

NEW MINERAL NAMES

Painite

G. F. CLARINGBULL, MAX H. HEY AND C. J. PAYNE, Painite, a new mineral from Mogok, Burma. *Mineralog. Mag.* **31**, 420-425 (1957).

A single terminated transparent garnet-red gem weighing 1.7 g. proved to be a new mineral. Analysis was made in duplicate on portions of 38 and 17 mg. and determination of B_2O_3 on a separate portion of 18 mg. These gave Al_2O_3 76.2, SiO_2 5.6, B_2O_3 2.2, CaO 15.7, H_2O 0.7, sum 100.4%. This gives for the unit cell content Al 20.20 \pm 0.14, Si 1.26 \pm 0.11, B 0.85 \pm 0.12, Ca 3.78 \pm 0.05, O 37.88 \pm 0.22, suggesting $Ca_4SiBA_{12}O_{37.5}$, which would require $O_{37.5}$. Painite is insoluble in acids, only slowly attacked by fusion with Na_2CO_3 or $Na_2S_2O_7$.

Weissenberg photographs showed the mineral to be hexagonal, space group $P6_3$, $P6_3/m$, or $P6_3 22$. The unit cell dimensions are a 8.725 \pm 0.005, c 8.46 \pm 0.01. The crystal has a pseudo-orthorhombic appearance; the faces a {10 $\bar{1}0$ }, m {11 $\bar{2}0$ } are well developed and large; c {0001}, o {11 $\bar{2}1$ }, p {11 $\bar{2}2$ }, q {20 $\bar{2}1$ }, r {10 $\bar{1}1$ }, and s {10 $\bar{1}2$ } are matte with rounded edges. The prisms k {12 $\bar{3}0$ } and l {1340} give good reflections, but are narrow.

The mineral is uniaxial, negative with ns (Na) O 1.8159, e 1.7875; pleochroic ruby-red parallel to c , pale brownish-orange perpendicular to c . D. of entire crystal by hydrostatic weighing in ethylene dibromide 4.01 \pm 0.01. The crystal had inclusions, but the d. of an inclusion-free fragment by flotation in Clerici solution was 4.00 \pm 0.02. Hardness about 8.

Indexed x -ray powder data are given. Lines given as VS are 5.76 and 2.520, as S 3.70, 2.370, and 2.008.

The name is for Mr. A. C. D. Pain, "the enthusiastic gem collector who first recognized the unusual nature of the crystal."

MICHAEL FLEISCHER

Kingite

K. NORRISH, LILLIAN E. R. ROGERS AND R. E. SHAPTER, Kingite, a new hydrated aluminium phosphate mineral from Robertstown, South Australia. *Mineralog. Mag.* **31**, 351-357 (1957).

The mineral occurs as white nodules up to 2 inches in diameter, coated and veined by brown powdery material found to consist of talc, quartz, and NaCl, with possibly a little gypsum and hematite or goethite. The nodules yield a soft white fine-grained powder, mean n 1.514, d . (pycnometer) 2.21, 2.30, 2.30. Analysis gave Al_2O_3 31.92, P_2O_5 28.63, Na_2O 0.47, K_2O 0.01, F 0.84, Cl trace, loss at 110° 2.71, loss on ignition 36.52, insol. 0.02, sum 101.12% less ($O = 2F$) 0.35, = 100.77%. This corresponds to $Al_3(PO_4)_2(OH, F)_3 \cdot 9H_2O$. A dehydration curve shows a loss of 10% up to 160° and the formation of a new phase called meta-kingite, nearly $Al_3(PO_4)_2(OH, F)_3 \cdot 4H_2O$. Further loss of H_2O gives an amorphous phase and the cristobalite-like form of $AlPO_4$ begins at 410° and continues to high temperatures. A DTA curve shows a large endothermic peak at 200-300° and a broad exothermic peak (recrystn?) at 600-700°. X -ray powder data are given, strongest lines are 9.1 100, 3.45 80, 3.48 65, 5.28 52. The x -ray pattern differs from those of sterrettite and wavellite.

The mineral is considered to be of supergene origin. It has also been found in Precambrian sediments near the Clinton phosphate workings, 64 miles west-south-west of the first deposit.

