NEW MINERAL NAMES

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**Insizwaite**


Five microprobe analyses of insizwaite gave Pt 35.6–36.4, av. 36.0; Bi 49.6–54.6, av. 52.0; Sb 10.7–14.8, av. 12.9 percent, corresponding to Pt(Bi, Sb)$_2$ with the ratio Bi/Sb ranging from 2.75 to 2.0, average Pt Bi$_{1.8}$Sb$_{0.2}$. X-ray data show the mineral to be cubic, space group probably $Pa\bar{3}a$. Synthetic PtBi$_2$ had $a = 6.691\AA$, synthetic Pt(Bi, Sb)$_2$ had $a = 6.614\AA$. The strongest lines for the mineral (37 given) are $2.96$ (8) (210), $2.70$ (8) (211), $1.998$ (10) (311), $1.774$ (7) (321), $1.277$ (6) (333, 511), $1.171$ (6) (440), $0.862$ (7) (731, 553).

The mineral is white in reflected light, both in air and in oil. Isotropic. Reflectances are 470 nm, 61.1 percent; 546, 60.0; 589, 66.0; 650, 61.7 percent. Hardness (microindentation with 25 g load) 488–540, av. 519 kg/mm$^2$.

The mineral occurs as rounded grains up to $70 \times 120$ microns in a vein cutting massive pyrrhotite ore from the Insizwa deposit, South Africa. It is associated with pentlandite, chalcopyrite, niggliite, and parakerrite. The name is for the locality. Type material is in the National Mineral Collection, Ottawa (no. 10,400). The mineral and name were approved before publication by the Commission on New Minerals and Mineral Names, IMA.

**Bambollaite**


Qualitative spectrographic analysis showed major elements present to be Cu, Se, and Te. Electron probe analysis by J. C. Rucklidge of material synthesized by fusing the elements in evacuated silica tubes gave: Cu 25.1, Te 31.0, Se 44.5, sum 100.6 percent, corresponding to Cu(Se,Te)$_n$ elements present to be Cu, Se, and Te. Electron probe analysis of material synthesized by fusing Cu with Se or Cu + Te failed.

The X-ray pattern was indexed on an $F$ tetragonal cell $a = 5.6324$, $c = 3.865$, space group $I4/mcm$. The conventional $I$ cell has $a = 5.385$, $c = 5.6324$, space group $I4_{1}/amd$. The unit cell content ($I$ cell), with $G = 5.64$ (measured on synthetic) is $Cu_2$, $Te$, $S$ (Se)$_{1.8}$, which is incompatible with the space group, so that either the space group is incorrect or the $I$ cell is a submultiple of the true cell. The strongest lines (indexed on $F$ cell) are $3.19$ (100) (111), $1.961$ (70) (022), $1.931$ (40) (220), $1.689$ (30) (113), $1.653$ (50) (131).

The mineral was found at the Mina La Moctezuma, also known as Mina LaBambolla, near Moctezuma, Sonora, Mexico; associated with klockmannite (which it resembles in color and luster), native Te, chalcocite, tellurite, and paratellurite. The name is for the mine. The mineral and name were approved in advance of publication by the Commission on New Minerals and Mineral Names, IMA. Type material is at the Royal Ontario Museum, Toronto.

**Rameauite, Agrinierite**


Microprobe analysis of rameauite gave UO$_2$ 84, K$_2$O 5.0, CaO 2.4, Sr, Ba none, H$_2$O (thermoanalytically) 8.2, total 99.6 percent, corresponding to K$_2$Ca$_3$UO$_8$·9H$_2$O. The DTA curve shows endothermic peaks at 95, 130, and 170° (loss of H$_2$O) and 1050°C (loss of O$_2$). Precession photographs show rameauite to be monoclinic, pseudohexagonal, space group $C2/c$ or $Cc$, $a = 13.97$, $b = 14.26$, $c = 14.22\AA$, $\beta = 121°1'$ ± 5°, $Z = 4$, $G$ calc 5.55, $G$ obs 5.60. The strongest lines (34 given) are $7p2$ (vs) (020), $3.566$ (vs) (040), $3.495$ (vs) (040), $3.473$ (vs) (202), $3.185$ (vs) (224), $3.139$ (vs) (422), $3.124$ (vs) (222).

