

NEW MINERAL NAMES*

MICHAEL FLEISCHER, GEORGE Y. CHAO AND J. A. MANDARINO

Acetamide*

B. I. SREBRODOL'SKII (1975) Acetamide, CH_3CONH_2 , a new mineral. *Zapiski Vses. Mineral. Obshch.* **104**, 326-328.

The mineral was found in waste piles of a coal shaft of the L'vov-Volynskii basin, USSR, in areas enriched in ammonia, shut off from the advent of oxygen and daylight. It is a seasonal mineral, appearing only in periods of dry weather.

The mineral consists of granular aggregates and crystals with hexagonal outline, attaining 5 mm in length, 2 mm in diameter. The prism face (11 $\bar{2}$ 0) is usually developed. Qualitative tests showed none of the common cations or anions except a positive reaction with Nessler's reagent. The DTA curve shows endothermic reactions at 70° (fusion) and 200° (decomposition). Easily soluble in water, taste very bitter. The infra-red absorption spectrum is given.

The X-ray powder pattern is close to that of synthetic acetamide (ASTM). The strongest lines are 5.7 **100** 11 $\bar{2}$ 0, 3.54 **91** 11 $\bar{2}$ 3, 3.32 **30** 20 $\bar{2}$ 3, 30 $\bar{3}$ 0, 2.86 **78** 21 $\bar{3}$ 3, 31 $\bar{4}$ 0, indexed on a hexagonal cell with a 11.44, c 13.50, both \pm 0.03Å.

Colorless to gray, from admixed carbonaceous matter. Sp gr 1.17, H 1-1.5, fracture fine conchoidal. Volatilizes in a few hours in sunshine. Uniaxial, negative, ω 1.495, ϵ 1.460, both \pm 0.002 (for synthetic ω 1.497, ϵ 1.455). M.F.

Balipholite, $\text{BaMg}_2\text{LiAl}_3(\text{Si}_2\text{O}_6)_2(\text{OH})_8$

X-RAY LABORATORY, WUHAN GEOLOGIC COLLEGE, GEOLOGY TEAM 654, HUNAN GEOLOGY BUREAU, AND GEOLOGY LABORATORY, HUNAN GEOLOGY BUREAU (1975) A new lithium-bearing mineral in China—balipholite, $\text{BaMg}_2\text{LiAl}_3(\text{Si}_2\text{O}_6)_2(\text{OH})_8$, *Scientia Geologica*, **1**, 100 (in Chinese with English title).

Chemical analysis gave: SiO_2 33.44, Al_2O_3 23.43, Fe_2O_3 0.32, FeO 0.58, MgO 9.68, BaO 19.07, Li_2O 2.00, K_2O 0.47, Na_2O 0.26, CaO 0.28, MnO 0.05, TiO_2 0.11, BeO 0.01, P_2O_5 0.03, $\text{H}_3\text{O}^+(\text{H}_2\text{O}^+?)$ 10.30, sum 100.03 percent, corresponding to $(\text{Ba}_{0.89}\text{K}_{0.07}\text{Na}_{0.06}\text{Ca}_{0.03})(\text{Mg}_{1.69}\text{Al}_{0.17}\text{Fe}_{0.06}^{2+}\text{Fe}_{0.03}^{3+})\text{Li}_{0.95}\text{Al}_3\text{O}_6(\text{Si}_{3.83}\text{Al}_{0.07}\text{O}_{11.96}(\text{OH})_{8.07}(\text{calculated by GYC}), \text{ or } \text{BaMg}_2\text{LiAl}_3(\text{Si}_2\text{O}_6)_2(\text{OH})_8$.

Single crystal X-ray work showed the mineral to be orthorhombic, $Ccca$, $a = 13.60$, $b = 20.24$, and $c = 5.16\text{Å}$. Only five strongest X-ray lines are given: 10.12 **100**, 4.05 **78**, 3.39 **91**, 2.605 **31**, 2.390 **28**.

The mineral occurs as needle-like and fibrous individuals (up to 1 mm) and radiating or parallel aggregates. Color pale yellowish white, luster silky, {010} cleavage present. Sp gr = 3.33-3.35.

