**Hubeite**

**Crystal Data:** Triclinic.  *Point Group:* 1.  As radiating fan-like or “bow-tie” aggregates to 5 mm composed of intergrown well-terminated bladed crystals not exceeding 2 mm; dominant forms are {001}, {100}, and {101}.

**Physical Properties:** *Cleavage:* Good on {001}.  *Tenacity:* Brittle.  *Fracture:* Conchoidal.  *Hardness:* 5.5  *D(meas.):* 3.02(2)  *D(calc.):* 3.01  *Nonfluorescent.*

**Optical Properties:** *Cleavage:* Good on {001}.  *Tenacity:* Brittle.  *Fracture:* Conchoidal.  *Hardness:* 5.5  *D(meas.):* 3.02(2)  *D(calc.):* 3.01  *Nonfluorescent.*

**Cell Data:** *Space Group:* P1̅.  *a =* 9.9653(3)  *b =* 13.9171(3)  *c =* 6.5703(2)  *α =* 133.264(1)°  *β =* 101.414(1)°  *γ =* 66.302(1)°  *Z =* 2

**X-ray Powder Pattern:** Daye Fe-Cu-Au mine, near Huangshi, Hubei province, China.

9.072 (100), 8.238 (90), 3.126 (70), 3.095 (70), 2.781 (60), 5.000 (30), 3.192 (30)

**Chemistry:**

\[
\begin{align*}
\text{SiO}_2 & \quad 44.39 \\
\text{Al}_2\text{O}_3 & \quad 0.38 \\
\text{Fe}_2\text{O}_3 & \quad 13.94 \\
\text{MgO} & \quad 0.29 \\
\text{MnO} & \quad 11.34 \\
\text{CaO} & \quad 21.91 \\
\text{H}_2\text{O} & \quad [8.32] \\
\text{Total} & \quad 100.57
\end{align*}
\]

(1) Daye Fe-Cu-Au mine, near Huangshi, Hubei province, China; average electron microprobe analysis supplemented by IR spectroscopy, H_2O calculated; corresponds to Ca_{2.00}(Mn^{2+}_{0.87}\text{Ca}_{0.12})_{2+0.96}(\text{Fe}^{3+}_{0.94}\text{Al}_{0.04}\text{Mg}_{0.04})_{2+1.00}\text{Si}_{4.00}\text{O}_{12}(\text{OH})(\text{H}_2\text{O})_2.

**Occurrence:** In a skarn assemblage.

**Association:** Inesite, natroapophyllite-fluorapophyllite, quartz, pyrite, calcite.

**Distribution:** At the Daye Fe-Cu-Au mines, near Huangshi, Hubei province, China [TL].

**Name:** For the province in China where the first specimens were collected.

**Type Material:** Canadian Museum of Nature, Ottawa, Ontario, Canada (CMNMC 83268).