Rameauite occurs as crystals up to 1 mm long, all twinned on (100). Observed forms are (010), (100), (001), and (110). Cleavage (010) good. Color orange. Optically biaxial, neg., $2V = 32°$, $Z \perp c$ on (010) is 4–6, $x = b$. Reflectances are given at 400–700 nm; at 580 nm, $\beta = 1.95$, $\gamma = 1.97$.

Analysis of agrinierite gave UO$_2$ 85.15, SrO 2.05, CaO 2.20, K$_2$O 3.35, H$_2$O 7.45, sum 100.20 percent, corresponding to $2(\text{K}_2\text{Ca}, \text{Sr})\text{O}6\text{UO}_28\text{H}_2\text{O}$. The TGA curve shows a rapid loss of water up to 130° and then more gradual loss to 500°. The DTA curve shows a large endothermic break at 163° (loss of H$_2$O) and a smaller one at 1060° (loss of O$_2$). X-ray study showed it to be orthorhombic, space group $Cmmm$, $Cm2\!\!m$, $Cm\!\!m2$, or $C2\!\!22$, $a = 14.04$, $b = 24.07$, $c = 14.13\AA$, $Z = 8$, $G$ calc 5.64, $G$ obs 5.7. The strongest lines (37 given) are $7.02$ (vs) (002), $6.05$ (ms) (220, 040), $3.516$ (s) (400, 332), $3.485$ (vs) (062, 260), $3.153$ (vs) (204, 134), $3.128$ (vs) (262), $2.023$ (s) (660), $1.945$ (ms) (730).

Agrinierite occurs as orange crystals, tabular on (001) and showing sector twinning. Cleavage (001) good. Optically biaxial, neg., $2V = 55°$, $X = a$, $Z = b$. Reflectances are given at 400–700 nm; at 580 nm, $\beta = 2.01$, $\gamma = 2.06$.

Both minerals occur at the Margnac U deposit, Massif Central, France, in the oxidation zone, rameauite with uranophane and calcite on pitchblende, agrinierite with uranophane in small cavities in “gummite.” The names are for Jacques Rameau (died 1960), prospector, who discover-
Endered the Margnac deposit, and for Henri Agrinier (1928–1971), engineer in the mineralogy laboratory of the Comm. Energie Atomique. Both minerals and names were approved in advance of publication by the Commission on New Minerals and mineral Names, IMA. Type material is preserved at the University of Paris.

Embreyite

Two microchemical analyses and 3 electron probe analyses gave an average PbO 74.4, CuO 1.70, CrO3 13.4, P2O5 9.09, H2O 0.91, ZnO 0.04, FeO 0.02, sum 99.56 percent, corresponding to Pb5(PO4)3(OH)3·H2O. The mineral does not dissolve readily in cold reagents.

Weissenberg photographs show the mineral to be monoclinic, space group probably P21/m, a 9.755, b 5.636, c 7.135 (all ± 0.003 Å). β = 103°5' ± 2', Z = 1, G calc. 6.41, meas. 6.45 ± 0.12 (Berman balance). The strongest X-ray lines of 24 are 4.751 (60)(200), 3.167 (100)(202), 2.681 (60)(020), 1.917 (45)(203).

The mineral is dull orange in color, luster dull to sparkling and resinous, streak primrose yellow. H. 3½, brittle. Optically biaxial, ns (S–Se melts) β = γ = 2.36 (all ± 0.04). Y = b, pleochroic, X honey yellow, Y and Z amber. Fracture irregular.

The mineral was found on old museum samples from Berezov, Siberia, with vauquelinite, crocoite, and phoenicchoroite. The name is for Peter G. Embrey, mineralogist, British Museum of Natural History. The mineral and name were approved in advance of publication by the Commission on New Minerals and Mineral Names, IMA.

Uduminelite

Name given to a mineral, 3CaO·4Al2O3·P2O5·2H2O. Ortho, acicular crystals 2 mm. long. White, ns 1.623, β 1.626, γ 1.621 2V 77°. Cleavage {110}. Occurs as aggregates of crystals in cracks of perthite in a pegmatite, Udumine, Fukushima Pref., Japan.

