Hnedý ihličkovitý dravit z mastencovo-magnezitového ložiska Gemerská Poloma (gemerikum, Slovensko)

Brown acicular dravite from talc-magnesite deposit Gemerská Poloma (Gemeric Superunit, Slovakia)

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Abstract

Brown tourmaline was found on the Gemerská Poloma talc-magnesite deposit. Fibrous tourmaline forms aggregates along with talc on the slip surface of carbonate rock containing dolomite, magnesite and accessory fluorapatite. Tourmaline (dravite) is almost homogeneous with very high X_{Mg} (0.95 - 0.96), very low *X*-site vacancy (up to 0.17) and Ca content (up 0.05 *apfu*). The Fe content is also very low (up to 0.14 *apfu*), the content of Al varies between 5.97 and 6.27 *apfu*. The calculated $^{W}O^{2-}$ content correlates with the content of Al which suggests quite significant role of $AlOMg_{-1}(OH)_{-1}$ substitution and other substitutions are negligible. However, the studied dravite is rather significantly Al-Mg disordered - $^{Z}Mg/(^{Z}Mg+^{Y}Mg)$ = 0.45 až 0.50, as suggested by distribution of Al and Mg among octahedral sites calculated from the lattice parameters (*a* = 15.9289(7) Å; *c* = 7.2132(17) Å) and calculated bond lengths (<*Y*-O> = 2.007 Å; <*Z*-O> = 1.934 Å). Dravite from Gemerská Poloma is likely a side-product of talc formation from original carbonate rock during the Permian granite intrusion. Dravite formed from granite-derived Si- and B-bearing fluids on the slip surface during/after brittle deformation of carbonate which results in its finely acicular habitus. Its high-magnesian composition is controlled by the chemical composition of the host rock.

Key words: *tourmaline, dravite, talc, magnesite, dolomite, crystal chemistry, Al-Mg disorder, electron microprobe, powder X-ray diffraction, Gemerská Poloma, Gemeric Superunit, Slovak Republic*