NEW MINERAL NAMES*

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Amicite*


Electron microprobe analysis (av. of 10) gave SiO₂ 36.38, Al₂O₃ 29.46 Fe₂O₃, MgO, BaO traces, CaO 0.22, SrO 0.03, Na₂O 8.22, K₂O 12.96, H₂O (loss of wt. on dehydration) 12.80, sum 100.06 wt%.

The crystal structure shows a sharp peak at 40–120°C and a broad one at 260°C. An infrared spectrum is given. The material should be monoclinic, pseudo-tetragonal, space group *I*₂, with *a* = 10.226, *b* = 10.422, *c* = 2.20; *Cu* -, -, -, 0.61, -; As 55.1, 49.5 (480); S 3.7, 46.7 (546); 55.4, 46.4 (589); 62.5, 47.3 (656nm). VN₁₀ = 1120 (1131–1266), VN₅₀ = 1077.9.

The ideal formula is thus RuAs₂. Precollection and Weissenberg X-ray studies show the mineral to be orthorhombic, *Pnnm* or *Pnmm*, with *a* = 5.41, *b* = 6.206 and *c* = 3.01Å, *Z* = 2; *D* calc. = 8.692g/cm³. Strongest lines of the X-ray diffraction pattern (28 lines given) obtained with a home-made Gandolfi-type camera are: 2.00(50)(121), 1.92(100)(211), 1.50(90)(002,311), 1.21(70)(411,150), 1.18(70)(132), 1.13(80)(430), 1.095(90)(341), 1.083(40)(322). The mineral is isomorphous with omeite (OsAs₂, *Am. Mineral.*, 64, 464, 1979) and is thought to have the marcasite structure. An intermediate member with a composition of (Ru,Os)As₂ has also been found in the same deposit.

The mineral is dull lead gray with metallic luster and grayish black streak. It is brittle, not soluble in 1:1 HNO₃ and HCl. Under reflected light in air the mineral is white with a pink tint, pinkish brown next to ruthenian osmiridium. The bireflection is noticeable, from pinkish grayish white to pinkish white. It is anisotropic from brownish yellow to grayish green, pale red to pale green. In oil, the bireflection is distinct and anisotropism pronounced, from reddish yellow, greenish yellow to purplish gray. Reflectances measured along the long side and the short side of a grain are: 55.1, 49.5 (480); 53.7, 46.7 (546); 55.4, 46.4 (589); 62.5, 47.3 (656nm). VN₁₀ = 1120 (1131–1266), VN₅₀ = 1077.9.

The mineral occurs as massive grains or granular aggregates (60–100µ) in a chromium deposit related to augite peridotite and dunite in Tibet, China. The host rock is an altered dunite. The main ore mineral is chromian spinel with minor pyrite, pyrhostite, marcasite, magnetite, chalcopyrite, molybdenite, galena, millerite, and violarite. Other platinum-group minerals present are ruthenarsenide, sperrylite, ruthenian iridosmine, irarsite, osarsite, osmiridium, ruthenian osmiridium, laurite, and a new mineral “ruarsite” (RuAsS). Anduoite and other arsenides and sulfarsenides, often distributed around the grains of rutheniridosmine, are closely associated with irarsite and show replacement of irarsite. The mineral has also been found in placers near the host rock body with iridosmine, osmiridium, osmium, a Fe–Ru mineral, and minor sperrylite, osarsite, irarsite, and iridosmine, and irarsite. The name is for the locality. Type specimens are deposited in the collections of the Chinese Geological Museum.

Discussions

The symmetry and cell parameters of anduoite are closely comparable with those reported for synthetic RuAs₂ (*Pnnm*, *a* = 5.41, *b* = 6.17, *c* = 2.96Å; Heyding and Calvert, *Can. J. Chem.*, 39, 955–957, 1961). The material used for single-crystal X-ray work was stated as a cleavage fragment, thus at least one set of cleavage is present in the mineral. The new mineral “ruarsite” and the Fe–Ru mineral “Ti Liao Kuang” should be fully documented, as the Fe-
Ru alloy has not previously been found in nature. The mineral ruthenian osmiridium reported in this paper may correspond to rutheniosmumidium as defined by Harris and Cabri (Can. Mineral., 12, 104–112, 1973). If so, a formal documentation of the mineral may prove worthwhile as so far only one grain of the alloy from the Heazlewood district, Tasmania has been shown to be rutheniosmumidium (Cabr and Harris, Can. Mineral., 13, 226–274, 1975). G.Y.C.