Pellyite

Analysis gave SiO2 40.50, Al2O3 3.53, ZnO 1.05, MgO 1.46, FeO 12.46, MnO 0.57, CaO 6.25, BaO 3.16, sum 99.98 percent, corresponding to Ba5Si10O28·6H2O, or 3(BaCa)2(Mn,Fe)2(PO4)2·H2O. S, Sr, Na, B, Be, Ti, and Zr were detected in traces spectrographically. The mineral is slowly decomposed by dilute HCl, leaving a white residue. Fuses at 3 to a weakly magnetic bead.

Weissenberg and precession photographs show the mineral to be orthorhombic, space group Cmcm, CmCc2, or C2/cm, a 15.677, b 7.151, c 14.209 Å, Z = 4, G 3.48 calc. 3.51 meas. The strongest X-ray lines (38 given) are 5.91 (40)(111), 4.22 (40)(310), 3.83 (50)(113), 3.46 (55)(021), 3.43 (100)(402), 3.19 (65)(022), 3.17 (45)(221), 3.15 (45)(313), 2.643 (40)(420), 2.308 (60)(432), 2.117 (50)(424).

The mineral is colorless to pale yellow, luster vitreous. H. 6. Fracture conchohalid; in thin section a poorly developed prismatic cleavage was noted. Optically biaxial, positive, ns (Na) α 1.643, β 1.645, γ 1.649 (all ± 0.003), 2V = 0°, dispersion R > V very strong.

The mineral occurs in a contact metasomatic skarn deposit in limestones adjacent to a stock of porphyritic quartz monzonite near the headwaters of the Pelly and Ross Rivers, Yukon Territory. Associated minerals are barite, hedenbergite, quartz, andradite, tarmellite, gillespite, sanbornite, chlophylite, and witherite. Pellyite also occurs in Fresno County, California. The name is for the Pelly River. Type material is at the Dept. of Geology, University of British Columbia, Vancouver. The mineral and name were approved in advance of publication by the Commission on New Minerals and Mineral Names, IMA.

Pellyite

The Yilmia meteorite, W. Australia, contains sparse very small grains of a new sulfide mineral; probe analysis of one grain gave S 35.8, Fe 33.5, Zn 18.0, Mn 9.8, Mg 0.11, sum 97.21 percent, ratio metals:S = 0.948, formula (Fe54, Zn58,Mn18)S.

Discussion. X-ray data are needed. Perhaps a member of the alabandite group.

NEW DATA

Biphosphammite

Biphosphammite (NH4H,PO4) was described by C. U. Shepard (1870) (Dana's System, 6th ed., p. 807) as powder crusts on phosphammite from guano. It is now recorded as crusts occurring with bat guano in Murra-el-elevyn cave, W. Australia. A partial analysis by P. Hewson gave P2O5 51.1, K2O 14.2, (NH4)2O 12.3, SO3 5.9, Na2O 0.16, insol. in H2O 0.81 percent; CaO and H2O were present as syngenite. This is recalculated to (NH4, K)H2PO4, with NH4:K = 62:38.

X-ray data show the mineral to be tetragonal, space group I42d, a 7.4953, c 7.340 Å. The strongest lines are 5.24 (9)(101), 3.75 (10)(200), 3.02 (9b)(112), 2.650 (7)(220), 2.368 (7)(310, 301), 1.993 (8)(312, 213), 1.593 (6)(332).

The mineral is white to deep brown, luster dull, earthy. G 2.04 ± 0.02. Optically uniaxial, neg. n0 1.525, nE 1.480. Synthetic NH4H2PO4 had n0 1.525, nE 1.48; synthetic KH2PO4 had n0 1.510, nE 1.468.
DISCREDITED MINERALS

**Calciotantalite = a mixture**


Calciotantalite (Simpson, 1907) from the type locality was found by optical and electron microprobe analyses to consist of a microlite phase and a tantalite-like phase, part of which was rich in tin. As suggested in Dana’s System, 7th ed., 1, 787, calciotantalite is a mixture and the name is to be discarded.

**Kyanophyllite = mixture**


Kyanophyllite was described in 1946 (*Amer. Mineral.* 32, 255, 701). X-ray data and two new chemical analyses of material from the type locality show it to be a mixture of paragonite and muscovite.