NEW MINERAL NAMES

Istisuite


Analysis by F. I. Vekilov gave SiO₂ 47.69, Al₂O₃ 3.94, FeO₂ 2.28, FeO 0.14, MgO 0.41, CaO 41.38, MnO 0.09, Na₂O 1.13, H₂O - 0.02, H₂O⁺ 3.47, SO₃ 0.26; sum 100.81%, corresponding to (Na₂₆Ca₁₉Al₀₂(OH)₁₂)(Si₁₂,As₆)O₇₆. Dissolves in HCl on heating. The mineral is monoclinic. The characteristic x-ray lines are at 2.919, 3.254, and 1.666 Å. A D.T.A. curve shows an endothermic effect at 450°. The mineral is gray; it occurs in elongated prisms and in fibers. Occurs with wollastonite in the skarn zone near Istisu, Dalidag, Little Caucasus.

MICHAEL FLEISCHER

Carobbiite


Carobbi, Atti accad. sci., lettere e arti Modena, 14, 1–12 (1936), described small cubic crystals, n = 1.362, from cavities in lavas from Vesuvius, that were apparently KF. Strunz has re-examined this material and confirms the presence of colorless cubic crystals with cubic cleavage and n = 1.362. X-ray powder photographs indicated a mixture, but 5 of about 30 lines were those of KF, a₀ 5.40 Å. Spectrographic analysis showed K and a little Na; micro-chemical tests showed F and a little Cl.

KF
n = 1.352, a₀ 5.34 Å
Carobbiite
n = 1.362, a₀ 5.40 Å
NaCl
n = 1.544, a₀ 5.64 Å

The name is for Professor Guido Carobbi, Institute of Mineralogy and Geochemistry, University of Firenze (Florence).

M. F.

Simplotite


Microchemical analysis on about 70 mg. (by R.M.) gave V₂O₅ 67.7, V₂O₅ 0.5, CaO 11.6, H₂O 18.4, insol. 0.5; sum 98.7%, Qualitative spectrographic analysis by K.E. Valentine indicated Mg and Al 0.1–0.5%, and Na, K, Fe 0.05 to 0.1%. The analysis gives the formula CaV₂O₅·5H₂O. Simplotite is dark green, nearly black, in coarse aggregates to yellow-green in thin flakes. It is biaxial, negative, α = 1.705, β = 1.767, γ = 1.769 (all ± 0.002), 2V about 25°, X = b (yellow), Y (green), Z 1/4 58° (green), dispersion r > v, weak and crossed. G. = 2.64 ± 0.02. Very soft. X-ray study by M. E. Morse showed simplotite to be monoclinic, pseudo-tetragonal, space group C2/m. The unit cell has a₀ 8.39, b₀ 17.02, c₀ 8.37 (all ± 0.02 Å), β = 90° 25'± 5', Z = 4, G. calc. 2.65. Cleavage (010) very easy, micaceous.

Simplotite occurs as hemispherical aggregates of platy crystals at the Peanut Mine, Montrose County, Colo., where it occurs as coatings on fractures in the ore-bearing sandstone with duttonite, melanovanadite, native Se, and an undescribed V oxide. It has also been found at the Sundown claim, San Miguel County, Colo., the Shattuck-Den lease on
Club Mesa, and the J. J. Mine in Paradox Valley, both in Montrose Co., and the Vanadium Queen Mine, San Juan County, Utah. It is found in comparatively unoxidized ore, associated with montroseite, paramontroseite, vanadiferous silicates, uraninite, and coffinite. The name is for J. R. Simplot, former owner of the Peanut Mine.

M. F.

Kupletskeite


The mineral occurs in lamellar masses up to 5×3×1 cm. in size, consisting of individual plates with perfect cleavage on [100]; it also occurs as fine plates. Monoclinic (or triclinic with small departure from monoclinic symmetry). Color dark-brown to black, streak brown. Hardness about 3.

Analyses gave:

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<td>100.49</td>
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* Given as 100.18 in original.

Analyst T. A. Burova, V. A. Moleva.

X-ray spectrographic analysis showed the presence of about 1% Sr, 0.2% Rb, 0.1% Ce, 0.1% Nd. Spectrographic analysis showed weak lines of Be, Zn, Ga, and Ta. The analyses agree well with the formula (K, Na)₂(Mn, Fe)₄(Ti, Nb)SiO₄(OH)₂ except that they give for K+Na 1.12 and 1.31 instead of 2. Kupletskeite is therefore the manganese...
analogue of astrophyllite; nearly the entire series from the pure Fe$^{3+}$ end member to analysis no. 1 is known.

