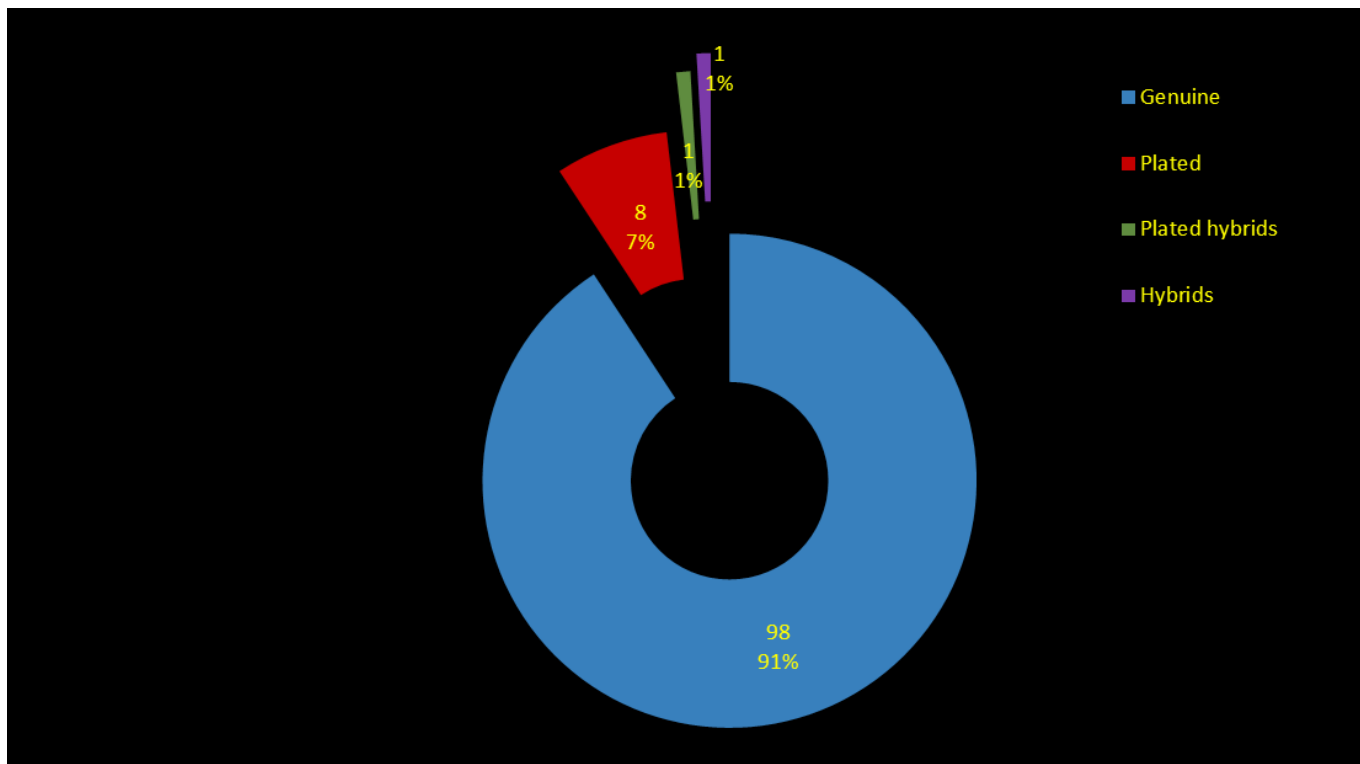


Fig.51. Graph of silver coins from Butzbach – number of coins and their proportion on the site;

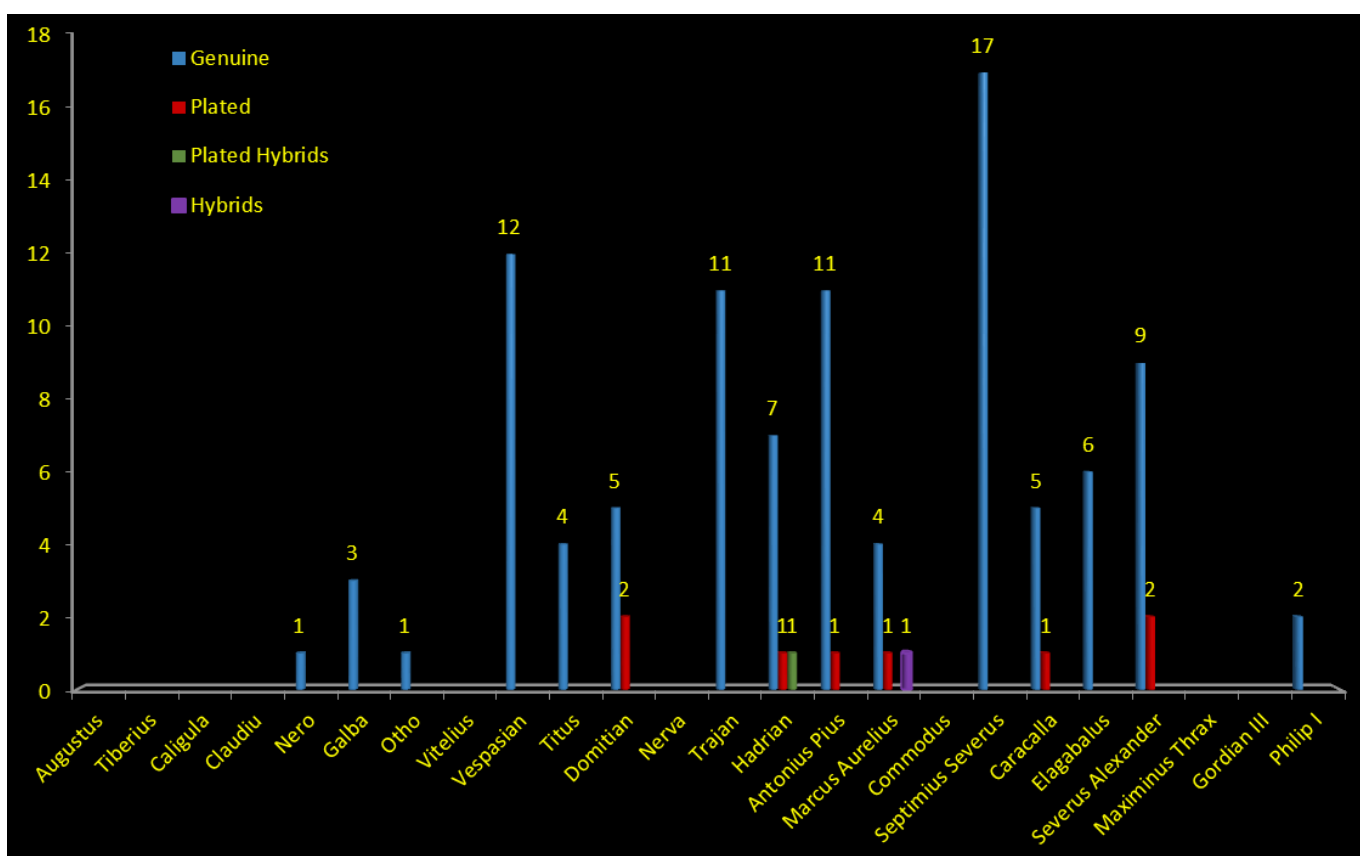


Fig.52. Graph of silver coins from Butzbach – number of pieces for each issuer;

In the second half of the II century AD the fort was further expanded towards south since a new unit was added, *alla Moesica felix torquata*<sup>107</sup>.

After studying the coin catalogues, we find out that

<sup>107</sup> CIL XIII/7433.

108 silver coins were discovered at Butzbach<sup>108</sup>, 98 pieces which represent 91% are genuine, eight coins representing 7% are plated, one coin with 1% is a plated hybrid and another piece with 1% is a hybrid, as seen in Fig. 51.

<sup>108</sup> FMRD 1989a.

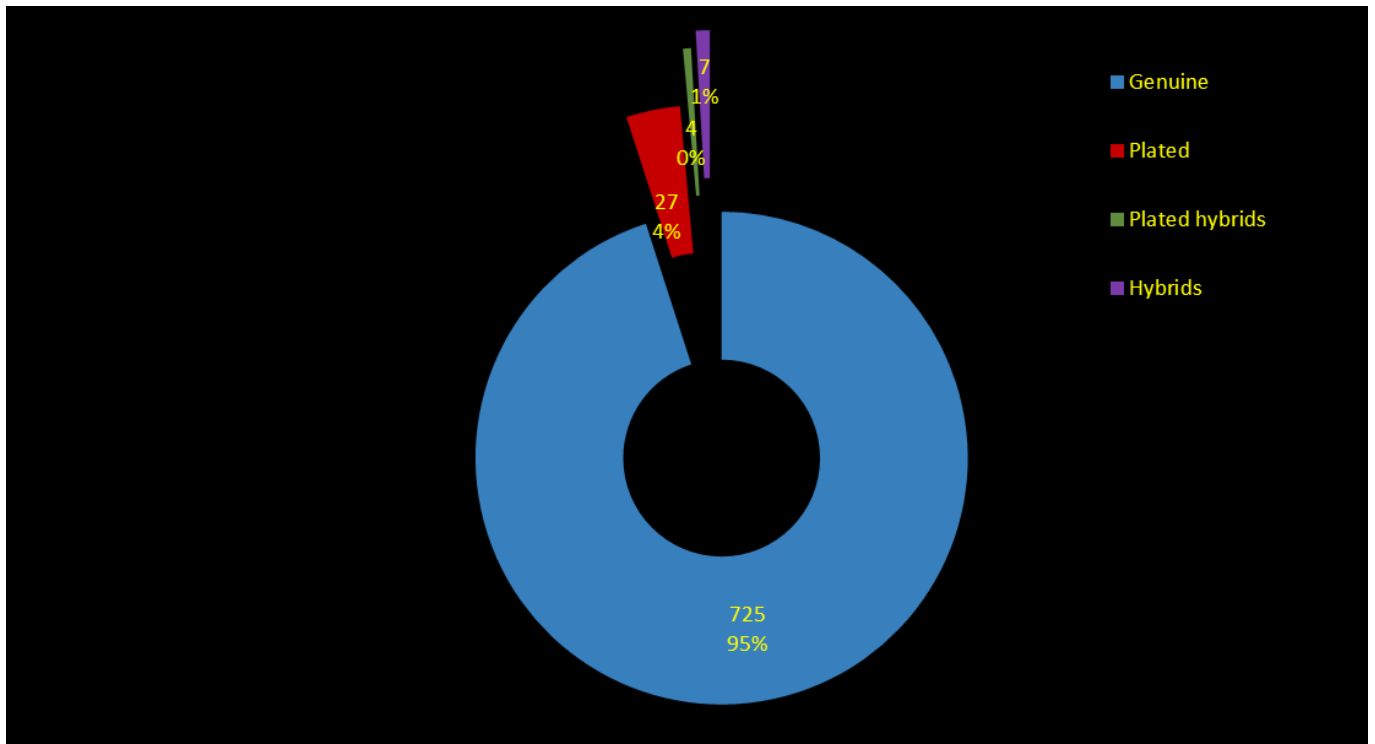


Fig.53. Graph of silver coins from Augusta Treverorum – number of coins and their proportion on the site;

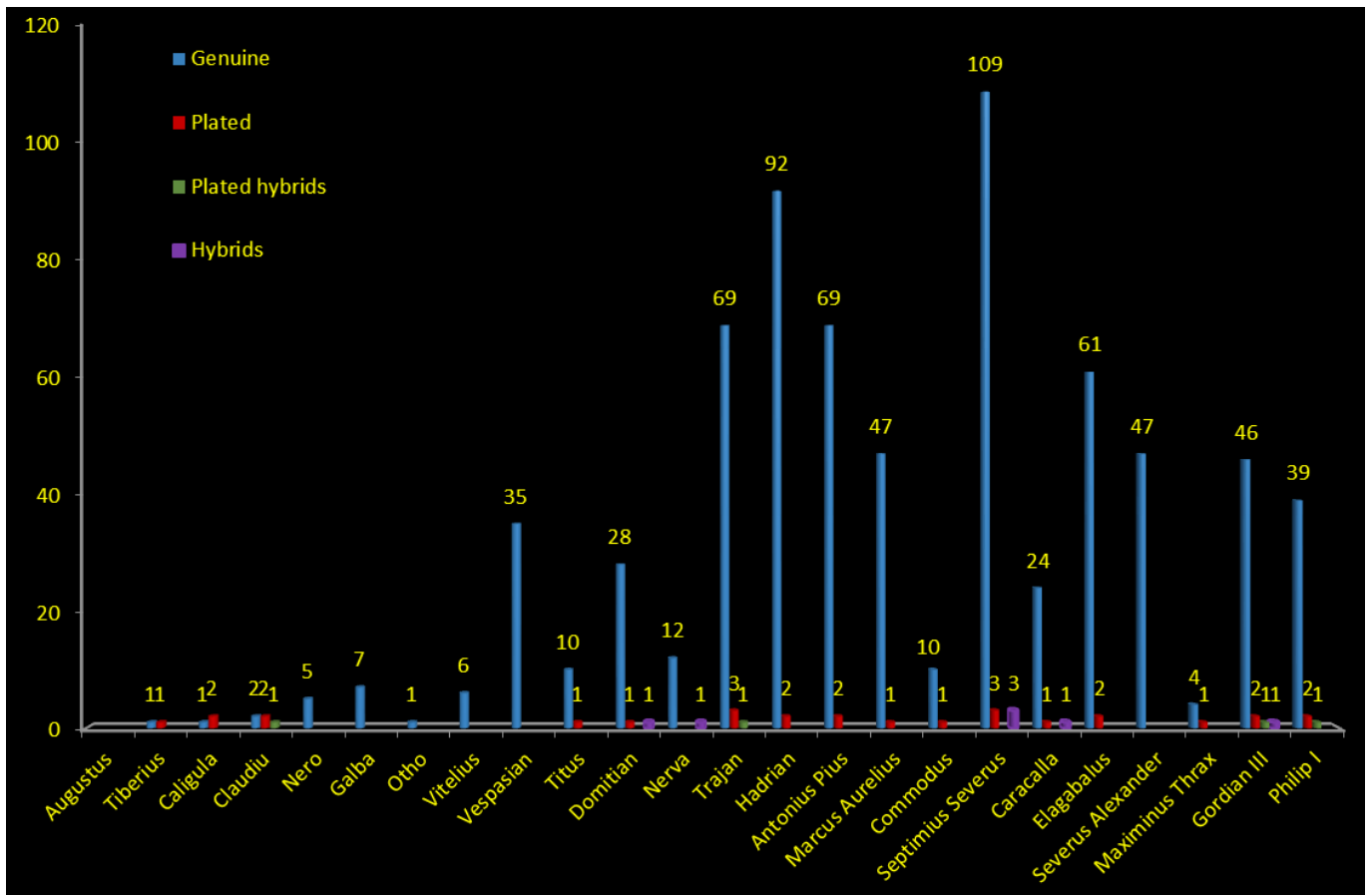


Fig.54. Graph of silver coins from Augusta Treverorum – number of pieces for each issuer;

Second graph represented by Fig. 52 shows how the pieces were distributed along time periods, more of them were dated for Vespasian (69-79), Trajan (98-117), Antonius Pius (138-161), Septimius Severus (193-211) and Severus

Alexander (222-235).

The town of **Augusta Treverorum (Trier, Germany)**<sup>109</sup> was founded by Augustus (27BC-AD14)

<sup>109</sup> VICI.ORG/vici/2799.

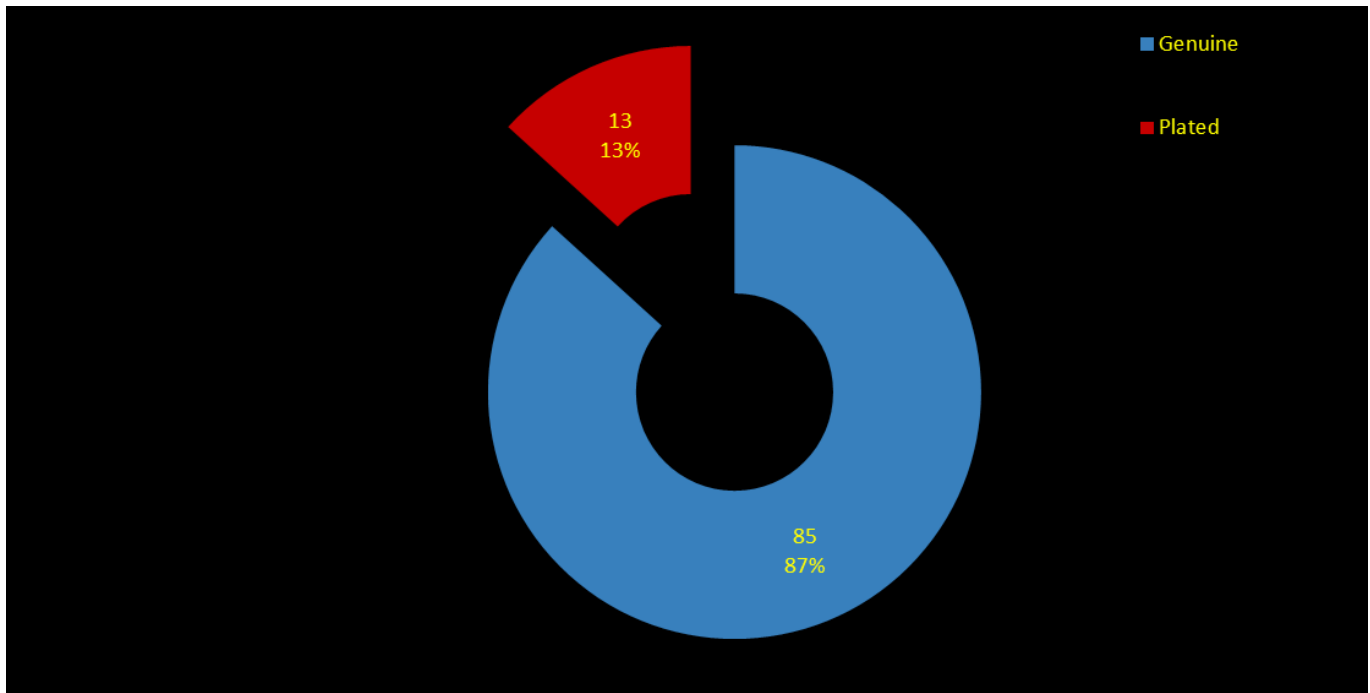


Fig.55. Graph of silver coins from Marcodurum – number of coins and their proportion on the site;

around 18/17 BC<sup>110</sup> in the future Roman province of Gallia Belgica. By the same time a bridge was built over the Moselle river as part of the new road network for the area<sup>111</sup>.

In one of Tacitus reports dated at 69 AD<sup>112</sup> the town of Trier is mentioned with the title of Colonia Treverorum<sup>113</sup>.

Fig. 53 shows the 763 silver coins<sup>114</sup> discovered here, 725 representing 95% from the total amount are genuine, 27 pieces representing 4% are plated, four coins with 0,5% are plated hybrids and six coins are hybrids forming the last 0,5%.

On the other hand, Fig. 54 shows very high values for genuine pieces dated during the Flavian, Antoninian and Severian periods, especially for Hadrian (117-138) and Septimius Severus (193-211).

**Marcodurum** was a Roman *vicus* close to the Rhine and modern town of **Mariaweiler-Hoven (Germany)**<sup>115</sup>. According to Tacitus, close by this settlement, Roman troops were defeated by the Batavians in 69 AD<sup>116</sup>.

On the site of Mariaweiler-Hoven/Marcodurum there have been identified 98 silver coins<sup>117</sup>. As seen in Fig. 55, 85 pieces which represent 87% are genuine while 13 coins representing 13% are plated.

Also in Fig. 56 we can observe high values for number of coins dated for Vespasian (69-79), Antonius Pius (138-161) and Septimius Severus (193-211).

Roman *vicus* from **Nörvenich (Germany)** was present between the I and IV centuries AD<sup>118</sup>, many ceramic pieces, bricks, roof tiles and pottery fragments being visible

<sup>110</sup> HEINEN 1984, 41. CÜPPERS 1990, 579.

<sup>111</sup> HEINEN 1984, 40. NEYSES-EIDEN 2009, 50.

<sup>112</sup> TACITUS, *Historiae* 4, 72.

<sup>113</sup> TACITUS, *Historiae* 4, 72.

<sup>114</sup> FMRD 2004. FMRD 2006b. FMRD 2007.

<sup>115</sup> VICI.ORG/vici/23320.

<sup>116</sup> TACITUS, *Historien* 4, 28: *Caesae cohortes eorum in vico Marcoduro incuriosius agentes, quia procul ripa aberant.*

<sup>117</sup> FMRD 2008.

<sup>118</sup> VICI.ORG/vici/14220.

at the surface of the ground<sup>119</sup>.

Around the researched area there have been found 106 silver pieces<sup>120</sup>, 97 of them which represent 92% are genuine while nine pieces representing 8% are plated, as seen in Fig. 57.

In the case of coin distribution, Fig. 58, most of the pieces are dated for Antonius Pius (138-161), Septimius Severus (193-211), Elagabalus (218-222) and Severus Alexander (222-235).

Around 19 BC the tribe of the Uubii was forced to move on the western shore of the Rhine, here they founded the new settlement of Oppidum Ubiorum<sup>121</sup>. In time, the settlement will be influenced by the Roman authorities becoming **Colonia Agrippinensium**, the future city of **Köln (Germany)**<sup>122</sup>.

Between 9-30 AD<sup>123</sup> *Legio I Germanica* and *Legio XX Valeria Victrix*<sup>124</sup> stayed here, after 30 AD *Legio I* was transferred at Bonna (Bonn) and *Legio XX* at Novaesium (Neuss)<sup>125</sup>. No other legion will be brought at Köln, but the town will remain the military headquarters for *Germania Inferior*<sup>126</sup>.

Around the area of *Köln/Colonia Claudia Ara Agrippinensium*, there were discovered 91 silver coins<sup>127</sup> as seen in Fig. 59, from which 86 pieces representing 95% were genuine, three coins representing 3% are plated, one plated hybrid and one hybrid piece both representing in total 2%.

On the other hand, in Fig. 60 we observe the distribution of the coins, higher values are easy to notice for

<sup>119</sup> HGV-NOERVENICH.DE.

<sup>120</sup> FMRD 2008.

<sup>121</sup> HEINRICHS 1996.

<sup>122</sup> VICI.ORG/vici/104.

<sup>123</sup> KEMKES 2006, 46.

<sup>124</sup> TACITUS: *Annales*. I, 39,1.

<sup>125</sup> HORN 2003, 54.

<sup>126</sup> KUNOW 2002, 27–109. ECK 2005, 63–126.

<sup>127</sup> FMRD 1984.



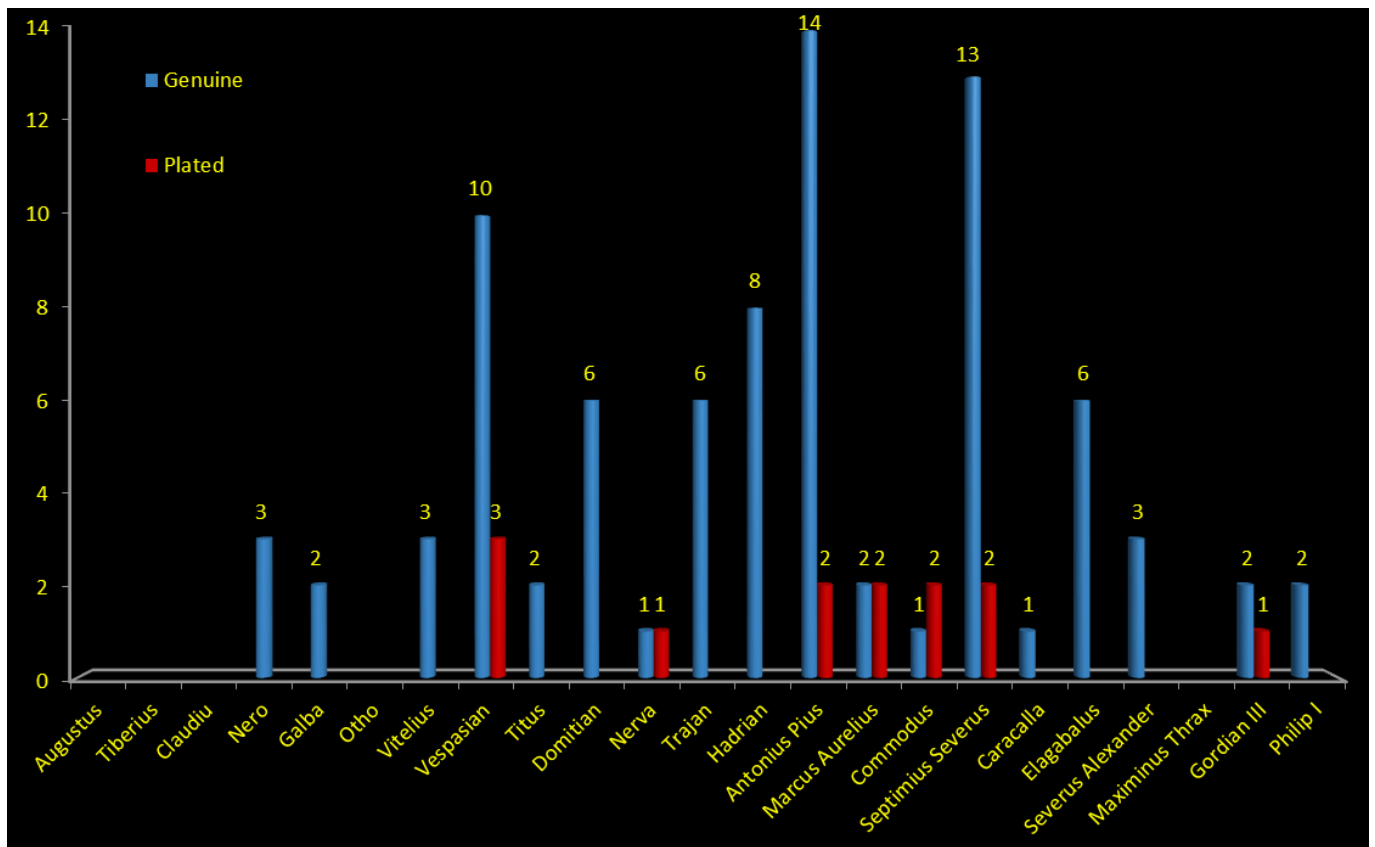


Fig.56. Graph of silver coins from Marcodurum – number of pieces for each issuer;

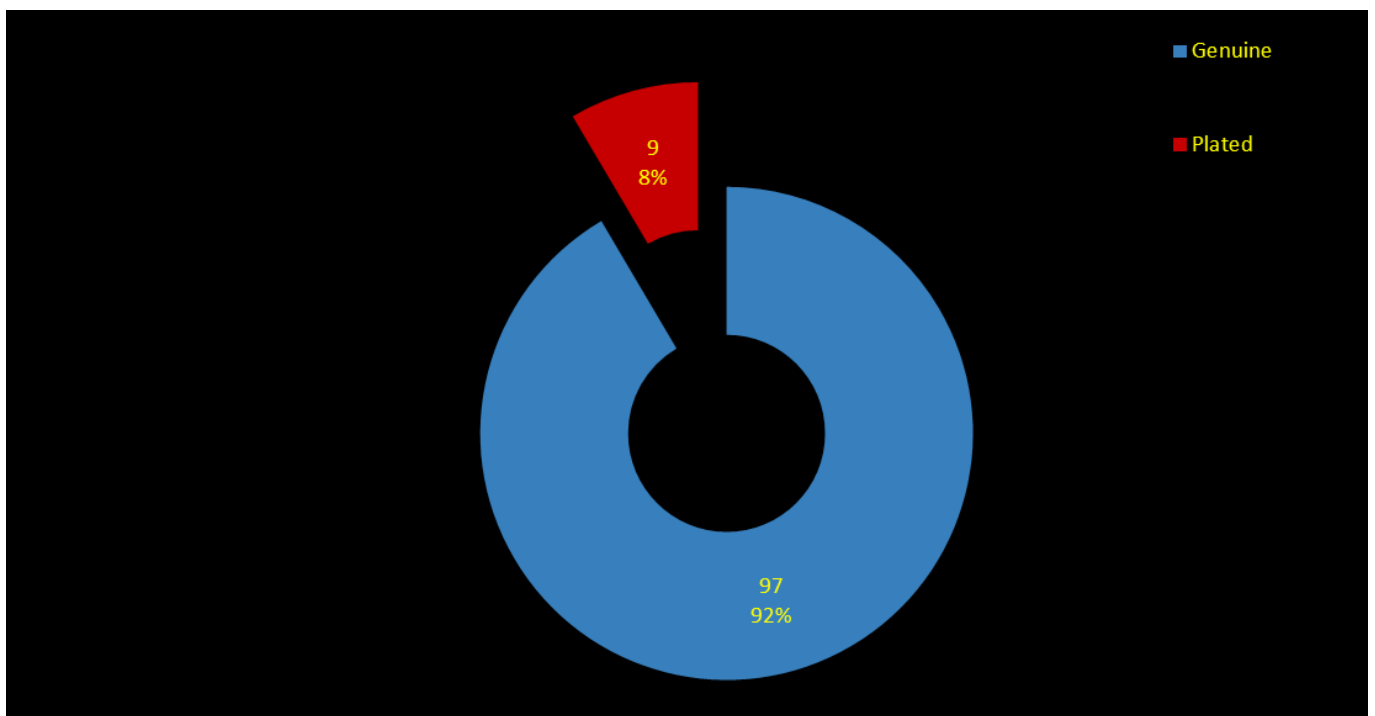


Fig.57. Graph of silver coins from Nörvenich – number of coins and their proportion on the site;

the period of Vespasian (69-79), Antoninian, Severian, most especially during the reign of Septimius Severus (193-211) and Severus Alexander (222-235).

Around 16 BC, Roman soldiers constructed a fort on the road between Köln and Xanten, at **Novaesium (Neuss,**

**Germany)**<sup>128</sup>. The fort was influenced by the Batavian revolt from 70 AD, *Legio XVI Gallica* which fought in the area was replaced by *Legio VI Victrix*<sup>129</sup> which also raised the stone

<sup>128</sup> VICI.ORG/vici/366.

<sup>129</sup> RITTERLING 1925, 1598–1614. RÜGER 1984, 40–44.

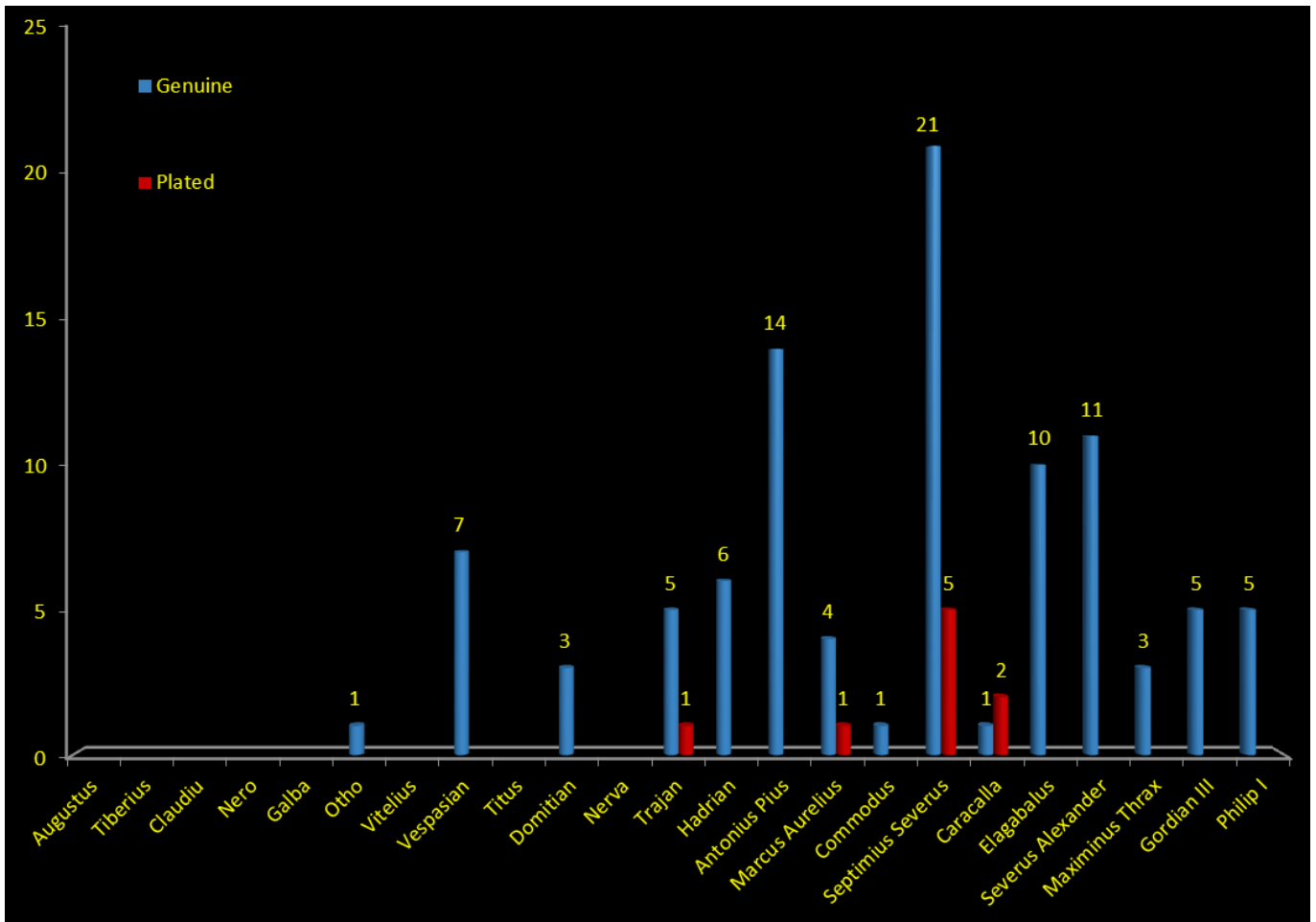


Fig.58. Graph of silver coins from Nörvenich – number of pieces for each issuer;

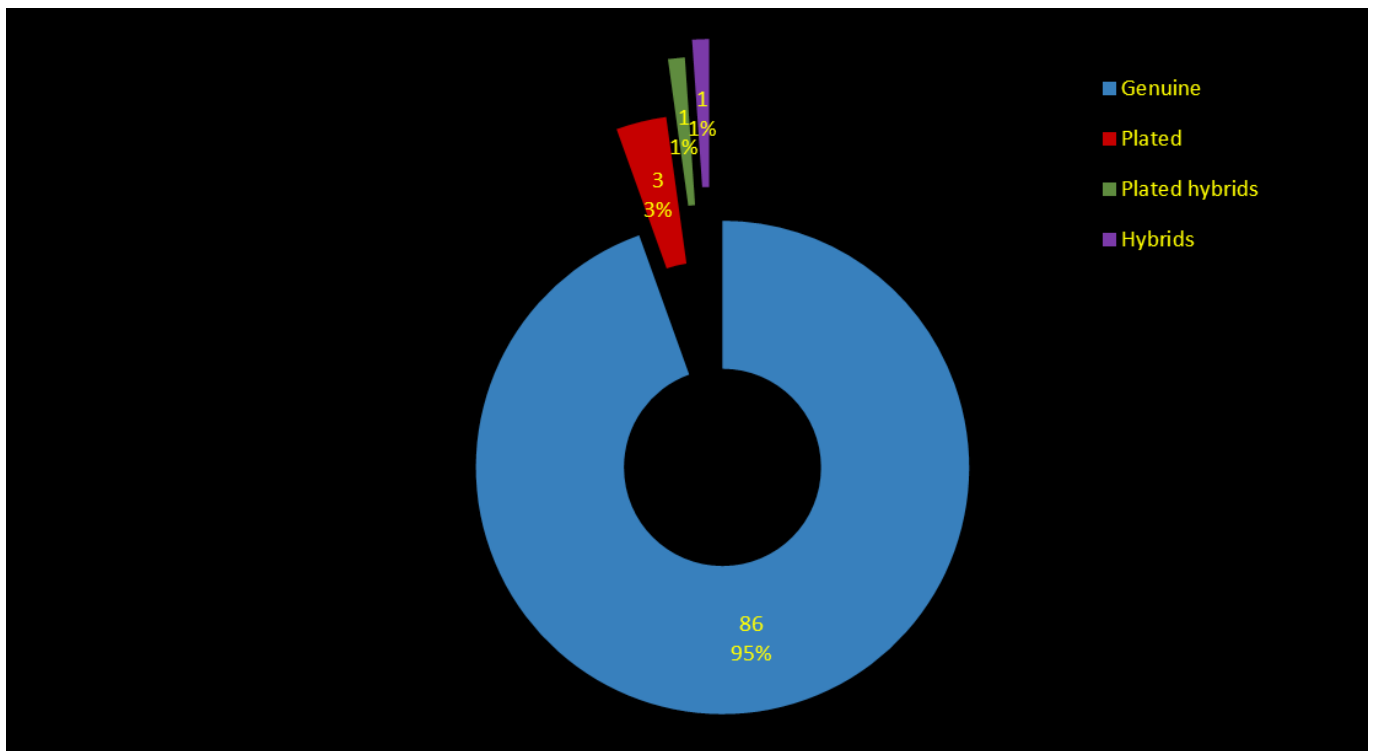


Fig.59. Graph of silver coins from Colonia Agrippinensium – number of coins and their proportion on the site;

phase of the fort, the old one being damaged in the war<sup>130</sup>.

