Parsettensite  \((K, Na, Ca)(Mn, Al)_{7}Si_{8}O_{20}(OH)_{8} \cdot 2H_{2}O(?)\)

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Physical Properties:  \textit{Cleavage}: One perfect, micaceous.  \textit{Hardness} = \(\sim 1.5\)

\(D(\text{meas.}) = 2.590\)  \(D(\text{calc.}) = [2.76]\)


\textit{Optical Class}: Uniaxial (-).  \textit{Pleochroism}: Colorless to light yellow and greenish yellow.  \(\omega = 1.576\)  \(\epsilon = 1.546\)

Cell Data:  \textit{Space Group}: n.d.  \(a = 5.6\)  \(b = 9.8\)  \(c = 12.6\)  \(Z = [1]\)

X-ray Powder Pattern:  Parsettens Alpe, Switzerland.

12.1 (100), 2.65 (100), 2.79 (80), 1.634 (80), 4.2 (60), 1.617 (60), 3.84 (50)

Chemistry:

\begin{tabular}{cccc}
 & (1) & (2) & (1) & (2) \\
\text{SiO}_2 & 42.90 & 42.81 & \text{BaO} & 0.28 \\
\text{TiO}_2 & 0.10 & \text{Na}_2\text{O} & 0.20 & 0.70 \\
\text{B}_2\text{O}_3 & 0.08 & \text{K}_2\text{O} & 0.94 & 0.80 \\
\text{Al}_2\text{O}_3 & 4.35 & 4.70 & \text{H}_2\text{O}^+ & 9.66 & 9.30 \\
\text{Fe}_2\text{O}_3 & 0.35 & 0.18 & \text{H}_2\text{O}^- & 3.15 \\
\text{Mn}_3\text{O}_3 & 6.36 & & \text{HCl} & 0.02 \\
\text{V}_2\text{O}_5 & 0.32 & & \text{CO}_2 & 0.25 \\
\text{MnO} & 28.27 & 33.50 & \text{P}_2\text{O}_5 & 0.01 \\
\text{MgO} & 2.70 & 2.60 & & \\
\text{CaO} & trace & 5.80 & & Total 99.92 100.86 \\
\end{tabular}

(1) Parsettens Alpe, Switzerland.  (2) Val Graveglia, Italy; corresponds to

\((Ca_{1.17}Na_{0.25}K_{0.19})\Sigma = 1.61(Mn_{0.38}Al_{0.03}Mg_{0.73})\Sigma = 7.15Si_{8.04}O_{20}(OH)_{8} \cdot 3.65H_{2}O\).

Occurrence:  In and peripheral to manganese deposits.

Association:  Tinzenite, sursassite, piemontite, rhodonite, manganoan calcite, rhodochrosite, quartz, albite, barite (Parsettens Alpe, Italy); quartz, caryopilite, ganophyllite (Val Graveglia, Italy).

Distribution:  From the Parsettens Alpe, in Val d’Err, Tinzen, and at the Fianel mine, Val Ferrera, Graubünden, Switzerland. In the Molinello manganese mine, near Chiavari, Val Graveglia, Liguria, Italy. At Watson’s Beach, southeastern Otago, New Zealand. In the Kumahata mine, Shiga Prefecture, and the Noda-Tamagawa mine, Iwate Prefecture, Japan. At the Foote mine, Kings Mountain, Cleveland Co., North Carolina, USA. In the N’Chwaning mine, near Kuruman, Cape Province, South Africa.

Name:  For the original locality, Parsettens Alpe, Switzerland.

Type Material:  Federal Institute of Technology, Zurich, Switzerland, 194806; The Natural History Museum, London, England; Harvard University, Cambridge, Massachusetts, USA, 90497.


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