

GOLD EARRINGS FROM THE FIRST COLLECTIONS OF THE “MUSEUM CAUCASICUM”¹

ოქროს საყურეები კავკასიის მუზეუმის პირველი კოლექციებიდან²

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Abstract. The present paper is an introduction of the research on gold earrings from the first collections of the „Museum Caucasicum”. Earrings from five different places of the Caucasus region – Samtavro cemetery (Iberia), Digora, Stavropol, Divnoe and Prokhladny (North Caucasus) dated to the 2nd-8th centuries AD prevail in the total number of artifacts entering the first collections and taking into account the parallels found on other monuments allow drawing certain conclusions. As a result of the conducted studies, the following was determined: chronology; typology, cultural attribution, distribution area and chemical-technological details of items. Earrings typologically belong to two groups: 1. One-piece earrings, with rosettes, beads and pendants fixed or cast on the hoop of the earring, and 2. Two-piece earrings, which are represented with beads and pendants movably, hung on the hoop. Since all earrings were found by chance and their archaeological context is unknown, their dating was done according to similar, already dated material found in the cemeteries of Eastern Georgia and the North Caucasus. The metallographic analysis of gold earrings was carried out in the Institute of Restoration and Conservation of the Georgian National Museum using the non-destructive spectrometer (ElvaX ProSpector). According to received results exact composition of each earring was determined. Earrings are diverse both in terms of forms and artistic processing, but they repeat the general trends of goldsmithing prevalent in the Late Roman – Pre-feudal period, which can be observed, on the one hand, in various cemeteries of this period in Eastern Georgia and North Caucasus.

Key words: Gold; Earring; Caucasus; Roman Period; Pre-feudal Period;

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აბსტრაქტი. წინამდებარე ნაშრომი ეხება ოქროს საყურეებს „კავკასიის მუზეუმის“ პირველი კოლექციებიდან. საყურეები კავკასიის რეგიონის ხუთი სხვადასხვა ადგილიდან მომდინარეობს - სამთავროს სამაროვანი (იბერია), დიგორა, სტავროპოლი, დივნოე და პროხლადნი (ჩრდილოეთ კავკასია). პირველ კოლექციებში შემავალი არტეფაქტების საერთო რაოდენობაში საყურეები ყველაზე დიდ ჯგუფს ქმნის და სხვა ძეგლებზე აღმოჩენილი პარალელების გათვალისწინებით გარკვეული დასკვნების გაკეთების საშუალებას იძლევა. საყურეები ახ.წ. II-VIII საუკუნეებს განეკუთვნება. ჩატარებული კვლევების შედეგად განისაზღვრა საყურეების ქრონოლოგია, ტიპოლოგია, კულტურული კუთვნილება, გავრცელების არეალი და ქიმიურ-ტექნოლოგიური დეტალები. საყურეები ტიპოლოგიურად ორ ჯგუფს მიეკუთვნება: 1. ერთწილადი საყურეები (საყურის რგოლზე უძრავად მირჩილული ან ასხმული ვარდულები, მძივები და საკიდები) და 2. ორწილადი საყურეები (რგოლზე მოძრავად შეკიდული მძივები და საკიდები). რადგანაც საყურეები შემთხვევითაა აღმოჩენილი და მათი არქეოლოგიური კონტექსტი უცნობია, დათარიღება განხორციელდა აღმოსავლეთ საქართველოს და ჩრდილოკავკასიის სამაროვნებზე აღმოჩენილი მსგავსი ან ანალოგიური, უკვე დათარიღებული მასალის გათვალისწინებით; ოქროს საყურეების მეტალოგრაფიული ანალიზი შესრულდა საქართველოს ეროვნული მუზეუმის რესტავრაციისა და კონსერვაციის ინსტიტუტში არადესტრუქციული სპექტრომეტრის (ElvaX ProSpector) გამოყენებით. კვლევის შედეგად თითოეული საყურის ზუსტი შედგენილობა განისაზღვრა. საყურეები როგორც ფორმების, ასევე მხატვრული დამუშავების თვალაზრისით მრავალფეროვანია, თუმცა სტილისტურად იმეორებს გვიანანტიკურ-ადრეფეოდალურ ხანაში გავრცელებული ოქრომჭედლობის ზოგად ტენდენციებს, რაც შეინიშნება აღმოსავლეთ საქართველოს სამაროვნებზე და ჩრდილო კავკასიაში.

