

Thirtieth list of new mineral names

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THIS list of 190 names includes 110 names of valid or probably valid new species, most of which have been approved by the I.M.A. Commission on New Minerals and Mineral Names, together with 6 new systematic names substituted for trivial names by the I.M.A. Subcommittee on nomenclature of the pyrochlore group and 31 end-member names provided by the I.M.A. Subcommittee on amphiboles; the rest include 10 errors of spelling or transliteration, 10 unnecessary names for varieties or polytypes, 8 synonyms, 4 species of doubtful validity, 5 artificial products, 3 trade names for gemstones, a hypothetical polytype, a group name, and a rock name.

As in the last three lists, certain contractions for the names of frequently cited periodicals are used: A.M., *Am. Mineral.*; C.M., *Can. Mineral.*; M.A., *Mineral. Abstr.*; M.M., *Mineral. Mag.*; Zap., *Zap. vses. mineral. obshch.*; Bull., *Bull. Soc. fr. Minéral. Crystallogr.* (now *Bull. minéral.*). References to the report of the I.M.A. Subcommittee on amphiboles are given in terms of the numbered formal resolution, in the form Amph. (1978) m.n.; the report is included in this issue (M.M. 42, pp. 533-63).

Alasanite. Zap. 104, 606. Erroneous transliteration of Алазанит, alazanite.

Albrittonite. W. W. Crook III and L.-A. Marcotty, 1978. A.M. 63, 410. A supergene alteration halo above a veinlet of Co and Ni minerals in a serpentine quarry near Oxford, Llano Co., Texas, contains red-violet monoclinic crystals, a 8.899, b 7.065, c 6.644 Å, β 97.25°, space group $C2/m$. Composition $2[\text{CoCl}_2 \cdot 6\text{H}_2\text{O}]$, with small amounts of Ni and Cu. Sp. gr. 1.897, RIs α 1.525, β 1.550, pale red, $\parallel [010]$, γ 1.576, reddish-violet, $\gamma: [100] - 3^\circ$. Named for C. C. Albritton.

Alumino-barroisite. Amph. (1978), 14.5.

Alumino-ferro-hornblende. Amph. (1978), syn. of ferro-hornblende.

Alumino-katophorite. Amph. (1978), 14.13.

Alumino-magnesio-hornblende. Amph. (1978), syn. of magnesio-hornblende.

Alumino-taramite. Amph. (1978), 14.17.

Alumino-tschermakite. Amph. (1978), 10.9.

Alumino-winchite. Amph. (1978), 14.1.

Alumolyndochite. S. A. Gorzhevskaya, G. A. Sidorenko, and A. I. Ginzburg, 1974. Abstr. Zap. 105, 76 (Алюмолиндокит). Unnecessary name for aluminian lyndochite.

Antimonwesterveldite. Zap. 105, no. 5, contents. Erroneous transliteration of сурьмянистый вестервельдит, antimonian westerveldite.

Archerite. P. J. Bridge, 1977. M.M. 41, 33. Tetragonal crystals of $(\text{K}, \text{NH}_4)\text{H}_2\text{PO}_4$ occur in the Petrogale Cave, near Madura Motel (31° 54' S, 127° 0' E), Western Australia. Formed from bat guano. Sp. gr. 2.23, ω 1.513, ε 1.470. Named for M. Archer. [M.A. 77-2181; A.M. 63, 593.]

Arcubisite. S. Karup-Møller, 1976. *Lithos*, 9, 253. Rare grains with galena in the Ivigtut cryolite deposit Greenland, have composition $\text{BiCuAg}_6\text{S}_4$. Presumably named for the composition, *Argentum*, *Cuprum*, *Bismutum*. [M.A. 78-2116; A.M. 63, 424.]

Argentocuproaurite. L. V. Razin, 1975. *Trudy Mineral. Muz. akad. nauk SSSR*, 24, 93 (Аргентокупроаурит). Two grains, one from Noril'sk and one from Talnakh, have compositions $\text{Au}_{50}\text{Cu}_{21}\text{Ag}_{17}\text{Rh}_6\text{Pd}_6$ and $\text{Au}_{47}\text{Ag}_{26}\text{Cu}_{24}\text{Pd}_3$. Indexed as primitive cubic (8 lines), a 4.073 Å. [Can be indexed as face-centred cubic... except for the weakest reflection at 1.673 Å. Confirmation by single-crystal methods... is necessary to justify characterization as a new mineral species—L.J.C. Only two grains, of appreciably differing composition, but essentially cuprian electrum—M.H.H.] [A.M. 62, 593.]

Arsenbrackebuschite. W. Hofmeister and E. Tilmanns, 1976. *Fortschr. Mineral.* 54, Beibl. 1, 38. K. Schmetzer and W. Berdesinski, *Neues Jahrb. Min., Monatsh.* 193 (1978). Small platelets from Tsumeb, S.W. Africa, and earthy aggregates from the Clara mine, Oberwolfach, Schwarzwald, are monoclinic, a 7.764, b 6.045, c 9.022 Å, β 112.5°, space group $P2_1/m$. Composition $[\text{Pb}_2(\text{Fe}^3, \text{Zn})(\text{AsO}_4)_2(\text{OH}, \text{H}_2\text{O})]$. RIs $\alpha < 2.04 < \gamma$. The arsenate analogue of brackebuschite, named accordingly.

- Arsenuranospathite.** K. Walenta, 1963. *Jb. geol. Landesamt Baden-Württemberg*, **6**, 113 (Arsen-Uranospathit). The arsenic analogue of uranospathite occurs in small amounts at Menzenschwand and Wittichen, Schwarzwald, Germany. Tetragonal, a 7.16, c 30.37 Å, space group $P4_2n$, ρ 2.54 g.cm⁻³, β 1.538, γ 1.542, $2V_a$ 52°. Composition $[\text{HAl}(\text{UO}_2)_4(\text{AsO}_4)_4 \cdot 40 \text{H}_2\text{O}]$. M.M. **42**, 117. Named from the composition. [M.A. 78-2117.]
- Aurocuproite.** L. V. Razin, 1975. *Trudy Mineral. Muz. akad. nauk SSSR*, **24**, 93 (Аурокупроит). Two grains from Noril'sk are formulated $\text{Cu}_{54}\text{Au}_{38}\text{Pd}_8$ and $\text{Cu}_{53}\text{Au}_{39}\text{Pd}_8$. Indexed as primitive cubic (8 lines), a 3.862 Å. [. . . may be indexed as face-centred cubic . . . except for the weakest reflection at 1.070 Å. Confirmation by single-crystal methods . . . is necessary to justify characterization as a new species—L.J.C. Essentially auroan copper—M.H.H.] [A.M. **62**, 593.]
- Baddeleyite.** W. B. Clarke, 1882, in A. Liversidge, *Description of the minerals of New South Wales* (Sydney), p. 116. Syn. of ilvaite. Not the well-known baddeleyite of Fletcher (1892; 1st List).
- Bahianite.** P. B. Moore and T. Araki, 1976. *Neues Jahrb. Mineral. Abh.* **126**, 113. Tan to cream-coloured favas from Paramirim, Agua Quente, Bahia, Brazil, are often vuggy. Monoclinic, a 9.406, b 11.54, c 4.410 Å, β 90.94°, space group $C2/m$. Composition $2[\text{Sb}_3\text{Al}_5\text{O}_{14}(\text{OH})_2]$, with some Be. α 1.81, β 1.87, γ 1.92. Named from the locality.
- Bariomicrolite.** I.M.A. Subcommittee pyrochlore group, 1978. A.M. **62**, 404. A systematic name to replace rijkeboerite.
- Bariopyrochlore.** I.M.A. Subcommittee pyrochlore group, 1978. A.M. **62**, 404. A systematic name to replace pandaite.
- Baylissite.** K. Walenta, 1976. *Schweiz. Min. Petrogr. Mitt.* **56**, 187. Colourless crusts of $\text{K}_2\text{Mg}(\text{CO}_3)_2 \cdot 4\text{H}_2\text{O}$ occur in the cable tunnel of Gerstenegg/Sommerloch, in the Grimsel area, Switzerland. Monoclinic, a 12.37, b 6.24, c 6.86 Å. α 1.462, γ 1.531. [M.A. 77-2183.]
- Biopyribole.** D. R. Veblen, P. R. Buseck, and C. W. Burnham, 1977. *Science*, **198**, 359. A term for structures intermediate between the single and double chains of pyroxenes and amphiboles and the sheets of the micas. [M.A. 78-2118.] [Not the Biopyribole of Johannsen, 1911 (6th List)].
- Brindleyite.** Z. Maksimovic and D. L. Bish, 1978. A.M. **63**, 484. A name to replace nimesite (28th List), which was not approved by the New Minerals Commission of the I.M.A. New analyses and X-ray data are provided. The mineral is related to berthierine rather than to amesite. Named for G. W. Brindley.
- Buchwaldite.** E. Olsen, J. Erlichman, T. E. Bunch, and P. B. Moore, 1977. A.M. **62**, 362. Minute inclusions in troilite nodules in the Cape York meteorite (a siderite) are orthorhombic, a 5.167, b 9.259, c 6.737 Å, space group $Pmn2_1$. Composition $4[\text{NaCaPO}_4]$. α 1.607, β 1.610, γ 1.616, elongation of the fibres +. An artificial product, a principal component of Rhenaniaphosphat fertilizer, was formulated NaCaPO_4 and named rhenanite (15th List). Named for V. Buchwald. [M.A. 78-880.]
- Burangaite.** O. von Knorring, M. Lehtinen, and Th. G. Sahama, 1977. *Bull. Geol. Soc. Finland*, **49**, 33. Blue monoclinic prisms from Buranga, Rwanda, a 25.09, b 5.048, c 13.45 Å, β 110.91°, space group $C2/c$, are related to duferenite. Composition $2[(\text{Na}, \text{Ca})_2(\text{Fe}^2, \text{Mg})_2\text{Al}_{10}(\text{OH}, \text{O})_{12}(\text{PO}_4)_8 \cdot 4\text{H}_2\text{O}]$. α 1.611, β 1.635, γ 1.643 || [010], α : [001] 11° $2V_a$ 58°, strongly pleochroic. Named from the locality. [M.A. 78-881.]
- Calciolyndochite.** S. A. Gorzhevskaya, G. A. Sidorenko, and A. I. Ginzburg, 1974. *Abstr. Zap.* **105**, 76 (Кальциолиндокит). Unnecessary name for calcian lyndochite.
- Canavesite.** G. Ferraris, M. Franchini-Angela, and P. Orlandini, 1978. *Can. Mineral.* **16**, 69. Rosettes of fibres || [010] on fractures of ludwigite and magnetite skarns from the Vola Gera tunnel, Brosso, Torino, Italy, are monoclinic, a 23.49, b 6.164, c 21.91 Å, β 114.91°. Composition $12[\text{Mg}_2\text{CO}_3 \cdot 5\text{H}_2\text{O}]$. α 1.485, β 1.494, γ 1.505 || [010].
- Carbonate-fluorapatite.** D. McConnell, 1973. *Apatite* (Springer), p. 88. Syn. of francolite.
- Caringbullite.** M.A. 78-884, error for claringbullite.
- Carlsfriesite.** Bull. **99**, 340, error for carlfriesite (29th List).
- Ceriopyrochlore.** I.M.A. Subcommittee pyrochlore group, 1978. A.M. **62**, 404. A systematic name to replace marignacite.
- Černýite.** S. A. Kissin, D. R. Owens, and W. L. Roberts, 1978. *Can. Mineral.* **16**, 139. Inter-growths with kesterite from the Tanco mine, Bernic Lake, Manitoba, and the Hugo mine, Keystone, Pennington Co., S. Dakota, are tetragonal, a 5.5330, c 10.8266 Å, space group $I4_2m$. Composition $2[\text{Cu}_2(\text{Cd}, \text{Zn}, \text{Fe})\text{SnS}_4]$, with Cd:Zn:Fe from 0.37:0.33:0.29 to 0.77:0.14:0.10. The cadmium analogue of stannite, but not miscible with it. Named for P. Černý.
- Changbaiite.** *Acta Geol. Sinica*, 1978, 63. Pale-brown tabular crystals in kaolin veinlets in granite near Changbai Mtn, east Kirin, China, are rhombohedral, a 10.499, c 11.553, space group $R3m$. Composition $9[\text{PbNb}_2\text{O}_6]$. Sp. gr. 6.47, ω 2.476, ε 2.485. Named for the locality.
- Chantalite.** H. Sarp, J. Deferne, and B. W. Liebich,