Colorless under the microscope; α 1.5810, β 1.5958, γ 1.6008; $-2V = 68-72^\circ$. Optic plane = (001). $Y = c =$ fiber axis.

DTA showed endothermic peaks at 705°C (strong) and 970°C (weak). TGA showed a rapid weight loss at 600-700°C.

The mineral occurs with quartz and lithium mica in a miarolitic cavity in a quartz deposit in the Hsianghualing area, Linwu, Hunan, China. G.Y.C.

Bornemanite*

YU. P. MEN'SHIKOV, I. V. BUSSEN, E. A. GOIKO, N. I. ZABAVNIKOVA, A. N. MER'KOV, AND A. P. KHOMYAKOV (1975) Bornemanite, a new silicophosphate of sodium, titanium, niobium, and barium. *Zapiski Vses. Mineral. Obshch.* **104**, 322-326.

Analyses by N.I.Z. and by A.V. Bykova gave, respectively, SiO_2 23.96, 25.00; P_2O_5 6.57, 6.80; Nb_2O_5 9.22, 8.86; Ta_2O_5 -, 0.66; TiO_2 18.72, 18.00; ZrO_2 0.20, 0.25; Al_2O_3 0.55, none; Fe_2O_3 -, 0.30; FeO 0.17, -; MgO 0.04, 0.06; MnO 2.97, 2.48; BaO 12.05, 13.00; SrO 0.70, 0.68; CaO 0.33, 0.77; Na_2O 19.62, 20.00; K_2O 0.65, 0.67; Li_2O 0.10, -; Rb_2O 0.0025, -; Cs_2O 0.002, -; H_2O^+ 2.44, -; H_2O^- 0.30, -; H_2O (total), -, 0.70; F 1.52, 1.64; sum 100.11, 99.88, minus ($\text{O}=\text{F}_2$) 0.64, 0.69 = 99.47, 99.18%. When the mineral was boiled for 2 hours in distilled water, sodium phosphate was leached from it. The mineral is decomposed by cold 5% HCl or HNO_3 , depositing silica gel. The DTA curve shows a sharp endothermic break at 720° (melting). A sample heated to 1000° C lost 0.7%. Readily fusible to a brown transparent glass. The infra-red spectrum shows bands at 1070-870 cm^{-1} (valence oscillation of SiO_4 and PO_4) and 595-440 cm^{-1} (Si-O and P-O bands).

The analyses give a formula close to $\text{BaNa}_4\text{Ti}_2\text{NbSi}_4\text{O}_{17}(\text{F}, \text{OH}) \cdot \text{INa}_3\text{PO}_4$; the formula cannot be given definitely until the structure has been solved.

X-ray study shows the mineral to be orthorhombic, space group $D_{2h}^{28}-Ibmm$ or C_{2v}^2-Ibm2 , a 5.48 \pm .05, b 7.10 \pm .05, c 48.2 \pm 0.1, $Z = 4$, G calc. 3.49, measured 3.47-3.50. X-ray powder data (unfiltered $\text{FeK}\alpha$) are given (35 lines); the strongest lines are 24.1 **10 002**, 8.04 **10 006**, 3.44 **10 0.0.14**, 1.0.11, 3.02 **10 0.0.16**, 2.682 **8 0.0.18**, 1.1.14, 128, 204, 1.781 **7 232,233,040**, 1.610 **8 0.0.30**, 149, 324, 323.

Color pale yellow, luster pearly, translucent to transparent. Cleavage {001} very perfect. Microhardness 257-283 kg/sq mm = 3 1/2-4 Mohs. Platy aggregates are brittle, fibers flexible. Optically biaxial, positive, α 1.682, 1.683; β 1.695, 1.687; λ 1.720, 1.718 (analyzed samples); $2V$ 66° (calc), 40° measured., $Z = a$, $Y = b$, $X = c$, weakly pleochroic, X and Y colorless, Z brownish.

