NEW MINERAL NAMES

MICHAEL FLEISCHER

Keldyshite


The mineral occurs as irregular grains up to 4 mm in size and as aggregates up to 6 mm in drill cores from the western and northwestern slopes of the Lovozero Massif, Kola Peninsula (Tavaik and Angoundasiok Rivers, Alluaiv Mt.). It occurs in foyaites consisting of microcline (partly albitized), nepheline, sodalite, aegirine, alkali amphibole, and accessory eudialyte and ramsayite. It is a primary mineral, formed late in the sequence, and is closely associated with ramsayite.

The mean of three partial analyses by L. P. Voronina, M. E. Kazakova, and G. V. Kalenchuk and of R. L. Timofeeva, is SiO$_2$ 39.39, TiO$_2$ 40.35, Fe$_2$O$_3$ 0.60, FeO 0.31, Na$_2$O 16.03, K$_2$O 0.94, H$_2$O 0.35, H$_2$O+ 0.95, corresponding to (Na, H)$_2$ZrSi$_2$O$_7$, with Na: H = 5:1. The ratios Zr/Hf, determined by I. D. Shevalevskii, is 47–51. The mineral is decomposed by HCl, HNO$_3$ and H$_2$SO$_4$.

Keldyshite is white, luster vitreous to greasy, hardness 157–231 kg/sq. mm, corresponding to 3.8–4.3 Mohs, G about 3.30. Very brittle, fracture irregular. Optically biaxial, (−), α 1.670, γ 1.710. Strong dispersion of optic axes: 2V 60° for red, 78° for yellow, 112° for blue, i.e. the mineral is (+) in blue light. Two poor cleavages were found under the microscope which intersect at about 90°. The better cleavage gave: P (pole of cleavage) to α 75°, to β 57°, to γ 35°. Under the microscope shows very fine polyhedral twinning.

Unindexed x-ray powder data (56 lines) are given: the strongest lines are: 3.97 (10), 4.11 (7), 1.542 (7), 1.097 (6), 1.013 (6), 2.95 (5), 2.66 (5), 1.006 (5).

The name is for M. V. Keldysh, President of the Academy of Sciences, U.S.S.R.

Osarizawaite


Analysis gave PbO 32.72, CuO 11.27, ZnO 0.22, CaO none, MgO none, Fe$_2$O$_3$ 4.43, Al$_2$O$_3$ 12.35, SO$_3$ 22.92. As none, H$_2$O 4.05, H$_2$O+ 8.50, SiO$_2$ 2.18, CO$_2$ 0.45, sum 99.09%, corresponding to Pb(Cu$_{0.98}$Zn$_{0.02}$)(Al$_{0.81}$Fe$_{0.19}$)$_2$(SO$_4$)$_2$(OH)$_6$, i.e. the aluminum analogue of beaverite. A little quartz was present. Spectrographic analysis showed Mn and Ag in thousandths of a per cent. The mineral is insoluble in water and HNO$_3$, decomposed by boiling concentrated HCl or H$_2$SO$_4$.

Color greenish-yellow. Earthy. Mean n 1.735–1.757, birefringence rather high. G 3.89–4.02 (pycnometer), 4.20 calc. from x-ray data. Indexed x-ray powder data correspond to a rhombohedral cell with α 7.05, c 17.23 Å, c/α 2.44 Z = 3, or a$_{rh}$ 7.04 Å, alpha 60°06', Z = 1. The strongest lines are 3.00 (100) (015, 113), 5.79 (70) (003, 101), 3.52 (60) (104, 110), 2.87 (60) (006, 202), 2.28 (60) (107, 205, 121).

A dehydration curve shows a loss of weight of about 10% at 420–480°, another 12% at 600–700° and about 10% more at 850–950°. A DTA curve shows a very small endothermic break at 100°, a very large endothermic break at 460°, and large endothermic breaks at 760°, 830°, and 1000°. There is a small exothermic break at 640°.

