

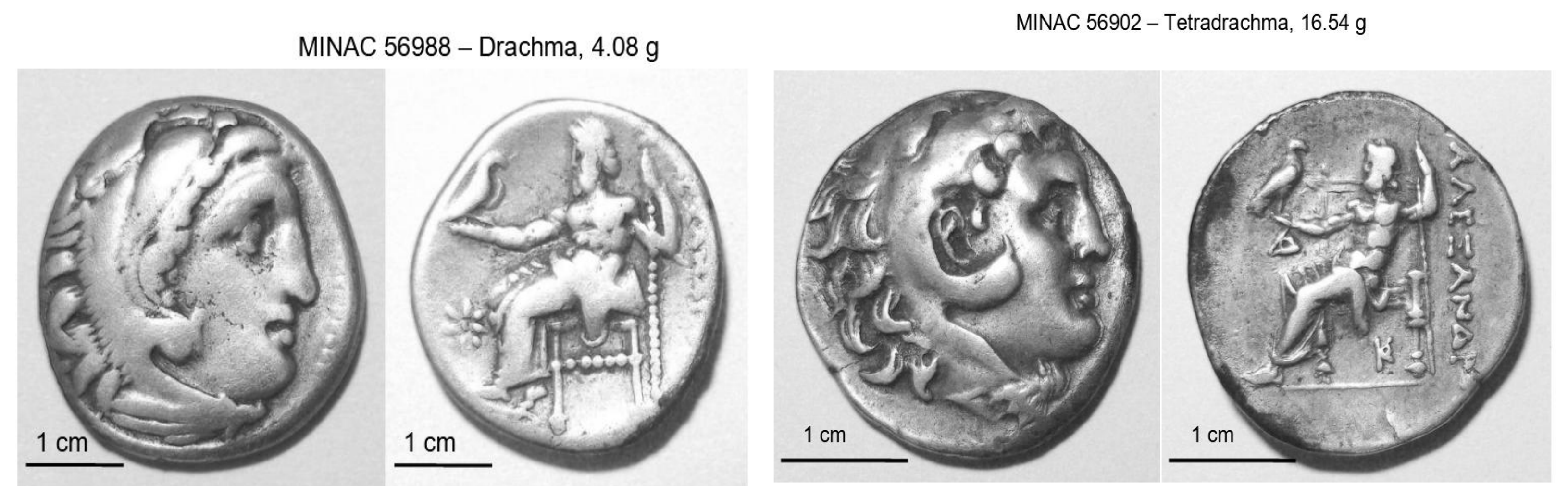
ALLOY COMPOSITION STUDIES ON SOME SILVER COINS FROM THE HELLENISTIC PERIOD. CASE STUDY: POSTHUMOUS MACEDONIAN SILVER COINS AND IMITATIONS OF HISTRIAN COINS - APOLLO TYPE

