**NEW MINERAL NAMES**

**Michael Fleischer, Adolf Pabst and John Sampson White**

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**Burangaite**

O. von Knorring, Martti Lehtinen, and Th. G. Sahama (1977)


Analysis by O. von Knorring gave Al₂O₃ 34.35, Fe₂O₃ 1.14, FeO 6.26, MgO 2.00, MnO 0.40, CaO 1.88, Na₂O 2.93, P₂O₅ 37.65, H₂O + 11.60, insol, 2.06, sum 100.27 percent, corresponding to a unit cell content of (Na₂₅,F₄,₅,Mg₁₄,₅,Mn₉₄,₅)Al²₉,₅(PO₄)₁₀,(OH)₂₆,₅H₂O or 2(Na₂,Mg)₂(Fe,Mg)Al₆(PO₄)₆,(OH)₁₂,₅H₂O.

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**Charoite**

L. V. Nikol'skaya, A. I. Novozhilov and M. I. Samoilovich (1976)


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**Claringbullite**


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**Fukalite**


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**Gatumbaite**

Analysis on 0.5 g of handpicked material (O. von K.) gave P₂O₅ 41.35, Al₂O₃ 28.09, Fe₂O₃ 2.20, MnO 0.30, CaO 17.35, Na₂O 0.30, H₂O+ 10.68, H₂O− 0.32, sum 100.59 percent, corresponding to (Ca₆.₈₁Fe₃.₁₉Mn₀.₉₈)(Al₃.₆₀Fe₄.₄₀)(PO₄)(OH)₇·1.₉₂H₂O. The mineral dissolves slowly in dilute and hot acids. The infrared spectrum indicates the presence of both hydroxyl groups and water molecules.

A rotation photograph for the axis gave 5.11A. The tetrahedron indicates monoclinic symmetry, with a = 6.907, b = 5.095, c = 10.764, β = 91°3', space group P2₁/m, P2₁, or Pmc, Z = 2, Gcalc 2.95, meas 2.92 (by suspension). The strongest X-ray lines (48 given) are 6.00 (45), 4.210 (100), 3.207 (50), 2.772 (70), 2.301 (65), 2.241 (100), 1.91 (45), 3.033, 2.225, 1.726 (75), 401, 420.

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. α = 1.610, β = 1.63 estimated, γ = 1.639. 2V = 65°-56°, Z = b, optic axial plane L (010).

The mineral occurs in the Buranga pegmatite, near Gatumba, Gisenyi Province, Rwanda, associated with trolleite, scozoalite, 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. RGS 10, 560. A brief abstract of this mineral was given in Am. Mineral., 59, 1140 (1974). M.F.

Janggunite*


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 Mn₉₋₂₊, (Mn⁺,Fe⁺,₄)₂, (OH)₄, O₆(OH), a = 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), 4.62 (200), 4.17 (130), 3.547 (112). The flakes average 0.05 mm, and the mineral is very fragile with a pale streak; H = 2.5; brittle, giving fibrous asbestiform splinters, with a longitudinal cleavage and some cross-fractures. Does not fluoresce in UV.

Para-alumohydrocalcite


Para-alumohydrocalcite differs from alumohydrocalcite [Ca₆Al(CO₃)₂(OH)₄·3H₂O] in its water content of 6H₂O. The distinction is made on the basis of a comparison of multiple chemical analyses of “alumohydrocalicates” 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 6H₂O and the latter near 3H₂O. 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), 3.95 (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 alunohydrocalcite 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*


Perhamite occurs as rare, isolated brown spherical masses (ca. 1 mm across) of platy crystals, associated with siderite, colorless wardite, amblygonite, esphorite, and sphalerite in a vuggy amphibole-rich pegmatite zone at the Bell Pit, Newry Hill, Newry, Maine. Microprobe analyses lead to the formula 3CaO·3.5Al₂O₃·3SiO₂·2P₂O₅·18H₂O. Perhamite is hexagonal, space group probably P6/mmm, with a = 7.02, c = 20.21, Z = 1; G(meas) 2.64, G(calc) 2.53. Strongest lines of the powder pattern are: 6.08 (100), 5.80 (101), 5.31 (110), 3.11 (113), 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*