Drugmanite*


Drugmanite occurs as rare colorless transparent platy crystals up to 0.2 mm, aggregated in bunches in vugs of a mineralized and silicified limestone. Associated minerals are pyromorphite, angleite, cokrite, and phosphosiderite. Microprobe analysis gave: P 8.89, Al 0.85, Fe 6.19 Pb 59.76%, leading to Pb_{60}/Fe_{32}Al_{45}P_{4}O_{12}·3H_{2}O. The monoclinic crystals are [001] platelets bounded by (110). The space group is P2_{1}/a, cell dimensions determined by 4-circle diffractometer and refined from powder data are: a = 11.100(6), b = 7.976(4), c = 4.644(3)\AA, \beta = 90^\circ+18', Z = 2; \alpha = 5.55 \text{ g/cm}^3; \text{strong lines in the powder pattern are: 4.63(9)(001), 3.752(10)(120), 3.350(8)(310), 3.247(8)(211), 2.912(9)(121). The mean refractive index, n, calculated from reflectance measurements, is 1.87; 2V_{s} = 33\pm2'; \alpha = 90^\circ; 2\nu_{m} = 60^\circ(001) sections is 0.020(2). The name is for Dr. Julien Drugman, Belgian mineralogist (1875–1950). A.P.

Girdite*, oboyerite*, fairbankite*, winstanleyite*


These species were found in small amounts on the waste dumps of the Grand Central mine, Tombstone, associated with many other tellurites and tellurates, mostly as yet undescribed.

Girdite occurs as dense, chalky, spherules up to 3 mm in diameter, usually on fracture surfaces within sheared vein quartz gangue or cutting a massive wallrock composed mostly of adularia. The spherules are brittle, but the Mohs hardness is only 2. The average of two chemical analyses after deduction for insoluble residue gave: PbO 63.2 (65.4), TeO_{2} 16.5 (15.6), TeO_{3} 18.2 (17.2), H_{2}O 2.1 (1.8), reset to 100%, the figures in brackets being the ideal values corresponding to the formula H_{2}Pb_{9}(TeO_{3})_{3}(TeO_{6})_{2}·2H_{2}O. Girdite is readily soluble in 1:1 HNO_{3} and HCl. Dimensions of the monoclinic cell are: a = 6.241, b = 5.686, c = 8.719\AA, \beta = 91'4'; Z = 1; D meas. 5.52(2), calc. 5.49 g/cm^{3}. Principal lines in the powder pattern are: 3.11(7)(200), 3.054(10)(112), 2.994(7)(112), 2.842(8)(020), 2.102(7)(220), 1.765(8)(204,312). Reflective indices are a = 2.44, b = 2.47, \gamma = 2.48; 2V_{s} = 70'; dispersion strong r > v; \alpha = 22.4', \gamma = 22.6'; optics suggest triclinic symmetry but lattice dimensions could not be determined from X-ray data. The five strongest lines of the unindexed powder pattern are: 3.180(7), 3.040(10), 2.976(5), 2.927(5), 2.862(5). The name is from the first initial and last name of Oliver Boyer, one of two men who first staked the Grand Central lode claim, the type locality.

Fairbankite crystals are colorless and clear with an adamantine luster. They are brittle with hardness 2 and show no good cleavage. The specific gravity could not be determined due to paucity of material. The mineral is slowly soluble in cold dilute HNO_{3} and HCl. Chemical analysis on a 272 \mu g sample, after correction for 11 \mu g opal and 13% angleite, gave: PbO 58.3, TeO_{3} 41.7%, corresponding closely to PbTeO_{3}. Dimensions of the triclinic cell determined from rotation and Weissgenben patterns and refined from powder data are: a = 7.81, b = 7.11, c = 6.96\AA, \alpha = 117°12', \beta = 93°47', \gamma = 93°24'; if Z = 4, D calc. is 7.45 g/cm^{3}. The four strongest lines of the powder pattern are: 3.265(10)(211), 3.148(6)(110,200), 3.098(6)(112), 2.828(6)(120,211). The refractive indices are a = 2.29, \beta = 2.31, \gamma = 2.33, 2V_{m} (meas.) = 86°; dispersion is negligible. The name is for Nathaniel Kellogg Fairbank, an amateur mineralogist of Douglas, Arizona, who called attention to the mineral. A.P.

