

Administrative Organization of Roman Silver Mines in Pannonia

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Abstract

Numismatic and epigraphic sources confirm that the Pannonian silver mines (*argentariae Pannonicae*) formed a distinct mining district in the Early Roman Empire. Special coins with inscriptions like *metalli Pannonicae* and depictions of Diana indicate a closed economic system. Inscriptions from Algeria, Turkey, and Serbia mention procurators of these mines, whose careers suggest elite status. The administrative centre was in Sirmium, while lower officials lived in *vicus metalli Gensis* along the *Argentaria–Sirmium* road. Until AD 161, the mines had separate administration, after which all mines in Pannonia and Dalmatia were unified under a single procurator based in Domavia. Further reforms under Commodus and Diocletian expanded and centralized the mining administration, creating the larger district of *Argentaria*. This paper traces the administrative evolution of the Pannonian silver mines, showing their strategic importance and the adaptability of Roman mining governance.

Keywords: Pannonia; *Gensis*; mining; administration; *argentariae Pannonicae*; silver; *procurator argentariarum*; *procurator argentariarum metallorum*; *territoria metallorum*

Izvleček

Upravljanje rimskih rudnikov srebra v Panoniji

Numizmatični in epigrafski viri potrjujejo obstoj panonskih rudnikov srebra (*argentariae Pannonicae*) kot samostojnih rudarskih območij v zgodnjecesarskem obdobju. Posebni novčni kovi z napisi kot je *metalli Pannonicae* in upodobitvami Diane nakazujejo njihov zaprt gospodarski sistem. Napisi s prostora današnje Alžirije, Turčije in Srbije omenjajo prokuratorje teh rudnikov, katerih kariere odsevajo elitni status funkcije. Upravni center rudarskega območja je bil Sirmij, medtem ko so nižji uradniki prebivali v *vicus metalli Gensis* ob cesti *Argentaria–Sirmium*. Do leta 161 so imeli rudniki ločeno upravo, po tem pa so bili vsi rudniki Panonije in Dalmacije podrejeni skupnemu prokuratorju s sedežem v Domaviji. Nadaljnje reforme pod Komodom in Dioklecijanom so rudniško upravo razširile in centralizirale v okviru večjega območja *Argentaria*. Ta prispevek se osredotoča na administrativni razvoj panonskih rudnikov srebra, ki odseva njihovo strateško pomembnost in prilagodljivost rimskega upravljanja rudnikov.

Ključne besede: Panonija; *Gensis*; rudarjenje; uprava; *argentariae Pannonicae*; srebro; *procurator argentariarum*; *procurator argentariarum metallorum*; *territoria metallorum*

Introduction

Mines from the provinces of the Middle Danube region were an important source of metals for the Roman Empire, and thus control over these resources was important in Roman imperial policy. It should be noted that the mining areas (*territoria metallorum*) represent separate administrative systems within the Roman provinces because of their specific administration. As such, the mining laws discovered in the area of the Roman province of Hispania (*lex metalli Vipascensis* (LMV) and *lex metallis dicta* (LMD)) similarly suggest that *territoria metallorum argenti Pannoniarum* was an administrative district with its territory.¹ In practice, this means that it is a clearly defined mining area that was managed by the procurator with applicable special mining legal regulations. We should note that the Pannonian silver mines were organized into a separate district, probably from the reign of the Flavians until that of Marcus Aurelius and Lucius Verus.² Although there are no new epigraphic and numismatic finds that could shed additional light on the issues of administration in the Pannonian silver mines, we will attempt to use the existing information to present the administrative organization of the *argentariae Pannonicae* from the first to the fourth centuries. The relatively brief period during which the Pannonian silver mines functioned as an independent district likely accounts for the scarcity of information regarding their existence and administrative structure prior to their incorporation into the Dalmatian mining system.

¹ Hirt states that the *lex metalli Vipascensis* (LMV) and *lex metallis dicta* (LMD) distinguish between three territorial units: “settlement” (*vicus*), “mining” (*metallum*) and “mine territories” (*territoria metallorum* or *finis metallorum*). While the LMD regulated issues exclusively within one district, namely *metallum Vipascense*, the LMD was probably applied to several mining areas in southern Spain. From the text of the *metallum Vipascense*, we learn that even taxes were defined within the district. For example, it states that *intra fines metalli Vipascensis* contracts – “within the boundaries of the Vipasca mines” – were subject to a 1% tax. This indicates that the *metallum Vipascense* represented a clearly defined mining zone, i.e. *finis metalli* (Hirt 2010, 48–51). *Metallum Vipascense* (sometimes called *metalla Vipascensia* in the plural form) is evidence of the extraterritorial status of the Roman mine (Edmondson 2020, 184). Since *Metallum Vipascense* was a district where silver was mined from the first to the third centuries, the laws relating to silver mines can serve as an analogy for studying the Pannonian silver mines.

² Pannonia as a civilian province did not exist before the reign of Vespasian, as indicated by military diplomas as official documents. Moreover, the first confirmed governor of Pannonia (*legatus Augusti pro praetore Pannoniae*), originating from the reign of Vespasian is mentioned on an epigraphic monument from Italy (AE 1966, 0068 = AE 1941, 0011 = CIL 10, 06225; Šašel 1989, 57–61; Šašel Kos 1986, 188–190; Šašel Kos 1997, 33–42; Šašel Kos 2010, 123–130; Šačić Beča 2022a, 72–73; Cesarik 2022, 18–21). The latest inscription mentioning the governor of the consolidated mines (*procurator metallorum Pannonicorum et Dalmaticorum*) dates from the reign of Marcus Aurelius and Lucius Verus (AE 1956, 0123 = AE 1991, 1691 = AE 1992, 1866).

Pannonia – a land of mines?

