NEW MINERAL NAMES

Farringtonite

E. R. DUFRESNE AND S. K. ROY. A new phosphate mineral from the Springwater pallasite:

The mineral was found in the Springwater pallasite, from near Springwater, Saskatchewan. It occurs as colorless to wax-white to yellow material peripheral to olivine nodules. The meteorite also contains metallic iron (kamacite) and troilite.

Spectrographic analyses were made on two 25 mg. samples; the first was cleaned magnetically, the second by gravity separation in a centrifuge as well. These gave: P2O5 37.6 ± 0.6, 49.7 ± 1.0; MgO 49.2 ± 0.2, 41.6 ± 1.3; SiO2 11.1 ± 0.2, 2.9 ± 0.1; Fe 5.3 ± 0.1, 3.7 ± 0.2%. The final content of metallic iron in the samples was “quite negligible”; the Fe reported must be present as FeO or Fe3O4 or both. Microscopic and x-ray study of the second sample showed no olivine; it is probable that at least some SiO2 was present in solid solution. The composition is therefore essentially Mg5(PO4)3, but with Fe and Si present; it is known that synthetic Mg5(PO4)3 can take MgO into solid solution up to a composition MgO·3Mg5(PO4)3. The mineral is virtually insoluble in water, attacked slowly by dilute HNO3.

Farringtonite is monoclinic, cleavage “fair to good (100) and (010),” distinguished by “parallel partings along 100.” Optically biaxial, positive, ns α 1.540, β 1.544, γ 1.559, all ±0.002, 2V 54–55°, birefringence “0.010–0.014,” extinction inclined Z:c=16–17° in β obtuse. G, approx. 2.80 (method of determination not stated).

X-ray powder data agree with those for synthetic Mg5(PO4)3. The strongest of the 28 lines given are 3.83 (vs, d), 3.41 (vs), 2.39 (ms), 2.77 (m, d), 2.11 (m), 1.074 (m), 1.071 (m), 1.002 (m), 0.984 (m).

The name is for O. C. Farrington (1864–1933), for many years Curator of Geology, Field Museum, an authority of meteorites.
Tin-tantalite (Olovotantalit)


The mineral occurs in “one of the pegmatite deposits of the U.S.S.R.” as brown, well-formed crystals 0.5–1 mm in diameter. Analysis by K. A. Dorofeeva and T. A. Ukhina gave Ta2O5 62.53, Nb2O5 12.50, SnO2 9.06, TiO2 0.50, ZrO2 none, FeO:Fe2O3 0.57, MgO none, MnO 13.06, UO2 0.03, rare earths 0.17, CaO 0.18, SiO2 0.20, H2O+ 0.04, H2O– 0.06, sum 98.90%, corresponding to (Ta, Nb)O2+FeO (Ta, Nb)O2+SnO2 (H2O+H2O–) O6. Spectrographic analysis showed also Al, Zr, each about 0.1%, Cu, Yb, Ag each about 0.001%. The mineral is completely dissolved when heated with H2SO4+(NH4)2SO4, so that cassiterite cannot be present.

The mineral is dark brown to black, opaque to translucent. Luster greasy on fracture, vitreous on crystal faces. H. 5½–6 (660 kg. sq. mm.), G. 7.4. Not luminescent in cathode rays. Optically biaxial, positive, ns α 2.19±0.02, γ 2.28±0.02, 2V 30–40°. Pleochroism distinct X reddish-brown, Z yellowish, absorption X>Z. Two cleavages were noted under the microscope, the less perfect one at 26–28° to X, the perfect cleavage parallel to X. Simple and polysynthetic twinning was observed. Dielectric constant 4.84. Infra-red spectra made by L. S. Ivanova are given for tin-tantalite, tantalite, thoraulite, and cassiterite; that for tin-tantalite is similar to those for tantalite and thoraulite but differs in showing absorption at 10–11 μ.