The name is for D. King, Geologist, Department of Mines, South Australia, who first collected the mineral.

DISCUSSION—This is close in composition and n to material described as planerite by Leitmeier, *Zeits. Krist.* **55**, 362–371 (1916) from near Jakubeny in Bukovina. Another, somewhat different analysis of material from Jakubeny was given by Grosspietsch (Verhandl. Geol. Reichsanstalt Austria 1919, pp. 149–155), *Min. Abs.* **1**, 261–262 (1921). The original planerite from the Urals differs considerably from these and from kingite and none of these has been studied by x -ray methods.

M. F.

Magnussonite

O. GABRIELSON, Magnussonite, a new arsenite mineral from the Langban mine in Sweden. *Arkiv mineralogi och geologi* **2**, 133–135 (1957).

The mineral occurs as fine-grained incrustations in fissures, usually in dolomite impregnated by hausmannite or in fine-grained hematite with calcite, trigonite, dixenite, brown manganiferous serpentine, and an unidentified black mineral ($n=1.55$) that contains Fe, Mg, Cu, and Si. The mineral is grass-green to emerald green, sometimes blue-green. Streak white. Luster vitreous. H. $3\frac{1}{2}$ –4, G. 4.30 measured, 4.23 calcd. Isotropic, n 1.980 ± 0.005 , by the immersion method.

Analysis by R. Blix gave MnO 47.24, MgO 1.47, CuO 2.07, As₂O₃ 43.49, H₂O 1.16, Cl 0.84, insol. (barite) 3.68, sum 99.95 less (O=Cl₂) 0.19=99.76%, corresponding to (Mn, Mg, Cu)₅(AsO₃)₃(OH,Cl). Indexed x -ray powder data give a 16.05 ± 0.05 Å.; $Z=16$. The strongest lines are d 2.85 10, 3.12 3, 3.12 3, 2.47 3, and 1.74 2.

The formula is similar to that of finnemanite, Pb₆(AsO₃)₃Cl, but the latter mineral is hexagonal.

M. F.

Honessite

ALLEN V. HEYL, CHARLES MILTON, AND JOSEPH M. AXELROD, Nickel minerals from near Linden, Iowa County, Wisconsin. *Bull. Geol. Soc. Am.* **67**, 1706 (1956) (abstract).

The name honessite is given to a green or brown powdery hydrous basic sulfate of nickel and ferric iron (no analysis given). It is extremely fine-grained and obscurely fibrous; mean n 1.615, double refraction very low. The x -ray pattern (not given) shows broad lines not referable to any known mineral. The mineral is an alteration product of millerite. Named for Arthur P. Honess, 1887–1942, formerly professor of mineralogy at Pennsylvania State College.

M. F.

Zirconolite

L. S. BORODIN, I. I. NAZARENKO and T. L. RICHTER, The new mineral zirconolite—a complex oxide of the AB₃O₇ type. *Doklady Akad. Nauk S.S.S.R.* **110**, 845–848 (1956) (in Russian).

The mineral occurs in irregular masses up to 1 cm. and in imperfect octahedra. Color brown to black, streak brownish-yellow. Cleavage absent, fracture irregular or conchoidal. G. 4.017 (grayish-brown) to 4.237 (dark brown). In thin section yellowish or brownish, isotropic, n 2.06 ± 0.005 (brown) to 2.17 ± 0.03 (dark brown), shows different tints even in single grains, being lighter on the periphery and along cracks.

The mineral is metamict, giving no x -ray pattern. Samples heated at 600° and 800° did not give good patterns, but heating at 1000° for 2 hours gave the same spacings for dark and light varieties. The strongest lines are, in Å., 2.914 10, 1.980 9, 1.792 9, 2.506 4, and 3.176 3. These differ from the lines of ZrO₂ or the modifications of TiO₂. The D. T. A. curve shows a sharp exothermic break at 750–800°.

