

Supergenní Cu mineralizace z Mědníku na Měděnci, Krušné hory (Česká republika)

Supergene Cu mineralization from the Mědník hill near Měděnec, Krušné hory Mountains (Czech Republic)

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Abstract

An interesting (sub)recent supergene Cu-Zn mineral association was found at the abandoned gallery „Země zaslíbená“ at the Mědník hill, Měděnec, Krušné hory Mountains, Czech Republic. Minerals of the serpierite - devillite solid solution form light to pale blue spherical aggregates up to 2 mm in size composed by thin tabular to acicular crystals. Serpierite is monoclinic, space group $C2/c$ with a 22.32(2), b 6.172(3), c 22.11(2) Å, β 114.02(6)° and V 2782(6) Å³; devillite is monoclinic, space group $P2_1/c$ with a 20.858(5), b 6.168(3), c 22.09(1) Å, β 102.71(3)° and V 2773(2) Å³. Brochantite forms green irregular crystalline coatings up to 2 mm in size and prismatic crystals up to 0.2 mm; it represents MDO_1 polytype with monoclinic space group $P2_1/a$ and a 13.128(1), b 9.8627(8), c 6.0345(7) Å, β 103.306(8)°, V 760.3(1) Å³. Rare woodwardite forms thin light greenish blue coatings at the area up to 2 x 5 mm; only two very broad diffraction maxima (8.483/100 and 4.224/31 Å) were found in its X-ray powder pattern. Aurichalcite occurs as rare tiny light blue hemispherical aggregates with diameter up to 0.5 mm; it is monoclinic, space group $P2_1/m$ with a 13.832(7), b 6.421(3), c 5.289(3) Å, β 100.97(4)° and V 461.1(4) Å³. Rosasite forms rare light green hemispherical aggregates with diameter up to 0.2 mm; it is monoclinic, space group $P2_1/a$ with a 12.850(5), b 9.348(1), c 3.144(3) Å, β 110.31(5)° and V 354.2(5) Å³. Smithsonite occurs as white very thin coatings and tiny hemispherical aggregates, it is trigonal, space group $R\bar{3}c$ with a 4.6687(3), c 15.098(1) Å and V 285.00(4) Å³. X-ray powder diffraction patterns and quantitative chemical composition for determined mineral phases are given in the paper.

Key words: Cu mineralization, weathering, aurichalcite, brochantite, devillite, rosasite, serpierite, smithsonite, woodwardite, powder X-ray diffraction data, unit-cell parameters, chemical composition, Měděnec ore deposit, Czech Republic