NEW MINERAL NAMES*

MICHAEL FLEISCHER, G. Y. CHAO, CARL A. FRANCIS, AND ADOLF PABST

Ashanite

Zhang Rubo, Tian Huixin, Peng Zhizhong, Ma Zhesheng, Han Fengming and Jing Zebei (1980). A new mineral—ashanite, $(Nb,Ta,U,Fe,Mn)_4O_8$. *Kexue Tongbao, 25*, 510–514.

Analysis gave Nb_2O_5 36.76, Ta_2O_5 23.41, FeO 8.25, MnO 7.77, U_3O_8 23.81, RE_2O_3 1.40, sum 101.40%, corresponding to $(Nb_{1.61}Ta_{0.61}Fe_{0.66}Mn_{0.63}U_{0.51}RE_{0.07})O_{7.98}$. The infrared absorption curve is smooth with a slight maximum at about 1000 cm^{-1}. The mineral is the Nb analogue of ixiolite.

Weissenberg and precession study show the mineral to be orthorhombic, space group *Pcan*, $a = 5.869$, $b = 4.873$, $c = 5.216$Å, $Z = 1$, D calc. 6.60, meas. 6.61±0.01. The strongest X-ray lines (18 given) are 3.65(5)(110), 2.95(10)(111), 2.54(3)(002), 2.51(3)(201), 2.38(3)(020), 1.729(3)(221).

The mineral is dark in color with semi-metallic to pitch-like luster, streak brownish, fracture conchoidal to subconchoidal. Microhardness 570.1 to 851 kg/sq mm, corresponding to Mohs 5.8–6.6. Optically biaxial, positive, $\alpha = 2.31$, $\beta = 2.35$, $\gamma = 2.40$, $2V = 70$–75°, $X = b$, $Y = a$, $Z = c$; under the microscope brownish-red, weakly pleochroic, Z dark brownish-red, X light brownish-red, absorption $Z > X$. Reflectances are given at 19 wave lengths: at 460 nm, 11.4,11.5; 540, 10.9,10.9; 580, 10.8,10.8; 660, 10.6,10.6%.

The mineral occurs in the central part of a pegmatite in albitized two-mica granite, associated with Ta-rich columbite, Th-rich monazite, and ishikawaite; in the Altai Mts., N.W. China. The name is from Altai and shan (= mountains). **M. F.**

Clinochalcomenite

Luo Keding, Wei Jun, Zhang Jingyi and Gu Qifang (1980) Clinochalcomenite, a new selenite mineral. *Kexue Tongbao, 25*, 85–89 (in Chinese).

Electron microprobe analysis, using chalcomenite as standard, gave Cu 29.68 and Se 37.91%. Other elements were not detected. Because the analyses of the mineral and the chalcomenite standard are nearly identical and the mineral is isostructural (identical space group and similar cell parameters) with ahlfeldite, $NiSeO_3 \cdot 2H_2O$, cobaltomenite, $CoSeO_3 \cdot 2H_2O$ (Am. Mineral., 48, 1183) and synthetic $ZnSeO_3 \cdot 2H_2O$, the ideal formula of the mineral should be written as $CuSeO_3 \cdot 2H_2O$.

Precession and Weissenberg photographs show the mineral to be monoclinic $P2_1/n$, $a = 8.177$, $b = 8.611$, $c = 6.290$Å, $\beta = 97°16'$, $V = 439.34$Å^3, $Z = 4$; D meas. 3.28, calc. 3.42. The eight strongest lines of the X-ray powder diffraction pattern (48 lines given) are: 5.89(10)(110), 4.06(7)(200), 3.66(9)(210), 2.926(8)(012),

2.694(7)(130), 2.570(6b)(310), 2.482(7)(12$\bar{2}$), 1.818(7)(411). The mineral is dimorphous with chalcomenite.