Winstanleyite occurs in fragments of a granodiorite dike that is severely altered and carries 20–50% pyrite by volume. The pyrite is leached and replaced by crystalline jarosite, chlorargyrite, and rodalquilarite. Winstanleyite occurs with jarosite in some voids, but only where the pyrite nucleated in biotite, hornblende, or sphe. Most winstanleyite crystals are simple cubes, frequently with concave faces. The Mohs hardness is 4 and the crystals are tough and brittle with no observable cleavage. Chemical analysis of two small samples contaminated by opal yielded: TiO_{2} 11.0, 10.3, FeO_{2} 3.15, 3.15, TeO_{2} 82.6, 83.9, sum 96.75, 97.35%; remainder is opal. The sum of Ti+Fe is close to 1/3 of that of Te. Ideal for Ti_{2}TeO_{3} is TiO_{2} 14.3, TeO_{2} 85.7%. The space group is Ia3 with a = 10.963\AA. The four strongest lines of the powder pattern, which resembles that of clifordite, are: 4.474(6)(211), 3.165(10)(222), 2.741(7)(400), 1.938(8)(440). Winstanleyite is yellow, inclined to tan or cream. The refractive index is 2.34(2); anomalous birefringence up to 0.11 was observed. The name is for B. J. Winstanley, amateur mineralogist of Douglas, Arizona, who called attention to the mineral. A.P.

Holtedahline*


Analysis by electron microprobe, using alunite as standard (H_{2}O and CO_{2} determined with Perkin-Elmer 240 elemental analyzer) gave P_{2}O_{5} 41.19, CO_{2} 2.06, MgO 50.01, MnO 0.06, Na_{2}O 0.22, F 0.34, H_{2}O+ 6.22 = 100.10, (O = F = 0.14) = 99.96%. This corresponds to Mg_{9}O_{11}P_{2}O_{7}CO_{2} or Mg_{9}Ca_{2}O_{11}P_{2}O_{7}·2H_{2}O or Mg_{9}O_{11}H_{2}PO_{4}(OH)(\text{H}_{2}O)_{0.126}. The infrared spectrum
shows the presence of OH\(^-\), CO\(_3\)^{2-}, and PO\(_4\)^{3-}. Holtedahlite is the Mg analogue of satterlyite (Am. Mineral., 64, 657, 1979) and is dimorphous with althausite.

Weissenberg and precession study show that holtedahlite is hexagonal, space group \(P3_21\), \(P3_1\), or \(P3_1\), \(a = 11.188\), \(c = 4.975\), \(Z = 6\); \(G\) calc. 2.936, meas. 2.94.


The mineral is colorless with vitreous luster. No cleavage, fracture uneven. H 4\(\frac{1}{2}\)-5. Optically uniaxial, neg., \(\omega = 1.599\), \(\epsilon = 1.597\).

The mineral occurs in serpentine-magnesite deposits, Modum, Norway, in irregular patches up to 0.5 x 1 cm, associated with apatite, althausite, serpentine, and talc, and cut by veins of szabdyleyte.

The name is for Olaf Holtedahl (1885-1975), professor of geology at the University of Oslo. Type material is at the Mineralogical–Geological Museum, Oslo. M.F.

**Imandrite**


Analysis by electron microprobe gave SiO\(_2\) 50.95, TiO\(_2\) 0.95, ZrO\(_2\) 1.43, Fe\(_2\)O\(_3\) 5.47, MgO 0.26, MnO 2.30, CaO 12.00, Na\(_2\)O 26.66, sum 100.01%, corresponding to Na\(_2\)Ca\(_3\)Fe\(_{12}\)(Si\(_6\)O\(_{18}\))\(_2\). Heating to 1000°C caused a weight loss of 0.3%, with no change in optics or X-ray pattern.

X-ray study showed imandrite to be orthorhombic, space group \(Pnma\) or \(Pn2\). \(a = 7.426\pm0.004\), \(b = 10.546\pm0.001\), \(c = 10.331\pm0.001\), \(Z = 1\); \(G\) calc. 2.92, meas. 2.93. The strongest X-ray lines (60 given) are 3.73(50)(200), 3.33(60)(031), 2.63 (100) (040), 1.853(70)(400), and 1.520(50)(325).

Color honey-yellow, luster vitreous. Optically biaxial, positive, \(\alpha = 1.605\), \(\beta = 1.606\), \(\gamma = 1.612\), 2\(\phi(+): 75°\).