X-ray powder data are given for kupletskite and astrophyllite; they are nearly identical. The strongest lines of kupletskite are in Å, \(3.505 (8), 2.642 (8), 2.573 (4)\).

Kupletskite melts easily before the blowpipe to a weakly magnetic dark globule. The dehydration curve shows an endothermal break at 740-800$^\circ$, probably due to melting. The mineral is soluble in acids. Easily alters to porous black manganese oxides.

Kupletskite is optically biaxial, negative, \(2V = 79^\circ\), \(\gamma = 1.731, \beta = 1.699, \alpha = 1.656\) (calculated). Strong dispersion, \(r > v\). Pleochroic with \(Z\text{ brown to } X\) orange-yellow. Elongation positive.

Kupletskite occurs in four pegmatites of the Lovozero massif of alkalic rocks, Kola Peninsula. It occurs mainly in a natrolite-rich central part of the pegmatites, associated with schizolite and neptunite, also in small amount in the border zone of the pegmatite in microcline and eudialyte which are associated with nepheline and aegirine, and also in small amount in the nepheline syenites themselves.

The name is for the geologists Boris Mikhailovich Kupletsky and Elsa Maximilianovna Bohnshedt-Kupletskaya.

**Hibonite**


The mineral occurs in hexagonal prisms flattened parallel to (0001) or in steep pyramids; the crystals are up to 4 cm. in largest dimension. The face (0001) is commonly divided into 6 sectors. Cleavage (0001) easy, parting on (10\(1\bar{0}\)).

Fracture sub-conchoidal. Hardness: \(7\frac{1}{2}-8\), \(G = 3.84\), color brownish-black to black, reddish-brown in thin fragments. Optically uniaxial, negative, \(\omega = 1.807 \pm 0.002, e = 1.79 \pm 0.01\); pleochroic with O brownish-gray, E gray. Analysis by Patureau gave SiO$_2$ 1.50, Al$_2$O$_3$ 74.00, TiO$_2$ 8.50, Fe$_2$O$_3$ 0.45, FeO 2.30, rare earth oxides 3.50, CaO 6.50, Mg 3.20; sum 99.95%. Spectrographic analysis showed traces of Cu, Cr, Mn, and Na. The radioactivity is weak, corresponding to 1000 ppm Th or 100 ppm U. The analysis corresponds to (Ca$_{16}$Ce etc. 0.3) (Al$_{39.8}$Fe$_{6.5}$Ti$_{0.4}$Si$_{20.8}$Mg$_{0.5}$)O$_{78.5}$, or essentially CaAl$_{12}$O$_{36}$. The mineral is infusible, slowly soluble in a mixture of H$_2$SO$_4$ and H$_3$PO$_4$.

Laue, rotation, and Weissenberg photographs showed the space group to be P6/mmc, the unit cell has \(a = 5.60 \text{kX}, c = 22.12 \text{kX}\), containing 2(CaO·6Al$_2$O$_3$). The structure is similar to those of magnetoplumbite (PbO·6Fe$_2$O$_3$), the artificial oxide CaO·6Al$_2$O$_3$, and beta-alumina.

The mineral occurs in an alluvial deposit at Esiva, Fort Dauphin region, Madagascar. Also found in a metamorphosed limestone rich in calcic plagioclase, associated with corundum, spinel, and thorianite.

The name is for P. Hibon, who discovered the mineral. Pronounced Ee’bonite; not to be confused with hibbenite.

**Karpinskyite**

NEW MINERAL NAMES

Chemical analysis by V. A. Moleva gave SiO₂ 56.68, TiO₂ trace, Al₂O₃ 16.40, Fe₂O₃ 0.06,
BeO 2.58, ZnO 3.26, MgO 0.78, Na₂O 9.18, K₂O 1.53, H₂O⁻ 2.50, H₂O⁺ 5.00; sum 97.9970.
(Given as 99.99 in the original and the molecular ratios agree with the figures given. M. F.)
Spectrographic analysis by A. S. Dudykin showed Ga, Ca 0.X%, Pb, Cu, Zr, Sr, Mn
0.0X%, Nb 0.01%. This gives the formula (Na₈,₃K₁₀,₃) (Be₀.₅Zn₀.₅Mg₀.₅Al₂₀.₅)
(OH)₀.₃Sio₂.₈O₅(OH)₂. This is insoluble in 1:1 HC₁, HNO₃,
and H₂SO₄. The DTA curve shows endothermic breaks at 90°, 540°, and 900°.

