

Poppiite

Crystal Data: Monoclinic. *Point Group:* 2/m. As radial aggregates of acicular prismatic platy crystals to 0.6 mm, elongated and frequently striated parallel to [010]. *Twinning:* Polysynthetic.

Physical Properties: *Cleavage:* {100} and {001}. *Tenacity:* Brittle. *Fracture:* Subconchoidal. Hardness = n.d. D(meas.) = 3.36(2) D(calc.) = 3.41 Non-fluorescent.

Optical Properties: Transparent. *Color:* Greenish brown, deep green. *Streak:* Greenish white. *Luster:* Vitreous.

Optical Class: Biaxial (-). $\alpha = 1.768(9)$ $\beta = 1.804(8)$ $\gamma = 1.810(9)$ 2V(calc.) = 44°

Pleochroism: X = light yellowish brown, Y = deep greenish brown, Z = brown to reddish brown.

Cell Data: *Space Group:* C2/m. $a = 19.2889(6)$ $b = 6.0444(2)$ $c = 8.8783(3)$ $\beta = 97.328(2)^\circ$ Z = 4

X-Ray Diffraction Pattern: Gambatesa mine, Val Graveglia, Genova, Italy.

2.930 (100), 3.817 (70), 2.548 (65), 2.551 (62), 1.612 (57), 2.367 (51), 4.739 (34)

Chemistry:	(1)	(2)	(1)	(2)
SiO ₂	33.19	33.10	CuO	0.14
TiO ₂	0.14	0.03	CaO	20.35
Al ₂ O ₃	4.08	2.61	Na ₂ O	0.39
V ₂ O ₃	28.86	31.14	K ₂ O	0.08
MgO	1.49	1.38	Rb ₂ O	0.08
Fe ₂ O ₃	3.85	0.64	H ₂ O	[5.35]
MnO	1.99	2.83	Total	100.00
				97.99

(1) Gambatesa mine, Val Graveglia, Genova, Italy; average electron microprobe analysis, H₂O by difference; corresponds to Ca_{2.00}^X(V³⁺_{0.49}Fe³⁺_{0.08}Mg_{0.19}Mn²⁺_{0.17}Al_{0.07})^Y(V³⁺_{1.35}Fe³⁺_{0.21}Al_{0.44})Si_{3.00}O_{10.64}(OH)_{3.36}. (2) Komatsu mine, Japan; average electron microprobe analysis, H₂O calculated; includes BaO + NiO = 0.02; corresponds to Ca_{2.00}^X(V³⁺_{0.54}Fe³⁺_{0.01}Mg_{0.19}Mn²⁺_{0.22}Al_{0.04})^Y(V³⁺_{1.73}Fe³⁺_{0.03}Al_{0.24})Si_{3.00}O_{10.59}(OH)_{3.41}.

Mineral Group: Pumpellyite group.

Occurrence: In metamorphosed sedimentary manganese deposits.

Association: Roscoelite, ganophyllite, manganaxinite, goldmanite, calcite (Italy); manganiferous calcite, goldmanite, V-bearing axinite-(Mn), rhodonite, a djurleite-like mineral (Japan).

Distribution: From the Gambatesa mine, near Reppia, Val Graveglia, Genova, northern Italy [TL]. From the Komatsu mine, Saitama Prefecture, Japan.

Name: Honors Luciano *Poppi*, Professor of Mineralogy, Modena and Reggio Emilia University, Italy, for his generous and fruitful efforts devoted to mineral science.

Type Material: Mineralogical and Geological Museum, Modena and Reggio Emilia University, Emilia-Romagna, Italy (ST 005898).

References: (1) Brigatti, M.F., E. Caprilli, and M. Marchesini (2006) Poppiite, the V³⁺ end-member of the pumpellyite group: Description and crystal structure. *Amer. Mineral.*, 91, 584-588. (2) Nagashima, M., T. Matsumoto, T. Yamada, M. Takizawa, and K. Momma (2018) Crystal chemistry of poppiite, V-analogue of pumpellyite, from the Komatsu mine, Saitama Prefecture, Japan. *J. Mineral. and Petrolog. Sci.*, 113, 251-262. (3) Miyawaki, R., F. Hatert, M. Pasero, and S.J. Mills (2019) IMA Commission on New Minerals, Nomenclature and Classification Newsletter 50. New minerals and nomenclature modifications approved in 2019. *Mineral. Mag.*, 83, 615-620.