The mineral occurs as a rarity in anhedral grains up to 1-3 mm in a drill core in pegmatitic alkalic rocks of the hanging wall of apatite-bearing strata of the Khibina deposits, near Lake Imandra, Kola Peninsula. It forms rims around eudialyte and along fractures in it. Associated minerals include adularia, alkali amphibole, aegirine, eudialyte, and others.

The name is for Lake Imandra. Type material is at the Mineralogical Museum, Acad. Sci. USSR, Moscow. M.F.

**Luijnjinite (= Uytenbogaardtite)**


Electron microprobe analyses of the mineral from Guangdong, Anhui, and Gansu provinces gave respectively: S 10.3, 11.3, 11.7; Cu 1.2, 2.7, 7.0; Ag 52.7, 67.7, 52.0; Sb + Bi, 2.3, 2.3, 2.3; Au 35.9, 18.6, 30.5; sums 100.5, 100.0, 99.0 wt%o. The analyses correspond to Cu:Ag:Au:Sb:Bi:S\(_2\) = 22.54Vo (589 nm), VHN\(_{\text{ro}}\) : 78-99 and 83.81. The synthetic crystals are acicular to prismatic with square cross-sections. The DTA curve shows endothermic peaks at 100°C and 170°C and an exothermic peak at 400°C.

**Maghagendorfite*, ferrowyllieite*, rosemaryite*, wyllieite redefined**


A nomenclature is proposed for the alluaudite and wyllieite complex series which is based on sequentially distributing the cations in the cell according to increasing polyhedral size, matching that size with increasing radii of the cations. For oxidized members, the largest site may be partly occupied or empty after all cations have been distributed.

For alluaudites, the cell formula is \(X(2)\alpha X(1)\alpha M(1)\alpha M(2)\alpha (PO\(_4\))\alpha_{12}\) and is written according to decreasing size of discrete sites. The \(X(1)\) and \(X(2)\) sites are appended as suffixes in the trivial nomenclature, that is specific name-X(1)X(2), for example, hagendorfite-NaNa.

For wyllieites, the cell formula is \(X(2)\alpha X(1)\alpha M(1)\alpha M(2)\alpha Al(PO\(_4\))\alpha_{12}\) to \(X(2)\alpha M(1)\alpha M(2)\alpha(AlPO\(_4\))\alpha_{12}\). Again the occupations of the \(X\) sites are appended to the specific name in the trivial nomenclature.

Three new names and one redefinition are explicitly reported to have been approved by the Commission on New Minerals and New Mineral Names (IMA).
**NEW MINERAL NAMES**

Maghagedendorfite. This new name is applied to a member of the alluaudite series. An analysis of material from the Dyke Lode, Custer, South Dakota, gave: Al₂O₃ 0.01, Fe₂O₃ 9.89, FeO 8.75, MnO 20.42, MgO 5.06, ZnO 0.23, CaO 0.86, Li₂O 0.06, Na₂O 6.12, K₂O 0.00, P₂O₅ 44.32, H₂O+ 3.06, insol. 1.03, sum 99.83%. No further information is given.

Ferroalluaudite. The mineral from the Victory mine, Custer County, South Dakota, originally named wyllieite and assigned the simplified formula Na₂Fe²⁺Al(PO₄)₂ (Moore and Ito, *Mineral. Rec.*, 4, 131–136, 1973), has been renamed ferroalluaudite. The name wyllieite is now applied to a mineral from the Old Mike mine, Custer, S. D., having a lower proportion of ferrous iron and higher proportions of ferric iron and manganese. In the following listing of the analytical results for ferroalluaudite and for wyllieite as redefined, the figures for the latter are given in brackets: Al₂O₃ 7.9 (6.43), Fe₂O₃ 0.33 (10.62), FeO 29.2 (14.73), MnO 4.3 (11.22), MgO 1.97 (1.71), ZnO 0.04 (0.41), CaO 2.5 (3.12), Li₂O 0.10 (0.004), Na₂O 8.0 (3.93), K₂O 0.5 (0.5), P₂O₅ 43.8 (45.41), SiO₂ 0.8 (---), H₂O+ 0.70 (0.92), insol. nil (1.22), sum 99.56% (99.82%).