საკვანძო სიტყვები: ოქრო; საყურე; კავკასია; გვიანანტიკური ხანა; ადრეფეოდალური ხანა;

Introduction. Museum Caucasicum was one of the centers of science and culture in Georgia and Transcaucasia in 1852-1919. As a complex regional institution, Museum Caucasicum was founded by the initiative of the writer Vladimir Sologub with the Caucasus Department of the Russian Geographical Society. Due to the lack of funds allocated to the Museum the collections were filled mainly through donations. The material preserved here was transferred to the Simon Janashia State Museum of Georgia (currently Georgian National Museum) at the beginning of the XX century. Here, in the form of the oldest collections, the contextless material found in different points of the Caucasus region is united.

Scientific researches of the first collections of the Museum Caucasicum has never been carried out until now, except for the work published by P. Uvarova in 1902, in which only the description of the artifacts and scanty illustrations are given (Uvarova, 1902).

Among the numerous artifacts, the jewelry of the Late Roman – Pre-feudal period forms the largest group and combines various types of personal and garment ornaments. Earrings were selected for conducting the research, as they prevail in the total number of artifacts and, taking into account the parallels found on other monuments allow drawing certain conclusions. The earrings come from 5 different places of the Caucasus: Samtavro cemetery – Iberia; Digora, Stavropol, Divnoe, Prokhladny – North Caucasus and belong to the 2nd-8th centuries AD (Figure 1).

The interdisciplinary research of jewelry included in the collections is necessary due to several reasons: Based on the quantitative distribution of goldsmith samples, it is believed that there must have been a goldsmith's workshop in Iberia, in which the high-quality jewelry found in Samtavro, Armaziskhevi and other rich graves of Iberia was probably made using local raw materials; If the samples of goldsmithing found on the Samtavro cemetery are considered to be local products, the question of the origin of the earrings found in different places of the Caucasus included in the first collections of the Museum Caucasicum is interesting; Was jewelry made only for the local consumption in Iberia, or was it exported? Whether the jewelry found on the monuments of the Caucasus, included in this research, is the product of another workshop located in the North Caucasus, and arrived here as an import. The project: "First collections of the Precious Metals Depository from the „Museum Caucasicum” of Young scientists research call of Shota Rustaveli National Science foundation of Georgia is a modest attempt to solve these issues.



Figure 1. Places of discovery of the gold earrings discussed in the article

Methods:

Earrings typologically belong to two groups: 1. One-piece earrings with rosettes, beads and pendants fixed or cast on the hoop of the earring, and 2. Two-piece earrings represented with beads and pendants movably, hung on the hoop. In the first group 5 additional subgroups were identified according to the shape of the earring (Figure 2).









		2 nd -3 rd cc. AD	3 rd -4 th cc. AD	6 th -7 th cc. AD
I One piece earrings	A			
	B			
	C			
	D			
II Two piece earrings	A			
	B			

Figure 2. Typology of the earrings from the first collections of the „Museum Caucasicum”

IA type is represented with an earring decorated with a pendant consisting of balls forming the grape cluster fixed on the hoop.

IB type is represented with the pyramid shaped cluster earrings made of thin balls.

IC - gold rosettes, pearl and glass beads are poured on the stem of the earring.

ID - A frame is soldered on a basket-shaped pendant, in which garnet and onix beads are inserted. In the second group 2 subgroups were identified according to the shape of the earring (Figure 2).

IIA - an oval-shaped bezel with a garnet set is suspended on the open ring.

IIB - a wire adorned with gold rosettes, pearl and pasta beads are movably hung on an open ring.

The typology is based on earring chronology, shape and detailing from the simplest to the most complex forms. Since all earrings were found by chance and their archaeological context is unknown, their dating was done according to similar, already dated material found in the cemeteries of Eastern Georgia and the North Caucasus.

The metallographic analysis of gold earrings was carried out in the Institute of Restoration and Conservation of the Georgian National Museum using the non-destructive spectrometer (ElvaX ProSpector) and exact composition of each earring was determined (Figure 3). All represented artifacts are made of three-component alloy of gold, silver and copper, which means, that in most cases metal is purified and there are not traced such microelements, that mostly assist in the process of identifying their provenance and manufacturing centre.

For the interpretation of metallographic analysis and data processing, the widely tested software base in interdisciplinary research - PAST is used.