Greco-Roman authors spoke of Pannonia as a mountainous and cold country where vines do not thrive (Strabo, Pliny the Elder, Dio Cassius).³ They then mentioned how rivers freeze in Pannonia in winter (Pliny the Younger, Herodian).⁴ They also spoke of Pannonia as an extremely wooded and marshy land (Pliny the Elder, Florus, Appian, Herodian, Dio Cassius).⁵ However, classical authors never described Pannonia as an area rich in ores. In the context of Roman mining, Hispania, Moesia, Dacia, Noricum and Dalmatia were much more famous than Pannonia.⁶ Nevertheless, modern research has confirmed that the Pannonian area was rich in iron, lead, and silver. Recently, gold mining in western Pannonia, or Pannonia Superior, has been confirmed archaeologically.⁷ A possible reason for the lack of knowledge of Roman mining in Pannonia is that almost all Pannonian mines were located in the areas bordering provinces characterized as mining ones in Roman public discourse. Such a narrative has also influenced modern research.⁸ Therefore, in modern historiography and archaeology, the administrative organization of Pannonian mining districts has not been researched as a separate issue.

With the help of contemporary archaeological and epigraphic research, we know today that the iron mines from north-western Bosnia administratively belonged to Pannonia and not Dalmatia, as previously thought.⁹ These are mines from the valley of the Sana and Japra Rivers, which are apparently mentioned on the votive monu-

³ Strabo, 7.5.10; Dio Cassius, 49.36; Plin. *HN* 3.147.

⁴ Plin. *Pan.* 12.3; Hdn. 6.7.6.

⁵ Dio Cassius, 49.36; Strabo, 7.5.2–3; Tac. *Ann.* 1.17; App. *Ill.* 22; Hdn. 6.7.6; HA *Prob.* 21.2.

⁶ This primarily refers to Dalmatia. Already in the first century the Romans described Dalmatia as a land rich in minerals (Flor. *Epit.* 2.25.12; Plin. *HN* 33.67; Stat. *Silv.* 3.3.89; Mart. *Epigr.* 10.78.5–8). Numerous epigraphic monuments, numismatic and archaeological finds confirm the writings of ancient authors. Compared to Moesia Superior, Dalmatia is also more recognized in narrative sources as a mining province. In the modern literature there is information that the Roman jurist *Claudius Saturninus* stated that Moesia was considered a land of mining, just as Africa was considered a land of grain (Dušanić 1980, 25; Šajin 2014, 145; Božić 2014, 96; Milovanović 2017, 9). However, the quoted text from the *Digest* does not mention Moesia at all (*Dig.* 48.19.16.9). Mysia is mentioned, not Moesia. This source is important for our understanding of Roman legal provisions in general in the mining districts, as it is stated that there were greater penalties for counterfeiting money than in other regions (*Evenit, ut eadem scelera in quibusdam provinciis gravius plectantur, ut in Africa mesium incensores, in Mysia vitium, ubi metalla sunt adulteratores moneta*).

⁷ Cech 2012, 66.

⁸ In the works of authors such as Mócsy, Dobó, Fitz, and Škegro, we can notice the denial of the existence of Pannonian mines (Mócsy 1962, 592, 674; Dobó 1968, 177; Fitz 1980, 325; Škegro 1999, 72). Migotti states that in the literature dealing with Roman Pannonia, the area of southern Pannonia is largely neglected compared to other parts of the province (Migotti 2012, 6). This was reflected in the understanding of Roman mining in Pannonia because most of the mines were in south-eastern Pannonia.

⁹ Dušanić 1977, 83–84; Šačić Beća 2022a, 254–274.

ment from Virunum as *ferrariae Pannonicae*.¹⁰ All Pannonian mines were located in border areas between Roman provinces. In addition, other indicators suggest that a Pannonian mining district existed. For example, the votive monument dedicated to Jupiter mentions the conductor *ferrariarum Pannoniarum* from Mursa (present-day Osijek).¹¹ This is the same conductor *Caius Iulius Agathopus* who is mentioned on an inscription found in Ljubija, where the monument *Terra Mater* was erected for his health.¹² The monuments date to the same period, i.e., the beginning of the third century, which confirms that the iron mines were the north-western Pannonian mines (*ferrariae Pannonicae*). Analogously, the term *procuratores argentariarum Pannonicarum* which appears on epigraphic monuments also indicates their separate administration of the Pannonian silver mines and their administrative autonomy.¹³

A brief overview of earlier research

Pannonian silver mines were mostly addressed in the context of broader studies on Roman provincial mining. We should single out several scholars who made a significant contribution to the study of this topic. The administration of Roman mines was an indispensable topic of extensive research on the administration of the Roman Empire, such as the works of Otto Hirschfeld and Michail Rostovtzeff.¹⁴ Mining in Pannonia received only limited attention in the works of Václav Radimský, András Mócsy, Sławomir Mrozek, Géza Alföldy, John Joseph Wilkes, and Jaroslav Šašel.¹⁵ We should note that Šašel made a significant contribution to future research because he systematically collected a large number of epigraphic monuments in three volumes.¹⁶

Greater interest in the administrative organization of the Pannonian silver mines appeared in the second half of the 20th century. This is primarily visible in the works of Dimitrije Sergejevski, Esad Pašalić, Ivo Bojanovski, Slobodan Dušanić, and Ante Škegro.¹⁷ Esad Pašalić focused on various aspects of mining organization, studying the participation of the Romans in the expansion of mining in Illyricum. Based on the analysis of primarily epigraphic and numismatic sources, Bojanovski addressed the administrative organization of the Pannonian and Dalmatian silver mines in the

¹⁰ CIL 03, 4809 = EDH 042469 = EDCS-14500108 = lupa 5764.

¹¹ AE 2006, 01094 = EDH 057009 = EDCS-44200272 = lupa 5690.

¹² ILJug II, 779 = AE 1973, 0411 = EDCS-10000791 = EDH 011306.

¹³ Škegro 1999, 72–76.

¹⁴ Hirschfeld 1905; Rostovtzeff 1904; Rostovtzeff 1957.