Analyses (by I.I.N.) of dark brown and light brown varieties gave TiO₂ 31.69, 29.91; ZrO₂ 32.84, 31.17; Nb₂O₅ 3.26, 2.86; Fe₂O₃ 5.49, 4.60; Al₂O₃ 1.03, 1.04; MgO 0.45, 0.50; FeO—, 0.36; CaO 11.05, 10.79; U₃O₈ 1.53, 1.75; ThO₂ 0.58, 0.46; Ce₂O₃, etc. 6.22, 6.00; MnO 0.06, 0.13; Na₂O 0.37, 0.46; SiO₂ 2.05, 4.50, loss on ignition 3.35, 5.66, sum 99.97 (given as 99.98), 100.19% (given as 100.20). X-ray spectroscopic analysis of the rare earths by R. L. Barinsky gave Ce₂O₃ 2.5, Nd₂O₃ 2.0, Sm₂O₃ 0.7, Gd₂O₃ 0.4, Pr₂O₃ 0.3, La₂O₃ 0.2, Y, Eu, Tb, and Dy present in hundredths of a per cent. The analyses correspond closely to the formula AB₃O₇, where A = Ca, Ce, etc., Na, U, Th, and Mn, and B = Ti, Zr, Fe⁺³, Nb, Al, and Mg; the formula may be simplified as CaZrTi₃O₇. The water is lost gradually up to 700°. The mineral is decomposed by hot hydrochloric and sulfuric acid.

The mineral is very close in composition to the "zirkelite" from Ceylon described by Blake and Smith, see Dana's System, 7th Ed., Vol. I, p. 741, the Ceylon material containing more U and Th and less rare earths.

The mineral occurs in a pyroxenite massif (no locality is given) in metasomatic pyroxene—amphibole—calcite rock containing also perovskite and sphene.

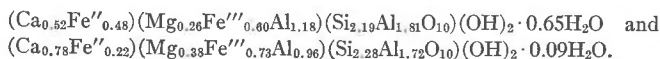
M. F.

Ferroferrimargarite

A. I. GINZBURG, A new mineral of the brittle mica group. *Trudy Mineralog. Muzeya, Akad. Nauk S.S.S.R.* 7, 70–75 (1955) (in Russian).

The mineral occurs as dark blue incrustations on feldspar and smoky quartz and in miarolitic cavities in the Murzink pegmatite, Urals. Similar material, not studied, has been noted from pegmatites of Tokyo Province, Japan, and the Gorikko region, central Mongolia. Color blue to dark blue, luster dull to greasy. Under the microscope consists of aggregates of fine mica-like scales. Weakly pleochroic, colorless to gray or bluish. Optically biaxial, positive, 2 V about 20°. Blue material had n_s , α 1.645, γ 1.649. Microchemical analyses by R. E. Arest-Yakubovich gave for blue and light-blue varieties: SiO₂ 30.91, 32.67; Al₂O₃ 35.62, 32.03; Fe₂O₃ (total Fe) 17.37, 16.62; FeO not detd.; MgO 2.47, 3.65; CaO 6.97, 10.47, total H₂O 6.97, 4.64, sum 100.31, 100.08%. Spectrographic analysis showed also Mn (medium), Ti, Be (weak), Na, Cu, Zn (traces). Insoluble in acids, infusible before the blowpipe, turns brown when heated. A D.T.A. curve shows only one break—an endothermal break at 990°.

Assuming that FeO is present, filling the Ca position, the analyses were recalculated to



X-ray powder data by N. N. Sludsko are given. The strongest lines are 2.573 and 2.041 vs, 4.231, 3.938, 3.484, 2.945, 1.915, 1.651, 1.594, 1.450, 1.186, 1.151 s. (These do not agree well with margarite. M. F.)

DISCUSSION.—Appears to be an unnecessary name for ferroan margarite.

M. F.

Alumoferroascharite

D. P. SERDYUCHENKO, Alumoferroascharite—a new mineral. *Zapiski Vses. Mineralog. Obshch.* 85, No. 3, 292–296 (1956). (in Russian).

