

## NEW MINERAL NAMES\*

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### Burangaite\*

O. von Knorring, Martti Lehtinen, and Th. G. Sahama (1977)  
Burangaite, a new phosphate mineral from Rwanda. *Bull. Geol. Soc. Finland*, 49, 33-36.

Analysis by O. von Knorring gave  $Al_2O_3$  34.35,  $Fe_2O_3$  1.14,  $FeO$  6.26,  $MgO$  2.00,  $MnO$  0.40,  $CaO$  1.88,  $Na_2O$  2.93,  $P_2O_5$  37.65,  $H_2O$  + 11.60, insol. 2.06, sum 100.27 percent, corresponding to a unit cell content of  $(Na_{2.81}Ca_{1.00})(Fe_{2.59}Mg_{1.48}Mn_{0.17})(Al_{20.05}Fe_{0.43})(PO_4)_{15.79}(O,OH)_{26} \cdot 8H_2O$  or  $2(Na,Ca)_2(Fe,Mg)_2Al_{10}(PO_4)_8(O,OH)_{12} \cdot 4H_2O$ .

Burangaite is monoclinic, space group  $C2/c$ ,  $a = 25.09$ ,  $b = 5.048$ ,  $c = 13.45A$ ,  $\beta = 110.91^\circ$ . The strongest X-ray lines (56 given) are 11.71 (100)(200), 4.86 (41)(202), 3.318 (39)(113,313), 3.115 (70)(802,511), 3.081 (90)(113,513).

Color bluish to bluish-green, streak slightly bluish. Cleavage {100} perfect.  $H = 5$ .  $G = 3.05$ . Optically biaxial, negative,  $\alpha = 1.611 \pm 0.002$ ,  $\beta = 1.635 \pm 0.002$ ,  $\gamma = 1.643 \pm 0.001$ ,  $2V = 58^\circ$  (calc  $60^\circ$ ),  $r > v$ ,  $Z = b$ ,  $X = c = 11^\circ$  in the acute angle  $\beta$ . Pleochroic,  $X$  light blue,  $Y$  dark blue,  $Z$  colorless,  $Y > X > Z$ .

Burangaite occurs as long prismatic crystals in the Buranga pegmatite, Rwanda, associated with bertossaite, trolleite, scorzallite (which it replaces), apatite, bjarebyite, and wardite. Forms noted include 301, 102, 104,  $\bar{1}01$ ,  $\bar{2}23$ , 311,  $2\bar{2}3$ ,  $\bar{3}1\bar{1}$ , and  $40\bar{1}$ . Crystals show hourglass structure, with blue core and colorless margin.

The name is for the locality. **M.F.**

### Charoite

L. V. Nikol'skaya, A. I. Novozhilov and M. I. Samoilovich (1976)  
The nature of the color of a new alkali calcium silicate from eastern Transbaikal. *Izvest Akad. Nauk SSSR, Ser. geol., No. 10*, 116-120 (in Russian).

Optical, infrared, and electron paramagnetic resonance spectra are interpreted to indicate that the deep reddish-violet color of this new mineral, "a complex alkali silicate," is caused by the presence of  $Mn^{3+}$ . The mineral contains 0.0n percent Mn, 0.00n percent Fe. It occurs in eastern Transbaikal with tinaksite [*Am. Mineral.*, 50, 2098 (1965)].

### Discussion

New names should not be given without a full description. **M.F.**

### Claringbullite\*

E. E. Fejer, A. M. Clark, A. G. Couper and C. J. Elliott (1977)  
Claringbullite, a new hydrated copper chloride. *Mineral. Mag.*, 41, 433-436.

\* Minerals marked with an asterisk after the name were approved before publication by the Commission on New Minerals and Mineral Names of the International Mineralogical Association.

