

**Katerinopoulosite**

**Crystal Data:** Monoclinic. *Point Group:* 2/m. As vermiform polyphase aggregates within which anthodite crusts separate anthodites to 3 cm long and to 5 mm thick.

**Physical Properties:** *Cleavage:* None. *Fracture:* Uneven. *Tenacity:* Brittle.  
Hardness = 2.5 D(meas.) = 1.97(2) D(calc.) = 1.986

**Optical Properties:** Transparent to translucent. *Color:* Colorless, pale blue, or pale green.  
*Streak:* White. *Luster:* Vitreous.  
*Optical Class:* Biaxial (+).  $\alpha = 1.492(2)$   $\beta = 1.496(2)$   $\gamma = 1.502(2)$   $2V(\text{meas.}) = 80(5)^\circ$   
 $2V(\text{calc.}) = 79^\circ$  *Dispersion:* Weak,  $r < v$ .

**Cell Data:** Space Group:  $P2_1/a$  [by analogy with picromerite-group minerals].  $a = 9.230(6)$   
 $b = 12.476(4)$   $c = 6.249(4)$   $\beta = 106.79(5)^\circ$   $Z = 2$

**X-ray Powder Pattern:** Esperanza mine, Lavrion District, Attikí Prefecture, Greece.  
4.161 (100), 3.749 (53), 5.400 (37), 3.034 (29), 4.229 (24), 4.411 (19), 4.314 (19)

<b>Chemistry:</b>	(1)	(2)
SO <sub>3</sub>	38.33	39.85
(NH <sub>4</sub> ) <sub>2</sub> O	11.9	12.97
H <sub>2</sub> O	[29.4]	26.92
H	5.1	
NiO	1.82	
CuO	0.37	
ZnO	16.83	20.26
Total	98.65	100.00

(1) Esperanza mine, Lavrion District, Attikí Prefecture, Greece; average of 5 EDS analyses supplemented by FTIR spectroscopy; SO<sub>3</sub>, (NH<sub>4</sub>)<sub>2</sub>O and H by gas chromatography, H<sub>2</sub>O calculated from remainder after subtraction of H for NH<sub>4</sub><sup>+</sup> from analytical H content; corresponds to H<sub>0.13</sub>(NH<sub>4</sub>)<sub>1.91</sub>(Zn<sub>0.86</sub>Ni<sub>0.10</sub>Cu<sub>0.02</sub>)(SO<sub>4</sub>)<sub>2.00</sub>•6.75H<sub>2</sub>O. (2) (NH<sub>4</sub>)<sub>2</sub>Zn(SO<sub>4</sub>)<sub>2</sub>•6H<sub>2</sub>O.

**Mineral Group:** Picromerite group.

**Occurrence:** A secondary mineral formed in the oxidation zone of a sphalerite-rich deposit situated in the contact zone between calcite marble and mica schist.

**Association:** Chalcantite, nickelboussingaultite, ammoniojarosite, aurichalcite, goethite.

**Distribution:** From the Esperanza mine, Lavrion District, Attikí Prefecture, Greece.

**Name:** Honors Greek geologist and mineralogist Athanassios Katerinopoulos (b. 1950), director of the Museum of Mineralogy and Petrology and of the Laboratory of Museum Studies, National and Kapodistrian University of Athens, for significant contributions to the geology and mineralogy of the Lavrion mining district. He is a co-author of several new mineral discoveries from the district.

**Type Material:** A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (5014/1).

**References:** (1) Chukanov, N.V., I.V. Pekov, D.I. Belakovskiy, S.N. Britvin, V. Stergiou, P. Voudouris, and A. Magganas (2018) Katerinopoulosite, (NH<sub>4</sub>)<sub>2</sub>Zn(SO<sub>4</sub>)<sub>2</sub>•6H<sub>2</sub>O, a new mineral from the Esperanza mine, Lavrion, Greece. *Eur. J. Mineralogy*, 30(4), 821-826. (2) (2019) *Amer. Mineral.*, 104(9), 1363 (abs. ref 1).