

**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . As spherical aggregates, to 1 mm, of lath-like crystals, to 0.3 mm, elongated along [100], flattened on {010}, and displaying {010}, {001} and {100}.

**Physical Properties:** *Cleavage:* Good  $\parallel$  {010} and {001}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 3.5 VHN = 285(20) (25 g load). D(meas.) = n.d. D(calc.) = 7.23

**Optical Properties:** Transparent to translucent. *Color:* Yellow. *Streak:* Pale yellow. *Luster:* Adamantine.

*Optical Class:* Biaxial (-).  $\alpha(\text{calc.}) = 2.22$   $\beta = 2.255(\text{calc.})$   $\gamma(\text{calc.}) = 2.26$   $2V(\text{calc.}) = 40(5)^\circ$

*Orientation:*  $X = a, Y = b, Z = c$ .

R<sub>1</sub>-R<sub>2</sub>: (470) 16.20-15.31 (4.43-4.21)<sub>oil</sub>, (546) 15.41-14.53 (3.96-3.86)<sub>oil</sub>, (589) 15.06-14.21 (3.83-3.64)<sub>oil</sub>, (650) 14.76-13.74 (3.68-3.51)<sub>oil</sub>

**Cell Data:** Space Group: *Pnca*.  $a = 5.302(1)$   $b = 16.154(3)$   $c = 23.981(5)$   $Z = 4$

**X-ray Powder Pattern:** Pucher shaft, near Schneeberg, Saxony, Germany.

2.688 (100), 2.996 (69), 2.963 (48), 3.413 (37), 2.001 (28), 1.657 (14), 1.887 (13)

<b>Chemistry:</b>	(1)
Bi <sub>2</sub> O <sub>3</sub>	70.20
PbO	0.48
CaO	0.05
P <sub>2</sub> O <sub>5</sub>	0.51
As <sub>2</sub> O <sub>5</sub>	15.38
V <sub>2</sub> O <sub>5</sub>	0.21
<u>MoO<sub>3</sub></u>	<u>12.13</u>
Total	98.96

(1) Pucher shaft, near Schneeberg, Saxony, Germany; average of 27 electron microprobe analyses; corresponds to  $(\text{Bi}_{6.78}\text{Ca}_{0.02}\text{Pb}_{0.05})_{\Sigma=6.85}\text{O}_{3.51}(\text{MoO}_4)_{1.90}[(\text{AsO}_4)_{3.01}(\text{PO}_4)_{0.16}(\text{VO}_4)_{0.05}]_{\Sigma=3.22}$ .

**Occurrence:** As crystal masses in vugs in quartz, formed either in an oxygenated weathering or oxygenated hydrothermal environment.

**Association:** Quartz, petitjeanite, pucherite, bismuth, sillenite.

**Distribution:** From the dumps of the Pucher shaft, 3.6 km south-west of Schneeberg, Saxony, Germany.

**Name:** Honors Fritz Schlegel (b. 1938), a dedicated mineral collector and finder of the new species, for his contributions to the mineralogy of the Schneeberg area, Saxony, Germany.

**Type Material:** The State Museum for Mineralogy and Geology, Dresden, Germany (19625Sa).

**References:** (1) Krause, W., H.-J. Bernhardt, and H. Effenberger (2006) Schlegelite,  $\text{Bi}_7\text{O}_4(\text{MoO}_4)_2(\text{AsO}_4)_3$ , a new mineral from Schneeberg, Saxony, Germany. *Eur. J. Mineral.*, 18, 803-811.