Claringbullite,  $Cu_4Cl(OH)_7 \cdot nH_2O$  where  $n$  is ca. 0.5, occurs as soft blue plates with cuprite and malachite at the Nchanga open pit, Zambia, and at the M'sesa mine, Kambowe, Katanga. The composition was established by microprobe analyses on 3 grains of the material from Zambia and 2 from Katanga. A small amount of  $SO_3$  (0.06 to 0.12 percent) was also reported for each specimen. The mineral is hexagonal,  $a = 6.671$ ,  $c = 9.183A$ ,  $Z = 2$ ,  $G$  meas 3.9,  $G$  calc 3.92; the lattice dimensions show simple relations to those of connellite and of buttgembachite. The strongest lines in the powder diffraction pattern are: 5.75 ( $10\bar{1}0$ ,vvs), 4.89 ( $10\bar{1}1$ ,s), 4.58 ( $0002$ ,s), 2.700 ( $10\bar{1}3$ , $11\bar{2}2$ ,vvs), 2.445 ( $20\bar{2}2$ ,vs). Claringbullite is optically negative:  $\omega = 1.782$ ,  $\epsilon = 1.780$ . The name is for Sir Frank Claringbull, former director of the British Museum (Natural History) and Keeper of Mineralogy. **A.P.**

### Fukalite\*

Chiyoko Henmi, Isao Kusachi, Akira Kawahara, and Kitinosuke Henmi (1977) Fukalite, a new calcium carbonate silicate hydrate mineral. *Mineral. J. (Tokyo)*, 8, 374-381.

Analyses of material from Fuka and Mihara containing a little calcite and xonollite gave, respectively,  $SiO_2$  29.09, 29.98;  $TiO_2$ ,  $MnO$  none;  $Al_2O_3$  0.55, 0.27;  $Fe_2O_3$  0.10, 0.14;  $MgO$  0.14, 0.02;  $CaO$  54.40, 54.81;  $Na_2O$  0.17, 0.05;  $K_2O$  0.01, 0.02;  $P_2O_5$  0.01, 0.07;  $H_2O$  + 4.45, 4.26;  $H_2O -$  0.23, 0.39;  $CO_2$  10.32, 10.22;  $F$  0.32, 0.43; sum 99.79, 99.56;  $-(O = F_2)$  0.13, 0.18 = 99.66, 99.38 percent, corresponding closely to  $Ca_4Si_2O_6(OH,F)_2(CO_3)$ . The mineral is decomposed by acids with effervescence. When heated the mineral loses  $H_2O$  and  $CO_2$  at about  $600^\circ C$  with the formation of larnite. In hydrothermal experiments at 1 kbar  $H_2O$  pressure, fukalite was unchanged at  $500^\circ C$  and decomposed irreversibly to calcite, foshagite, and dellaite above  $550^\circ$ .

Weissenberg and precession photographs showed fukalite to be orthorhombic, space group  $Bm2_b$ ,  $Bmmb$ , or  $B2mb$ ,  $a = 5.48 \pm 0.01$ ,  $b = 3.78 \pm 0.01$ ,  $c = 23.42 \pm 0.03A$ ,  $Z = 2$ ,  $G = 2.77$  calc  $G = 2.770 \pm 0.002$  meas. The strongest diffraction lines for the Fuka material are 2.854 (100)(107), 3.084 (90)(111), 2.926 (65)(008), 2.338 (30)(0.0.10), 5.86 (25)(004).

The mineral occurs as flaky crystals up to 0.2 mm long in skarns with scawtite and in hillebrandite veinlets at Fuka, Okayama Pref., and as an alteration product of spurrite in gehlenite-spurrite skarns at Mihara, Okayama Pref., and at Kushiro, Hiroshima Pref. Color white to pale brown.  $H$  about 4. Optically biaxial, sign not determined, indices (Fuka and Mihara, respectively)  $\alpha = 1.59_5$ ,  $1.59_2$ ;  $\beta = 1.60_5$ ,  $1.60_6$ ;  $\gamma = 1.62_6$ ,  $1.62_5$ . Elongation negative.

The name is for the first locality. Type material is at the Department of Earth Sciences, Okayama University, Okayama, Japan. **M.F.**

### Gatumbaite\*

Oleg von Knorring and André-Mathieu Fransolet (1977) Gatumbaite,  $CaAl_2(PO_4)_2(OH)_2 \cdot H_2O$ , a new species from Buranga pegmatite, Rwanda. *Neues Jahrb. Mineral. Monatsh.*, 561-568.

Analysis on 0.5 g of handpicked material (O. von K.) gave  $P_2O_5$  41.35,  $Al_2O_3$  28.09,  $Fe_2O_3$  2.20,  $MnO$  0.30,  $CaO$  17.35,  $Na_2O$  0.30,  $H_2O+$  10.68,  $H_2O-$  0.32, sum 100.59 percent, corresponding to  $(Ca_{2.12}Na_{0.07}Mn_{0.03})(Al_{8.78}Fe_{0.19})(PO_4)_4(OH)_{4.28} \cdot 1.92H_2O$ . The mineral dissolves slowly in dilute and hot mineral acids. The infrared spectrum indicates the presence of both hydroxyl groups and water molecules.

