Tanohataite  \( \text{LiMn}_2\text{Si}_3\text{O}_8(\text{OH}) \)

**Crystal Data:** Triclinic.  \( \text{Point Group}: \bar{1} \). As aggregates of fibrous crystals, individually to 1 mm, elongated along [010].

**Physical Properties:**  \( \text{Cleavage}: \) Perfect on \{001\} and \{100\}.  \( \text{Fracture}: \) Fibrous.  \( \text{Tenacity}: \) Flexible.  \( \text{Hardness} = 5\text{-}5.5 \)  \( D(\text{meas.}) = \text{n.d.} \)  \( D(\text{calc.}) = 3.33 \)

**Optical Properties:** Transparent.  \( \text{Color}: \) Pinkish white, black with oxidation.  \( \text{Streak}: \) White.  \( \text{Luster}: \) Vitreous, silky [aggregates].

**Cell Data:** \( \text{Space Group}: \) \( P\bar{1} \).  \( a = 7.612(7) \)  \( b = 7.038(4) \)  \( c = 6.700(4) \)  \( \alpha = 90.23(6)^\circ \)  \( \beta = 94.70(7)^\circ \)  \( \gamma = 105.26(8)^\circ \)  \( Z = 2 \)

**X-ray Powder Pattern:** Tanohata mine, Tanohata village, Iwate prefecture, Japan. 2.95 (100), 3.13 (89), 3.11 (69), 2.18 (40), 6.64 (35), 2.81 (33), 3.67 (26)

**Chemistry:**

| Element | Formula | wt.
|---------|---------|------
| SiO\(_2\) | | 51.97
| MnO | | 37.99
| MgO | | 1.06
| CaO | | 0.41
| Na\(_2\)O | | 1.97
| Li\(_2\)O | | 3.34
| H\(_2\)O | | [2.59]
| **Total** | | 99.33

(1) Tanohata mine, Tanohata village, Iwate prefecture, Japan; electron microprobe analyses supplemented by LAM-ICP-MS and IR spectroscopy, \( H_2O \) calculated as \( OH^- \) for charge balance; corresponding to \( (Li_{0.78}Na_{0.22})(Mn_{1.86}Ca_{0.03}Mg_{0.09})Si_3.01O_8(OH) \).

**Mineral Group:** Wollastonite group.

**Occurrence:** In lens-like veins in a sediment-hosted Mn-ore deposit in contact metamorphic rocks near a granodiorite intrusion.

**Association:** Quartz, aegirine, Mn-arfvedsonite, nambulite, natronamnulite, barite.

**Distribution:** From the dumps of the No. 3 (Matsumaezawa) ore body, Tanohata mine, Tanohata village, Iwate prefecture, Japan.

**Name:** For a village close to the location from which the first specimens were collected.

**Type Material:** National Museum of Nature and Science, Tokyo, Japan (NSM M29298).

**References:**