**Rosemaryite.** This new name is applied to minerals of the wyllieite series in which Fe³⁺ is the end-member composition over the alluaudite series. An analysis of material from the Dyke Lode, Custer, S. D., for which the analytical results are: Al₂O₃ 6.90, Fe₂O₃ 14.58, FeO 11.64, MnO 13.62, MgO 0.47, ZnO 0.02, CaO 1.81, Li₂O 0.04, Na₂O 3.40, K₂O 0.00, P₂O₅ 43.84, SiO₂ ---, H₂O+ 1.73, insol. 1.78, sum 99.83%. No further data are given.

The recommended nomenclature for these minerals is summarized as follows:

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In addition the names ferrohagendorfite and ferrorosemaryite appear in the text but it is not specifically stated that they were approved by the IMA Commission. The name ferroalluaudite, which also appears, had been used by D. J. Fisher (Am. *Mineral.*, 42, 661, 1957) in the form “ferro-alluaudite”, but not formally proposed as a specific name. Referring to the actions of the IMA Commission, the authors state “Although the objections raised were not scant, the names are now approved.” A. P.

Nichromite, cochromite*  

These new spines occur in the assemblage trevorite-liebenbergite-bunessite [*Am. Mineral.*, 58, 733–735 (1973); 57, 1524–1527 (1972); 61, 502 (1976)] as grains (av. diameter 21 microns). Electron microprobe analyses gave: Cao 12.49, 16.9, 16.70, 17.45; ZnO n.d., 0.59, 0.45, 0.59; MgO 0.40, 0.76, 0.82, 0.95; FeO (calc) 6.45, 9.78, 10.08, 7.45; MnO 0.21, 0.82, 0.78, 0.84; Fe₂O₅ (calc) 12.06, 13.35, 1.03, 4.14; Al₂O₃ 7.46, 12.56, 9.77, 9.11; Cr₂O₃ 45.56, 49.49, 53.39, 50.38; TiO₂ 1.13, 1.34, 1.08, 1.26; SiO₂ 0.20, 0.13, 0.14, sum 101.83, 100.83, 100.63, 99.95%. Standards used were synthetic (Ni₁Fe₁)₇, Co₅, and Zn₅S₄, natural chromite, ilmenite, pyrope. The formulas for the nichrome and the third cochromite are resp., (Ni₁₆Co₂,₅Mg₀,₅Mn₀,₅Fe³⁺₀,₅)(Cr₀,₅Fe²⁺₀,₅Al₁,₅Ti₀,₅)O₃ and (Ni₄₀Co₁₀Zn₁₀Mg₄₀Fe³⁺₀,₅)(Cr₁,₄₁Al₁₀Fe₁₀₀Tl₀,₅)O₃, FeO and Fe₂O₅ being calculated to the spinel formula.

The minerals are dark, probably black, luster metallic, streak greenish-gray, fracture conchoidal. Isotropic in reflected light, reflectance of cochromite: 480 nm, 14.3; 546, 13.7; 589, 14.0; 656, 13.9%. Microhardness of cochromite 1.218 kg/mm² at 50 g load. Cubic, presumably Fe₂Os, a = 8.292 Å for a coballotanm with CoO 12.65, NiO 6.57%. X-ray power data are not given. The names are for the compositions.

The minerals were formed by replacement of chromite and are rimmed by trevorite. M. F.

**Tomichite*  

Tomichite, (V₇₋₁₂Fe₆₋₁₄Ti₃O₂₄(OH)₆), was found in a single hand specimen “reported to have originated at one of the gold mines at Kalgoorlie in Western Australia.” The specimen is mostly milky quartz with some vanadian muscovite and irregular concentrations of pyrite. Accessory minerals include rutile, calcite, and caverlite. Tomichite occurs as small euhedral tabular crystals up to 1.5 mm in longest dimension, in quartz. The average of 4 microprobe analyses gave: V₂O₅ 34.92, Fe₂O₃ 11.39, TiO₂ 37.42, As₂O₃ 11.31, Sb₂O₅ 1.22, SiO₂ 0.21, H₂O (calc.) 1.36, sum 97.83%, leading to the idealized formula above. Tomichite is monoclinic, d = 2.09, c = 11.59; Z = 2; G meas. 4.16, calc. 4.422. Principal lines of the powder pattern are: 3.092(4)(22), 2.836(9)(131), 2.662(10)(231), 1.572(5)(351). Cell dimensions, formulas, and powder patterns show that tomichite is closely related to derbylite (M.A. 76-3291). Tomichite is opaque, has a black streak, and is gray in reflected light with measured reflectivity at 589 nm 16.6%. The Vickers microhardness, using a 50 g load, is 800±136 kg/nm². No cleavage was observed. The name is for Mr. S. A. Tomich, consulting geologist in Perth, Western Australia, who presented the specimen to E. H. Nickel. A. P.