1977. *Schweiz. Mineral. Petrogr. Mitt.* **57**, 149. Grains associated with vuagnatite (this List), prehnite, etc., from a rodingite dyke in S.W. Turkey are tetragonal, a 4.945, c 23.27 Å, space group $I4_1/a$. Composition $4[\text{CaAl}_2\text{SiO}_4(\text{OH})_4]$. ω 1.653, ε 1.642. Named for the discoverer's wife. [M.A. 78-3469.]
- Charoite.** L. V. Nikol'skaya, A. I. Novozhilov, and M. I. Samoilovich, 1976. *Izvest. akad. nauk SSSR, ser. geol.* no. 10, 116. A complex alkali silicate occurring with tinaksite (24th List) in Transbaikal. Deep violet, fibrous. Named for the Charo River. [M.A. 78-3469.]
- Chesterite.** D. R. Veblen, P. R. Buseck, and C. W. Burnham, 1977. *Science*, **198**, 359. An orthorhombic mineral from Chester, Vermont, a 18.61, b 45.31, c 5.30 Å, space group $A2_1ma$, belonging to the biopyribole group (this List). Composition $(\text{Mg,Fe})_{17}\text{Si}_{20}\text{O}_{54}(\text{OH})_6$. Named for the locality. [M.A. 78-3473.] Not to be confused with Chesterlite (T. F. Seal, 1850), var. of microcline.
- Christite.** A. S. Radtke, F. W. Dickson, J. F. Slack, and K. L. Brown, 1977. *A.M.* **62**, 421. Orange to crimson plates and crystals occur with other Tl, As, and Sb minerals in the Carlin gold deposit, Elko, Nevada. Monoclinic, a 6.113, b 16.188, c 6.111 Å, β 96.71°, space group $P2_1/n$. Composition $4[\text{TlHgAsS}_3]$, synthesized. Named for C. L. Christ. [M.A. 78-883.]
- Claringbullite.** E. E. Fejer, A. M. Clark, A. G. Couper, and C. J. Elliott, 1977. *M.M.* **41**, 433. Blue platy crystals from N'changa, Zambia, from Bisbee, Arizona, and from M'sesa mine, Kambove, Katanga, are hexagonal, a 6.671, c 9.183 Å. Composition $2[\text{Cu}_4\text{Cl}(\text{OH})_7 \cdot n\text{H}_2\text{O}]$, with n about 0.5. ω 1.782, ε 1.780. Named for G. F. Claringbull. [M.A. 78-884.]
- Clinoeulite.** W. Schreyer, D. Stepto, K. Abraham, and W. F. Müller, 1978. *Contrib. Mineral. Petrol.* **65**, 351. A metamorphosed iron formation in the Vredefort structures, S. Africa, contains a clinopyroxene of composition $(\text{Fe}_{1.48}\text{Mg}_{0.37}\text{Mn}_{0.08}\text{Ca}_{0.05}\text{Al}_{0.01})_{\Sigma 1.99}\text{Si}_{2.01}\text{O}_6$, space group $P2_1/c$. The monoclinic dimorph of eulite (18th List, a var. of orthoferrosilite). [M.A. 78-3470.]
- Clinojimthompsonite.** D. R. Veblen, P. R. Buseck, and C. W. Burnham, 1977. *Science*, **198**, 359. A monoclinic mineral from Chester, Vermont, a 9.87, b 27.24, c 5.32 Å, β 109.5°, space group $C2/c$, belonging to the biopyribole group and dimorphous with jimthompsonite (both this List). Composition $(\text{Mg,Fe})_{10}\text{Si}_{12}\text{O}_{32}(\text{OH})_4$. Named for J. Thompson. [M.A. 78-3473.]
- Cl-Tyretskite. R. van Hodenberg and R. Kühn, 1977. *Kali und Steinsalz*, **7**, 165. Rosette-like aggregates in the sylvine and halite of the Boulby mine, Co. Durham, are anorthic, a 6.297, b 6.464, c 6.56 Å, α 74.14°, β 61.58°, γ 61.26°. Composition near $[\text{Ca}_2\text{B}_5\text{O}_8\text{Cl}(\text{OH})_2]$, sp. gr. 2.69. Differs from tyretskite (24th List) in having $\text{Cl}(\text{OH})_2$ instead of $(\text{OH})_3$. [Without evidence of discontinuity, or that the Cl is ordered, this is an unnecessary name for a chlorian tyretskite—M.H.H.] [A.M. 63, 598.]
- Darapioisite.** Erroneous transliteration of Дарапиозит, darapiozite. *Zap.* **104**, 583. [A.M. 61, 1053.]
- Diamonesque.** See under phianite (this List).
- Djevalite.** Trade name for cubic ZrO_2 , stabilized by CaO (?), produced by the Djvahirdjian Company, Switzerland, as a gem diamond substitute. Cf. phianite (this List). (K. Nassau, *Lapidary J.* 1977, p. 904.)
- Downeyite.** R. B. Finkelman and M. E. Mrose, 1977. *A.M.* **62**, 316. Gases escaping through vents in burning culm banks near Forestville, Pennsylvania, deposit hygroscopic crystals of SeO_2 . Tetragonal, a 8.36, c 5.07 Å, uniaxial +. Previous supposed natural occurrences ('selenolite') cannot have been SeO_2 , which deliquesces in a few minutes when exposed to air. Named for W. F. Downey. [M.A. 78-885.]
- Emeleusite.** B. G. J. Upton, P. G. Hill, O. Johnsen, and O. V. Petersen, 1978. *M.M.* **42**, 31. Colourless glassy crystals from Igdlutalik, Julianehåb, Greenland, are orthorhombic, a 10.073, b 17.350, c 14.010 Å, space group *Acam* or *Abaz*. Trillings are common. Composition $4[\text{Li}_2\text{Na}_4\text{Fe}_3\text{Si}_{12}\text{O}_{30}]$, ρ 2.775 g.cm⁻³. α 1.596 || [010], β 1.597 || [100], γ 1.597 || [001]. Named for C. H. Emelcus [M.A. 78-2119.]
- Eskimoite.** S. Karup-Møller, 1977. *Bull. Geol. Soc. Denmark*, **26**, 41. Monoclinic, a 13.459, b 30.194, c 4.100 Å, β 93.35°, composition $[\text{Bi}_{15}\text{S}_{36}]$. From Ivigtut, Greenland, and named for the original inhabitants of Greenland. [M.A. 78-899.]
- Falcondoite.** G. Springer, 1976. *Can. Mineral.* **14**, 407. The nickel analogue of sepiolite occurs near Bonao, Dominican Republic. Orthorhombic, a 13.5, b 26.9, c 5.24 Å. Composition $2[(\text{Ni,Mg})\text{Si}_{12}\text{O}_{30}(\text{OH})_4 \cdot 12\text{H}_2\text{O}]$. Named from the Falcondo mining company. [M.A. 78-886.]
- Ferchekinite.** Z. Rubai and F. Liangming, 1976. *Geochimica*, **4**, 244. Unnecessary name for a ferroan chevkinite. [A.M. 63, 426.]
- Feroxyhyte.** F. V. Chukhrov, B. B. Zvyagin, A. I. Gorshkov, L. P. Ermilova, V. V. Korovashkin, E. S. Rudnitskaya, and N. Yu. Yakubovskaya, 1976. *Izvest. akad. nauk SSSR, ser. geol.*, no. 5, 5 (**Фероксигитт**, feroxygite). Artificial δ -FeOOH consists of a magnetic, ordered phase and a non-magnetic disordered phase, both hexagonal. The latter, disordered, phase occurs in Fe-Mn