<sup>130</sup> LIVIUS.ORG/ARTICLES/PLACE/NOVAESIUM-NEUSS.

During the Flavian period the region was calm, therefor the legions were moved to another sector and the

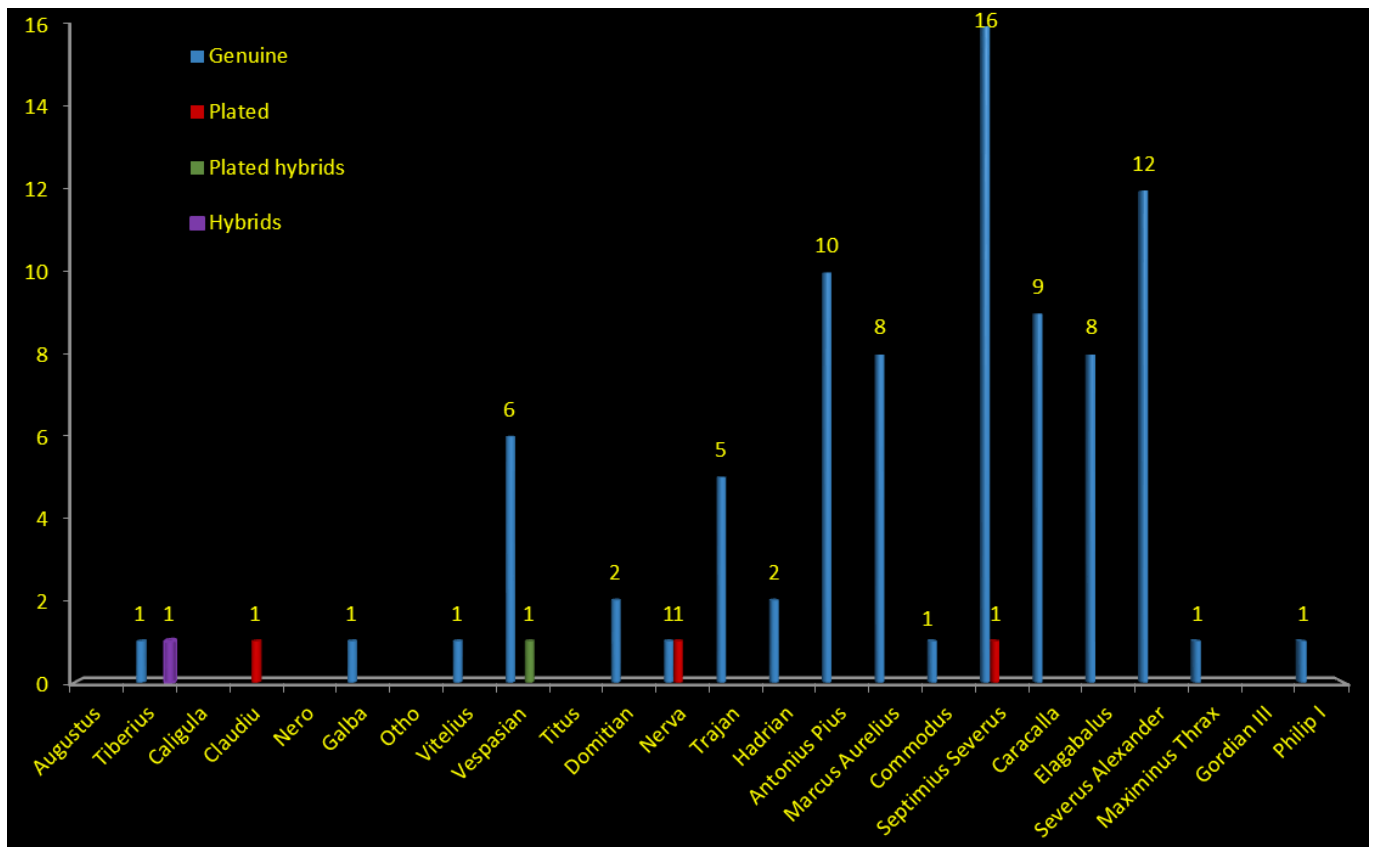


Fig.60. Graph of silver coins from Colonia Agrippinensium – number of pieces for each issuer;

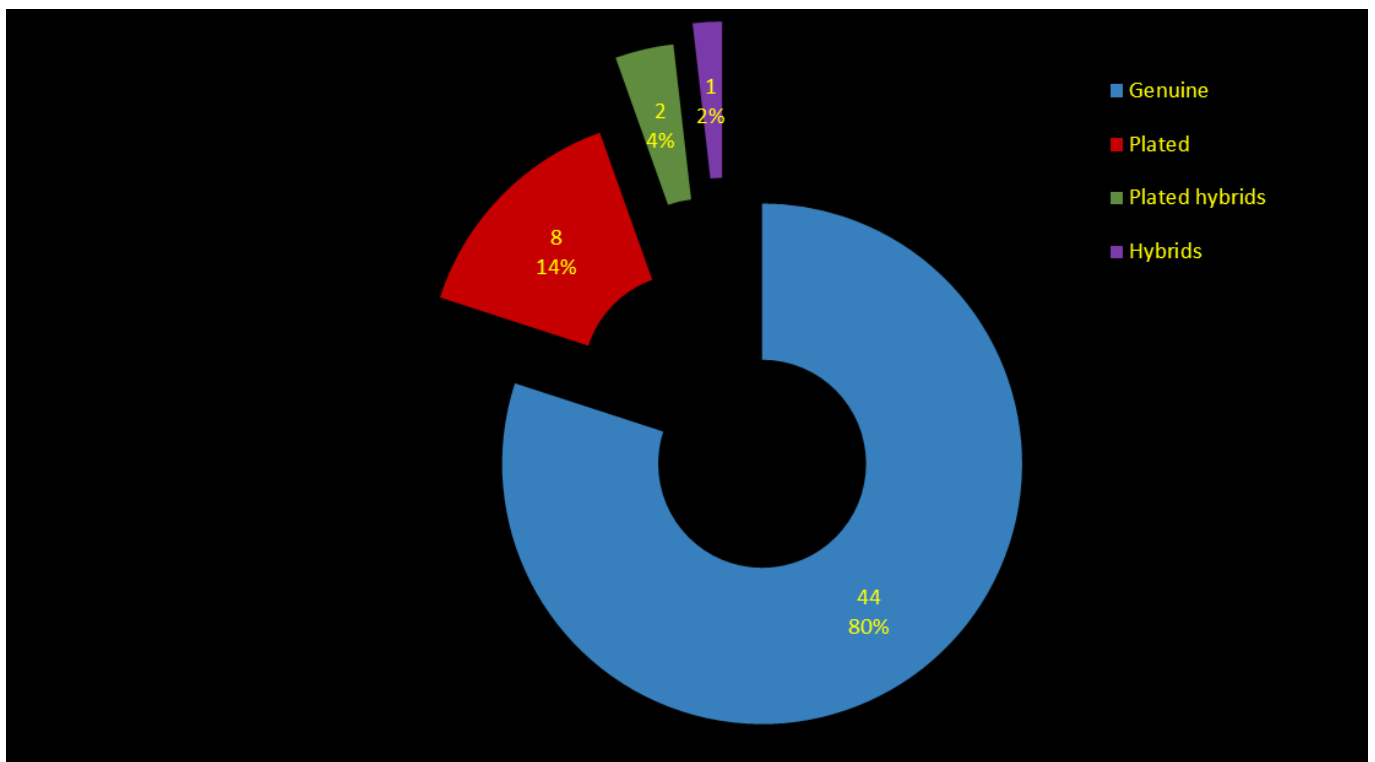


Fig.61. Graph of silver coins from Novaesium – number of coins and their proportion on the site;

camp was garrisoned by an auxiliary unit which hold the fort well into the IV century<sup>131</sup>.

As we can see in Fig. 61, around Neuss/Novaesium

there have been identified 65 silver pieces<sup>132</sup>, 44 of them representing 80% are genuine, eight coins representing 14% are plated, two pieces with 4% are plated hybrids and one coin with 2% is a hybrid.

<sup>131</sup> MÜLLER 1984.

<sup>132</sup> FMRD 2006c.

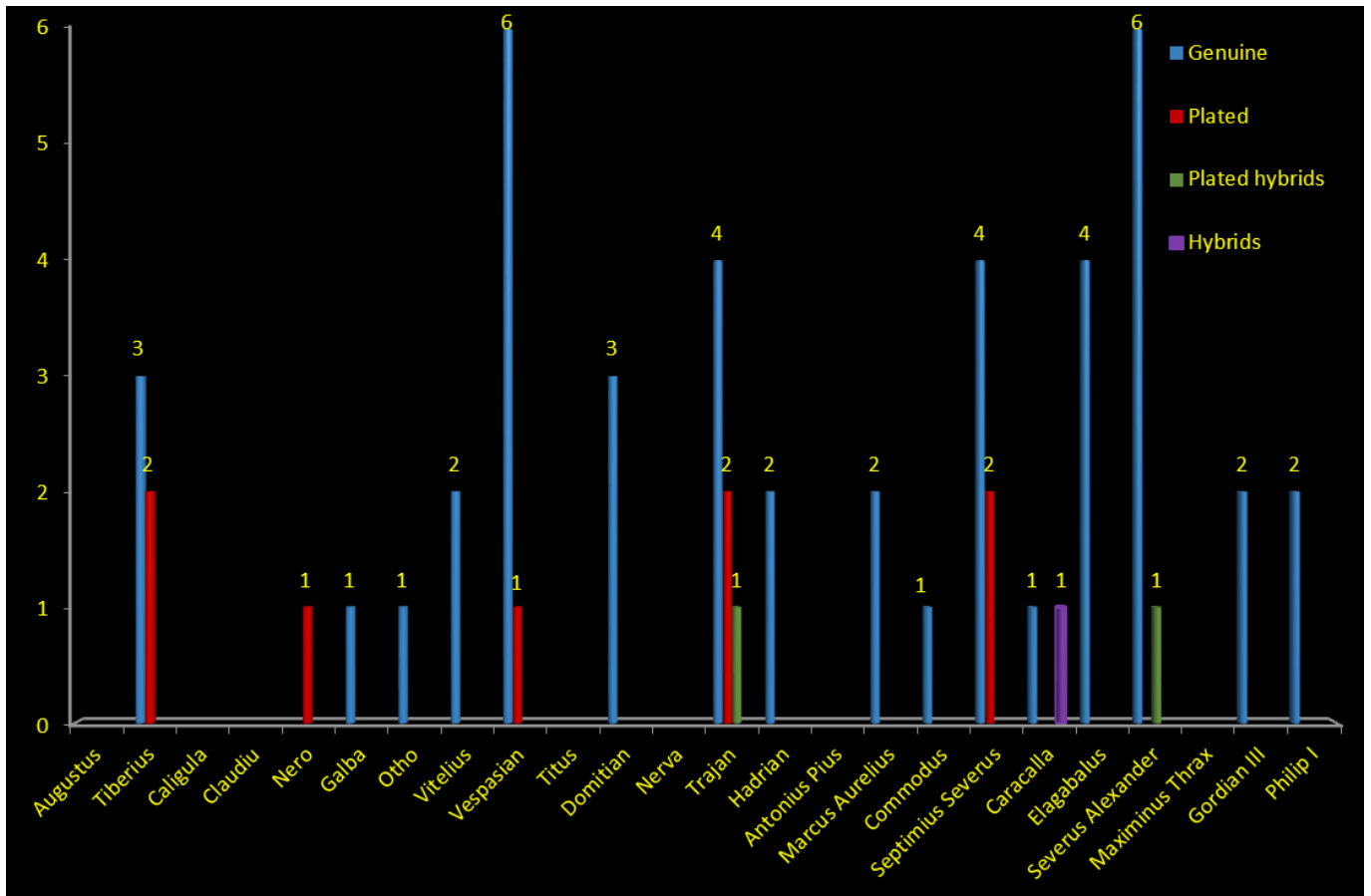


Fig.62. Graph of silver coins from Novaesium – number of pieces for each issuer;

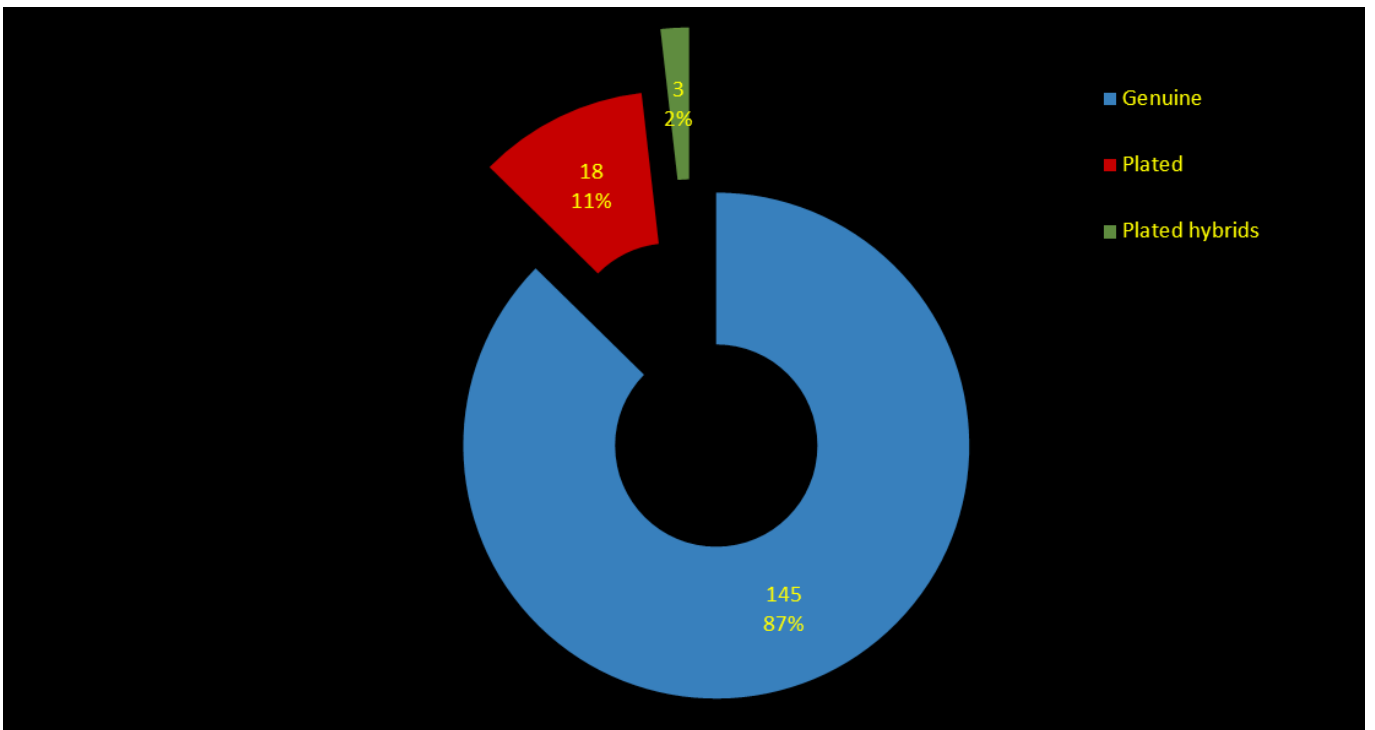


Fig.63. Graph of silver coins from Noviomagus – number of coins and their proportion on the site;

Unfortunately, Fig. 62 which shows the distribution of these pieces does not show an accurate situation because of the small number of coins identified and of the large

historical period for which they have been dated.

On a plateau close to Noviomagus, **Nijmegen (Holland)** a legionary fort was placed during the reign of

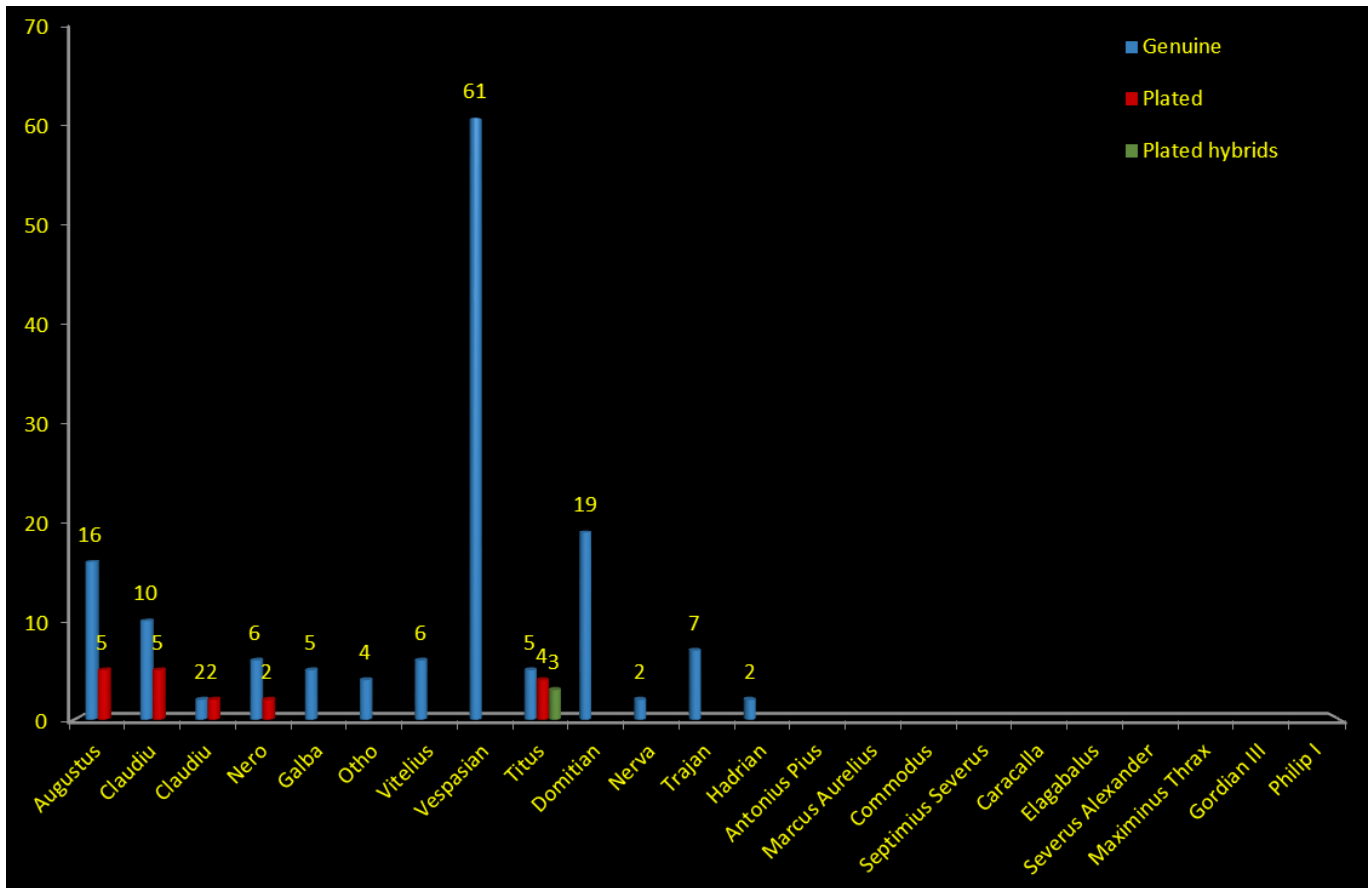


Fig.64. Graph of silver coins from Noviomagus – number of pieces for each issuer;

Augustus (27BC-AD14) which served as garrison for *Legio X Gemina*<sup>133</sup> supported by the many graffiti, stamp bricks and inscriptions<sup>134</sup>. The fort was quite spacious and could garrison many troops<sup>135</sup>, archaeological discoveries proven the fact that it was able to sustain between two and three legions<sup>136</sup>.

The legion was transferred in 104<sup>137</sup>, in its place just some detachments from *alae Vexillatio Britannica* remained, but towards the middle of the II century the fort was completely abandoned<sup>138</sup>.

For the site of Nijmegen/Noviomagus, Fig. 63, there have been identified 166 silver pieces<sup>139</sup>, 145 representing 87% of the total amount of coins were identified as genuine, 18 coins with 11% are plated and three coins with 2% are plated hybrids.

For coin distribution, we have Fig. 64 where we can observe how the pieces were assigned according to the issuer they represent. All coins were dated only for the I and II century AD, most of them during the reign of Vespasian (69-79).

**MONETARY SITUATION AT REGIONAL LEVEL:**

If we want to extract more useful information from the graphs we need to dig a little deeper and play with the

<sup>133</sup> KEMMERS 2006, 16. VICI.ORG/vici/84.

<sup>134</sup> HAALEBOS 2000, 18.

<sup>135</sup> HAALEBOS 1995, 29. VICI.ORG/vici/69.

<sup>136</sup> KEMMERS 2006, 16.

<sup>137</sup> KEMMERS 2006, 119. SCHÖNBERGER 1985, 449;

<sup>138</sup> HAALEBOS 1995, 87-88.

<sup>139</sup> KEMMERS 2006.

numbers. Thus, because of historical and geographical influences all studied sites were divided into three regions.

Sites from Roman provinces of Noricum and Raetia will form the Upper Danube area, those from Germania Superior will remain in the Upper Rhine area while sites from Germania Inferior and Gallia Belgica will form the Lower Rhine area.

Hybrid coins were added to genuine pieces for these graphs since they were made by striking and therefore guaranteed Rome, while plated hybrids were added to plated pieces.

Armed with these areas, new graphs were successfully formed. For Upper Danube area, we have Fig. 65 regarding genuine pieces and Fig. 66 for plated coins, for Upper Rhine region we have Fig. 68 and Fig. 69 while for Lower Rhine area we have Fig. 71 and Fig. 72. For comparing the situation of both genuine and plated coins for a region we have Fig. 67, Fig. 70 and Fig. 73.

For a better showing some issuers with shorter periods of reign were compiled to present a more accurate situation. That is why we have the 54-69 time frame which includes Nero (54-68), Galba, Otho and Vitellius, the last three ruling between 68-69 AD. This new layout was chosen so that short periods of reign do not influence the overall results, only exceptions that are admitted are for Severian dynasty when a lot of coins were issued in a brief period.

As we can see in Fig. 65, for Upper Danube area coins were dated from Nero (54-68) until the beginning of the Military Anarchy period.

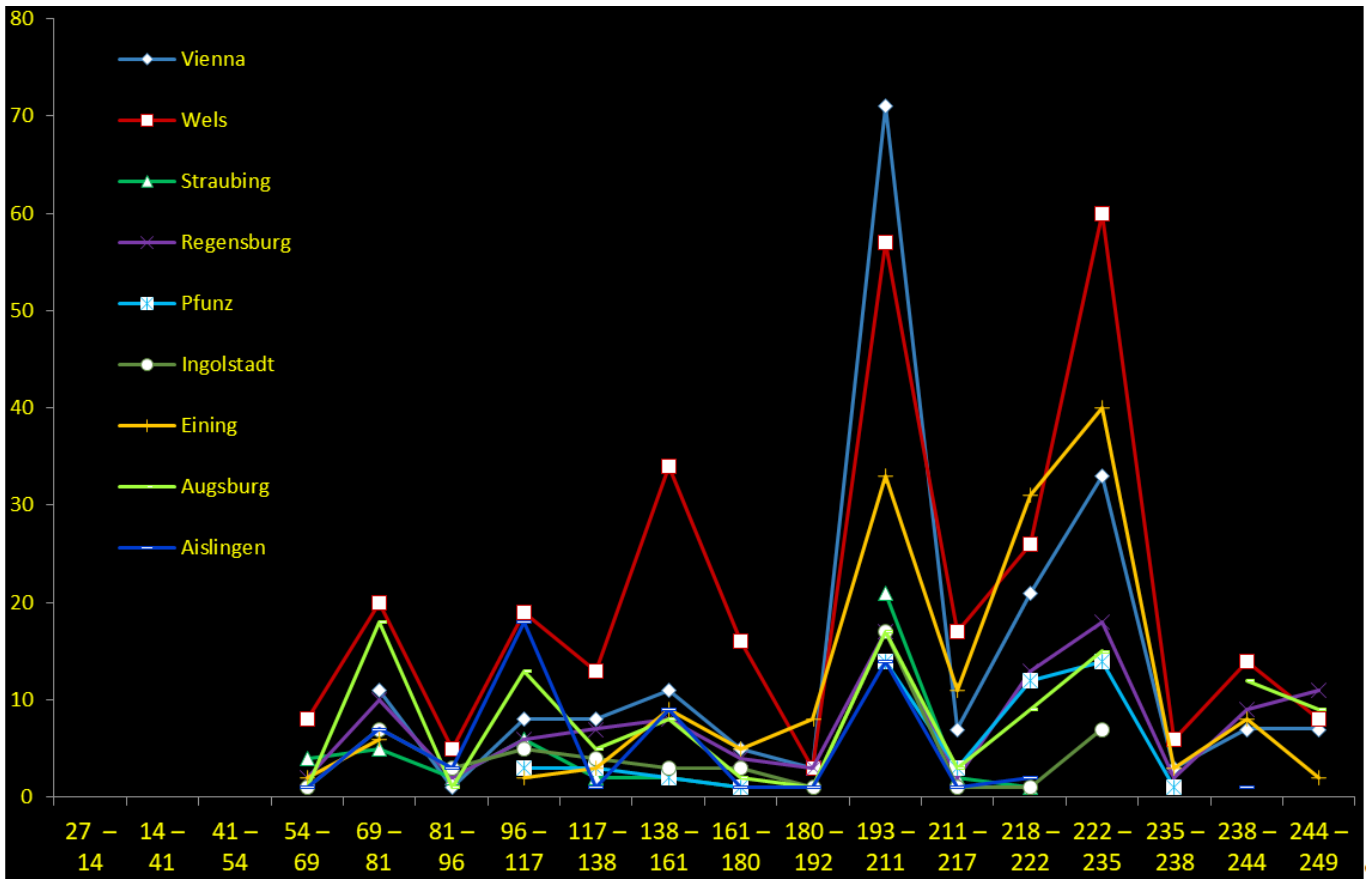


Fig.65. Graph with number of silver coins for Upper Danube region – genuine pieces;

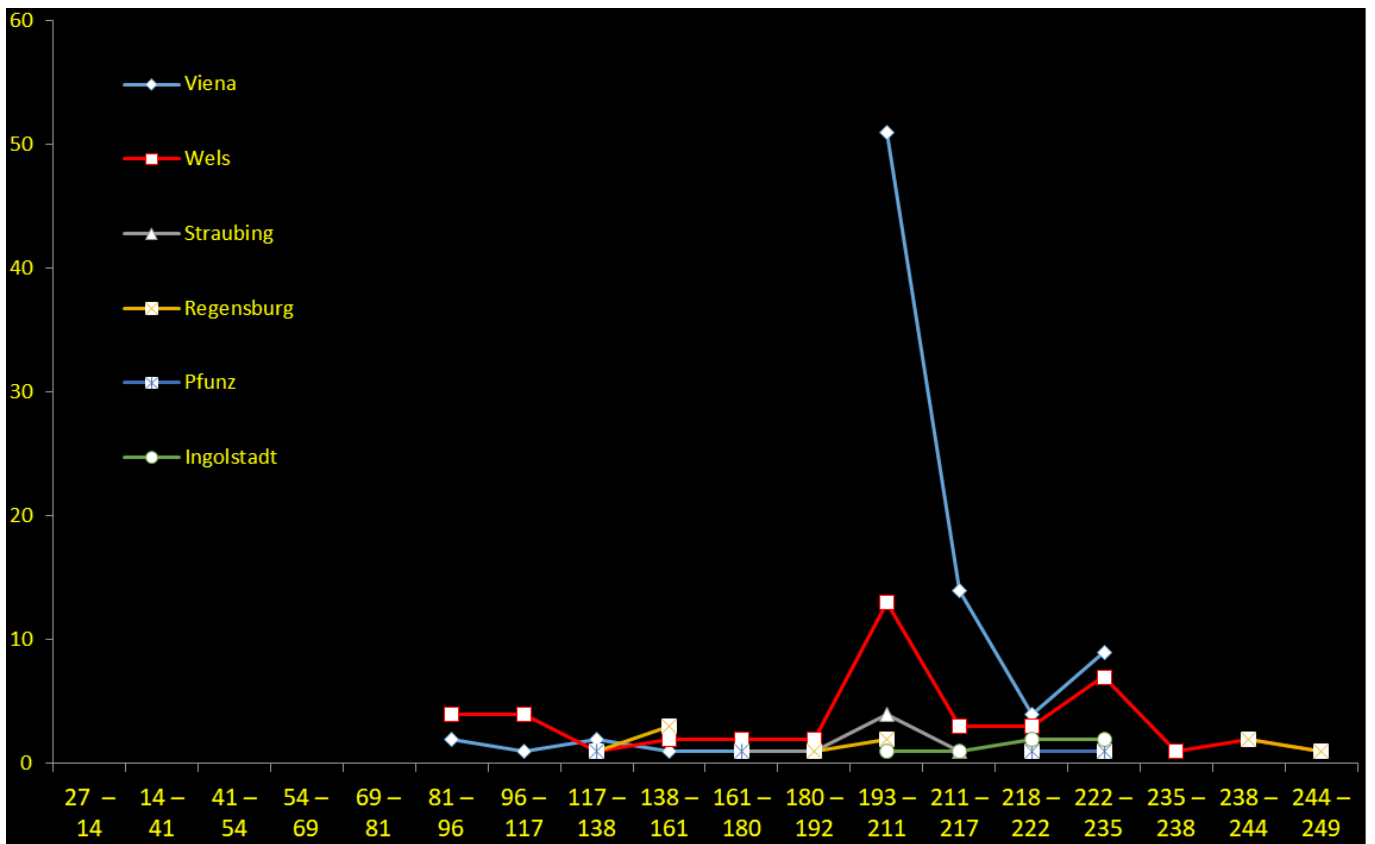


Fig.66. Graph with number of silver coins for Upper Danube region – plated pieces;

The coefficients for genuine coins is not very high during Nero and the civil war of 69 AD but the coefficients will increase in value during Vespasian (69-79) and Titus (79-81) and decrease during Domitian (81-96). With the reign of Nerva (96-98) and Trajan (98-117) the coefficients will go up again.

During the Antoninian period most sites show a steady rhythm, only at Wels/Oivilava there is a higher value for genuine pieces especially under Antonius Pius (138-161). At Commodus (180-192) all index decreases while during Septimius Severus (193-211) all sites show their coin coefficients going up. For Caracalla (211-217) they will decrease in value but go up again under Elagabalus (218-222) and Severus Alexander (222-235).

With the beginning of the Military Anarchy during Maximinus Thrax (235-238) all coefficients go down, a few will increase again under Gordian III (238-244).

In the case of plated coins discovered on sites from this area, Fig. 66, we can see that they were dated from Domitian (81-96) to Philip I (244-249).

Also, there are far fewer identified pieces compared to discovered genuine coins from Fig. 65, most plated coins were identified at Wels dated for the reign of Septimius Severus (193-211) and Severus Alexander (222-235) and at Vienna with the image of Septimius Severus (193-211), Caracalla (218-222) and Severus Alexander (222-235).

For a better representation of the general situation on the region Fig. 67 was created, where both the number of genuine and plated coins are showed for a better comparison. Take into consideration that to create the graph all coins from the sites were considered according to issuer that they

represent.

Thus, in the case of the 1.104 identified genuine pieces we can see how the dating starts during Nero (54-68) and the civil war of 69 AD, the index goes up for Vespasian (69-79) and Titus (79-81) and decreases during Domitian (81-96). During the Antoninian period, the index will remain on a steady rhythm decreasing only at Commodus (180-192) and increasing very much for the Severian dynasty. The highest value will be reached at Septimius Severus (193-211) but at Maximinus Thrax (235-238) the index will decrease very much, increasing just a little for Gordian III (238-244) and Philip I (244-249).

Plated pieces show another situation. First of all, only 159 pieces were identified and the only during the Severian period the coefficient for plated coins will increase in value, especially for Septimius Severus (193-211).

Next studied sites, belonging from Germania Superior, were integrated in the Upper Rhine region, Fig. 68. There are a few sites where there have been discovered coins with images from the first half of the I century but the majority of pieces are dated starting with Nero (54-68) and the civil war of 69 AD or during Vespasian (69-79) and Titus (79-81).