A rotation photograph about the fiber axis gave 5.11A. The Ito method indicates monoclinic symmetry, with  $a = 6.907$ ,  $b = 5.095$ ,  $c = 10.764A$ ,  $\beta = 91^\circ 03'$ , space group  $P2/m$ ,  $P2$ , or  $Pm$ .  $Z = 2$ ,  $G$  calc 2.95, meas 2.92 (by suspension). The strongest X-ray lines (48 given) are 6.90 (45)(100), 4.210 (100)(102), 3.207 (50) (103), 2.772 (70)(21 $\bar{1}$ ), 2.301 (65)(300,022), 2.241 (100)(301), 1.91 (45)(303,22 $\bar{2}$ ), 1.726 (75)(40 $\bar{1}$ ,320).

The mineral forms sheaves and rosettes with radial fibrous structure, up to 3–10 mm in diameter. Color pure white, luster pearly.  $H < 5$ , brittle, giving fibrous asbestiform splinters, with a longitudinal cleavage and some cross-fractures. Does not fluoresce in UV. Optically biaxial, negative,  $\alpha = 1.610$ ,  $\beta = 1.63$  estimated,  $\gamma = 1.639$ ,  $2V = 65 \pm 5^\circ$ ,  $Z = b$ , optic axial plane  $\perp$  (010).

The mineral occurs in the Buranga pegmatite, near Gatumba, Gisenyi Province, Rwanda, associated with trolleite, scorzalite, apatite, bjarebyite, and an undescribed Be phosphate. The name is for the locality. Type material is at the Musée Royal d'Afrique Centrale, Tervuren, Belgium, no. RGM 10,560. A brief abstract of this mineral was given in *Am. Mineral.*, 59, 1140 (1974). M.F.

#### Janggunite\*

Soo Jin Kim (1977) Janggunite, a new manganese hydroxide mineral from the Janggun mine, Bonghwa, Korea. *Mineral. Mag.*, 41, 519–523.

Janggunite occurs as radiating groups of flakes, flower-like aggregates, colloform bands, or arborescent masses in the cementation zone of the supergene manganese oxide deposits. Chemical analysis (partly by microprobe and partly by wet-chemical techniques) leads to the idealized formula  $Mn_{4-x}^{2+}(Mn^{2+}, Fe^{3+})_{1+x}O_8(OH)_6$  ( $x = 0.2$ ). The powder pattern can be indexed on an orthorhombic cell with  $a = 9.324$ ,  $b = 14.05$ ,  $c = 7.956A$ ,  $Z = 4$ ,  $G$  (meas) 3.59, (calc) 3.58. Important diffraction lines are: 9.36 (100,s), 7.09 (020,s), 4.62 (200,121,m), 4.17 (130,m), 3.547 (112,s). The flakes average 0.05 mm, and the mineral is very fragile with cleavage in one direction. Color black, luster dull, streak brownish black to dark brown,  $H = 2-3$ . The DTA curve shows endothermic peaks at 250–370° and 955° C. The IR absorption curve shows peaks at 515, 545, 1025 and 3225  $cm^{-1}$ . Janggunite is closely associated with todorokite, nsutite, and calcite. Textural relations indicate that it was formed at almost the last stage of oxide ore formation and in a highly oxidizing environment. A.P.

#### Para-alumohydrocalcite

1. V. I. Srebrodol'skii (1977) Para-alumohydrocalcite, a new mineral. *Zapiski Vses. Mineral. Obshch.*, 106, 336–337 (in Russian).
2. V. I. Srebrodol'skii (1974) Alumohydrocalcite. *Izvest Akad. Nauk SSR, Ser. Geol.*, no. 10, 88–96 (in Russian).