- concretions from the Pacific Ocean, and from the Baltic, White, and Kara Seas, also in some soils. The unit cell, a 2.93, c 4.60 Å, contains a single FeOOH. The material readily transforms to goethite on exposure. Named for *Ferrum*, *Oxygen*, *Hydrogen*. [Possible relationship to ferrihydrite (28th List), which has a 5.08 = $2.93\sqrt{3}$, and c 9.4 = 2×4.7 Å, is not discussed—M.H.H.] [A.M. 62, 1057; M.A. 77-3144; 78-2120.]
- Ferri-barroisite.** Amph. (1978), 14.7.
- Ferri-katophorite.** Amph. (1978), 14.14.
- Ferri-taramite.** Amph. (1978), 14.15.
- Ferri-winchite.** Amph. (1978), 14.3.
- Ferro-alumino-barroisite.** Amph. (1978), 14.6.
- Ferro-alumino-tschermakite.** Amph. (1978), 10.10.
- Ferro-alumino-winchite.** Amph. (1978), 14.2.
- Ferro-clinoholmquistite.** Amph. (1978), 6.4.
- Ferro-ferri-barroisite.** Amph. (1978), 14.8.
- Ferro-ferri-tschermakite.** Amph. (1978), 10.12.
- Ferro-ferri-winchite.** Amph. (1978), 14.4.
- Ferro-holmquistite.** Amph. (1978), 3.8.
- Ferro-hornblende.** Amph. (1978), 10.14.
- Ferro-kaersutite.** Amph. (1978), 10.16.
- Ferro-pargasite.** Amph. (1978), 10.6.
- Fletcherite.** J. R. Craig and A. B. Carpenter, 1977. *Econ. Geol.* 72, 480. Minute crystals in copper ores in the Fletcher mine, Reynolds, Co., Missouri, is cubic, a 9.520 Å. A thiospinel, $8[\text{Cu}(\text{Ni}, \text{Co})_2\text{S}_4]$, the nickel analogue of carrollite in which Ni replaces Co (in sychnodymite, Ni replaces Cu). Named from the locality. [A.M. 62, 1057.]
- Fluorapophyllite.** P. J. Dunn, R. C. Rouse, and J. A. Norberg, 1978. A.M. 63, 196. P. J. Dunn and W. Wilson, *Mineral. Rec.* 9, 95 (1978). Apophyllite with $F > \text{OH}$ is now named. [M.A. 78-3472.]
- Francoanellite.** F. Balenzano, L. Dell'Anna, and M. Dipiero, 1976. *Neues Jahrb. Mineral., Monatsh.* 49. Yellowish-white nodular aggregates from the Grotte di Castellana, Puglia, Italy; composition $\text{H}_6\text{K}_3\text{Al}_5(\text{PO}_4)_8 \cdot 13\text{H}_2\text{O}$. Artificial material (A.M. 44, 138) is rhombohedral, a 8.71, c 82.8 Å. ω 1.510, ϵ 1.515, ρ 2.26 g.cm⁻³. Named for Franco Anelli. [A.M. 61, 1054; M.A. 76-3676.]
- Franzinite.** S. Merlino and P. Orlandi, 1977. *Neues Jahrb. Mineral., Monatsh.* 163. Squat pearly white prisms in ejected blocks in a pumice deposit at Pitigliano, Tuscany, are hexagonal, a 12.884, c 26.580 Å. Composition $[\text{Na}_{21.5}\text{Ca}_{12.5}\text{Si}_{31.3}\text{Al}_{28.7}\text{O}_{120}(\text{SO}_4)_{7.7}(\text{CO}_3)_2(\text{OH})_{3.5}\text{Cl}_{0.6} \cdot 4.3\text{H}_2\text{O}]$. A member of the cancrinite group, resembling davynite but with SO_4^{2-} as dominant anion. Afghanite (25th List) and liottite (this List), also members of the cancrinite group, occur in the same deposit. [A.M. 62, 1259.]
- Friedrichite.** T. T. Chen, E. Kirchner, and W. Parr, 1978. *Can. Mineral.* 16, 127. Aggregates in vein-quartz boulders in the Habachtal, Salzburg, Austria, are orthorhombic, a 33.84, b 11.65, c 4.01 Å. Composition $[\text{Cu}_{10}\text{Pb}_{10}\text{Bi}_{14}\text{S}_{36}]$, ρ 6.98 g.cm⁻³. Intermediate between aikinite and hammarite'
- Furongite.** *Acta Geol. Sinica*, 1976, 203. Anorthic $[\text{Al}_2\text{UO}_2(\text{PO}_4)_2(\text{OH})_2 \cdot 8\text{H}_2\text{O}]$, a 17.87, b 14.18, c 12.18, α 67.8°, β 77.5°, γ 79.9°; from an undisclosed locality in China. Sp. gr. 2.82–2.90. RIs α 1.543–9, β 1.564–7, γ 1.570–5, $2V_x$ 65°. [M.A. 77-3385; A.M. 63, 425.]
- Gatumbaite.** O. von Knorring and A.-M. Fransolet, 1977. *Neues Jahrb. Mineral., Monatsh.* 561. Sheaves and rosettes of a white mineral from Gatumba, Buranga, Rwanda, are monoclinic, a 6.907, b 5.095, c 10.764 Å, β 90° 3'. Composition $2[\text{CaAl}_2(\text{PO}_4)_2(\text{OH})_2 \cdot \text{H}_2\text{O}]$, sp. gr. 2.92. α 1.610, γ 1.639 || [010], $2V_x$ 60–70°. Named for the locality. [M.A. 78-3471.]
- Genkinite.** L. J. Cabri, J. M. Stewart, J. H. G. Laflamme, and J. T. Szymanski, 1977. *Can. Mineral.* 15, 389. A specimen from the Onverwacht mine, Transvaal, contains grains up to 165 μm , tetragonal, a 7.736, c 24.161 Å, composition $8[\text{Pt}, \text{Pd}, \text{Rh}]_4\text{Sb}_3$. May be identical with the unnamed mineral near $(\text{Pt}, \text{Pd})_3\text{Sb}_2$ described by Tarkian and Stumpff (1965) from the Driekop mine, Transvaal. Named for A. D. Genkin.
- Gerstmannite.** E. F. Kashner, 1976. *Rocks and Minerals*, 51, 124. P. B. Moore and T. Araki. A.M. 62, 51 (1977). Rosettes of pale pink crystals from the Sterling Hill mine, Ogdensburg, Sussex Co., New Jersey, are orthorhombic, a 8.185, b 18.65, c 6.256 Å, space group *Bbcm*. Composition $8[(\text{Mn}, \text{Mg})\text{Mg}(\text{OH})_2\text{ZnSiO}_4]$, sp. gr. 3.68. RIs α 1.665 || [010], β 1.675 || [001], γ 1.678 || [100], $2V_x$ 50–60°. Named for E. Gerstmann. [M.A. 77-3386, 3387.]
- Gianellaite.** G. Tunell, J. J. Fahey, F. W. Daugherty, and G. V. Gibbs, 1977. *Neues Jahrb. Mineral., Monatsh.* 119. Yellow rosettes and distorted octahedra in the Mariposa mine, Terlingua district, Brewster Co., Texas, are cubic. a 9.5215 Å, space group *F43m*. Composition $4[(\text{NH}_4)_2\text{SO}_4]$, the pure sulphate of Millon's base. Mosesite, which contains considerable Cl ($\text{Cl}_2 \approx \text{SO}_4$), has a 28.618 = 3×9.539 Å and a very similar X-ray powder pattern. Named for V. P. Gianella [A.M. 62, 1057; M.A. 77-4621.]
- Hatrurite.** S. Gross, 1977. *Bull. Geol. Surv. Israel*, 70, 82. Pseudohexagonal crystals in the Hatrurim formation, Israel, are near Ca_3SiO_5 , and equivalent to alite of Törnebohm (2nd List), an artificial constituent of cement clinker. [A.M. 63, 425.]