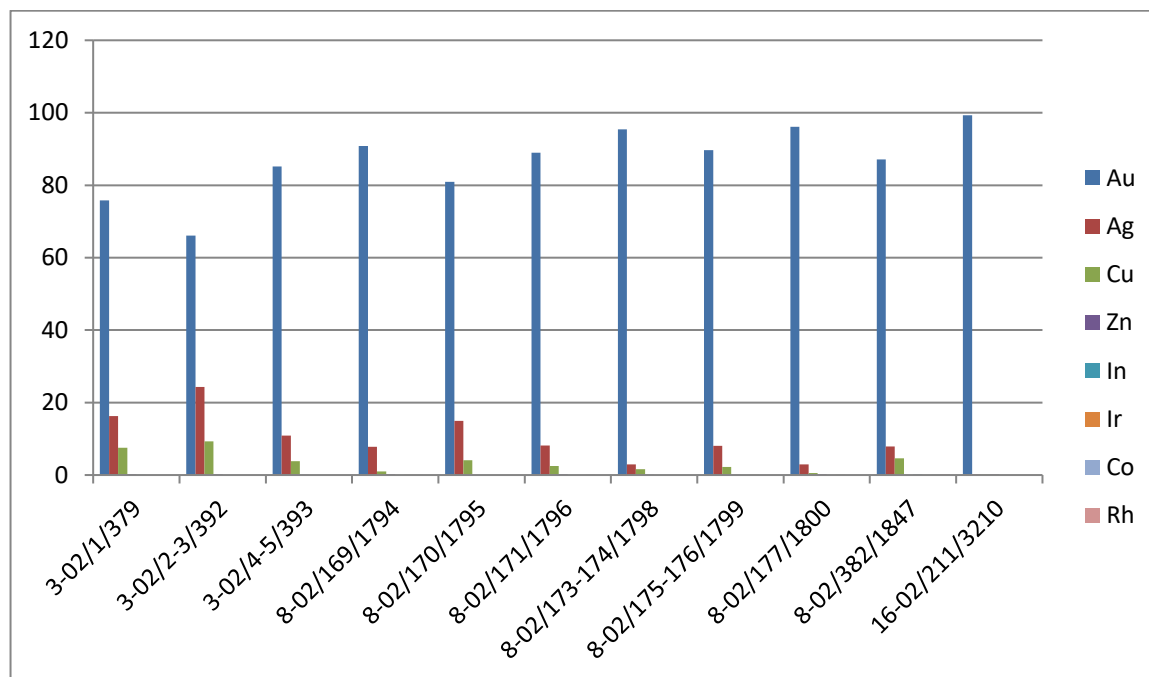


Figure 3. Results of chemical analysis of the earrings discussed in the article

Discussion and Results:

The earliest among earrings is IIA type earring from the Samtavro cemetery (N8-02/177) (Figure 2). A teardrop-shaped bezel made of garnet is hinged to the round-section wire. A stem coming out of the bezel has a three-pin gold holder for beads. Length – 32 mm; weight – 1.89 gr. Specific gravity of gold is

96.12%, and the rest is divided between silver, copper and iridium (Figure 3). Similar earring was traced in N5 pit-grave of Samtavro cemetery dated to the 2nd-3rd cc. AD (Jalabadze et al., 2019: 46, 107). A pair of earrings from well-dated rich graves of Zghuderi belongs to this very period (Braund et al., 2009: 52). With individual details the earrings repeat the type of earring from Samtavro, although they are of relatively high quality work. Oval-shaped bezels decorated with beads are a characteristic feature of jewelry of the Late Roman Period. According to parallels the earring should be dated to the 2nd-3rd cc. AD. If we take into consideration the closeness of these three sites, where these earrings were discovered (Figure 1) and their absence outside of Georgia we should consider that they are of local production.

The next earring also from Samtavro belongs to the IIB type (N8-02/382) (Figure 2). A stem with two gold rosettes and a green glass bead between them is hung movably on a hoop which is round in section. Below them there are rings with gold stems for stringing beads on them. Length – 25.8 mm; weight – 1.54 gr. Specific gravity of gold is 87.07%, and the rest is divided between silver, copper, indium, cobalt and rhodium (Figure 3). The exact analogue of the earring was attested in grave N49 on the Armaziskhevi cemetery of the 2nd-4th cc. AD (Apakidze et al., 1955: 127, pl. XIV, 5). A pair of earrings from Kushanaantgora graves #1 and 11 belongs to this type, which are also dated to the 3rd-4th cc. AD (Ramishvili, 1979: 36, pl. I); this type of earring is not known outside of Georgia and should be dated to the 3rd-4th cc. AD.

