

NEW MINERAL NAMES*

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Antimonselite*

Luming Chen, Qifa Zhang, Deren Li, Guanxin Wang (1993) Antimonselite: A new mineral. *Acta Mineral. Sinica*, 13(1), 7–11.

The mean and range of fourteen electron microprobe analyses are Sb 47.32 (43.78–51.14), Hg 2.35 (0.94–4.78), Cu 0.61 (0.10–2.43), As 0.19 (0.0–0.42), Se 48.91 (48.60–49.72), S 0.13 (0.0–0.71), sum 99.54 (98.07–101.76) wt%, corresponding to $(\text{Sb}_{1.87}\text{Hg}_{0.06}\text{Cu}_{0.05}\text{As}_{0.01})_{21.99}(\text{Se}_{2.99}\text{S}_{0.02})_{23.01}$, ideally Sb_2Se_3 . Occurs as black anhedral grains and as radiating acicular crystals, typically $<20\ \mu\text{m}$ and to a maximum of $21 \times 23\ \mu\text{m}$. Metallic luster, black streak, $VHN_{30} = 120$, $D_{\text{calc}} = 5.88\ \text{g/cm}^3$ for $Z = 4$. White in reflected light, distinct birefractance, distinct pleochroism from white to grayish white, distinct anisotropism. Reflectance percentages (SiC standard) are given in 10-nm steps from 420 to 700 nm for R'_x and R'_y ; values at 470, 546, 589, and 650 nm are, respectively, 42.62, 40.55; 41.95, 39.02; 42.23, 39.42; 44.39, 41.56. The X-ray powder pattern, similar to those of stibnite and synthetic Sb_2S_3 , has strongest lines of 3.70(70,130), 3.17(50,211), 2.870(100,221), 2.625(60,240), and 1.746 Å (35,601); by analogy the new mineral is orthorhombic, space group $Pbnm$, $a = 11.593(3)$, $b = 11.747(3)$, $c = 3.3984(1)$.

The mineral occurs with pyrite, sphalerite, galena, ferroselite, clausthalite, uraninite, and others in U-bearing calcite veins in a U-Hg-Mo polymetallic deposit at Kaiyang, Guizhou Province, China. The new name alludes to the composition, which represents the Se analogue of stibnite. Type material is in the Chinese Museum of Geology (in Guizhou?). J.L.J.

Germanocolusite*

E.M. Spiridonov, V.M. Kachalovskaya, V.V. Kovachev, L.Ya. Krapiva (1992) Germanocolusite $\text{Cu}_{26}\text{V}_2(\text{Ge,As})_6\text{S}_{32}$: A new mineral. *Vestnik Moskovskogo Universiteta, Seriya 4, Geologiya*, 1992(6), 50–54 (in Russian).

Electron microprobe analyses of specimens from Urup, Tsumeb, and Chelopech gave, respectively: Cu 49.69, 49.22, 48.04, Ag 0.13, 0, 0.09, Fe 0.47, 1.56, 1.54, Zn 0.91, 0.15, 1.28, V 3.32, 3.19, 3.17, Ge 8.62, 6.55, 9.13,

Ga 0, 0.35, 0.17, As 5.09, 5.90, 3.38, Sb 0.08, 0.12, 0.40, Sn 0.14, 0.06, 1.33, Mo 0.67, 1.18, 0, W 0.03, 0.06, 0, Bi 0.15, 0, 0, S 32.10, 31.97, 31.05, Se, 0, 0, 1.08, sum 101.40, 100.31, 100.66 wt%. Normalized to 66 atoms these analyses correspond, respectively, to $(\text{Cu}_{25.0}\text{Fe}_{0.3}\text{Zn}_{0.4})_{25.7}\text{V}_{2.1}(\text{Ge}_{3.8}\text{As}_{2.2}\text{Mo}_{0.2})_{26.2}\text{S}_{32}$, $(\text{Cu}_{24.9}\text{Fe}_{0.9}\text{Zn}_{0.1})_{25.9}\text{V}_{2.0}(\text{Ge}_{2.9}\text{Ga}_{0.2}\text{As}_{2.5}\text{Mo}_{0.4})_{26.0}\text{S}_{32.1}$, and $(\text{Cu}_{24.5}\text{Fe}_{0.9}\text{Zn}_{0.6})_{26.0}\text{V}_{2.0}(\text{Ge}_{4.1}\text{Ga}_{0.1}\text{As}_{1.5}\text{Sb}_{0.1}\text{Sn}_{0.4})_{26.2}(\text{S}_{31.4}\text{Se}_{0.4})_{231.8}$, ideally $\text{Cu}_{26}\text{V}_2(\text{Ge,As})_6\text{S}_{32}$. The mineral forms single grains or equant to elongate segregations $<1\text{--}100\ \mu\text{m}$ across. No cleavage, unaffected by standard chemical reagents, $VHN_{40} = 330$ (range 280–370, Urup), $D_{\text{calc}} = 4.55\ \text{g/cm}^3$ for $Z = 1$ (Urup). In reflected light, isotropic, no internal reflection; color is yellow, grayish yellow, greenish yellow, olive yellow, cream yellow, less commonly yellowish cream with a rose to brownish rose tint. Reflectance values (Si standard in air) are given in 20-nm intervals (or less) from 400 to 700 nm; representative values for Urup and Tsumeb are (470 nm) 23.8, 25.4%, (546) 27.3, 29.5, (589) 27.9, 30.9, (650) 27.9, 31.5. Powder X-ray data (FeK α , 114-mm camera), indexed by analogy with colusite (which has isometric symmetry, space group $P\bar{4}3m$), gave $a = 10.568(3)$ Å. Strongest lines (30 given) are 3.05(100,222), 2.64(40,400), 1.870(50,440), 1.595(30,622), 1.320(30,800), 1.212(30,662), 1.079(30,844), and 1.017(30,666,10.2.2).