The crystals appeared to be monoclinic, but Laue diagrams were not decisive. The x-ray powder diagram is given; the strongest lines are 1.468 (10), 1.780 (8), 2.95 (7), 2.51 (7), 1.743 (7), 1.723 (7), 1.917 (6–7). The pattern is similar to that of manganotantalite, but contains some additional lines.

The mineral occurs in small (0.5–1 mm. diameter) crystals of irregular form, also as pseudomorphs after simpsonite; in a strongly albited pegmatite. It is associated with simpsonite, microlite, lepidolite, and spodumene; rarely stibiotantalite. The mineral is later than spodumene and simpsonite, earlier than stibiotantalite.

DISCUSSION.—An unnecessary name for stannian manganese-tantalite.

M. F.

Alumobritholite


Silicophosphates of the rare earths occur in abundance in “a large alkaline masif of Siberia”; britholite (an analysis is given of thorian britholite, ThO2 9.77%) in nepheline syenite pegmatites, alumobritholite in pegmatites of aegirine-ribeckite granites. Analyses of alumobritholite by T. I. Ivanova and Z. V. Vasileva gave SiO2 21.93, 19.02; P2O5 3.96, 1.87; B2O3 ——, 0.15; CaO 17.34, 22.55; rare earths 27.58, 32.32; ThO2 4.76, 9.25; VO2 0.63, 2.05; Al2O3 14.91, 9.45; FeO:Fe2O3 0.42; FeO 0.32, ——; ZrO2 0.98, ——; MgO ——, 0.34; K2O ——, 0.06; Na2O 0.30, 0.13; H2O+ 0.33, 1.15; H2O– 0.37, ——; F 1.66, 1.44; sum 100.49, 100.20. — (O = Fe2) 0.69, 0.60 = 99.80, 99.60%. Calculation of the analyses on the basis of theapatite group formula, X5 (ZrO4)2F2, gave unsatisfactory results with (Si+P) = 3 or with (Si+P+H20) = 3; the Al is therefore divided and the formula calculated is (Ca1.99 Al1.22Fe0.4Ce0.07Th0.01)2.9 (Si2.36P0.4Al0.43)0.9 (Fe0.83OH0.22). X-ray spectrographic analysis by N. V. Turanskaya of the rare earths showed La 18.55, Ce 28.8, Pr 2.9, Nd 9.3, Sm 2.0,
NEW MINERAL NAMES

Gd 1.8, Dy 2.5, Ho 0.7, Er 2.3, Tl 0.5, Yb 3.65, Lu 0.8, Y 26.2%; in containing both Y and Ce elements, the mineral is intermediate between britholite and abukumalite. DTA study showed an exothermic effect at 575° (transition to crystalline state?). The mineral is yellowish-brown, slightly greenish; color nonuniform, deeper in the center of grains. Luster vitreous to greasy. Fracture conchoidal. Hardness 5.4, micro-hardness 471 kg./mm.². Isotropic (metamict), n 1.72. Slightly soluble in HCl.

Amorphous to x-rays; after being heated to 900° for 30 minutes gives a pattern corresponding to a 9.45 ± 0.01, c 6.91 ± 0.01 Å. The strongest lines (20 given) are 2.827 (10), 1.851 (7), 1.952 (6), 3.112 (5).

The mineral alters readily on weathering.

Discussion.—The postulated replacement of Ca by Al is surprising. The name is an unnecessary one for aluminian britholite.

M. F.

Calzirtite


The mineral occurs in metasomatic calcite-forsterite-magnetite rocks of an alkaline ultrabasic massif, Eastern Siberia. It forms tabular concretions 3x4x1 mm in size, composed of complex trillings. Single crystals are tetragonal, prismatic, bipyramidal.