The next earring also from Samtavro belongs to the IIB type (N 8-02/171/1796). A stem with two gold rosettes and a glass bead between them is hung on the round-section hoop. Below them there are pearl beads strung to form a grape cluster. Length – 34 mm; weight – 26.40 gr. The specific gravity of gold is 89%, while the rest is divided between silver, copper, zinc and cobalt. The second earring was discovered alongside this one, although its rosette is directly soldered to the ring. Since their context is unknown we are unable to indicate whether they are parts of a pair or are separate earrings. Gold earrings adorned with pearl beads were discovered in N19 and N43 rich tombs of Armaziskhevi (Apakidze et al., 1955: 107, 122 pl. XII, 5, 6; XIII, 3, 4) and Akhagori (Apkhazava, 1979: 71, pl. XXV, 51) dated to the 4th c. AD. Gold earrings adorned with rosettes, paste and pearl beads were discovered in N6 and N17 graves of the Modinakhe Late Roman cemetery (Nadiradze, 1975: 47, 54; fig. 7, 14) and Samtavro cemetery (Jalabadze et al., 2019: 19, 49; cat. 71) dated to the 4th c. AD. This type of earrings continues to exist until the 8th c. AD, however in the later period is represented in the form of pearl beads hanging in a row on gold stem. The presence of the same type of earrings in burials of different periods indicates to their local production. Moreover, they are rare or not found on the monuments of the Caucasus of this period. According to the above-mentioned parallels the earring should be dated to the 4th c. AD.

The next earring from Samtavro belongs to the IC type (N8-02/169/1794) (Figure 2). A stem with two gold rosettes and deformed bead between them are impaled on a stem soldered to a round-section hoop. Gold bead is impaled on the ring itself. Length – 24 mm; weight – 1.98 gr. Specific gravity of gold is 90.85% and the rest is divided between silver, copper, zinc, iridium and cobalt (Figure 3). Similar earrings were discovered in N89 pit grave of the Samtavro cemetery (Jalabadze et al., 2019: 18, 48; cat. 54, 57) and in the second sarcophagus of Zghuderi dated to the 200-250 AD (Braund et al., 2009: 51). The earring should be dated to the 3rd-4th cc. AD.

The next group is represented with two pairs of earrings from Samtavro, which belong to the ID type (N8-02/173-74/1798, N 8-02/175-176/1799) (Figure. 2). Gold frame is soldered on the basket-shaped pendant. Garnet and onyx beads are inlaid in the frame. Length – 23/26 mm; weight – 5.15/ 5.10 gr. Basket-shaped earrings fall within 3rd-4th cc. AD and similar gold, silver and bronze earrings are known from the Samtavro (Jalabadze et al., 2019: 18, 48; cat. 55) and two pairs from N1 and N5 graves of Zhinvali (Jorbenadze, 1983: Pl. I, 3; II, 1) cemeteries and as it seems this type of earring was quite popular in the burials of different social classes on the territory of the Eastern Georgia and the essence of metal was based on the economic advantage. According to other similar discoveries from the Samtavro cemetery, such as details of the earrings, both pairs should be dated to the 3rd-4th cc. AD.

The next group IA is represented with a pair of earrings from Digora (N 3-02/4-5/393) (Figure 2). 4 small and one larger ball are soldered on the open ring. Specific gravity of gold is 85.19%, and the rest is divided between silver, copper and zinc (Figure. 3). This earring has no exact analogue on the territory of Georgia and North Caucasus, although some details, such as hollow pendants forming grape clusters are attested on the Armaziskhevi cemetery and should be dated to the 3rd-4th cc. AD (Apakidze et al., 1955: pl. LXVI, 41; LXXX, 19).