¹⁵ Radimský 1891; Radimský 1894; Mócsy 1974; Mrozek 1968; Mrozek 1977; Alföldy 1965; Wilkes 1969; Šašel 1974.

¹⁶ ILJug I–III.

¹⁷ Pašalić 1954, 55–64; Pašalić 1967, 124–132; Sergejevski 1957, 110–120; Sergejevski 1963, 85–102; Bojanovski 1972, 38–44; Bojanovski 1982, 94–106; Bojanovski 1988, 193–203; Bojanovski 1999, 135–141; Dušanić 1977, 66–70; Dušanić 1980, 21–22; Dušanić 2004, 251–253; Škegro 1995, 175–176; Škegro 1998, 90–92; Škegro 1999, 70–86.

Drina River Valley and its eastern tributaries. In his studies, he clearly distinguishes the Pannonian mining district from the Dalmatian one.¹⁸

In general, Slobodan Dušanić made the greatest contribution to the study of the administrative organization of mines in Illyricum. This scholar tried to identify the borders of the mining districts of Pannonia and show the main characteristics of the mining administration. In the methodological sense, Dušanić's research was very advanced and today it is fundamental for the study of this issue. By studying various aspects of Roman mining in the area of Pannonia, he proved that it was a highly organized system. By using different sources, Dušanić concluded that two mining districts that belonged to different provinces could have been united if they produced the same type of metal.¹⁹ He mostly addressed issues related to the administrative organization of the Pannonian silver mines in the works.²⁰

At the end of the 20th century, Ante Škegro published papers on the Roman mines of Pannonia and Dalmatia, with an overview of the results of previous research. He only occasionally addressed the administrative organization of the Pannonian silver mines, because the focus of his research was the Dalmatian mines.²¹

Among the more recent works that deal with the organizational aspects of the Pannonian mines, the book by Alfred M. Hirt stands out in particular.²² He paid special attention to the role of the procurator in the organization of the Pannonian mines, and concluded that the silver mines in Pannonia had a separate administration until the mid-second century.²³ Finally, we should mention Željka Šajin, who addressed the administration in the Pannonian mines in her PhD thesis.²⁴ However, it should be emphasized that Šajin provided a detailed prosopographical analysis of the procurator of the Pannonian silver mines.²⁵ She also indicated the possible reasons for the consolidation of the administration of the Pannonian and Dalmatian mines in the second century.

The location of the Pannonian silver mines

Efforts to localize the Pannonian silver mines are shaped by the ongoing interpretation and reconstruction of the borders between Pannonia Inferior, Dalmatia, and Moesia Superior. Archaeological and historiographical evidence shows that the bor-

¹⁸ Bojanovski 1988, 198–199; Bojanovski 1999, 141–142.

¹⁹ Dušanić 1980, 8.

²⁰ Dušanić 1977, 66–68; Dušanić 1980, 21; Dušanić 2004, 250–253.

²¹ Škegro 1988, 90–91; Škegro 1999, 70–76.

²² Hirt 2010, 133–140.

²³ Hirt 2010, 139–140.

²⁴ Šajin 2014, 112–140.

²⁵ Šajin 2014, 133–122.

der of Pannonia was much further south than previously thought.²⁶ Classical sources, such as Strabo and Ptolemy, shared certain guidelines that the southern border of Pannonia should be sought in the mountain ranges of the Dinaric Alps.²⁷ It can be concluded that the eastern border followed the northern slopes of the Dinaric Alps (Uzlomac, Borja, Ozren, Konjuh, and Javornik) that encircle the territory of Bosnian Posavina and Semberija.²⁸ The eastern border of Pannonia with Moesia crossed the Drina River. The mountains Medvednik, Jablanika, Povlena, Maljen, and Suvobor were the eastern border.

Most scholars agree that *Argentariae Pannonicae* should be located in the lower course of the Drina River in Bosnia and Serbia. The eastern portion of this mining district included the region around the city of Ruma, the area around Zajača and Krupanj, and part of the Kolubara region (today's Valjevo and Loznica).²⁹ The borders of *Argentariae Pannonicae* were determined based on earlier research by Šašel, Dušanić, and Škegro (Fig. 1).³⁰ We should mention that Fanula Papazoglu and Miroslava Mirković advocated the thesis that the mines of Kosmaj, Avala, and Rudnik from central Serbia were also part of *Argentariae Pannonicae*.³¹ Those mines were located in the province of Moesia Superior, not Pannonia.

Argentariae Pannonicae as a separate district

Numismatic and epigraphic finds suggest that the Pannonian silver mines were consolidated under the administration of a single procurator until the beginning of the reigns of Marcus Aurelius and Lucius Verus. Throughout the first century until the mid-second, the administration in the Pannonian silver mines was independent of the administration in the Dalmatian mines. It is assumed that the lower-ranking mining officials were housed in *vicus Gensis*. *Gensis* is mentioned on *Tabula Peutingeriana* as a way station on the Roman road *Argentaria* (Sase near Srebrenica) – *Sirmium* (Sremska Mitrovica).³² The *Gensis statio* is located in Lešnica on the right bank of the Drina

²⁶ Dušanić 1977, 64–65; Bojanovski 1977, 147–148; Bojanovski 1988, 329; Milovanović 2017, 39.

²⁷ *Upper Pannonia is bounded by the Cetium mountain and partly by Carnanica, from the south by Istria and part of Illyria, on the opposite side from the west a parallel line joining the Albanian mountains to the Bebian mountains and the mountains of Lower Pannonia, holding the position 41°30' 45°20' (Ptol. Geog. 2.14.1; translated by Louis Francis). Immediately below Nauportus the Noarus is further increased in volume by the Colapis, which flows from the Albian Mountain through the country of the Iapodes and meets the Danuvius near the country of the Scordisci.* (Strabo, 7.5.2; translated by Horace Leonard Jones).

²⁸ Šačić Beća 2022a, 78–81.

²⁹ Dušanić 1971, 34–35; Imamović 1999, 50; Milovanović 2017, 39.

