Ferrowodginite  \( \text{Fe}^{2+}\text{Sn}^{4+}\text{Ta}_2\text{O}_8 \)

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Crystal Data: Monoclinic. Point Group: 2/m. As lathlike to irregular inclusions, to 0.3 mm, in tantalian cassiterite. Twinning: Polysynthetic on \{100\}.

\( \text{D(meas.)} = \text{n.d.} \quad \text{D(calc.)} = 7.02 \)

Optical Properties: Transparent to translucent. Color: Dark brown to black. Streak: Dark brown. Luster: Vitreous. Optical Class: Biaxial. \( \alpha = > 2.0 \quad \beta = > 2.0 \quad \gamma = > 2.0 \quad 2V(\text{meas.}) = \text{n.d.} \)
Anisotropism: Noted.

Cell Data: Space Group: C2/c. \( a = 9.415(7) \quad b = 11.442(6) \quad c = 5.103(4) \quad \beta = 90.8(1)^\circ \)
\( Z = 4 \)

X-ray Powder Pattern: Near Sukula, Finland.
2.97 (100), 4.16 (50), 2.493 (40), 2.55 (30), 1.455 (30), 3.64 (20), 2.86 (20)

Chemistry:
\[
\begin{array}{ll}
\text{Nb}_2\text{O}_5 & 14.8 \\
\text{TiO}_2 & 4.3 \\
\text{SnO}_2 & 10.1 \\
\text{Fe}_2\text{O}_3 & 1.9 \\
\text{Ta}_2\text{O}_5 & 56.3 \\
\text{FeO} & 9.3 \\
\text{MnO} & 2.8 \\
\hline
\text{Total} & [99.5] \\
\text{[abs. ref. 1]} & 100.00
\end{array}
\]

(1) Near Sukula, Finland; by electron microprobe, average of two analyses, original total given as 99.4%; \( \text{Fe}^{2+} : \text{Fe}^{3+} \) calculated from stoichiometry; corresponds to \( (\text{Fe}^{2+}_{0.76}\text{Mn}_{0.23})\Sigma=0.99(\text{Sn}_{0.40}\text{Ti}_{0.32} \text{Ta}_{0.15}\text{Fe}_{0.14})\Sigma=1.01(\text{Ta}_{1.34}\text{Nb}_{0.66})\Sigma=2.00\text{O}_8 \). (2) \( \text{FeSnTa}_2\text{O}_8 \).

Mineral Group: Wodginite group: \( \text{Fe}^{2+} > 0.5; \text{Ti}_B \leq 0.5; \text{Fe}^{3+}_B \leq 0.25 \).

Occurrence: In museum specimens from a granite pegmatite.

Association: Tantalian cassiterite, tapiolite, bismuth, stannomicrolite.

Distribution: Near Sukula, Tammela, Finland, the exact locality now lost.

Name: For its content of FERROus iron and its relation to wodginite.

Type Material: R.B Ferguson Museum of Mineralogy, University of Manitoba, Winnipeg, Canada.