The genuine coin index will remain on a steady course for the time of Domitian (81-96) and Antoninian period, only at Nida and Zugmantel higher coin values being identified. For the period of Commodus (180-192) all index values decrease for all sites but will increase again during the reign of Septimius Severus (193-211), decrease again during Caracalla (211-217) and increase under Elagabalus (218-222) and Severus Alexander (222-235), highest values of

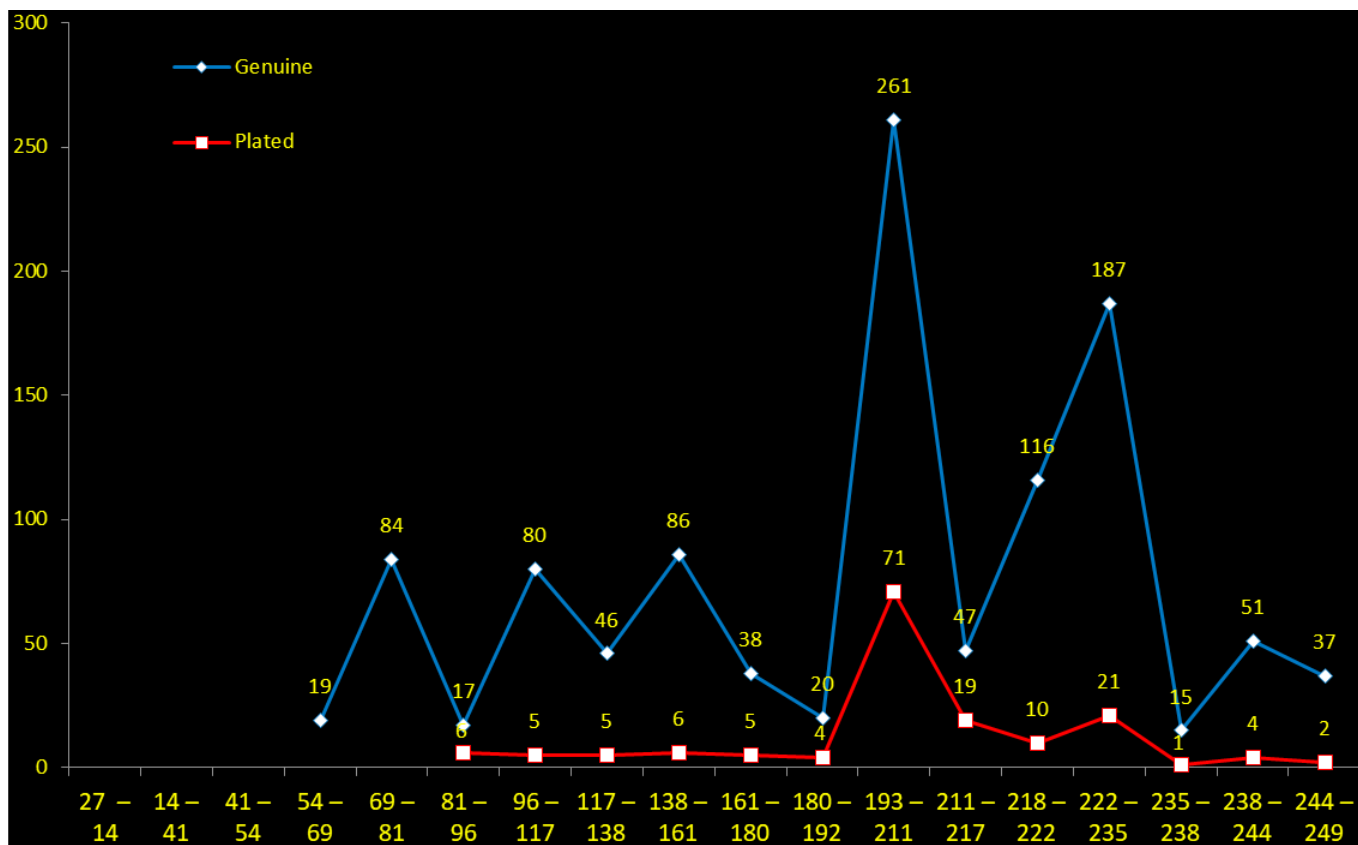


Fig.67. Graph with number of silver coins for Upper Danube region – genuine and plated pieces;

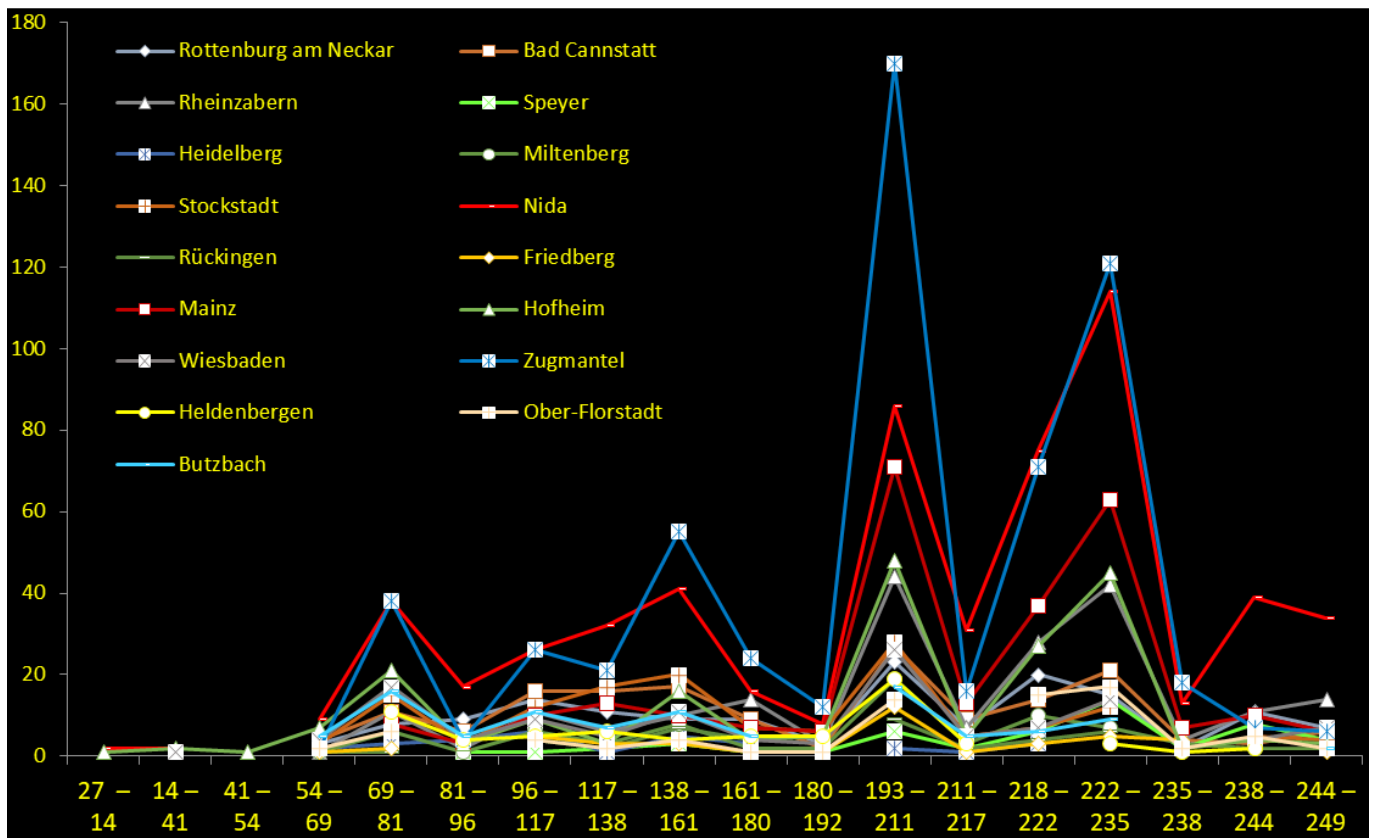


Fig.68. Graph with number of silver coins for Upper Rhine region – genuine pieces;

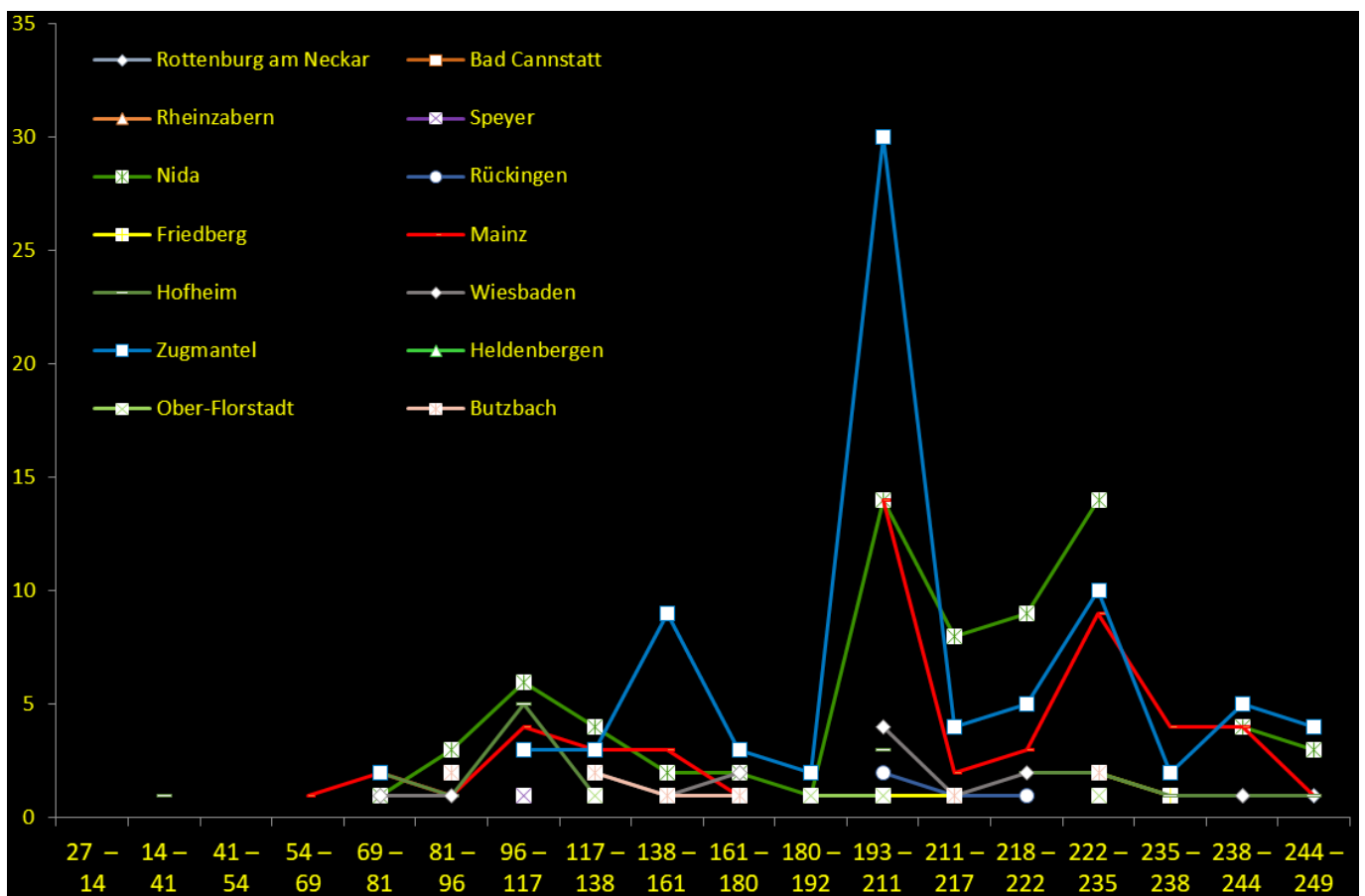


Fig.69. Graph with number of silver coins for Upper Rhine region – plated pieces;



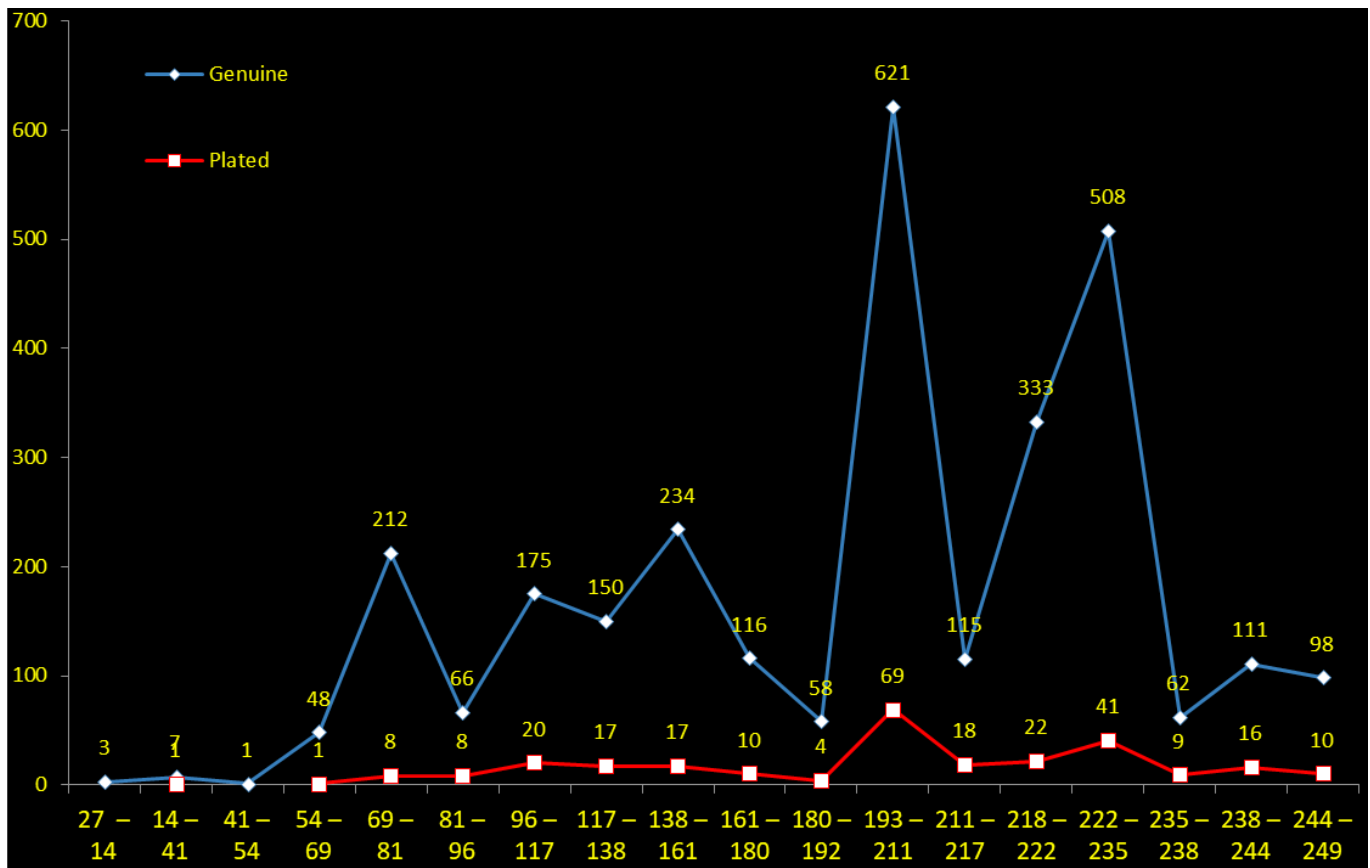


Fig.70. Graph with number of silver coins for Upper Rhine region – genuine and plated pieces;

coins were identified at Nida, Zugmantel and Mainz.

With the beginning of the Military Anarchy the coefficients will decrease, only in the case of Nida the index will increase during the reign of Gordian III (238-244) and Philip I (244-249).

Regarding silver plated coins discovered in this region we have Fig. 69 which shows pieces dated from Nero (54-68) to Philip I (244-249), highest values being recorded for Septimius Severus (193-211) and Severus Alexander (222-235) at Zugmantel, Nida and Mainz.

In the case of the general situation for Upper Rhine region, Fig. 70, there is a visible difference between genuine and plated pieces. Even if there were some few coins dated at the first half of the I century, the introduction of the silver coins by Roman authorities is better dated at the time of Nero (54-68) and the civil war of 69 AD.

The coefficient for genuine coins will increase during Vespasian (69-79) and Titus (79-81) and decrease for Domitian (81-96), value which increases again and maintain a steady rhythm during the Antoninian period.

For the period of Commodus (180-192) the coin coefficient will decrease, however during Septimius Severus (193-211) the coefficient will go up reaching the highest value for any period, up to two and a half more coins than any previous periods. During Caracalla (211-217) the index will decrease again but increase during Elagabalus (218-222) and Severus Alexander (222-235).

With the beginning of the Military Anarchy the genuine index will decrease in value, a small increase in value is visible for Gordian III (238-244) and Philip I (244-249).

On the other hand, even if the plated pieces were dated from Nero (54-68) to Philip I (244-249), only periods with some significant coins are those for Septimius Severus (193-211) and Severus Alexander (222-235).

Last formed region was that of Lower Rhine, which consists of archaeological sites from Germania Inferior and Gallia Belgica. First graph seen in Fig. 71 represents the distribution of genuine silver pieces according to where the coin was found. We can observe a distribution pattern for the smaller sites, except for bigger ones like Nijmegen and Trier.

In the case of Nijmegen, silver pieces are already present during the reign of Augustus (27BC-14AD) while during the reign of Hadrian (117-138) the military troops were transferred from this place and the coin infusion in the area was drastically affected. Most of the genuine pieces were dated during the 69 AD civil war and to its victors, Vespasian (69-79) and his sons Titus (79-81) and Domitian (81-96).

Trier was located at some distance from the Roman frontier and was a civilian economic center in the area, therefore the coin infusion is different than that of a military fort. It is easy to observe how the coefficient for genuine pieces begins during the I century AD, it increases in value during the reign of Nero (54-68) and the civil war of 69 AD, it keeps increases for Vespasian (69-79) and Titus (79-81). For the reign of Domitian (81-96) the coin index will decrease but increase again during Trajan (98-117) and Hadrian (117-138) followed by a decrease in value for Antonius Pius (138-161), Marcus Aurelius (161-180) and Commodus (180-192).

During Septimius Severus (193-211) the coin index

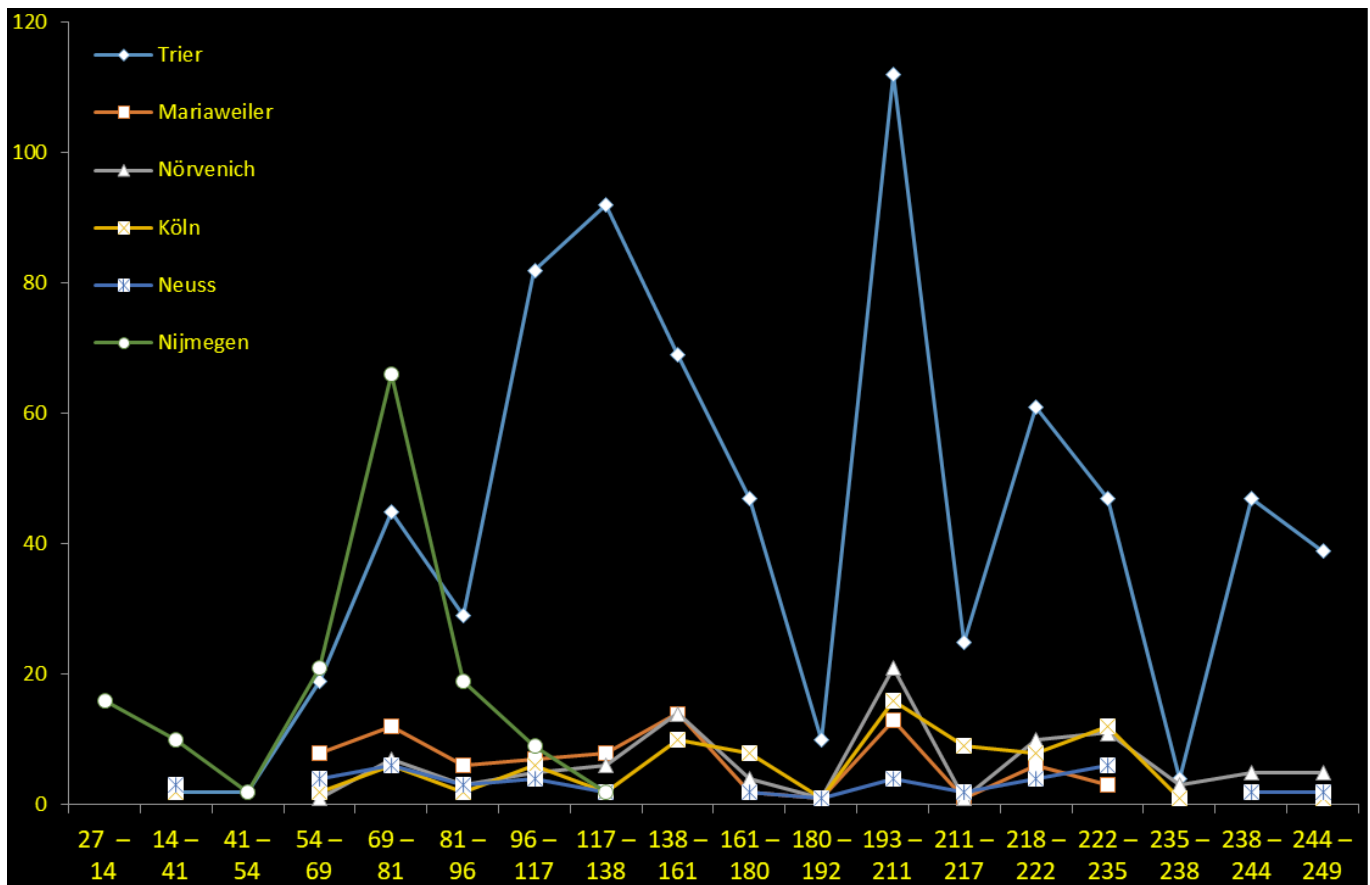


Fig.71. Graph with number of silver coins for Lower Rhine region – genuine pieces;

will increase reaching the highest values, followed by a decrease during Caracalla (211-217) another increase at Elagabalus (218-222) and a decrease at Severus Alexander (222-235) and Maximinus Thrax (235-238). With the beginning of Military Anarchy period a new increase in the value of the genuine coins is observed.

Regarding the other sites, discovered silver coins show a continuous supply of pieces dated from Nero (54-68) and until the beginning of Military Anarchy, highest values being recorded for Antonius Pius (138-161) and Septimius Severus (193-211).

Next graph represented in Fig. 72 shows all plated pieces discovered in this region. Unfortunately, because of the small number of identified coins no real historical information can be learned from this graph which looks more as a “modern art” piece that a graph for coin distribution.

In the case of Lower Rhine region and the total number of genuine pieces discovered on Roman sites we have Fig. 73 which shows two different situations.

First of them, seen using white-blue colors and having higher coin values represents the total number of genuine silver coins from Lower Rhine region including Trier, Fig. 54. The presence of coins starts at Augustus (27BC-14AD) than continues for Tiberius (14-37) and Caligula (37-41), but the coin coefficient will decrease for the period of Claudius (41-54).

During Nero (54-68) and the civil war of 69 the coin index will increase and keep increasing in value during Vespasian (69-79) and Titus (79-81), follows a decrease for Domitian (81-96) and a new increase and steady rhythm

for Trajan (98-117), Hadrian (117-138) and Antoninus Pius (138-161). For Marcus Aurelius (161-180) and during Commodus (180-192) the index will decrease again reaching very low values.

With the beginning of the Severian dynasty the index will rise again in value under Septimius Severus (193-211) and decrease at Caracalla (211-217), while for Elagabalus (218-222) and Severus Alexander (222-235) it will increase again in value.

During the reign of Maximinus Thrax (235-238) the coin index is represented by very low values but the situation will change during Gordian III (238-244) and Philip I (244-249) when the index increases in value.

The second situation represented with red-blue shows the total number of genuine silver coins from Lower Rhine region without the pieces from Trier. As seen in Fig. 71, we can easily observe the pattern followed by genuine pieces. Only the site from Nijmegen has a visible impact on the graph because of high number of dated pieces during the I century AD, same time frame with the prosperity of the settlement.

It's easy to see the impact produced by the silver coins discovered at Augusta Treverorum presented in Fig. 73 and the general situation on the region.

The very high number of genuine coins and their distribution differs very much when put together with other studied places because this location was a civilian settlement from the start, an economic and trade hub in the region. Therefore it was supplied round the clock with capital from various sources not like Roman forts situated at the edge

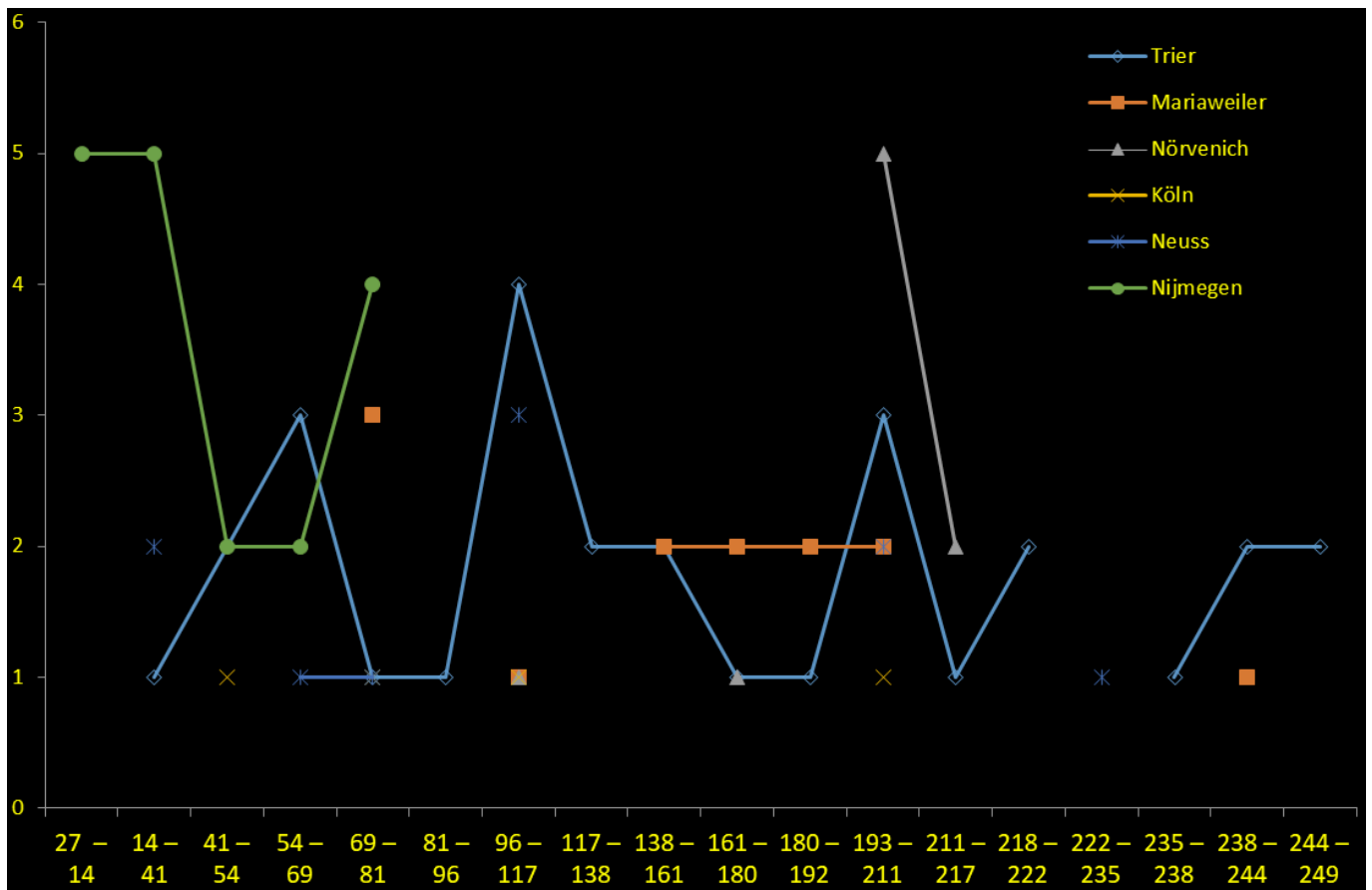


Fig.72. Graph with number of silver coins for Lower Rhine region – plated pieces;

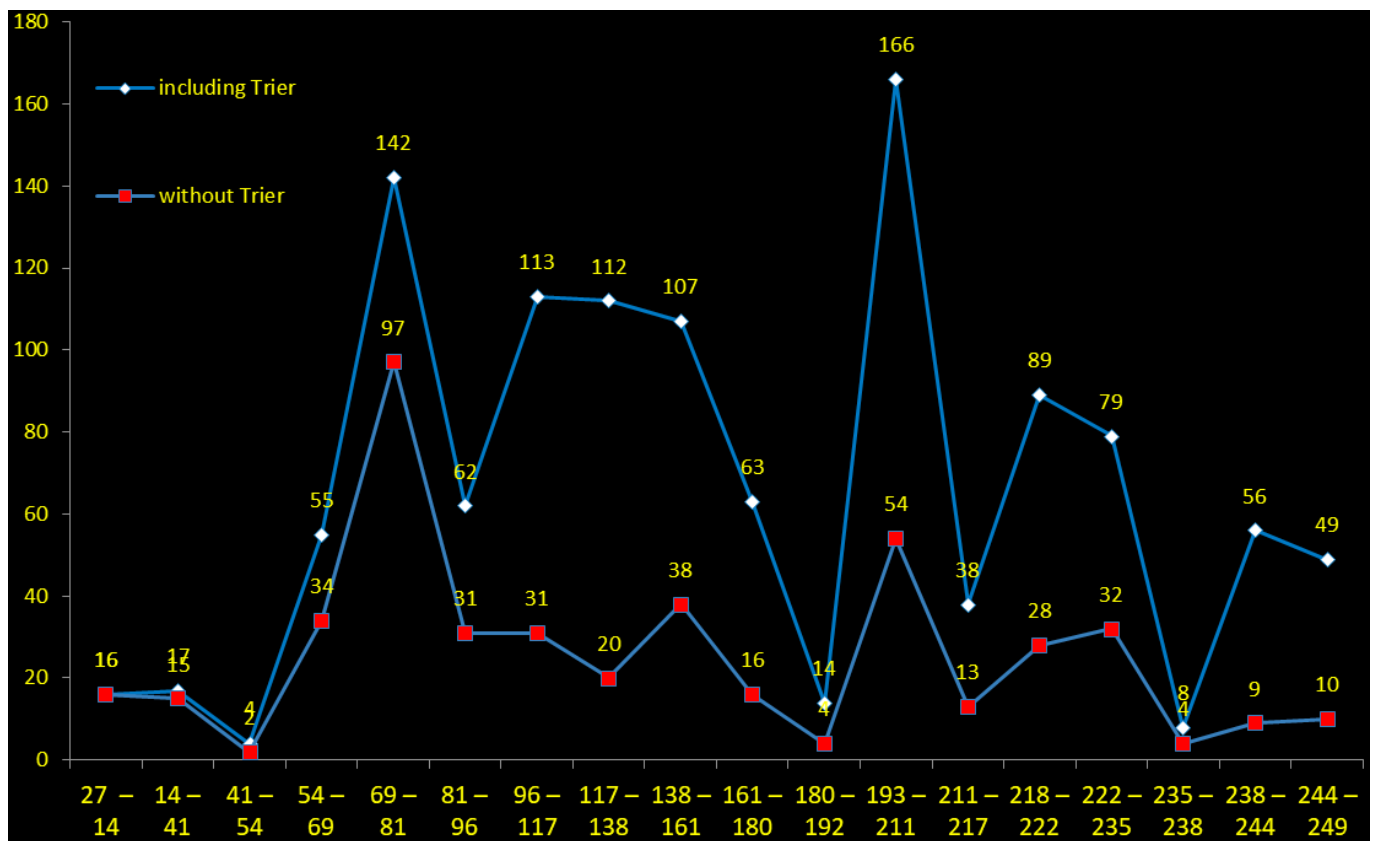


Fig.73. Graph with number of silver coins for Lower Rhine region – genuine pieces;

of the empire and received their payments at regular time frames.

**PLATED COINS DURING SEVERIAN DYNASTY – CASE STUDY**

After looking at all graphs made until now a common image is always present, the very high number of pieces dated for Severian dynasty. Thus, for a deeper interpretation a few sites were selected from the current regions of Upper Danube, Lower and Upper Rhine and were compared with sites from Middle Danube, more exactly Pannonia and Dacia.

In order to produce accurate information only sites where large quantities of coin were identified have been chosen for this case study. The following pie charts show the number of genuine and plated coins and the proportion of them on the site.

**Vienna – Vindobona (Austria)**

First comes the regions of Upper Danube, Upper and Lower Rhine with the site of Vindobona<sup>140</sup> seen in Fig. 74

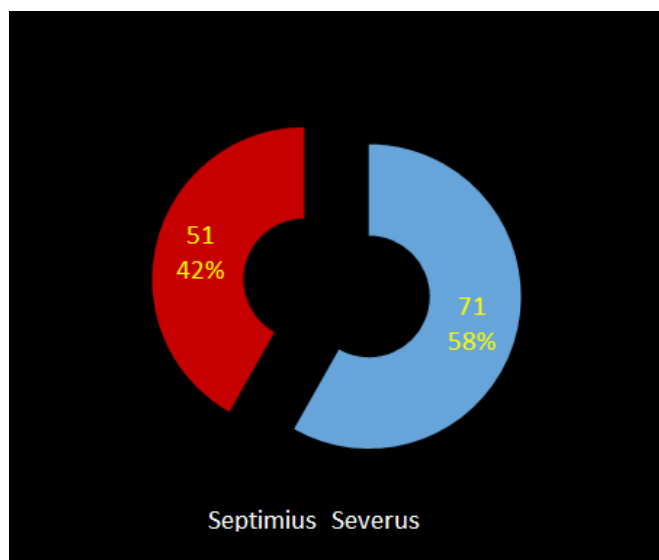


Fig. 74

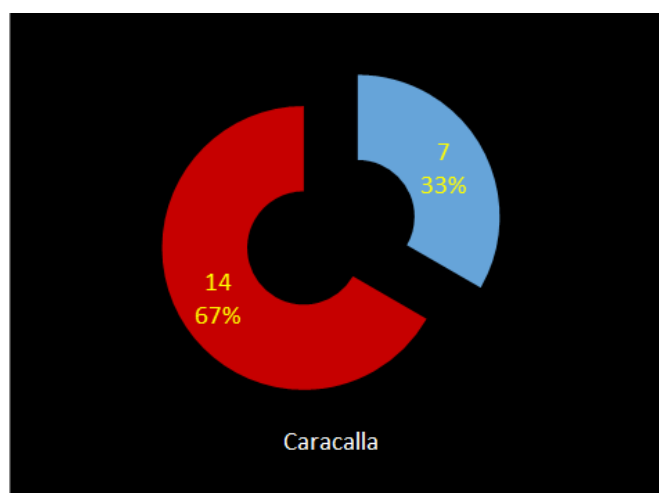


Fig. 75

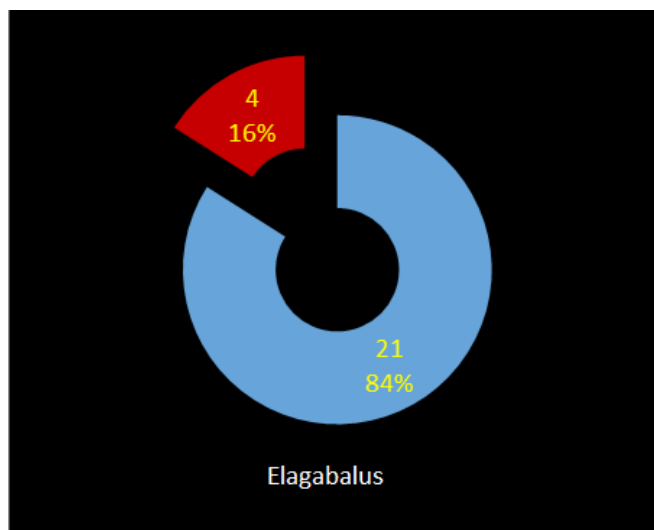


Fig. 76

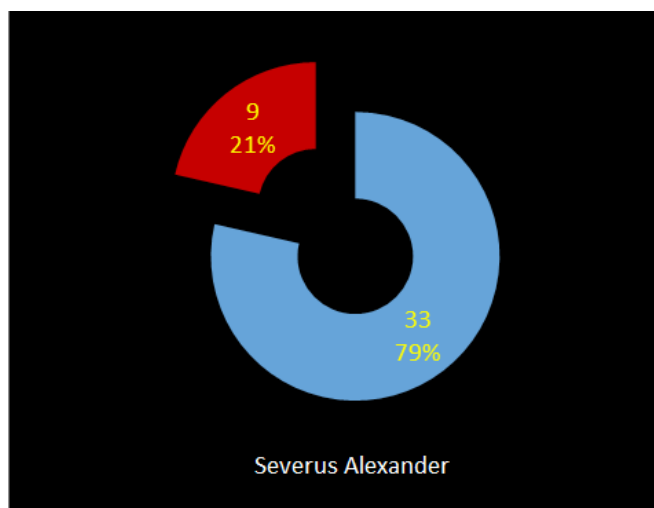


Fig. 77

regarding the reign of Septimius Severus (193-211) with a proportion of 58% genuine pieces, 71 coins, and 42% plated pieces, 51 coins. Fig. 55 regarding the reign of Caracalla (211-217) with a proportion of 33% genuine pieces, seven coins, and 67% plated pieces, 14 coins. Fig. 76 regarding the reign of Elagabalus (218-222) with a proportion of 84% genuine pieces, 16 coins, and 21% plated pieces, four coins. Fig. 77 regarding the reign of Severus Alexander (222-235) with a proportion of 79% genuine pieces, 21 coins, and 33% plated pieces, nine coins.