- Hexahydroborite.** M. A. Simonov, N. A. Yamnova, E. V. Kazanskaya, Yu. K. Egorov-Tismenko, and N. V. Belov, 1976. *Dokl. akad. nauk SSSR*, **228**, 1337 (Гексагидроборит). The higher hydrate $\text{CaB}_2\text{O}_4 \cdot 6\text{H}_2\text{O}$ occurs with pentahydroborite (23rd List) at the Solongo deposit, Urals. Monoclinic, a 8.006, b 8.012, c 6.649 Å, γ 104.21°, space group $P2/a$. No analysis, optical data, nor X-ray powder data are given. [A.M. **62**, 1259.] [Standard orientation $P2/c$, a 8.012, b 6.649, c 8.006 Å, β 104.21°—M.H.H.]
- Humbelite.** *Phys. Chem. Min.* 1977, **1**, 233. Error for gumbelite.
- Hydrodresserite.** J. L. Jambor, A. P. Sabina, and B. D. Sturman, 1977. *Can. Mineral.* **15**, 399. Compact spherulites of lath-shaped crystals in cavities of a silicocarbonatite sill at St. Michel, Montreal Island, Quebec, are anorthic, a 9.79, b 10.42, c 5.62 Å, α 96.05°, β 92.20°, γ 115.71°, elongation [001]. Composition $2[\text{BaAl}_2(\text{CO}_3)_2(\text{OH})_4 \cdot 3\text{H}_2\text{O}]$, sp. gr. 2.80. RIs α 1.520, β 1.594, γ 1.595, γ' || [001]. Named for its relation to dresserite (26th List), to which it gradually dehydrates on exposure.
- Hydroxyapophyllite.** P. J. Dunn, R. C. Rouse, and J. A. Norberg, 1978. A.M. **63**, 196. P. J. Dunn and W. Wilson, *Mineral Rec.* **9**, 95 (1978). The pure end-member of the apophyllite series occurs at Great Notch, New Jersey. [M.A. 78-3472.]
- Iron-akermanite.** M. J. LeBas, 1977. *Carbonatite-nephelinite volcanism* (Wiley), p. 92. A name, later dropped, for the end-member $\text{Ca}_2\text{FeSi}_2\text{O}_7$ (ferro-akermanite).
- Iron chevkinite.** Z. Rubai and F. Liangming, 1976. *Geochimica*, **4**, 244. Unnecessary name for a ferroan chevkinite. [A.M. **63**, 424.]
- Iron-corundum, Iron mullite.** S. O. Agrell and J. M. Langley, 1958. *Proc. Roy. Irish Acad.*, ser. B, **59**, 93. Unnecessary names for ferrian varieties.
- Iron-sodium-melilite.** M. J. LeBas, 1977. *Carbonatite-nephelinite volcanism* (Wiley), p. 92. A name, later dropped, for natroferromelilite, the end-member $\text{NaCaFeSi}_2\text{O}_7$.
- Janggunite.** S. J. Kim, 1976. *J. Korean Inst. Min. Geol.* **8**, 117. M.M. **41**, 519. Black aggregates and radiating flaky groups from the Janggun mine, Bonghwa, Korea, are orthorhombic, a 9.324, b 14.05, c 7.956 Å. Composition near $4[\text{Mn}_{5-x}^{2+}(\text{Mn}^{2+}, \text{Fe}^{3+})_{1+x}\text{O}_8(\text{OH})_6]$, with $x = 0.2$, sp. gr. 3.59. Named for the locality. [M.A. 78-888; A.M. **63**, 426.]
- Jimthompsonite.** D. R. Veblen, P. R. Buseck, and C. W. Burnham, 1977. *Science*, **198**, 359. An orthorhombic mineral, from Chester, Vermont, a 18.63, b 27.23, c 5.30 Å, space group $Pbca$. Composition $(\text{Mg}, \text{Fe})_{10}\text{Si}_{12}\text{O}_{32}(\text{OH})_4$, a member of the biopyribole group and dimorphous with clinojimthompsonite (both this List). Named for J. Thompson. [M.A. 78-3473.]
- Joliotite.** K. Walenta, 1976. *Schweiz. Mineral. Petrogr. Mitt.* **56**, 167. Rare spherulites at Menzenschwand, Schwarzwald, Germany, are orthorhombic, a 8.16, b 10.35, c 6.32 Å. Composition $4[\text{UO}_2\text{CO}_3 \cdot 1\frac{1}{2} - 2\text{H}_2\text{O}]$. RIs α 1.596-1.604, γ 1.637-1.651. Named for J. F. and I. Joliot-Curie. [M.A. 77-2184.]
- Jonesite.** W. S. Wise, A. Pabst, and J. R. Hinthorne, 1977. *Mineral. Rec.* **8**, 453. Rosettes of colourless crystals, fluorescing orange in short-wave U.V. light, occur embedded in natrolite at the Benitoite Gem mine, San Benito Co., California. Orthorhombic, a 13.730, b 25.904, c 10.608, space group $B22_12$. Composition $4[(\text{K}, \text{Na}, \text{Ba})_{1-2}\text{Ba}_4\text{Ti}_4(\text{Si}, \text{Al})_{12}\text{O}_{30} \cdot 6\text{H}_2\text{O}]$, ρ 3.25 g.cm⁻³. RIs α 1.641 || [010], β 1.660 || [100], γ 1.682 || [001], $2V$ 76-8° [$2V_{\text{calc}}$ 87°]. Named for F. T. Jones.
- Junitoite.** S. A. Williams, 1976. A.M. **61**, 1255. Colourless hemimorphic orthorhombic crystals, a 6.309, b 12.503, c 8.549 Å, space group $Bbm2$, strongly pyroelectric. RIs α 1.656 || [100], β 1.664 || [010], γ 1.672 || [001], $2V$ 86°. Composition $4[\text{CaZn}_2\text{Si}_2\text{O}_7 \cdot \text{H}_2\text{O}]$, sp. gr. 3.5. From the Christmas mine, Gila Co., Arizona. Named for Jun Ito. [M.A. 77-3390.]
- Kalipyrochlore.** I.M.A. Subcommittee pyrochlore group, 1978. A.M. **62**, 404. The unnamed mineral of Van Wambeke (1965) is named.
- Kaňkite.** F. Čech, J. Jansa, and F. Novák, 1976. *Neues Jahrb. Mineral., Monatsh.* 426. Yellowish-green botryoidal crusts in old dumps near Kaňk, Kutna Hora, Czechoslovakia, are monoclinic, a 18.803, b 17.490, c 7.633 Å, β 92.71°. Composition $16[\text{FeAsO}_4 \cdot 3\frac{1}{2} \text{H}_2\text{O}]$, sp. gr. 2.70. [A.M. **62**, 594.]
- Kanoite.** H. Kobayashi, 1977. *J. geol. Soc. Japan*, **83**, 537. A vein in pyroxmangite-cumingtonite rock at the Tatehira mine, Oshima peninsula, Hokkaido, contains light pinkish-brown monoclinic grains, a 9.739, b 8.939, c 5.260 Å, β 108.56°. A clinopyroxene of composition $(\text{Mn}, \text{Mg})_2\text{Si}_2\text{O}_6$, sp. gr. 3.66. RIs α 1.715, β 1.717 || [010], γ 1.728, γ' : [001] 42° $2V$, γ 40-42°. Named for H. Kano. [A.M. **63**, 598.]
- Keramsite.** J. Dominic, M. Kita-Badak, and A. Manecki, 1975. *Polska Akad. Nauk, Prace Min.* **40**, 19. A name for light-weight 'bloated' clay aggregates. [M.A. 76-3203.]
- Keyite.** P. G. Embrey, E. E. Fejer, and A. M. Clark, 1977. *Mineral. Rec.* **8**(3), 87. Deep sky-blue crystals in tennantite ore from Tsumeb, S.W. Africa, are monoclinic, a 11.65, b 12.68, c 6.87 Å, β 98.95°. Composition $6[(\text{Cu}, \text{Zn}, \text{Cd})_3(\text{AsO}_4)_2]$, with Cu:Zn:Cd 1.19:1.11:0.55. Pleochroic, α

- 1-80, pale blue, γ 1-87, deep blue, β greenish-blue, \parallel [010]; α : [001] $10\frac{1}{2}^\circ$ (Cd red), $11\frac{1}{2}^\circ$ (Hg yellow), $12\frac{1}{2}^\circ$ (Hg green), $9\frac{1}{2}^\circ$ (Hg violet). Named for C. L. Key. [A.M. 62, 1259; M.A. 78-3474.]
- Kidwellite.** P. B. Moore and J. Ito, 1978. M.M. 42, 137. Mineral 'A' of Moore (A.M. 1970, 55, 138), from several localities in the Ouachita Mtns., Arkansas, as feathery green-to-yellow crystals, is monoclinic, a 20.61, b 5.15, c 13.75 Å, β 112.64°. Composition $2[\text{NaFe}_3(\text{OH})_{10}(\text{PO}_4)_6 \cdot 5\text{H}_2\text{O}]$. RIs α 1-787, β 1-800 \parallel [010], γ 1-805. Also occurs in Alabama, Virginia, and Germany. Named for A. L. Kidwell. [M.A. 78-2122.]
- Kusuïte.** M. Deliens and P. Piret, 1977. Bull. 100, 39. Black crystals in the oxidation zone of the Kusu deposit, Kinshasa, Zaïre, are tetragonal, a 7.35, c 6.56 Å, space group $I4_1/amd$. Composition $4[(\text{Ce}^3, \text{Pb}^2, \text{Pb}^4)\text{VO}_4]$. Named for the locality. [A.M. 62, 1058; M.A. 77-3389.]
- Laihunite.** Guiyang Institute of Geochemistry, 1976. *Geochimica*, 2, 95. Black crystals in an iron deposit at Lai-He, N.E. China, are orthorhombic, a 4.800, b 10.238, c 5.857 Å, and essentially oxidized fayalite. It was subsequently recognized as identical with ferrifayalite (23rd List). Composition near $\text{Fe}^2\text{Fe}_3(\text{SiO}_4)_2$. [A.M. 62, 1058; 63, 424; M.A. 77-883.]
- Leiteite.** F. P. Cesbron, R. C. Erd, G. K. Czamanske, and H. Vachey, 1977. *Mineral. Rec.* 8(3), 95. Cleavable masses in a specimen of tennantite ore from Tsumeb, S.W. Africa, are monoclinic, a 17.645, b 5.019, c 4.547 Å, β 90° 59', space group $P2_1/a$. Composition $4[\text{ZnAs}_2\text{O}_4]$. RIs α 1-87, β 1-880 \parallel [010], γ 1-98, $2V_\gamma$ 264°, α : [100] 11° , γ : [001] 10° . Named for L. Teixeira-Leite. [M.A. 78-3476.]
- Liddicoatite.** P. J. Dunn, D. E. Appleman, and J. E. Nelen, 1977. A.M. 62, 1121. The calcium analogue of elbaite occurs in the detrital solids of Antsirabe, Madagascar. Rhombohedral, a_h 15.867, c_h 7.135 Å. Ideally $\text{Ca}(\text{Li,Al})_3\text{Al}_6\text{B}_3\text{Si}_6\text{O}_{27}(\text{OH})_3(\text{OH,F})$. ρ 3.02 g.cm⁻³. Pleochroic, ω 1.637, dark brown, ϵ 1.621, light brown. Named for R. T. Liddicoat. [M.A. 78-3475.]
- Liottite.** S. Merlino and P. Orlandi, 1977. A.M. 62, 321. Flattened hexagonal crystals in ejected blocks in the pumice deposit at Pitigliano, Tuscany, have a 12.843, c 16.091 Å, space group $P\bar{6}m2$, ρ 2.56 g.cm⁻³, ω 1.530, ϵ 1.528. Composition near $(\text{Ca,Na,K})_{24}(\text{Si,Al})_{36}\text{O}_{72}(\text{SO}_4)_4(\text{CO}_3)_2(\text{Cl,OH})_6 \cdot 2\text{H}_2\text{O}$. A member of the cancrinite group (cf. franzinite, this List), with Ca as dominant cation and a stacking sequence $ABABAC \dots$. Named for L. Liotti. [M.A. 78-890.]
- Loveringite.** B. M. Gatehouse, I. E. Grey, I. H. Campbell, and P. Kelly, 1978. A.M. 63, 28. Grains up to $50 \times 100 \mu\text{m}$ in the Jimberlana intrusion, Norseman, Western Australia, are rhombohedral, space group $R\bar{3}$, a 9.117 Å, α 69.07°, isomorphous with crichtonite and senaite. Composition $[(\text{Ca,Ln})(\text{Ti,Fe,Cr,Mg,Zr,Al})_{20}\text{O}_{38}]$. Natural material is metamict, but readily recrystallizes on heating to 800 °C. Named for T. G. Lovering.
- Luethite.** S. A. Williams, 1977. M.M. 41, 27. Blue monoclinic crystals, a 14.743, b 5.093, c 5.598 Å, β 101° 49', from Santa Cruz Co., Arizona. RIs α 1-752 \parallel [010], β 1-773, γ : [001] 10° in obtuse β . Composition $2[\text{Cu}_2\text{Al}_2(\text{AsO}_4)_2(\text{OH})_4 \cdot \text{H}_2\text{O}]$, the Al analogue of chenevixite. Named for R. D. Lueth. [M.A. 77-2186; A.M. 62, 1058.]
- Machatschkiite.** K. Walenta, 1977. *Tschermaks Mineral. Petrogr. Mitt.* 24, 125. Crusts on granite in the Anton mine, Heubachtal, Schwarzwald, consist of rhombohedra with a_h 15.10, c_h 22.59 Å. Composition $12[\text{Ca}_3(\text{AsO}_4)_2 \cdot 9\text{H}_2\text{O}]$. RIs ω 1-593, ϵ 1-585. Named for F. Machatschki.
- Magneso-alumino-katophorite.** Amph. (1978), 14.12.
- Magnesiocarpholite.** B. Goffé and P. Saliot, 1977. Bull. 100, 302. (Mg,Fe²)(Fe³,Al)AlSi₂O₆(OH)₄, the Mg analogue of carpholite, occurs in the Vanoise region, Savoie, France.
- Magneso-clinoholmquistite.** Amph. (1978), 6.3.
- Magneso-ferri-katophorite.** Amph. (1978), 14.11.
- Magneso-ferri-taramite.** Amph. (1978), 14.16.
- Magneso-gedrite.** Amph. (1978), 4.4.
- Magneso-holmquistite.** Amph. (1978), 4.7.
- Magneso-hornblende.** Amph. (1978), 11.7.
- Majakite.** Zap. 105, no. 6, cover; A.M. 62, 1260; M.A. 77-4624. German-style transliteration of Маякит, mayakite.
- Manganhumite.** P. B. Moore, 1978. M.M. 42, 133. The manganese analogue of humite occurs at the Brattfors mine, Nordmarks Odalfält, Värmland, Sweden. Orthorhombic, a 10.54, b 21.45, c 4.822 Å, space group $Pnma$. Composition $4[(\text{Mn,Mg})_7(\text{OH})_2(\text{SiO}_4)_3]$, sp. gr. 3-83. RIs α 1-707, β 1-712, γ 1-732, $2V_\gamma$ 37°. Named from the composition. [M.A. 78-2124.]
- Mariçite.** B. D. Sturman and J. A. Mandarino, 1977. *Can. Mineral.* 15, 396. Nodules in ironstones from the Big Fish River area, Yukon Territory, consist largely of elongated anhedral grains, orthorhombic, a 6.867, b 8.989, c 5.049 Å. Composition $4[\text{NaFe}^2\text{PO}_4]$, ρ 3.66 g.cm⁻³. RIs α 1-676 \parallel [100], β 1-695 \parallel [010], γ 1-698, $2V_\alpha$ 43 $\frac{1}{2}^\circ$. Named for L. Mariç.
- Masutomilite.** K. Harada, K. Nagashima, and S. Kanisawa, 1976. *Mineral. J. [Japan]*, 8, 95. The pink core of a zoned manganooan zinnwaldite

