

Paraniite-(Y)**Ca₂Y(AsO₄)(WO₄, MoO₄)₂**

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Crystal Data: Tetragonal. *Point Group:* 4/*m*. Rough crystals, to 3 mm, are elongated bipyramids.

Physical Properties: *Cleavage:* On {001}, distinct. *Fracture:* Uneven to subconchoidal. Hardness = n.d. D(meas.) = n.d. D(calc.) = 5.95 Moderately strong yellow-orange fluorescence under SW UV.

Optical Properties: Semitransparent. *Color:* Creamy yellow. *Luster:* Vitreous to adamantine.

Optical Class: Uniaxial (+). $\omega = 1.87(1)$ $\epsilon = 1.92(1)$

Cell Data: *Space Group:* I4₁/a. $a = 5.135(1)$ $c = 33.882(5)$ $Z = 4$

X-ray Powder Pattern: Pizzo Cervandone, Italy.

3.059 (100), 1.901 (32), 1.562 (32), 2.571 (19), 4.674 (18), 1.674 (17), 1.818 (16)

Chemistry:

	(1)	(2)	(3)
MoO ₃		10.6	
WO ₃	51.61	45.0	57.70
As ₂ O ₅	16.92	15.1	14.30
UO ₂	0.25		
Y ₂ O ₃	16.15	12.5	14.05
Gd ₂ O ₃	0.70		
Dy ₂ O ₃	1.87		
Er ₂ O ₃	1.37		
Yb ₂ O ₃	0.81		
CaO	12.35	15.4	13.95
Total	102.03	98.6	100.00

(1) Pizzo Cervandone, Italy; by electron microprobe, corresponds to [Ca_{1.64}(Y, RE)_{0.36}]_{Σ=2.00}(Y, RE)_{1.00}(As_{0.96}W_{0.04})_{Σ=1.00}O₄[(W_{0.89}As_{0.11})_{Σ=1.00}O₄]₂. (2) Fianel mine, Switzerland; by analytical electron microscope corresponds to Ca_{2.10}Y_{0.85}(As_{1.00}O₄)[(W_{0.74}Mo_{0.28})_{Σ=1.02}O₄]₂. (3) Ca₂Y(AsO₄)(WO₄)₂.

Occurrence: A very rare mineral found in a fissure in gneiss in an area anomalously high in arsenic (Pizzo Cervandone, Italy); as inclusions in scheelite–powellite in quartz–dolomite veinlets in dolomite breccia lenses cutting hematite–quartz–carbonate ore (Fianel mine, Switzerland).

Association: Scheelite–powellite, beryl, roméite, betafite, fluorapatite, bergslagite, barite, manganoo dolomite, quartz (Fianel mine, Switzerland).

Distribution: On the east flank of Pizzo Cervandone, Alpe Devero, Valle d'Ossola, Piedmont, Italy. At the Fianel mine, Val Ferrera, Graubünden, Switzerland.

Name: Honoring Fausto Parani, amateur mineral collector of Montecrestese, Italy, who found the mineral.

Type Material: Museo di Centro Studi “P. Ginocchi”, Crodo, Italy.

References: (1) Demartin, F., C.M. Gramaccioli, and T. Pilati (1994) Paraniite-(Y), a new tungstate arsenate mineral from Alpine fissures. *Schweiz. Mineral. Petrog. Mitt.*, 74, 155–160. (2) (1995) *Amer. Mineral.*, 80, 631 (abs. ref. 1). (3) Brugger, J., R. Gieré, B. Grobety, and E. Uspensky (1998) Scheelite–powellite and paraniite-(Y) from the Fe–Mn deposit at Fianel, Eastern Swiss Alps. *Amer. Mineral.*, 83, 1100–1110.

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