The mineral occurs as yellow, platy aggregates up to 10 \times 8 \times 0.2 mm, of very fine leaflets (0.2 \times 0.1 \times 0.05 mm) along cleavages and on the surface of crystals of lomonosovite and in natrolite, in the natrolite zone of the "Jubilee" pegmatitic alkaline rocks of the Lovozero massif, Kola Peninsula, USSR. The name is for Irina D. Borneman-Starynkevich, Russian mineralogist. Type material is preserved in the Mineralogical Museum, Acad. Sci., USSR, Moscow, and the museum of the Kola Branch Acad. Sci. USSR, Apatite, M.F.

Isoferroplatinum*

LOUIS J. CABRI AND CLIVE E. FEATHER (1975) Platinum-iron alloys: a nomenclature based on a study of natural and synthetic alloys. *Can. Mineral.* **13**, 117-126.

This new species is part of the nomenclature for the Pt-Fe alloys. The composition of 28 grains were determined by electron micro-

probe analysis. The ranges of the various elements are: Pt 80.0 to 91.3, Ir 0.0 to 3.4, Os 0.0 to 2.1, Ru 0.0 to 4.9, Rh 0.0 to 5.7, Fe 6.2 to 11.5, Cu 0.0 to 2.2, Ni 0.0 to 0.5, Sb 0.0 to 0.60, total 95.8 to 101.40 wt %. These data gave a general formula of (Pt, Pd, Ir, Os, Ru, Rh)₃(Fe, Cu, Ni, Sb).

The mineral is cubic (primitive). The strongest lines in the Gandolfi pattern (in Å for Co/Fe radiation) are: 2.228 **9 111**, 1.932 **7 200**, 1.365 **7 220**, 1.163 **10 311**, 1.115 **6 222**, and 0.9667 **6b 400**. These data are for a grain which has the following composition: Pt_{2.93}(Fe_{1.01}Sb_{0.03}Cu_{0.02}Ni_{0.01}).

Isoferroplatinum occurs in the Tulameen River, British Columbia, and at various gold mines in the Transvaal and Orange Free State, Republic of South Africa.

The name is from the structure and composition. The disposition of type material is not given. **J.A.M.**

Kuranakhite

S. V. YABLOKOVA, L. S. DUBAKINA, A. L. DMITRIK, AND G. V. SOKOLOVA (1975) Kuranakhite, a new supergene tellurium mineral. *Zapiski Vses. Mineral. Obshch.* **104**, 310-313.

Electron microprobe analyses, using Mn, PbS, and NiTe as standards, gave PbO 45.0, 45.6, 45.6; MnO₂ 15.5, 15.0, 15.7; TeO₂ 37.9, 38.8, 37.9; sum 98.4, 99.4, 99.2%, corresponding to PbO₂ 0.8MnO₂·1.0 TeO₃, or PbMn⁴⁺ Te⁶⁺O₁₂. The valence states are taken as the highest because the mineral liberates chlorine when reacted with concentrated HCl. The mineral does not react with standard etch reagents KOH, FeCl₃, HgCl₂, dilute HCl, dilute HNO₃, but dissolves when heated with concentrated HCl or aqua regia.

X-ray study showed the mineral to be orthorhombic pseudohexagonal, *a* 5.1, *b* 8.9, *c* 5.3 Å (all ± 0.1 Å). The strongest X-ray lines (11 given) are 3.40 **10 111**, 6.21, 2.558 **6 200**, 1.30, 2.050 **5 041**, 2.21, 1.851 **5 202,132**, 1.596 **4 241,311**.

Color brownish to nearly black, streak brown, luster vitreous. In polished section light gray with a bluish tint. Distinctly anisotropic, with color effects from rich blue to brown. No internal reflections. Bireflectance weak in air; distinct in oil, with rose tints. Reflectance low: 460 nm, 24.4; 540, 24.0; 580, 24.5; 660, 23.0; 800, 21.6%; $\alpha = 1.952 \pm .002$, $\gamma = 2.002 \pm .007$, (with high-index P- and As-liquids in white light). Hardness curves show 2 maxima at 228 and 441 kg/sq mm, Mohs 4-5. Brittle.

The mineral occurs in quartz-limonite and quartz-hematite ores of the oxidation zone of the Kuranakh gold deposit, S. Yakutia, associated with supergene Au, electrum, and hydrous Fe oxides. The maximum grain size is 0.012 mm, most grains are 0.002-0.004 mm.