The mineral is bluish green, transparent with vitreous luster; some crystals are black due to inclusions of umangite. The mineral is brittle with a hardness of 2. Cleavage {110} is perfect. Crystals (average 0.2–0.3 mm long, max. 0.5–0.6 mm) are prismatic along c with striations parallel to c. Forms present are prisms {110}, {210}, {011}, pinacoids {100}, {010}, {001}, {101}. The best developed forms are {110} and {011}. Optical goniometry gave $a : b : c = 0.9976 : 1 : 0.7405$, $\beta = 95°35'$; $p_0 : q_0 : r_0 = 0.7423 : 0.7369 : 1$, $r_2 : p_2 : q_2 = 1.3570 : 1.0073 : 1$, $\mu = 84°25'$; $p_0' = 0.7459$, $q_0' = 0.7405$, $x_0' = 0.0942$. Optically the mineral is biaxial negative, $\alpha = 1.675$, $\beta = 1.723$, $\gamma = 1.765$, $2V = 78°$. Dispersion: $r < v$. Pleochroism: $X =$ colorless, $Y =$ colorless, $Z =$ bluish green. Orientation: $Y = b$, $Z : c = +10°$. Elongation (+).

The mineral occurs in the brecciated zone of a Devonian carbonaceous slate in a certain uranium mineralization area in China. The mineral is closely associated with volborthite, chalcomenite, umangite, and malachite.

Discussion

The mineral appears to be unique. The reported analysis (H_2O by difference) may be recalculated to $Cu_{0.98}Se_{1.01}O_3 \cdot 1.12H_2O$ which is closer to a monohydrate than to a dihydrate. However, the ideal composition, calculated specific gravity, and observed refractive indices are highly compatible according to the Gladstone–Dale relationship (Mandarino, Can. Mineral., 17, 71–76, 1979), $1 - K_p/K_c$ being 0.012. Thus, better analytical data and a determination of the water content are desirable. **G.Y.C.**

Dorfmanite*

Yu. L. Kapustin, Z. V. Pudovkina and T. E. Bykova (1980) Dorfmanite, a new mineral. *Zapiski Vses. Mineral Obsh., 109*, 211–216 (in Russian).

Analyses of two samples by T.E.B. gave P_2O_5 39.49, 40.83; Na_2O 34.84, 33.80; K_2O trace, none; H_2O 25.44, 25.60, F none, none; sum 99.77, 100.23%, corresponding to $Na_2HPO_4 \cdot 2H_2O$. The mineral is very soluble in water. The DTA curve shows endothermic peaks at 120° and 750°C, with weight losses of 21% and 5% respectively. The mineral fuses at 900° to a white enamel. The infrared spectrum is given.

X-ray study showed the mineral to be orthorhombic, $a = 10.34$, $b = 16.82$, $c = 6.01$Å, $Z = 8$, D calc. 2.06, meas. 1.98, 2.00. The strongest X-ray lines (Cr and Fe radiation, resp.) (38 lines given) are 8.37(38), 8.44(55)(020); 4.64(75), 4.67(90)(121); 3.35(100), 3.36(100)(050,141); 3.25(81), 3.26(75)(240); 2.928(56), 2.944(55)(122); 2.869(75), 2.885(70)(151); 2.738(63), 2.745(40)(212,132); 2.589(50), 2.607(40)(042,251), 2.495(56), 2.498(44)(232); 2.462(56), 2.466(20)(260), 2.260(75), 2.262(45)(351), 2.208(50), 2.215(30)(431); 1.971(50), 1.970(40)(370); 1.912(56), 1.918(30)(521).

The mineral occurs as white powdery aggregates, formed by the alteration of lomonosovite in drill cores in alkalic pegmatites of the Khibina and Lovozero massifs, Kola Peninsula, USSR. It is optically biaxial, positive, $\alpha = 1.454$, $\beta = 1.461$, $\gamma = 1.461$, $2V = 65°$, $r > v$ weak, H 1–1.5.