Karpinskyite is white with vitreous to pearly luster. Soft, H. not more than 1½-2. Sp.
gr. = 2.545, by hydrostatic suspension. Fracture uneven, easily cleavable to fine fibers.
Optically uniaxial, positive, with ns = 1.518, ω = 1.511.

The crystals are prismatic, acicular. The hexagonal cell has a = 14.24, c = 4.83 Å, but
the mineral is rhombohedral, with possible symmetry classes D₆̅, C₃̅, or D₃. X-ray powder
data are shown; the strongest lines are 3.161 (10), 3.388 (7), 2.463 (7), and 1.741 (7).

Karpinskyite occurs in rosettes of radiating crystals in a pegmatite vein cutting lujavrites on “the northern slope of one of the alkalic massifs.” (Kola Peninsula? M. F.)
Associated minerals are natrolite and albite, the latter partly replaced by karpinskyite.
Also mentioned is “a yellow lamellar mineral kozhanovite (karnasurtite),” not otherwise
declared (new mineral? M. F.).

The name is for A. P. Karpinsky, late President of the Academy of Sciences, U.S.S.R.

Discussion: Calculation of the hexagonal cell content does not give satisfactory re-
sults. Further x-ray study is needed. This is the first instance of isomorphous substitution
of Be by Zn, often postulated previously on the basis of the relations between willemite and
phenakite in spite of the large differences in ionic radii.

M. F.

Karpatite

G. L. Piotrovsky, Karpatite—a new organic mineral from Transcarpathia. L'vovskoe

The mineral was found associated with curtisite (idrialine) and amorphous organic
material in cavities at the contact of diorite-porphyry with Flysch argillites. It forms acicu-
lar crystals and fibrous, radiating aggregates about 0.05–0.2 mm. thick, up to 5 mm. long.
Monoclinic with β = 110°; goniometric measurements on natural material agree closely
with those on material prepared by recrystallization from aniline or by sublimation; cleav-
age excellent parallel to the length. Hardness about 1, G. = 1.40, melts about 430° with
partial decomposition, sublimes if held just below the melting point. Optically biaxial,
negative, α = 1.780±0.002, β = 1.977–1.982, γ = 2.05–2.15; optic axial plane parallel to
length (=X). Analyses by T. G. Sokolov, L. M. Samtsol and L. B. Lebeiev gave C
92.22, 92.08; H 4.08, 4.03; O (by dif.) 3.70, 3.89%, corresponding to C:H:O approximately
33.17:17:1 (actually 32.3:16.9:1 M. F.). X-ray powder diagrams by Ya. L. Giller
are different from those of curtisite and hoelite. Apparently named for the locality.

M. F.

Heidornite

Wolf v. Engelhardt and Hans Füchtbaucer, with x-ray data by Josef Zemann.
Heidornit, Na₃Ca₃Cl(SO₄)₂B₂O₆(OH)₆, ein neues Borimineral aus dem Zechsteinanhydrit.
The mineral occurs, mixed with an equal amount of glauberite, in a cavity in a drill core at 1968 m. depth in the upper anhydrite of the Zechstein formation on the German-Dutch border northwest of Nordhorn. It is found as terminated (some doubly), transparent crystals up to 7 cm. long. The crystals are steep, spear-like, with the forms \{110\}, \{11T\}, and \{112\} dominant. H. 4–5. G. 2.753 ± 0.002, by suspension in bromoform-methanol.

Analysis by R. Kühn gave NaCl 9.40, Na₂O 5.07, CaO 27.61, SO₄ 26.55, B₂O₃ 27.99, H₂O⁻ (105) 0.14, H₂O⁺ 3.15, insol. in acid 0.07, sum 99.98 per cent, corresponding to Na₂Ca₃Cl₂(α-SO₄)₄(α-OH)₆. Fe was detected in the insoluble residue. The water is given off between 500° and 600° C.