The name is for the locality. Type material is in the Mineralogical Museum, Acad. Sci. USSR, Moscow. **M.F.**

Mroseite*

J. A. MANDARINO, R. S. MITCHELL, AND R. G. V. HANCOCK (1975) Mroseite, a calcium tellurite-carbonate from Moctezuma, Sonora, Mexico. *Can. Mineral.* **13**, 286-288.

Mroseite is colorless to white, has an adamantine luster and white streak, and has a hardness of about 4. It occurs in masses and in crude radiating structures. Some fragments show very poorly developed {100} faces and the crude crystals are elongated parallel to [001]. The mineral effervesces in cold dilute HCl. The density is 4.35 g/cm³ (meas.) and 4.23 g/cm³ (calc.). Mroseite is biaxial

negative, $\alpha = 1.79$, $\beta = 1.85$, $\gamma = 1.89$, $2V = 74^\circ$, dispersion $r \ll v$, $\alpha = a$, $\beta = c$, $\gamma = b$. It occurs with spiroffite and is intimately associated with quartz. Mroseite occurs in the Moctezuma area of Sonora, Mexico.

Chemical analysis (CO₂ by TGA; CaO and TeO₂ by neutron activation) gave: CaO 22.4, CO₂ 16.8, TeO₂ 61.3, total 100.5 wt %. The formula derived from these data is Ca_{1.03} C_{0.99} O_{3.00} Te_{0.99} O_{2.00} or CaCO₃TeO₂.

Mroseite is orthorhombic, *Pbca*, *a* = 6.93, *b* = 11.16, *c* = 10.54 Å, *a*:*b*:*c* = 0.621:1:0.944, *Z* = 8. The strongest lines in the X-ray powder pattern (in Å, for CuK α radiation) are: 5.14 **9 111**, 4.20 **8 102**, 3.35 **7 122**, 3.14 **10 131**, 3.02 **7 113**, 2.39 **7 133,024**, and 1.97 **8 025,152**.

The name is for Miss Mary E. Mrose, noted mineralogist of the United States Geological Survey. The type specimen is preserved at the Royal Ontario Museum, Toronto. **J.A.M.**

Natisite

YU. P. MEN'SHIKOV, YA. A. PAKHOMOVSKII, E. A. GOIKO, I. V. BUSSEN, AND A. N. MER'KOV (1975) A natural tetragonal titanosilicate of sodium, natisite. *Zapiski Vses. Mineralog. Obshch.* **104**, 314-317.

Microprobe analyses on 4 grains gave SiO₂ 29.90, 30.25, 29.14, 29.80; TiO₂ 39.03, 38.78, 38.94, 38.98; Nb₂O₅ 0.46, 0.84, 0.76, 0.81; Ta₂O₅ 0.15, 0.09, 0.13, 0.11; FeO 0.59, 0.53, 0.41, 0.54; MnO 0.32, 0.30, 0.36, 0.25; Na₂O 29.85, 30.12, 30.93, 30.37, sum 100.30, 100.91, 100.67, 100.91%. The average corresponds to Na_{1.99}(Ti_{0.99}Mn_{0.01}Fe_{0.01}Nb_{0.01}Si_{1.01}O₈, or Na₂TiOSiO₄. The mineral is insoluble in cold dilute acids. Before the blowpipe it fuses readily to a white porcelain-like bead. The infrared spectrum confirms the absence of water.

X-ray data (Laue and oscillation) show the mineral to be tetragonal, space group *D*_{4h}⁻*P4/nmm*, *a* 6.50, *c* 5.07 (both ± 0.01) Å, *Z* = 2, *Sp gr* 3.15 calc. The strongest lines (32 given) (Fe radiation) are 5.05 **8 001**, 2.709 **10 021,201**, 2.349 **6 012,102**, 1.689 **7 003, 321, 231**, 1.100 **6 243,423**; the data agree well with those published in 1964 for a synthetic phase of this composition.