The name is for M. D. Dorfman, mineralogist, who first reported a sodium phosphate in 1963. Type material is at the Fersman Mineralogical Museum, Moscow. **M. F.**

Eifelite*

K. Abraham, W. Gebert, O. Medenbach, W. Schreyer and G. Hentschel (1980) $KNa_2Mg_{4.5}Si_{12}O_{30}$, a new mineral of the milarite group from the Eifel, with sodium in octahedral position (abstr.). *Fortschr. Mineral., 58*, Beiheft 1, 3–4 (in German).

Microprobe analysis gave SiO_2 71.06, TiO_2 0.06, Al_2O_3 0.79, Cr_2O_3 0.06, FeO 0.48, CuO 0.08, ZnO 0.34, MnO 0.46, MgO 16.24, K_2O 4.18, Na_2O 6.48, sum 100.23%, corresponding to the formula $(K_{0.90}Na_{2.12})(Mg_{4.08}Fe_{0.07}Cu_{0.01}Zn_{0.04}Mn_{0.07}Cr_{0.01}Al_{0.14}Ti_{0.01})_{4.43}(Al_{0.02}Si_{11.98})O_{30}$. Microchemical analysis showed Li_2O 0.1%. It is therefore a member of the milarite (or osumilite) group.

X-ray study showed it to be hexagonal, with $a = 10.155$, $c = 14.233$Å. Optically uniaxial, positive (stated to be negative), with $\omega = 1.543$, $\epsilon = 1.5455$.

The mineral occurs in druses of eruptive bombs in the Bellerberg volcano, Eifel, Germany. The name is for the locality. **M. F.**

Kolymite*

E. A. Markova, N. M. Chernitsova, Yu. S. Borodaev, L. S. Dubakina and O. E. Yushko-Zakharova (1980). The new mineral kolymite, Cu_7Hg_6. *Zapiski Vses. Mineralog. Obsh., 109*, 206–211 (in Russian).

Electron microprobe analyses (9) gave Cu 26.1–26.9, av. 26.6; Hg 71.4–74.0, av. 72.6%, corresponding to $Cu_{6.97}Hg_{6.03}$, agreeing closely with analyses of the synthetic amalgam. The mineral is readily fusible, even during the preparation of polished sections by usual methods, and loses most of its mercury at 150°C.

X-ray study showed kolymite to be cubic, body-centered, $a = 9.418 \pm 0.004$Å. The strongest lines (36 given) are 2.98(25)(310), 2.52(42)(321), 2.22(100)(411), 2.09(25)(420), 2.01(25)(332), 1.29(25b)(633,721,552). Possible space groups are $Im3m$, $I432$, $I\bar{4}3m$. Synthetic material has $a = 9.425$Å, space group $I\bar{4}3m$, Z = 4. D calc. 13.10, measured on a mixture with native Cu 12.5, which gave 13 on correcting for Cu.

The mineral occurs intergrown with native Cu aggregates (0.01–0.8 mm) of irregular form that contain individual crystals less than 0.005 mm, of cubo-octahedral form with cube predominant. Color on fresh fracture tin-white, luster metallic, but quickly altered in moist air to brownish-black on the surface. In reflected light bright creamy white. Isotropic. Reflectances are given at 15 wave lengths; at 460, 6.38; 540, 72.1; 580, 73.6; 660, 76.0%. Hardness 220–267, av. 247 kg/sq mm.; brittle.

Kolymite was found in the heavy fraction of concentrates from quartz–stibnite–berthierite–pyrite–arsenopyrite ores of the Krokhalin antimony ore, Magadin region, basin of the Kolyma River.

The name is for the locality. Samples are preserved in the Mineralogical Museum, Academy of Sciences, USSR, and at the museum of the Institute of the Mineralogy and Geochemistry of Rare Elements (IMGRE), both in Moscow. **M. F.**

Kulkeite*

K. Abraham, W. Schreyer, O. Medenbach and W. Gebert (1980) Kulkeite, an ordered 1:1 mixed-layer mineral between clinochlore and talc (abstr.). *Fortschr. Mineral., Beihefte 58*, 4–5 (in German).