Para-alumohydrocalcite differs from alumohydrocalcite  $[CaAl_2(CO_3)_2(OH)_4 \cdot 3H_2O]$  in its water content of 6 $H_2O$ . The distinction is made on the basis of a comparison of multiple chemical analyses of "alumohydrocalcites" from various localities showing total water contents in the ranges of either 32.6–34.03 percent or

23.48–28.11 percent; the former is approximately 6 $H_2O$  and the latter near 3 $H_2O$ . The contention that these are different species is supported by correspondingly different optical and physical property data. Powder data are similar but clearly not the same, para-alumohydrocalcite having the following major lines: 7.90 (100), 6.20 (30), 4.04 (20), 3.90 (25), 3.32 (28), 2.68 (24) and 2.64 (32).

The mineral is white, radially fibrous, colorless in thin section, and the extinction with respect to the fibres is 10–12°. Hardness is 1.7–1.8,  $G = 2.0$ ; HCl attacks the mineral only slightly.

Its occurrence, with gypsum and calcite, is in the oxidized ores of the Vodino (Ukraine) and Gawidak (Turkmen SSR) sulfur deposits.

Crystallographic data are not given.

#### Discussion

It is difficult to summarize the description of this mineral because it is divided between two papers. The more recent of the two is altogether too brief and incomplete, referring the reader to the earlier one which, in turn, presents most data in widely-ranging numbers, some of which overlap alumohydrocalcite data. While the differences between the two hydrates do appear real, it is most unfortunate that crystallographic data for the six-hydrate are omitted. Alumohydrocalcite does not appear to be a partial dehydration product of para-alumohydrocalcite, but this is not stated in either paper. J.S.W.

#### Perhamite\*

Pete J. Dunn and Daniel E. Appleman (1977) Perhamite, a new calcium aluminum silico-phosphate mineral, and a re-examination of viséite. *Mineral. Mag.*, 41, 437–442.

Perhamite occurs as rare, isolated brown spherulitic masses (ca. 1 mm across) of platy crystals, associated with siderite, colorless wardite, ambygonite, eosphorite, and sphalerite in a vuggy ambygonite-rich pegmatite zone at the Bell Pit, Newry Hill, Newry, Maine. Microprobe analyses lead to the formula  $3CaO \cdot 3.5Al_2O_3 \cdot 3SiO_2 \cdot 2P_2O_5 \cdot 18H_2O$ . Perhamite is hexagonal, space group probably  $P6/mmm$ , with  $a = 7.02A$ ,  $c = 20.21$ ,  $Z = 1$ ;  $G$ (meas) 2.64,  $G$ (calc) 2.53. Strongest lines of the powder pattern are: 6.08 (100,50), 5.80 (101,71), 3.51 (110,50), 3.115 (113,50), 2.882 (007,114,100) and 2.104 (109,35). This description is based on material from the Bell Pit. In a second occurrence in the Dunton Gem mine, atop Newry Hill, perhamite is in a very soft delicate white botryoidal cluster, yielding the same powder diffraction pattern.

The mineral is named for Frank C. Perham, geologist and pegmatite miner of West Paris, Maine, in honor of his dedicated labors in the recovery of mineral specimens. A.P.

#### Ruizite\*

S. A. Williams and M. Duggan (1977) Ruizite, a new silicate mineral from Christmas, Arizona. *Mineral. Mag.*, 41, 429–432.

Ruizite occurs in the mesogene calc-silicate assemblage at the Christmas mine, Gila County, Arizona, with kinoite, apophyllite, smectite, and junitoite. Its color is orange inclining to brown, with a pale streak;  $H = 5$ ,  $G$  meas = 2.9. Crystals monoclinic,  $2/m$ , elongate on [010];  $a = 11.95$ ,  $b = 6.17$ ,  $c = 9.03A$ ,  $\beta = 91^\circ 22\frac{1}{2}'$ . Probable space group  $P2_1/c$  with  $Z = 4$ , giving  $G$  calc 2.997. Strongest lines of the powder pattern are 11.95 (10), 4.190 (7), 3.116 (6), 5.092 (5), 3.644 (4), 2.951 (4), 2.591 (4), 2.132 (4). Refractive indices are  $\alpha = 1.663$ ,  $\beta = 1.715$  || [010],  $\gamma = 1.734$ ,  $\gamma = c$

=  $-44^\circ$ ,  $2V_\alpha = 60.2^\circ$ ; inclined dispersion,  $p > v$  strong. Twinned on {100}. Analysis by wet methods gave CaO 20.57, Mn<sub>2</sub>O<sub>3</sub> 23.42, SiO<sub>2</sub> 39.14, H<sub>2</sub>O 16.0, sum 99.13 percent, leading to the idealized formula  $\text{CaMn}^{3+}(\text{SiO}_3)_2(\text{OH}) \cdot 2\text{H}_2\text{O}$ . The name is for the discoverer, Joe Ana Ruiz of Mammoth, Arizona. **A.P.**