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 monoclinal, 2/m, elongate on [010]; a = 11.95, b = 6.17, c = 9.03A, β = 91°22; Probable space group P2₁/c with Z = 4, giving G calc 2.997. Strongest lines of the powder pattern are: 11.95 (100), 4.190 (71), 3.51 (110), 3.11 (113), 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. Ruiz, geologist, and pegmatite miner of West Paris, Maine, in honor of his dedicated labors in the recovery of mineral specimens. A.P.
SiO₃ 39.14, H₂O 16.0, sum 99.13 percent, leading to the idealized formula CaₓMn³⁺(SiO₃)ₓ(OH)_y·2H₂O. The name is for the discoverer, Joe Ana Ruiz of Mammoth, Arizona. A.P.

Unnamed (K,Ba)_3(Ti,Fe)_3O₁₈

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. Pruce. It is monoclinic, Z = 2; X-ray powder data not given. Electron microprobe analysis (not given) gave the formula (KₓBaₓ)(TiₓFeₓ)₁₈O₃₁₈. 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

Electron microprobe analyses of Allende showed the presence of particles up to 50 × 150 microns rich in Ba and Ti. Analysis of a spot rich in Ba and Ti gave SiO₂, 14, TiO₂, 19, Al₂O₃, 1, Fe₂O₃ (total Fe) 17, MgO 10, CaO 1, Na₂O, K₂O, 0, BuO 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 BaTiO₃. M.F.

NEW DATA

Alumohydrocalcite

A new occurrence of alumohydrocalcite at Chitral, NW-Frontier Province, Pakistan, is described. The optical constants, α = 1.502, β = 1.562, γ = 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°. 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° 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 β-alumohydrocalcite. Alumohydrocalcite from Chitral is associated with aragonite, quartz, and dickite and has formed by the action of cool-hydrothermal CO₂-bearing solutions (<140° C) on dickite. (See also: G. E. Dunning et al. Chromian alumohydrocalcite from California, and knipovitchite discredited, Mineral. Rec., 6, 180–183, 1975). A.P.

Cafarsite

Cafarsite was first described [Am. Mineral., 52, 1584 (1967)] as an arsenate, Caₓ(Fe, Ti)ₓMn(AsO₄)ₓ·2H₂O. 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 As₂O₅ 55.0, CaO 16.5, MnO 2.6, Na₂O 1.1, TiO₂ 14.1, SnO₂ 0.13, Al₂O₃ 0.7, FeO 7.8, H₂O 1.6, sum 95.3 percent, corresponding to (Caₓ,Snₓ)₂₅₋ₓAsO₄ₓ₋₄₋₂H₂O. This is converted in some unexplained fashion to (Caₓ,Snₓ)₂₅₋ₓAsO₄ₓ₋₂₋₂H₂O. Cubic, space group Pn₃, a = 15.984A, b = 4.16, F. C.

Kerolite

Kerolites from Gole Mountain (Yugoslavia), Wiry (Poland), Madison County (North Carolina) and Kremze (Czechoslovakia) are compared with talc and stevensite. Chemical analyses lead to the formula R₉Si₅O₁₈(OH)₂·₇H₂O 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 9.6 Å 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

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 $5CaO \cdot 6Al_2O_3 \cdot 3SiO_2 \cdot 3.5P_2O_5 \cdot 1.5F \cdot 36H_2O$. 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 $3CaO \cdot 6.5Al_2O_3 \cdot SiO_2 \cdot 2P_2O_5 \cdot 9H_2O$.

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

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

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

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 Si in the unit cell. M.F.