Microprobe analysis gave SiO_2 40.53, Al_2O_3 12.64, MgO 33.19, Na_2O 1.20, K_2O 0.07, total 87.63%. Ca is present in traces, Fe and other elements with at. no. >9 were not were not found. The formula is $(Na_{0.38}K_{0.01})(Mg_{8.02}Al_{0.99})(Al_{1.43}Si_{6.57})O_{20}(OH)_{10}$. Assuming the substitution $NaAl \rightarrow Si$, the ideal formula is $Mg_8Al(AlSi_7)O_{20}(OH)_{10}$.

Single-crystal study shows the mineral to be monoclinic, $a = 5.32$, $b = 9.20$, c = 23.88Å, $\beta = 97°$, Z = 2; D calc. 2.70. The strongest X-ray lines (13 given) are 11.9(8) (002), 7.90(10) (003), 4.74(6) (005), 3.38(8) (007), 2.96(5) (008), 2.55(6) ($\bar{2}$11,132), 2.46(5) (108).

The mineral is colorless, transparent, with pearly luster on the perfect cleavage {001}. H = 2, optically biaxial neg., $2V = 24°$ meas., 27° calc., α-1.552, β-1.5605, γ-1.5610, $Y = a$, $Z = b$.

The mineral occurs in dolomite of a metamorphosed dolomite of Perrag, Algiers. The name is for H. Kulke (see sodium phlogopite). **M. F.**

Nacaphite*

A. P. Khomyakov, M. E. Kazakova and D. Yu. Pushcharovskii (1980). Nacaphite, Na_2CaPO_4F, a new mineral. *Zapiski Vses. Mineral Obsh., 109*, 50–52 (in Russian).

Analysis of the mineral by M.E.K. gave P_2O_5 36.00, F 9.32, CaO 26.66, MnO 0.39, SrO 0.55, Na_2O 31.44, K_2O 0.10, sum 104.46 − $(O=F_2)$ 3.92 = 100.54%, corresponding to $Na_{1.99}(Ca_{0.94}Sr_{0.01}Mn_{0.01})P_{1.00}O_{3.97}F_{0.97}$ or $Na_2Ca(PO_4)F$. Insoluble in water, easily dissolved by cold 1% HCl. The DTA curve shows endothermic breaks at 250° (small), 370°, 730°, and 930°C. That at 370° may indicate partial loss of F; that at 930° is due to fusion. The infrared spectrum is given.

Oscillation and rotation photographs show nacaphite to be orthorhombic, space group $Cmma$ or $C2ma$, $a = 10.644 \pm 0.002$, $b = 24.423 \pm 0.06$, $c = 7.098 \pm 0.002$Å, Z = 16, D calc. 2.88, meas. (hydrostatic suspension) 2.85. Pseudo-periods of $a/2$ and $b/2$ were noted. The strongest X-ray lines (24 given) are 3.054(45)(042); 3.049(40)(080); 2.649(100)(400,242,280); 2.005(40)(442,480); 1.762(33) (0.12.2).

The mineral is colorless, transparent, luster vitreous. H = 3. Fracture conchoidal. Optically biaxial, negative, $2V = 80°$, $\alpha = 1.508$, $\beta = 1.515$, $\gamma = 1.520$ (all ± 0.002), dispersion $r > v$, weak.

The mineral occurs as inclusions (about 1mm in diam.) in thermonatrite, associated with apatite, aegirine, and barytolamprophyllite in ijolite–urtite pegmatite in subsurface apatite mines at Mt. Rasvumchorr, Khibina massif, Kola Peninsula. It is formed at a very late stage.

The name is for the composition. Type material is at the Fersman Mineralogical Museum, Academy of Sciences, USSR, Moscow. **M.F.**

O'Danielite*, unnamed arsenate

P. Keller and H. Hess (1980) Crystal structures of two new arsenate minerals from Tsumeb (abstr.). Fortschr Mineral., Beiheffe 58, 68–69 (in German).

Two new arsenates were found in the second oxidation zone at Tsumeb. O'Danielite is $Na(Zn,Mg)_3H_2(AsO_4)_3$. It is monoclinic,

space group $C2/c$, $a = 12.11$, $b = 12.44$, $c = 6.79$Å, $\beta = 112.87°$, $Z = 4$; D cac. 4.49.