The mineral was found as blue-gray aggregates of finely fibrous material formed by the replacement of ludwigite in a skarn in southern Yakutia and is itself replaced by snow-white szaibelyite (ascharite). Analysis by T. A. Malomakhova (B by E. B. Evdokimov) gave SiO₂ 0.90, TiO₂ 0.14, B₂O₃ 25.98, Al₂O₃ 6.47, Fe₂O₃ 4.30, FeO 8.79, MnO 0.14, MgO 35.32,

CaO none, Na₂O 1.46, K₂O none, F 0.16, H₂O to 105° 1.69, H₂O to 240° 4.00, H₂O⁺ 10.32, sum 99.67%. This corresponds to 10 (Mg, Fe)O·4B₂O₃·(Al, Fe)₂O₃·5H₂O with Mg:Fe'' = 7:1 and Al:Fe''' = 3:1, or after deducting serpentine, to 2 (Mg, Fe)O·(B, Al)₂O₃·2H₂O, that is saibelyite with B partly replaced by Al, Mg by Fe'', and with excess H₂O. The mineral is optically negative with $n_s \alpha 1.587 \pm 0.002$, $\beta 1.670 \pm 0.004$, $\gamma 1.685 \pm 0.002$, $2V 44^\circ$ (calcd). Indices and birefringence are higher than for saibelyite. The D.T.A. curve shows a large endothermal break at 600–680° and smaller ones at 240–260° and 420–470°. X-ray powder data agree well with those for normal saibelyite.

DISCUSSION—The D.T.A. curve suggests the presence of hydrous impurities. The optical data show that there is isomorphous substitution, yet the presence of fine grained magnetite in the analyzed sample is not excluded. Even if the analysis represents the composition of a pure mineral, however, the name is an unnecessary one for ferroan aluminian saibelyite.

M. F.

Arsenate-belovite, Phosphate-belovite

L. K. YAKHONTOVA AND G. A. SIDORENKO, A new mineral—arsenate-belovite. *Zapiski Vses. Mineralog. Obshch.* **85**, No. 3, 297–302 (1956) (in Russian).

The name belovite has been given to two distinct minerals: (A) in a preliminary report (1953) to a calcium magnesium arsenate (see *Am. Mineral.* **40**, 552 (1955), and (B) in 1954 to a Sr-rare earth member of the apatite group (see *Am. Mineral.* **40**, 367 (1955)). The paper by Y. and S. describes mineral A and suggests that it be named arsenate-belovite, with mineral B to be named phosphate-belovite.

Three analyses by A. N. Bukin of white, rose-colored, and greenish material gave SiO₂ 0.14, 0.08, 0.33; Al₂O₃ 0.44, 0.12, 1.83; Fe₂O₃ 0.21, none, 0.91; MgO 9.39, 10.53, 9.07; CaO 27.20, 28.11, 26.08; MnO 0.03, none, none; C₂O none, 0.64; trace, NiO none, none, 0.75; As₂O₅ 52.51, 50.91, 51.85; H₂O⁻ 1.26, 1.82, 0.44; H₂O⁺ 7.93, 7.75, 8.18; F 1.12, 1.08, 1.88, sum 100.23, 101.04, 100.28%—(O=F₂) 0.47, 0.46, 0.58=99.76, 100.58, 100.24%. The rose-colored sample contained a slight admixture of erythrite. The analyses correspond to Ca₂Mg(AsO₄)₂·2H₂O. However, the presence of fluorine and the dehydration study, which showed that nearly all the water is lost above 420°, causes the authors to write the formula as H₂Ca₂Mg·(AsO₄)₂(OH, F)₂.

The mineral occurs as colorless prismatic crystals in the zone of oxidation of cobalt arsenide deposits (locality not given M.F.). It is optically positive, N'g 1.698–1.704, N'p 1.678–1.697, c:N'g 12–15°. Polysynthetic twinning was observed. Crystallographic data, hardness, and G. are not given. X-ray powder data are given and compared with those they give for "sorelite."

DISCUSSION—Apparently a valid species, but the data are insufficient to determine whether it belongs to the monoclinic roselite group or the triclinic fairfieldite group. The nomenclature is entirely unsatisfactory. Minerals with names such as arsenate-belovite and phosphate-belovite ought to be isostructural. The arguments by Y. and S. that they are related are entirely unconvincing. It would be very desirable that some group such as the Academy of Sciences, U.S.S.R., decide which of these two minerals is to be named belovite and an entirely different name should be assigned to the other.

