

**Crystal Data:** Hexagonal. *Point Group:*  $\bar{3} 2/m$ . As multi-faceted tabular crystals, flattened on {001} to 0.15 mm.

**Physical Properties:** *Cleavage:* None. *Tenacity:* n.d. *Fracture:* Conchoidal. *Hardness* = n.d.  $D(\text{meas.}) = 2.88(1)$   $D(\text{calc.}) = 2.843$

**Optical Properties:** Translucent. *Color:* Pale yellow. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (-).  $\omega = 1.731(2)$   $\varepsilon = 1.725(2)$

**Cell Data:** *Space Group:*  $R\bar{3}c$ .  $a = 13.093(1)$   $c = 102.682(1)$   $Z = 18$

**X-ray Powder Pattern:** La Fossa Crater, Vulcano, Aeolian Islands, Sicily, Italy. 3.164 (100), 2.742 (78), 3.808 (44), 6.14 (16), 1.906 (16), 1.686 (13), 6.46 (11)

<b>Chemistry:</b>	(1)	(2)
Bi	42.26	47.48
Cl	32.57	42.96
Br	13.06	
I	0.95	
K	2.46	
Tl	0.88	
$\text{NH}_4$	[7.82]	9.56
Total	100.00	100.00

(1) La Fossa Crater, Vulcano, Aeolian Islands, Sicily, Italy; average of 6 electron microprobe analyses supplemented by IR spectroscopy,  $\text{NH}_4$  by difference; corresponds to  $[(\text{NH}_4)_{6.29}\text{K}_{0.91}\text{Tl}_{0.06}]_{\Sigma=7.26}\text{Bi}_{2.93}(\text{Cl}_{13.33}\text{Br}_{2.37}\text{I}_{0.11})_{\Sigma=15.81}$ . (2)  $(\text{NH}_4)_7\text{Bi}_3\text{Cl}_{16}$ .

**Occurrence:** A sublimate around an active volcanic fumarole.

**Association:** Bismuthinite, adranosite, brontesite, demicheleite-(Br), demicheleite-(Cl), panichiite.

**Distribution:** At fumarole FA, La Fossa Crater, Vulcano, Aeolian Islands, Sicily, Italy.

**Name:** After Uranus's son Argos, one of the three Cyclops who were helpers of Hephaistos, the ancient Greek god of fire (Vulcanus for the ancient Romans) whose workshops were alleged to be located at Vulcano island.

**Type Material:** University of Milan, Italy (2011-04).

**References:** (1) Demartin, F., I. Campostrini, C. Castellano, and C.M. Gramaccioli (2012) Argesite,  $(\text{NH}_4)_7\text{Bi}_3\text{Cl}_{16}$ , a new mineral from La Fossa Crater, Vulcano, Aeolian Islands, Italy: A first example of the  $[\text{Bi}_2\text{Cl}_{10}]^{4-}$  anion. *Amer. Mineral.*, 97, 1446-1451.