Ferricoronadite  

\[
Pb[Mn^{4+}\_6(Fe^{3+},Mn^{3+})\_2]O_{16}
\]

Crystal Data: Tetragonal.  *Point Group: 4/m.*  As aggregates of anhedral grains to 0.6 mm.


R₁-R₂: (470) 28.7-27.8, (546) 27.6-26.6, (589) 27.2-26.1, (650) 26.5-25.4

Cell Data: *Space Group: I₄/m.*  \(a = 9.9043(7)\)  \(c = 2.8986(9)\)  \(Z = 1\)

X-ray Powder Pattern: Babuna River valley, near Nežilovo village, Republic of Macedonia.  3.128 (100), 3.497 (33), 2.424 (27), 2.214 (23), 1.554 (18), 2.178 (17), 1.651 (16)

Chemistry:  

\[
\begin{array}{ll}
\text{BaO} & 5.16 \\
\text{PbO} & 24.50 \\
\text{ZnO} & 0.33 \\
\text{Al}_2\text{O}_3 & 0.50 \\
\text{Fe}_2\text{O}_3 & 11.45 \\
\text{TiO}_2 & 4.19 \\
\text{MnO}_2 & 44.81 \\
\text{Mn}_2\text{O}_3 & 9.90 \\
\text{Total} & 100.84 \\
\end{array}
\]

(1) Babuna River valley, near Nežilovo village, Republic of Macedonia; average of 5 electron microprobe analyses supplemented by IR, XANES and Mössbauer spectroscopy. \(\text{Mn}^{4+}:\text{Mn}^{3+}\) adjusted for charge balance; corresponds to \(\text{Pb}_{1.03}\text{Ba}_{0.32}(\text{Mn}^{4+}\_4.8\text{Fe}^{3+}\_1.35\text{Mn}^{3+}\_1.18\text{Ti}_{0.49})\text{Al}_{0.09}\text{Zn}_{0.04}\text{O}_{16}\).

Mineral Group: Hollandite supergroup, coronadite group.

Occurrence: In hydrothermal veins that cut metamorphic rocks in an orogenic complex.

Association: Franklinite (relics), gahnite, quartz, roméite, almeidaite, Mn-analogue of plumboferrite, zincohögbomite analog with \(\text{Fe}^{3+} > \text{Al}\), zincochromite, Zn-bearing talc, Zn-bearing muscovite, barite, zircon.

Distribution: Found in the Babuna River valley, in talus at the bottom of Kalugerih Hill, near Nežilovo village, about 40 km SW of Veles, Republic of Macedonia.

Name: For a member of the coronadite group with \(\text{Fe}^{3+}\) as the major charge-compensating octahedral cation instead of \(\text{Mn}^{3+}\).

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4787/1) and the National Institution Macedonian Museum of Natural History, Skopje, Macedonia (PNMG 790).