Vigezzite*  

Vigezzite occurs with other Nb-minerals such as pyrochlore, columbite and ferriact in an albitic rock of presumably pegmatitic origin near Orcesco, Valle Vigezzo, Prov. Novara, northern Italy. Electron microprobe analysis gave: CaO 12.0, CeO₂ 10.5, TiO₂ 10.5, Nb₂O₅ 31.0, Ta₂O₅ 36.0, sum 100.0% (this sum was reached accidentally) leading to the formula (Ca₀,₆₂Ce₀,₃₄(Nb₀,₄₂Ta₀,₅₄Ti₀,₃)O₄. The mineral is not completely homogenous; Nb/(Nb+Ta) varies from 0.35–0.62. Vigezzite forms flat prismatic crystals up to 2–3 mm long of an orange-yellow color. It is orthorhombic, space group *Pnnm*, with *a* = 7.559±0.01, *b* = 11.022±0.01, *c* = 5.360±0.004 Å, *Z* = 4; density not reported. The
six strongest lines of the X-ray powder pattern are: 4.821(9)(011), 3.784(8)(200), 3.036(10)(031), 2.974(10)(211), 1.7129(6)(242), 1.6018(7)(431). Vickers hardness VHN = 396 kg/mm², corresponding to Mohs hardness 4½-5; fracture is conchoidal; cleavage [100] distinct. Refractive indices are: α = 2.14, γ = 2.315, 2V(±) large, α = c, β = b, γ = a; though intensely yellow-colored, non-pleochroic. A.P.

Vitisite*

Microprobe analyses from Ilimaussaq, Mt. Karnasurt, Kola, and Mt. Sengishtchorr, Kola, gave P₂O₅ 36.27, 35.92, 36.50; SiO₂ 0.25, 0.23, 0.15; Na₂O 23.15, 23.00, 22.50; CaO 0.92, 1.22, 4.15; MnO 15.56, 9.25, 12.20; CeO₂ 19.95, 21.72, 16.50; Nd₂O₃ 4.39, 7.69, 4.33; Pr₂O₃ 1.24, 1.92, 1.13, sum 101.73, 100.95, 98.06%, corresponding to Na₂Ce₄(La)₂PO₄O₃. A microchemical analysis from Ilimaussaq agrees well with those given above. Vitisite is readily dissolved by cold dilute HCl or H₂SO₄.

X-ray study shows the mineral to be orthohombic, pseudo-hexagonal, space group Pnma or Pn2₁2₁2₁, a = 16.8, b = 13.96 Å (Lovozero), a = 15.34, b = 18.68, c = 14.06 Å (Ilimaussaq). The strongest lines (Ilimaussaq, 46 given) are 6.580(9)(012), 4.665(9)(040), 4.634(9)(120), 3.512(9)(140,132), 2.811(10)(044), 2.801(10)(124), 2.690(9)(160), 2.671(9)(200), 1.935(9)(244). There are indications of a superlattice with a : 58.75 Å. When heated, the mineral inverts to a hexagonal phase at 1050°C. The structure is probably similar to those of aphthitalite, merwinite, and breidigite.

Vitisite is pale pink (Lovozero), white to pale green (Ilimaussaq) (L), luster vitreous; G 3.60 (L), 3.70 (L); H 4.5 (L). Cleavages {100}, {010}, {001}. Optically, biaxial negative, refractive indices (L), α = 1.602, β = 1.650, γ = 1.654, 2V = 30°; α = 1.604, β = 1.6465, γ = 1.649, 2V = 28.5° (I); X = a, Y = b. Twinned after (160) and (120).

Vitisite occurs in the natrolite zone of an alkalic pegmatite at Mt. Karnasurt, associated with steenstrupine, belovite, neptunite, leucosphenite, and sažinite. At Ilimaussaq it occurs in a melanocristobalite-erlichmanite isomorphous series, from Pt-bearing chromite ore. The mineral occurs as small grains of a bright orange color in quartz veins cutting braunite. Microprobe analysis gave SiO₂ 30.0, MnO 47.6, CaO 0.7, FeO 0.1%, Mg, Al, Ti, Na absent. The X-ray pattern could not be identified; the strongest lines (22 given) are 3.253(100), 3.149(65), 3.028(65), 2.743(53), 2.670(58), 2.490(60). These were provisionally indexed on a monoclinic cell, space group C2/n, a = 6.671, b = 19.915, c = 7.581 Å, β = 95.6°. M.F.

