

"Zonalization of epithermal gold-copper-polymetallic mineral origin in Georgia on the example of the Bolnisi, Dzama-Gharta and Merisi ore-bearing regions."

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There is potential opportunity of gold deposits discovery on the territory of Georgia, and first of all, It is connected to the Adjara-Trialeti Fold Fault Belt and the Bolnisi region. By the end of the recent and the beginning of the new centuries, our understanding of the metallogenic setting and genesis of gold, copper, and polymetallic mineralization in the Southern Caucasus and Northern Iran, as well as of the entire Tethys Belt, has dramatically changed. Previously, they were thought to represent perhaps simultaneous but separate products of different ore-forming processes. Today, however, they are considered as deposits united by a common origin and separated from their original magmatic sources by varying distances. For instance, gold and base metal deposits in the Southern Caucasus were traditionally classified into three main types: Volcanogenic gold and base metal massive sulfides of the Kuroko type, hydrothermal gold and polymetallic vein deposits, and porphyry copper (with or without gold) stockwork veins (Tvalchrelidze, 1980 and 1984). This approach significantly limited the possibilities for new discoveries, as exploration was based on incorrect assumptions. New metallogenic models have proven that both epithermal and porphyry deposits are related to the development of calc-alkaline island arcs during subduction and orogenic stages (Yigit, 2006; 2009; Mederer et al., 2013; Moritz et al., 2016). Therefore, porphyry and epithermal deposits are traditionally described separately, without paying any attention to a possible genetic relation between them (Ghaderi et al., 2018; Kuşcu et al., 2019). Even the models for these types of mineralization are generated separately (Sinclair, 2007; Taylor, 2007; Berger et al., 2008; John, 2010; John et al., 2018). However, already in 2000, R.H. Sillitoe outlined a genetic unity of porphyry copper and epithermal gold mineralization (Sillitoe, 2000). During the following years, a lot of evidence of gold presence in porphyry copper deposits was released (Shafiei and Shahabpour, 2008; Hajalilou and Aghazadeh, 2016).