- from Tanakamiyama, Japan, and a zoned purple hexagonal crystal from Tawara, Gifu Prefecture, Japan, both have over 50% of the Mn analogue of zinnwaldite. The first has 8.12% MnO, 4.45% Li₂O, 1.54% Rb₂O, a 5.253, b 9.085, c 10.107 Å, β 100.15°, α 1.534, colourless, β 1.569, purple, || [010], and γ 1.570, colourless; γ : [100] 3°. The second specimen has 4.27% MnO, 5.78% Li₂O, 1.20% Rb₂O, a 5.248, b 9.087, c 10.090 Å, β 100.10°, α 1.536, colourless, β 1.570, purple, and γ 1.571, colourless, γ : [100] 2.4°. Named for K. Masutomi. [M.A. 78-3478; A.M. 62, 594; Zap. 105, 83.]
- Mayakite.** A. D. Genkin, T. L. Evstigneeva, N. V. Troneva, and L. N. Vyal'sov, 1976. Zap. 105, 698 (Маякит). Small inclusions in polarite and intergrowths with stannopalladinite from the Mayak (Маяк, 'Majak') mine, Talnakh deposit, are hexagonal, a 6.066, c 7.20 Å. Composition PdNiAs or (Pd,Ni)As₂. Named for the locality. [A.M. 62, 1260; M.A. 77-4624.]
- Merlinoite.** E. Passaglia, D. Pongiluppi, and R. Rinaldi, 1977. *Neues Jahrb. Mineral., Monatsh.* 355. Fibrous aggregates from Cupaello, Santa Rufina, Rieti, Italy, are orthorhombic, a 14.116, b 14.229, c 9.946 Å, space group *Immm*, ρ 2.14 g.cm⁻³, n 1.494, elongation +. Composition near (K,Na)₃(Ca,Ba)₂Al₉Si₂₃O₆₄.23H₂O. Named for S. Merlino. [M.A. 78-891; A.M. 63, 598.]
- Mn-pyroxene, Mn-pyroxmangite, Mn-rhodonite.** H. Narita, K. Koto, and N. Morimoto, 1977. *Mineral. J. [Japan]*, 8, 329. The artificial polymorphs of MnSiO₃ with the pyroxene, pyroxmangite, and rhodonite structures respectively.
- Motukoreaite.** K. A. Rodgers, J. E. Chisholm, R. J. Davis, and C. S. Nelson, 1977. M.M. 41, 389 and M21. A white clay-like mineral in beach rock at Brown's Island (Motukorea), Waitemata Harbour, Auckland, New Zealand, consists of microscopic hexagonal crystals, a 9.336, c 44.72 Å. Composition near [NaMg₁₉Al₁₂(CO₃)_{6.5}(SO₄)₄(OH)_{5.4}.28H₂O], sp. gr. 1-43. Named from the locality. [M.A. 77-4625; A.M. 63, 598.]
- Mozarkite.** Author unknown. *Lapidary J.* 160 (1977). A term for a multi-coloured chert from the Ozark Mtns., Missouri.
- Nakauriite.** J. Suzuki, M. Ito, and T. Sugiura, 1976. *J. Japan Assoc. Mineral. Petrol. Econ. Geol.* 71, 183. Clear sky-blue fibres from Nakauri, Achi Prefecture, Japan, are orthorhombic, a 14.585, b 11.47, c 16.22 Å. Composition 2[Cu₈(SO₄)₄CO₃(OH)₆.48H₂O], sp. gr. 2-39. RIs α 1.585, colourless, β 1.604, light greenish-blue, γ 1.612, light blue. Named from the locality. [A.M. 62, 594.]
- Nanlingite.** Gu Xiongfei, Ding Kuishou, and Xu Yingnian, 1976. *Geochimica*, 2, 107. Brownish-red grains in a granite-limestone contact zone in the Nan Ling area, China, are rhombohedral, a 10.42 Å, α 58° 50', space group *R3m* or *R3m*, ρ 3.927, ω 1.82, ϵ 1.78. Named from the locality. [The composition is given as near 5[CaMg₃F₃(AsO₃)₂], but the cell contents derived from the analysis, cell-size, and density approximate to 4[Ca_{0.96}Na_{0.27}Mg_{2.84}Fe_{0.41}Li_{0.37}Al_{0.09}Mn_{0.01}(AsO₃)_{2.04}(OH)_{0.30}F_{3.28}O_{0.02}], or ideally 4[CaMg₄(AsO₃)₂F₄].—G.Y.C. Determination of FeO is not mentioned, and part of the iron may be ferrous, leading to a better balance—M.H.H.] [A.M. 62, 1058; M.A. 77-885.]
- Nickelbloedite.** A.M. 62, 1059. An improperly formed name for the Ni analogue of blöditite [cf. Dana, *Syst. Min.*, 5th edn., 1868, pp. xxxii and xxxiii, section 13h].
- Nickelblöditite.** E. H. Nickel and P. J. Bridge, 1977. M.M. 41, 37. Magnesian Na₂Ni(SO₄)₂.4H₂O, the Ni analogue of blöditite, occurs at Kambalda and Carr Boyd Rocks, Western Australia. The Kambalda material, with Ni:Mg = 5.6, has α 1.513, γ 1.520; the Carr Boyd material has Ni:Mg = 1.2, and α 1.504, γ 1.509. [M.A. 77-2187; A.M. 62, 1059.]
- Nisaiite.** J. de Lencastre and M. M. Varinho, 1970. Estudo de um mineral uranífero da região de Nisa (Portugal): [Presidência do Conselho, Junta de Energia Nuclear, Direcção Geral dos Serviços de Prospeccção e Exploração Mineiras.] Thin yellow films and crusts associated with saléeite at Nisa, (39° 30' N, 7° 40' W), Portugal, consist of a phosphate of uranium and calcium; X-ray powder data (strongest lines 8.00, 4.00, 3.09 Å) are distinct from those of phosphuranilite and of autunite [also from those of pseudo-autunite (22nd List) and ningyoite (24th List)]. RIs α 1.67 || elongation, β 1.72, γ 1.77, straight extinction; weak yellow-green fluorescence in U.V. light. Named for the locality. [May well be a valid species, but adequate chemical data are lacking. —M.H.H.]
- Otwayite.** E. H. Nickel, B. W. Robinson, C. E. S. Davis, and R. D. MacDonald, 1977. A.M. 62, 999. Occurs as narrow veinlets in serpentine and ore minerals at the Otway prospect, Nullagine, Western Australia. Orthorhombic, a 10.18, b 27.4, c 3.22 Å. Sp. gr. 3.41. Composition 8[Ni₂CO₃(OH)₂.H₂O], with some Mg. Pale green, weakly pleochroic, α 1.65, || elongation, γ' 1.72. Named for C. Otway. [M.A. 78-2125.]
- Ourayite.** S. Karup-Møller, 1977. *Bull. Geol. Soc. Denmark*, 26, 41. Orthorhombic, a 13.457, b 44.042, c 4.100 Å, composition [Ag_{12.5}Pb₁₅