Analysis by A.V.B. gave CaO 11.26, TiO₂ 16.04, Nb₂O₅ 0.10, ZrO₂ 70.12, Fe₂O₃ 0.44, SiO₂ 80.18, loss ign. 0.17, sum 100.18%. Spectrographic analysis showed Mn, Rb, Ce, Y, and Sr 0.0X, Sn and Sb 0.00X/6. This corresponds very closely to CaZr₂TiO₆. The unit cell (see below) contains Ca(Ca₆ u, Zr₁ u), Zr₁ (Ti, Fe)₃O₆. The mineral is infusible, but lightens in color before the blowpipe in O.F. Partly soluble when heated in concentrated H₂SO₄, H₃PO₄, or HCl.

The color is dark brown, nearly black. Luster semi-metallic to adamantine. Streak brown. Brittle, hardness varies with crystallographic direction from 626–1035 kg./mm.², =6–7. G. 5.01. Dielectric constant 5.03. Does not luminesce in UV light, gives a wavy red luminescence in cathode rays, after heating, a fiery red. Non-pleochroic. Optically uniaxial, positive, ns between 2.19 and 2.27, ε between 2.30 and 2.36, n-ε 0.07–0.08. In polished sections light gray. Reflecting power Re 16.4, Ro 15.0. Birefringence distinct in immersion, not observed in air. Internal reflections strong, reddish-brown.

Indexed x-ray powder data are given by Z., S., and B. (50 lines). The strongest lines are 2.945 (10), 1.801 (10), 1.537 (9), 1.170 (7), 2.552 (6), 0.981 (6), 0.871 (6). Most of the reflections correspond to a cubic cell with a 10.195 kX, but some lines did not; P. and P. find the mineral to be tetragonal, space group I₄₁/acd, a 15.30 ± 0.06, c 10.20 ± 0.04 A.

Atomic co-ordinates are given.

The name is for the composition.

M. F.

Yoshimuraithe


A preliminary note was abstracted in Am. Mineral., 45, 479 (1960).
The mineral occurs in coarse-grained pegmatite along the boundary between massive Mn ore (tephroite with rhodonite, braunite, and hausmannite) and massive hornfels containing manganophyllite, richterite, and urbanite. The pegmatite contains K-Ba feldspar, quartz, richterite, urbanite, and rhodonite.

Analysis (by J. I.) of yoshimuraite gave SiO$_2$ 18.25, TiO$_2$ 10.00, Fe$_2$O$_3$ 1.32, FeO 1.47, MnO 17.64, MgO 0.56, ZnO 0.50, BaO 33.51, SrO 4.62, Na$_2$O 0.16, K$_2$O 0.03, P$_2$O$_5$ 3.98, SO$_3$ 5.40, Cl 0.41, H$_2$O ±2.34, sum 100.19 — (O = Cl$_2$) 0.09 = 100.10%. This corresponds to (Ba,Sr)$_{1.4}$,(Ti,Fe$^{3+}$)$_{0.6}$,(Mn, Fe$^{2+}$, Mg)$_{1.3}$,(SiO$_4$)$_2$[P$_{0.76}$Si$_{0.24}$O$_{10}$](OH,Cl)$_{1.45}$ or (Ba,Sr)$_8$(Ti,Fe$^{3+}$)$^{18}$ Mn$_2$(SiO$_4$)$_2$[P, Si]$_2$(OH, Cl)$_4$. The unit cell contains 2 formula weights.

The mineral occurs as blades or mica-like forms up to 5 cm long. Hardness 4½ brittle, G. (pycnometer) 4.13, calcld. 4.21. Optically biaxial, positive, n$_\alpha$ 1.763, $\beta$ 1.777, $\gamma$ 1.785, 2V 85–90°, $r>v$. Pleochroic with X bright yellow, Y orange-brown, Z brown, absorption X < Y ≤ Z. The optical orientation could not be determined exactly; $\alpha'$ is nearly parallel to a, $\gamma'$ nearly parallel to c. Polysynthetic twinning on (010) was observed.

