

**Crystal Data:** Monoclinic. *Point Group:* 2/m. Crystals to 1 mm are hatchet-like with curved faces to fibrous or tabular flattened on (001) with a prism and two pinacoids; as complex polycrystalline aggregates to 5 mm.

**Physical Properties:** *Cleavage:* None. *Fracture:* Irregular. *Tenacity:* n.d. Hardness = ~5 VHN = 418-447, 429 average (50 g load). D(meas.) = 3.89(3) D(calc.) = 3.73 Nonfluorescent.

**Optical Properties:** Transparent. *Color:* Light brownish to salmon-pink or orange-brown. *Streak:* Colorless. *Luster:* Vitreous. *Optical Class:*  $n(\text{calc.}) = 1.77(6)$  Optically inhomogeneous with oblique or mosaic extinction.

**Cell Data:** *Space Group:* C2/m.  $a = 8.925(2)$   $b = 6.143(1)$   $c = 7.352(1)$   $\beta = 115.25(3)^\circ$   $Z = 2$

**X-ray Powder Pattern:** Falotta mine, Graubünden, Switzerland. 3.159 (100), 2.942 (60), 2.684 (55), 2.519 (52), 3.373 (47), 4.895 (46), 3.078 (37)

<b>Chemistry:</b>	(1)
As <sub>2</sub> O <sub>5</sub>	55.57
SiO <sub>2</sub>	0.05
Al <sub>2</sub> O <sub>3</sub>	9.84
MgO	7.54
Fe <sub>2</sub> O <sub>3</sub>	4.38
Mn <sub>2</sub> O <sub>3</sub>	0.55
SrO	0.49
CaO	13.64
<u>H<sub>2</sub>O</u>	<u>[7.11]</u>
Total	99.17

(1) Falotta mine, Graubünden, Switzerland; average electron microprobe analysis, supplemented by TGA, H<sub>2</sub>O and OH calculated for 10 oxygens pfu, assuming that all Fe and Mn is trivalent, and (OH + H<sub>2</sub>O) = 2, normalized so that As + Si = 2.00; corresponding to (Ca<sub>1.00</sub>Sr<sub>0.02</sub>)(Al<sub>0.80</sub>Fe<sub>0.23</sub>Mg<sub>0.77</sub>Mn<sub>0.03</sub>)<sub>Σ=1.83</sub>(AsO<sub>4</sub>)<sub>2</sub>[(H<sub>2</sub>O)<sub>1.26</sub>(OH)<sub>0.74</sub>]<sub>Σ=2</sub>.

**Mineral Group:** Tsumcorite group.

**Occurrence:** Formed by hydrothermal remobilization of arsenic during retrograde metamorphism, under lowest to sub-greenschist facies conditions, of syn-sedimentary exhalative Mn deposits embedded in radiolarites.

**Association:** Quartz, adularia, kutnohorite, tilasite, grischunite, arseniosiderite, tripuhyite, Mn-oxyhydroxides (rancieite-takanelite), arsenogoyazite.

**Distribution:** From the Falotta mine, Graubünden, Switzerland.

**Name:** Honors Walter *Cabalzar* (b. 1919) an amateur Swiss collector, who participated in the description of two new minerals from Falotta (grischunite and geigerite).

**Type Material:** Geology Museum, Lausanne, Switzerland (MGL73785) and at the Natural History Museum, Basel, Switzerland.

**References:** (1) Brugger, J., N. Meisser, K. Schenk, P. Berlepsch, M. Bonin, T. Armbruster, D. Nyfeler, and S. Schmidt (2000) Description and crystal structure of cabalzarite Ca(Mg,Al,Fe)<sub>2</sub>(AsO<sub>4</sub>)<sub>2</sub>(H<sub>2</sub>O,OH)<sub>2</sub>, a new mineral of the tsumcorite group. *Amer. Mineral.*, 85(9), 1307-1314.