#### Unnamed (K,Ba)<sub>2</sub>(Ti,Fe)<sub>6</sub>O<sub>13</sub>

A. N. Bagshaw, B. H. Doran, A. H. White and A. C. Willis (1977) Crystal structure of a natural potassium-barium hexatitanate isostructural with K<sub>2</sub>Ti<sub>6</sub>O<sub>13</sub>. *Aust. J. Chem.*, 30, 1195-1200.

The mineral was found in the Kimberley Division, Western Australia, associated with perovskite and priderite [*Am. Mineral.*, 36, 793 (1951)] by L. C. Hodge and M. W. Pryce. It is monoclinic, space group *C2/m*,  $a = 15.432$ ,  $b = 3.6368$ ,  $c = 9.123\text{A}$ ,  $\beta = 99.25^\circ$ ,  $Z = 2$ ; X-ray powder data not given. Electron microprobe analysis (not given) gave the formula  $(\text{K}_{0.56}\text{Ba}_{0.36})_2(\text{Ti}_{0.93}\text{Fe}_{0.06}^{3+})_6\text{O}_{13}$ . Color black. Cleavages {100} perfect, {201} good. Faces noted are {100} and {201}.

#### Discussion

As has happened so often recently, the crystal structure of a mineral is reported in detail before occurrence, physical properties, and X-ray powder data are reported. **M.F.**

#### Unnamed barium titanate

Tsuyoshi Tanaka and Kimio Okumura (1977) Ultrafine barium titanate particles in the Allende meteorite. *Geochem. J. (Tokyo)*, 11, 137-145.

Electron microprobe analyses of Allende showed the presence of particles up to  $50 \times 150$  microns rich in Ba and Ti. Analysis of a spot rich in Ba and Ti gave SiO<sub>2</sub> 14, TiO<sub>2</sub> 19, Al<sub>2</sub>O<sub>3</sub> 1, FeO (total Fe) 17, MgO 10, CaO 1, Na<sub>2</sub>O, K<sub>2</sub>O, 0, BaO 33, sum 96 percent; it is estimated that the barium titanate represented 56 percent of the area analyzed, so that the pure material may be BaTiO<sub>3</sub>. **M.F.**

## NEW DATA

### Alumohydrocalcite

W. Paar (1977) Ein Vorkommen von Alumohydrocalcit von Chitral, Westpakistan, und neue Beobachtungen an chromhaltigem Alumohydrocalcit von Nowej Rudy, Polen (= Neurode, Schlesien). *Aufschluss*, 28, 269-272.

A new occurrence of alumohydrocalcite at Chitral, NW-Frontier Province, Pakistan, is described. The optical constants,  $\alpha = 1.502$ ,  $\beta = 1.562$ ,  $\gamma = 1.585$ , and X-ray powder diffraction data (see PDF 21-127) are in good agreement with German material from Bergisch-Gladbach (K. Kautz, 1968, 1969, M. A. 69-2359, 70-2593) which has inclined extinction at  $6^\circ$ . Reinvestigation of the Cr-bearing alumohydrocalcite of Neurode (= Nowej Rudy), Silesia, (K. Hoehne, 1953, M. A. 12-182) resulted in similar optical constants and  $6^\circ$  extinction. This is in contrast to a report of parallel extinction for material from the same locality (A. Morawiecki, 1962, M. A. 17-766) leading to the designation  $\beta$ -alumohydrocalcite. Alumohydrocalcite from Chitral is associated with aragonite, quartz, and dickite and has formed by the action of cool-hydrothermal CO<sub>2</sub>-bearing solutions (<140° C) on dickite. (See also: G. E. Dunning *et al.* Chromian alumohydrocalcite from

California, and knipovichite discredited, *Mineral. Rec.*, 6, 180-183, 1975). **A.P.**

### Cafarsite

A. Edenbarter, W. Nowacki, and M. Weibel (1977) Zur Struktur und Zusammensetzung von Cafarsit. Cafarsit ein As(III)-Oxid, kein Arsenat. *Schweiz. Mineralog. Petrogr. Mitt.*, 57, 1-16.