The mineral occurs in late bornite and tennantite mineralization of the polymetallic deposits Urup (Northern Caucasus, Russia), Maykain (northeastern Kazakhstan), Tsumeb (Namibia), and Chelopech (Bulgaria). At Urup and Maykain, the new mineral is commonly mantled by one or two of the following: renierite, mawsonite, chalcocopyrite, and chalcocite. The mineral occurs mostly in bornite, less commonly in tennantite, sphalerite, barite, pyrite, galena, chalcocite, luzonite, stromeyerite, stephanite, and chalcopyrite. Occurs at Tsumeb in tennantite, sphalerite, and chalcopyrite ore with germanite, gallite, chalcocite, enargite, and bornite. Occurs at Chelopech with enargite, bornite, luzonite, germanite, renierite, mawsonite, and hemusite. The new name is for a colusite with $\text{Ge} > \text{Sn,As}(+\text{Sb})$. A specimen from Urup has been deposited in the Fersman Mineralogical Museum, Moscow, Russia. E.S.G.

Kamphaugite-(Y)*

G. Raade, K. Brastad (1993) Kamphaugite-(Y), a new hydrous Ca-(Y,REE)-carbonate mineral. *Eur. Jour. Mineral.*, 5, 679–683.

* Before publication, minerals marked with an asterisk were approved by the Commission on New Minerals and Mineral Names, International Mineralogical Association.

C. Rømming, A.K. Kocharian, G. Raade (1993) The crystal structure of kamphaugite-(Y). *Eur. Jour. Mineral.*, 5, 685–690.

Electron microprobe and CHN analyses gave CaO 18.4, Y₂O₃ 30.5, Nd₂O₃ 1.4, Sm₂O₃ 0.8, Gd₂O₃ 1.6, Dy₂O₃ 2.1, Er₂O₃ 1.2, Yb₂O₃ 1.1, CO₂ 29.6, H₂O 12.1, sum 98.8 wt%, corresponding to Ca_{1.95}(Y_{1.61}REE_{0.27})_{21.88}(CO₃)_{4.00}(OH)_{1.54}·3.22H₂O, simplified as Ca₂(Y,REE)₂(CO₃)₄(OH)₂·3H₂O. Occurs as crystals of roughly square outline, up to 1 mm across, platy on {001} and typically divergent, roselike, or spherulitic. White to colorless, with some spherules pale yellow to pale brown; white streak, transparent, vitreous luster, nonfluorescent, *H* = 2–3, uneven fracture, no cleavage, effervesces in dilute acids, *D*_{meas} = 3.19(5), *D*_{calc} = 3.24 g/cm³ for *Z* = 4. Anomalously optically biaxial negative, *2V* ≈ 15°, *α* = 1.627(2), *β* ≈ *γ* = 1.663(2), *X* = *c*. Single-crystal X-ray structure study (*R* = 0.067) indicated tetragonal symmetry, space group *P*4₁2₁2, *a* = 7.434(1), *c* = 21.793(3) Å. The structure study indicated that the ideal formula is 8[CaY(CO₃)₂(OH)·H₂O]. Strongest lines of the Debye-Scherrer powder pattern (FeK_α1 radiation) are 6.140(100,102), 4.381(80,104), 3.516(60,202), 2.831(50,214), 2.631(90,220), and 1.891(30,228).

The mineral occurs in cavities of a magnetite and helvite skarn at Hørtokollen, Oslo region, Norway, and as a fine-grained alteration product of kuliokite-(Y) at the Høydaalen amazonite pegmatite, Tørdal, Norway; also known as well-crystallized rosettes in the Tangen granite pegmatite near Kragerø, Norway, and previously reported as an unnamed mineral replacing gagarinite from Kazakhstan, as white crusts at the Evans-Lou pegmatite, Quebec, Canada, and as white spheroids on opal from a quartz and barite vein, Transvaal, South Africa. The new name is for Erling Kamphaug (b.1931), mineral collector, who supplied the original specimens. Type material (Hørtokollen) is in the Mineralogical-Geological Museum, University of Oslo, Norway. **J.L.J.**

Manganoparawollastonite

Yunfen Lei, Yueying Lin, Dequan Zhang, Wuyi Wang (1993) The first discovery of manganoparawollastonite. *Acta Mineral. Sinica*, 13(1), 79–83 (in Chinese, English abs.).