**Wels – Ovilava (Austria)**

For the site of Ovilava<sup>141</sup> we have Fig. 78 for pieces dated during Septimius Severus (193-211), 81% are genuine, 57 pieces, while 19% are plated, 13 pieces. Fig. 79 shows dated pieces during the reign of Caracalla (211-217), 85% are genuine, 17 coins, 15% are plated, three coins. Fig. 80 for pieces dated during Elagabalus (218-222), 90% are genuine, 26 coins, while 10% are plated, three coins. Fig. 81 for pieces dated during Severus Alexander (222-235), 90% are genuine, 60 coins, while 10% are plated, seven coins.

<sup>140</sup> FMRÖ 1978

<sup>141</sup> VONDROVEC 2003.

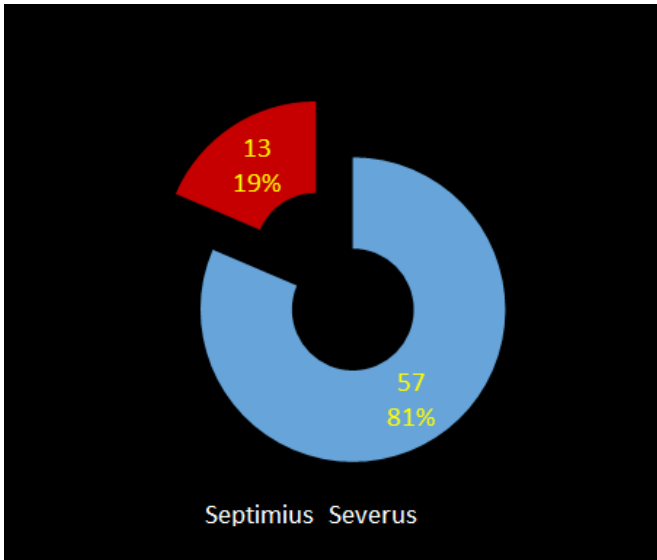


Fig. 78

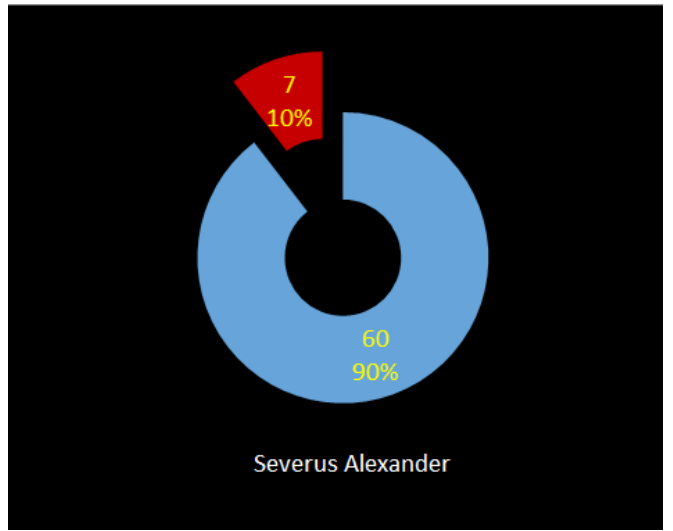


Fig. 81

**Regensburg - Castra Regina (Germany)**

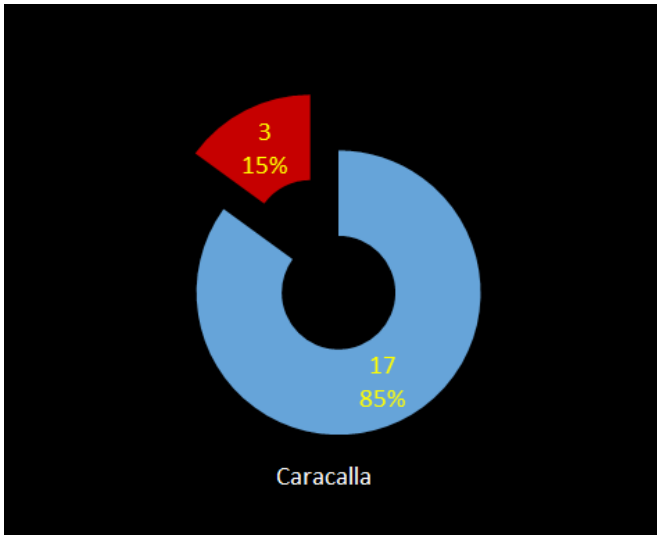


Fig. 79

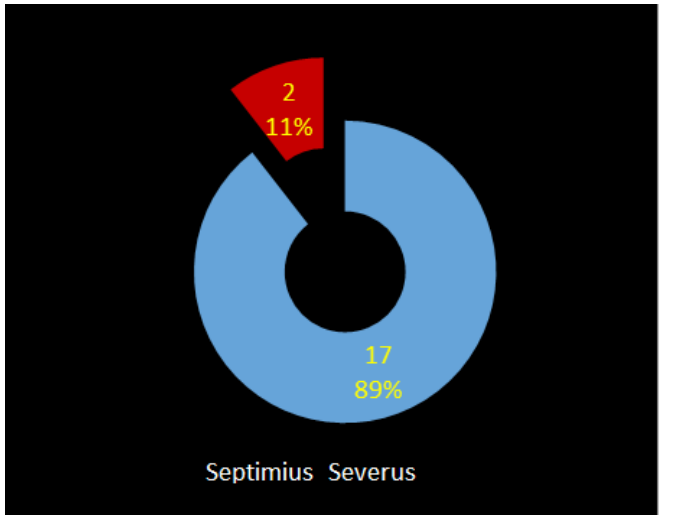


Fig. 82

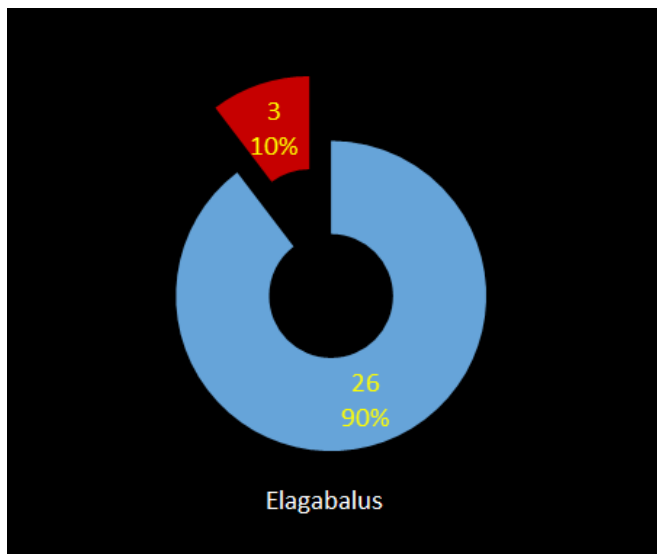


Fig. 80

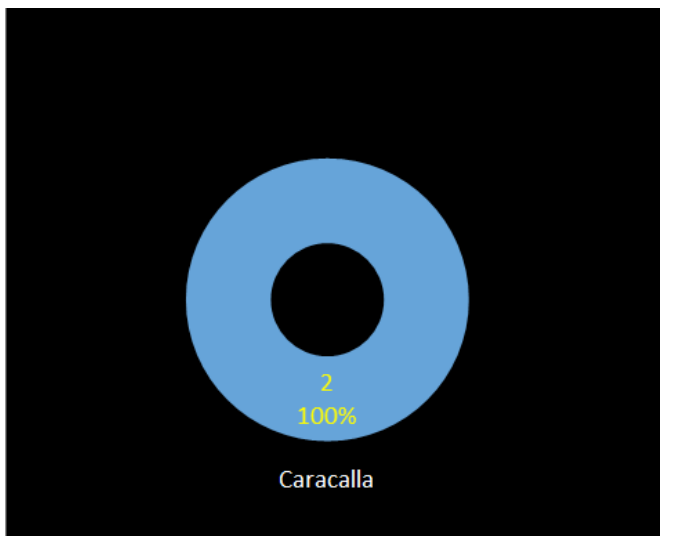


Fig. 83

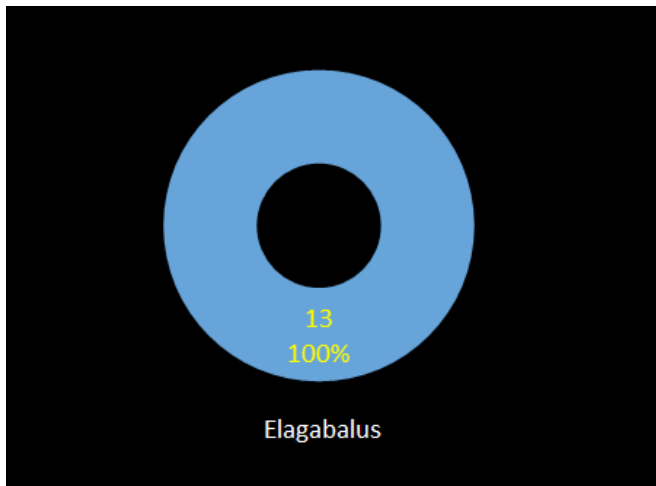


Fig. 84

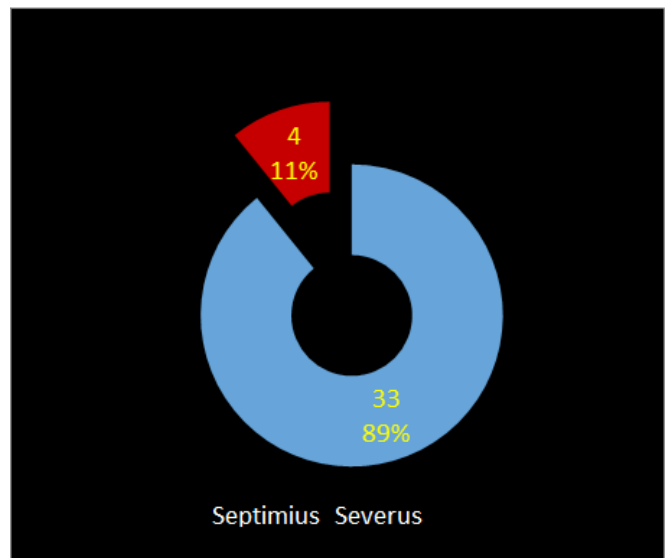


Fig. 86

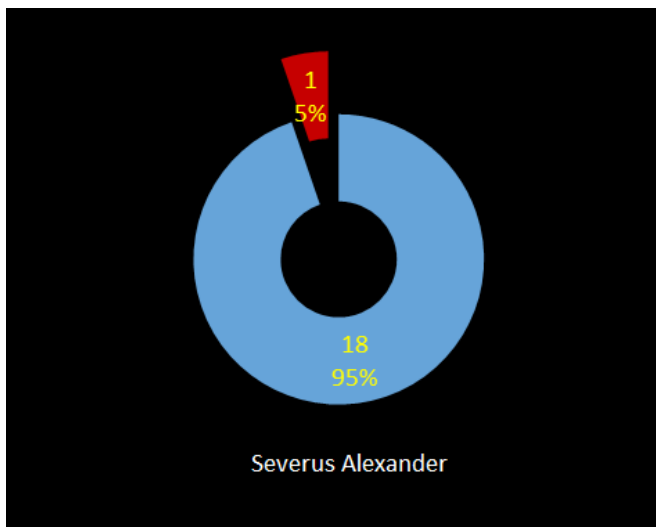


Fig. 85

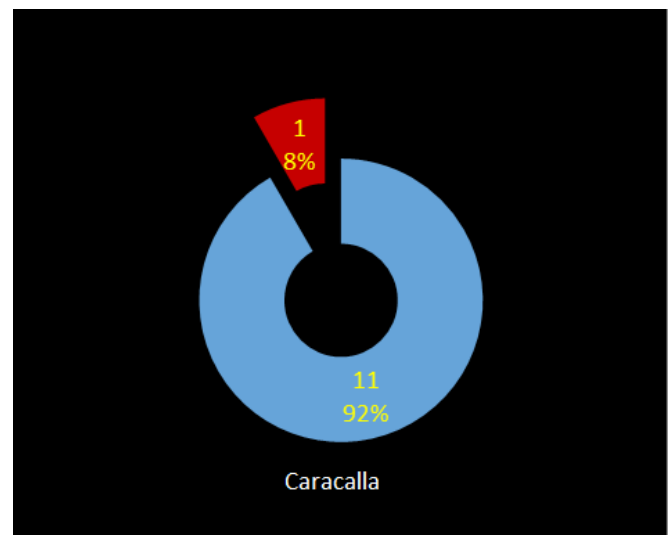


Fig. 87

Castra Regina<sup>142</sup> seen in Fig. 82 regarding the reign of Septimius Severus (193-211) with a proportion of 89% genuine pieces, 17 coins, and 11% plated pieces, two coins. Fig. 83 regarding the reign of Caracalla (211-217) with a proportion of 100% genuine pieces, two coins. Fig. 84 regarding the reign of Elagabalus (218-222) with a proportion of 100% genuine pieces, 13 coins. Fig 85 regarding the reign of Severus Alexander (222-235) with a proportion of 95% genuine pieces, 18 coins, and 5% plated pieces, one coin.

**Eining (Germany)**

For the site of Eining<sup>143</sup> we have Fig. 86 for pieces dated during Septimius Severus (193-211), 89% are genuine, 33 pieces, while 11% are plated, four pieces. Fig 87 shows dated pieces during the reign of Caracalla (211-217), 92% are genuine, 11 coins, 8% are plated, one coin. Fig. 88 for pieces dated during Elagabalus (218-222), 100% are genuine, 31 coins. Fig. 89 for pieces dated during Severus Alexander (222-235), 100% are genuine, 40 coins.

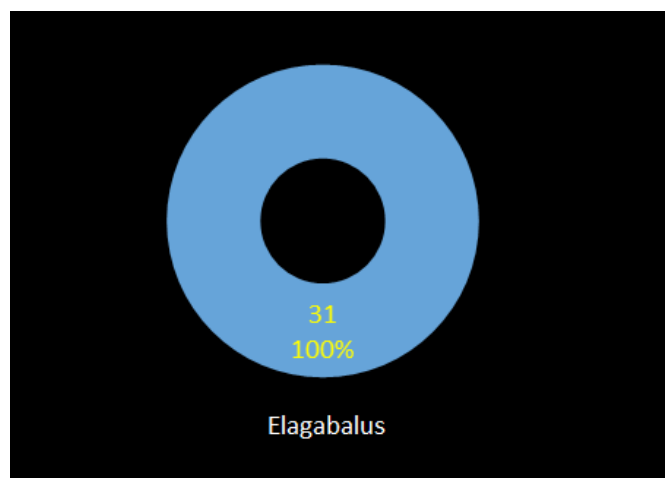


Fig. 88

<sup>142</sup> FMRD 1978, 51.

<sup>143</sup> FMRD 1970.

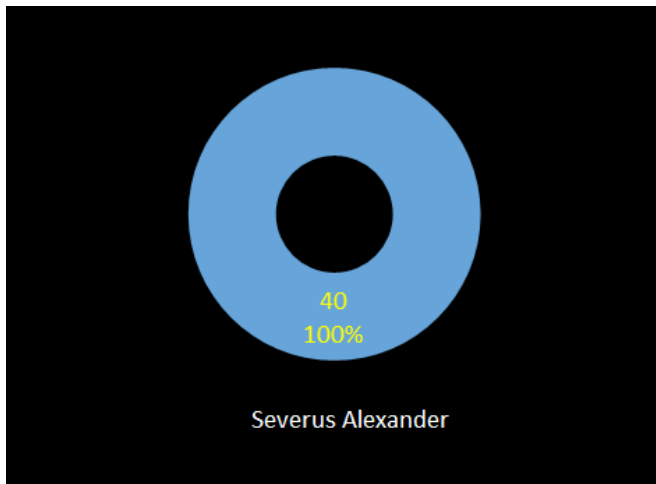


Fig. 89

**Augsburg - Augusta Vindelicorum (Germany)**

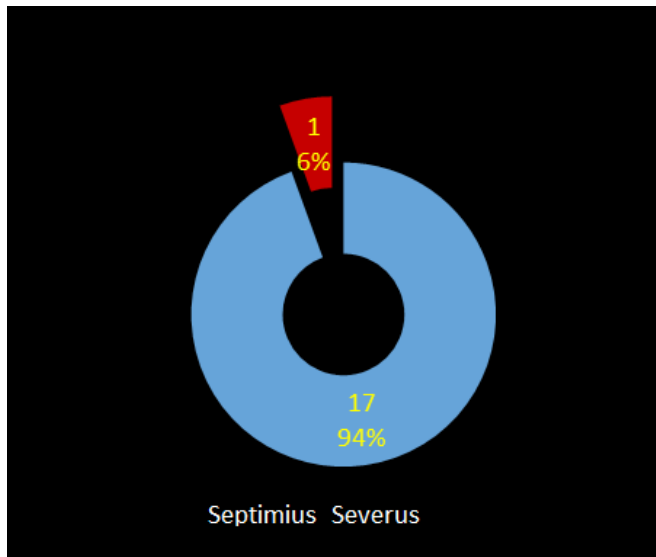


Fig. 90

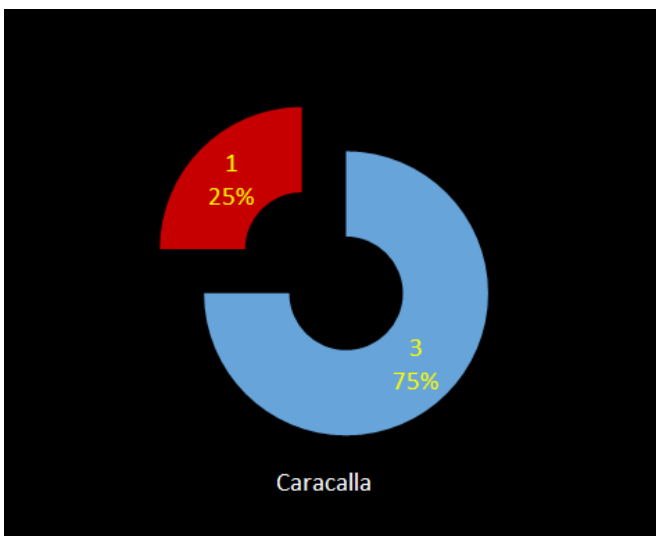


Fig. 91

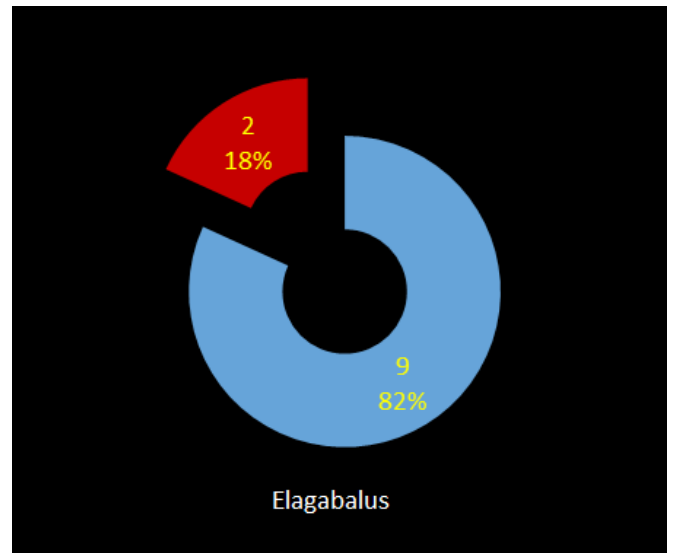


Fig. 92

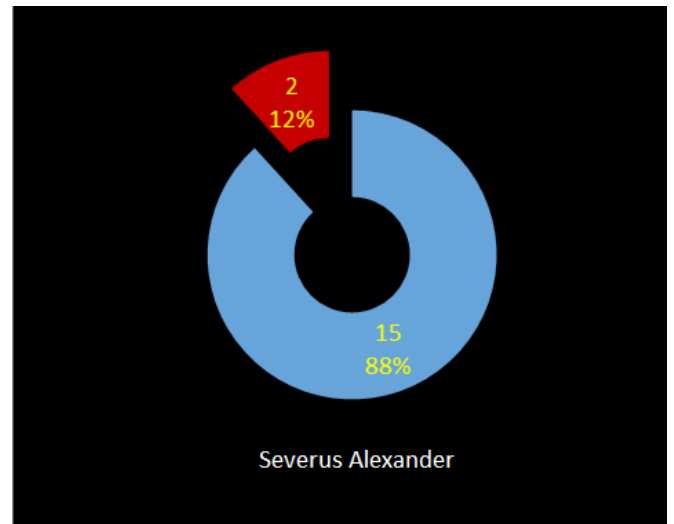


Fig. 93

Augusta Vindelicorum<sup>144</sup> seen in Fig. 90 regarding the reign of Septimius Severus (193-211) with a proportion of 94% genuine pieces, 17 coins, and 6% plated pieces, one coin. Fig. 91 regarding the reign of Caracalla (211-217) with a proportion of 75% genuine pieces, three coins, and 25% plated pieces, one coin. Fig. 92 regarding the reign of Elagabalus (218-222) with a proportion of 82% genuine pieces, nine coins, and 18% plated pieces, two coins. Fig. 93 regarding the reign of Severus Alexander (222-235) with a proportion of 88% genuine pieces, 15 coins, and 12% plated pieces, two coins.

**Nida (Germany)**

For the site of Nida<sup>145</sup> we have Fig. 94 for pieces dated during Septimius Severus (193-211), 87% are genuine, 86 pieces, while 13% are plated, 13 pieces. Fig. 95 shows dated pieces during the reign of Caracalla (211-217), 79% are genuine, 31 coins, 21% are plated, eight coins. Fig. 96 for pieces dated during Elagabalus (218-222), 97% are genuine,

<sup>144</sup> FMRD 1962, 31.

<sup>145</sup> FMRD 1989b.

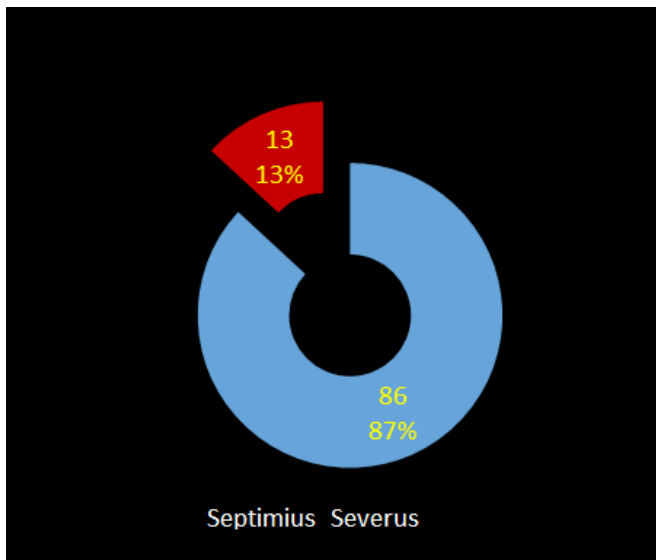


Fig. 94

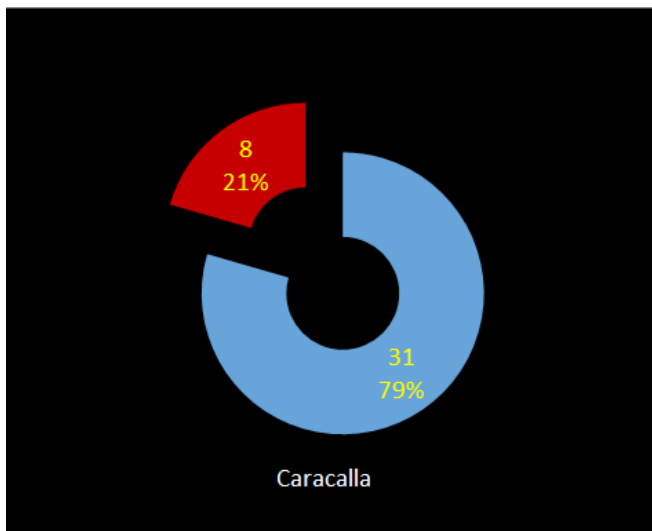


Fig. 95

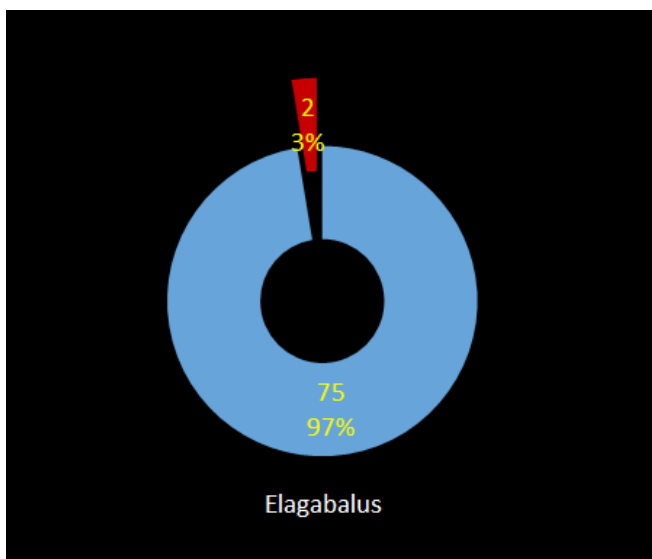


Fig. 96

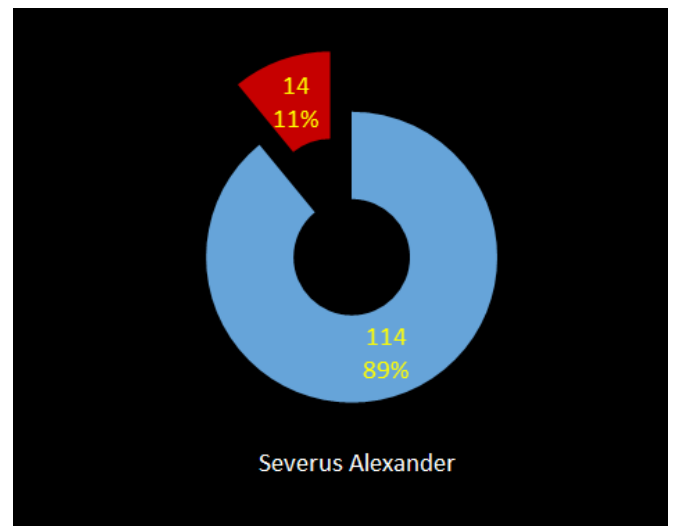


Fig. 97

75 coins, while 3% are plated, two coins. Fig. 97 for pieces dated during Severus Alexander (222-235), 89% are genuine, 114 coins, while 11% are plated, 14 coins.

**Mainz - Mogontiacum (Germany)**

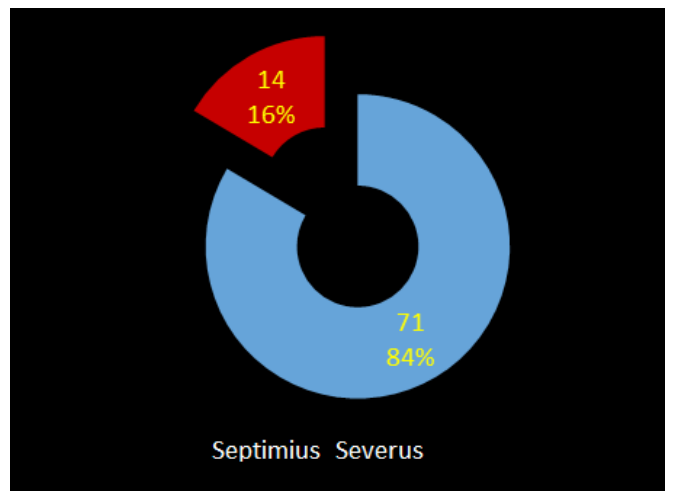


Fig. 98

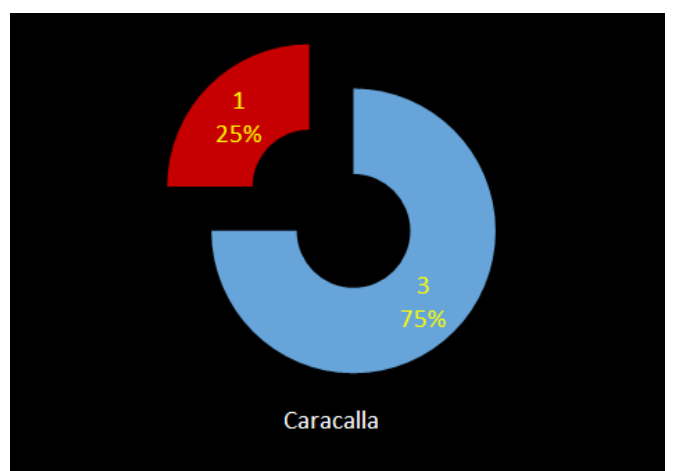


Fig. 99



Mogontiacum<sup>146</sup> seen in Fig. 98 regarding the reign of Septimius Severus (193-211) with a proportion of 84% genuine pieces, 71 coins, and 16% plated pieces, 14 coins. Fig. 99 regarding the reign of Caracalla (211-217) with a proportion of 75% genuine pieces, three coins, and 25% plated pieces, one coin. Fig. 100 regarding the reign of Elagabalus (218-222) with a proportion of 92% genuine pieces, 37 coins, and 8% plated pieces, three coins. Fig. 101 regarding the reign of Severus Alexander (222-235) with a proportion of 87% genuine pieces, 63 coins, and 13% plated pieces, nine coins.

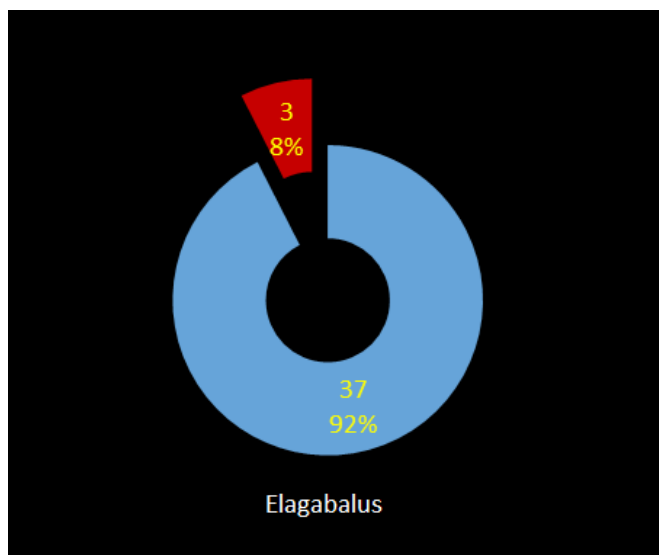


Fig. 100

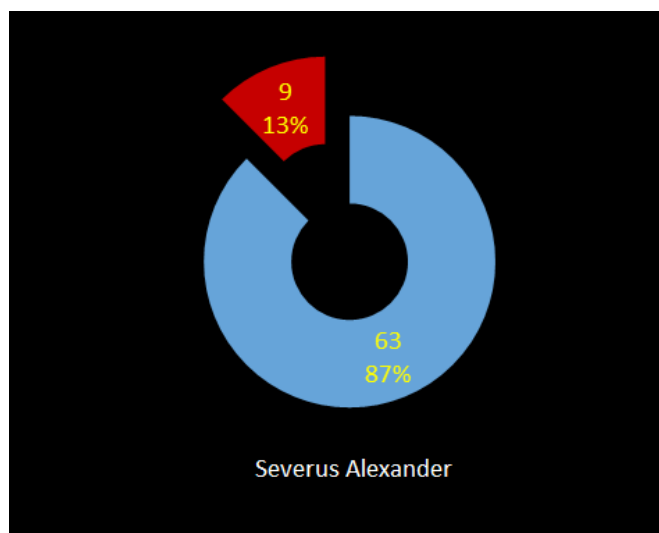


Fig. 101

### Hofheim-Main-Taunus (Germany)

For the site of Hofheim-Main-Taunus<sup>147</sup> we have Fig. 102 for pieces dated during Septimius Severus (193-211), 94% are genuine, 48 pieces, while 6% are plated, three pieces. Fig 103 shows dated pieces during the reign

<sup>146</sup> FMRD 2006a, 33.

<sup>147</sup> FMRD 1994a.