M. F.

Kurumsakite

E. A. ANKINOVICH, *Izv. Akad. Nauk Kazakhstan SSR*, No. **134**, Ser. geol. No. 19; p. 116 (1954); from an abstract by E. N. Bohshtedt-Kupletskaya in *Zapiski Vses. Mineralog. Obshch.* **84**, No. 3, pp. 343–344 (1955).

The mineral occurs in bituminous schists of Kara-Tau as radiating—to finely-felted fibers on the walls of cavities and open fissures. Microchemical analysis by T. I. Gurkin gave SiO_2 13.82, Al_2O_3 20.51, Fe_2O_3 2.15, V_2O_5 8.50, ZnO 17.55, CuO 3.05, NiO 7.33, MgO 0.92, CaO 1.24, $\text{H}_2\text{O} \pm 23.25$, SO_3 1.15, sum 99.47%, corresponding to the formula $8(\text{Zn}, \text{Ni}, \text{Cu})_0.4\text{Al}_2\text{O}_3 \cdot \text{V}_2\text{O}_5 \cdot 5\text{SiO}_2 \cdot 27\text{H}_2\text{O}$ (after deducting gypsum? M.F.). Color greenish-yellow to bright yellow, luster vitreous to silky, sp. gr. 4.03. Optically biaxial, positive, $2V$ about 35° , α 1.616, γ 1.622–1.623, extinction parallel, elongation positive. Orthorhombic? The strongest x -ray lines are 1.53, 3.91, 2.61, 1.28 (A., kX?).

The name is for the locality (not given in abs.)

M. F.

Karpinskite

I. A. RUKAVISHNIKOVA. Some magnesium-nickel hydrous silicates of the Nizhne-Tagilsk serpentine massif. *Kora Vyvetrivaniya* (The crust of weathering), 2, 124–178 (1956) (in Russian).

The mineral occurs as colorless to light blue to deep greenish-blue veinlets in "Kerolitized" serpentinites. It is dense, cryptocrystalline, with dull to weakly greasy luster. H , $2\frac{1}{2}$ –3, G , variable, 2.63 for deeply colored, 2.53 for lighter material. Under the microscope, it appears well-crystallized in plates and monoclinic prisms, 0.3–0.8 mm. long. Pleochroism absent. Biaxial, negative; some sections show parallel extinction, others have $c:N_g = 12^\circ$. Elongation positive. Indices of refraction variable; for deeply colored, $N_p = 1.570$, $N_g = 1.594$; for paler samples, $N_p = 1.553$, $N_g = 1.569$.

Analysis by A. I. Pokrovskaya gave SiO_2 47.55, Al_2O_3 0.48, MgO 17.56, NiO 21.12, CaO 0.80, Cu 0.01, H_2O^- 3.50, H_2O^+ 6.50, loss on ignition 2.30, sum 99.82%. This corresponds to $(\text{Mg}, \text{Ni})_2\text{Si}_2\text{O}_6(\text{OH})_2$ with $\text{Mg}:\text{Ni} = 0.435:0.285$. A D.T.A. curve shows endothermic effects at 105 – 150° , 550 – 625° , and 840 – 910° , very similar to that of montmorillonite. Dyed deep blue by the addition of benzidine, but differs from montmorillonite in that the spectral transmission curve given with methylene blue is not displaced by the addition of KCl. X-ray powder data are given; the strongest lines are for deep greenish-blue material: 11.00, 7.71, 4.76, 3.75, and 1.555. Differs in some respects from nepouite, nickelian α -kerolite, and nickelian montmorillonite (described in the same paper with NiO up to 28.07% and Ni:Mg up to 0.374:0.387).

The name is for A. P. Karpinsky.

DISCUSSION—A thorough overhaul of the nomenclature of the hydrous magnesium and nickel silicates must await detailed study. This mineral should not be confused with the recently named karpinskyite, see *Am. Mineral.* 42, 119–120 (1957).

M. F.

Stilleite

PAUL RAMDOHR. Stilleit, ein neues Mineral, natürliches Zinkselenid, von Shinkolobwe. *Geotektonisches Symposium zu Ehren von Hans Stille*, 1956, page 481–483.