The unnamed mineral has formula $Na(Mg,Zn)_3Cu(AsO_4)_3$. It is monoclinic, space group $C2/c$, $a = 11.87$, $b = 12.75$, $c = 6.77$Å, $\beta = 113.42°$, $Z = 4$; D meas. 4.15, calc. 4.21. **M.F.**

Paralstonite*

A. C. Roberts (1979) Paralstonite, a new mineral from the Minerva no. 1 mine, Cave-in-Rock, Illinois. *Geol. Surv. Can. Pap.*, 79–1C, 99–100.

H. Effenberger (1980) The crystal structure of paralstonite, $BaCa(CO_3)_2$. *Neues Jahrb. Mineral. Monatsh.*, 353–363 (in German).

Data on this mineral, there given as unnamed $BaCa(CO_3)_2$, are given in *Am. Mineral.*, 64, 1332 (1979). The only addition is that the space group is $P321$. **M.F.**

Rokuhnite*

R. v. Hodenberg and G. v. Struensee (1980) Rokuhnite, $FeCl_2 \cdot 2H_2O$, a new mineral. *Neues Jahrb. Mineral. Monatsh.*, 125–130.

Two chemical analyses yield, after deducting ~ 54% impurities, an average empirical formula of $Fe_{0.91}Mg_{0.09}Cl_{1.99} \cdot 1.99H_2O$. The mineral is soluble in water and rapidly hydrates in air to $FeCl_2 \cdot 4H_2O$.

Precession photographs show the mineral to be monoclinic, $C2/m$, with $a = 7.396(1)$, $b = 8.458(2)$, $c = 3.638(1)$Å, $\beta = 97.68(2)°$; $Z = 2$; $D = 2.35$(meas.), 2.3(calc.). The strongest X-ray lines (27 reported) are 5.536(10) (110), 4.228(6) (020), 2.892(5) (111), 2.762(7) ($\bar{2}01$), 2.744(3) (021), 2.415(6) (201), 2.096(3) (221,$\bar{3}$11).

The mineral is transparent and colorless. Crystals are {110} tablets 200–300 μ broad by 20 μ thick and consist of short flexible fibers. Cleavage {110} very good, {010} good. Optically biaxial positive, $2V = 64(2)°$, $\alpha = 1.605(2)$, $\beta = 1.633$ (1), $\gamma = 1.703(2)$, $X = b$, Z: $c = -49°$. Dispersion $r \le v$.

The mineral occurs in intergrowths of carnallite, rinneite, and halite which form light green rims around lenses of rinneite in carnallite at the Salzdetfurth and Sigfried-Giesen mines in the Zechstein basin of Germany. The name honors Robert Kuhn, retired mineralogy professor at the Kaliforschungsinstitut, Hannover. Type material is deposited at the University of Hannover and the University of Heidelberg. **C.A.F.**

Schieffelinite*

S. A. Williams (1980) Schieffelinite, a new lead tellurate–sulphate from Tombstone, Arizona. *Mineral. Mag.*, 43, 771–773.

Schieffelinite has been found on the dumps of the Joe and Grand Central mines, Tombstone, Arizona, in pieces of shattered vein quartz, together with girdite, rodalquilarite, bromargyrite, and gold, formed from the tellurides once present by oxidation. It occurs as minute colorless crystals up to 1 mm, encrusting fractures. To date no more than 200 mg have been found. Duplicate chemical analyses yielded: PbO 58.2, TeO$_3$ 28.6, SO$_3$ 6.8, H$_2$O 4.7, sum 98.3%, very close to the requirements for the formula $Pb(Te,S)O_4 \cdot H_2O$ or $Pb_8(TeO_4)_5(SO_4)_3 \cdot 8H_2O$. Schieffelinite crystallizes in the orthorhombic space group $Cmcm$, with $a = 9.67$, $b = 19.56$, $c = 10.47$Å; $Z = 16$ (first formula), D(obs.) 4.98±0.12,