Another pair of earrings from Digora belongs to the same type IA (N 3-02/2-3/392) (Figure 2). Four gold balls are soldered on the open ring. Length – 15 mm; weight – 1.60 gr. Specific gravity of gold is 66.06%, of silver - 24.33% and the rest is divided between copper and zinc (Figure 3). Close examination of gold earrings recovered from the Samtavro cemetery burials of the 1st-8th cc. AD made it possible to identify a chronological marker according to where the ring is open. This type of a hoop of the second century earrings is open near a soldered grape cluster; however, the hoop of the similar type of the 6th-8th cc earrings with grape clusters is open in the upper part, i.e. opposite the grape cluster. Such cases are explained as the revival of the previously existing earring shape in later times originating from the local workshop (Jalabadze et al., 2019: 11, 42 compare cat. 26-28 and cat. 62-63). Except for Digora and Samtavro this type of earrings was discovered in the central Crimea, in the kurgan of Sabl (Simpheropol) of the Late Scythian period (Zhuravlev, Firsov, 2001: 223-229; fig. 1, 6), which once again proves, that this type exists in a rather long period of time and this fact itself excludes its provenance from only one production centre. On the basis of the earrings already dated with accompanied material or grave inventory this pair should be dated to the 6th-7th cc. AD.

The next IC group is represented with an earring from Prokhladny, Stavropol district (N16-02/211/3210) (Figure 2). Two paste beads are strung on the ring. A stem is bent. Length – 24 mm; weight – 1.71 gr. Specific gravity of gold is 99.3%, the rest is divided between silver, copper and zinc (Figure 3). Similar earrings were discovered in N394 stone sarcophagus and N272 burial of Samtavro cemetery dated to the 7th-8th cc. AD (Jalabadze et al., 2019: 20, 49, 50; cat. 75, 76) and this should be the supposed date also for this earring.

The next group IB is represented with two earrings from Digora (N3-02/1/379) and Samtavro (N8-02/170/1795) (Figure 2). A pyramid made up of granules and four balls soldered on its top are immovably hung on a hoop which is round in section. Length – 32/26 mm; weight – 4.03/2.1 gr. One such earring was discovered in N177 catacomb grave from Zhinvali (Apkhazava, 1979: 69), another one in the Berbuki stone sarcophagus (Apkhazava, 1979: pl. XXIX, 10, 11) and on Samtavro cemetery (Jalabadze et al., 2019: 19, 49; cat. 66, 67) and are dated to the 6th-7th cc AD.

Conclusion:

All represented artifacts are made of three-component alloy of gold, silver and copper, which means, that in most cases metal is purified and there are not traced such microelements, that mostly assist in the process of identifying their provenance and manufacturing centre.

Almost all the existing technologies of treating metal were applied in manufacturing these samples and their details: granulation, twisting, stretching, soldering, and forging. Research showed, that some details of gold jewelry of the Late Roman Period were produced of copper alloy specially with such admixtures and concentration that far firmer gold-color metal was received. Zinc adds firmness to the copper alloy and its color was analogous to that of the gold.

For the interpretation of metallographic analysis and data processing, the widely tested software base in interdisciplinary research - PAST is used.

According to the chemical composition of the above mentioned earrings two samples - one from Prokhladny and another from Stavropol - contain the gold of highest quality. The gold content

in the composition of the earrings from Samtavro ranges between 87-96%, and it is worth noting that the different details of the earrings are made of the same alloy, while the gold content in the composition of the earrings from Digora ranges between 66-75%. It is likely, that the presence of additional elements of the ornament demanded the need to make a stronger alloy, which was achieved by increasing the silver content (Figure 4).