Goniometric study showed heidornite to be monoclinic, \(a:b:c = 1.29:1:2.37, \beta = 93°15'\). The \{112\} faces and the perfect cleavage on \{001\} were smooth, but \{11T\} and \{110\} were striated and showed vicinal faces so that measurements were approximate. Weissenberg and rotation diagrams gave \(a = 10.21, b = 7.84, c = 18.79\) Å. (all ± 0.5%), \(\beta = 93°30' ± 15'\), \(a:b:c = 1.30:1:2.40\). The unit cell contains 4 of the above formula weights. G. calcd. 2.70. The space group is either \(C 2_{b}^{a} \neq C_{a}^{b} \neq C_{b}^{a}\), probably the former, as a positive test for piezoelectricity was not obtained. X-ray powder data are given; the strongest lines in Å. are: 3.11 vs, 3.77 s, 2.74 s, 2.96 ms.

Heidornite is optically biaxial, positive, \(n_{s} = 587\) μm \(\alpha = 1.579_{s}, \beta = 1.588_{s}, \gamma = 1.604_{s}\), 2 V 74° calcd., somewhat variable 63–77° measured, \(\beta = b, \gamma:α = 23°\), dispersion \(v > r\).

The name is for F. Heidorn, geologist.

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**Kettnerite**


The mineral occurs as small brown, brownish-yellow, to lemon-yellow plates in cavities in a quartz vein cutting pegmatitic K-feldspar near Krupka (Graupen), Krušné hory (Erzgebirge), N. W. Bohemia. Associated minerals are fluorite, Bi, bismuthinite, hematite, and altered topaz. Chemical and spectrographic analysis (not given) yield the formula CaBi(CO₃)OF. The mineral is ditetragonal dipyramidal, space group \(P4_{1} / n m m (D^{4h})\) with \(a = 3.79\), \(c = 13.59\) Å., \(Z = 2\). G. 5.80. The name is for Radim Kettner, Professor of geology, Charles University, Prague.

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**Discriminated Minerals**

**Waltherite (=Walpurgite)**


X-ray study of 8 samples of waltherite (presumably a bismuth carbonate) from the type locality showed that it is identical with walpurgite (bismuth uranium arsenate). Microchemical tests showed Bi, U, As, and P, and CO₂ (admixed bismutite?) Other properties including physical properties and \(c_{0} (5.42 \text{ waltherite, 5.49 walpurgite})\) are in
good agreement. The name waltherite (1857) has priority over walpurgite (1877), but the description was so inadequate that the name waltherite should be dropped.

**Alushtite (=Dickite+hydrous mica)**


Alushtite was described by Fersman in 1907 as a hydrous aluminum silicate from Alushta, Crimea. It is now shown by chemical, optical, x-ray, and D.T.A. study to be dickite with admixed hydrous mica.

**Avalite (=chromian illite)**

Doughan Stangatchilovitch (Dusan Stangačilović), Sur la présence d’illite chromifère dans le gisement de cinabre d’Avala, près de Belgrade. *Compt. rend.*, 242, 145–147 (1956).

Avalite was described in 1884 by Losanitch (Dana’s System, 6th Ed., p. 617) as a chromium-bearing mica, and has since generally been classed as a chromian muscovite (fuchsite). A new analysis gave SiO$_2$ 50.05, Al$_2$O$_3$ 22.83, Cr$_2$O$_3$ 12.38, Fe$_2$O$_3$ 2.33, FeO, MnO none, MgO 0.14, CaO 0.43, K$_2$O 2.16, Na$_2$O 0.24, TiO$_2$ 0.40, P$_2$O$_5$ tr., H$_2$O$^+$ 9.43; sum 100.39%. X-ray powder data show the strongest lines at 10.13, 4.91, and 3.68 Å; a line at 7.1 Å indicates the presence of a little kaolinite. Dehydration and D.T.A. data also indicate that the material is to be classed as an illite. The mineral was formed by the hydrothermal alteration of a serpentinite.

**Staszicite (=Olivenite)?**


Staszicite was described by Morozewicz (1918) as (Cu,Zn,Ca)$_2$AsO$_4$(OH). It was classed in Dana’s System, Vol. II, p. 806, as a zincian conichalcite, Ca(Cu,Zn)AsO$_4$(OH). Guillemin, on a sample from the type locality, Miedzianka, Poland, finds the x-ray powder pattern to be that of olivenite, Cu$_2$AsO$_4$(OH). The sample gave a microchemical test for zinc and is considered to be a zincian olivenite.

**Discussion:** Guillemin does not comment on the fact that the only analysis of staszicite showed 20.80% CaO, with Ca:(Cu+Zn) nearly 1:1, as in conichalcite.