D(calc.) 5.15. The principal lines of the powder pattern are: 9.778(10)(020), 3.426(6)(151), 3.250(6B) (241,113,060), 3.560(5B)(042,202), 3.338(5)(222), 3.033(5)(311),2.934(5)(133). H= 2; cleavage on {010}, the plane of flattening, is easy. Schieffelinite has an adamantine luster; $\alpha || b = 1.897$, $\beta || c = 1.940$, $\gamma || a = 1.942$, $2V(-) = 24°$, dispersion of the optic axes is weak, $r < v$. The name is for Ed Schieffelin, the prospector who discovered the Tombstone district about 100 years ago. **A.P.**

Sodium-phlogopite

W. Schreyer, K. Abraham and H. Kulke (1980) Natural sodium-phlogopite in coexistence with potassium-phlogopite and NaAl-containing talc from an evaporite series, Algeria. *Fortschr. Minera., Beihefte 58*, 120–121 (in German) (see kulkeite).

Microprobe analysis gave the formula $(Na_{0.87}K_{0.04}Ca_{0.01})$ $(Mg_{2.85}Al_{0.11}Ti_{0.02})(Al_{1.00}Si_{3.00})O_{10}(OH)_2$. **M.F.**

Thalfenisite*

N. S. Rudashevskii, A. M. Karpenov, G. S. Shipova, N. N. Shishkin and V. A. Ryabkin (1979) Thalfenisite, the thallium analogue of djerfisherite. *Zapiski Vses. Mineral. Obsh.*, 108, 696–701 (in Russian).

Electron microprobe analyses are given; the first is the average of 15 grains of 2 samples, the second is the border zone of a zoned grain. These gave, resp., Tl 33.4, 26.1; K 0.03, 1.51; Fe 29.4, 31.1; Ni 10.3, 10.1; Cu 1.74, 2.11; S 24.8, 26.1; Cl 0.84, 1.01, sum 100.51%, 98.03%. These yield the formulas $(Tl_{5.58}K_{0.03})$ $(Fe_{17.96}Ni_{5.99}Cu_{0.93})S_{26.39}Cl_{0.81}$, and $(Tl_{4.15}K_{1.52})(Fe_{18.01}$ $Ni_{5.51}Cu_{1.07})S_{26.33}Cl_{0.92}$. The general formula is $Tl_6(Fe,Ni,Cu)_{25}$ $S_{26}Cl$, the thallium analogue of djerfisherite; the second analysis indicates the probability of a solid solution series with djerfisherite.

Thalfenisite is cubic, $a = 10.29\pm0.02$Å; D calc. for $Z = 1$ is 5.26. The strongest X-ray lines (39 given) are 3.42(9)(300), 3.24(7)(310), 2.96(10)(222), 2.35(6)(331), 1.810(7)(440).

The mineral forms aggregates 0.1–0.3mm of grains 5–100 μm in size. In polished sections isotropic, brown; dark brown in oil. Reflectivity, %, is given at 10 wave lengths, 400–750mm. At 440, 23.6; 560, 25.6; 600, 27.3; 680, 30.3%. Hardness under 10g load, av. 147±17 kg/sq mm. Brittle. Not reactive with FeCl$_3$, HCl, or HNO$_3$(1:1); intensely etched by conc. HNO$_3$.

The mineral occurs in pentlandite–galena–chalcopyrite ores of the Oktyabr deposit of the Talnakh ore field. It is localized at the contact of chalcopyrite and galena and is included in pentlandite.

The name is for the principal constituents. Type material is at the Leningrad Mining Institute. **M.F.**

Tisinalite*

Yu. L. Kapustin, Z. V. Pudovkina and A. V. Bykova (1980) Tisinalite, $Na_3H_3(Mn,Ca,Fe)TiSi_6(O,OH)_{18} \cdot 2H_2O$, a new mineral of the lovozerite group. *Zapiski Vses. Mineral. Obsh.*, 109, 223–229 (in Russian).