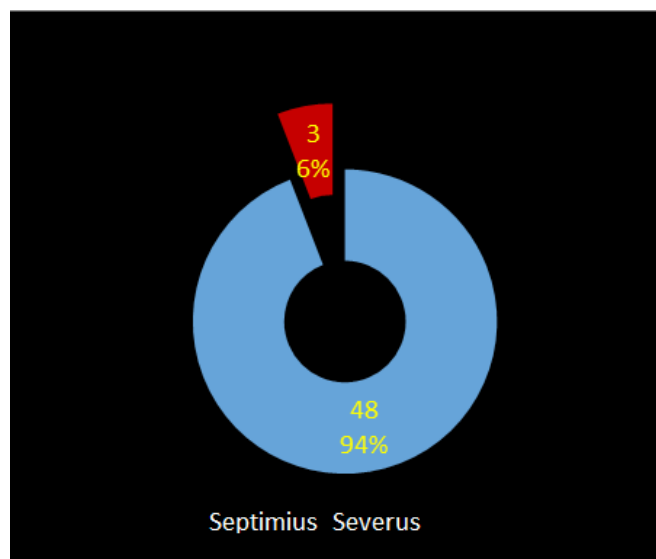


Fig. 102

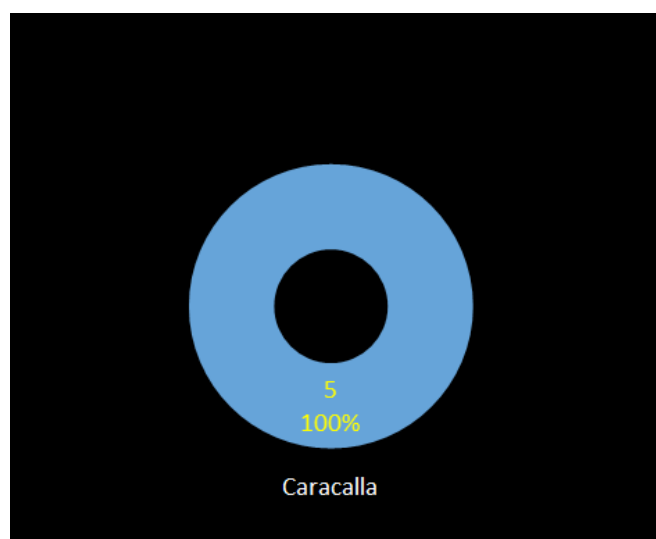


Fig. 103

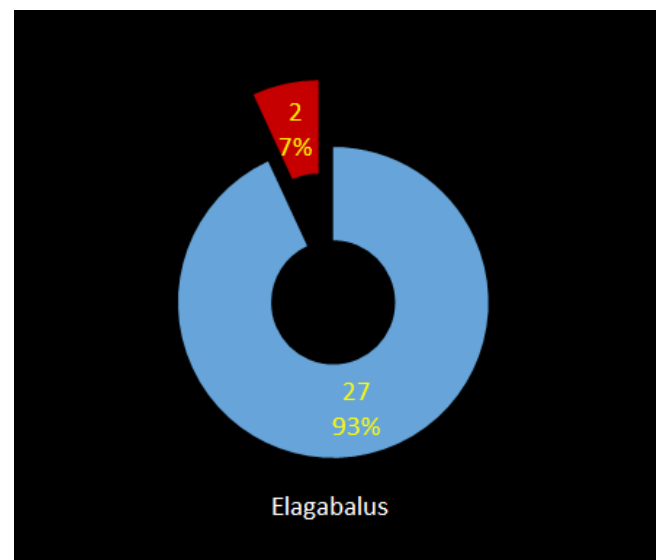


Fig. 104

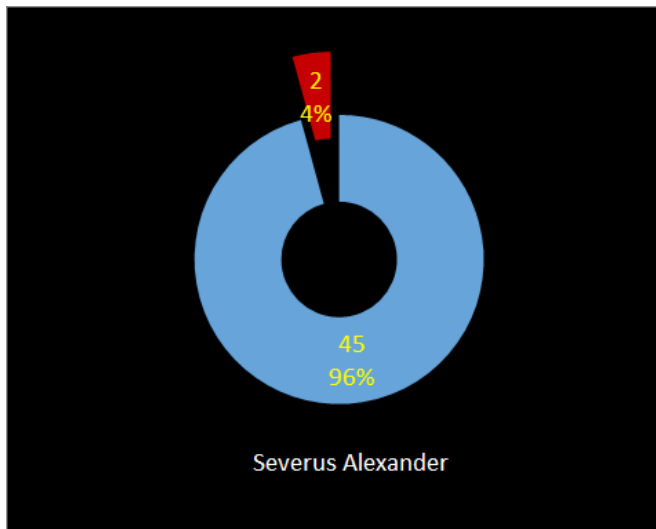


Fig. 105

of Caracalla (211-217), 100% are genuine, five coins. Fig. 104 for pieces dated during Elagabalus (218-222), 93% are genuine, 27 coins, while 7% are plated, two coins. Fig. 105 for pieces dated during Severus Alexander (222-235), 96% are genuine, 45 coins, while 4% are plated, two coins.

**Zugmantel (Germany)**

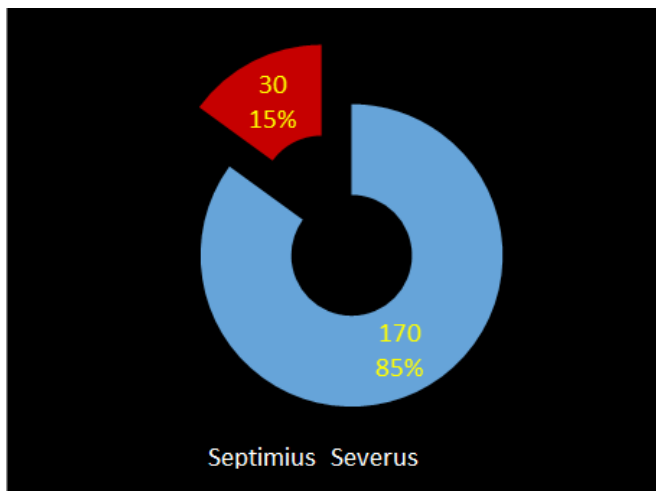


Fig. 106

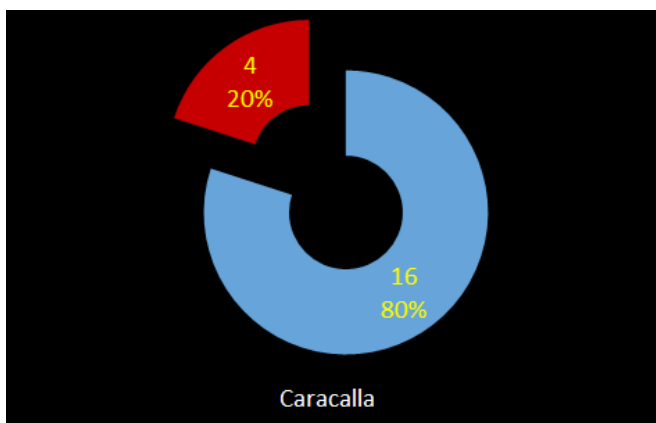


Fig. 107

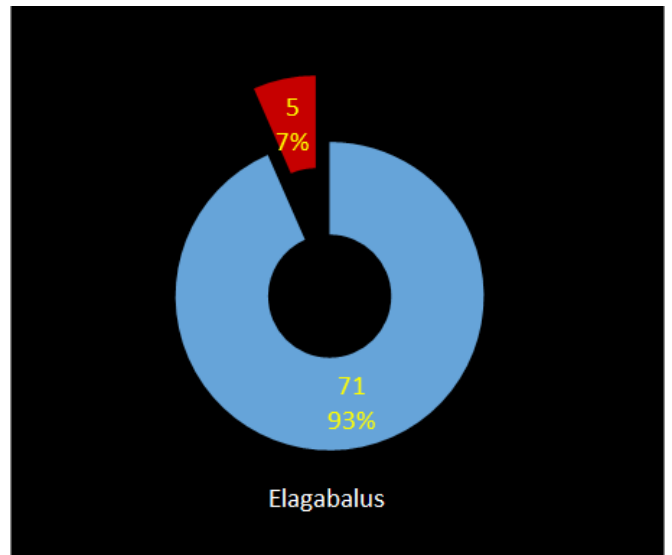


Fig. 108

Zugmantel<sup>148</sup> seen in Fig. 106 regarding the reign of Septimius Severus (193-211) with a proportion of 85% genuine pieces, 170 coins, and 15% plated pieces, 30 coins. Fig. 107 regarding the reign of Caracalla (211-217) with a proportion of 80% genuine pieces, 16 coins, and 20% plated pieces, four coins. Fig. 108 regarding the reign of Elagabalus (218-222) with a proportion of 93% genuine pieces, 71 coins, and 7% plated pieces, five coins. Fig 109 regarding the reign of Severus Alexander (222-235) with a proportion of 92% genuine pieces, 121 coins, and 8% plated pieces, 10 coins.

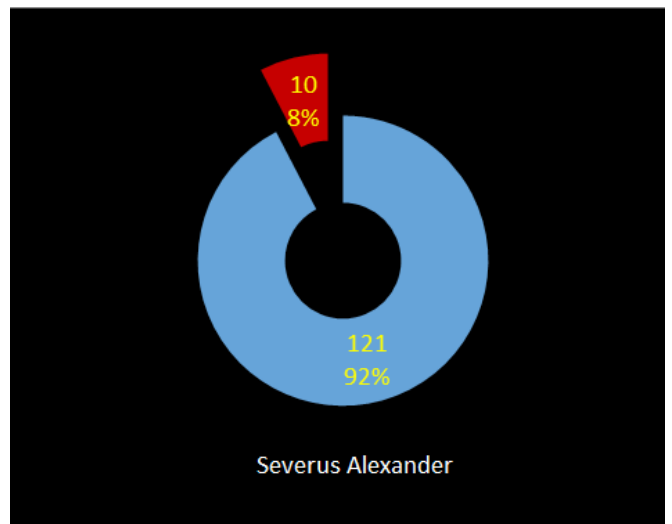


Fig. 109

**Trier - Colonia Augusta Treverorum (Germany)**

For the site of Augusta Treverorum<sup>149</sup> we have Fig. 110 for pieces dated during Septimius Severus (193-211), 97% are genuine, 112 pieces, while 3% are plated, three pieces. Fig 111 shows dated pieces during the reign of Caracalla (211-217), 96% are genuine, 25 coins, 4% are plated, one coin. Fig. 112 for pieces dated during Elagabalus (218-222), 97% are

<sup>148</sup> FMRD 1994b.

<sup>149</sup> FMRD 2004. FMRD 2006b. FMRD 2007.

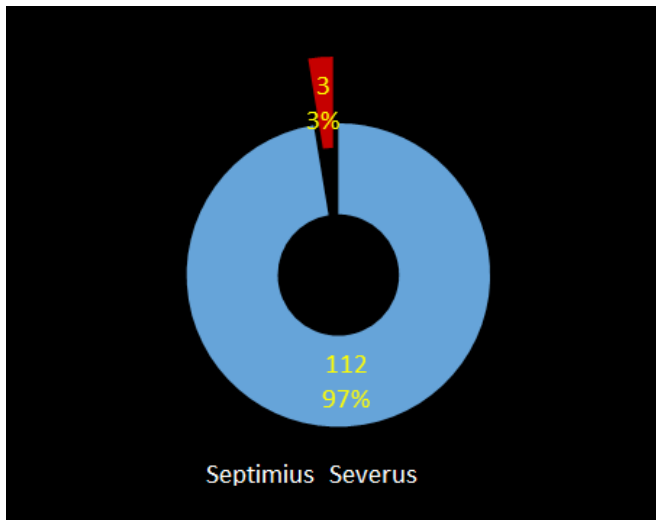


Fig. 110

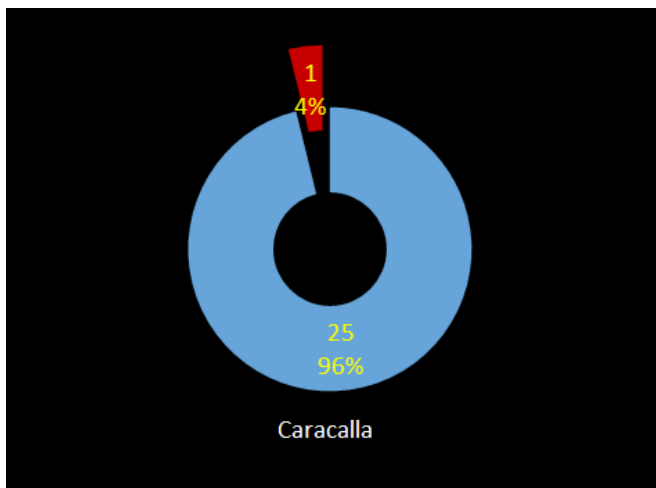


Fig. 111

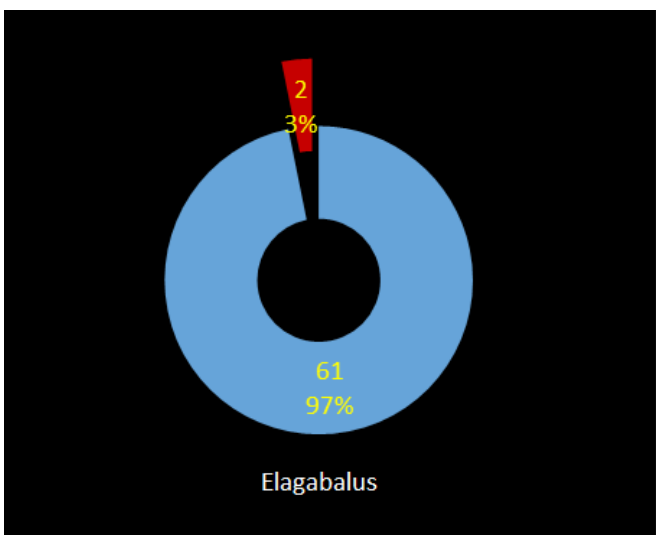


Fig. 112

genuine, 61 coins, while 3% are plated, two coins. Fig. 113 for pieces dated during Severus Alexander (222-235), 100% are genuine, 47 coins.

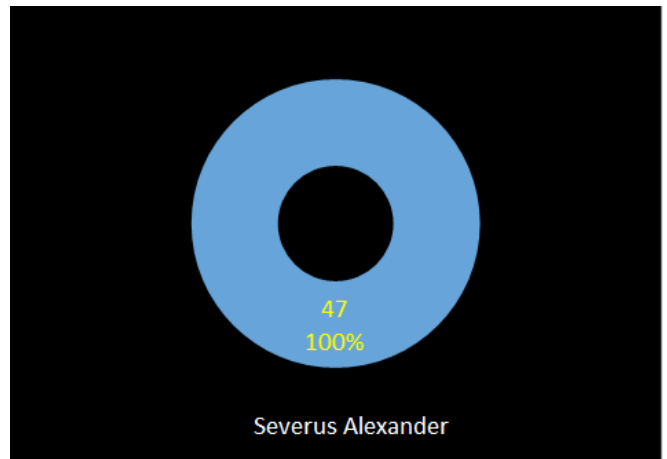


Fig. 113

Next follows a few sites from the Middle Danube region, to have a comparative view between the Rhine and Danube regions.

**Porolissum (Romania)**

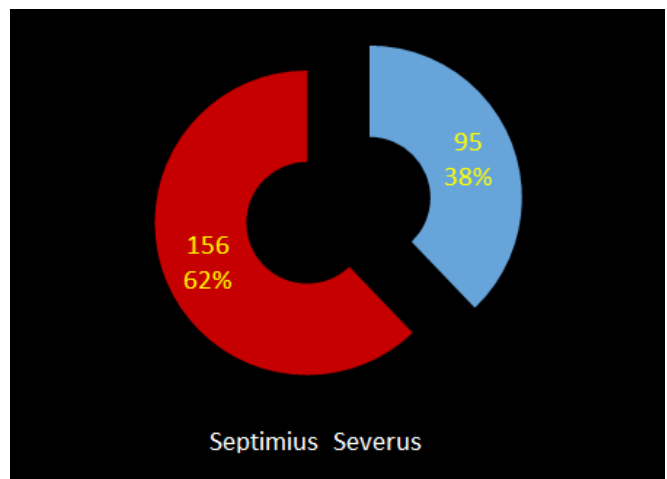


Fig. 114

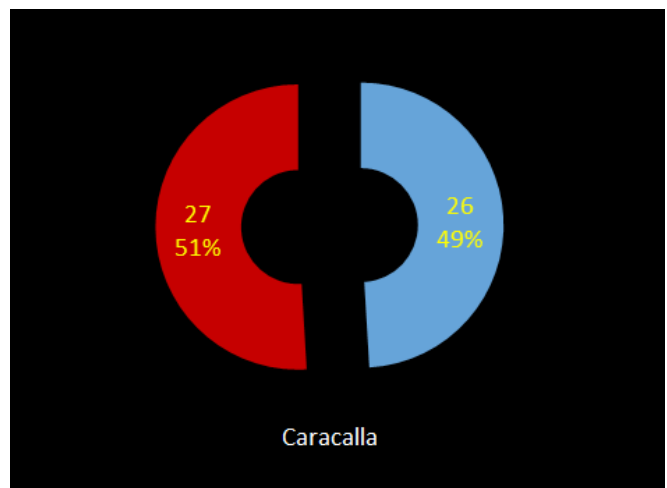


Fig. 115

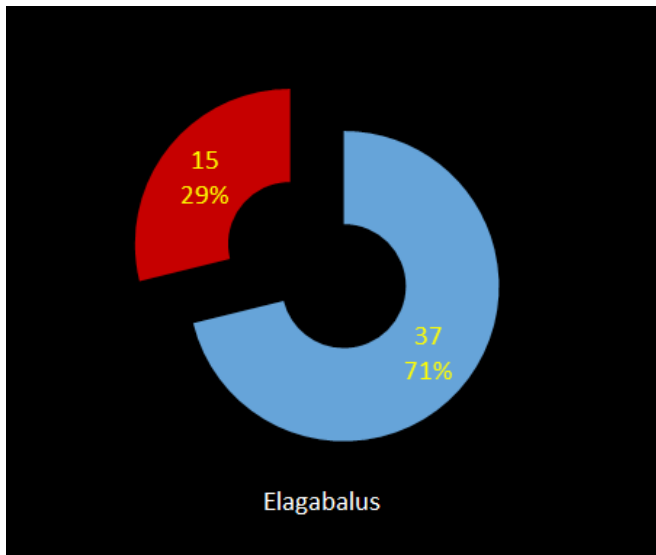


Fig. 116

Porolissum<sup>150</sup> seen in Fig. 114 regarding the reign of Septimius Severus (193-211) with a proportion of 38% genuine pieces, 95 coins, and 62% plated pieces, 156 coins. Fig. 115 regarding the reign of Caracalla (211-217) with a proportion of 49% genuine pieces, 26 coins, and 51% plated pieces, 27 coins. Fig. 116 regarding the reign of Elagabalus (218-222) with a proportion of 71% genuine pieces, 37 coins, and 29% plated pieces, 15 coins. Fig 117 regarding the reign of Severus Alexander (222-235) with a proportion of 67% genuine pieces, 74 coins, and 33% plated pieces, 37 coins.

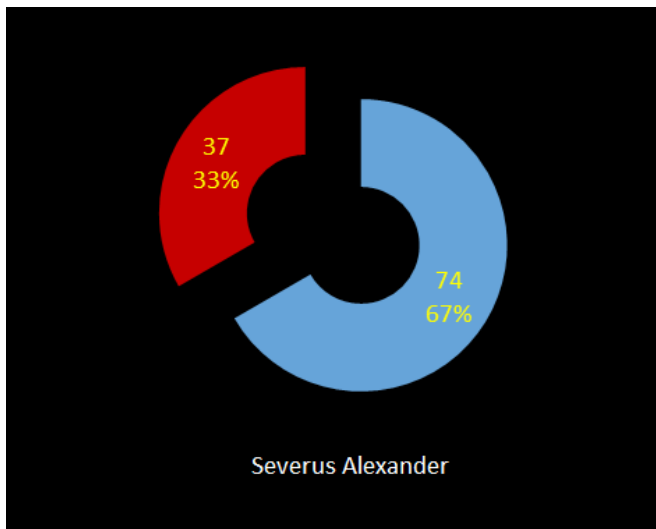


Fig. 117

**Arcobadara (Romania)**

For the site of Arcobadara<sup>151</sup> we have Fig. 118 for pieces dated during Septimius Severus (193-211), 51% are genuine, 38 pieces, while 49% are plated, 37 pieces. Fig 119 shows dated pieces during the reign of Caracalla (211-217), 62% are genuine, five coins, 38% are plated, three coins. Fig. 120 for pieces dated during Elagabalus (218-222), 67% are

<sup>150</sup> GĂZDAC/GUDEA 2006.

<sup>151</sup> GĂZDAC/GAIU 2011.

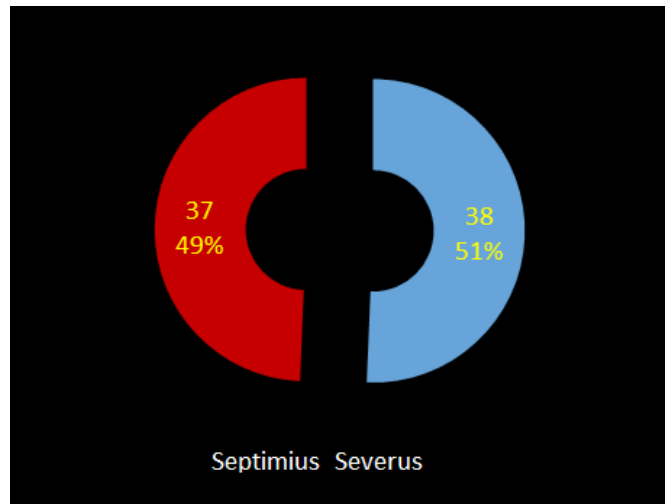


Fig. 118

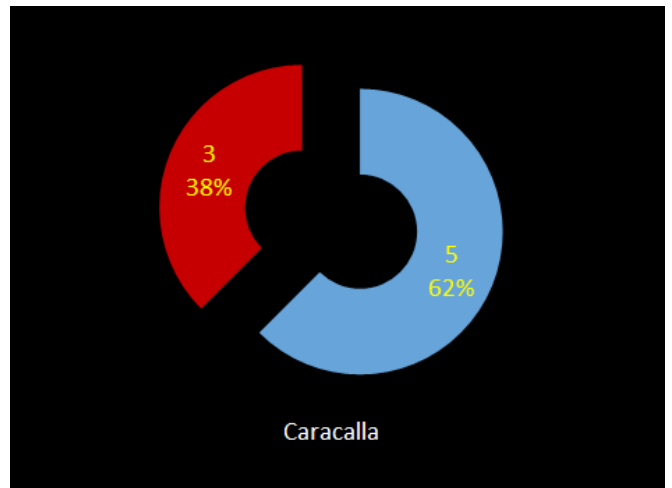


Fig. 119

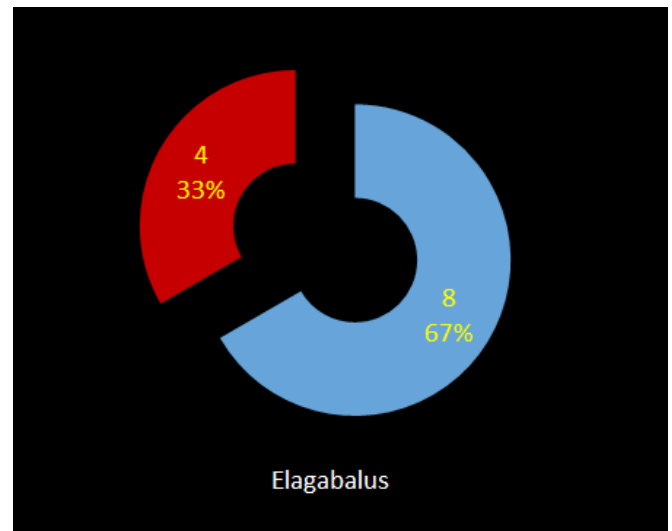


Fig. 120

genuine, eight coins, while 33% are plated, four coins. Fig. 121 for pieces dated during Severus Alexander (222-235), 69% are genuine, 25 coins, while 31% are plated, 11 coins.

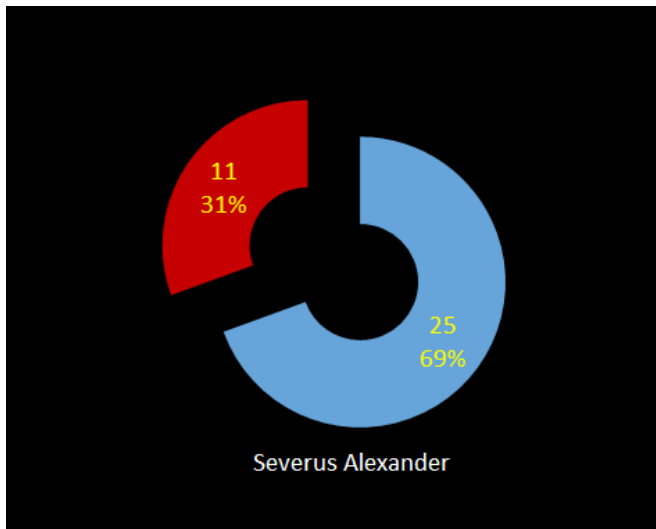


Fig. 121

**Turda – Potaissa (Romania)**

Potaissa<sup>152</sup> seen in Fig. 122 regarding the reign of Septimius Severus (193-211) with a proportion of 87%

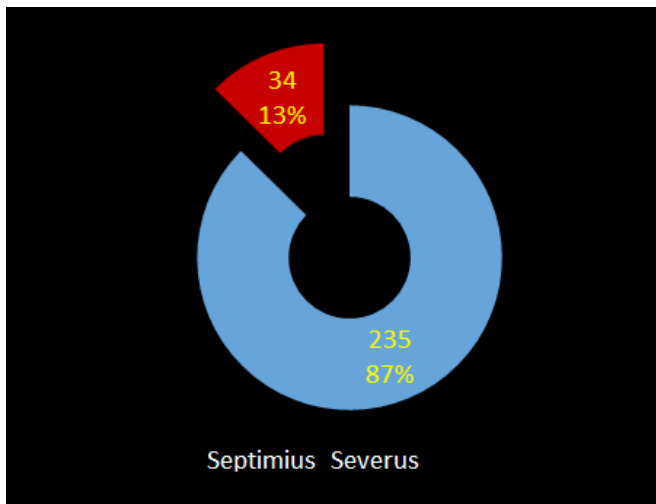


Fig. 122

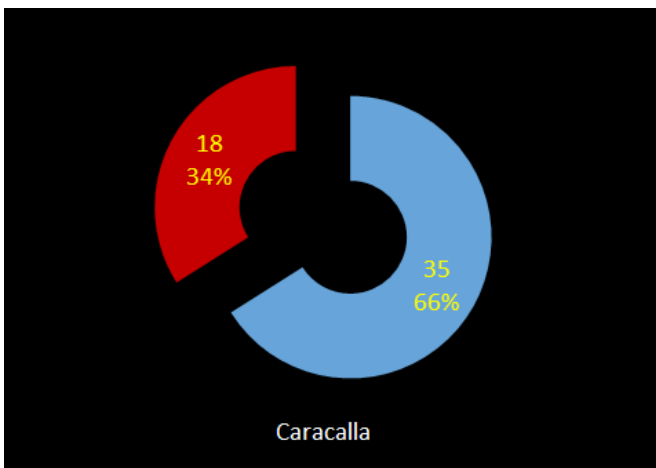


Fig. 123

<sup>152</sup> PÎSLARU 2009.

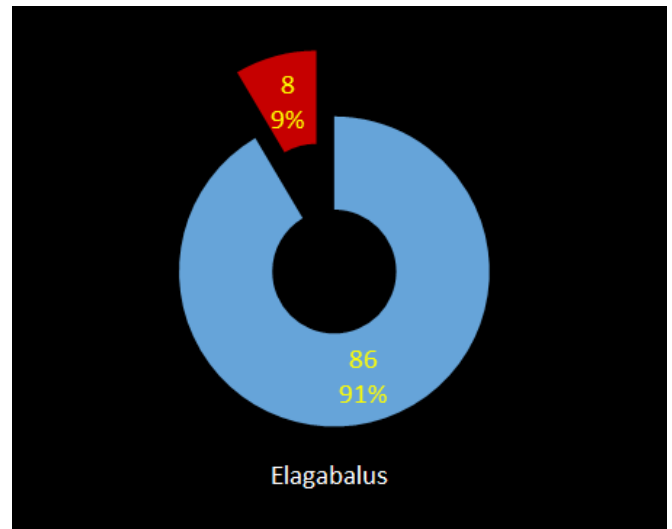


Fig. 124

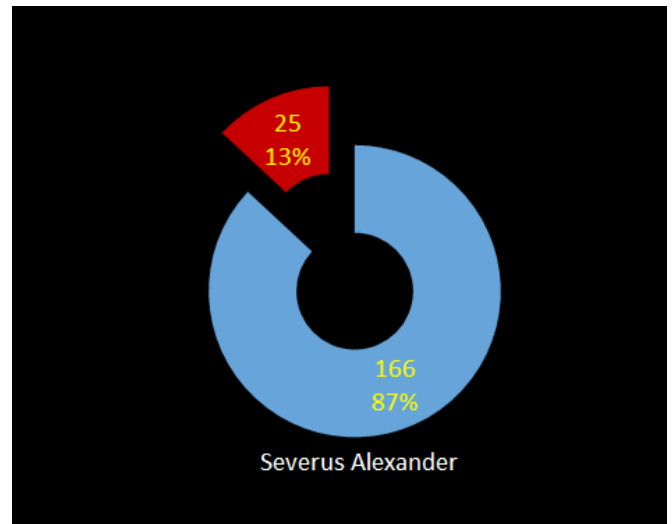


Fig. 125

genuine pieces, 235 coins, and 13% plated and cast pieces, 34 coins. Fig. 123 regarding the reign of Caracalla (211-217) with a proportion of 66% genuine pieces, 35 coins, and 34% plated and cast pieces, 18 coins. Fig. 124 regarding the reign of Elagabalus (218-222) with a proportion of 91% genuine pieces, 86 coins, and 9% plated and cast pieces, eight coins. Fig. 125 regarding the reign of Severus Alexander (222-235) with a proportion of 87% genuine pieces, 166 coins, and 13% plated pieces, 25 coins.

**Alba Iulia – Apulum (Romania)**

For the site of Apulum<sup>153</sup> we have Fig. 126 for pieces dated during Septimius Severus (193-211), 46% are genuine, 67 pieces, while 54% are plated, 78 pieces. Fig. 127 shows dated pieces during the reign of Caracalla (211-217), 31% are genuine, nine coins, 69% are plated, 20 coins. Fig. 128 for pieces dated during Elagabalus (218-222), 49% are genuine, 35 coins, while 51% are plated, 37 coins. Fig. 129 for pieces dated during Severus Alexander (222-235), 51% are genuine, 68 coins, while 49% are plated, 66 coins.

<sup>153</sup> GĂZDAC/SUCIU/ALFÖLDY-GĂZDAC 2009.

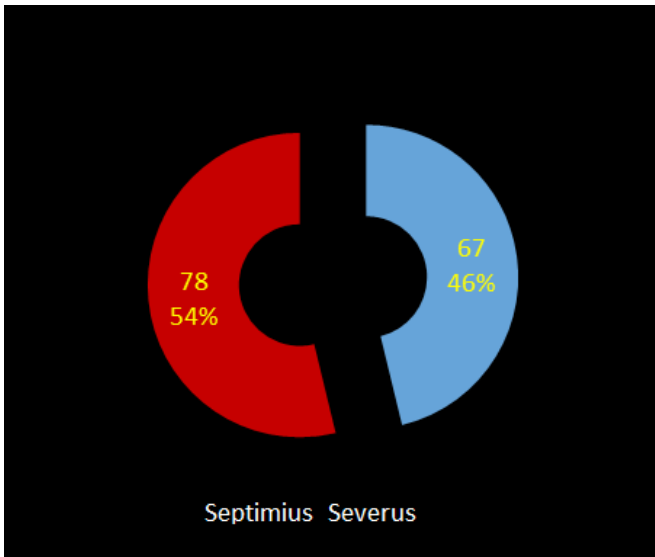


Fig. 126

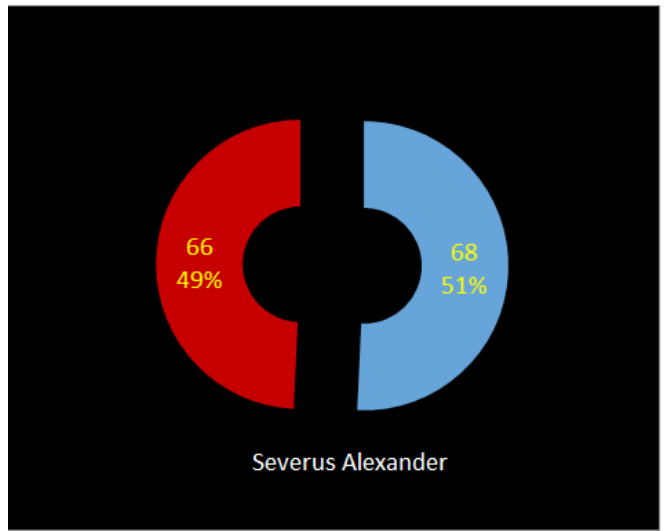


Fig. 129

**Ulpia Traiana Sarmizegetusa (Romania)**

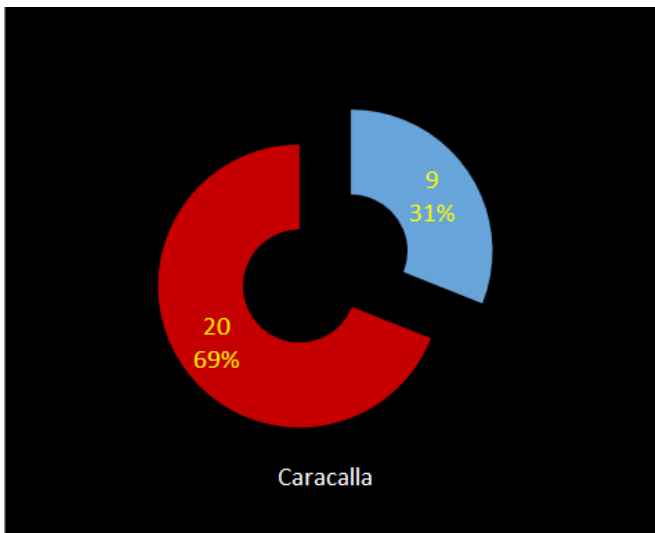


Fig. 127

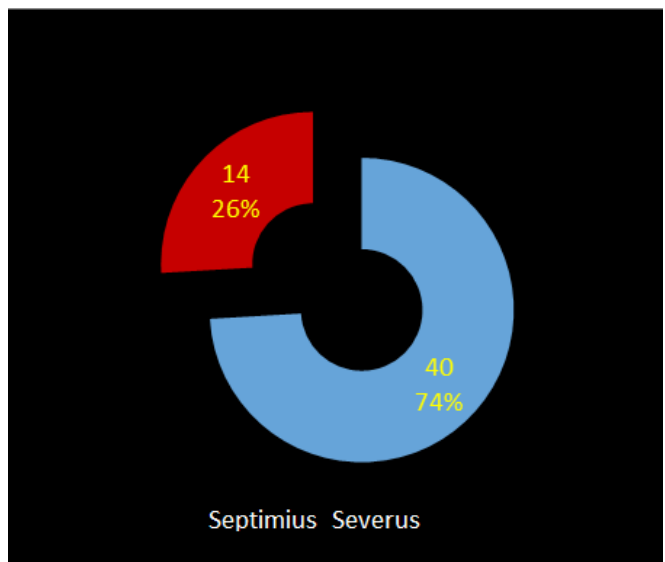


Fig. 130

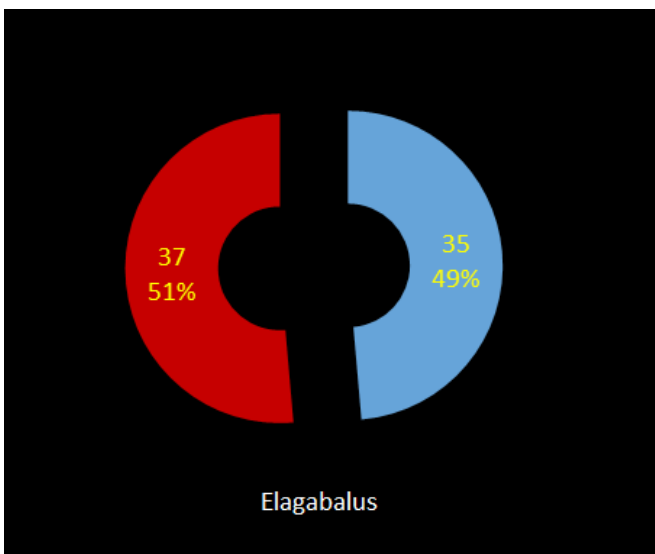


Fig. 128

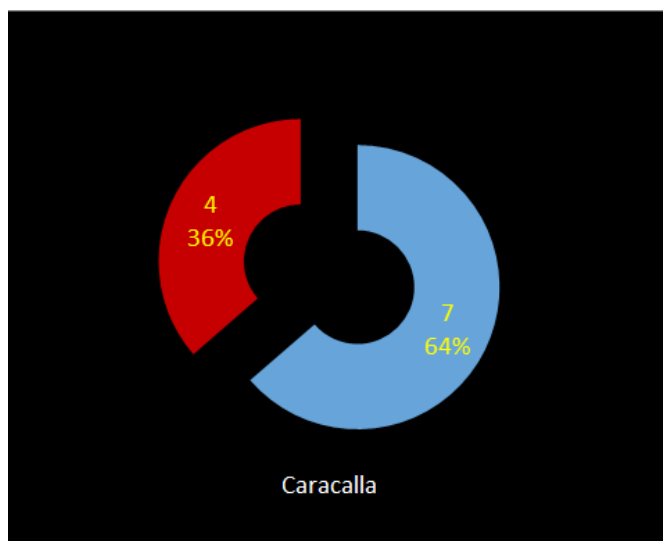


Fig. 131

Ulpia Traiana Sarmizegetusa<sup>154</sup> seen in Fig. 130 regarding the reign of Septimius Severus (193-211) with a proportion of 74% genuine pieces, 40 coins, and 26% plated pieces, 14 coins. Fig. 131 regarding the reign of Caracalla (211-217) with a proportion of 64% genuine pieces, seven coins, and 36% plated pieces, four coins. Fig. 132 regarding the reign of Elagabalus (218-222) with a proportion of 89% genuine pieces, 17 coins, and 11% plated pieces, two coins. Fig. 133 regarding the reign of Severus Alexander (222-235) with a proportion of 82% genuine pieces, 37 coins, and 18% plated pieces, eight coins.