The mineral occurs in an ore sample from Shinkolobwe, Belgian Congo, associated with pyrite, linneite, clausthalite, two unidentified minerals, and dolomite. It is isotropic, with n (Na) (Se-S melts) near 2.5, perhaps a little lower. The color in air and oil resembles that of tetrahedrite, but the reddish inner reflections of tetrahedrite are absent, the mineral polishes poorly, and it is harder than tetrahedrite. The hardness is close to that of linneite (about 5). An indexed x -ray powder photograph (but no intensity data) shows the mineral to be cubic, of sphalerite type, with a 5.67 ± 0.01 Å. Synthetic ZnSe has a 5.66 Å. The associated linneite had a_0 9.52 ± 0.01 Å, hence probably contains little Se.

The name is for Hans Stille (1876–), eminent German geologist.

M. F.

Lizardite, Ortho-chrysotile, Clino-chrysotile, Para-chrysotile

E. J. W. WHITTAKER AND J. ZUSSMAN. The characterization of serpentine minerals by X-ray diffraction. *Mineralog. Mag.* **31**, 107-126 (1956).

J. ZUSSMAN, G. W. BRINDLEY AND J. J. COMER. Electron diffraction studies of serpentine minerals. *Am. Mineralogist* **42**, 133-153 (1957).

In the first paper, the serpentines are divided into the following mineral species:

	<i>a</i>	<i>b</i>	<i>c</i>	β
Ortho-chrysotile	5.34Å	9.2Å	14.63Å	90°
Clino-chrysotile	5.34	9.2	14.65	93°16'
Lizardite	5.3	9.2	7.3	90°
Para-chrysotile		Fiber axis is	9.2Å	
Antigorite	43.5	9.26	7.28	91°24'

In the second paper, it is shown that the *a* parameter of antigorite may range over rather wide limits, with most samples giving 33.4-43.9 Å. It was also found that the "ortho-antigorite" of Brindley and v. Knorring (*Am. Mineral.* **39**, 794-804 (1954)) is not an antigorite, but still another structural modification here called the "6-layer orthoserpentine."

DISCUSSION—The naming of polymorphic forms is a problem that is sure to become more serious in mineralogy. It would seem advisable to use great restraint to avoid the confusion caused by such misnomers as "ortho-antigorite," see above. It would be well to use a system of nomenclature such as that of Ramsdell for SiC and that of Yoder and Eugster (muscovite 2M, etc.), where possible, or like the "6-layer ortho-serpentine" above. I regret the introduction of a name such as lizardite on the insufficient basis of x-ray powder data alone. This has now been re-inforced by electron diffraction study, but chemical data are still missing.

M.F.

Lithiophosphate

V. V. MATIAS AND A. M. BONDAREVA. Lithiophosphate—a new mineral. *Doklady Akad. Nauk S.S.S.R.* **112**, 124-126 (1957) (in Russian).

The mineral occurs in masses up to 5×9 cm. Colorless to white, sometimes light-rose color; luster vitreous. Hardness 4, sp. gr. 2.46. Probably orthorhombic from the optical properties, with one excellent and one fair cleavage and an angle of 50° between the cleavages. Luminesces turquoise-blue in the cathode beam, not luminescent in ultra-violet light. The mineral is biaxial, positive, with $n_s \alpha$ 1.550, β 1.557, γ 1.567, all \pm 0.002, 2 V 69°, elongation positive. An x-ray powder pattern by A. P. Denisov gave the following lines and intensities: 5.203 (6), 4.382 (5), 3.965 (10), 3.794 (9), 3.552 (8), 3.080 (7), 2.914 (7), 2.635 (10), 2.420 (9), 2.311 (9), 1.780 (7), 1.669 (5), 1.513 (9), 1.376 (8).

Analysis (by A.M.B.) gave SiO₂ 1.14, Al₂O₃ 0.62, Fe₂O₃ 0.04, MgO 0.15, CaO 0.88, MnO 0.01, Na₂O 0.05, Li₂O 37.07, P₂O₅ 59.92, H₂O⁺ 0.33, H₂O⁻ 0.06, F tr., K, B, CO₂, S none, sum 100.27%. After subtracting 1.04% quartz, 1.38% montebrasite, and 1.33% apatite, which were found as microscopic inclusions, this gives Li₃PO₄. Spectroscopic analysis by L. L. Kuznetsov showed, in addition to the elements found chemically, traces of V and faint traces of Ti, Ga, and Sn. The mineral is slightly soluble in hot water, soluble in strong acids.