1 M. Fleischer is now being assisted actively by several “co-editors” in the compilation of data on new minerals and new data on species previously described. Dr. Fleischer’s contributions are not specifically designated, those of his co-workers are designated individually.
The mineral occurs in the oxidized zone of the Osarizawa copper mine, Akita Prefecture, Japan, as a powdery crust on anglesite and limonite. Other minerals present in the oxidized zone are linarite, azurite, brochantite, malachite, and kaolinite.

The name is for the mine. See also pp. 1079-1093, this number of this journal.

**Mourite**


The mineral occurs as violet nodules, crusts, and plates in the supergene zone of a deposit, the hypogene ore of which contains pitchblende, molybdenite, jordisite, pyrite and other sulfides. Umohosite occurs directly below the supergene zone; the latter contains "U-Mo blacks," iriginite, U-containing powellite, sodium uranospinite, uranophane and tyuyamunite, as well as goethite, jarosite and kaolinite; the mine waters are acid sulfate waters. In places, mourite is forming on corroded umohosite. In the mine workings, mourite decomposes to ilsemannite. The locality is not given, as usual.

Microchemical analysis by N. N. Kuznetsova gave MoO₃ 63.67, UO₂ 19.38, UO₂ 2.40, SiO₂ 1.72, Al₂O₃ 1.36, Fe₂O₃ 0.57, MgO 0.49, CaO 2.09, K₂O 0.58, Na₂O 0.54, H₂O⁻ 1.67, H₂O 6.07, sum 100.54% (given as 100.52%). In addition, small amounts of Mn, Cu, Pb, Ti, Sb and Ag were found spectroscopically. It is assumed that the minor components are due to admixtures (this is especially doubtful for CaO), the ratios are (UO₂+UO₃) : MoO₃ : H₂O = 1:5.5:5.3. However, the oxidation states could not be determined; the violet color of the mineral and the incompatibility of U⁶⁺ with Mo⁴⁺ in acid solution makes it probable that Mo is present as Mo⁶⁺ or Mo⁴⁺, or both.

Mourite dissolves with difficulty in conc. HCl on prolonged heating, dissolves in conc. HNO₃ with separation of molybdic acid, is insoluble in H₂SO₄ or 10% KOH, dissolves in 20% Na₂CO₃ solution on heating.

A dehydration curve shows gradual loss of 3.5% H₂O up to 200°, and 4% H₂O from 200-250°. The DTA curve shows small endothermic effects at 220° and 310° and a sharp one at 710-780°. X-ray study (G.A.S.) of samples heated at 230-320° gave a weakened pattern of the original material. When heated at 750°, most of the mineral volatilized leaving a small yellow residue giving the x-ray pattern of U₃O₈.

The mineral occurs in fan-shaped, radiating-fibrous, or vermiform aggregates of plates with rectangular outlines of a few microns size. Streak violet-blue. G greater than 4.2. Hardness 75 kg/sq. mm, corresponding to about 3 on the Mohs scale. Indices of refraction could not be measured because of the small size and deep color; they exceed 1.780. Elongation positive. Extinction inclined to cleavage about 10°. Pleochroism distinct, dark blue-violet on Z, pale violet-blue with greenish tint on X and Y. In reflected light strongly anisotropic, rose on X, green on Y, blue on Z. Reflecting power averaged 10.2%.

The x-ray pattern (47 lines) has strongest lines 5.897 (10), 12.77 (9), 2.871 (8), 1.728 (8), 3.285 (7), 3.193 (7), 3.148 (7), 1.639 (7), 2.464 (6), 2.024 (6), 1.788 (6), 1.716 (6), 1.675 (6), 1.565 (6), 1.553 (6), 1.165 (6).

The name is for the chemical composition.