Color yellow-green to greenish-gray, luster vitreous to adamantine. Cleavage {001} very perfect, {100} less perfect, H 3-4. Optically uniaxial, negative, ω 1.756, ϵ 1.680 (both ± 0.002).

The mineral occurs in natrolite-ussingite veins that cut alkalic rocks of the Lovozero massif on Karnasurt Mt., Kola Peninsula. It forms single grains and rosette-like intergrowths, associated with chkalovite, aegirine, and vuonnemite.

The name is for the composition. Type material is at the Mineralogical Museum, Acad. Sci. USSR, Moscow, and its Kola branch, Apatite. **M.F.**

Natrosilite*

I. M. TIMOSHENKOV, YU. P. MEN'SHIKOV, L. F. GANNIBAL, AND I. V. BUSSEN (1975) A natural sodium silicate, natrosilite, from the Lovozero massif. *Zapiski Vses. Mineral. Obshch.* **104**, 317-321.

Chemical analysis by L.F.G. on 500 mg and microprobe analysis by L. I. Polezhaeva gave SiO₂ 66.03, 66.32; Na₂O 33.96, 33.74; K₂O 0.01, 0.01, sum 100.00, 100.06%, corresponding to Na₂Si₂O₆. Organic matter (~0.4%) and low-temperature water (~0.6%) were present; spectrographic analysis showed Al, Mn, Mg, Fe, Ti, Cu,

Ca, Ba, Zr. The mineral is decomposed by water and by weak acids. It melts at $850 \pm 20^\circ$ to a transparent yellowish glass with $n = 1.505$. The infra-red spectrum confirms the absence of H_2O and hydroxyl.

X-ray study shows the mineral to be monoclinic, space group $C_{2h}^2 - P2_1/a_1$; a 12.30 ± 0.02 , b 4.88 ± 0.01 , c 8.27 ± 0.03 Å, β $104^\circ 14'$, $Z = 4$, Sp gr calc. 2.51, measured 2.48. The unit cell is slightly larger than that of Donnay and Donnay for synthetic material (*Am. Mineral.* **38**, 163–171 (1953)). The strongest X-ray lines (Fe radiation) (28 lines given) are 6.06 **10 200**, 4.17 **6 011**, 3.97 **8 300**, 3.64 **7 211**, 2.98 **9 400**, **202**, **212**, 2.435 **8 020**.

The mineral is colorless, cleavage {100} micaceous, {001} distinct, {011} poor. Twins on {100}, noted on synthetic material by Donnay and Donnay, were not noted. Optically biaxial, negative, with undulatory extinction and anomalous blue interference colors, α 1.507, β 1.517, γ 1.521, $2V$ (484 nm) $63-64^\circ$, $2V$ (645 nm) $49-50^\circ$, dispersion $r < v$, $Y_{484} \wedge c = -12^\circ$, $Y_{645} \wedge c = 1-2^\circ$.

The mineral occurs as pseudohexagonal thick-tabular crystals up to $6 \times 6 \times 4$ cm in size, intergrown with microcline, analcime, natrolite, lomonosovite, ussingite, and vuonnemite in pegmatitic segregations of nepheline syenites, Mt. Karnasurt, Kola Peninsula.

The name is for the composition. Type material is in the museums of the Leningrad Mining Institute, the Academy of Sciences, USSR, Moscow, and its Kola Branch, Apatite. M.F.

Pinchite*

B. D. STURMAN AND J. A. MANDARINO (1974). Pinchite, a new mercury oxychloride from Terlingua, Texas. *Can. Mineral.* **12**, 417–418.

The mineral occurs as euhedral crystals up to one mm in size. Crystals are orthorhombic, *Ibam*, a 11.54, b 6.08, c 11.64 Å. The following forms are present: {001}, {010}, {100}, and {012}. The mineral is black to dark brown, has a reddish brown streak, is quite soft, and shows no cleavage. Thin fragments are transparent and strongly pleochroic from red to almost black. The optical constants could not be measured, but the refractive indices are higher than 2.00 and the birefringence is very strong. Strongest lines in the X-ray powder pattern (in Å for $CuK\alpha$ radiation) are: 3.94 **60 211**, 3.256 **35 310**, 2.919 **50 004**, 2.837 **100 213**, **312**, 2.695 **80 022**, and 2.619 **20 314**. The calculated density ($Z = 4$) is 9.25 g/cm^3 and the measured density is 9.5 g/cm^3 .