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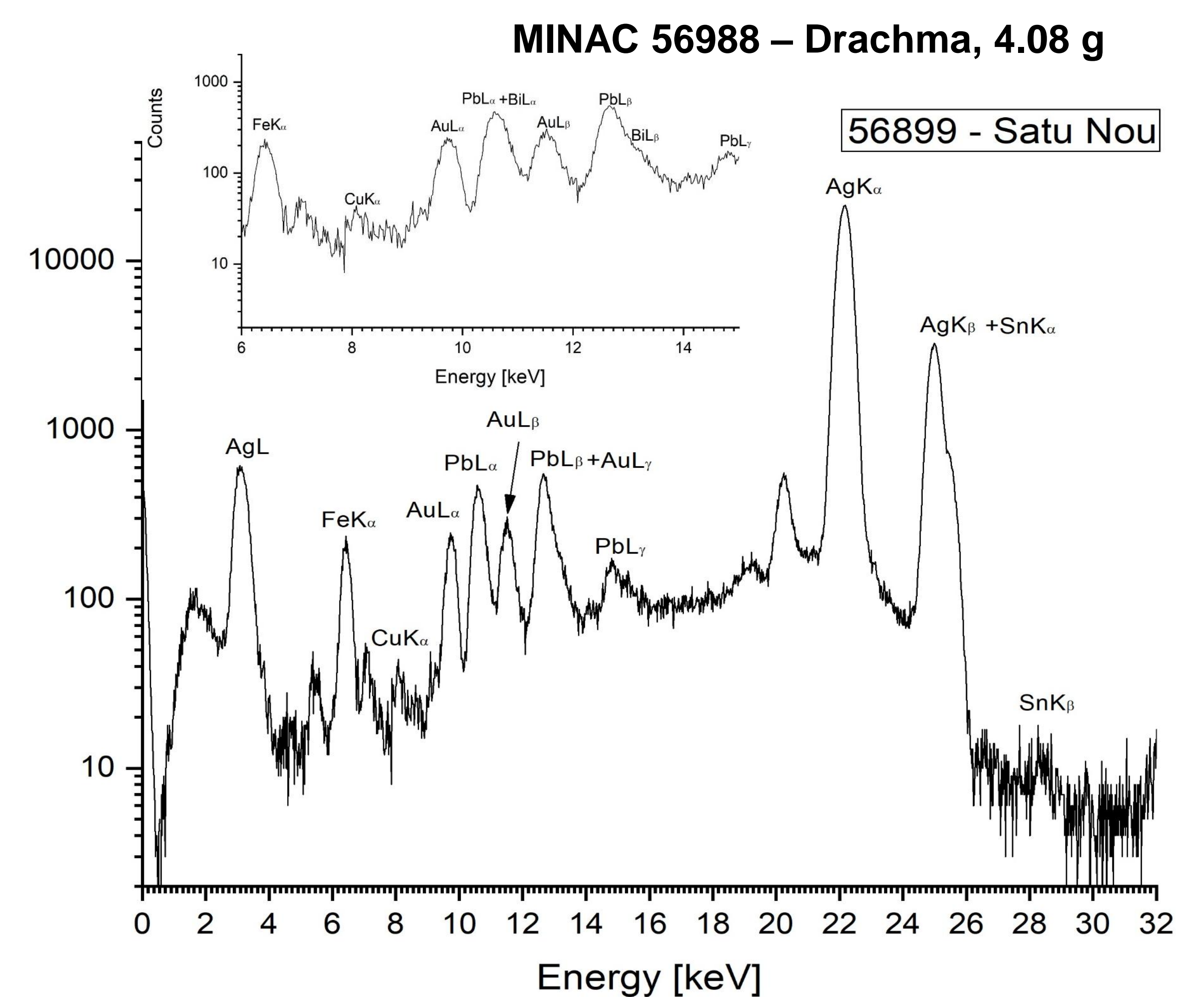
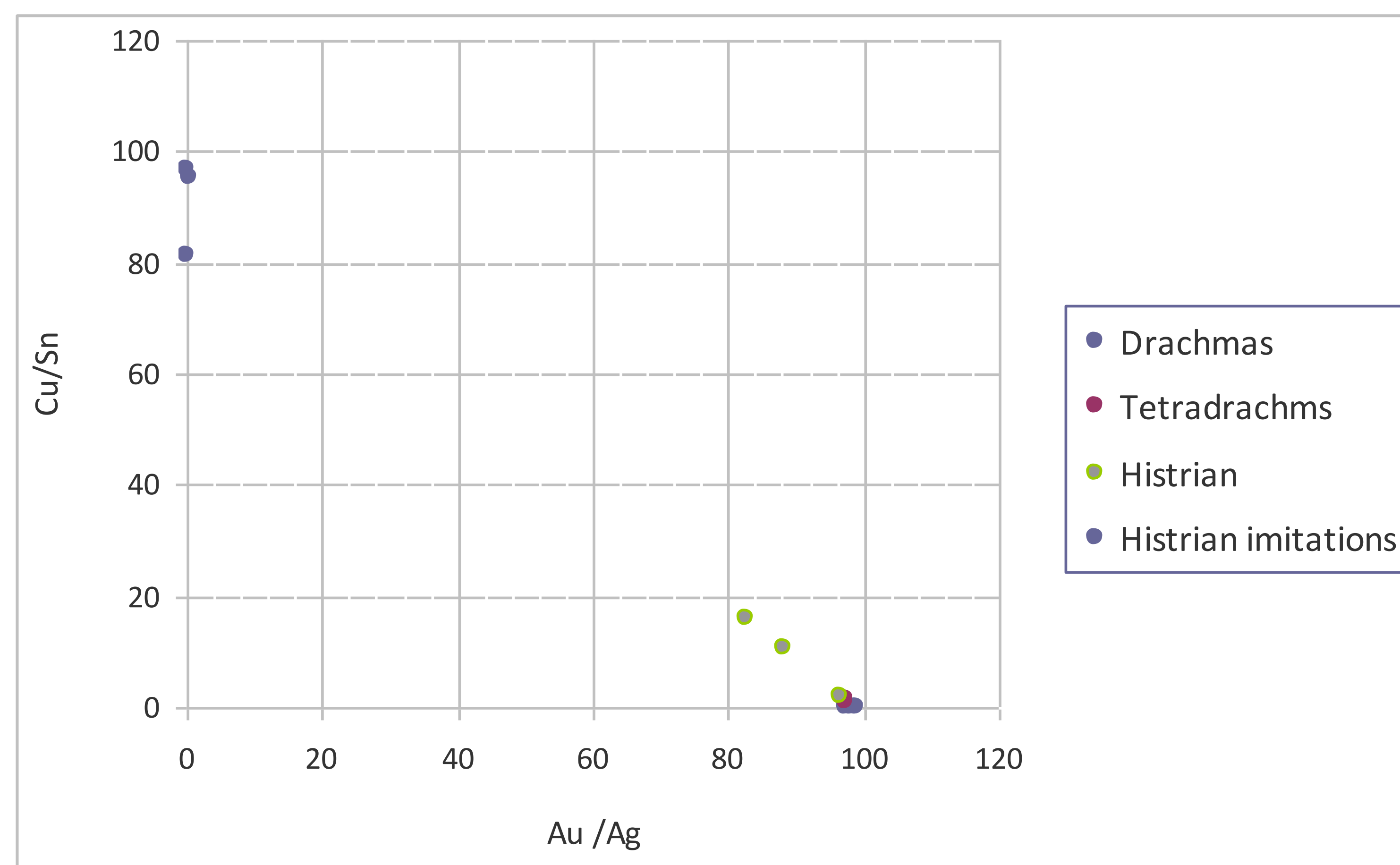
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This paper presents a series of analyzes regarding the elemental composition of the alloy of some posthumous Macedonian silver coins - Alexander III (from the hoard discovered in Satu Nou, Oltina commune, Constanța county) and some imitations of the Histrian silver coins – Apollo type. These analyzes were performed by X-ray fluorescence (XRF) method using the X-MET TX3000 portable spectrometer. The treasure includes five silver pieces, two tetradrachms and three Macedonian-type drachmas, minted for Alexander III. All are posthumous issues, the earliest being drachmas (323-319, 319-305 and 310-301 BC), and the latest being tetradrachms (275-230 BC).