**Halurgite**


The mineral was found in rock salt with boracite, kaliborite, pinnoite and anhydrite at a depth of about 400 m in the Kungur saline rocks (Inder basin? M.F.), as fine-grained masses in interstices of halite. Rarely it occurs as platy crystals 0.01 to 0.25 mm.
Analysis by A. I. Sokolova of material containing halite and anhydrite gave SiO₂ 0.02, R₂O₅ 0.03, CaO 0.50, MgO 18.75, SO₃ 0.63, CO₂ 0.12, Cl 2.70, Na 1.70, B₂O₃ 57.88, H₂O 18.82, undetd residue 0.11, sum 101.26 per cent. Analysis of a purer sample (about 1 g) by M. M. Vil'ner gave B₂O₅ 61.90, MgO 17.80, H₂O 19.80, sum 99.50 per cent. Both correspond to 2MgO·4B₂O₃·5H₂O or Mg₂B₄O₉·5H₂O. DTA curves show endothermal breaks at 150-170, 260-280, 350-360, 560-590, and 733-780°. The mineral is slightly soluble in cold water and dissolves completely on boiling.

Halurgite is white, hardness 2.5-3, G. 2.19. Optically biaxial, (+), α 1.532, β 1.545, γ 1.572, all ± 0.002, 2V calc. 70°. Z is parallel to the long diagonal of the rhombic plates, X to the short diagonal. The mineral is probably orthorhombic or pseudoorthorhombic.

Unindexed x-ray powder data by I. V. Brazulis (51 lines) are given. The strongest lines are 3.87 (10), 3.29 (10), 4.81 (9), 2.163 (9), 1.269 (8), 2.643 (7), 3.57 (6).

The name is for the Institute of Halurgy, U.S.S.R., which has studied saline deposits for many years. The mineral had been mentioned previously without description (Am. Mineral., 47, 417, 1962).

Amakinite


The mineral was found as thin veins (up to 3 cm) and pockets in fissured kimberlite in a drill core at depth 300 m in the "Lucky Eastern" kimberlite pipe, presumably in the Yakut A.S.S.R. It is mostly present as irregular grains, rarely as well-formed rhombohedra up to cm in size.

Analysis by Yu. V. Shevchenko gave SiO₂ 0.43, TiO₂, Cr₂O₃, none, Al₂O₃ 0.32, Fe₂O₃ 31.58, FeO 30.40, MnO 3.63, MgO 10.10, CaO traces, H₂O 0.09, H₂O+ 23.04, CO₂ 0.32, sum 99.91%. However, tests of fresh material with potassium ferricyanide gave a heavy blue precipitate, but with potassium ferrocyanide gave a weak blue color, so the mineral is probably (Fe₀.₃Mg₀.₇Mn₀.₈)(OH)₂. The mineral alters rapidly in the air with formation of brown crusts of hydrous ferric oxide. Soluble in HCl. When heated in a closed tube, decrepitates, gives off much water, and is converted to dark brown to blackish magnetic particles.

Color pale green to yellow-green when fresh. Hardness 3½-4, G 2.98±0.01. Fracture irregular; a rough cleavage was observed in some grains. Weakly magnetic. Optically uniaxial, (+), ε 1.722, ω 1.707, both ± 0.002.

From Laue and oscillation photographs, amakinite is rhombohedral, space group P6₃/m, D₃₃, or C₃₅, most likely D₃₃ = R₃m, a 6.917±0.003, c 14.52±0.01 kX, Z = 12 or a₁₈ 6.276 kX, α 66°52', Z = 4. α is twice that of brucite, ε triple that of brucite. Indexed x-ray powder data are given (28 lines); the strongest are 2.30 (10)(2024), 1.728 (9)(2220), 1.530 (8)(1227), 5.49 (7)(0111), 1.551 (7)(0228), 1.386 (7)(0444), 1.265 (7)(4153), 1.182 (6)(0552).

The name is for the Amakine Expedition, which prospected the diamond deposits of Yakutia.

DISCUSSION.—Further x-ray study would be desirable. Some of the indexed strong lines seem questionable.

Gunningite


Gunningite, which occurs as sparse efflorescences on sphalerite, gives an x-ray powder pattern practically identical to that of synthetic ZnSO₄·H₂O. Insufficient material was available for quantitative analysis, but an x-ray fluorescence analysis (by G. R. Lachance)
of a gunningite precipitate gave ZnO 40.8, MnO 3.1, CdO 1.0, FeO 0.6, sum 45.5. This total agrees with the theoretical ZnO content of 45.35 in ZnSO₄·H₂O.