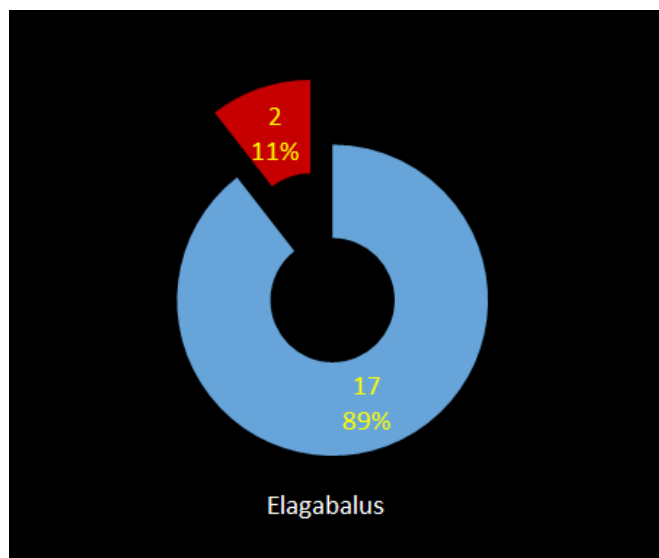


Fig. 132

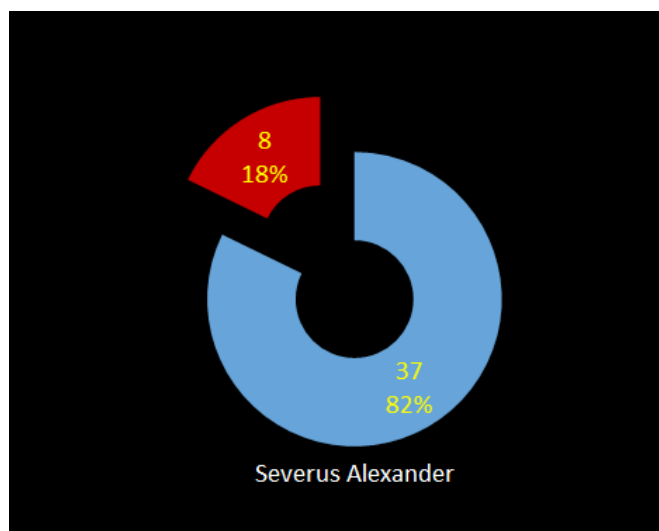


Fig. 133

### Dunaújváros – Intercisa (Hungary)

For the site of Intercisa<sup>155</sup> we have Fig. 134 for pieces dated during Septimius Severus (193-211), 51% are genuine, 38 pieces, while 49% are plated, 37 pieces. Fig. 135 shows

<sup>154</sup> GĂZDAC/COCIȘ 2004.

<sup>155</sup> FMRU I, 1990.

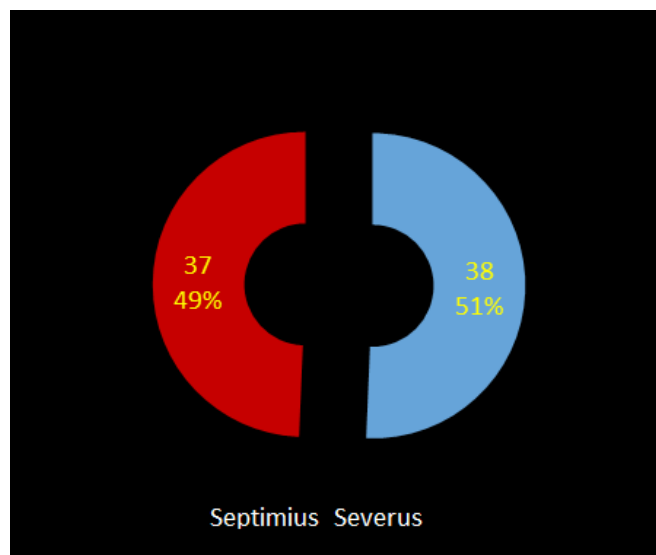


Fig. 134

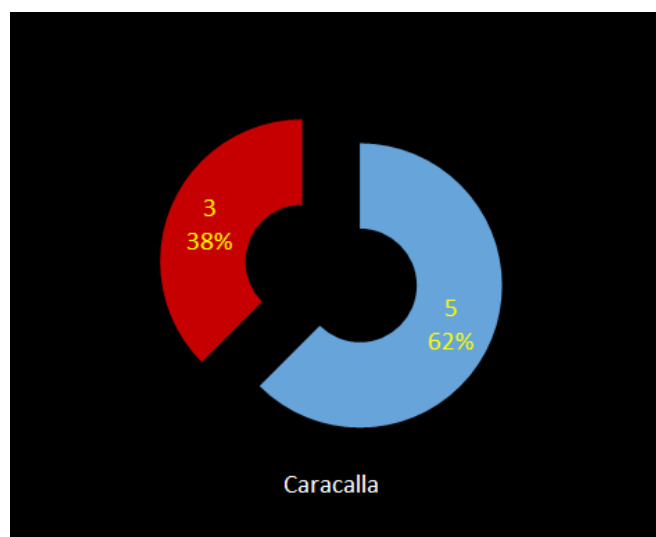


Fig. 135

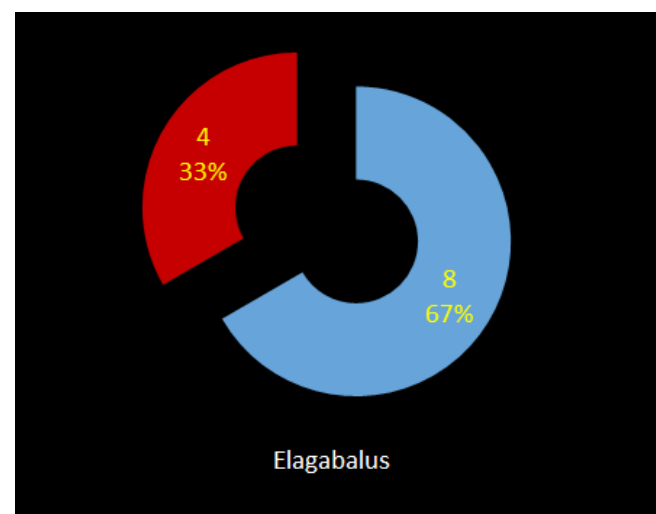


Fig. 136

dated pieces during the reign of Caracalla (211-217), 62% are genuine, five coins, 38% are plated, three coins. Fig. 136 for

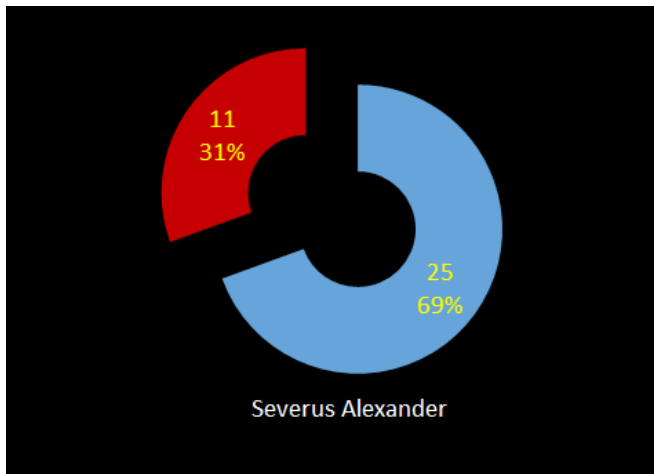


Fig. 137

pieces dated during Elagabalus (218-222), 67% are genuine, eight coins, while 33% are plated, four coins. Fig. 137 for pieces dated during Severus Alexander (222-235), 69% are genuine, 25 coins, while 31% are plated, 11 coins.

**Tác – Gorsium-Herculia (Hungary)**

Gorsium-Herculia<sup>156</sup> seen in Fig. 138 regarding the reign of Septimius Severus (193-211) with a proportion of 100% genuine pieces, 24 coins. Fig. 139 regarding the reign of Caracalla (211-217) with a proportion of 88%

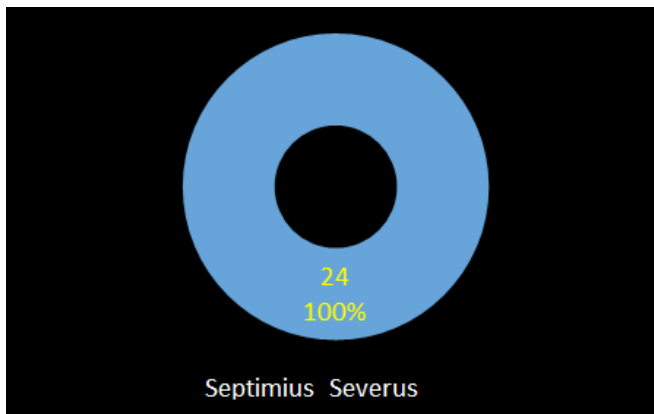


Fig. 138

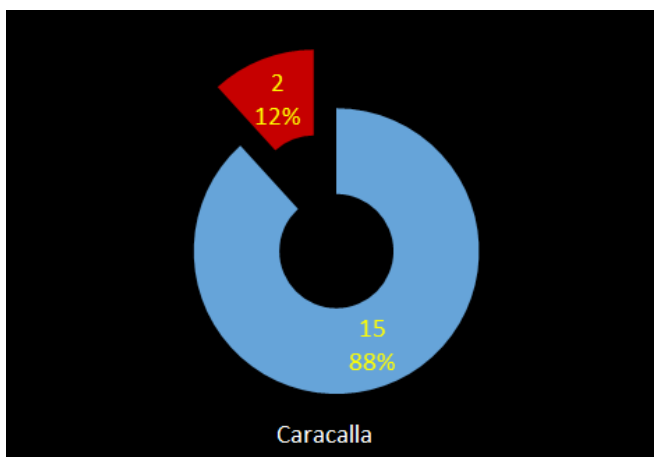


Fig. 139

<sup>156</sup> FMRU I, 1990.

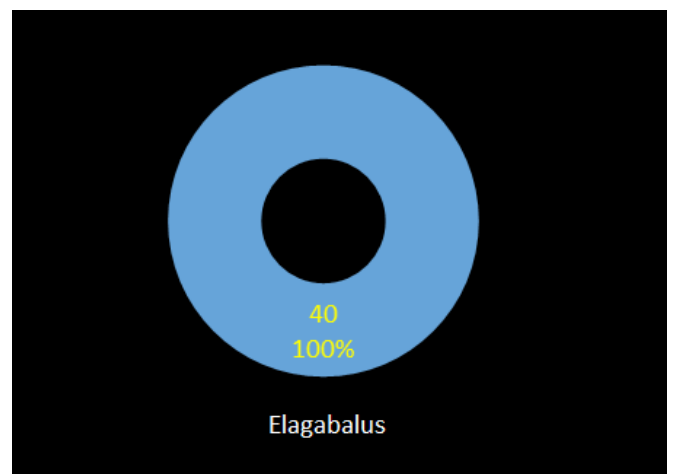


Fig. 140

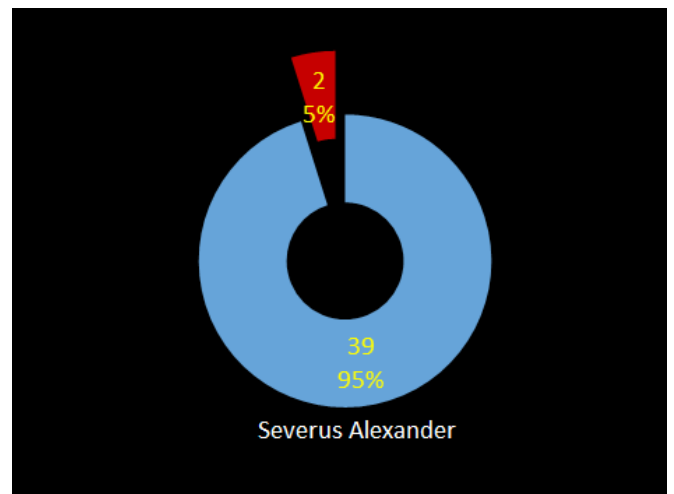


Fig. 141

genuine pieces, 15 coins, and 12% plated pieces, two coins. Fig. 140 regarding the reign of Elagabalus (218-222) with a proportion of 100% genuine pieces, 40 coins. Fig 141 regarding the reign of Severus Alexander (222-235) with a proportion of 95% genuine pieces, 39 coins, and 5% plated pieces, two coins.

**Szőny – Brigetio (Hungary)**

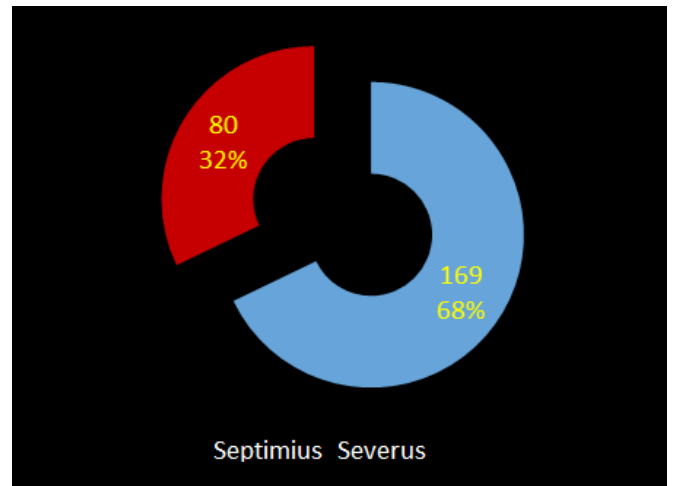


Fig. 142



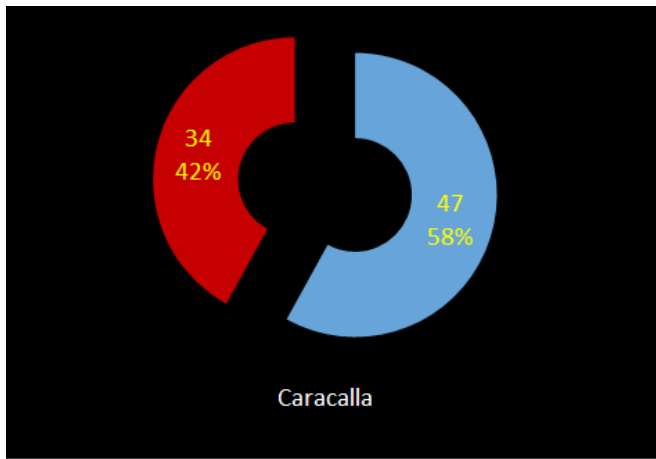


Fig. 143

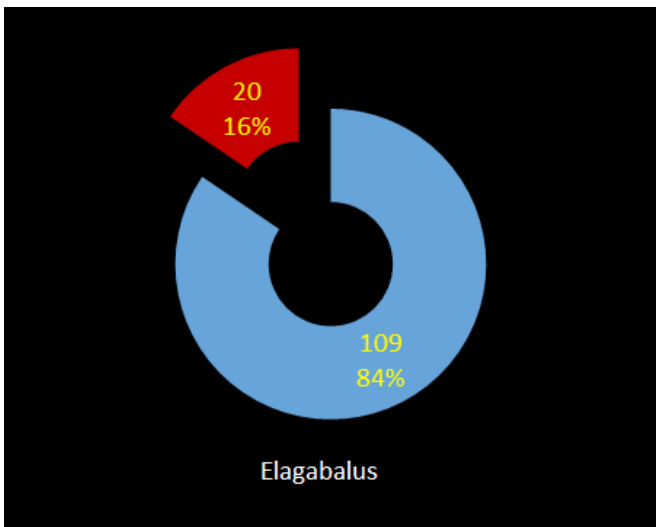


Fig. 144

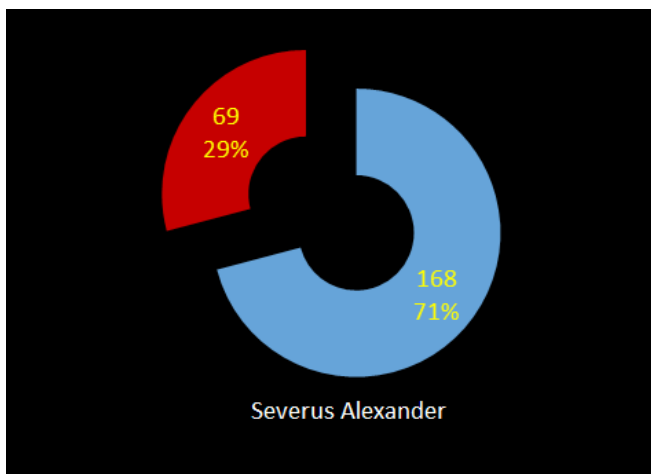


Fig. 145

For the site of Brigetio<sup>157</sup> we have Fig. 142 for pieces dated during Septimius Severus (193-211), 68% are genuine, 169 pieces, while 32% are plated, 80 pieces. Fig 143 shows dated pieces during the reign of Caracalla (211-217), 58% are genuine, 47 coins, 42% are plated, 34 coins. Fig. 144 for pieces dated during Elagabalus (218-222), 84% are genuine, <sup>157</sup> FMRU III, 1999.

109 coins, while 16% are plated, 20 coins. Fig. 145 for pieces dated during Severus Alexander (222-235), 71% are genuine, 168 coins, while 29% are plated, 69 coins.

**Carnuntum (Austria)**

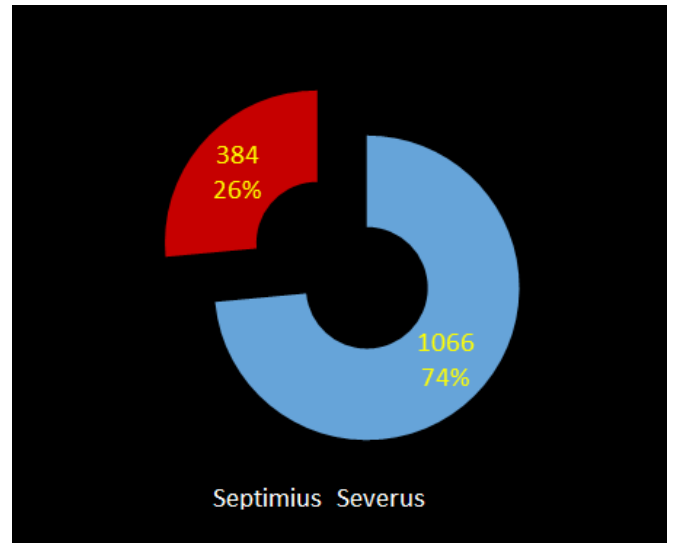


Fig. 146

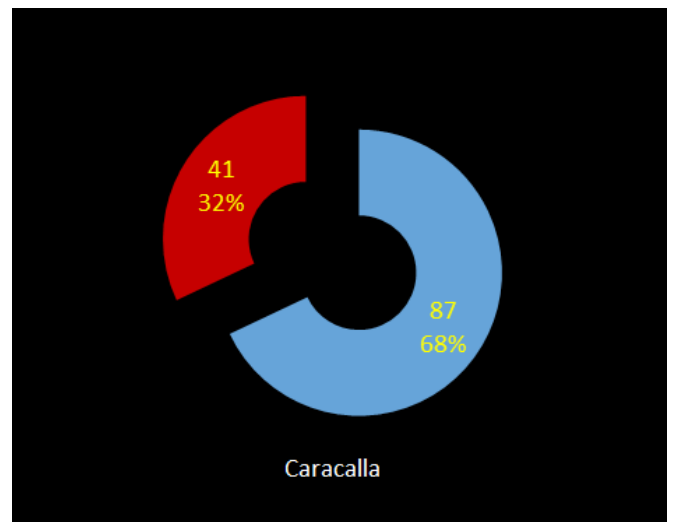


Fig. 147

Last but not least we have the site of Carnuntum seen in Fig. 146 regarding the reign of Septimius Severus (193-211) with a proportion of 74% genuine pieces, 1066 coins, and 26% plated pieces, 384 coins. Fig. 147 regarding the reign of Caracalla (211-217) with a proportion of 68% genuine pieces, 87 coins, and 32% plated pieces, 41 coins. Fig. 148 regarding the reign of Elagabalus (218-222) with a proportion of 83% genuine pieces, 511 coins, and 17% plated pieces, 103 coins. Fig 149 regarding the reign of Severus Alexander (222-235) with a proportion of 72% genuine pieces, 703 coins, and 28% plated pieces, 279 coins.

Using the information provided by pie charts regarding the Severian dynasty and with the help of geography it was possible to create new representations,

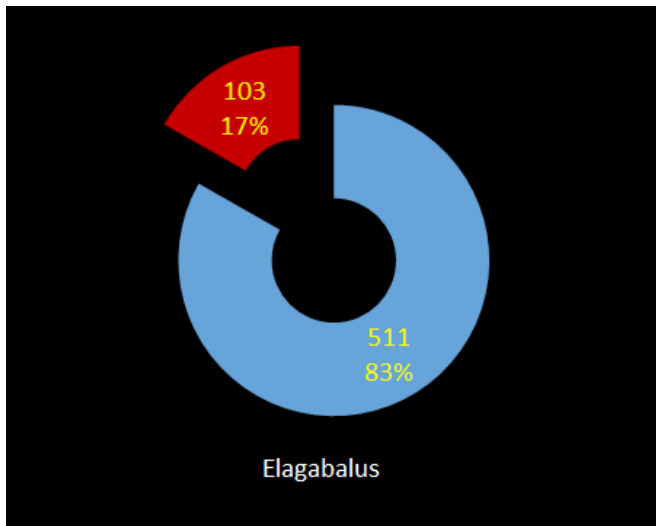


Fig. 148

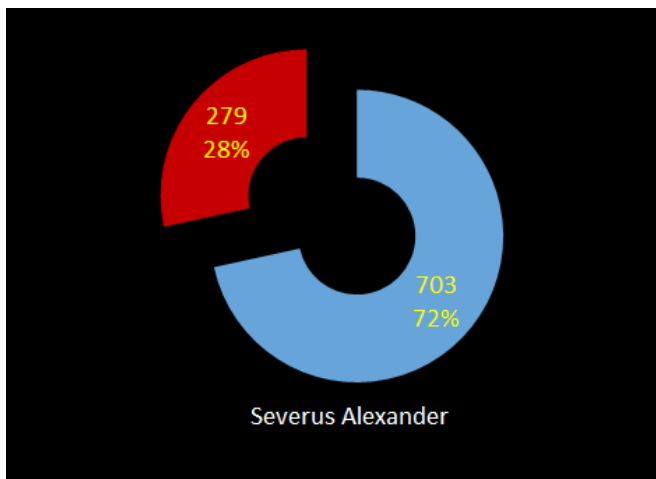


Fig. 149

Fig. 150, Fig. 151, Fig. 152 and Fig. 153 where the pie charts were placed on maps according to their location. This way it's possible to view the change in coin proportions during the Severian period (193-235) on different archaeological sites from East to West.

In Fig. 150 regarding the time frame of Septimius Severus (193-211) we can see sites numbered from 1 to 5 for sites located in Roman Dacia, Porolissum with 156 plated silver coins representing 62% of the total, Arcobadara with 37 plated silver coins representing 49%, Potaissa with 34 plated and cast silver pieces representing 13%, Apulum with 78 plated silver coins representing 54% and Ulpia Traiana Sarmizegetusa with 14 plated silver pieces representing 26%.

Sites numbered from 6 to 9 are located in Roman Pannonia Inferior and Superior, Intercisa with 37 plated silver coins representing 49%, Brigetio with 80 plated silver pieces representing 32% and Carnuntum with 384 plated silver coins representing 26%.

Next follows Roman Noricum with sites numbered from 10 to 11, Vindobona with 51 plated silver coins representing 42% and Ovilava with 13 plated silver pieces representing 19%. Roman Raetia is shown in sites numbered from 12 to 14, Castra Regina with two plated silver coins representing 11%, Eining with four plated silver coins

representing 11% and Augusta Vindelicorum with one plated silver coin representing 6%.

Towards to the west we have Roman Germania Superior with sites numbered from 15 to 18, Nida with 13 silver plated coins representing 13%, Mogontiacum with 14 silver plated pieces representing 16%, Hofheim-Main-Taunus with three plated silver coins representing 6%, Zugmantel with 30 plated silver coins that represent 15% and for Roman Gallia Belgica site number 19, Augusta Treverorum with three plated pieces representing 3%.

We can observe that when going westwards, the percentage for plated coins is decreasing. Thus, for Porolissum 62% are plated coins, Arcobadara with 49%, Potaissa with 13%, Apulum with 54%, Ulpia Traiana Sarmizegetusa with 26%, Intercisa with 49%, Brigetio with 32%, Carnuntum with 26%, Vindobona with 42%, Ovilava with 19%, Castra Regina with 11%, Eining with 11%, Augusta Vindelicorum with 6%, Nida with 13%, Mogontiacum with 16%, Hofheim Main Taunus with 6%, Zugmantel with 15%, Augusta Treverorum with 3%.

Fig. 151 represents the coins situation during the reign of Caracalla (211-217), same as before we have sites from 1 to 5 for Dacia, Porolissum with 27 silver plated pieces representing 51%, Arcobadara with three silver plated coins representing 38%, Potaissa with 18 silver plated and cast pieces representing 34%, Apulum with 20 silver plated coins representing 69% and Ulpia Traiana Sarmizegetusa with four silver plated coins representing 36%.

Sites numbered from 6 to 9 represent locations from Roman Pannonia Inferior and Superior, Intercisa with three silver plated coins representing 38%, Gorsium-Herculia with two silver plated pieces representing 12%, Brigetio with 34 silver plated coins representing 42% and Carnuntum with 41 silver plated coins representing 32%.

For Roman Noricum, we have sites numbered from 10 to 11, Vindobona with 14 silver plated coins representing 67% and Ovilava with three silver plated coins representing 15%. Also for Roman Raetia there are the following sites numbered from 12 to 14, Eining with one silver plated coin representing 8% and Augusta Vindelicorum with one silver plated coin representing 25%.

In Roman Germania Superior, we have sites numbered from 15 to 18, Nida with eight plated silver coins representing 21%, Mogontiacum with one silver plated coin representing 25% and Zugmantel with four silver plated coins representing 20%. At the end, we also have site number 19 for Gallia Belgica, Augusta Treverorum with one silver plated coin representing 4%.

For this time frame, the percentage of silver plated coins has increase since the previous issuer, Porolissum with 51%, Arcobadara with 38%, Potaissa with 34%, Apulum with 69%, Ulpia Traiana Sarmizegetusa with 36%, Intercisa with 38%, Gorsium-Herculia with 12%, Brigetio with 42%, Carnuntum with 95%, Vindobona with 67%, Ovilava with 15%, Eining with 8%, Augusta Vindelicorum with 25%, Nida with 21%, Mogontiacum with 25%, Zugmantel with 20%, Augusta Treverorum with 4%.

Fig. 152 represents the situation during the reign of Elagabalus (218-222), we have the sites from 1 to 5 for Dacia, Porolissum with 15 plated silver coins that represent 29%,

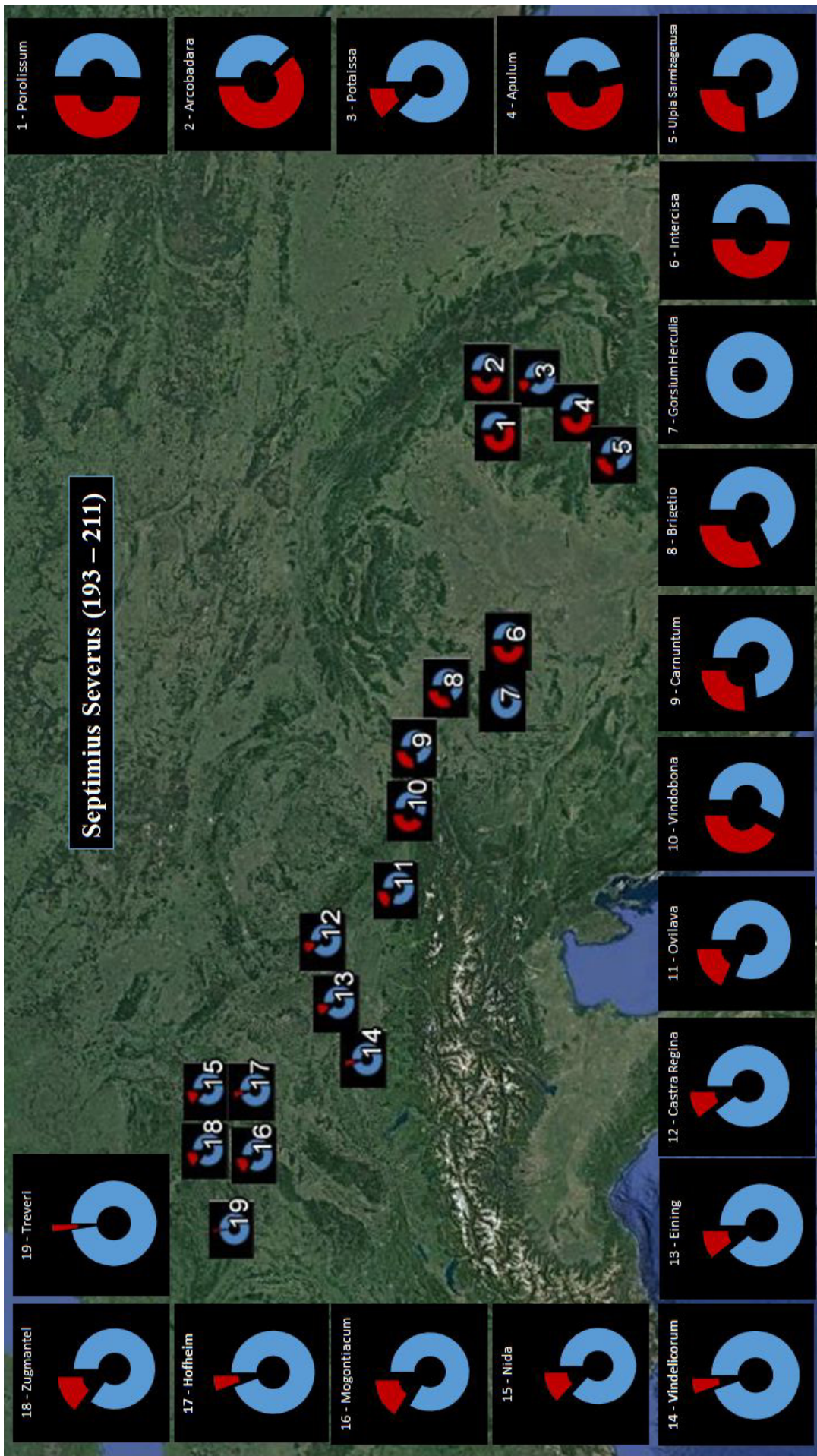
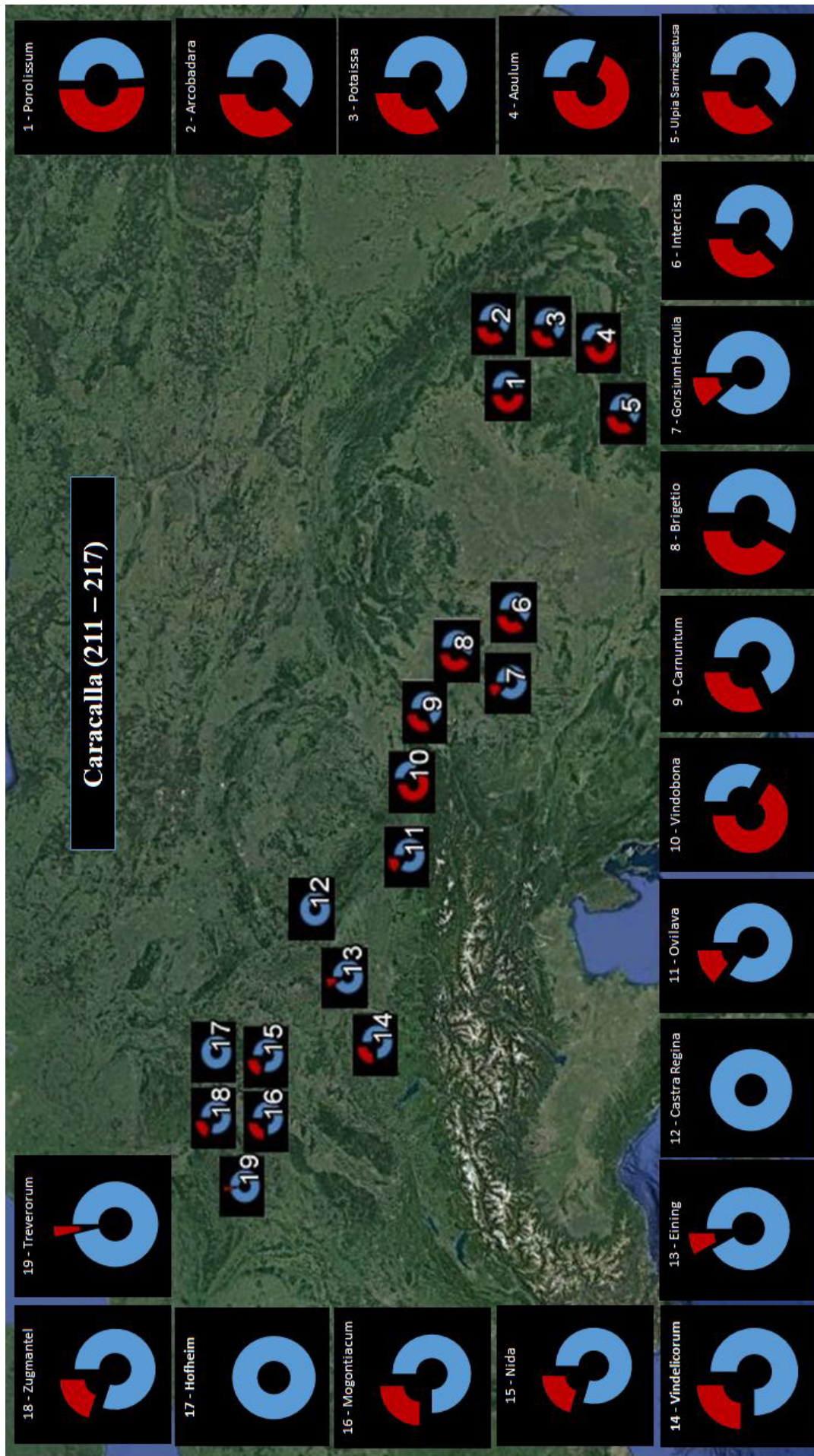


Fig. 150. Map with studied sites and pie charts showing the proportion of silver coins dated for Septimius Severus (red – plated, blue – genuine).