Precession photographs showed yoshimuraite to be triclinic, space group PT, $a$ 7.00 ± 0.1, $b$ 14.71 ± 0.2, $c$ 5.39 ± 0.1 Å, $\alpha$ 93.5°, $\beta$ 90.2°, $\gamma$ 95.3° (all ± 0.2°), axial ratio $a:b:c = 0.4761:1:0.366$. Tests for piezoelectricity were negative. Cleavages {010} perfect, {101} and {101} distinct. Indexed x-ray powder data (32 lines) are given. The strongest lines are 3.40 (10) (131), 2.94 (10) (041, 201), 4.90 (6) (011), 3.24 (6) (130), 2.78 (6) (321, 141).

A similar mineral has also been found at the Taguchi Mine, Aichi Prefecture, and will be described later.

The name is for Professor Toyofumi Yoshimura of Kyushu University, who first studied the Mn minerals of the mine.

M. F.

**Ekanite**


Several specimens, the largest about 44 g., of a green transparent-translucent mineral have reached Europe. It occurs in the gem pits of Eheliyagoda, Raknapura district, Ceylon. Analysis by D. I. Bothwell gave SiO$_2$ 55.6, ThO$_2$ 27.6, UO$_2$ 2.1, Fe$_2$O$_3$ 0.5, CaO 13.7, PbO 0.8, Al$_2$O$_3$, MgO, MnO traces, sum 100.3%, corresponding to (Th, U)(Ca, Fe, Pb)$_2$SiO$_2$. After the mineral is heated at 510° for 24 hours, n is 1.5933, G. 3.276; after it is heated at 1000° C. for 24 hours, G is 3.313.

The mineral is metamict. At temperatures between 650° and 1000° C., it recrystallizes to a phase that can be indexed on a body-centered tetragonal cell with $a$ 7.46, $c$ 14.96 Å. Heating at higher temperatures involving re-melting leads to the development of the thorium silicate huttonite. If the mineral is fully melted and then recrystallized at 1000° C., the product appears to be a thorium analogue of the britholite-cerite-lessingite group.

The mineral is named for Mr. F. L. D. Ekanayake, who first found it.

F. D.

**Alpha-fergusonite, Beta-fergusonite**


Nearly all fergusonites are metamict, but are transformed when heated at 575–765° to a tetragonal material, which in turn is transformed to monoclinic material at higher temperatures. Komkov, Zapiski Vses. Mineral. Obsch., 87, 432-444 (1957), described naturally crystalline tetragonal fergusonite with $a$ 5.15, $c$ 10.89 Å from Ural pegmatites.
This is now called alpha-fergusonite. When heated about 900°, the material becomes monoclinic, \( a = 5.05, b = 10.89, c = 5.27 \) Å, \( \beta = 85°30' \).

The authors have now found natural monoclinic crystals in crystals 0.05-0.2 mm in cross section from the apical parts of microcline granite stocks, Central Asia. It is light yellow, \( G = 5.65 \). X-ray spectrographic analysis showed much Y, Nb, U; Fe (about 2.5%), about 1% Ta and Th, about 0.5% Ca and Zr, about 0.2% Ti, and about 0.1% Pb. It is monoclinic, \( a = 5.12, b = 10.89, c = 5.20 \) Å, \( \beta = 88°10' \). When heated at 950° for 1 hour, the unit cell became \( a = 5.06, b = 10.92, c = 5.30 \) Å, \( \beta = 85°48' \). This natural monoclinic modification is called beta-fergusonite.

**Unnamed**


Reddish-brown, poorly formed crystals up to a few mm. in size occur on zincian melanterite. Analysis of a few tenths of a gram selected under the binoculars gave MgO 1.6, ZnO 7.7, MnO 3.6, FeO 1.2, Fe\(_2\)O\(_3\) 18.4, SO\(_2\) 36.1, H\(_2\)O > 50° C. 30.9, sum 99.5%, a member of the botryogen group, \( \text{Fe}^{2+} \text{Fe}^{3+} (\text{SO}_4)_{6} (\text{OH}) \cdot 7\text{H}_2\text{O} \), with Zn: Mn: Mg: Fe = 47:25:20:8. G. 2.19. Optical constants close to those of Bandy (Dana’s System, 7th Edition, 2, 617) for the Mg member of the group. X-ray study shows it to be monoclinic, \( C \beta \alpha / n \), \( a = 10.51 \pm 0.02, b = 17.85 \pm 0.03, c = 7.14 \pm 0.02 \) Å, \( \beta = 100°00' \pm 15' \), \( Z = 4 \). The crystals are prismatic with forms \{110\} and \{001\} dominant, also \{120\} and \{010\}.