Further study is needed.

**Arsentsumebite (=Dufite-α)**

C. Guillemin, *op. cit.* X-ray study of the original specimen (*Bull. soc. franc. mineral.*, 58, 4 (1935)) showed it to be dufite-α mixed with a little bayldonite. (See abstract of dufite under New Data.)
NEW MINERAL NAMES

Parabayldonite (=Plumboan Conichalcite)

C. Guillemin, op. cit. Parabayldonite (Biehl, 1919) is shown by analysis and x-ray study to be a plumboan conichalcite (Ca, Pb)CuAsO₄(OH), part of the duftite-β-conichalcite series.

M. F.

Cuproplumbite (=Bayldonite)

C. Guillemin, op. cit. Cuproplumbite (Biehl, 1919) has generally been considered to be bayldonite. This is now verified by x-ray powder data on material from Tsumeb.

M. F.

Trichalcite (=Tyrolite)

C. Guillemin, op. cit. Trichalcite (Hermann, 1858), supposedly Cu₅(AsO₄)₃·5H₂O, is found by x-ray study of material from the type locality, Turginsk, Ural Mts., to be identical with tyrolite, Cu₅Ca₂(AsO₄)₃(OH)₁₀·9–10H₂O, as had previously been suggested by Berry, *Am. Mineral.*, 33, 193 (1948). Material from Shoshone County, Utah, described by Shannon, *Proc. U. S. Natl. Museum.*, 62, art. 9 (1922) as trichalcite is found by x-ray study to be the sulfate langite.

M. F.

NEW DATA

Duftite


Guillemin finds that there are two minerals of the composition PbCuAsO₄(OH). The type material, here called duftite-α, is orthorhombic and the x-ray powder pattern is very similar to those of descloizite and mottramite, so that the space group is probably *Pnma.* Duftite-β is orthorhombic, disphenoidal, space group *P2₁2₁2₁* and forms a complete series of solid solutions with conichalcite, CuCu₅AsO₄(OH). Analyses, optical data, and x-ray powder data are given.

Discussion: It would be preferable to drop the terms duftite-α and duftite-β, to restrict the name duftite to what is called here duftite-α, and to rename duftite-β.

M. F.

Lavendulan (Freirinite = Lavendulan)

C. Guillemin, op. cit.

Lavendulan was described by Breithaupt in 1837 from Annaberg as a hydrous cobalt-nickel-copper arsenate, and was found by Vogel in 1853 at Joachimsthal, and by Goldsmith in 1877 from San Juan, Chile. Foshag (*Am. Mineral.*, 9, 29–31 (1924)) found that the Chilean material differed optically from that of Joachimsthal and his analysis of the Chilean mineral led to the formula Na₉(Cu,Ca)₆(AsO₄)₂(OH)₁₀·H₂O. He therefore decided that the Chilean material was not identical with lavendulan and he gave it the new name freirinite.

Guillemin now finds by x-ray study that lavendulan and freirinite from the type localities give identical x-ray powder patterns. Analyses of a sample from Chile (impure) and of
synthetic material show the presence of Cl and lead to the formula Na(Cu, Ca)$_6$(AsO$_4$)$_4$• Cl $\cdot 4$–$5$H$_2$O with Ca:Cu variable, about 1:5 (probably better written NaCaCu$_6$(AsO$_4$)$_4$Cl $\cdot 4$–$5$H$_2$O M.P.). H. = 2½, G. = 3.54. Orthorhombic, $a$ = 9.73, $b$ = 41.0, $c$ = 9.85 Å, isostructural with sampleite, NaCaCu$_6$(PO$_4$)$_4$Cl $\cdot 5$H$_2$O.

M. F.

Lindackerite

C. Guillemin, *op. cit.*

New analyses of lindackerite show that the 1853 analysis, which gave the formula Cu$_6$Ni$_2$(AsO$_4$)$_4$(SO$_4$)$_4$(OH)$_4$• 5H$_2$O, was in error. No sulfate was found. Two new analyses gave the formula H$_2$Cu$_6$(AsO$_4$)$_4$• 8–9H$_2$O with a little Co and Ni replacing Cu. Optical and x-ray powder data and data on dehydration are given. Lindackerite is monoclinic with $a$ = 3.95, $b$ = 8.02, $c$ = 6.277 Å, $\beta$ = 100°30’.

M. F.