³⁰ Dušanić 1980, 21; Šašel 1989, 61; Škegro 1999, 72.

³¹ Papazoglu 1957, 144–122; Mirković 1969, 239–262.

³² *Tab. Peut.* 5.4–6.2.



Fig. 1: Borders of the *Argentariae Pannonicae* (ca. AD 69–161)

River.³³ The thesis that *Gensis* was *vicus metalli* is based on analogous examples from Dalmatia and Moesia Superior.³⁴ Some of the *vici metallorum* later became significant urban centres, and Domavia is a good example of this.³⁵ The mining administration was headed by *procurator argentariarum*. However, the seat of his office was not in *vicus metalli* but in the important Roman colony of Sirmium.

The earliest corroboration of the existence of *Argentariae Pannonicae* comes from the period of Trajan's reign. These are two series of coins that have the text *Metalli Ulpiani Pannonici* and *Metalli Pannonici* on the reverse.³⁶ The third series of coins with the text *Metalli Pannonici* was minted during the reign of Emperor Hadrian. The latest

³³ The majority of authors support the thesis that the *Gensis* road station is located at the Lešnica site based on the information that this station was 30 Roman miles from Sirmium (Bojanovski 1981, 190; Bojanovski 1984, 247–248; Dušanić 2004, 25; Petrović 2015, 42). Based on the archaeological finds, Popović offered a new location for the *Gensis* road station. This author believes that the location could be on the Vidojevica hill east of Lešnica (western Serbia) or the Pačići site west of Janja (northeastern Bosnia and Herzegovina) (Popović 2019, 62). Apart from Popović's work, the issue of Roman roads in this part of Pannonia is not the subject of contemporary research, and the authors mostly base their conclusions on research from the last century.

³⁴ Dušanić 1995, 221; Dušanić 1997, 34; Petrović 2015, 117, 120.

³⁵ Bojanovski 1988, 200; Bojanovski 1999, 136.

³⁶ Dušanić 1971, 550; Dušanić 1980, 10–12; Glicksman 2018, 273–274.

series of coins features the image of the goddess Diana, symbolizing silver ore. Coins of the mines, i.e., *nummi metallorum*, were minted for the purposes of mining administration in mining districts.³⁷ It should be emphasized that recent research shows that these copper coins of small denominations, or *nummi metallorum*, did not circulate only in mining areas.³⁸ However, the demand for money was particularly high in those regions, which can be linked to the creation of closed economic systems in the mining districts.³⁹ Accordingly, the issuing of a series of coins mentioning the term Pannonian mines, as well as the appearance of Diana on the obverse of those coins, are clear confirmation of the existence of a separate Pannonian district of silver mines.

So far, three inscriptions have been found that mention the procurators of the Pannonian silver mines (*procuratores argentariarum Pannonicarum*). These monuments are dated to the period of AD 130 to 160. The first procurator whose name has been preserved was Lucius Crepereius Paulus who came from a prominent family from the province of Pamphylia.⁴⁰ Before becoming the procurator of the Pannonian silver mines, Paulus had a significant military career. The jurisdiction of the silver mine procurator of Pannonia was his first civil function. Paulus was the procurator of the Pannonian mines from AD 130 to 150.⁴¹ His associates were experienced imperial freedmen and slaves who gained work experience in the mining districts of Hispania.

An inscription dedicated to Marcus Antonius Fabianus was found in Viminacium, whose *cursus honorum* mentions that he was the procurator of the *argentariarum Pannonicarum*.⁴² Marcus Antonius Fabianus was also a *conductor portorii Illyrici*. This means that he was a wealthy Roman citizen who was a lessee of the Illyrian customs. The monument was erected by the freedman (*libertus*) Mercator around AD 160.

³⁷ Dušanić concluded that all *nummi metallorum* were minted in the city of Rome in the same mint because the alloy and production techniques are the same for all coins (Dušanić 1971, 536; Dušanić 1980, 10). There are also theories that the *nummi metallorum* were minted in the mining districts or that the coin dies were made in Rome and brought to Viminacium where the coins were minted (Škegro 1995, 175).

³⁸ Woytek 2004, 52–54.

³⁹ According to Glicksman and Hirt, the minting of these coins solved the problem of the difficulty of obtaining money for salaries in the districts that were relatively empty. The assumption is that most of this money was spent on food, drinks, the purchase of tools, and payment for services (baths, hairdressers, cobblers) within the mining district. There is a possibility that in this way it was controlled that the mine workers spent money on food and tools from approved suppliers. In this way, the counterfeiting of coins was reduced, because the text of the *Digest* suggests that counterfeiting was widespread in the vicinity of the mines (*Dig.* 48.19.16.9–10; Hirt 2010, 66; Glicksman 2018, 275).

⁴⁰ [L(ucium) Crepereium L(uci) f(iliu)m] Sergia Paulum praef(ectum) coh(ortis) I --- tribunum militum leg(ionis) II Adiutr(icis) --- praef(ectum) alae I Cannene-/fatium proc(uratorem) Aug(usti) argenta[riarum] / [P]annonicar[um] / [---] per Lucium Decimium Apronianum le[gat]um (AE 1915, 46 = EDH 029307 = EDCS-16202022).

⁴¹ Lőrincz 2001, 72; Šajin 2014, 114.

⁴² M(arco) Antoni(o) / M(arci) f(ilio) Fabia / Fabiano proc(uratori) / XL Galliarum / et portus item / argentariar(um)⁵ / Pannonicar(um) / c(onductori) portorii Illyrici / patrono bono / Mercator lib(ertus) (AE 1905, 0152 = IMS 2, 069 = EDH 030468 = EDCS-11201576 = lupa 5423).

