Parsettensite $(K, Na, Ca)(Mn, Al)_7Si_8O_{20}(OH)_8 \cdot 2H_2O(?)$

Crystal Data: Orthorhombic (?), pseudohexagonal. *Point Group:* n.d. Micaceous, compact, massive.

Physical Properties: *Cleavage:* One perfect, micaceous. Hardness = ~1.5
D(meas.) = 2.590 D(calc.) = [2.76]

Optical Properties: Semitransparent. *Color:* Copper-red to tan. *Luster:* Submetallic to metallic.
Optical Class: Uniaxial (–). *Pleochroism:* Colorless to light yellow and greenish yellow.
$\omega = 1.576$ $\epsilon = 1.546$

Cell Data: *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:

	(1)	(2)		(1)	(2)
SiO_2	42.90	42.81	BaO		0.28
TiO_2		0.10	Na_2O	0.20	0.70
B_2O_3		0.08	K_2O	0.94	0.80
Al_2O_3	4.35	4.70	H_2O^+	9.66	9.30
Fe_2O_3	0.35	0.18	H_2O^-	3.15	
Mn_2O_3	6.36		HCl	0.02	
V_2O_5	0.32		CO_2	0.25	
MnO	28.27	33.50	P_2O_5		0.01
MgO	2.70	2.60	Total	99.92	100.86
CaO	trace	5.80			

(1) Parsettens Alpe, Switzerland. (2) Val Graveglia, Italy; corresponds to $(Ca_{1.17}Na_{0.25}K_{0.19})_{\Sigma=1.61}(Mn_{5.38}Al_{1.04}Mg_{0.73})_{\Sigma=7.15}Si_{8.04}O_{20}(OH)_8 \cdot 3.65H_2O$.

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.

References: (1) Jakob, J. (1924) Vier Mangansilikate aus dem Val d'Err (Kt. Graubünden). Schweiz. Mineral. Petrog. Mitt., 3, 227–237 (in German). (2) (1924) Mineral. Abs., 2, 251–252 (abs. ref. 1). (3) (1925) Amer. Mineral., 10, 107 (abs. ref. 1). (4) Geiger, T. (1948) Manganerze in den Radiolariten Graubündens. Beitrage Geol. Schweiz., 27, 37–42 (in German). (5) (1949) Mineral. Abs., 10, 491 (abs. ref. 4). (6) Cortesogno, L., G. Lucchetti, and A.M. Penco (1979) Le mineralization a manganese nei diaspri delle ofioliti Liguri: mineralogia e genesi. Rend. Soc. Ital. Mineral. Petrol., 35, 151–197 (in Italian with English abs.). (7) Ozawa, T., T. Takahata, and P.R. Buseck (1986) A hydrous manganese phyllosilicate with 12 Å basal spacing. Int. Mineral. Assoc. 14th Mtng. (abs. with prog.), 194.