The color and streak are white and the luster is vitreous. The natural material is extremely fine-grained. The hardness is about 2½. G (of synthetic material) is 3.195 (meas.) and 3.321 (calc.). Easily soluble in cold water.

Probably biaxial (+) (by analogy with other members of the kieserite group), with α' 1.577, γ' 1.630, and maximum γ'-α' 0.06. Other optical constants and orientation unknown.

X-ray powder data for the mineral from two mines in the area and synthetic ZnSO₄·H₂O prepared by the authors are in excellent agreement with the indexed data for the synthetic compound published by Pistorius (Acta Cryst., 14, 534, 1961). The strongest lines (FeKα radiation) for material from the 200' level of the Calumet mine (source of the analyzed material) are: 3.40 (10), 4.77 (7), 3.05 (6), 2.51 (4), 1.673 (3), 2.19 (3) and 1.968 (3). Thirty-two more lines are given. The unit cell values for synthetic ZnSO₄·H₂O given by Pistorius are: a 7.566, b 7.586, c 6.954, β 115°56′. α:b:c = 0.9974:1:0.9167. The space group is C₂h₃ − A2/a. Z is 4.

The mineral occurs in the relatively dry portions of various mines in the area and on dumps. The original material is from the Comstock-Keno property. Examination of over 1000 specimens confirmed the presence of gunningite at seven other properties. The Keno Hill-Galena Hill district is in the Central Yukon, 35 miles northeast of Mayo and 220 miles due north of Whitehorse. Associated minerals are: sphalerite, "limonite," scorodite, gypsum, and other supergene minerals closely associated with the zinc sulfide. Other sulfates occurring in the area are azomolnokite, szmikite, zincian szmikite, zincian ilesite, and FeSO₄·4H₂O.

The mineral is named for Dr. H. C. Gunning, a former member of the Geological Survey of Canada.

DISCUSSION.—To be classed as the zinc member of the kieserite group.

J. A. MANDARINO

Unnamed (MgS)


MgS was found in the Pesyanoe stone meteorite (fell, 1933, a chondrite or aubrite) as a fairly abundant constituent (0.1 to 0.5%), closely associated with monoclinic pyroxene (elsewhere in the sample the pyroxene is orthorhombic). It is black, non-magnetic. The x-ray powder pattern is close to that of synthetic MgS (NaCl type) with strongest lines 2.59 (10), 1.83 (8), 1.160 (5), 1.088 (5), 1.49 (4). Semiquantitative spectrographic analysis showed that the ratios Fe/Mg, Ca/Mg, and Mn/Mg are all well under 0.05.

Unnamed


Associated with bonattite in a single specimen from the Bonaparte River area, Lillooet District, British Columbia, is a fine, powdery to vermiciform mineral. Analysis by G. R. Lachance and S. Courville on an unstated amount gave: CuO 20.3, FeO 17.2, ZnO 3.9, As₂O₅ 0.4, SO₄ 41.73, H₂O 11.20, insol. 2.95, total 97.68 (cations determined in triplicate by x-ray fluorescence). The insoluble residue was quartz. Other elements detected by spectrographic analysis are: minor Si; trace Mg, Mn, Ca and Ni; faint trace Ba, B, Ag and Al. The formula derived from the analysis (neglecting the small amount of arsenic) is (Cu₄Fe₄Zn₂)₂(SO₄)₂·(H₂O)₁·₉. This is considered as (Cu, Fe, Zn)SO₄·H₂O, with
Cu:Fe:Zn = 100:94:19. The mineral is thus a high copper-iron member of the kieserite group.

The mineral is salmon-colored, has a hardness of 3 to 3½, and is slowly soluble in cold water. G is 3.30 (suspension) and 3.281 (calc.).

Optically, it is probably biaxial (by analogy to other members of the kieserite group). Because of the fine-grained material, only approximate indices could be determined: α′(?) 1.610, γ′(?) 1.636.