Mercator probably led Fabianus's household in Viminacium. We cannot determine which *portorium* area Fabianus was leasing. A *statio* in Viminacium is a possibility. Since he was the procurator of the Pannonian silver mines, it is reasonable to assume that Fabianus leased the *portorium* area that was closest to the mines.⁴³ The original function of the *Portorium Illyrici* was to collect *portorium* on goods imported into Italy from the north-eastern provinces of the Roman Empire.⁴⁴ The Antonius family, from which Fabianus descended, was one of the two families whose members leased *Portorium Illyrici* during the second century.⁴⁵ Before becoming the procurator of mines, *Marcus Antonius Fabianus* was the procurator of customs in the customs district named *quadragesima Galliarum et Portus*. That district comprised a total of 40 customs districts, which covered the territory of Gaul and the Alps.⁴⁶ The appointment of a person with extensive experience in administration shows the importance of the Pannonian silver mines. Unlike the Pannonian iron mines, whose procurators were mostly freedmen, the procurators of *Argentariae Pannonicae* came from the upper strata of Roman society.

The latest inscription mentioning the procurator of the Pannonian silver mines was found in the territory of present-day Algeria (the Roman province of *Mauretania Caesariensis*). The name of the last known procurator can only be partially constructed: *Lucius Sept[imius?] Petronianus*.⁴⁷ In the literature, there are differing dates proposed for the period during which he was procurator of *argentariarum Pannonicarum*. Hirt believed that he assumed this position after AD 143 as the successor of the previously mentioned *Lucius Crepereius Paulus*.⁴⁸ Šajin dated his arrival at the position of *procurator argentariarum Pannonicarum* later, and connected it with the beginning of the reign of Marcus Aurelius. The predecessor held the rank of *sexagenarius*, while *Lucius Sept[imius?] Petronianus* held the rank of *centurion*.⁴⁹ The increase in salary possibly preceded the consolidation of the mining administration. *Petronianus* has a very interesting *cursus honorum*. The last duty he performed was as the governor of the Roman province of *Mauretania Caesariensis*.

Unfortunately, apart from the names of the three procurators, today we know nothing about the organization of the administration in the Pannonian silver mines, al-

⁴³ Ørsted 1985, 329–330.

⁴⁴ Chalupa et al. 2024, 1.

⁴⁵ Patsch 1893, 197; De Laet 1949, 399.

⁴⁶ Šajin 2014, 116.

⁴⁷ *L(ucio) Septi[mio] --- f(ilio)] / Petro[niano] / praef(ecto) co[h(ortis) c(ivium) R(omanorum)] / volun[tarior(um)] / trib(un)o m[il(itum) leg(ionis)]⁵ / secund[ae Trai(anae)] / fortis pra[ef(ecto) al(ae) II] / Agrippian[ae Flaviae?] / archistato[ri Augusti] / praef(ecto) cla[s(sis) ---]¹⁰ / a com[mentariis] / praef(ecto) [praetorio] / proc(uratori) M[oesiae] / inferio[ris] / proc(uratori) argentar(iarum)¹⁵ / Pannonicar(um) / proc(uratori) provin-/ciae Mauret(anae) / Caesariens(is) / [[Cl(audius) Quintilius]]²⁰ / d<e=I>c(urio) alae Thrac(um) / strator eius / ob merito* (AE 1958, 0156 = AE 1961, 0227 = AE 1960, 0245 = EDH 019912 = EDCS-13302474).

⁴⁸ Hirt 2014, 139.

⁴⁹ Šajin 2014, 117–122.

though there were certainly lower-ranked officials who managed the process of metal production and processing. These were probably the *vilici* in charge of overseeing the process of mining and transporting the metal.

***Argentariae Pannonicae* during the reign of Lucius Verus and Marcus Aurelius**

Epigraphic monuments imply that the administration not only of silver mines, but also copper, iron, and gold mines in the provinces of Pannonia and Dalmatia, were consolidated during the reign of Marcus Aurelius. This thesis is supported by inscriptions that mention persons who held the title of *procurator metallorum Pannonicorum et Dalmaticorum*. The use of the general term *metalla* in the procurator's title suggests that the procurator was in charge of all mines (*metalla*), not just silver mines.⁵⁰ In the first years of the reign of Marcus Aurelius and Lucius Verus (c. AD 161–164), the office of procurator of the consolidated mines of Pannonia and Dalmatia was held by *Tiberius Claudius Proculus Cornelianus*, whose monument was discovered in the area of present-day Algeria (*Lambaesis*).⁵¹ The second monument that mentions the procurator of the consolidated mines of Pannonia and Dalmatia is the subject of debate among scholars,⁵² and this will be discussed later in the text.

There is also a thesis that a monument from Glamoč mentioned the procurator of the consolidated mines, but this is difficult to prove.⁵³ In modern scholarship, this view is represented by Škegro, whereas Dušanić, referring to Alföldy's interpretation, rejected it.⁵⁴ More specifically, Dušanić believes that the person whose name is mentioned in this inscription was in fact a procurator of mines located near *municipium Salvium*, and not the united mines of Pannonia and Dalmatia.

The centre of the consolidated mining administration of the three Illyrian provinces (Dalmatia, Pannonia Superior, and Pannonia Inferior) was Domavia (Sasa near

⁵⁰ Bojanovski 1982, 103; Škegro 1998, 97, no. 72; Šačić Beća 2022b, 182.