**Fig. 151.** Map with studied sites and pie charts showing the proportion of silver coins dated for Caracalla (red – plated, blue – genuine).

Arcobadara with four silver plated coins representing 33%, Potaissa with eight silver plated and cast pieces representing 9%, Apulum with 37 silver plated coins representing 51% and Ulpia Traiana Sarmizegetusa with two silver plated pieces representing 11%. The sites numbered from 6 to 9 are located in Pannonia Inferior and Pannonia Superior, Intercisa with four silver plated pieces representing 33%, Brigetio with 20 silver plated coins representing 16% and Carnuntum with 103 silver plated pieces representing 17%.

Next follows Noricum with sites numbered from 10 to 11, Vindobona with four silver plated coins representing 21% and Ovilava with three silver plated pieces representing 10%. For Raetia we have sites from 12 to 14 only at Augusta Vindelicorum there have been identified two silver plated coins representing 18%.

Regarding Germania Superior we have the following sites numbered from 15 to 18, Nida with two silver plated coins representing 3%, Mogontiacum with three silver plated pieces representing 8%, Hofheim Main Taunus with two silver plated coins representing 7%, Zugmantel with five silver plated pieces representing 7%. Also, we have number 19 regarding Augusta Treverorum with two silver plated coins representing 3%.

During the reign of Elagabalus (218-222) the proportion of silver plated coins decreases in value but it's very easy to see how there are larger proportions of this type of coin found in the eastern side of the studied area. Thus, for this study case we have Porolissum with 29%, Arcobadara with 33%, Potaissa with 9%, Apulum with 51%, Ulpia Traiana Sarmizegetusa with 11%, Intercisa with 33%, Brigetio with 16%, Carnuntum with 17%, Vindobona with 21%, Ovilava with 10%, Augusta Vindelicorum with 18%, Nida with 3%, Mogontiacum with 8%, Hofheim Main Taunus with 7%, Zugmantel with 7%, Augusta Treverorum with 3%.

Fig. 153 serves as representation for the situation dated at Severus Alexander (222-235) where we can observe the same layout as before, sites numbered from 1 to 5 for Dacia, Porolissum with 37 silver plated coins representing 33%, Arcobadara with 11 silver plated pieces representing 31%, Potaissa with 25 silver plated coins representing 13%, Apulum with 66 silver plated pieces representing 49% and Ulpia Traiana Sarmizegetusa with eight silver plated coins representing 18%. Sites numbered from 6 to 9 are in Pannonia Inferior and Pannonia Superior, Intercisa with 11 silver plated coins that represent 31%, Gorsium-Herculia with two silver plated coins that represent 5%, Brigetio with 69 silver plated coins that represent 29% and Carnuntum with 279 silver plated coins that represent 28%.

Roman Noricum follows up with sites numbered from 10 to 11, Vindobona with nine silver plated coins representing 33%, Ovilava with seven silver plated coins representing 10%, and Roman province of Raetia with sites numbered from 12 to 14, Castra Regina with one silver plated piece representing 5%, Augusta Vindelicorum with two silver plated pieces representing 12%.

For the Roman province of Germania Superior there are the sites numbered from 15 to 18, Nida with 14 silver plated coins which represent 11%, Mogontiacum with nine silver plated pieces that represent 13%, Hofheim Main Taunus with two silver plated coins that represent 4% and

Zugmantel with ten plated silver coins that represent 8%.

Thus, the largest proportion of plated coins are found on eastern studied sites, Porolissum with 33%, Arcobadara with 31%, Potaissa with 13%, Apulum with 49%, Ulpia Traiana Sarmizegetusa with 18%, Intercisa with 31%, Gorsium-Herculia with 5%, Brigetio with 29%, Carnuntum with 28%, Vindobona with 33%, Ovilava with 10%, Castra Regina with 5%, Augusta Vindelicorum with 12%, Nida with 11%, Mogontiacum with 13%, Hofheim Main Taunus with 4%, Zugmantel with 8%.

It's easy to observe the difference in percentage for plated silver coins when it comes to eastern sites and western sites, settlements located in different Roman provinces and pieces used over the time of a dynasty.

During the reign of Septimius Severus (193-211) on sites located in Dacia there have been discovered silver plated coins which form up between 13% to 62% of the total number of identified coins on the sites, depending on the location, in Pannonia between 26% to 49%, Noricum between 19% and 42%, Raetia between 6% and 11% and Germania Superior with Gallia Belgica between 3% and 16%.

Later during the reign of Caracalla (211-217), we have the next values regarding the proportions for silver plated pieces, Dacia between 34% and 69%, Pannonia between 12% and 42%, Noricum between 15% and 67%, Raetia with proportions between 8% and 25%, Germania Superior and Gallia Belgica between 4% and 25%.

For the time frame of Elagabalus (218-222) the following proportions have been recorded regarding the plated coins in studied regions, Dacia between 9% and 51%, Pannonia between 16% and 33%, Noricum between 10% and 21%, Raetia with 18%, Germania Superior and Gallia Belgica between 3% and 8%.

During the reign of Severus Alexander (222-235) on the sites from Dacia there have been identified between 13% to 49% silver plated coins, in Pannonia between 5% and 31%, for Noricum between 10% and 33%, Raetia between 5% and 12% while in Germania Superior and Gallia Belgica between 4% and 13%.

Thus, while in Germania Superior during the Severian dynasty the proportions for silver plated pieces oscillate between 5% and 20% or 25% and in Raetia between 5% and 20%, in Pannonia the proportion for silver plated pieces move between 5% and 49% while in Dacia between 9% and 69%.

It's highly possible that increase proportions of silver plated pieces discovered for Pannonia and Dacia suggest a mixt monetary distribution for frontier provinces located on the border of the empire. This may explain the visible predisposition for distributing more genuine pieces towards the Rhine frontier than its Danube counterpart which shows rich proportions of silver plated pieces.

## INTERPRETATIONS

After each studied region was presented with its number of genuine and plated coins, it was time to compare the regions between themselves and with those located on the Middle Danube, Roman provinces of Pannonia Superior, Pannonia Inferior and Dacia.



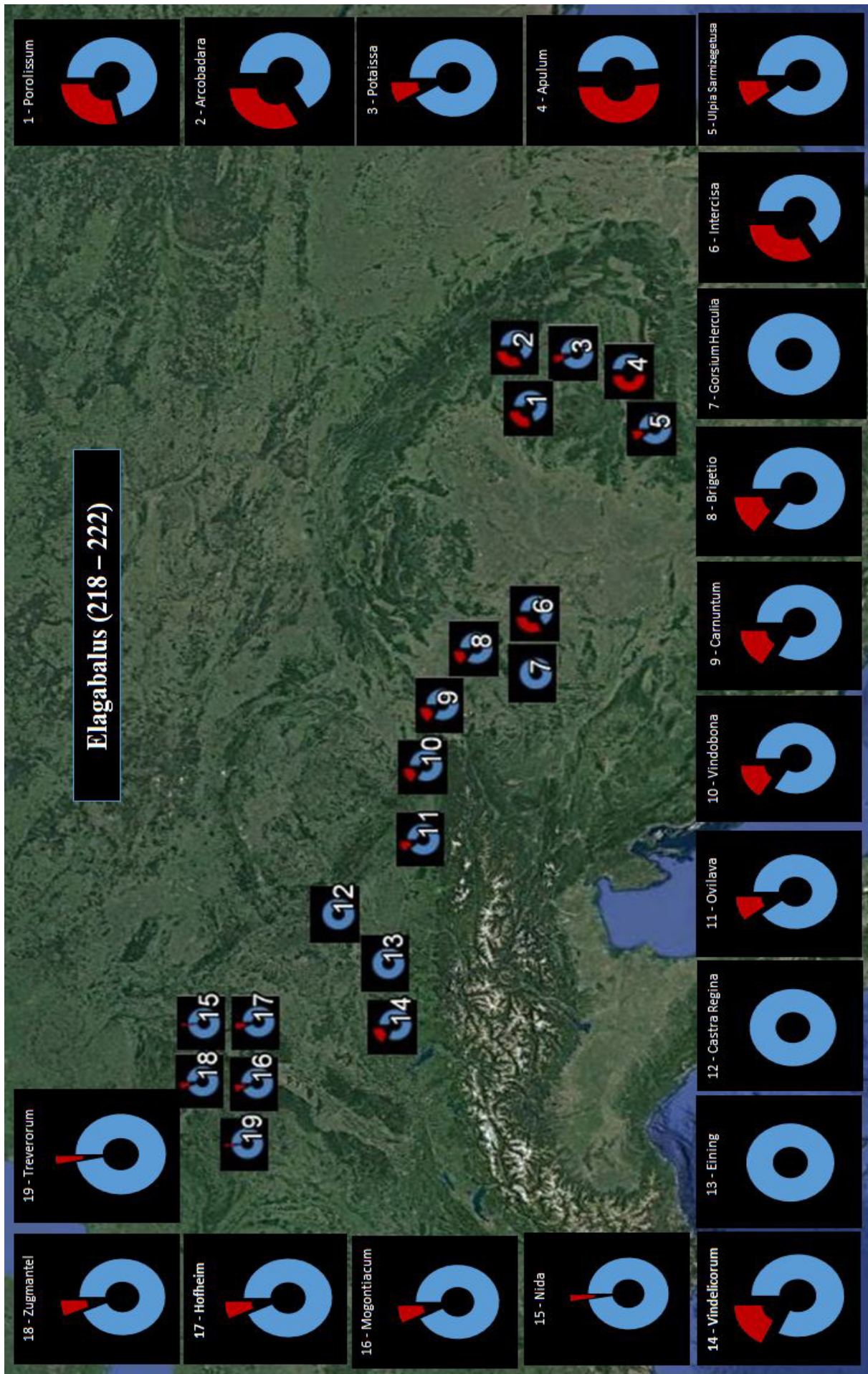


Fig. 152. Map with studied sites and pie charts showing the proportion of silver coins dated for Elagabalus (red – plated, blue – genuine).



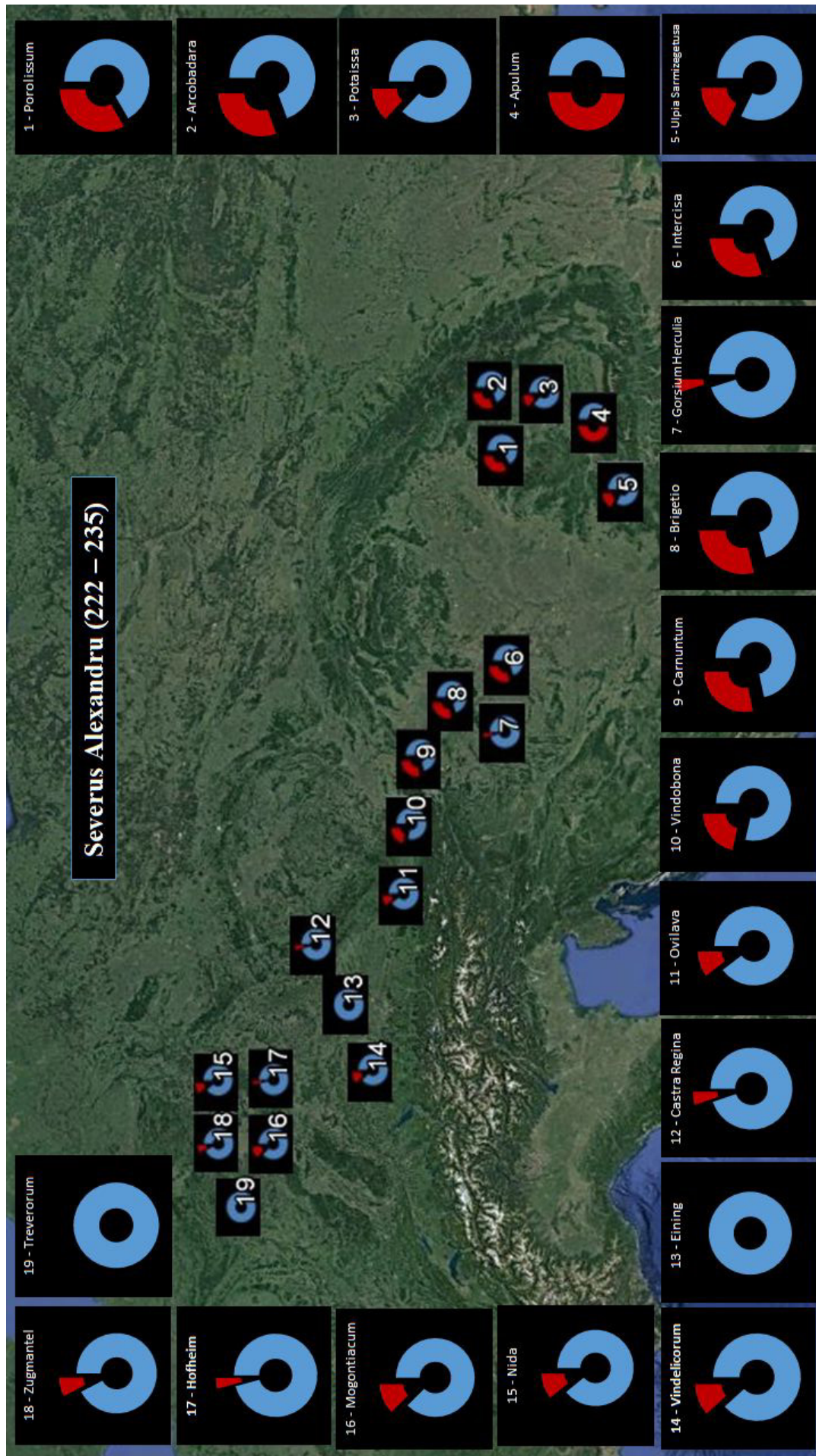


Fig. 153. Map with studied sites and pie charts showing the proportion of silver coins dated for Severus Alexander (red – plated, blue – genuine).

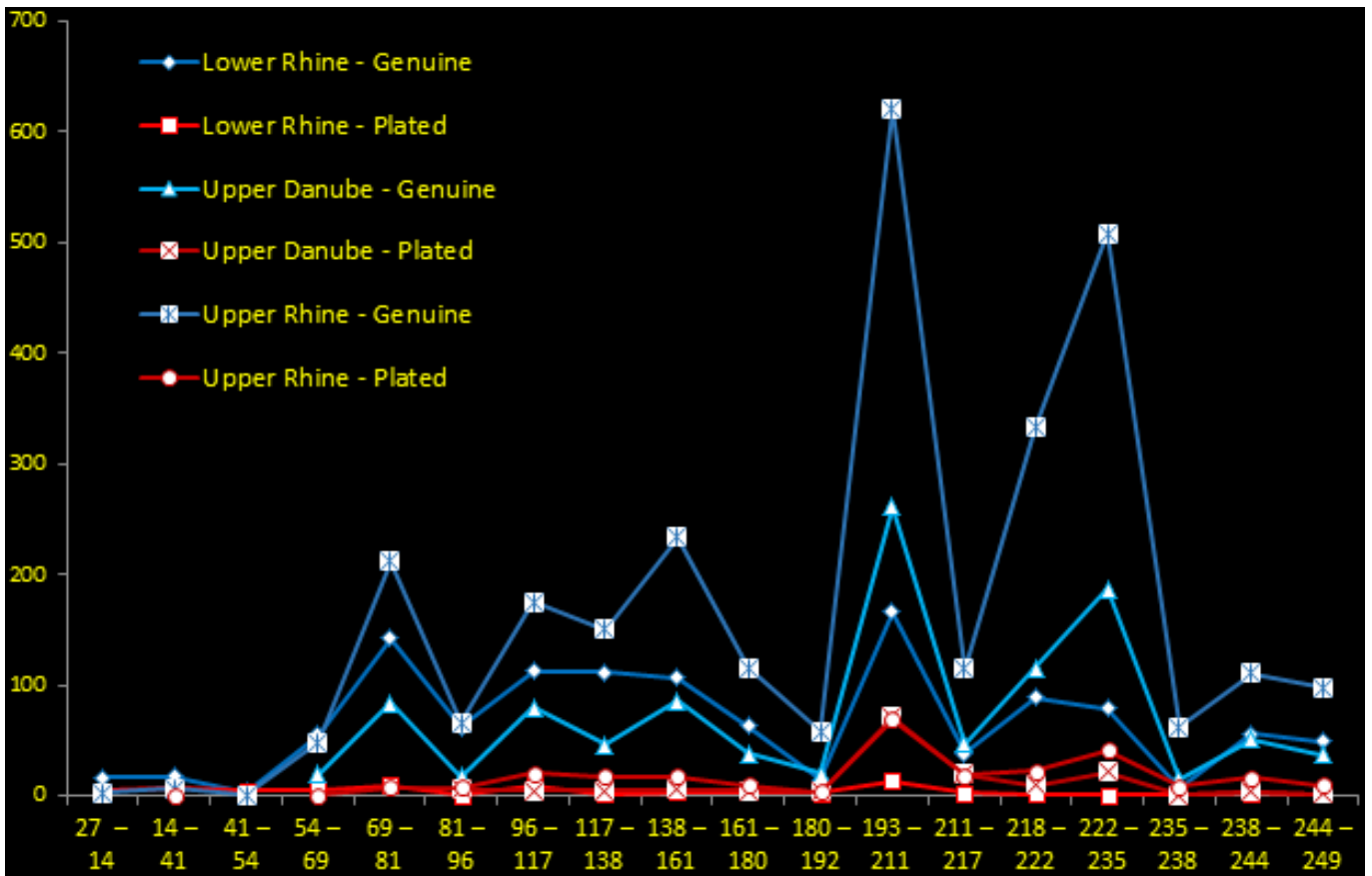


Fig.154. Numbered of genuine and plated silver coins on studied regions.

We can straightforward observe the sparse number of plated pieces discovered for these regions, on the left side of Fig. 154 we can observe the scale for quantity of pieces. Even if plated coins have been identified using images dated

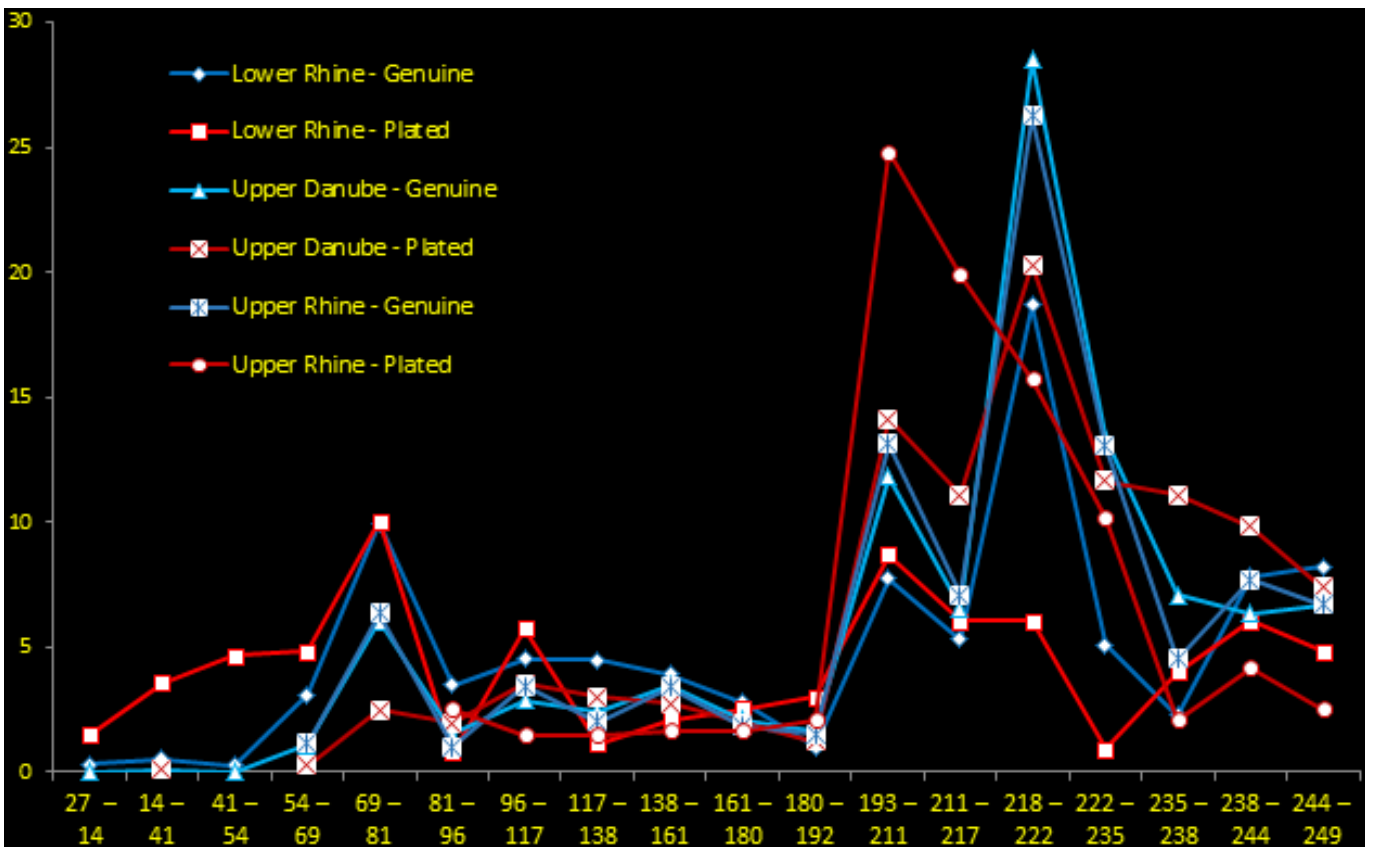


Fig.155. Coefficient of genuine and plated silver coins on studied regions.



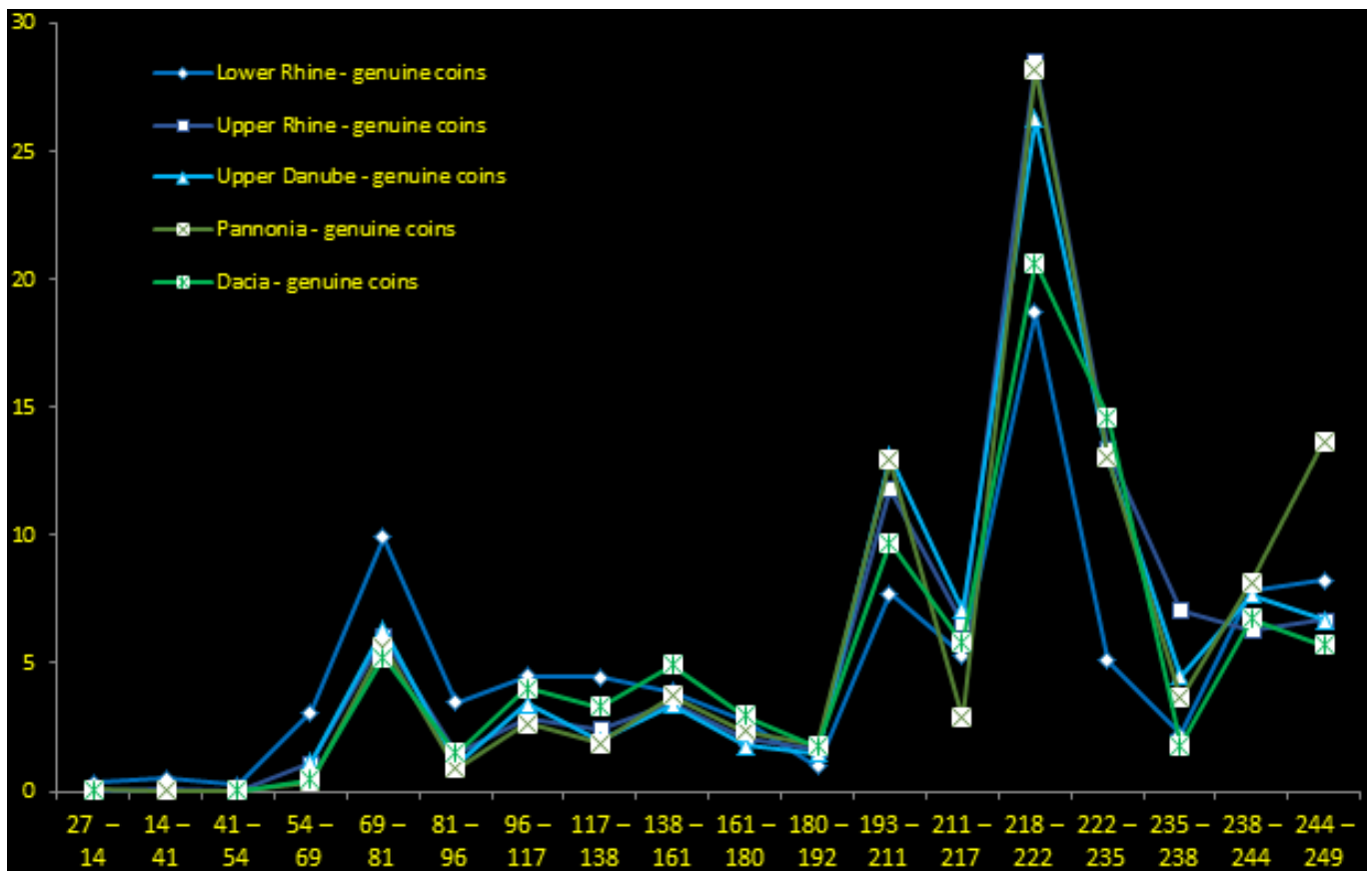


Fig.156. Coefficient of genuine silver coins – Rhine vs. Danube.

anywhere from Augustus (27BC-14AD) to Philip I (244-249) most coins have been dated during the Severian dynasty (193-235).

In the case of genuine pieces, we can see the substantial number of dated pieces between 69-81 and the decrease of genuine pieces dated between 81-96. For the Antoninian period the index for genuine pieces increase and stays at a steady rhythm until the reign of Commodus (180-192) when all index decrease.

Next follows the Severian period, for Septimius Severus (193-211) the index will increase very much while for Caracalla (211-217) they will decrease but increase again for Elagabalus (218-222) and Severus Alexander (222-235). With the beginning of Military Anarchy, all index decrease in value a smaller increase being recorded for Gordian III (238-244) and Philip I (244-249).

Thus, we observe how the pattern of coin circulation for genuine pieces regarding these regions is most of the times identical with that of individual studied sites as seen in Fig. 65, Fig. 68 and Fig. 71.

In Fig. 155 on the other hand we can see the index for silver coins using the Ravetz<sup>158</sup> formula. Because this formula works at its best only when using large quantities of coins and in order to reach accurate results this method was not used for individual sites just at regional level.

Coefficients for genuine pieces show very similar patterns during same historical periods, on the other side coefficients for plated pieces show different results.

First of all, the index for Lower Rhine region shows very high values during the first eight decades of the I century

but during Vespasian (69-79) all plated coefficients increase in value, followed by a decrease during Domitian (81-96) and a steady rhythm during the Antoninian period.

During the Severian period all coefficients for plated pieces increase in value, under Septimius Severus (193-211) and Caracalla (211-217) the index for plated coins is equal or higher in value with that of genuine pieces, for Elagabalus (218-222) the genuine coefficient is higher than that of plated pieces and during Severus Alexander (222-235) index for plated coins decreases in value but have similar levels with coefficients for genuine coins.

These results are not enough however for a comparative view along the Roman frontier, that's why new graphs were formed by merging the results regarding coin coefficients at regional level from Germania Inferior, Gallia Belgica, Germania Superior, Raetia and Noricum with results from Pannonia Superior, Pannonia Inferior and Dacia<sup>159</sup>.

Fig. 156 presents coefficients for genuine pieces discovered on these regions, making it very easy to view the coin distribution in the area. The followed pattern is effortless to distinguish, low values during the first half of the I century followed by an increase in value during Nero (54-68) and civil war of 69, the increase continues during Vespasian (69-79) and Titus (79-81). The highest index is the one for Lower Rhine region which is very influenced by Roman sites of Nijmegen and Trier which have massive quantities of silver coins dated during Vespasian (69-79).

For Domitian's period (81-96) coin coefficients decrease in value but during the Antoninian period they will increase again and maintain their rhythm. During

<sup>158</sup> CASEY 1974, 41.

<sup>159</sup> GASPAR 2015.

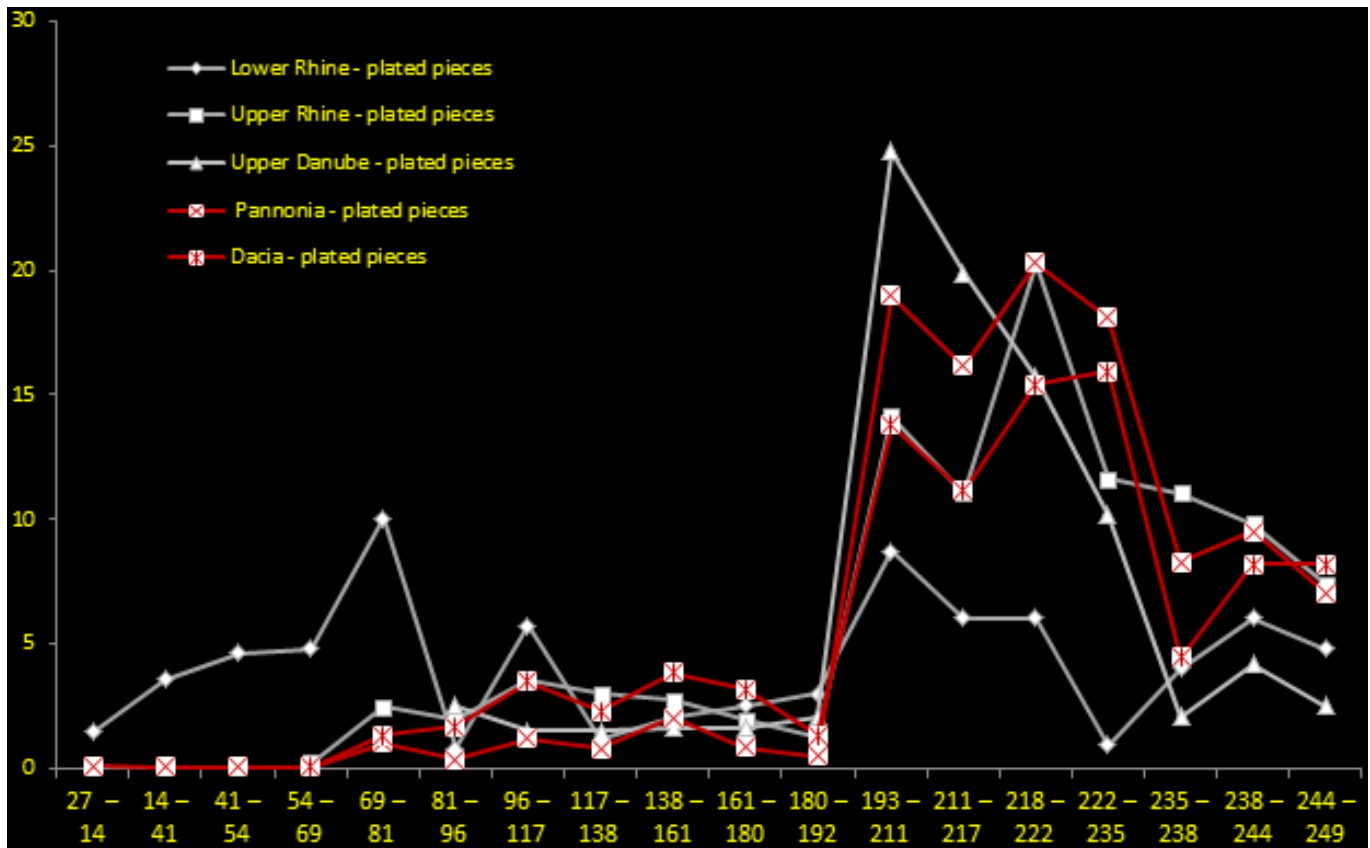


Fig.157a. Coefficient of plated silver coins – Rhine vs. Danube.

Commodus (180-192) all index decrease again but for Septimius Severus (193-211) an increase of about twice and a half in value, comparative to Antoninian values, is recorded for all coefficients.

During Caracalla (211-217) coefficients decrease again, under Elagabalus (218-222) however the index show a new increase between 4 to 6 times higher in value than the one dated during the Antoninian times. With Severus Alexander (222-235) a new decrease in value begins and will continue for Maximinus Thrax (235-238) as well.

For the beginning of Military Anarchy under Gordian III (238-244) and Philip I (244-249) index increase again in value.

It's plain simple to observe the pattern of coin distribution for genuine pieces for areas located on the empires border, even if we discuss about Dacia which was incorporated in 106 AD, of Noricum which is acquired during Claudius (41-54)<sup>160</sup> or Germania Superior which is extended during the Flavian dynasty. One of the reasons why coefficients for genuine pieces have such high values dated during Vespasian (69-79) is because during his son Domitian (81-96)<sup>161</sup> a monetary reform took place, old coins up to him being melted and reminted with his image<sup>162</sup>, highly unlikely of him to melt coins issued by his own father.

Next follows the times of stability and prosperity attributed to Antoninian rulers, the decrease in value during Commodus (180-192) and high quantities of coins being issued during Severian times, especially Septimius Severus

(193-211) when the silver coinage is debased<sup>163</sup>, old pieces are melted and reissued under his image and his percentage of silver.

In Fig. 157 we can see the distribution of silver plated pieces regarding the studied area. In some places like Pannonia or Germania Inferior these pieces arrive even from Augustus's times because of the early Roman presence in the area. On the other hand, in Germania Superior plated coins arrive most likely only with the start of the Flavian dynasty, while in Dacia after Trajan (98-117) conquest. Unfortunately, since we can't calculate the time of circulation for a Roman coin the only timeframe that we have is the *terminus post quem*, more exactly the date at which the genuine image was issued.

Most coefficients for plated pieces increase in value during Vespasian (69-79), this is because of his son Domitian (81-96) and his monetary reform which melted and reissued older coins, which can also explain the low values for plated coins before Vespasian since not many genuine models were left to use for plating them.