Cafarsite was first described [*Am. Mineral.*, 52, 1584 (1967)] as an arsenate,  $\text{Ca}_3(\text{Fe,Ti})_3\text{Mn}(\text{AsO}_4)_6 \cdot 2\text{H}_2\text{O}$ . Qualitative tests (decolorizing iodine) indicate that arsenic is present in the trivalent state. A new analysis (microprobe by R. Guber, atomic absorption by B. Ayranci) gave As<sub>2</sub>O<sub>3</sub> 55.0, CaO 16.5, MnO 2.6, Na<sub>2</sub>O 1.1, TiO<sub>2</sub> 14.1, SnO<sub>2</sub> 0.13, Al<sub>2</sub>O<sub>3</sub> 0.7, FeO 7.8, H<sub>2</sub>O 1.6, sum 99.53 percent, corresponding to  $(\text{Ca}_{6.35}\text{Mn}_{0.76}\text{Na}_{0.77})(\text{Ti}_{3.61}\text{Sn}_{0.02}\text{Al}_{0.36}\text{Fe}_{2.34})\text{As}_{12.01}\text{O}_{36} \cdot 1.92\text{H}_2\text{O}$ . This is converted in some unexplained fashion to  $(\text{Ca}_6\text{Mn}_{0.8}\text{Mn}_{0.9}^{3+})(\text{Ti}_{3.0}\text{Fe}_{1.1}^{2+}\text{Fe}_{1.9}^{3+})\text{As}_{12}\text{O}_{36} \cdot 4.5\text{H}_2\text{O}$ . Cubic, space group *Pn3*,  $a = 15.984\text{A}$ ,  $Z = 4$ . **M.F.**

### Davreuxite

André-Mathieu Fransolet and Pol Bourguignon (1976) Precisions minéralogiques sur la davreuxite. *C.R. Acad. Sci. (Paris)* 283D, 295-297.

Davreuxite (De Koninck, 1878; Dana's System, 6th Ed., p. 706) was examined by Lacroix in 1886 and reported to be a hydrated mica. Material from the Paris Museum, examined by Lacroix, was found by X-ray study to be a mixture of pyrophyllite with another mineral; type material from the Inst. Roy. Sci. Nat., Brussels, contained the same two minerals.

A new analysis on 70 mg by J. M. Speetjens gave SiO<sub>2</sub> 42.83, Al<sub>2</sub>O<sub>3</sub> 43.49, Fe<sub>2</sub>O<sub>3</sub> 1.05, MnO 8.85, MgO 0.48, CaO trace, H<sub>2</sub>O 3.98, sum 100.68 percent. Optical and X-ray study indicated that about 10 percent of quartz and 5 percent of pyrophyllite were present in the analyzed sample. Subtracting these, the formula is calculated as  $\text{Mn}_2\text{Al}_{12}\text{Si}_7\text{O}_{31}(\text{OH})_6$ . The infrared spectrum shows a complex pattern with intense absorption between 400-650  $\text{cm}^{-1}$  and 700-1200  $\text{cm}^{-1}$  with a very intense band at 815  $\text{cm}^{-1}$ . Only (OH) groups are present. The formula may be  $\text{Mn}_2\text{Al}_{12}[(\text{SiO}_4)_7\text{O}_3(\text{OH})_6]$ .

X-ray study shows the mineral to be monoclinic,  $a = 9.57$ ,  $b = 5.79$ ,  $c = 12.88\text{A}$ ,  $\beta = 116^\circ$ . The strongest X-ray lines are 8.48 (35), 5.706 (40), 4.283 (50), 3.507 (100), 3.180 (35), 3.119 (30), 3.101 (40), 2.869 (70), 2.837 (35), 2.520 (30).

The mineral occurs as long fibers creamy white to very pale rose in color, intimately associated with quartz and pyrophyllite at Ottre, Belgium.  $G = 3.15 \pm 0.05$ . Optically biaxial, negative, indices (Na)  $\beta = 1.680$ ,  $\gamma = 1.686 (\pm 0.002)$ ,  $2V = 70^\circ$ , elongation positive. **M.F.**

### Kerolite

G. W. Brindley, David L. Bish and Hsien-Ming Wan (1977) The nature of kerolite, its relation to talc and stevensite. *Mineral. Mag.*, 41, 443-452.