⁵¹ *Ti(berio) Cl(audio) Proculo / Corneliano / praef(ecto) coh(ortis) II Bra(carum) / trib(un)o coh(ortis) mil(iariae) Ael(iae) / Dacor(um) praef(ectus) al(ae)⁵ / Sulpiciae proc(uratori) / provinc(iae) Syriae / ad rationes putandas / proc(uratori) metal(li) Pannonic(orum) / et Dalmaticorum proc(uratori)¹⁰ / kalend(arii) Vegetiani Hisp(aniae) / item ad dilectum cum / Iulio Vero per / Italiam tironum / II leg(ionis) Italicae¹⁵ / proc(uratori) regionis / Thevestinae / proc(uratori) IIII p(ublicae) A(fricae) / Inventus / Aug(usti) lib(ertus) tabul(arius)²⁰ / [[leg(ionis) III]] Aug(ustae) (AE 1956, 0123 = AE 1991, 1691 = AE 1992, 1866 = EDH 018033 = EDCS-13600416).*

⁵² *L(ucio) Domitio / {I} Eroti vi-/ro ex eques-/tribus tur-/mis egregio⁵ / procuratori / metallorum / [P]annon(iorum) / [et] Delmat(orum). Mi-/r]ae integritatis¹⁰ / [e]t bonit[a]tis / M(arcus) Aur(elius) Ru[s]ticus / v(ir) e(gregius) ducen(arius) amico / praestan[tissimo] (CIL 03, 08361. (B) = CIL 03, 12721. (B) = EDH 057727).*

⁵³ *[---]atis praecipu[---] / [---] magneque in[---] / [---]bus equo et dile(?)[---] / [---]ntio princ(eps?) m[unicipii] / [---] omni]bus honori]bus⁵ / [per]functo ex pro[cura]/[to]re(?) metalloru[m ---] / [---] api[-----] (ILJug III, 1655 = EDH 033953 = EDCS-10100634 = TM 182547).*

⁵⁴ Alföldy 1965, 164; Dušanić 1977, 85, fn. 210; Škegro 1999, 109.

Srebrenica in eastern Bosnia).⁵⁵ The reason for consolidation should be sought in the context of the military policy of the Emperor Marcus Aurelius. The emperor needed money for the war against the Parthians, Marcomanni, Vandals, Quadi, and Iazyges,⁵⁶ and this required the arrangement of state finances. One such step was the reform of the Illyrian mines.

Argentariae Pannonicae under Commodus

During the reign of Commodus, copper, iron, and gold mines were excluded from the duties of the procurator whose seat was in Domavia. This administrative change should be observed in the context of the general economic circumstances of the Roman Empire under Commodus. Namely, due to the constant wars with the Sarmatians, Marcomanni, and Quadi, Commodus had to find a more adequate way to get money for the army faster. In order to obtain money from the consolidated mining administration as soon as possible, he excluded the iron mines.⁵⁷ Based on an inscription from north-western Bosnia, we know that Commodus leased the iron mines to private lessees.⁵⁸ The district comprising the silver mines of Pannonia Inferior and Dalmatia was called *Argentaria*. Therefore, the term *Argentaria* should not be used for the silver mines of Dalmatia and Pannonia before the reign of Commodus. The district with that name was established during the reign of Commodus.

The first inscription that mentions a procurator in charge only of the silver mines of Dalmatia and Pannonia dates from the reign of this emperor (*procurator argentariarum metallorum Pannonicorum et Dalmaticorum*). It is an inscription dedicated to *Titus Claudius Xenophon* that was found in Ephesus in present-day Turkey.⁵⁹ Based on *cursus honorum*, we can conclude that Xenophon was in charge of the Pannonian and Dalmatian silver mines in the mid-80s of the second century.⁶⁰ He also had extensive experience, as he had previously administrated the gold mines in Dacia.

⁵⁵ Dušanić 1977, 67; Bojanovski 1999, 135–136; Imamović 1999, 48; Škegro 1999, 78; Hirt 2010, 71–73; Petrović 2015, 120; Šačić Beća 2022b, 182–183.

⁵⁶ Škegro 1999, 76; Veletovac 2014, 115.

⁵⁷ Dušanić 1977, 88; Šačić Beća 2022a, 256–257.

⁵⁸ *Terrae / Matri / [s]acrum / pro salut[e] / C(ai) Iul(i) Aga⁻⁵/thopi con(ductoris) / ferrar(iarum) / Callimo[r]-phus vil(icus) / v(otum) s(olvit) XI K(alendas) Ma(i)as)]¹⁰ / [Muc]iano et Fabian[o co(n)s(ulibus)]* (ILJug II, 779 = AE 1973, 0411 = EDH 011306 = EDCS-10000791 = lupa 30745).

⁵⁹ *T(ito) Claudio T(iti) f(ilio) Papiria / Xenophonti / [pro]c(uratori) Aug(usti) ad bona co-/[ge]nda in Africa proc(uratori) / provinc(iae) Asiae subpraef(ecto)⁵ / annonae urbis proc(uratori) Illyri-/ci per Moesiam inf(eriorem) et Dacias / tres proc(uratori) argentariarum Pan-/noniarum et Dalmatiarum / proc(uratori) Daciae Apulensis proc(uratori)¹⁰ / in Aegypto ad epistrategiam / septem nomorum et Arsinoitum / proc(uratori) viarum urbis / Salvianus Aug(usti) n(ostri) vern(a) dis-/pensator rationis extraord(inariae)¹⁵ / provinc(iae) Asiae* (CIL 03, 06575 = CIL 03, 07127 = EDCS-27800685).

⁶⁰ Šajin 2014, 128–129.

Argentariae Pannonicae in the third century

Imperial procurators administrated the mines headquartered in Domavia during the Severan dynasty. Domavia had the status of a *municipium* under the Severan dynasty, but in the mid-third century it became a *colonia metalla*.⁶¹ The oldest inscription mentioning the term *colonia metalla* dates back to the period from AD 251 to 253, that is, during the reign of Trebonianus Gallus and his son Veldumnianus Volusianus.⁶² The name itself clearly shows that Domavia was not an ordinary colony of Roman citizens, but that it was administratively connected to the mines.⁶³ Procurators who administered Pannonian and Dalmatian silver mines mainly appear on inscriptions in connection with the renovation of public buildings in Domavia. The last *procurator argentariarum* is also mentioned in this context, as the last epigraphic testimony from Domavia mentioning the imperial procurator for silver is an honorary inscription for Emperor Aurelian from AD 274 that was carved into a wall of a public facility. The inscription mentions that the procurator for silver mines (*procurator argentariarum*) Aurelius Verecundus ordered the exterior of old baths to be restored (*balneum vetustate conlapsum ad pristinam faciem reformare curavit*).⁶⁴ It

⁶¹ C(aio) Iul(io) Silvano / Melanioni eq(uo) / publ(ico) flam[i]ni Po-/m[o]nali [---]VR om-/nibus eq[ue]s[tri]-⁵/bus militiis [fu]nc(to) / proc(uratori) Aug(usti) [---] / [---]RC per provin(cias) / XXIII proc(uratori) Augu(sti) / [ra]tionis [---]¹⁰ / [---]RCIIRO / [pr]oc(uratori) O[---] / [---]IC[---] / [patrono] muni[cipii]¹⁵ / [Do]maviano(rum) / [---]NI I[---]E / [---] patrono / [---] provinc(iae) / [---] V[---]²⁰ (AE 1893, 0129. (B) = CIL 03, 12732. (B). AE 1893, 0129. (B) = CIL 03, 12732. (B) = EDH 052634).