Preliminary XRF analysis with a portable spectrometer suggested

The title of the coins was determined, the concentration of silver being between 96.4% and 98.2%, gold between 0.4% - 0.9%, and also minor elements and trace elements (Cu, Pb, Bi, Sn). For the 3 drachmas, two types of silver were identified: silver with a little gold, traces of copper and bismuth, and the second silver with more gold and copper, approximately 0.1%.



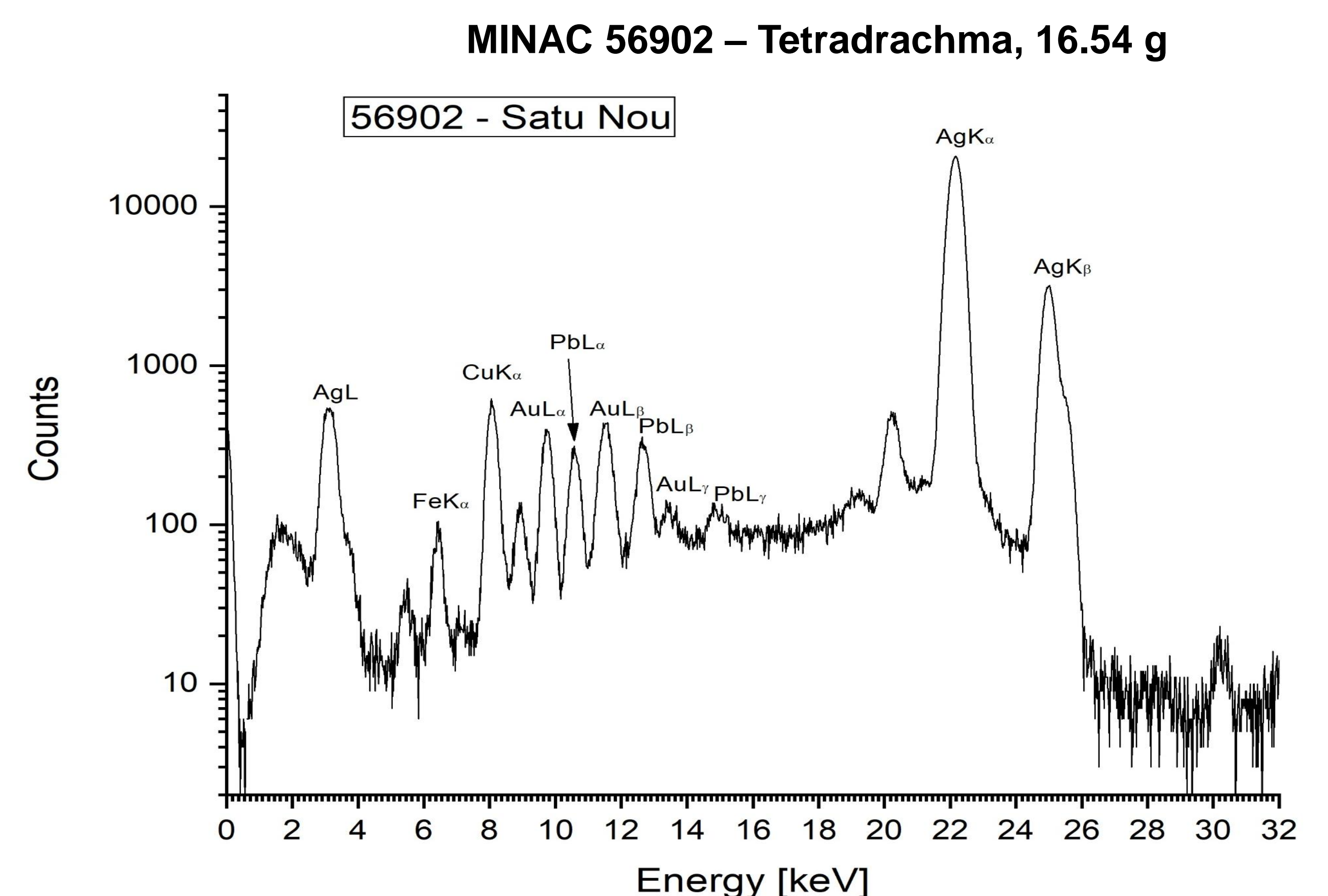
One of the Histrian silver issues (out of a total of three) shows a normal title, the percentage of 1.7% copper being added to increase the mechanical strength, while the rest show an Ag-Cu alloy (billon) and Ag - (Cu - Sn) with traces of Bi. The latter also had traces of silver that may come from a possible silvering of the coin. These coins show traces of tin, most likely due to impurities resulting from the beating process.

Imitations after Histrian silver coins are made of different materials such as: bronze mixed with brass (Zn 16.5%), tin-enriched bronze (Sn 63.6%) to obtain a silvery color and bronze with a little zinc (Zn 2.9%) which can be a vintage alloy.

MINAC 667 - imitation



Regarding the composition of the two tetradrachms, silver is similar to two of the drachmas, the difference being the much larger addition of copper (contained between 1.1% and 1.3%) to increase the mechanical strength of the coins.



From a monetary point of view, the treasure was discovered during archaeological excavations in a settlement specific to the Getic population, fortified with a rampart and a defense ditch. He was found in a badly burned layer of a house, due to an attack from the Bastarnic population. The treasure was either brought by trade, or following robbery expeditions, or it represents the payment of a mercenary soldier from the local environment. The imitations of Histrian coins mostly belong to the III-II centuries BC, the initiation of their production in local environments being a reflection of the economic and financial prestige gained within the transactions specific to the Greek-autochthonous Dobrujan realities of the original Histrian coin, throughout several centuries of broadcasting.

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