Lithiophosphate was formed by the hydrothermal replacement of montebrasite in the central zone of a pegmatite in amphibolite in the Kola Peninsula. This zone consists of microcline-perthite and quartz with spodumene, beryl, tourmaline, pollucite, and lepidolite. Lithiophosphate alters under supergene conditions to manganapatite and probably davisonite.

The name is for the composition.

M. F.

NEW DATA

Avelinoite (=Cyrilovite)

- M. L. LINDBERG. Relationship of the minerals avelinoite, cyrilovite, and wardite. *Am. Mineralogist* 42, 204-213 (1957).
- H. STRUNZ. Identität von Avelinoit und Cyrilovit. *Neues Jahrb. Mineral., Monatsh.* 1956, 187-189.

Cyrilovite was described in 1953 by Novotny and Stanek as a hydrous ferric phosphate containing traces of sodium; avelinoite was described by Lindberg and Pecora in 1954 as a hydrous sodium ferric phosphate, the Fe analogue of wardite. The minerals are evidently identical. Lindberg points out that the composition and x-ray powder data given for cyrilovite were in error and that the name cyrilovite should therefore be dropped. Strunz believes that the similarity in composition, near-identity of optical data, and identity of unit cell data were sufficient to characterize cyrilovite, and that therefore the priority rule should hold and that the name avelinoite should be dropped. K. Chudoba in Hintze's *Handbuch, Ergantung-Band*, 1957, agrees with Strunz. So do I.

M. F.

DISCREDITED MINERALS

Termierite (=mixture)

- J. ORCEL, S. HÉNIN, AND S. CAILLÈRE. Sur la présence de l'anauxite en France. *Bull. soc. franc. mineral. crist.* 79, 435-443 (1956).

X-ray and D.T.A. study of the clay mineral termierite (Friedel, 1901) from the type locality showed it to consist of a mixture of montmorillonite, colloidal silica, and a clay mineral of the kaolinite type, probably anauxite.

M. F.

Talktriplite (=ferroan wagnerite)

- AKE HENRIQUES. An iron-rich wagnerite, formerly named talktriplite, from Hallsjöberget (Horrjsjöberget), Sweden. *Arkiv mineralogi och geologi* 2, 149-153 (1957).

X-ray powder data showed that the talktriplite of Igelstrom (1882) was wagnerite. Analysis by A. Parvel of material containing some apatite gave CaO 3.81, MnO 7.72, FeO 13.36, MgO 27.93, P₂O₅ 37.38, F 6.56, H₂O* 2.54, Al₂O₃, Fe₂O₃, TiO₂ 2.23, SiO₂ 1.23, sum 102.76 less (O=F₂) 2.76=100.00%. The mineral is biaxial, positive, α 1.608, β 1.615, γ 1.630, all ± 0.002 , 2V 66°, Y=b, Z \wedge C 53°, pleochroic with X colorless to pale yellow, Y and Z intense yellow. G. 3.47.

DISCUSSION—Henriques suggests the name *iron-wagnerite*. This, however, implies that the mineral is the iron analogue of wagnerite; it should be called ferroan wagnerite.

M. F.

Carphosiderite, Borgstromite, Utahite, Cyprusite (all = jarosite or natrojarosite)

- A. A. MOSS. The nature of carphosiderite and allied basic sulfates of iron. *Mineralog. Mag.* 31, 407-412 (1957).

New analyses and x-ray study show that these are all either jarosite or natrojarosite. Type material was studied except for carphosiderite, the first sample of which came from an unspecified locality. The carphosiderite studied was from St. Leger, France. Pastreite and raimondite are probably also jarosites; planoferrite has been thought to be a jarosite, but was reported to be water-soluble, hence may be a hydrated ferric sulfate. There is thus no evidence of the existence in nature of Fe₃(SO₄)₂(OH)₅·H₂O synthesized by Posnjak and Merwin and found by Hendricks to have the jarosite structure.

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