The Greek inscription discovered during excavations at the site of Roman city of Segobriga (Cuenca, Spain) in 1995 contains a dedication to Zeus Theos Megistos by Caius Iulius Silvanus Melanio. This finding prompted Abascal and Alföldy to reconstruct the dedicator's *cursus honorum* by comparing it with other inscriptions mentioning this dedicator. Their analysis showed that Melanio was an iron and silver mine procurator in various provinces at the end of the second century and beginning of the third (Abascal, Alföldy 1998, 160–168). They offered somewhat different reconstructions of the text compared to previous readings:

C(aio) Iul(io) Silvano / Melanioni eq(uo) / pub(lico) flam[i]ni Po-/monali [in] u(rbe) R(oma) (?), om-/nibus equestri-⁵/bus militiis func-/t[o] proc(uratori) Aug(usti) [fe]rr(ariarum) et/ arg(entariarum) (?) per prouin-/cias XXIII proc(uratori) Aug(usti) /rationis [priua-¹⁰/tae per p]rovinc(ias) (?) / [... p]roc(uratori) C[---] / proc(uratori) pro[ui]nc[---] (?) ---/ ---ic[---] / ---ic[---]¹⁵ / --- in] muni-/cipio Do[maviano] / [---]ni [---]++[---]++[---] / [---] patron / [optimo?] pro- [u]inc(iae)²⁰ / [Dalm]a[tiae] (Abascal, Alföldy, 1998, 159–160)

⁶² Imp(eratori) C(aesari) / G(aio) Vibio / Traebo-/niano(!) / Gallo P(io)⁵ / F(elici) Inv(icto) Aug(usto) / ordo dec(urionum) / col(oniae) m(etallae) D(omaviana) (CIL 03, 12728 = EDH 055815).

Imp(eratori) C(aesari) / G(aio) Vibio / Traebon(iano)(!) / Veldum(niano) / Volusi-⁵/ano P(io) F(elici) / Inv(ictis) Aug(ustis) / ord(o) dec(urionum) / col(oniae) m(etallae) D(omaviana) (CIL 03, 12729 = EDH 055822).

⁶³ Bojanovski 1982, 102–103; Imamović 1999, 54; Petrović 2015, 121; Šačić Beća 2022b, 191; Šabanija Softić 2024, 81.

⁶⁴ [[[Imp(eratore) Caes(are) L(ucio)] D[o]m[iti]o [Au]re[li]ano [A]u[g(usto)]]] / II et Capitolino co(n)s(ulibus) / Aur(elius) Verecundus v(ir) e(gregius) pro(curator) / argentariarum balneum / vetu-

is apparent that the production in silver mines around Domavia was intensified under Aurelian, and that the mining administration invested funds in the maintenance of public facilities in the colony of Domavia. Aurelian's interest in the metal ores from eastern Bosnia might have been even greater than that of his predecessors given that the Romans left Dacia in AD 271, thus losing large mineral resources. Moreover, it is well-known that there were 11 mints during Aurelian's reign.⁶⁵

Procurators in the third century do not have the term *Pannonicorum et Dalmaticorum* in their title, but are titled only as *procurator Augusti* or *procurator argentariarum*. Some scholars assume that *procurator Augusti* administered the entire mining district of *Argentaria*, whereas *procurator argentariarum* administered only individual silver mines.⁶⁶ All the procurators from the third century in the silver and lead mines of Dalmatia have the title of *vir egregius* in common, which means that they came from a military class.

Based on one piece of information from the biography of Claudius II Gothicus, preserved in *Historia Augusta*, some scholars assume that due to the crisis caused by the barbarian attacks, the mining administration was consolidated throughout Illyricum.⁶⁷ Specifically, *Historia Augusta* mentions the state supervisor of the mines in Illyricum, that is *curator Illyrici metallarius*.⁶⁸ However, this thesis is difficult to prove.

Argentariae Pannonicae in the fourth century

More recent research in the field of epigraphy concluded that one preserved monument from the Late Empire mentions the *procurator metallorum Pannonicorum et Delmaticorum*. This monument is located in Gradina in the village of Sase near Srebrenica and was erected in honour of *Lucius Domitius Eros*.⁶⁹ The knight of the highest rank (*ducenarius*) *Marcus Aurelius Rusticus* dedicated this monument. In earlier works, this monument was dated to the period between AD 170 and 250.⁷⁰ In present-day Turkey, an honorary inscription was discovered in 2002 in honour of Emperor Diocletian, which was apparently erected by the same dedicant, *Marcus Aurelius Rusticus*.⁷¹ Based on the comparison of these two monuments with the monument of the

*state conlapsum*⁵ / *ad pristinam faciem re-/formare curavit* (AE 1893, 0131. (B) = CIL 03, 12736 = EHD 055847 = EDCS-29900018).

⁶⁵ Škegro 1999, 89.

⁶⁶ Škegro 1998, 100; Šačić Beća 2022b, 190.

⁶⁷ Škegro 1999, 428.

⁶⁸ HA *Claud. Goth.* 15.4.

