

**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . As tabular well-formed crystals, to 150  $\mu\text{m}$ .

**Physical Properties:** *Cleavage:* None. *Fracture:* Uneven. *Tenacity:* Brittle.  
Hardness = 2-2.5 VHN = 65-94 (25 g load). D(meas.) = n.d. D(calc.) = 5.647

**Optical Properties:** Opaque. *Color:* Black; dark gray in reflected light. *Streak:* Gray.  
*Luster:* Metallic. *Pleochroism:* Weak, dark gray to greenish gray. *Anisotropism:* Strong, brownish to bluish.

*Optical Class:* n.d.

R<sub>1</sub>-R<sub>2</sub>: (471.1) 27.2-34.5, (548.3) 25.5-31.0, (586.6) 22.9-28.4, (652.3) 20.1-25.2

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 7.832(5)$   $b = 8.606(4)$   $c = 10.755(5)$   $\alpha = 95.563(9)^\circ$   
 $\beta = 95.880(5)^\circ$   $\gamma = 116.79(4)^\circ$   $Z = 1$

**X-ray Powder Pattern:** Lengenbach quarry, Valais, Switzerland.  
2.733 (100), 2.742 (95), 10.56 (62), 3.301 (47), 2.991 (40), 2.640 (31), 1.920 (26)

Chemistry:	(1)	(2)
Ag	44.88	44.93
Hg	4.49	4.64
As	20.77	20.81
S	17.72	17.81
Te	11.82	11.81
Total	99.68	100.00

(1) Lengenbach quarry, Valais, Switzerland; average of 9 electron microprobe analyses, corresponding to Ag<sub>9.01</sub>Hg<sub>0.49</sub>As<sub>6.01</sub>S<sub>11.98</sub>Te<sub>2.01</sub>. (2) Ag<sub>9</sub>Hg<sub>0.5</sub>As<sub>6</sub>S<sub>12</sub>Te<sub>2</sub>.

**Occurrence:** A rare hydrothermal mineral in dolomitic marble.

**Association:** Realgar, rutile, trechmannite, hutchinsonite.

**Distribution:** Lengenbach quarry (zone 1), Binn Valley, Valais, Switzerland.

**Name:** Honors Luca De Battisti (b.1958), a systematic mineralogist and expert on the minerals of Lengenbach quarry who collected the specimens of debattistiite.

**Type Material:** Museum of Mineralogy, Department of Geosciences, University of Padova, Italy (MMP M10680).

**References:** (1) Guastoni, A., L. Bindi, and F. Nestola (2012) Debattistiite, Ag<sub>9</sub>Hg<sub>0.5</sub>As<sub>6</sub>S<sub>12</sub>Te<sub>2</sub>, a new Te-bearing sulfosalt from Lengenbach quarry, Binn valley, Switzerland: description and crystal structure. *Mineral. Mag.*, 76(3), 743-750. (2) (2015) *Amer. Mineral.*, 100, 1649 (abs. ref. 1).