Electron microprobe analysis (highest MnO content of the nine analyses reported) gave SiO₂ 49.54, CaO 33.17, MnO 13.26, FeO 3.66, MgO 0.08, Al₂O₃ 0.03, sum 99.74 wt%, corresponding to (Ca_{0.71}Mn_{0.23}Fe_{0.06})_{21.00}Si_{1.00}O₃. The mineral occurs as columnar, radial, and granular grains typically 0.03–0.12 mm; colorless, vitreous luster, *VHN* = 300–350, perfect {100} cleavage, *D*_{meas} = 2.99 g/cm³. Optically biaxial negative, *α* = 1.631–1.635, *β* = 1.629–1.633, *γ* = 1.614–1.621, *Z* ∩ *c* = 38°, *2V*_{meas} = 35–40°. Strongest lines of the X-ray powder pattern (Cu radiation, diffractometer) are 3.447(58,311), 3.331(100,202), 3.261(81,220), 3.223(64,021), 3.040(71,112), and 3.003

Å (89,221); calculated cell dimensions are *a* = 14.721(3), *b* = 7.049(3), *c* = 6.906(3), *β* = 95.827(30)°. The mineral, which is from a Pb- and Zn-bearing skarn deposit in Inner Mongolia, China, is an intermediate member between CaSiO₃ and MnSiO₃.

Discussion. The mineral should not have been given a new name and should have been described as manganooan wollastonite-2*M*. **J.L.J.**

Mozartite*

A. Palenzona, A. Pozzi (1993) Mozartite, a new mineral species from Cerchiara, La Spezia. *Revista Mineral. Ital.*, no. 2, 1993, 79–82 (in Italian, English abs.).

A. Basso, G. Lucchetti, L. Zefiro, A. Palenzona (1993) Mozartite, CaMn(OH)SiO₄, a new mineral species from the Cerchiara mine, northern Apennines, Italy. *Can. Mineral.* 31, 331–336.

The mean of sixteen electron microprobe analyses gave MgO 0.05, CaO 27.08, Al₂O₃ 0.49, Mn₂O₃ 38.72, SiO₂ 29.25, sum 95.59 wt%, corresponding to Ca_{0.98}(Mn_{1.00}Al_{0.02})(OH)Si_{0.99}O_{4.00}. The H₂O was inferred from single-crystal X-ray structure analysis (*R* = 0.027). Occurs as aggregates of anhedral grains, 0.1–0.5 mm; also as subhedral, stocky prismatic crystals elongate [100]. Transparent, vitreous luster, deep red color, red streak, no cleavage, conchoidal fracture, hardness not determinable, nonfluorescent, *D*_{meas} = 3.64(4), *D*_{calc} = 3.68 g/cm³ for *Z* = 4. Optically biaxial positive, *α* = 1.840(5), *β* = 1.855(5), *γ* = 1.920(5), *2V*_{meas} = 50(2)°, *2V*_{calc} = 52.8°, strongly pleochroic with *X* = yellow-brown, *Y* = yellow, *Z* = orange-red. Orthorhombic symmetry, space group *P*2₁2₁2₁, *a* = 5.838(1), *b* = 7.224(1), *c* = 8.690(1) Å. Strongest lines of the X-ray powder pattern (Guinier camera, CuK_α radiation, calculated intensities) are 5.558(86,011), 3.613(37,020), 3.070(73,120), 2.584(100,211), 2.509(36,122), 2.441(35,113), and 1.565(51,233).

The mineral, which is the Mn analogue of vuagnatite CaAl(OH)SiO₄, is associated with pectolite, calcite, quartz, and hausmannite that fill large veins that crosscut massive braunite interbedded with metacherts at the Cerchiara mine near Faggiona, La Spezia, eastern Liguria, Italy. The new name is for Wolfgang Amadeus Mozart (1756–1791); the initial discovery was made in 1991, the 200th anniversary of Mozart's death. Type material is in the Sezione di Mineralogia, Dipartimento di Scienze della Terra, Università di Genova, Genoa, Italy. **J.L.J.**

Ni-chalcophanite

A.I. Gorshkov, G.R. Kapustkin, A.V. Sivtsov, I.M. Lazarenko, L.S. Dubrovinskiy (1992) Ni-chalcophanite: A new variety of the mineral from a weathering crust on ultramafic rocks of the Kempirsay massif (southern Urals). *Izvest. Akad. Nauk, Ser. Geol.*, 1992(11), 108–117 (in Russian).

Electron microprobe analyses of two specimens gave

