

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As well-formed, stubby to elongated prismatic crystals, to 0.15 mm.

Physical Properties: *Cleavage:* None. *Fracture:* Irregular to sub-conchoidal. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 1.958 Fluoresces dim green under UV. Dissolves slowly in cold dilute HCl.

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial. $n = 1.504$ *Interference colors:* light gray to light cyan.

Cell Data: *Space Group:* $P\bar{1}$. $a = 10.3410(5)$ $b = 10.9600(5)$ $c = 11.1446(5)$ $\alpha = 86.985(2)^\circ$ $\beta = 65.727(2)^\circ$ $\gamma = 75.064(2)^\circ$ $Z = 2$

X-ray Powder Pattern: Akopan-Dal Cin cave system, Canaima National Park, Venezuela. 4.647 (100), 9.12 (56), 4.006 (53), 8.02 (40), 7.12 (33), 10.16 (32), 5.00 (29)

Chemistry:	(1)	(2)
Al_2O_3	23.07	23.37
Fe_2O_3	0.30	
SO_3	24.44	24.47
P_2O_5	10.89	10.85
H_2O	41.30	41.31
Total	100.00	100.00

(1) Akopan-Dal Cin cave system, Canaima National Park, Venezuela; normalized average of 11 electron microprobe analyses supplemented by IR spectroscopy, H_2O by TGA; corresponds to $\text{Al}_{2.96}\text{Fe}_{0.03}\text{PS}_2\text{H}_{30.02}\text{O}_{28}$. (2) $\text{Al}_3(\text{PO}_4)(\text{SO}_4)_2(\text{OH})_2(\text{H}_2\text{O})_{10}\cdot 4\text{H}_2\text{O}$.

Occurrence: In the porosity of fine-grained sand, filling spaces between boulders of weathered quartz sandstone, on the floor of a dry passage near the entrance of a cave exposed to oceanic spray and percolating groundwater containing dissolved organic matter.

Association: Gypsum, sanjuanite, alunite, quartz, micro-spherules of amorphous silica.

Distribution: From the Akopan-Dal Cin cave system, Akopan Tepui, Chimanta massif, Canaima National Park, Venezuela.

Name: Honors Antonio Rossi (1942-2011), professor of Sedimentary Petrology at Modena and Reggio Emilia University and an early developer of scientific speleology in Italy, in recognition of his devotion to the study of cave minerals.

Type Material: British Museum, London, England (BM 2012,99); at the "Museo Mineralogico e Geologico Estense, GEMMA1786" of Modena and Reggio Emilia University, Italy (2/2012); and the ETH Mineralogical collection, Zurich, Switzerland (20130).

References: (1) Galli, E., M.F. Brigatti, D. Malferrari, F. Sauro, and J.D. Waele (2013) Rossiantonite, $\text{Al}_3(\text{PO}_4)(\text{SO}_4)_2(\text{OH})_2(\text{H}_2\text{O})_{10}\cdot 4\text{H}_2\text{O}$, a new hydrated aluminum phosphate-sulfate mineral from Chimanta massif, Venezuela: Description and crystal structure. *Amer. Mineral.*, 98, 1906-1913.