- Bi_{20.5}S₅₂**. From the Old Lout mine, Ouray, Colorado. Named from the locality. [M.A. 78-899.]
- Palladobismutharsenide**. L. J. Cabri, T. T. Chen, J. M. Stewart, and J. H. G. Laflamme, 1976. *Can. Mineral.* **14**, 410. Grains from the Stillwater Complex, Montana, are orthorhombic, a 7.504, b 18.884, c 6.841 Å. Composition $4[\text{Pd}_{10}\text{As}_2\text{Bi}]$. Named from the composition. [M.A. 78-892.]
- Palladseite**. R. J. Davis, A. M. Clark, and A. J. Criddle, 1977. M.M. **41**, 123 and M10. Rare grains among concentrates from gold washings at Itabira, Minas Gerais, Brazil, are cubic, a 10.635. Composition $\text{Pd}_{15.47}\text{Cu}_{1.85}\text{Hg}_{0.24}\text{Se}_{14.43}$ (on a basis of 32 atoms), agrees closely with synthetic $\text{Pd}_{17}\text{Se}_{15}$. Named from the composition. [M.A. 77-2188; A.M. **62**, 1059.]
- Para-alumohydrocalcite**. D. and B. I. Srebrodolskii, 1977. *Zap.* **106**, 336 (Параалюмогидрокальцит). White radiating aggregates from the Vodinsk and Gaurdok sulphide ore deposits have composition $\text{CaAl}_2(\text{CO}_3)_2(\text{OH})_4 \cdot 6\text{H}_2\text{O}$, sp. gr. 2.0, positive elongation, $2V_x$ 69°. Named from the relation to alumohydrocalcite, of which it is a higher hydrate. [M.A. 78-3480.]
- Parapectolite**. W. F. Müller, 1976. *Z. Kristallogr.* **144**, 401. An unnecessary name for pectolite-M2abc. [A.M. **63**, 427.]
- Paraserandite**. W. F. Müller, 1976. *Z. Kristallogr.* **144**, 401. An unnecessary name for a hypothetical polymorph of serandite. [A.M. **63**, 427.]
- Paraspurrite**. A. A. Colville and P. A. Colville, 1977. A.M. **62**, 1003. A monoclinic polymorph of spurrite occurring near Darwin, Inyo Co., California. a 10.473, b 6.706, c 27.78 Å, β 90.58°, space group $P2_1/a$. RIs α 1.650 || [010], β 1.672, γ 1.677, γ : [001] 30°, $2V_x$ 47°. Named from its relation to spurrite. [M.A. 78-2126.]
- Penikisite**. J. A. Mandarino, B. D. Sturman, and M. I. Corlett, 1977. *Can. Mineral.* **15**, 393. Crystals of kulanite (29th List) from about 1 km from the type locality (an ironstone formation in the region of Big Fish River and Blow River, Yukon Territory) proved to be strongly zoned. The rims of some crystals had $\text{Mg} > \text{Fe}$ and so constitute a distinct species. Material with $\text{Fe}:\text{Mg}:\text{Ca}$ 1.01:0.83:0.16 had ρ 3.79 g.cm⁻³, α 1.684, grass-green, β 1.688, blue-green, γ 1.705, pale pink; γ : [001] -6°, β : [010] 0° to 19°. Anorthic, pseudomonoclinic, a 8.999, b 12.069, c 4.921 Å, α and γ c. 90°, β 100° 31'. Composition $2[\text{Ba}(\text{Mg},\text{Fe},\text{Ca})_2\text{Al}_2(\text{PO}_4)_3(\text{OH})_3]$. Named for G. Penikis.
- Peniskisite**. *Can. Mineral.* **15**, no. 3, contents. Error for penikisite.
- Perhamite**. P. J. Dunn and D. Appleman, 1977. M.M. **41**, 437. Rare brown spherulitic masses at the Bell Pit, Newry Hill, Newry, Maine, and at the Dunton Gem mine, Newry Hill, consist of platy hexagonal crystals, a 7.02, c 20.21 Å. Unit cell contents approximately $3\text{CaO} \cdot 3.5\text{Al}_2\text{O}_3 \cdot 3\text{SiO}_2 \cdot 2\text{P}_2\text{O}_5 \cdot 18\text{H}_2\text{O}$, ρ 2.64 g.cm⁻³. w 1.564, ϵ 1.577. Named for F. C. Perham. [M.A. 78-893.]
- Perloffite**. A. R. Kampf, 1977. *Mineral. Rec.* **8**(2), 112. Brown crystals from the Big Chief pegmatite, Glendale, S. Dakota, are monoclinic, a 9.223, b 12.422, c 4.995 Å, β 100.39°, space group $P2_1/m$. Composition (microprobe analysis only) $2[\text{Ba}(\text{Mn},\text{Fe})_2\text{Fe}_2(\text{OH})_3(\text{PO}_4)_3]$, the Fe analogue of bjarebyite. RIs α 1.793, dark greenish-brown, || [010], β 1.803, light greenish-brown, β : [001] c. 42°, γ 1.808, dark greenish-brown. Named for L. Perloff. [A.M. **62**, 1059.]
- Petrovicite**. Z. Johan, M. Kvaček, and P. Picot, 1976. *Bull.* **99**, 310. Tabular crystals in hydrothermal dolomite-calcite veins of the Petrovice deposit, Czechoslovakia, are orthorhombic, a 16.176, b 14.684, c 4.331 Å. Composition near $4[\text{Cu}_3\text{HgPbBiSe}_5]$. Named from the locality. [A.M. **62**, 594; M.A. 77-2189.]
- Phianite**. Trade name for cubic ZrO_2 , stabilized by Yt_2O_3 (?), produced by the Lebedev Physical Institute, Moscow, as a gem diamond substitute. Similar material is marketed through MSB Industries, New York City, under the name 'diamonesque'. Cf. djevalite, this List. (K. Nassau, *Lapidary J.* 1977, p. 904.)
- Phurcalite**. M. Deliens and P. Piret, 1978. *Bull.* **101**, 356. A specimen labelled bergenite (= barium-phosphuranylite, see 2nd List), from Bergen an der Trieb, Vogtland, Saxony, was found to be non-fluorescent, so was re-examined. It occurs as yellow orthorhombic plates, a 17.426, b 16.062, c 13.592 Å, space group $Pbca$. Composition $8[\text{Ca}_2(\text{UO}_2)_3(\text{PO}_4)_2(\text{OH})_4 \cdot 4\text{H}_2\text{O}]$. RIs α 1.690, β 1.730, γ 1.749, $2V_x$ 68°. Named for phosphate, uranium, calcium.
- Platarsite**. L. J. Cabri, J. H. G. Laflamme, and J. M. Stewart, 1977. *Can. Mineral.* **15**, 385. A specimen from the Onverwacht platinum deposit, Transvaal, contains grains of a cubic mineral, a 5.790-5.824 Å, space group $P4_3$. Composition $4[(\text{Pt},\text{Rh},\text{Ru})\text{AsS}]$. This is the Rh-sperryllite of Stumpfl and Clark (this List), which is inappropriate because $\text{Pt} > \text{Rh}$. Named for the composition.
- Poubaite**. F. Čech and I. Vavřin, 1978. *Neues Jahrb. Mineral., Monatsh.* **9**. Lath-shaped crystals from hydrothermal quartz-carbonate veins at Oldřichov, Tachov, Bohemia, are rhombohedral, a_h 4.252, c_h 40.095 Å. Composition