The x-ray powder data (26 lines indexed plus four non-indexed) are very similar to those of other minerals in the kieserite group. Strongest lines (for FeKα radiation) are: 3.46 (10)(111), 4.72 (5)(111), 3.08 (5)(202), 4.85 (4)(011), and 2.51 Å (4220). Unit cell parameters calculated from the powder data are: a 7.480, b 7.424, c 7.053 Å, β = 114°40'; a:b:c = 1.008:1:0.9500. Z = 4. Space group A2/a.

The specimen also contains an olive-colored iron arsenate, quartz and bonnellite.

The mineral is not named "... because the Cu:Fe ratio is approximately 1:1 and the mineral is thus not close to the theoretical end member." It is suggested that, if a complete series from CuSO₄·H₂O to FeSO₄·H₂O is found in nature, the iron-rich members be referred to as bonnellite and the copper-rich members (of which the British Columbia material is part) be referred to a new name.

Discussion.—Jambor has sufficient justification for proposing a name for the copper-rich end of the series in question. Because of the AsO₄ content (presumably due to the olive-colored iron arsenate) reported in the analysis, it would appear that some of the FeO should be omitted from the calculations also. This would increase the Cu:Fe ratio.

On the other hand, if the precision of the CuO and FeO determinations (unstated) is poor, I would agree with Jambor. If the CuO% is lowered from 20.3 to 19.7 and the FeO% is raised from 17.2 to 17.8, the Cu:Fe ratio becomes 1:1.

J. A. Mandarino

Plumboan Microlite


The mineral was found as greenish yellow and orange crystalline masses and rare octahedra in an alluvial cassiterite deposit in the Kivu, Congo. It appears to have been derived from nearby spodumene-bearing pegmatites. Translucent in small fragments; lustre greasy; non-radioactive; insoluble in acids. G depends on Ta₂O₅/Nb₂O₅: G is near 6.5 for Ta₂O₅/Nb₂O₅ (by weight) = 4.5; ≥ 7.2 for Ta₂O₅/Nb₂O₅ = 10. H = 6. Reflectivity (white light) = 18.2%. Chemical analysis (corrected for 3% cassiterite and about 0.5% mica) corresponds to the formula (Pb₀.₇₉Na₀.₂₀Ca₀.₁₁Cs₀.₁₁Sr₀.₀₁Ba₀.₀₂Fe⁺⁺₦⁺⁺₀.₀₁O₄)(Ta₁.₄₁Nb₀.₅₉Ti₀.₉₁O₄)(H₂O)₀.₄₈. Compared to the general formula for the pyrochlore-microlite series, A₂B₂O₄(F, OH), the "plumboxicolite" shows a considerable deficit in the A group, attributed by the authors to "primary alteration." X-ray fluorescence analysis shows "rather important" variations in the ratio Ta₂O₅/Nb₂O₅ among different samples.

X-ray powder (diffractometer) patterns shows the strongest lines (in Å, I/I₀ for CuKα on Philips diffractometer): 1.867 (100), 1.593 (99), 2.642 (65), 1.526 (32), 3.01 (31), 0.8928 (29), 1.181 (27), 0.8801 (24), 1.078 (22). Space group Fd₃m, a = 10.56 ± 0.01 Å. G (calc.) = 6.65; G (meas.) = 6.6.

Discussion.—The authors are careful not to propose a formal name for this "plumboan member of the pyrochlore-microlite group" but use the term "plumboxicolite" in their text. The deficit of 44% of the A-group atoms from the pyrochlore-microlite formula, and the crystallographic similarity of "plumboxicolite" to synthetic Pb₁₄Nb₂O₄ and not
Pb₂Nb₂O₆, warrants caution in proposing new names in this group until further studies of its crystal chemistry are carried out.