Kerolites from Goles Mountain (Yugoslavia), Wiry (Poland), Madison County (North Carolina) and Kremze (Czechoslovakia) are compared with talc and stevensite. Chemical analyses lead to the formula  $R_3\text{Si}_4\text{O}_{16}(\text{OH})_2 \cdot n\text{H}_2\text{O}$  with  $R$  mainly Mg and  $n$  about 0.8-1.2. IR data and dehydration-rehydration experiments suggest that the additional water is partly surface-held hydrogen-bonded

molecular water, lost up to about 300°C and easily recoverable. X-ray diffraction yields broad basal bands corresponding to a basal spacing of about 9.6Å and a crystallite size of about five structural layers. Kerolite is considered to be a useful varietal name for this talc-like mineral. It cannot be defined as serpentine + stevensite. (Note: The 1975 Glossary of Mineral Species, p. 62, lists "Kerolite, a mixt. of a serpentine mineral with stevensite.") A.P.

#### Viséite

Pete J. Dunn and Daniel E. Appleman (1977) Perhamite, a new calcium aluminum silico-phosphate mineral, and a re-examination of viséite. *Mineral. Mag.*, 41, 437-442.

Type viséite, from Visé, Belgium (NMNH no. 106364) was reexamined and agrees with the original description by Melon (*Am. Mineral.*, 30, 548, 1945). Microprobe analyses of both core and rind of the tiny botryoidal clusters lead to the approximate formula  $5\text{CaO} \cdot 6\text{Al}_2\text{O}_3 \cdot 3\text{SiO}_2 \cdot 3.5\text{P}_2\text{O}_5 \cdot 1.5\text{F} \cdot 36\text{H}_2\text{O}$ . Due to the lack of single crystals and the extremely diffuse powder pattern this formula cannot be confirmed by single-crystal methods and an accurate density determination.

Other specimens of viséite from Visé, Belgium, in no way resemble the original material, but are chalky, blue, friable, and massive. Microprobe analysis of this blue viséite leads to the formula  $3\text{CaO} \cdot 6.5\text{Al}_2\text{O}_3 \cdot \text{SiO}_2 \cdot 2\text{P}_2\text{O}_5 \cdot 9\text{H}_2\text{O}$ .

Both materials are so poorly crystalline that it is impossible to obtain more than a few weak, extremely broad and diffuse diffraction lines, but there are no discernible differences in spacing or intensity of the lines obtained from the two types of viséite. The powder diffraction data are in substantial agreement with those of McConnell (*Am. Mineral.*, 37, 609-617, 1952). A.P.

#### Applelite = Calcite

D. W. Ash (1975) Applelite: a new calcite structure from Apple Cave, Orange County, Indiana. *National Speleological Soc. Bull.*, 37, 35-39.

0003-004X/78/0708-0796\$00.50

The name is given to spindle-shaped or scalenohedral-like forms 1-6 microns in diameter that form aggregates, up to 60 microns in diameter and 120 microns in length, on the undersides of loose rocks within the cave stream. Scanning electron microscope photographs are given.

#### Discussion

An unnecessary name. M.F.

### Discredited Minerals

#### Allopalladium = Stibiopalladinite

A. D. Genkin, Gerhard Tischendorf, and I. P. Laputina (1977) Allopalladium from Tilkerode, Harz, D.D.R. *Z. Geol. Wiss.*, 8, 1003-1009 (in German).

X-ray, optical, and electron-microprobe analyses of material from the type locality showed that this "palladium amalgam" (see Dana's System, 7th Ed., p. 113-114) is stibiopalladinite, with most common composition Pd 68.4, Cu 0.2, Sb 29.9, As 1.3. sum 99.8 percent. M.F.

#### Svitalskite = Celadonite

E. K. Lazarenko and V. I. Pavlishin (1976) *Mineral. Osad. Obrazovanii*, 3, 21-32.

Svitalskite, named in 1960, was suggested to be an unnecessary name for celadonite [*Am. Mineral.*, 48, 1181 (1963)], but was defended as a distinct mineral by Serdyuchenko in 1965. This paper gives new X-ray, unit-cell determinations, DTA, and infrared data on type material, with the conclusion that svitalskite corresponds in every way to celadonite with close to  $\text{Si}_4$  in the unit cell. M.F.