Neutron activation analysis gave: HgO 94.5, Cl 6.3, Br 0.2, total 101.0, less O = Cl + Br 1.4, total 99.6 wt %. This gives a formula of $Hg_{20.00}O_{15.99}Cl_{6.13}Br_{0.11}$ or, ideally, $Hg_5O_4Cl_2$.

The name is for Mr. W. W. Pinch, private collector of Rochester, New York, who provided the material. Type material is preserved in the Royal Ontario Museum, Toronto; the private collection of Mr. Pinch; and the Smithsonian Institution, Washington. J.A.M.

Rhodium*

LOUIS J. CABRI AND J. H. GILLES LAFLAMME (1974) Rhodium, platinum, and gold alloys from the Stillwater Complex. *Can. Mineral.* **12**, 399–403.

A single subhedral grain (175×195 microns) has been identified as platinum rhodium. Under reflected light (in air) the mineral is bright white and isotropic. Reflectance values (averages of three measurements) are: 75.2 (470 nm), 72.6 (546 nm), 73.3 (589 nm),

and 75.7 (650 nm). Micro-indentation measurements gave $VHN_{30} = 165$ (136–194 for eight indentations). Electron microprobe analysis gave Pt 59.6, Rh 41.7, total 101.3 wt %. The formula derived from these data is $Rh_{.57}Pt_{.43}$. The mineral is cubic with a cell edge of 3.856 Å. The strongest lines in the X-ray powder pattern (in Å for $CuK\alpha$ radiation) are: 2.227 **6 111**, 1.362 **5 022**, 1.162 **5 113**, 0.8847 **7 133**, 0.8623 **8 024**, and 0.7874 **10 224**.

The type grain is preserved in the Royal Ontario Museum, Toronto. J.A.M.

Rustenburgite* and Atokite*

P. MIHÁLIK, S. A. HIEMSTRA, AND J. P. R. DE VILLIERS (1975) Rustenburgite and atokite, two new platinum-group minerals from the Merensky Reef, Bushveld Igneous Complex. *Can. Mineral.* **13**, 146–150.

Two small (~100 microns in diameter) grains from platinum mineral concentrates have been found to be new minerals. One is rustenburgite and the other is atokite. Because both minerals have such similar properties, they are discussed together in this abstract.

Under reflected light, both minerals are light cream in color with high reflectance. Although no bireflection was observed, it was detected in both minerals by photometric measurements. Slight anisotropism is present and is slightly more distinct in oil. Minimum and maximum reflectance values for rustenburgite are: 55.6 and 56.8 (480 nm), 59.3 and 60.3 (546 nm), 59.9 and 60.9 (589 nm), and 61.2 and 62.1 (656 nm). For atokite the values are: 57.4 and 60.8 (480 nm), 59.2 and 65.1 (546 nm), 60.4 and 63.5 (589 nm), and 62.2 and 65.8 (656 nm). The microhardness (VHN_{25}) is 365 for rustenburgite and 357 for atokite.

Gandolfi X-ray diffraction data were essentially the same for two minerals. The strongest lines in the two patterns are: 2.295 **100 111**, 1.408 **90 220**, 1.202 **100 311**, 0.9153 **90 331**, and 0.8145 **90 422**, all in Å for $CuK\alpha$ radiation. The minerals are cubic, have a space group of $Fm\bar{3}m$, and a unit cell edge of 3.991 Å. The space group of synthetic rustenburgite and synthetic atokite is $Pm\bar{3}m$ and it is considered possible that the natural materials are disordered due to strain induced during the lengthy physical beneficiation procedures used to obtain the concentrate.