P. Toulmin

REDEFINITION OF MINERAL
Cervantite


A thorough study of “antimony ocher,” the yellowish to white cryptocrystalline product commonly formed by the oxidation of stibnite and other antimony minerals, led Vitaliano and Mason (Am. Mineral., 37, 982–999, 1952; Mineral. Mag., 30, 100–112, 1953) to define stibiconite as an isometric mineral with the pyrochlore structure and the general formula \((\text{Sb}^{2+}, \text{Ca})_n\text{Sb}_{2-x} (\text{O}, \text{OH}, \text{H}_2\text{O})_{n-7}\), where \(0 < x < 1\) and \(y \geq 1\). They suggested the identity of cervantite and stibiconite and relegated cervantite to synonymy with stibiconite on the basis of priority and their belief that anhydrous Sb₂O₃ does not occur as a mineral.

Examination by G., P. and S. of antimony oxides from Brasa, near the Drina River, Zajčev-Stolice district, western Serbia, Yugoslavia, revealed a fine-grained yellow component with G somewhat more than 0.5, ns between 2.0 and 2.1, and chemical analysis not given) that indicated Sb₂O₃. Indexed x-ray powder diffraction values (19 lines) agree well with those for synthetic material. The strongest lines: \(3.06 (10), 2.91 (7), 1.854 (7), 1.635 (7)\); correspond closely to those for stibiotantalite with which cervantite is isotypic. Unit cell dimensions, calculated from powder diffraction data, are \(a = 4.79, b = 5.43, c = 11.73\) \(\text{Å}\); axial ratio \(a:b:c = 0.882:1:2.160\). G (calc.) 6.64; Z = 4. Extinctions and comparison with stibiotantalite indicate orthorhombic symmetry, space group \(Pbn2_1 - C2_2\). In this orientation, one direction of excellent cleavage \(\{001\}\) another, poorer one, \(\{100\}\). Rather than apply a new name to the mineral, G., P. and S. suggest the reinstatement of cervantite (Dana, 1850), although material from the type locality at Cervantes, Galicia, Spain, was unavailable for comparison.

G., P. and S. state that the pure mineral also occurs as pseudomorphs after stibnite at Felsőbanya, Hungary (= Baia Sprie, Roumania), and at Pocca, Bolivia.

Besides stibiconite, heating of artificial Sb₂O₃ · \(n\) H₂O produced an unidentified phase at 600°C and a cubic phase with a defect pyrochlore structure and a composition Sb₂O₃ at 700°C. On further heating, cervantite formed at 800°C. Cervantite was formed above 500°C also by heating Sb₂O₃.

Kurt Servos

NEW DATA
Planerite


Planerite was considered by Fischer to be a member of the turquoise-ceruleolactite series (Am. Mineral. 43, 1224, 1958). The present paper gives a new analysis of planerite from Ponikla and new x-ray powder data, optics and DTA on turquoise, planerite, and ceruleolactite. Although the x-ray data are very similar, the authors consider that there are differences—a few lines are present in the turquoise-ceruleolactite series that are absent in planerite and there are some differences in intensity. There are also some differences
in optical properties. Planerite gave a double endothermic break at 250° and 340°, turquoise a single broad one at 360°. The authors consider that planerite is a separate mineral.

**DISCUSSION.**—The evidence does not seem convincing. Further study is needed.

**Picropharmacolite**


Previously accepted optical properties for this mineral appear to have been measured on associated strontian barite. Measurement of newly analyzed material from the type locality gives $\alpha$ (calc.) 1.566, $\beta$ 1.571, $\gamma$ 1.578. $2V' = 50° \pm 2°$. $Z' = 8° \pm 1°$ on "a good cleavage." Analysis of material from Riechelsdorf and from Sainte-Marie-aux-Mines confirms the formula $(Ca, Mg)_2(AsO_3)_2 \cdot 6H_2O$, with $Ca: Mg = 4:5$ (Sainte-Marie-aux-Mines)—5.3 (Riechelsdorf). G 2.62 ± 0.02. Found as tiny, white to slightly pearly (sometimes transparent colorless) needles; as mammillary incrustations; and as concretions and radial-structured nodules up to 1 cm in diameter. Monoclinic, $c$ (parallel to fiber elongation) = 6.74 ± 0.02 Å; $a = 21$ Å $ca.$, $b = 13.5$ Å $ca.$, $\beta = 140° ca.$ (presumably from single-crystal photographs—P. T.). Unindexed x-ray powder pattern (CuKα) has 44 lines, $d_s$ ranging from 1.362 Å to 13.50 Å; strongest lines are: 13.50 (very strong); 3.18 (strong); 9.20, 3.78, 3.06 (moderately strong). A completely different pattern is given for material heated 3 to 4 hours at 50° C or higher; the presumably dehydrated material did not revert to picropharmacolite on soaking in water for a week. DTA shows sharp doubled endothermic peak between 100° C and 200° C.