On the other hand, the index regarding Germania Inferior shows high values even before Vespasian (69-79). This is because of Nijmegen, where most silver coins were dated during the I century AD and there were many silver plated pieces identified alongside the genuine ones.

Thus, after using the Ravetz formula at regional level and because in total only 83 plated coins were identified for this area, the coefficient is very high in value. This is not wrong from the historical point of view but it does influence the way that plated pieces are represented in graphs.

During the Antoninian period the coefficient for plated

<sup>160</sup> FISCHER 2002, 21.

<sup>161</sup> HARL 1996, 14.

<sup>162</sup> JONES 1992, 76.

<sup>163</sup> DEPEYROT 2006, 126.

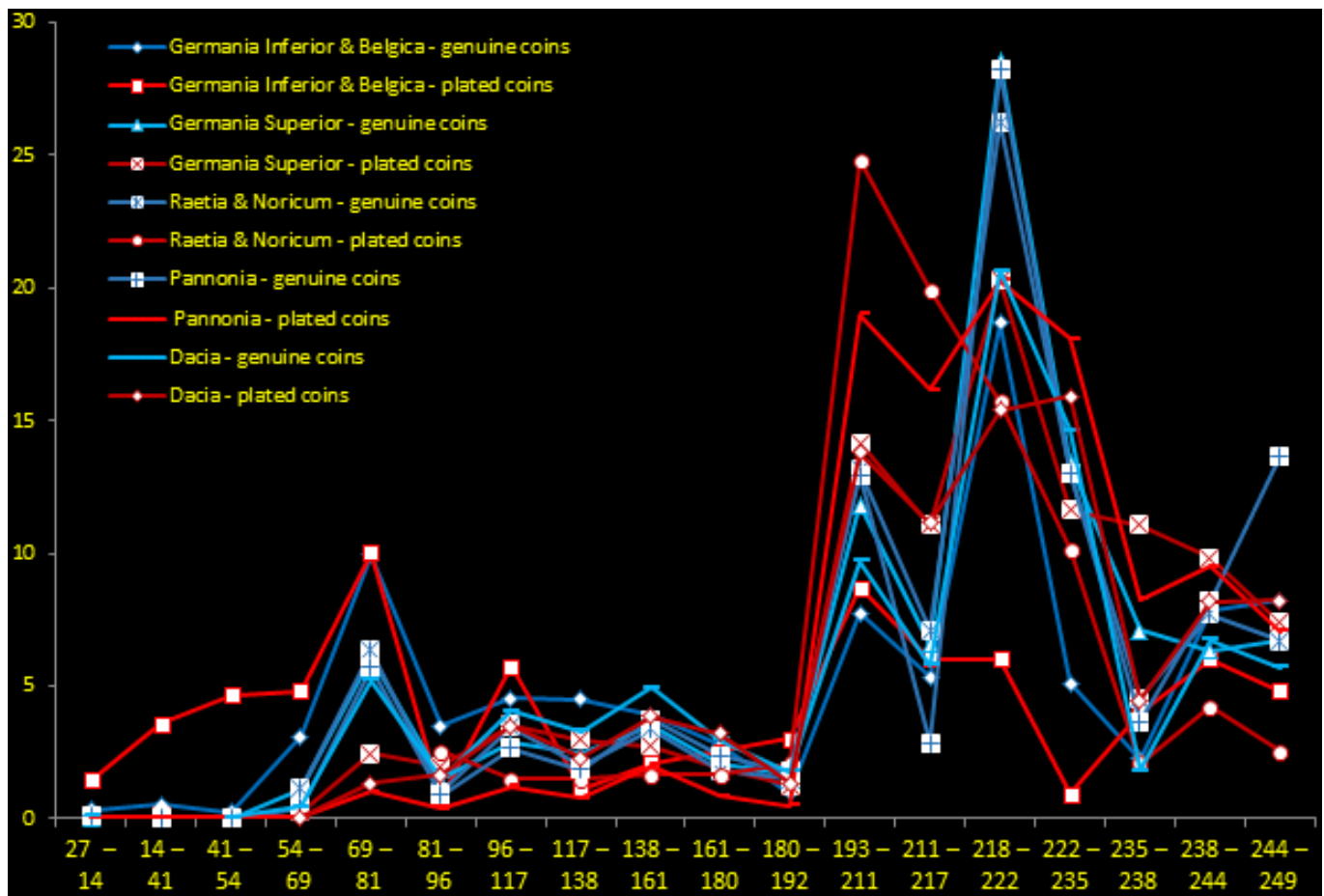


Fig.157b. Coefficient of genuine and plated silver coins – Rhine vs. Danube.

pieces maintains a steady rhythm which at the beginning of the Severian period will increase between 3 to 5 times in value. With the start of Military Anarchy, the index will decrease and maintain a new level.

In the case of Lower Rhine region, we can observe that it has the lowest value regarding plated pieces dated during the Severian dynasty. This is because the few plated coins discovered on sites from this area, the military camp from Nijmegen being abandoned during the reign of Hadrian (117-138) while the settlements from Nörvenich, Mariaweiler and city of Trier were all civilian areas.

Coefficients for Germania Superior, Upper Danube, Pannonia and Dacia show very high values which are typical when it comes to Severian dynasty and military areas, this timeframe represents the beginning of major debasements for silver coinage<sup>164</sup>.

After all these graphs, a new one was needed. Fig. 158 is the embodiment of the general situation for all the studied area, genuine and plated coin coefficients, so that we can observe the followed patterns by these coins. As we can see most of the time they followed a similar pattern during the I and II centuries, general increase in value for Severian dynasty and general decrease with Maximinus Thrax (235-238) and Military Anarchy.

It is also possible to see particularities of the studies areas, for example how Germania Inferior has many identified plated pieces date during the Julio-Claudian and Flavian times but not the Severian period.

<sup>164</sup> DEPEYROT 2006, 126

Raetia and Noricum present the highest value for plated coins coefficients during the reign of Septimius Severus (193-211), value which decreases for the following issuers until Maximinus Thrax (235-238).

Highest values reached by plated coin coefficients during the reign of Septimius Severus (193-211) are those which represent Dacia, Pannonia, Noricum and Raetia, situation which remains the same during Caracalla (211-217) as well.

On the other hand, during Elagabalus (218-222) the coefficients for genuine pieces regarding regions like Germania Superior, Noricum and Pannonia have higher values than any other index for this period. For Severus Alexander (222-235) the values start decreasing, only after Maximinus Thrax (235-238) the coefficients will increase in value again.

**PLATED COINS:**

After researching coin catalogs for pieces discovered along the German limes there have been found 5.212 genuine silver coins and 513 silver plated coins.

For Roman Noricum and Raetia, we have the site from Vienna where 66 silver plated coins which represent 24% were discovered as seen in Fig. 1, at Wels there have been identified 41 silver plated pieces which represent 12% as seen in Fig. 3, for Straubing we have eight plated coins which represent 15% seen in Fig. 5, at Regensburg there have been discovered 10 silver plated pieces with 8% as per Fig. 7, in the case of Pfünz four plated silver coins were identified

seen in Fig. 9, Eining has nine silver plated coins with 5% as per Fig. 13 and Augsburg where six plated silver pieces were discovered and represent 5% as seen in Fig. 15.

In the case of Germania Superior there are the following sites, Rottenburg am Neckar where two silver plated pieces were identified that represent 1% as seen in Fig. 19, Bad Cannstatt which has two silver plated pieces with 1% as per Fig. 21, Rheinzabern with one silver plated coin which represents 1% seen in Fig. 23, Speyer with one silver plated piece that represents 2% as seen in Fig. 25, Nida where 66 silver plated coins were identified representing 10% seen in Fig. 33, Rückingen with five silver plated pieces which represent 11% as seen in Fig. 35, Friedberg where five silver plated pieces that represent 11% as seen in Fig. 37, Mainz where 44 silver plated coins were identified and represent 14% from the total number of coins on the site as seen in Fig. 39, Hofheim with 22 silver plated pieces that represent 10% as per Fig. 41, Wiesbaden which shows 15 silver plated coins with 12% as seen in Fig. 43, Zugmantel where 66 silver plated coins were identified and represent 10% from the total number of coins as seen in Fig. 45, Heldenbergen where two silver plated coins were discovered that represent 3% as seen in Fig. 47, Ober-Florstadt with four silver plated coins that represent 5% as per Fig. 49 and Butzbach with eight plated silver pieces that represent 7% as seen in Fig. 51.

For Germania Inferior and Gallia Belgica we have the sites from Trier where 27 silver plated coins were discovered representing 4% as seen in Fig. 53, Mariaweiler-Hoven where 13 silver plated pieces were identified representing 13% as seen in Fig. 55, Nörvenich where nine silver plated coins with 8% were discovered as seen in Fig. 57, Köln where three silver plated pieces with 3% were discovered as seen in Fig. 59, Neuss where eight silver plated coins that represent 14% were identified as seen in Fig. 61 and Nijmegen with 18 silver plated pieces that represent 11% as seen in Fig. 63.

Therefore, for Noricum silver plated pieces represent between 12% and 24%, for Raetia between 5% and 15%, in the case of Germania Superior between 1% and 14%, for Germania Inferior between 3% and 14% and for Trier located in Gallia Belgica just 4%.

We can see observe the decrease in proportions for plated silver pieces as the study moves westwards, in Noricum between 12% - 24% are plated pieces while for both German provinces only between 1% - 14%.

### HYBRID COINS:

Hybrid coins are pieces that represent on their sides images originating from different types of coins or different issuers<sup>165</sup>. Most of the times this happens because of human error during the minting process when a coin may get struck twice out of mistake or get struck with images from diverse issuers on its sides.

Authors of RIC<sup>166</sup> have omitted these types of coins in their catalogues, without realizing that involuntary they made many future researchers to wrongly believe that all Roman coins issued by Roman authorities can be found in their catalogues<sup>167</sup>.

<sup>165</sup> PREDA 2008, 151.

<sup>166</sup> Roman Imperial Coinage.

<sup>167</sup> MATTINGLY 1923-2007.

Back to hybrid pieces, for Roman Noricum there is Vienna shown in Fig. 2, there were discovered nine silver coins, six of them dated at Septimius Severus (193-211), one coin for Caracalla (211-217) and two coins during Philip I (244-249). For the site of Wels seen in Fig. 4 there were identified two coins, one dated during Antonius Pius (138-161) and one during Septimius Severus (193-211).

For the province of Raetia, we have the following sites like Pfundz shown in Fig. 10 where one silver piece was dated for the reign of Septimius Severus (193-211). Eining seen in Fig. 14 with two hybrid coins, one dated at Septimius Severus (193-211) and one to Caracalla (211-217). Augsburg seen in Fig. 16 where one hybrid coin was detected for the reign of Gordian III (238-244).

In Germania Superior at Bad Cannstatt seen in Fig. 22 one hybrid coin was discovered that was dated at Hadrian (117-138). Rheinzabern represented in Fig. 24 with one hybrid coin dated for Caracalla (211-217). Nida represented in Fig. 34 with seven hybrid coins, one dated for Hadrian (117-138), one for Antoninus Pius (138-161), one for Septimius Severus (193-211), one dated at Gordian III (238-244) and three pieces for Philip I (244-249). At Friedberg seen in Fig. 38 a hybrid coin was dated at Antonius Pius (138-161). At Mainz seen in Fig. 40 three coins were identified, two dated for Septimius Severus (193-211) and one for Caracalla (211-217). For Hofheim seen in Fig. 42 one hybrid coin was dated during Septimius Severus (193-211). At Zugmantel represented in Fig. 46 eight hybrid coins were identified, one for Marcus Aurelius (161-180), two for Septimius Severus (193-211), three for Caracalla (211-217) and two for Elagabalus (218-222). For Ober-Florstadt seen in Fig. 50 only one hybrid coin was identified and dated at Gordian III (238-244) and in Butzbach represented in Fig. 52 also one hybrid coin was dated during Marcus Aurelius (161-180).

For Gallia Belgica and city of Trier seen in Fig. 54 seven hybrid coins were found, one dated for Domitian (81-96), one dated for Nerva (96-98), three for Septimius Severus (193-211), one for Caracalla (211-217) and one dated for Gordian III (238-244).

Regarding Germania Inferior we have the site from Köln seen in Fig. 60 where one hybrid coin was discovered and dated at Tiberius (14-37) while at Neuss represented in Fig. 62 one hybrid coin was dated for Caracalla (211-217).

Alongside the genuine hybrid pieces found on these sites, which were issued by striking the image on the coin and were made with the consent of Roman authorities, there have been discovered hybrid silver plated pieces as follows.

For Noricum area, we have the site of Vienna seen in Fig. 2 where 18 silver plated hybrids were discovered, one coin dated at Hadrian (117-138), ten coins dated for Septimius Severus (193-211), five dated for Caracalla (211-217), one piece dated for Elagabalus (218-222) and two coins dated for Severus Alexander (222-235). For the site located at Wels shown in Fig. 4 there were identified four silver plated hybrid coins, two dated for Domitian (81-96), one for Marcus Aurelius (161-180) and one for Septimius Severus (193-211).

In the case of Roman Raetia, we have the site from Regensburg seen in Fig. 8, where one silver plated hybrid was discovered and dated during the reign of Gordian III (238-



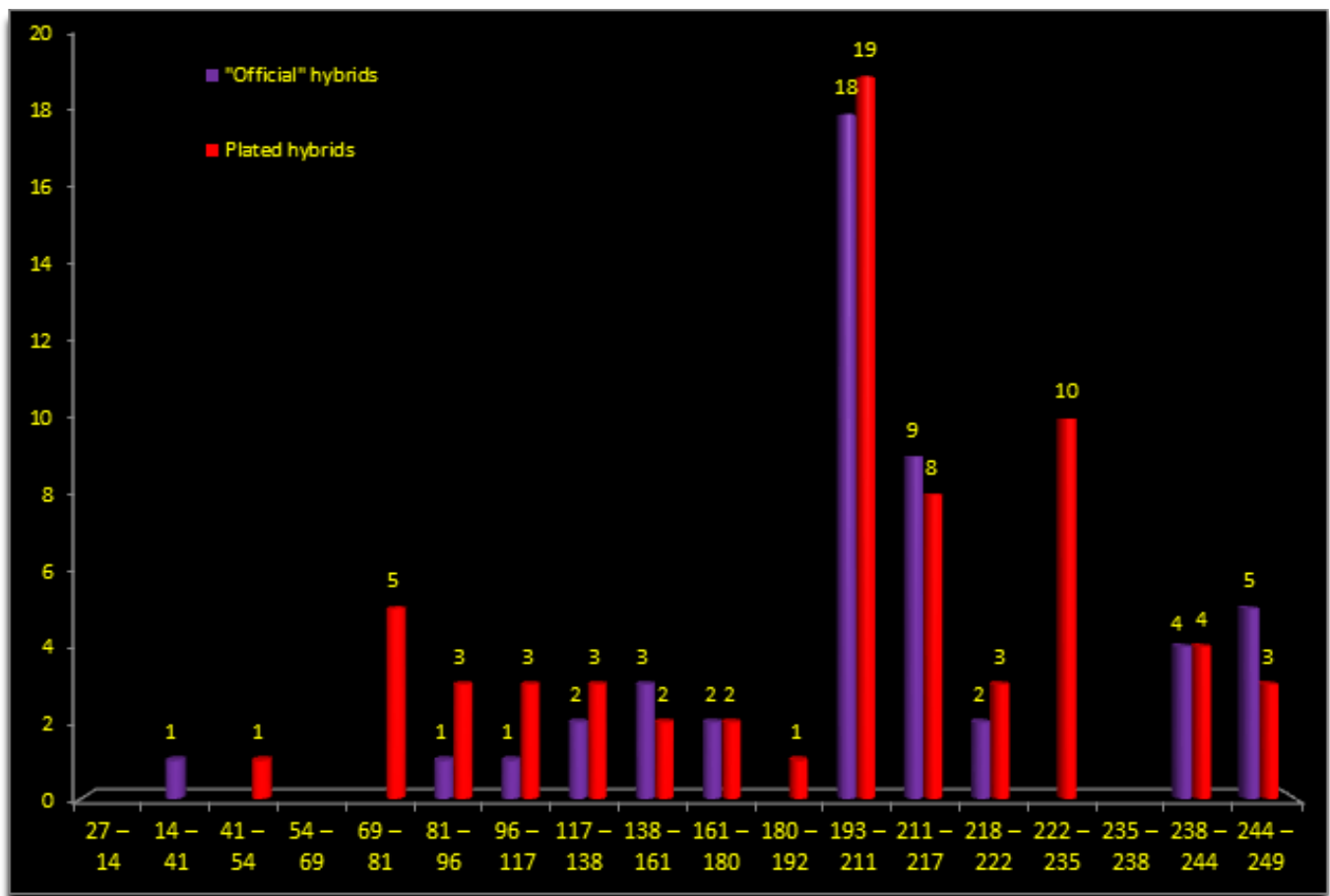


Fig. 158. Graph with number of silver hybrid pieces discovered along the Germanic limes.

244).

Regarding Germania Superior we have a few sites where silver plated hybrids were discovered. Nida seen in Fig. 34 has four silver plated hybrids, one dated for Hadrian (117-138), one for Caracalla (211-217) and two for Severus Alexander (222-235). Mainz seen in Fig. 40 shows nine pieces, one dated for Domitian (81-96), one piece dated for Hadrian (117-138), five coins dated during Septimius Severus (193-211), one piece at Caracalla (211-217) and one for Severus Alexander (222-235). Hofheim seen in Fig. 42 has five silver plated hybrids, one dated for Titus (79-81), one for Septimius Severus (193-211), one coin dated at Elagabalus (218-222), one dated for Severus Alexander (222-235) and one hybrid plated coin dated at Philip I (244-249).

For Roman fort of Zugmantel seen in Fig. 46 16 hybrid plated coins were identified, one dated for Trajan (98-117), one coin for Antonius Pius (138-161), another coin dated during Marcus Aurelius (161-180), one coin dated during Commodus (180-192), two pieces dated for Septimius Severus (193-211), one coin dated for Caracalla (211-217), another piece dated for Elagabalus (218-222), three hybrid plated coins dated for Severus Alexander (222-235), two for Gordian III (238-244) and three hybrid pieces for Philip I (244-249). At Butzbach seen in Fig. 52 only one plated hybrid coin was discovered and dated for Hadrian (117-138).

For city of Trier represented in Fig. 54, four hybrid plated silver coins were discovered, one with images dated at Claudius (41-54), one for Trajan (98-117), one at Gordian III

(238-244) and one piece for Philip I (244-249).

Roman Köln seen represented in Fig. 60 has only one hybrid plated silver coin dated at Vespasian (69-79). At Neuss seen in Fig. 62 two coins were discovered, one dated at Trajan (98-117) and one for Severus Alexander (222-235). Finally, we have the site from Nijmegen seen in Fig. 64 where three silver plated hybrids were discovered and dated during the reign of Titus (79-81).

All these intricate details regarding where and when hybrid coins and hybrid plated pieces were discovered was compiled and represented in Fig. 158. It's important to remember that these coins were discovered in same conditions as genuine pieces and only historical information that we can extract from them is the *terminus post quem*. It is possible to date the images represented on these pieces but not the date when there were issued.

Hybrid genuine coins, which were struck and made under the supervision of Rome remain as "official" pieces because of their parentage, on the other hand hybrid plated pieces are just counterfeited coins.

Looking at Fig. 158 we can observe that this type of coins was discovered for most reigns, most of them being dated during the time of the Severian dynasty, most notable for Septimius Severus (193-211), Caracalla (211-217) and Severus Alexander (222-235).

There were some hybrid pieces dated during the Antoninian period which reign is considered the Golden Age of Rome, because of the long stability and prosperity for the empire.

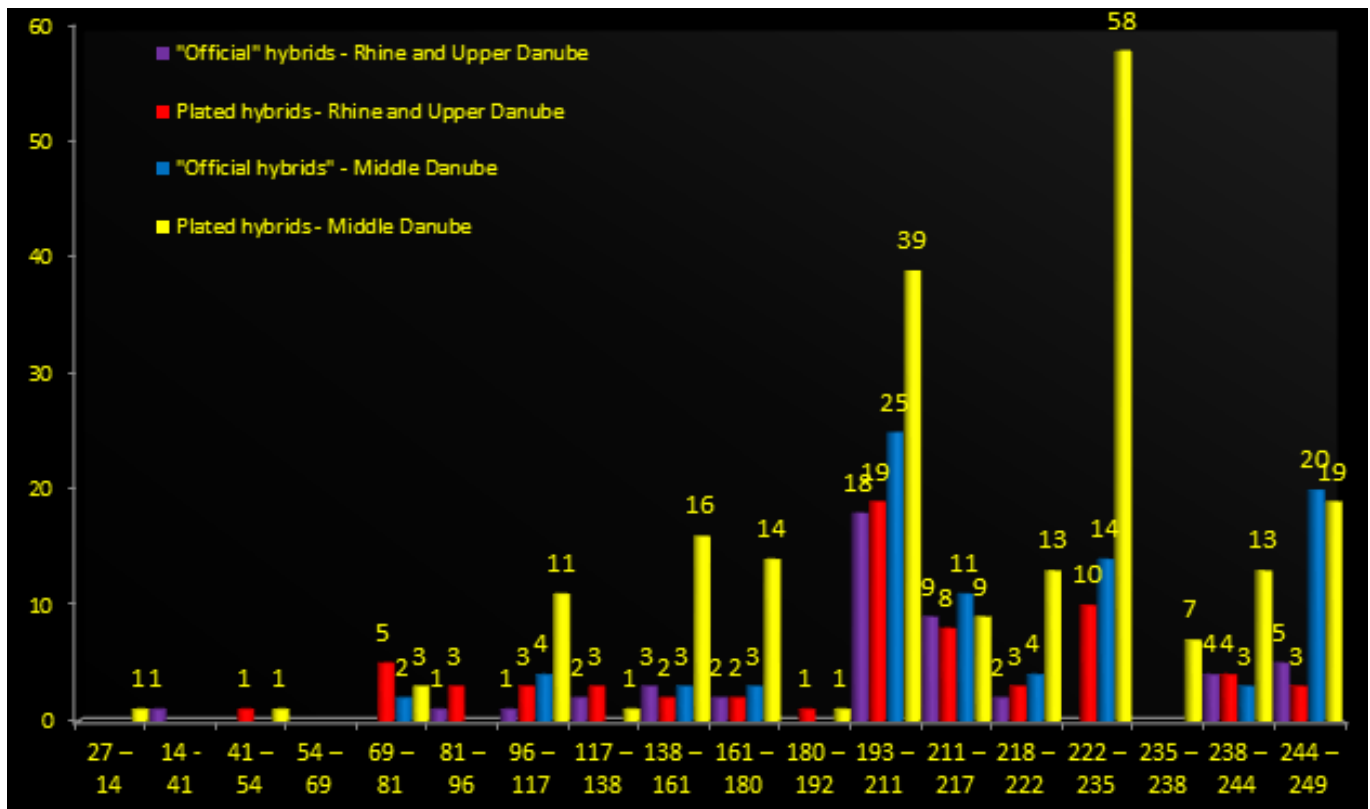


Fig. 159. Graph with number of silver hybrid pieces discovered along Germanic Limes vs. Dacia and Pannonia.

Without doubt, most silver plated coins dated during the I and II centuries were created during the Severian dynasty and Military Anarchy with the purpose of imitating older coins which in the collective knowledge and in fact did contain higher quality of silver. Without knowing the story behind hybrid pieces, those who manufactured and reproduced hybrid coins in plated form actually used for models pieces which already had some fabrication errors on them. Even if this is the case, silver plated hybrid pieces are nothing more than plated coins.

For comparing the situation for Rhine and Upper Danube region with that for Middle Danube, formed by Dacia and Pannonia, a final graph was made seen in Fig. 159 that represents the distribution of hybrid coins, genuine and plated pieces.

Represented in blue and yellow, the region of Middle Danube shows that more pieces have been discovered here than along the German Limes, seen in red and purple. Most of the pieces have represented on them images dated back during the reign of Septimius Severus (193-211) and Severus Alexander (222-235).

Also for Middle Danube region we can see higher values for plated coins dated during Trajan (98-117), Antonius Pius (138-161), Marcus Aurelius (161-180), Gordian (238-244) and Philip I (244-249).

From 5.725 silver coins identified along the German Limes area and used for this study, only 48 are genuine hybrids and 67 are plated hybrids which in total represent between 1-2% of the total number of silver coins. This case is similar with the one for Pannonia and Dacia where same percentage values were identified<sup>168</sup>.

<sup>168</sup> GASPAR 2015.

Even so, no matter the number of discovered hybrid coins and plated hybrid piece, they continue to be a special chapter in the books of numismatics because of their originality and peculiarity.

**CONCLUSIONS:**

Besides the initial seven studied sites located in Dacia and nine sites from Pannonia an additional two sites from Noricum, seven locations from Raetia, 17 sites from Germania Superior, four locations from Germania Inferior and one for Gallia Belgica were added with the reason of expanding the studied area.

In the case of genuine coins, as we have seen in Fig. 156, there is a visible pattern followed by coins in their distribution on the frontier, regardless if the province is Dacia, Noricum or Germania Inferior the pattern stays the same.

It's very clear that a continuous distribution and a followed pattern existed when discussing about genuine pieces issued by Roman authorities and delivered on the studied sites. The coefficients for genuine pieces follow this pattern with few changes depending on region and local particularities. We can observe the lack of silver coins dated before the Flavian period because of the monetary reform made by Domitian<sup>169</sup> and the debasement of silver in coins<sup>170</sup>. Also, the lower quantity of coins discovered during Domitian reign can be explained by the next monetary reform made by Trajan when the quality of silver is again debased<sup>171</sup> and many old pieces are melted. In same circumstance coins dated to

<sup>169</sup> HARL 1996, 14.

<sup>170</sup> JONES 1992, 76.

<sup>171</sup> CRAWFORD 1978, 152. HARL 1996, 92-93.

Flavian period were left in circulation because the quality of silver was already debased during Domitian's rule, comparable situation happening during Mark Antony's times<sup>172</sup>.

Next follows the Antoninian period with a steady rhythm for genuine pieces, being a well-known time of peace and prosperity for the whole empire, only at the end of this period during the reign of Commodus the coefficients decrease in value because of fewer issued coins<sup>173</sup>.

The Severian dynasty is characterized by very large quantities of issued pieces, because of silver debasement and the need to pay the military troops which were promised and received higher pays with the reign of Septimius Severus and Caracalla<sup>174</sup>.

Silver plated coins generally follow same patterns as genuine pieces, we can observe in Fig. 157 and Fig. 158, even surpass in value the coefficients for genuine coins during the Severian dynasty.

Besides the general pattern followed by silver plated coins which we have seen on many sites, a new particularity was observed during the case study on the Severian period as seen in Fig. 150, Fig. 151, Fig. 152 and Fig. 153. Thus, while in Germania Superior the percentage of silver plated coins wavers between 5% and 20%-25% and in Raetia between 5% and 20%, in Pannonia this proportions are closer to 5% and 49% while in Dacia between 9% and 69%.

It's very clear that there is a difference between the influx of silver coins across the frontier, sites from Middle Danube being supplied with higher quantities of silver plated pieces. On the other side because of the recent discoveries from Mogontiacum<sup>175</sup>, Potaissa<sup>176</sup> or Apulum<sup>177</sup>, there is a higher chance that many silver plated pieces were produced close to these military centers.

Although the idea that specific individuals were behind the manufacturing of plated silver coins is not yet dismissed, the substantial number of plated pieces can only mean that a centralized power could be responsible for this<sup>178</sup>. The necessity of maintaining a large and permanent army which was promised higher payments started to undermine the empires economy, not because of the enormous number of coins needed to make the payments but because of a lack in precious metal to maintain the demand for silver.

In these circumstances, even if counterfeiting coins was severely punishable by law<sup>179</sup>, the massive quantities of plated pieces and recent discovered of hoardings made entirely of plated pieces with fabrication errors points us to the existence of a serial production for this type of coins, Roman authorities being most likely informed and accomplice to the process.

The lack of silver plated pieces found on sites from Upper Germany and Raetia can partially be credited to Augustus and his testament, the idea of imperial expansion<sup>180</sup>, to maintain the current lands under the power

of Rome but to expand their influence and control beyond the physical borders onto neighboring factions<sup>181</sup>.

After almost a century from the death of Augustus, Tacitus writes his history of Rome where he also describes the Roman army and location of different units. Thus, he records "But chief strength was on the Rhine, as a defense alike against Germans and Gauls, and numbered eight legions."<sup>182</sup>

Clearly the upper region of the Rhine and Danube rivers was a thorn for Rome's presence in the area, since the region was very hard to supervise and acquired a lot of military manpower to keep it under control.

From the II century Rome's expansionistic policy was replaced with that of fortifying its borders, a vast number of defensive structures will be erected during the reign of Hadrian and Antonius Pius, followed by a demilitarization for the interior of the empire<sup>183</sup>.

Most probably the coin distribution of the empire was influenced by this change in policy, since during the I century most legions were situated in the Rhine area the coin distribution was centralized in the same region.

This leads us to the second motive, the possible mutiny risk produced by maintaining so many legions in the same place. As we can see from history, military commandants which were usually situated closer to Rome had the upper advantage in claiming the empty throne.

Thereafter by using silver plated coins, Roman authorities could reduce the needed quantity for issuing new coins<sup>184</sup>. In the case of plated silver coins discovered at Nijmegen none of them was dated before 70 BC, most of them were dated during the civil wars<sup>185</sup> when large quantities of silver were used to obtain the loyalty of soldiers by combatants.

Hybrid coins remain a peculiarity of numismatics. As said before there is no pattern of distribution for this type of coins, being discovered randomly on archaeological sites and representing hardly between 1% and 3% from the total number of silver pieces. Also, many hybrid pieces were dated during the Severian dynasty, Fig. 159, but this is because there were a lot of coins issued in those times, thus a higher risk of making this kind of mistakes.

In the case of hybrid plated pieces, like the genuine hybrids, most of them were dated during the Severian period most likely as a side effect of the major debasement regarding silver coins, pieces manufactured with images belonging to issuers in times of which the coin used to be quality made. We have no sure way of dating these coins just their *terminus post quem*.

The occurrence of counterfeited coins is not specific to a certain region like Dacia or Pannonia but it's a general situation seen all along the Rhine and Danube frontiers. High quantities of silver plated pieces can only mean one thing, the issuing of this type of coins happened under the patronage and untold acceptance of the local Roman authorities.

<sup>172</sup> REECE 1988, 89. DUNCAN-JONES 1994, 204. GĂZDAC 2010, 71.

<sup>173</sup> GĂZDAC 2010, 74, 133.

<sup>174</sup> DEVELIN 1971, 688-695. MAZZARINO 1984, 435-437. PÍSLARU 2011, 81.

<sup>175</sup> GĂZDAC/OARGĂ/ALFÖLDY-GĂZDAC 2015, 9.

<sup>176</sup> PÍSLARU 2009, 66.

<sup>177</sup> GĂZDAC/OARGĂ/ALFÖLDY-GĂZDAC 2015.

<sup>178</sup> HAALEBOS 1995, 35.

<sup>179</sup> GĂZDAC/ALFÖLDY-GĂZDAC 2001, 139.

<sup>180</sup> BREEZE 2011, 16.

<sup>181</sup> BREEZE 2011, 16.

<sup>182</sup> TACITUS, *Annals*, 4.

<sup>183</sup> BREEZE 2011, 19.

<sup>184</sup> CHANTRAINE 1982, 40-42.

<sup>185</sup> HAALEBOS 1995, 35.



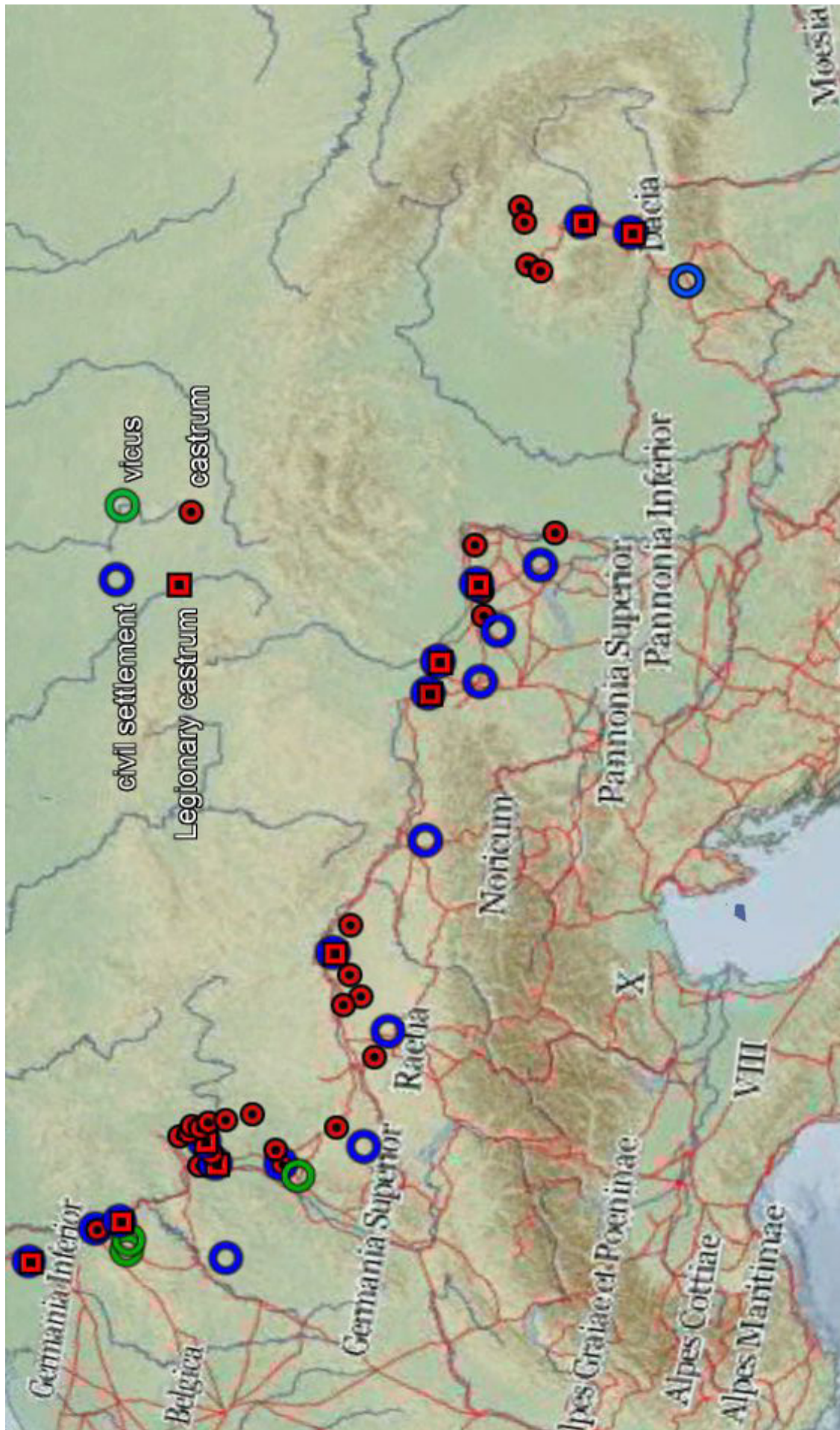


Fig. 160. Map of all studied sites along the Danube and Rhine.



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