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Nová data k výzkumu tvrdýitu z Krušné hory u Berouna (Česká republika)

New data on research of tvrdýite from Krušná hora near Beroun (Czech Republic)

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Abstract

During the revision of beraunite like minerals from old localities represented by historical samples in the mineralogical collection of the National Museum in Prague, the second occurrence of tvrdýite was confirmed in the iron ores from abandoned iron deposit Krušná hora in the Central Bohemia (Czech Republic). Krušná hora is situated about 12 km NW of Beroun (30 km WSW of Prague) in an area of the Ordovician sedimentary rocks of the Teplá-Barrandian unit. Tvrdýite forms brown-green, yellow-green to light-green radial aggregates up to 3 mm in size. Tvrdýite is monoclinic, space group *C2/c* with following unit-cell parameters refined from the X-ray powder diffraction data: *a* 20.529(9), *b* 5.105(2), *c* 18.869(8) Å, *β* 92.8(4)° and *V* 1975.1(8) Å^3; its empirical formula is $(Na^{+}_{0.13}Fe^{2+}_{0.86}Mg^{2+}_{0.01})_{\Sigma 1.00}(Al^{3+}_{2.39}Fe^{3+}_{0.57})_{\Sigma 2.96}(Fe^{3+}_{1.93}Al^{3+}_{0.03})_{\Sigma 1.96}[(PO_4)_{3.99}(VO_4)_{0.01}]_{\Sigma 4.00}(OH)_{4.61}(OH_2)_{4.00}\cdot 2H_2O$. The mineral was found in association with smaller bluish radial aggregates of unidentified Fe-Al phosphate (probably Al-rich dufrénite or different generation of tvrdýite).

Key words: *tvrdýite, WDS data, phosphate occurrence, unit-cell parameters, chemical composition, iron deposit, Krušná hora, Beroun, Czech Republic*

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