Analyses gave SiO$_2$ 33.27, 53.35; TiO$_2$ 8.45, 9.36; ZrO$_2$ 1.00, 0.60; Al$_2$O$_3$ none; Fe$_2$O$_3$ none; FeO 4.49, 3.95; MnO 5.40, 5.71; CaO 2.46, 2.64; SrO -, 0.21; RE$_2$O$_3$ 0.11, 0.06; Na$_2$O 13.83, 14.00; K$_2$O trace, -; H$_2$O 10.65, 9.82, sum 99.66, 99.70%; D 2.66, 2.69; $\alpha = 1.590$, 1.592; $\gamma = 1.624$, 1.624. Traces of Ba, K, Sr, V, and Zn were found spectrographically. The analyses give the formu-

las: $Na_{3.00}H_{3.00}(Mn_{0.54}Ca_{0.30}Fe_{0.16})_{0.98}(Ti_{0.72}Fe_{0.28})_{1.00}Si_{6.00}$ $[O_{17.40}(OH)_{0.60}] \cdot 2.23H_2O$, and $Na_{3.04}H_{3.00}(Mn_{0.54}Ca_{0.31}$ $Fe_{0.19}Sr_{0.01})_{1.05}(Ti_{0.78}Zr_{0.03}Fe_{0.19})_{1.00}Si_{6.00}[O_{17.77}(OH)_{0.23}] \cdot$ $2.40H_2O$. Spectrographic analysis showed that the rare earths had the composition $La_{28}Ce_{46}Pr_5Nd_{19}Sm_2$. The DTA curve showed endothermic effects at 140°, 260°, and 860°, corresponding to losses of weight 3.3, 6.0, and 1.8%, respectively.

Single-crystal study showed tisinalite to be trigonal, Laue class $\bar{3}m$, $a = 10.14$, $c = 13.08$Å, or a_{rh} 7.30±0.02Å, $\alpha = 88°$, Z = 1; D 2.682 calc., meas. 2.66, 2.69. The strongest X-ray lines (37 given) are 5.19(70)(102), 3.60(100)(022), 3.26(60)(113), 3.18(80)(121), 2.590(60)(204), 2.510(50)(105), 1.802(55)(135).

Color yellow-orange, luster vitreous, fracture uneven to conchoidal. Hardness 520–560 kg/sq cm = 5 (Mohs). Optically uniaxial, negative, $\omega = 1.624$, $\epsilon = 2.590$-1.592 (2.590 must be a misprint for 1.590; M.F.) The mineral occurs in rough crystals up to $1 \times 0.5 \times 0.5$ mm and granular aggregates up to 1 cm wide in drill cores that cut alkalic pegmatites on Mt. Koashva, Khibina massif, Kola Peninsula. It is formed by the hydrothermal alteration of lomonosovite and barium-lamprophyllite; associated minerals include koashvite, shcherbakovite, and lamprophyllite.

The name is for the chemical composition. Type material is at the Fersman Mineralogical Museum, Academy of Sciences, Moscow. M.F.

Unnamed α-MnSiO₃

Bronislawa Korczynaka-Oszacka (1975) The occurrence of α-MnSiO₃ in the manganese-bearing rocks of the Tatra Mountains. *Mineral. Polonica, 6,* 75–81.

Violet-red grains, associated with rhodochrosite, were found in manganese-bearing limestones, gave the pattern of synthetic α-MnSiO₃ (Liebau *et al., Z. anorg. Chem.,* 297, 213–225, 1958). Strongest X-ray lines were 4.931(4), 3.090(5), 2.773(8), 2.490(10). Probe analysis gave SiO₂ 41.5, MnO 50.0, CaO 0.7, FeO trace, sum 92.2%. This may be the Mn analogue of pseudowollastonite, $Mn_3Si_3O_9$. M.F.

Unnamed K analogue of macdonaldite

Merlino, S., P. Orlandi, and G. Vezzalini (1979) A new mineral structurally related to macdonaldite. *Rend. Soc. Ital. Mineral. Petrol, 35,* 847 (abstr., in Italian).