**Villamaninite**


A new analysis on 9 mg of the type material gave Cu 24.0, Ni 11.8, Fe 5.3, Co 4.0, S 54.0, Se 0.06, sum 99.2%, confirming the original suggested formula $(Cu, Ni)S_2$. The analyzed material consisted of two phases, both having the pyrite structure. The major component, considered to be villamaninite, has $a = 5.693$ Å; the minor component, less than 25%, has $a = 5.62$ Å and may be a ferrian vaseite. Villamaninite is listed as a synonym of bravoite in Dana’s System of mineralogy, 7th Ed., vol. I, p. 290. The new data prove its validity as a distinct species.

**Kolovratite**


Kolovratite, which was very inadequately described, has been regarded as a doubtful species for many years. In 1955, Guillemin examined a specimen from a locality other than the type locality and found it to be identical with vsignieté (*Am. Mineral.*, 40, 942, 1955). Now, two specimens from the type locality have been restudied. The material consists of yellow, nonpleochroic, cryptocrystalline fibers. Mean index of refraction is 1.577 ± 0.005, birefringence is low, and extinction is parallel. Major amounts of V, Ni and Zn, and minor amounts of Cu, Fe and Mn were detected by x-ray fluorescence. A quantitative x-ray fluorescence analysis of $2\frac{1}{2}$ mg gave: ZnO 15%, NiO 12% and $V_2O_5$ 12%, all accurate to within 25% of the amount present. It is concluded that kolovratite is a hydrous zinc-nickel vanadate or possibly a silicovanadate. Strongest lines in the x-ray powder pattern are (for CuKα): 11.6 (s), 5.83 (s), and 3.88 (s).
NEW MINERAL NAMES

Bonattite


Bonattite, CuSO₄·3H₂O, was first described from Elba by Garavelli in 1957 (Am. Mineral. 43, 180, 1958). The mineral now has been found in a specimen from the Bonaparte River area, Lillooet District, British Columbia. The present study shows that certain of the weaker lines in the x-ray powder pattern reported by Garavelli are due to chalcanthite. The strongest lines given by Jambor are (for CuKα radiation): 4.42 (10), 5.11 (7), 3.65 (6), 3.25 (6), 3.01 (6) and 3.42 (5).

J. A. Mandarino

Nekoite


New analytical data indicate that the formula of nekoite is probably 3CaO·6SiO₂·8H₂O rather than CaO·2SiO₂·2H₂O.

J. A. Mandarino

DISCREDITED MINERALS

Zirlite (= Gibbsite)


X-ray and optical study of material from the type locality showed that zirlite (Pichler, 1871, see Dana’s System, 7th Ed., vol. I, p. 667) is gibbsite.

Royite (=alpha-Quartz)


X-ray powder data on type material shows that royite (Am. Mineral. 27, 465, 1942) is alpha-quartz and not a new variety of high-temperature quartz.

Erionite (=Offretite)


Offretite, described by Gonnard in 1890 (see Dana’s System, 6th Ed., p. 1043), was re-examined by Strunz in 1956 who stated that it was identical to phillipsite. (Am. Mineral. 42, 444, 1957). Since phillipsite is abundantly present with offretite at the type locality, Strunz’s identification was in some doubt. Hey and Fejer state that x-ray powder patterns of offretite are identical with those of erionite from Durfee, Oregon. Offretite has priority over erionite.

J. A. Mandarino