Electron microprobe analysis of rustenburgite gave: Pt 53.44, Pd 28.28, Sn 17.70, total 99.42 wt %. The formula derived from these data is $Pt_{0.398}Pd_{0.386}Sn_{0.217}$ or, ideally, $(Pt,Pd)_3Sn$. (Note by J.A.M.—The subscripts are given as the “atomic proportions” in Table 3 of the paper. These are not the usual “atomic proportions” but are the atomic proportions divided by the sum of the atomic proportions. The formula is, thus, $(Pt_{1.59}Pd_{1.64}Sn_{0.87})$. The mineral is palladian rustenburgite.

Electron microprobe analyses of atokite gave: Pt 43.74, Pd 38.35, Sn 18.65, total 100.74 wt %. The derived formula is $Pd_{0.496}Pt_{0.302}Sn_{0.212}$ or ideally, $(Pd,Pt)_3Sn$. (The same note about “atomic proportions” applies here. The formula derived from the data is $(Pd_{1.94}Pt_{1.21}Sn_{0.85})$. The mineral is platinumian atokite.

Zvyagintsevite, $(Pd,Pt)_3(Pb,Sn)$, is the lead analog of atokite. The unnamed minerals of Razin and Bykov (1971) (see abstract in *Am. Mineral.* **57**, 595–597) are members of the rustenburgite-atokite series. The Pt-rich mineral is a palladian rustenburgite and the Pd-rich mineral is an atokite.

The names are for the Rustenburg Platinum Mine and the Atokite Platinum Mine, both in the Bushveld Igneous Complex, Republic of South Africa. No mention is made of the depository for the type specimens. J.A.M.

Yofortierite*

GUY PERRAULT, YVES HARVEY ET RAYMOND PERTSOWSKY (1975)
La yofortierite, un nouveau silicate hydraté de manganèse de St-Hilaire, P.Q. *Can. Mineral.* **13**, 68-74.

The mineral occurs as pink to violet radiating fibers in pegmatite veins in the nepheline syenite at Mont St. Hilaire, Quebec. The fibers vary from a few millimeters in length up to 2 to 3 cm. The hardness is 2½ and the density is 2.18 g/cm³. Because the fibers are so fine (about 1 micron in diameter) complete optical data could not be determined; $\alpha = 1.530$, $\gamma = 1.559$, $X \wedge$ fiber axis = 8°, pleochroic with maximum absorption perpendicular to the fiber axis. Associated minerals are: analcime, serandite, eudialyte, poly-lithionite, aegirine, microcline, and albite.

The X-ray powder data are very similar to those of palygorskite. The strongest peaks in the diffractometer trace (in Å for CuK α radiation) are: 10.5 **100**, 3.302 **90**, 2.621 **30**, 2.510 **20**, and 4.14 **18**.

Chemical analysis gave: SiO₂ 48.44, Al₂O₃ 1.49, TiO₂ 0.09, MnO 28.41, MgO 2.35, CaO 0.90, ZnO 1.10, Cr₂O₃ 0.007, K₂O 0.05, H₂O(total) 17.22, total 100.057 wt. %. Based on 8 silicon atoms, the following formula was calculated from the chemical data: (Mn_{3.97} Mg_{5.58} Al_{2.29} Ca_{0.16} Zn_{0.13} K_{0.01} Ti_{0.01})Si_{8.00} O_{20.31}(OH)_{1.99}(OH₂)_{3.93} · 5.13 H₂O. Ideally, this is Mn₃ Si₈ O₂₀ (OH)₂ (OH₂)₄ · 4-5 H₂O. In the calculation of the formula, the water was distributed according to data obtained from the TGA. Approximately 8.7% H₂O was lost between 25° and 225°C and was considered as zeolitic water. Between 225° and 725°C, about 7.5% H₂O was lost and was considered as OH₂. The loss between 725° and 1000° C was about 1.9% H₂O and this was considered as OH. The range given for H₂O (4-5) reflects the variable nature of the zeolitic water content. Yofortierite is the manganese analog of palygorskite.