**Discussion.**—This is dominantly the zinc analogue of botryogen. Dr. Zemann (letter of Aug. 18, 1961) prefers that this not be given a name, the name botryogen being used as a group name.

**Benstonite**


The mineral occurs in white to ivory masses up to 1 cm. in size as fissure fillings, associated with quartz, barite, and calcite, in the barite mine near Magnet Cove, Hot Springs County, Arkansas. Analysis of material whose x-ray pattern showed the presence of some calcite gave CO\(_2\) 31.35, BaO 43.05, SrO 4.02, CaO 19.52, MgO 1.69, MnO 0.35, sum 99.98%, corresponding to \( \text{(Ca, Mg, Mn)}_2 \text{(Ba, Sr)}_6 \text{(CO}_3)_8 \), or, deducting calcite \( \text{(Ca, Mg, Mn)}_2 \text{(Ba, Sr)}_6 \text{(CO}_3)_8 \), with Ca: Mg: Mn = 0.71:0.11:0.01, and Ba: Sr = 0.88:0.12. G. 3.596 (measured), 3.648 (calcd.). Optically uniaxial, negative, \( n_\alpha (\text{Na}) = 1.6900 \pm 0.0005, e = 1.527 \pm 0.001 \). H. 3–4.

Weissenberg photographs show the space group to be probably \( R_3 \), or perhaps \( R 3 \), with \( a_0 = 18.28 \pm 0.01, c_0 = 8.67 \pm 0.02 \) Å.

The mineral is named for O. J. Benston, metallurgist, of Malvern, Arkansas, who first called attention to the mineral.

**Boleslavite**


Colloform ZnS and PbS occur in colloform varieties with marcasite as impregnations in the Gogolin limestones in the “Boleslaw” mine near Olkusz. The colloform PbS is silvery with a strong bluish tint; hardness (by Vickers sclerometer PMT-3) 40–80 kg./sq. mm. It shows “a diffraction pattern characteristic for crystalline galena.” The x-ray
powder data (by J. Kubisz) are given. Chemical analysis gave Pb 86.33, S 13.24; spectrographic analysis showed As 0.1, Fe 0.08, Zn 0.03, Sb 0.015, Mn 0.003, Tl 0.003, Mo 0.0006, Cu 0.0004, Ag 0.0004%, Ca and Ba present. A D.T.A. curve is given.

The name is for the mine.

**DISCUSSION.**—A useless and unnecessary name.

M. F.

**Geversite and Unnamed Pt Minerals and (Fe, Ni)$_2$S**


Concentrates of Pt minerals were examined from the Driekop mine, eastern Transvaal. Geversite is light gray, reflectivity lower than that of Pt, but higher than that of sperrylite. Non-pleochroic, not anisotropic, presumably cubic. Hardness similar to that of Pt, perhaps slightly higher. Analysis by microprobe gave Pt 45.0, Sb 51.5%, corresponding to PtSb$_2$, the antimony analogue of sperrylite. A variety with 7.2% Bi was also noted. Synthetic PtSb$_2$ is cubic with pyrite structure, a 6.428 Å, H. 4½–5, m.p. 1230° C. The name is for T. W. Gevers, geologist, of South Africa.

Other new minerals, not given names are:

**Pt(Sb, Bi).** Color distinctly pinkish. Reflectivity lower than that of Pt, higher than that of geversite. Pleochroic from pink to light brown. Under crossed nicols, intense anisotropy effects. Hardness slightly less than that of Pt. The anisotropy suggests a hexagonal layer lattice. Microprobe analysis gave Pt 50.5, Sb 26.4, Bi 15.3%, corresponding to Pt$_7$Bi$_3$Sb$_5$ or approximately Pt(Sb, Bi).