The mineral occurs in a miarolitic cavity at San Venanzo, Italy. It is orthorhombic, space group *Pmma*, *P2₁ma*, or *Pm2a*, a = 23.43, b = 7.064, c = 6.557Å; formula $K_2Ca_4Si_{16}O_{36}$ $(OH)_2 \cdot 10.5H_2O$ (macdonaldite has Ba replacing K₂). M.F.

Unnamed lead minerals

R. A. Bideaux (1980) Famous mineral localities: Tiger, Arizona. *Mineral. Record, 11,* 155–181.

Lead tungstate chloride

"Transparent golden yellow needles and flattened crystals to 1 mm long with sword-shaped terminations. Orthorhombic, generally twinned at approx. 90°. Flexible and elastic. Contains approx. Pb 60, W 16, Cl 7% (microprobe, R. Thomssen, personal communication). On quartz, usually alone in cavities. Most closely associated with leadhillite of rhombohedral habit, and sometimes enclosed in crystals of that mineral."

Lead copper antimony sulfate chloride

"Cerulean blue monoclinic crystals, less than 1 mm in size, occurring on crystallized sugary anglesite. Contains approx. Pb 53, Cu 10, Sb 7, S 5, Cl 5%. Behavior under the microprobe indicates that the mineral is probably hydrated (R. Thomssen, personal communication). Sb in tetrahedrite is a minor constituent of the primary ore."

Lead silicate

"Tapered, colorless transparent needles, probably hexagonal, a fraction of 1 mm long, form into loose cylindrical aggregates. These are radially fibrous in cross-section, perpendicular to the axis of elongation. Found with crystallized quartz, the aggregates wander across cavities and look astonishingly like woolly caterpillars; several may branch out from a common origin." M.F.

NEW DATA

Oboyerite

A. C. Roberts (1980) A triclinic unit cell for oboyerite. *Geol. Surv. Can. Pap. 80-113,* 295.

The X-ray powder data of Williams (*Mineral. Mag., 43,* 453–457, 1979) are indexed by the Ito method on a triclinic cell with $a = 12.249$, $b = 15.113$, $c = 6.868$Å, $\alpha = 116.45°$, $\beta = 98.58°$, $\gamma = 85.82°$, Z = 2; D calc. 6.66, meas. 6.4±0.6. M.F.

Schmeiderite = Schmiederite

R. S. Mitchell (1980) Schmiederite: comments on the name. *Mineral. Mag., 43,* 824.

The name schmeiderite was an error; the mineral was named for Oskar Schmieder (1891–), an eminent German geographer. M.F.

Sengierite

Paul Piret, Jean-Paul Declercq and Dominique Wauters-Stoop (1980) Crystal structure of sengierite. *Bull. Mineral., 103,* 176–178 (in French).

Structure determination of sengierite from Shinkolobwe, Zaire, showed it to be monoclinic, space group $P2_1/a$, $a = 10.599$, $b = 8.903$, $c = 10.085$Å, $b = 103.42°$, Z = 2 $[Cu(UO_2)_2(VO_4)_2$ $(OH)_2 \cdot 6H_2O]$; D calc. 4.10, obs. (synthetic) 4.05. M.F.

DISCREDITED MINERALS

Pharaohnite = Microsommite (K-free)

M. A. Takla and W. L. Griffin (1980) New data on cancrinite and its alteration products from St. John's Island, Red Sea, Egypt. *Neues Jahrb. Mineral. Monatsh.,* 345–352.

Microprobe analysis of the cancrinite-group mineral gave SiO₂ 32.50, Al₂O₃ 29.40, MgO < 0.1, CaO 10.40, Na₂O 14.90, K₂O 0.17, SO₃ 6.60, Cl 5.70, H₂O 1.5 (calc.), less (O = Cl₂) 1.36 = 99.81%. The Mg reported in the analysis of "pharaohnite (*Am. Mineral., 58,* 1113, 1973) was due to the presence of a hydrous Mg–Al silicate that could not be separated from the microsommite. M.F.