The name is for Dr. Y. O. Fortier, Director of the Geological Survey of Canada from 1964 to 1972. Type material is preserved at: Ecole Polytechnique, Montreal; Royal Ontario Museum, Toronto; National Mineral Collection, Ottawa; British Museum (N.H.), London; Smithsonian Institution, Washington; Ecole des Mines, Paris; Université de Paris, Paris; and Musée d'Histoire Naturelle, Paris. **J.A.M.**

Nomenclature of Pt-Fe alloys*

LOUIS J. CABRI AND CLIVE E. FEATHER (1975) Platinum-iron alloys: a nomenclature based on a study of natural and synthetic alloys. *Can. Mineral.* **13**, 117-126.

A nomenclature for the Pt-Fe alloys is based on detailed studies of the synthetic Pt-Fe system and of natural material from the following localities: Tulameen and Similkameen rivers, British Columbia; Witwatersrand gold mines in the Transvaal and the Orange Free State; the Stillwater Complex, Montana; and the Mooihoek platinum deposit, Transvaal. The proposed nomenclature is as follows:

- native platinum is defined as a face-centered cubic alloy with Pt from 80 to 100 atomic %,
- ferroan platinum is defined as a variety of native platinum with a face-centered cubic structure and Fe from 20 to 50 atomic %,
- isoferroplatinum (a new species) is defined as having a primitive cubic structure and a composition usually near Pt₃Fe but with no definite compositional limits,
- tetraferroplatinum is redefined as a distinct species having tetragonal symmetry and a composition near PtFe but with compositional limits not known exactly.

If minor or trace amounts of Ir, Pd, Rh, Os, and Ru are present, their atomic percentages are included with that of Pt. Likewise, Cu, Ni, etc. are included with Fe.

In addition, the following terms are considered invalid: "polyxene," "ferroplatinum," "tetragonal ferroplatinum," and "iron-bearing platinum."

In order to apply the nomenclature, both compositional and structural data must be known. If only compositional data are available, the terms "platinum-iron alloy" or "Pt-Fe alloy" should be used. **J.A.M.**

Trioctahedral chlorite nomenclature

PETER BAYLISS (1975) Nomenclature of the trioctahedral chlorites. *Can. Mineral.* **13**, 178-180.

It is proposed that the many names assigned to various trioctahedral chlorites be reduced to the following four names which represent the ideal end-member compositions noted:

clinochlore	(Mg ₂ Al)(Si ₃ Al)O ₁₀ (OH) ₈
chamosite	(Fe ²⁺ Al)(Si ₃ Al)O ₁₀ (OH) ₈
nimite	(Ni ₂ Al)(Si ₃ Al)O ₁₀ (OH) ₈
pennantite	(Mn,Al) ₆ (Si,Al) ₄ O ₁₀ (OH) ₈

It is suggested that minerals with compositions intermediate between any of these be given a "chemical element adjective" to modify one of these species names. For example, brunsvigite is magnesian chamosite, corundophilite is iron aluminian clinochlore, delessite is iron clinochlore, diabantite is magnesian silico-nian chamosite, etc. The full list of names which the author suggests be discarded is given in the paper. In addition to the "chemical element adjectives" proposed above, the author suggests that the polytype symbol should be added if known.

Discussion

While I feel that this proposed system of nomenclature is a move in the right direction, it is unfortunate that the author has fallen into the same trap into which many nomenclature proposers fall, namely, inconsistent use of the terms which they are proposing. Bayliss appears to use magnesium interchangeably with magnesian and iron interchangeably with ferric (he does not use "ferroan" or "ferrian"). Since the proposal has not yet been approved by the Commission on New Minerals and Mineral Names, I.M.A., it is hoped that more consistent usage of the adjectives will be presented to that group. **J.A.M.**

DISCREDITED MINERALS**Knipovichite = chromian alumohydrocalcite***

G. E. DUNNING, J. F. COOPER, JR., AND J. S. WHITE, JR. (1975)
Chromian alumohydrocalcite from California, and knipovichite discredited. *Mineral. Record* **6**, 180-183

A new analysis is given of chromian alumohydrocalcite. (Cr₂O₃ = 8.3%) from Santa Clara County, California. The mineral resembles knipovichite (*Am. Mineral.* **40**, 551), described by Nefedov from the Ak-Su River, USSR. X-ray patterns of type material from the Mineralogical Museum, USSR, show that both are chromian alumohydrocalcite. **M.F.**