Unnamed manganese silicate

The mineral occurs as small grains of a bright orange color in quartz veins cutting braunite. Microprobe analysis gave SiO₂ 30.0, MnO 47.6, CaO 0.7, FeO 0.1%, Mg, Al, Ti, Na absent. The X-ray pattern could not be identified; the strongest lines (22 given) are 3.253(100), 3.149(65), 3.028(65), 2.734(53), 2.670(58), 2.490(60). These were provisionally indexed on a monoclinic cell, space group C2/n, a = 6.671, b = 19.915, c = 7.581 Å, β = 95.6°. M.F.

Unnamed titanate

Inclusions in the Allende meteorite consist of anorthite, fassait, spinel, olivine, and intersitial elongate crystals of armalcolite and a new titanate. The crystals range from less than 10 microns to 100 microns, av. 20 microns. Opaque, white in reflected light, reflectivity about 19%, strongly anisotropic in shades of gray or white, "judged to have orthorhombic or trigonal symmetry."
NEW MINERAL NAMES

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NEW DATA

Delvauxite, boîckfîte, and foucherite


New chemical and physical data are given for 4 samples labeled delvauxite and boîckfîte. The set includes delvauxite from the type locality at Berneau, near Visé, Belgium and boîckfîte from the type localities at Leoben, Austria, and Nenáčovice, Czechoslovakia. All of these minerals are X-ray amorphous and optically isotropic. DTA and TGA curves and IR absorption spectra of the samples examined are nearly identical. Chemical analyses for the 4 samples correspond to the formula (Ca,Mg)(Fe3+,Al)3(GO4,SO4,CO3)2(OH)2nH2O, with n varying from 4 to 5.5 according to the new analyses, from 3 to 7.5 according to old analyses (1854 and 1867). The indices of refraction are variable for the samples from each locality, but all are within the range 1.610-1.650, most in the range 1.620-1.645. Delvauxite, boîckfîte, and foucherite are probably identical, but no nomenclatural suggestions can be made until the type material of delvauxite (not just material from the type locality at Berneau) is re-examined.

Discussion

If the identity of these “species” is established or accepted, the name delvauxite, given by Dumont in 1838, would have priority. A.P.

Violan = Mn-bearing omphacite and diopside


Violet clinopyroxenes (“violan”) from the manganese deposit of Praborna, near St. Marcel (Aosta Valley, Italy) occur in two different varieties: euhedral crystals grown in vugs and massive lamellar to fibrous aggregates. The euhedral crystals are predominantly P2/n omphacite with (Di+Hd+Jo)/(Jd+Ac+Mnjd) ratio close to unity. The lamellar aggregates consist mainly of disordered C2/c impure diopside with alternating patches of pure diopside and moderately omphacitic compositions. The deep violet color, occasionally shading to blue, is presumably due to the presence of both Mn3+ and Mn2+ ions. Detailed crystal structure determinations and EPR spectra investigations, however, did not clearly solve the question of the oxidation state of manganese because of the low amounts of manganese present in “violan.” Crystal structure determination and microprobe analyses nevertheless clearly showed that “violan” is not a mineral species. The name should therefore be reserved for the “ex-colore’” violet varieties of both diopside and omphacite. (Authors abstract)

Discussion

DISCREDITED MINERALS

Lavrovite = chromian diopside


Probe analysis of lavrovite from the type locality, Studyanka, USSR, gave SiO$_2$ 54.82, Al$_2$O$_3$ 0.83, V$_2$O$_5$ 0.01, Cr$_2$O$_3$ 2.26, FeO 5.92, MgO 14.17, FeO 5.92, total 98.86% Lavrovite is therefore a chromian diopside. M.F.

Mossite


The status of mossite as a trirutile has been questioned by several mineralogists. Part of the holotype specimen from near Moss, Norway, has been reexamined. X-ray diffraction shows that it belongs to the orthorhombic tantalite group. Microprobe analysis of two homogeneous grains shows that they are essentially tantalian ferrocolumbite with Fe:Mn 22:6 and Nb:Ta 24:21. A.P.