Schubnelite  

\[
\text{Fe}^{3+}\text{VO}_4\cdot\text{H}_2\text{O}
\]

Crystal Data:  Triclinic.  Point Group: \(\bar{T}\).  As crystals, elongated along [001], showing \{100\}, \{010\}, and tiny \{001\}, to 0.5 mm.  Twinning: On \{2\bar{T}2\}, cruciform, common.

Physical Properties:  Hardness = n.d.  \(D(\text{meas.}) = 3.28-3.29\)  \(D(\text{calc.}) = 3.29\)  Magnetic.


Cell Data:  Space Group: \(P\bar{T}\).  \(a = 5.466(1)\)  \(b = 5.675(2)\)  \(c = 6.610(1)\)  \(\alpha = 101.02(1)^\circ\)  \(\beta = 95.10(1)^\circ\)  \(\gamma = 107.32(1)^\circ\)  \(Z = 1\)

X-ray Powder Pattern:  Mounana mine, Gabon.  4.47 (FFF), 3.21 (FFF), 5.15 (FF), 3.19 (FF), 6.41 (F), 3.07 (F), 2.68 (mF)

Chemistry:  

\[
\begin{array}{ll}
\text{V}_2\text{O}_5 & 31.40 \quad 48.17 \\
\text{V}_2\text{O}_4 & 16.95 \\
\text{Fe}_2\text{O}_3 & 41.05 \quad 38.61 \\
\text{H}_2\text{O} & 10. \quad 9.54 \\
\hline
\text{Total} & 99.40 \quad 100.00
\end{array}
\]

(1) Mounana mine, Gabon; by microchemical analysis, \(\text{H}_2\text{O}\) by TGA.  (2) \(\text{FeVO}_4\cdot\text{H}_2\text{O}\).

Occurrence:  At the base of the oxidized zone of a uranium deposit (Mounana mine, Gabon); in a hydrothermal gold deposit (Gold Quarry mine, Nevada, USA).

Association:  Fervanite, goethite (Mounana mine, Gabon); kazakhstanite, fervanite, tyuyamunite (Gold Quarry mine, Nevada, USA).

Distribution:  From the Mounana uranium mine, Franceville, Gabon.  In the USA, at the Monument No. 2 mine, Monument Valley, Apache Co., Arizona; in the Gold Quarry mine, near Carlin, Maggie Creek district, Eureka Co., Nevada.

Name:  To honor Henri-Jean Schubnel (1935– ), mineralogist and gemologist, Bureau de Recherches Géologiques et Minières, Paris, France.


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