Poppiite $Ca_2V^{3+}V^{3+}_2(Si_2O_7)(SiO_4)(OH, O)_2 \cdot H_2O$

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 (-). α = 1.768(9) β = 1.804(8) γ = 1.810(9) 2V(calc.) = 44°
Pleochroism: *X* = light yellowish brown, *Y* = deep greenish brown, *Z* = brown to reddish brown.

Cell Data: *Space Group*: *C*2/*m*. *a* = 19.2889(6) *b* = 6.0444(2) *c* = 8.8783(3) β = 97.328(2)° 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	20.47
Al_2O_3	4.08	2.61	Na_2O	0.39	0.07
V_2O_3	28.86	31.14	K_2O	0.08	0.01
MgO	1.49	1.38	Rb_2O	0.08	
Fe_2O_3	3.85	0.64	H_2O	[5.35]	[5.68]
MnO	1.99	2.83	Total	100.00	97.99

(1) Gambatesa mine, Val Graveglia, Genova, Italy; average electron microprobe analysis, H_2O by difference; corresponds to $Ca_{2.00}{}^{X}(V^{3+}_{0.49}Fe^{3+}_{0.08}Mg_{0.19}Mn^{2+}_{0.17}Al_{0.07})^{Y}(V^{3+}_{1.35}Fe^{3+}_{0.21}Al_{0.44})Si_{3.00}O_{10.64}(OH)_{3.36}$. (2) Komatsu mine, Japan; average electron microprobe analysis, H_2O calculated; includes BaO + NiO = 0.02; corresponds to $Ca_{2.00}{}^{X}(V^{3+}_{0.54}Fe^{3+}_{0.01}Mg_{0.19}Mn^{2+}_{0.22}Al_{0.04})^{Y}(V^{3+}_{1.73}Fe^{3+}_{0.03}Al_{0.24})Si_{3.00}O_{10.59}(OH)_{3.41}$.

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).

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(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.