**PtSb.** Color light brown with a touch of pink. Reflectivity lower than that of Pt(Sb, Bi), much higher than that of Pt. Analysis by microprobe gave Pt 50.5, Sb 34.7%. Synthetic PtSb is hexagonal (NiAs type), a 4.130, c 5.472 Å.

**(Pt, Ir)$_2$.** Color grayish, reflectivity high, but lower than that of PtSb$_2$. Non-pleochroic, no anisotropy, evidently cubic. Hardness higher than those of Pt or PtSb$_2$, probably about 6. Microprobe analysis gave Pt 47.0, As 46.8, Ir 5.0%. Perhaps an iridium sperrylite.

**Pt(Ir, Os)$_2$As$_4$ (?).** Color distinctly brownish in reflected light. Reflectivity similar to that of sperrylite, lower than that of (Pt, Ir)$_2$As$_4$. Hardness higher than that of (Pt, Ir)$_2$As$_4$. No anisotropy, presumably cubic. Contains lamellae of iridosmine. Microprobe analysis gave As 32.5, Pt 22.0%, much Ir and Os; the Ir and Os contents vary greatly in opposite directions within a few microns. Occurs in grains and as lamellae in Pt.

**Pt$_6$Sn$_6$Cu$_4$.** Color pinkish, like PtSb. Reflectivity very high, lower than that of Pt, slightly lower than that of Pt(Sb, Bi)$_2$. Anisotropy visible in oil immersion. Hardness near that of Pt, lower than that of PtSb$_2$. Microprobe analysis gave Pt 51.7, Sn 22.0, Cu 16.8%. Very rare.

**Pd$_2$CuSb.** Strong violet color. Reflectivity much lower than any other associated mineral. Under crossed nicols, good anisotropy effects with orange colors. Hardness near that of Pt. Microprobe analysis gave Pd 53.5, Sb 31.3, Cu 16.0%, corresponding to Pd$_2$CuSb.

**Pd$_4$CuSb$_2$.** Intergrown or closely associated with the preceding mineral. Color pale yellow. Reflectivity slightly lower than that of PtSb$_2$. Anisotropic. Hardness near that of Pt. Microprobe analysis gave Pd 62.0, Pt 6.0, Sb 30.0, Cu 5.0%, corresponding to (Pd, Pt)$_4$CuSb$_2$. 

1518 **NEW MINERAL NAMES**
NEW MINERAL NAMES

$$Pd(Sb, Bi)$$. Color light yellow. Reflectivity high. Non-pleochroic, anisotropy effects of medium intensity with gold-yellow colors under crossed nicols. Hardness distinctly less than that of sperrylite. Microprobe analysis gave Pd 43.6, Sb 25.2, Bi 32.2%, corresponding to Pd$_8$Sb$_3$Bi, or approximately Pd(Sb, Bi). Synthetic PdSb is reported to be hexagonal (NiAs type) with a 4.070, c 5.582 A., G. 9.4; synthetic PdBi is reported to be orthohombic with a 7.203, b 8.707, c 10.662 A.

$$(Fe, Ni)_3S$$. In small grains resembling pyrrhotite in color, but with slightly higher reflectivity. Anisotropic under crossed nicols. Hardness comparatively low. Microprobe analysis gave Fe 51.0, Co 1.0, Ni 28.0, S 22.5%. An early mineral in this paragenesis.

Names are not given to these minerals pending further study.

M. F.

REDEFINITION OF SPECIES

Bettafite


A restudy of the group, with new analyses, x-ray study, and D.T.A., shows that bettafite is a member of the pyrochlore group, with the general formula $A_{1-x}B_x(O, OH)$, with up to 67% of the A positions vacant (A = Na, K, Ca, Fe$^{3+}$, Zn, Cu, Ni, Co, Mn, Ti, Zr, Sn, Fe$^{3+}$, W). It is suggested that the name bettafite be reserved for members of the pyrochlore group containing U 15% or more (2.5 or more U atoms per unit cell). Hatchetitite and ellsworthite then become intermediate members of the pyrochlore-bettafite series and these names can be dropped.

