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Ezochiite and shiranuiite are cuprorhodsite and are not new mineral species

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Abstract

Ezochiite was described as a newly discovered platinum-group mineral in the thiospinel group having an ideal formula of $Cu^{+}(Rh^{3+}Pt^{4+})S_4$ (Nishio-Hamane and Saito 2024), but the data presented show it is a platinian cuprorhodsite, $Cu(Rh,Pt)_2S_4$ (Cabri et al. 2023; Rudashevsky et al. 1985). Similarly, Nishio-Hamane et al. (2024) describe shiranuiite as a new mineral having an ideal formula of $Cu^{+}(Rh^{3+}Rh^{4+})S_4$ on the basis of assumed valences. Thus, instead of weighing the significance of chemical substitution in a PGE-dominant thiospinel, the readership is instead burdened with accepting that there are three potential minerals with virtually identical crystal structures and similar, but supposedly distinct, chemical compositions. In the absence of any new, compelling data, particularly regarding the valences of the ions present in both ezochiite and shiranuiite, it is argued that both are not new mineral species but instead represent varieties of cuprorhodsite.

Keywords: Ezochiite, shiranuiite, cuprorhodsite, PGE thiospinels, nomenclature, classification