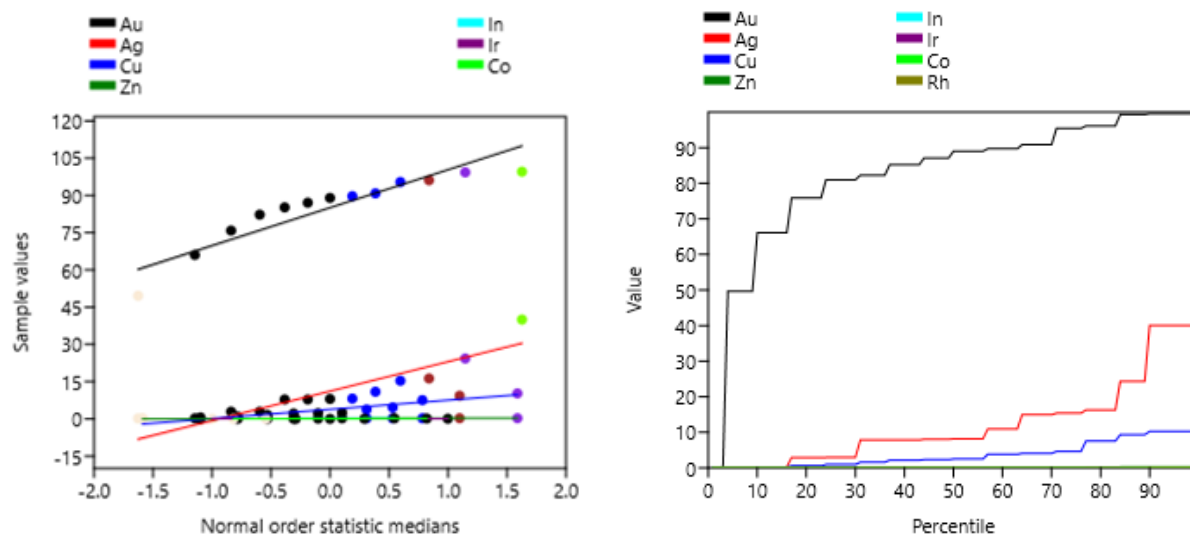


Figure 4. Distribution of elements in observed samples. ● Samtavro, ● Digora, ● Stavropol, ● Prokhladny, ● Divnoe

Based on the percentage distribution of the two main elements in the alloy - gold and silver - the research showed that the earrings from Samtavro and Digora are relatively close to each other. We received the same results when comparing zinc and copper content in earrings.

It is interesting that the presence of microelements that better indicate the origin of the metal – Iridium and cobalt were observed only in the earrings from Samtavro. And they are absent in the alloy of the earrings from the North Caucasus.

From the earrings found in the Late Roman-Pre-feudal graves excavated on the territory of Georgia, metallographic analysis has been performed on 16 earrings from the dated complexes of Samtavro and a pair of earrings from Gostibe (Jalabadze et al., 2019: 86, Table 1). Based on the comparison of the two main elements - silver and gold, the earrings of Gostibe and Samtravto stand close and the earrings found in Digora are the closest to them. The earrings found on the monuments of the North Caucasus are still different.

A comparison of gold and copper for all data known to us gives the same results. In this case, earrings from Digora are different from the Samtavro ones. On the other hand, the earrings of Gostibe and Samtavro are quite close to one another (Figure 5).

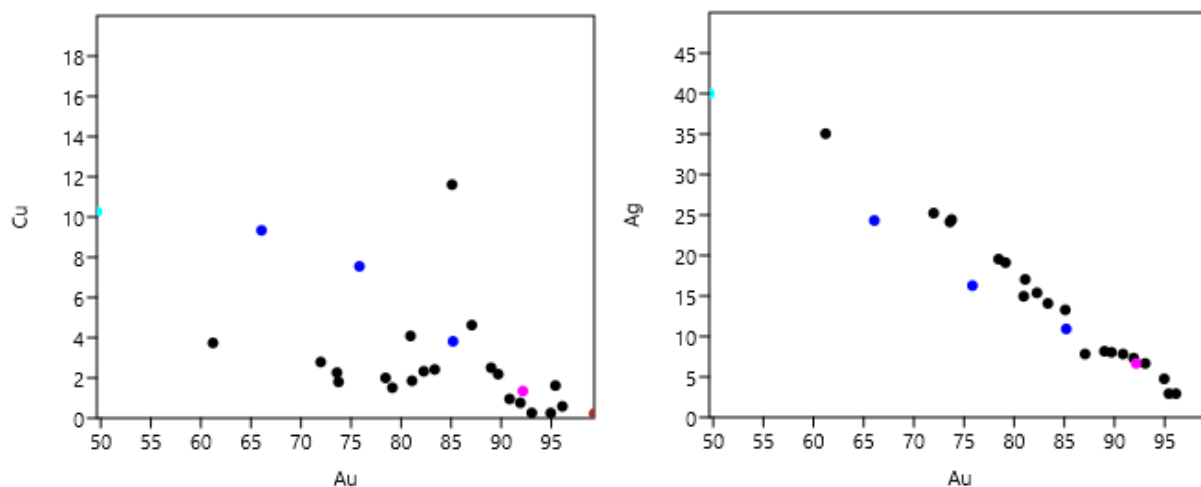


Figure 5. Comparison of all processed metallographic analysis on gold earrings from the Eastern Georgia. ● Samtavro, ● Digora, ● Stavropol, ● Prokhladny, ● Divnoe, ● Gostibe

Unfortunately, all earrings are context less and found by chance, on the other hand already processed metallographic analyses are quite few that is why it is difficult to draw a conclusion about their production center, although it is clear that in this particular period we have to deal with several production centers, one of which was definitely located in Iberia.

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