⁶⁹ *L(ucio) Domitio / {I} Eroti vi-/ro ex eques-/tribus tur-/mis egregio*⁵ / *procuratori / metallorum / [P]annon(iorum) / [et] Delmat(orum). Mi-/ [r]ae integritatis*¹⁰ / *[e]t bonit[a]tis / M(arcus) Aur(elius) Ru[s]ticus / v(ir) e(gregius) ducen(arius) amico / praestan[tissimo]* (CIL 03, 08361. (B) = CIL 03, 12721. (B) = EHD 057727 = EDCS-31400631).

⁷⁰ Bojanovski 1982, 103; Škegro 1998, 97.

⁷¹ Akyürek Şahin, Türkütüzün 2008, 143.

procurator argentariarum of Aurelius Verecundus, we can conclude that the consolidated administration of all the mines of the provinces of Pannonia and Dalmatia was re-established after the reign of Aurelian. The centralized administration of all mines in Dalmatia and Pannonia with headquarters in Domavia was introduced in the first years of the reign of Diocletian.⁷²

In the later period, i.e., in the second half of the fourth century, the mines from Pannonia were part of the administration of the Illyrian mines. *Comes metallorum per Illyricum* was at the head of the consolidated Illyrian mines. This official is mentioned in *Notitia Dignitatum*.⁷³ It is still not known what the administration was like in the Pannonian mines during the period of the barbarian invasions, but they probably continued their work in a smaller capacity.

Conclusion

Research on the administrative structure of the *argentariae Pannonicae* not only contributes to a better understanding of Roman exploitation of natural resources, but also indicates the complexity of Roman administration in the provinces. The analysis of epigraphic inscriptions clearly shows that the administrative organization of the Roman silver mines in Pannonia was part of a complex system of administration that developed and adapted to changes within the Roman Empire. Pannonian silver mines were not part of the provincial administration system. From the reign of the Flavians to Marcus Aurelius, this district was administratively part of the important Roman colony of Sirmium. However, mining activities were coordinated from *vicus metalli Gensis* (*Tab. Peut.* 5.4–6.2). Based on the analysis of *Tabula Peutingeriana*, scholars assume that *vicus metalli Gensis* was located in the village of Lešnica (near Loznica in western Serbia).

Between AD 69 and 161, the silver mines in Pannonia were administered by imperial procurators titled *procurator argentariarum Pannonicarum*. Their presence is confirmed by three preserved epigraphic monuments. All procurators of the Pannonian mining district originated from the upper classes of Roman society. We know that the earliest of them, *Lucius Crepereius Paulus*, came from a prominent local family from the province of Pamphylia, and his *cursus honorum* testifies to his very successful military career. The procurator *Marcus Antonius Fabianus*, who was a *conductor portorii Illyrici*, also came from a distinguished family, indicating great wealth and prestige. We can only partially reconstruct the name of the third procurator, but his *cursus honorum* shows, among other functions, that he was the governor of the Roman province of *Mauretania Caesariensis*. None of the inscriptions mentioning *procuratores* of the Pannonian silver mines have been discovered in Pannonia Inferior where the mines

⁷² Šačić Beća 2022b, 198.

⁷³ *Not. Dig. Or.* 42.26.

were located, but monuments dating from the reign of Hadrian to the joint reign of Marcus Aurelius and Lucius Verus were discovered in *Attaleia* (*Lycia et Pamphylia*), *Viminacium* (*Moesia Superior*), and *Caesarea* (*Mauretania Caesariensis*). Their biographies, posts, and previous careers indicate that the Pannonian mines were highly valued within the imperial administrative apparatus.

In the second half of the second century, the administrative consolidation of silver mines, as well as those for other metals, occurred in the provinces of Pannonia and Dalmatia. At the head of the consolidated administration was a procurator with the title *procurator metallorum Pannonicorum et Dalmaticorum*, as can be seen from the inscription of *Tiberius Claudius Proculus Cornelianus*. After this, the administration of the Pannonian mines was no longer connected to Sirmium. Instead, Domavia became the administrative centre (Sase near Srebrenica in eastern Bosnia).

Changes in the administration of the mines during the reign of Emperor Commodus and later in the third and fourth centuries reflect the broader political and economic dynamics of the Empire. Commodus tried to rationalize the mining administration by separating the copper, iron, and gold mines from the jurisdiction of the consolidated administration while maintaining centralized control over the silver mines. We can assume that the *Argentaria* mining district was formed around that time (*Tab. Peut.* 5.4–6.2). Significant Pannonian and Dalmatian silver mines consolidated under the name *Argentaria*. This district was governed by the *procurator argentariarum metallorum Pannonicorum et Dalmaticorum*. The seat of the consolidated administration was located in Domavia, which turned from a *municipium* into a *colonia metalla* in the mid-third century, which further emphasized its connection with mining activity.

During the reforms conducted by Diocletian and Constantine, the mines of Illyricum were again consolidated under a single administrative body – *comes metallorum per Illyricum*, as confirmed by *Notitia Dignitatum*. At that time, the mining administration maintained its functionality and significance even though the Empire had already entered a phase of deep internal crises and external threats.

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Abbreviations

AE = *L'année épigraphique*, Paris.

CIL 03 = *Corpus Inscriptionum Latinarum III* (ed. Th. Mommsen), Berlin 1873; *Supplementa* 1889–1902.

ILJug = A. et J. Šašel, *Inscriptiones Latinae quae in Iugoslavia inter annos MCMXL e MCMLX repertae et editae sunt*, Situla 5, Ljubljana 1963 (nos. 1–451); A. et J. Šašel, *Inscriptiones Latinae quae in Iugoslavia inter annos MCMLX e MCMLXX repertae et editae sunt*, Situla 19, Ljubljana 1978 (nos. 452–1222); A. et J. Šašel, *Inscriptiones Latinae quae in Iugoslavia inter annos MCMII et MCMXL repertae et editae sunt*, Situla 25, Ljubljana 1986 (nos. 1223–3128).

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