- 3[PbBi₂(Se,Te,S)₄]. Named for Z. Pouba. [M.A. 78-3481.]
- Proudite.** W. G. Mumme, 1976. A.M. **61**, 839. Monoclinic, a 31·96, b 4·12, c 36·69 Å, β 109·52°. Composition near CuPb_{7·5}Bi_{9·33}(S,Se)₂₂. From the Juno mine, Tennant Creek, Northern Territory, Australia, with junoitite and other sulphobismuthites.
- Rh-sperryllite.** E. F. Stumpfl and A. M. Clark, 1965. A.M. **50**, 1068. Rare grains in platinum concentrates from the Driekop mine, Transvaal, have the composition Pt_{0·33}Rh_{0·30}Ir_{0·25}Pd_{0·05}As_{0·90}S_{1·10}. Name inappropriate, since Pt > Rh and As \approx S, and is replaced by platarsite (this List).
- Roewolfeite.** Zap. **105**, 78 (1978). Error for wroewolfeite.
- Rozhkovite.** L. V. Razin, 1975. *Trudy Mineral. Muz. akad. nauk SSSR*, **24**, 93 (Рожковит). This unnecessary name is proposed for a mineral from the Talnakh deposit, described by Razin *et al.* in 1971 (Zap. **100**, 66) as palladian cuproauride. X-ray powder data (24 lines) indexed as orthorhombic with a 3·86, b 39·00, c 3·84 Å, as for artificial CuAu(II), and also with a 3·88, b 42·68, c 3·84 Å, as for artificial Cu₃Au₂. The composition (5 grains) is near (Cu,Rh)(Au,Pd), with a little Ag, Ni, and Bi. [In view of the lack of single-crystal data... its indexing must be considered tentative, but if any likeness to synthetic phases is to be made, it must be to CuAu(II). -L.J.C. Cuproauride (Lozhechkin, 1939), from Karabash, Urals, had a composition near Cu₃Au₂, but was regarded as a solid solution, probably extending to Cu₃Au, not a definite compound—M.H.H.] [M.A. **62**, 595.]
- Rucklidgeite.** E. N. Zav'yalov and V. D. Begizov, 1977. Zap. **106**, 62 (Раклиджит, Rucklidgeite). Foliated aggregates in the gold ores of Zod, Armenia, and of Kokchar, Urals, are rhombohedral a_h 4·416, c_h 41·45 Å, space group $R3m$. Composition 3[(Bi,Pb)₃Te₄]. This agrees well with the unnamed mineral of J. Rucklidge (M.A. 70-1605), from the Robb Montbray mine, Montbray Township, Quebec, and is therefore named for him. [M.A. 77-4626; A.M. **63**, 599.]
- Ruizite.** S. A. Williams and M. Duggan, 1977. M.M. **41**, 429. Orange to brown spherules from the Christmas mine, Gila Co., Arizona, are monoclinic, a 11·95, b 6·17, c 9·03 Å, β 91° 22'. Composition 4[CaMn³(SiO₃)₂·2H₂O]. RIs α 1·663, β 1·715 || [010], γ 1·734, γ :[001] 44° in obtuse β , $2V_x$ 60·2° with inclined dispersion, ρ > v strong. Named for J. A. Ruiz. [M.A. 78-894.]
- Sarabauite.** I. Nakai, K. Koto, K. Nagashima, and N. Morimoto, 1977. *Chem. Lett. (Japan)*, 275. Crystal structure data are given for a monoclinic mineral (a 25·33, b 5·655, c 16·88 Å, β 117° 51') from the Sarabau mine, Sarawak, Malaysia. Formula CaSb₁₀O₁₀S₆, given without analysis or other data. [A.M. **62**, 1260.]
- Sasaitite.** J. Martini, 1978. M.M. **42**, 401. Soft white chalky nodules from West Driefontein Cave, Carlstonville, Transvaal, consist of microscopic plates, probably orthorhombic with a 21·50, b 30·04, c 92·06 Å. Composition 10[(Al,Fe³)₁₄(PO₄)₁₁(OH)₇SO₄·83H₂O], sp. gr. 1·75. RIs α 1·465, β 1·473, γ 1·477. Named for the South African Speleological Association.
- Schoonerite.** P. B. Moore and A. R. Kampf, 1977. A.M. **62**, 246. Rare thin pale-brown laths in the Palermo No. 1 pegmatite, North Groton, New Hampshire, are orthorhombic, a 11·119, b 25·546, c 6·437 Å, space group $Pmab$. Composition 4[ZnMn₂Fe³(OH)₂(PO₄)₃·2H₂O]. RIs α 1·618, pale yellow, || [010], β 1·652, pale brown, || [001], γ 1·682, brown, || [100], $2V_x$ 70-80°. Named for R. Schooner. [M.A. 77-4627.]
- Schreyerite.** O. Medenbach and K. Schmetzer, 1976. *Naturwiss.* **63**, 293. Twinned grains up to 30 μ m in vanadian rutile from the Kwale district, Kenya, are monoclinic, a 7·06, b 5·01, c 18·74 Å, β 119·4°. Composition V₂Ti₃O₉. Named for W. Schreyer. [A.M. **62**, 395.]
- Seinäjokite.** N. N. Mozgova, Yu. S. Borodaev, N. A. Ozerova, V. Paakonon, O. L. Sveshnikova, V. S. Balitskii, and B. A. Dorogovin, 1976. Zap. **105**, 617 (Сейняжокит). Inclusions in native antimony from near Seinäjoki, Vaasa, Finland, are orthorhombic, a 3·19, b 5·81, c 6·49 Å. Composition 2[(Fe,Ni)(Sb,As)₂]. Named for the locality. [A.M. **62**, 1059; M.A. 77-3392.]
- Slavyanskite.** B. V. Dolishnii, 1977. Zap. **106**, 331 (Славянскит). Tetragonal crystals from a drill core in the Slavyansk salt deposit, Dneprovsk-Donets basin, have a 11·26, c 6·56 Å. Composition near 4[CaAl₂O₄·8½H₂O], sp. gr. 2·52. RIs ω 1·571, ϵ 1·600. Named from the locality. [M.A. 78-896; A.M. **63**, 599.]
- Slawsonite.** D. T. Griffin, P. H. Ribbe, and G. V. Gibbs, 1977. A.M. **62**, 31. The Sr analogue of paracelsian occurs in Wallowa Co., Oregon. Monoclinic, a 8·888, b 9·344, c 8·326 Å, β 90·33°. [M.A. 77-3393.] Presumably named for W. F. Slawson.
- Sodium-anthophyllite.** Amph. (1978), 3·3. (Sodium anthophyllite.)
- Sodium-gedrite.** Amph. (1978), 3·6. (Sodium gedrite.)
- Sodium-melilite.** M. J. LeBas, 1977. *Carbonatite-nephelinite volcanism* (Wiley), 92. A name for endmember NaCaAlSi₂O₇.
- Stannomicrolite.** I.M.A. Subcommittee pyrochlore group, 1978. A.M. **62**, 404. A systematic name to replace sukulaite.

- Stillwaterite.** L. J. Cabri, J. H. G. Laflamme, J. M. Stewart, J. F. Rowland, and T. T. Chen, 1975. *Can. Mineral.* **13**, 321. Small anhedral grains from the Stillwater Complex, Montana, are hexagonal, a 7.399, c 10.311 Å, space group $P\bar{3}$ or $P\bar{3}$. Composition $3[\text{Pd}_8\text{As}_3]$. Named from the locality. [A.M. **62**, 1060; Bull. **99**, 344; M.A. 77-886; Zap. **105**, 71.]
- Strontiodresserite.** J. L. Jambor, A. P. Sabina, A. C. Roberts, and B. D. Sturman, 1977. *Can. Mineral.* **15**, 405. Coatings on specimens of a silico-carbonatite sill at St. Michel, Montreal Island, Quebec, are the Sr analogue of dresserite (26th List). Orthorhombic, a 9.14, b 15.91, c 5.59 Å, ρ 2.71 g.cm⁻³. Composition $4[(\text{Sr,Ca})\text{Al}_2(\text{CO}_3)_2(\text{OH})_4 \cdot \text{H}_2\text{O}]$. RIs α 1.510, in plane of platy crystals, β 1.583, || elongation, $2V_x$ 42½°. Named from the composition and analogy with dresserite.
- Strontium weilite.** M. A. Nobar and A. P. Dalvi, 1977. Bull. **100**, 353. Artificial SrHAsO₄, the Sr analogue of weilite (23rd List), is anorthic, a 7.43, b 6.97, c 7.40 Å, α 96° 0', β 103° 31', γ 86° 52'.
- Sugilite.** N. Murakami, T. Kato, Y. Miura, and F. Hirowatari, 1976. *Mineral. J. [Japan]*, **8**, 110. Subhedral grains in aegirine syenite at Iwagi Islet, Ehime Prefecture, Japan, are brownish-yellow, hexagonal, a 10.007, c 14.000 Å, space group $P6/mcc$. Composition near $\text{K}_{0.81}\text{Na}_{1.42}\text{Li}_{2.12}\text{Fe}_{0.03}^2\text{Fe}_{1.60}^3\text{Al}_{0.59}\text{Ti}_{0.06}\text{Si}_{12}\text{O}_{29.63} \cdot 0.45\text{H}_2\text{O}$, sp. gr. 2.74. RIs ω 1.610, ε 1.607. Named for K. Sugi. [A.M. **62**, 596.]
- Svetlozarite.** M. N. Maleev, 1976. Zap. **105**, 449 (Светлозарит). Spherulites in chalcodony veinlets from Zvezdel, Rhodope Mtns., Bulgaria, are orthorhombic, a 19.482, b 20.963, c 7.554 Å. Composition near $[(\text{Ca,Na,K})_{6.85}(\text{Si,Al})_{55.6}\text{O}_{112.25}\text{H}_2\text{O}]$. RIs α 1.481, β 1.482, γ 1.485. Named for Svetlozar I. Bontev. [A.M. **62**, 1060; M.A. 77-3394.]
- Tantalylindochite.** S. A. Gorzhenskaya, G. A. Sidorenko, and A. I. Ginzburg, 1974. Abstr. Zap. **105**, 76 (Танталлиндокит). Unnecessary name for tantalian lindochite.
- Texasite.** W. W. Crook III, 1977. A.M. **62**, 1006. An alteration crust between crystals of allanite, gadolinite, and yttrifluorite at the Clear Creek pegmatite, Burnet Co., Texas, is almost pure $\text{Pr}_2(\text{SO}_4)_2$, identical with artificial material. Orthorhombic, a 4.139, b 4.243, c 13.431 Å. RIs α 1.826, colourless, || [001], β 1.917, pale green, || [010], γ 1.921, pale green, || [100], $2V_x$ 26-31°. Named for the State of Texas. [This name was used by Kennigott (1853) for zaratite (Casares, 1851) but has not been generally accepted. Though it has occasionally been suggested that a name discredited and unused for over 50 years can properly be re-used, this is undesirable—M.H.H.] [M.A. 78-2127.]
- Tlapallite.** S. A. Williams and M. Duggan, 1978. M.M. **42**, 183. Thin green paint-like films on rock-fracture surfaces at the Bambollita mine, Moctezuma, Sonora, Mexico, and at the Lucky Cuss mine, Tombstone, Arizona, are monoclinic, a 11.94, b 9.11, c 15.66 Å, β 90° 36'. Composition $\text{H}_6(\text{Ca,Pb})_2(\text{Cu,Zn})_3\text{SO}_4(\text{TeO}_3)_4\text{TeO}_6$. RIs α 1.815, $\beta = \gamma$ 1.960 (Bambollita); α 1.955, $\beta = \gamma$ 2.115 (Tombstone). Named from the Nahua word *tlapalli*, paint.
- Treasurite.** S. Karup-Møller, 1977. *Bull. Geol. Soc. Denmark*, **26**, 41. Monoclinic, a 13.349, b 26.538, c 4.092 Å, β 92.77°. Composition $[\text{Ag}_7\text{Pb}_6\text{Bi}_{15}\text{S}_{32}]$. From the Treasury mine, Colorado. Named from the locality. [M.A. 78-899.]
- Tučekite.** J. Just and C. E. Feather, 1978. M.M. **42**, 278 and M21. Microscopic grains, partly replacing millerite, at Kanowna, Western Australia, and at several gold deposits of the Witwatersrand system, S. Africa, are the antimony analogue of hauchecornite. Tetragonal, a 7.174, c 5.402 Å. Composition $\text{Ni}_9\text{Sb}_2\text{S}_8$. Named for K. Tuček.
- Tuscanite.** P. Orlandi, L. Leoni, M. Mellini, and S. Merlino, 1977. A.M. **62**, 1110. Colourless crystals in ejected blocks in a pumice from Pitigliano, Tuscany, Italy, are monoclinic, a 24.036, b 5.110, c 10.888 Å, β 106.95°, space group $P2_1/a$. Composition $2[\text{K}_{0.9}(\text{H}_2\text{O})_{1.1}(\text{Ca}_{5.25}\text{Na}_{0.5}\text{Fe}_{0.1}^3\text{Mg}_{0.1})(\text{Si}_{6.34}\text{Al}_{3.66})\text{O}_{22}(\text{SO}_4)_{1.38}(\text{CO}_3\text{OH})_{0.85}(\text{OH})_{0.44}]$, sp. gr. 2.38. RIs α 1.581, β 1.590, γ 1.591, α : [001] 40°, $2V_x$ 40°. Closely related to latiumite. Named from the locality. [M.A. 78-3482.]
- Tvalchrelidzeite.** V. S. Gruzdev, N. M. Mchedlishvili, G. A. Terekhova, Z. Ya. Tsertsvadze, N. M. Chernitsova, and N. G. Shumkova, 1975. Dokl. akad. nauk SSSR, **225**, 911 (Твалчрелидзеит). Granular aggregates from the Gomi deposit, Georgia, U.S.S.R., are monoclinic, a 11.51, b 4.39, c 14.62 Å, β 92° 14'. Composition near $\text{Hg}_2(\text{Sb,As})_8\text{S}_{15}$. Named for A. A. Tvalchrelidze. [A.M. **62**, 174; M.A. 77-889; Zap. **105**, 72.]
- Tveitite.** S. Bergstøl, B. B. Jensen, and H. Neumann, 1977. *Lithos*, **10**, 81. Massive, pale yellow, from a pegmatite dyke at Høydalen, Telemark, Norway. X-ray powder data are indexed on a pseudocubic monoclinic pseudocell with a 3.924, b 3.893, c 5.525 Å, β 90.26°. Composition $\text{Ca}_{1-x}(\text{Yt,Ln})_x\text{F}_{2+x}$, with $x \approx 0.3$. Named for J. Tveit. [The heating product, giving a fluorite pattern, is presumably yttrifluorite. Chatterjee

