

BERYLLOPHOSPHATE ASSEMBLAGES FROM THE ROŽNÁ PEGMATITE, CZECH REPUBLIC

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SEKANINA (1950) described an unusual occurrence of herderite from lepidolite pegmatite at Rožná-Borovina. This uncommon mineral was originally found in euhedral crystals in cavities of miarolitic pegmatites at Ehrenfriedensdorf, Saxony (HAIDINGER, 1828). At Rožná, it forms pseudomorphs after an unknown mineral of cubic or pseudocubic shape and because the matrix of the pseudomorph is fine-grained and is commonly partially replaced by later fluorapatite, the original mineral remained unknown up to now. The origin of the hydroxylherderite pseudomorphs was discussed several times (SEKANINA, 1950; NĚMEC, 1993). Judging from the shape of the “crystals”, SEKANINA (1950) mentioned garnet and tourmaline as a possible precursor, whereas NĚMEC (1993) suggested the cubic borate rhodizite, usually found in highly fractionated elbaite-subtype pegmatites (e.g. SIMMONS *et al.*, 2001).

Recent study of this material (powder X-ray diffraction, electron microprobe, cathodoluminescence study) revealed that several beryllium minerals occur within the pseudomorphs and two distinct assemblages involving hydroxylherderite as a dominant mineral. Assemblage I consists of beryllonite + hurlbutite + hydroxylherderite + fluorapatite, whereas assemblage II contains bertrandite + quartz + hydroxylherderite + fluorapatite. In both assemblages, small inclusions of unknown Ba or Sr phosphates occur; they best

correspond to Ba and Sr equivalents of hurlbutite based on their stoichiometry. Beryllonite was very likely the original primary mineral in the pseudomorphs with assemblage I, in the case of assemblage II the primary mineral might be beryllonite or beryl. The herderite pseudomorphs from Rožná are a good example of complicated polyphase replacement of Be-dominant primary mineral (beryllonite and/or beryl) in highly variable activities of Ca, P, F and Si producing various berylllophosphates *versus* Be silicates (bertrandite).

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References

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