

# Supergenní mineralizace rudního revíru Michalovy Hory (Česká republika)

## Supergene mineralization of the Michalovy Hory ore district (Czech Republic)

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VRTIŠKA L, PAULIŠ P, GRAMBLIČKA R, SEJKORA J, MALÍKOVÁ R, POUR O (2017) Supergenní mineralizace rudního revíru Michalovy Hory (Česká republika). Bull Mineral Petrolog 25(2): 228-244 ISSN 2570-7337

### Abstract

New interesting supergene minerals were found at the abandoned ore deposit district Michalovy Hory near Mariánské Lázně, Czech Republic. Annabergite forms light green crystalline crusts and hemispherical aggregates up to 0.2 mm in size. Annabergite is monoclinic, space group  $C2/m$  with  $a$  10.188(7),  $b$  13.332(9),  $c$  4.733(6) Å,  $\beta$  105.13(2)°,  $V$  621(1) Å<sup>3</sup>. Brochantite forms aggregates of vitreous emerald green crystals up to 0.5 mm in size in association with wroewolfeite. Brochantite is monoclinic, space group  $P2_1/a$  with  $a$  13.083(4),  $b$  9.844(4),  $c$  6.0161(3) Å,  $\beta$  103.32(2)°,  $V$  754.0(6) Å<sup>3</sup>. Cerussite forms light grey to light brown elongated crystals up to 5 mm in size. It is orthorhombic, space group  $Pmcn$  with  $a$  5.1846(6),  $b$  8.5010(7),  $c$  6.1480(6) Å,  $V$  270.97(4) Å<sup>3</sup>. Devilline forms pearly light blue tabular crystals up to 0.8 mm in size. Devilline is monoclinic, space group  $P2_1/c$  with  $a$  20.872(6),  $b$  6.136(17),  $c$  22.196(9) Å,  $\beta$  102.7(4)°,  $V$  2772.4(5) Å<sup>3</sup>. Hörnesite occurs as creamy to light pink earthy crusts and hemispherical aggregates up to 0.5 mm in size on a Ni arsenides in association with annabergite, picroparmacolite and gypsum. Hörnesite is monoclinic, space group  $C2/m$  with  $a$  10.248(4),  $b$  13.415(3),  $c$  4.7467(17) Å,  $\beta$  105.09(2)°,  $V$  630.1(4) Å<sup>3</sup>. Köttigite forms transparent pink elongated crystals and radial aggregates up to 1 mm in size in association with schultenite. It is monoclinic, space group  $C2/m$  with  $a$  10.239(4),  $b$  13.411(4),  $c$  4.7589(18) Å,  $\beta$  105.2(3)°,  $V$  630.6(4) Å<sup>3</sup>. Mimetite forms earthy yellow aggregates in association with cerussite. Mimetite is hexagonal, space group  $P6_3$ , with  $a$  10.247(5),  $c$  7.4506(2) Å,  $V$  677.5(3) Å<sup>3</sup>. Picroparmacolite occurs as white needles and hemispherical aggregates up to 2 mm in size. It is triclinic, space group  $P\bar{1}$  with  $a$  13.537(5),  $b$  13.507(7),  $c$  6.709(4) Å,  $\alpha$  99.81(5)°,  $\beta$  96.45(4)°,  $\gamma$  91.60(4)°,  $V$  1199.8 Å<sup>3</sup>. Pyromorphite forms yellow to green crystalline crusts and elongated crystals up to 0.8 mm in size. Pyromorphite is hexagonal, space group  $P6_3/m$ , with  $a$  9.986(8),  $c$  7.3498(8) Å,  $V$  634.7(6) Å<sup>3</sup>. Schultenite occurs as white to creamy earthy crusts and aggregates up to 1 mm in size. It is monoclinic, space group  $P2_1/c$  with  $a$  4.923(5),  $b$  6.771(4),  $c$  5.852(4) Å,  $\beta$  96.0(2)°,  $V$  193.9(2) Å<sup>3</sup>. Rare wroewolfeite forms pearly light blue fibrous aggregates up to 2 mm in size on brochantite. Wroewolfeite is monoclinic, space group  $P/c$  with  $a$  6.044(2),  $b$  5.6504(14),  $c$  14.341(3) Å,  $\beta$  93.38(4)°,  $V$  488.9(2) Å<sup>3</sup>. It is the first occurrence of wroewolfeite in the Czech Republic. The X-ray powder diffraction patterns and quantitative chemical composition for determined mineral phases are given in the paper.

**Key words:** supergene mineralization, wroewolfeite, schultenite, hörnesite, chemical composition, powder X-ray diffraction data, unit-cell parameters, Michalovy Hory ore district, Czech Republic

Obdrženo: 17. 11. 2017; přijato 3. 12. 2017