M. F.

NEW DATA

Scholzite


Analysis of material from Hagendorf-South gave P$_2$O$_5$, 35.99, ZnO 35.70, FeO 0.38, MnO 1.36, MgO 0.94, CaO 14.29, H$_2$O 10.36, insol. 0.88, sum 99.90%, corresponding to CaZn$_2$(PO$_4$)$_2$•2H$_2$O, with some substitution by Mn, Mg, and Fe. Oscillation photographs showed it to be orthohombic, space group Pbmm, with a 17.14, b 22.19, c 6.61 A. Z = 12. Unindexed x-ray powder data are given (56 lines); the strongest lines are 8.588 (10), 2.788 (9), 4.230 (7), 3.376 (6), 3.632 (6), 2.240 (6), 1.592 (6). Cleavage (100) fair. The mineral is colorless to white, H. 3–3.5, G. 3.11. Optically biaxial, positive, $\alpha 1.581$, $\beta 1.586$, $\gamma 1.596$, 2V$^\circ$ $=$ a, Y = b.

DISCUSSION.—My attention was recently called to the fact that I had not abstracted this paper, which changes, without explanation, the composition, symmetry, unit cell, and 2V given in the original description (see Am. Mineral., 36, 382 (1951)). I regret the oversight.

M. F.

DISCREDITED MINERALS

Dillnite (= Zunyite)


The name dillnite, first given in 1849 but long considered to apply to a mixture, was revived in 1955 (see Am. Mineral., 41, 673–674 (1956)). New study shows it to be zunyite,
higher in F content than any previously described. It is suggested that the name be kept for material of higher fluorine content and lower index of refraction.

**DISCUSSION.**—The limits of division are not specified. The analysis still show OH > F, so that the name is unnecessary.

M. F.

### Henwoodite (= Turquoise)


Analysis (on 12.2 mg) of a sample labelled henwoodite from Redruth, Cornwall, obtained in 1878, gave CaO 0.57, CuO 8.81, Al₂O₃ 28.01, Fe₂O₃ 9.58, P₂O₅ 34.90, H₂O 17.13, sum 99.00%, *i.e.* a ferrian turquoise. This was confirmed by the x-ray powder pattern.


M. F.

### Gouréite (= Narsarsukite)


The name gouréite was given by A. Lacroix (Acad. Sci. Paris, Mem. No. 61, 318, 1934) to a mineral from an aegirine-riebeckite granite from Gouré, Sudan. Only optical data were obtained. X-ray study shows that the mineral is narsarsukite, with \( n = 1.610, \gamma = 1.632, \) positive (originally stated to be negative), values close to those for narsarsukite from Greenland. A qualitative test showed high Ti.

M. F.

### Hjelmite (= Pyrochlore + Tapiolite (?))


Hjelmite (see Dana’s System, 7th Ed., Vol. I, p. 779–780) was found by Nordensköld in 1860 and is supposed to be \((\text{Fe}^{3+}, \text{Mn}, \text{U}, \text{Ca}) (\text{Nb}, \text{Ta}, \text{Sn})_2\text{O}_8\). Material from the type locality contained 6.56% SnO₂. There are no modern analyses and the mineral has long been considered dubious. Matías reports results obtained on a sample of hjelmite “from Norway,” from the Mineralogical Museum, Academy of Sciences, U.S.S.R. Optical and x-ray studies showed it to be a mixture of tapiolite, pyrochlore, and an unidentified phase.

**DISCUSSION.**—The type material from the Kararfvet mine, Sweden, might well be such a mixture, but the mineral cannot be considered discredited since the work was done on a specimen, the locality and history of which are not given.

M. F.