- (Z. *Kristallogr.* 1940, **102**, 245; M.A. 7, 73) reported that artificial $(\text{Ca}, \text{Yt})\text{F}_{2+x}$ has the fluorite structure with interstitial F when $\text{YtF}_3 < 50\%$, but for $\text{YtF}_3 > 50\%$ the structure becomes more complicated—M.H.H.] [A.M. **62**, 1060; M.A. 78-2128.]
- Urvantsevite.** N. S. Rudashevskii, V. N. Makarov, E. M. Medvedeva, V. V. Ballakh, Y. I. Permyakov, G. A. Mitenkov, A. M. Karpenkov, I. D. Budko, and N. N. Shishkin, 1976. *Zap.* **105**, 704 (Урванцевит). Intergrowths with other platinum-group minerals in sulphide ores from the Mayak (Маяк, 'Majak') mine, Talnakh deposit, are hexagonal, a 13.82, c 6.53 Å. Composition $\text{Pd}(\text{Bi}, \text{Pd})_2$. Named for N. N. Urvantsev. [A.M. **62**, 1260; M.A. 77-4628.]
- Velikite.** L. N. Kaplunnik, E. A. Pobedinskaya, and N. V. Belov, 1977. *Kristallografiya*, **22**, 175 (Великит). A dark-grey mineral from the Khaidarkan deposit is tetragonal, a 5.542, c 10.908 Å, space group $I4/mmm$. The structure is stated to be that of stannite, with Hg in 7/8 of the Fe positions, and the unit cell contents are cited as $[\text{Cu}_{3.18}\text{Hg}_{1.53}\text{Zn}_{0.44}\text{Sn}_{1.90}\text{As}_{0.08}\text{Sb}_{0.02}\text{S}_{9.94}]$, (analysis not given). [A.M. **62**, 1260; M.A. 78-1506.]
- Vertumnite.** E. Passaglia and E. Galli, 1977. *Tschermaks Mineral. Petrogr. Mitt.* **24**, 57. Flattened hexagonal prisms on tobermorite from Campo Morto, Montalto di Castro, Viterbo, Tuscany, Italy, are monoclinic pseudo-hexagonal with a 5.744, b 25.12, c 5.766 Å, β 119.72°. Composition $[\text{Ca}_4\text{Al}_4\text{Si}_4\text{O}_6(\text{OH})_{24} \cdot 3\text{H}_2\text{O}]$, sp. gr. 2-15. RIs α 1.531 || [010], β 1.535, γ 1.541, γ : [001] 16° in obtuse β . Named for the Etruscan god Vertumnus. [A.M. **62**, 1061; M.A. 78-2129.]
- Vikingite.** S. Karup-Møller, 1977. *Bull. Geol. Soc. Denmark*, **26**, 41. Monoclinic, a 13.603, b 25.248, c 4.112 Å, β 95.55°. Composition $[\text{Ag}_5\text{Pb}_8\text{Bi}_{13}\text{S}_{30}]$. From Ivigtut, Greenland. Named for the colonizers of Greenland. [M.A. 78-899.]
- Virgilite.** B. M. French, P. A. Jezek, and D. E. Appleman, 1978. A.M. **63**, 461. Hexagonal bipyramids up to 50 μm , and fibrous overgrowths on quartz and other minerals in the volcanic glass of Macusani, Peru, have a 5.13, c 5.44 Å, and a β -quartz type structure. Composition $[(\text{LiAl})_{0.6}\text{Si}_{2.4}\text{O}_6]$. n 1.520, uniaxial negative, ω - ϵ 0.005. There is no ordering of Al and Si. Named for Virgil E. Barnes.
- Vuagnatite.** H. Sarp, J. Bertrand, and E. McNear, 1976. A.M. **61**, 825. Orthorhombic, a 7.055, b 8.542, c 5.683 Å, space group $P2_12_12_1$. Composition $\text{CaAlSiO}_4\text{OH}$, isostructural with conichalcite. RIs α 1.700, β 1.725, γ 1.730, $2V_\alpha$ 48°. In rodingite near Bögürtlencik Tepe, Taurus Mtns., Turkey. Named for M. Vuagnat. [M.A. 77-2191.]
- Weissbergite.** F. W. Dickson and A. S. Radtke, 1977. This mineral is mentioned as occurring in the Carlin gold deposit, Elko, Nevada, and a formula TlSbS_2 is given, but no further description, in Radtke *et al.*, A.M. **62**, 421 (1977).
- Whiteite.** P. B. Moore and J. Ito, 1978. M.M. **42**, 309. The aluminium analogue of jahnsite occurs as tan crystals, flattened on {001}, at Ilha de Taquaral, Minas Gerais, Brazil, and at Blow River, Yukon Territory, Canada. Monoclinic, a 14.90, b 6.98, c 10.13 Å, β 113° 7', space group $P2/a$. Composition $2[\text{Ca}(\text{Fe}, \text{Mn})\text{Mg}_2\text{Al}_2(\text{PO}_4)_4(\text{OH})_2 \cdot 8\text{H}_2\text{O}]$, sp. gr. 2.58. RIs α 1.580, β 1.585, γ 1.593. Named for J. S. White, Jr.
- Xiangjiangite.** *Acta Geol. Sinica*, **183** (1978). A light-yellow microcrystalline mineral from Xiangjiang (Hsiang) River, China, is pseudotetragonal $a = b$ 7.17, c 22.22 Å. Composition $[(\text{Fe}, \text{Al})(\text{UO}_2)_4(\text{PO}_4)_2(\text{SO}_4)_2 \cdot \text{OH} \cdot 22\text{H}_2\text{O}]$. RIs α 1.558, β 1.576, γ 1.593.
- Yftsite.** Yu. M. Shipalov, 1965. [Reference not found.] A rare-earth titanium silicate with fluoride from Kazakhstan, orthorhombic with a 14.90, b 10.60, c 7.08 Å, was given this name. It has been applied by V. P. Balko and V. V. Bakakin (*Zh. Strukt. Khim.* 1975, **16**, 837) to a mineral from the Kola peninsula described, with partial analysis, by N. I. Pletneva, A. P. Denison, and N. A. Elina (*Mater. Mineral. Kofsk Poluost.* 1971, **8**, 176), for which Balko and Bakakin give a 15.04, b 10.63, c 7.052 Å, sp. gr. 3.96, RIs α 1.690, β 1.705, γ 1.710-2. The formula $(\text{Yt}, \text{Ln})_4(\text{F}, \text{OH})_6\text{TiO}(\text{SiO}_4)_2$ is assigned. [But is probably incorrect, since the partial analysis (total 87.3%), taken with the cell-dimensions and density cited, lead to cell contents including 11.3(Yt, Ln, Th). 3.3Ti. 5.9Si. 12.6F. 21.1 OH and 18.5 oxygen—plus, of course, the 13% of undetermined elements—M.H.H.] Presumably named from the composition. [A.M. **62**, 396.]
- Yttropyrochlore.** I.M.A. Subcommittee pyrochlore group, 1978. A.M. **62**, 404. A systematic name to replace obruchevite (of Kuprianova, 1964).
- Zaherite.** A. P. Ruotsala and L. L. Babcock, 1977. A.M. **62**, 1125. Veinlets in kaolinite-boehmite rock in the Salt Range, Pakistan, consist of aggregates of small grains. ρ 2.007 g.cm^{-3} , n 1.4981, almost isotropic. Composition $\text{Al}_{12}(\text{SO}_4)_5(\text{OH})_{26} \cdot 20\text{H}_2\text{O}$. Dehydrates reversibly at room temperature with change in the intense X-ray diffraction at d 18.1 to 15.5 Å. Named for M. A. Zaher. [M.A. 78-3483.]

Zektzerite. P. J. Dunn, R. C. Rouse, B. Cannon, and J. A. Nelen, 1977. *A.M.* **62**, 416. Colourless to pink crystals in a riebeckite-granite from the Golden Horn batholith near Washington Pass, Okanogan Co., Washington, are orthorhombic, pseudo-hexagonal, a 14.306, b 17.330, c 10.140 Å. Composition $8[\text{LiNaZrSi}_6\text{O}_{15}]$ with some Ti

and Hf, ρ 2.79 g.cm⁻³. RIs α 1.582 || [100], β 1.584 || [010], γ 1.584 || [001], $2V_\alpha$ near 0°. [M.A. 78-898.]

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