Thirty-fifth list of new mineral names

A. M. CLARK AND P. C. TANDY

Department of Mineralogy, British Museum (Natural History),
Cromwell Road, London SW7 5BD

THE names in this list are those that have appeared in the literature since the 34th list was completed in 1986. They include 106 new species, shown in bold type. These have all been approved by the Commission on New Mineral Names, International Mineralogical Association. The remaining names include 6 that have been published with insufficient data or without the approval of the IMA; 3 are synonyms for established species; one is probably a mixture; 2 are mineral-type names given to synthetic preparations; and 9 are spelling errors or transliteration variants. The style is in keeping with previous lists, but some minor changes in the reference have been introduced, mainly to keep the entries consistent in style with the departmental mineral index database, now being developed. Our thanks go to members of the Department of Mineralogy, British Museum (Natural History), for checking and commenting on the list, and also to Helen Smith of the Mineralogical Society for combing *Mineralogical Abstracts* for the new names.

Acuminite. H. Pauly and O. V. Petersen, 1987. *Neues Jahrb. Min. Mh.* 502. Colourless pointed crystals from the cryolite deposit, Ivigtut, South Greenland, are monoclinic *C*2/*c* or *Cc*, *a* 13.223, *b* 5.175, *c* 14.251 Å, β 111.61°, Z = 8, $D_{meas.}$ 3.295, $D_{calc.}$ 3.305. Composition $SrAlF_4(OH)H_2O$, polymorphous with tikhonenkovite (23rd list). Optically biaxial positive, α 1.451, β 1.453, γ 1.463. Named for the shape of its crystals from the latin word *acumen* for a spearhead.

Akhtenskite. J. Visser, 1979. *J.C.P.D.S. Grant-in-Aid Report.* The synthetic phase ϵ-MnO_2 is named. Hexagonal, *a* 2.80, *c* 4.45 Å, Z = 1 [PDF 38-820].

Althupite. P. Piret and M. Deliens, 1987. *Bull. Min.* **110,** 65. Thin yellow transparent tablets with beryl, columbite, and other uranyl phosphates at Kobokobo, Kivu, Zaïre, are triclinic $P\bar{1}$, *a* 10.953, *b* 18.567, *c* 13.504 Å, α 72.64°, β 68.20°, γ 84.21°, Z = 2, $D_{calc.}$ 3.98. Composition

$$AlTh(UO_2)[(UO_2)_3O(OH)(PO_4)_2]_2(OH)_3 . 15H_2O.$$

Optically biaxial negative, α 1.620, β 1.661, γ 1.665. Named from its principal chemical components.

Ammonioalunite. S. P. Altaner, J. J. Fitzpatrick, M. D. Krohn, P. M. Bethke, D. O. Haybam, J. A. Goss, and Z. A. Brown, 1988. *Amer. Min.* **73,** 145. Found in a sample from the hot springs at The Geysers, Sonoma County, California, USA. Hexagonal (rhombohedral), space group $R\bar{3}m$ or *R*3*m*, *a* 7.013, *c* 17.885 Å, $D_{meas.}$ 2.4, $D_{calc.}$ 2.58. Composition $NH_4Al_3(SO_4)_2(OH)_6$; named for its relationship with alunite. Optically uniaxial positive, ω 1.590, ϵ 1.602.

Ammonioleucite. H. Hori, K. Nagashima, M. Yamada, R. Miyawaki, and T. Marubashi, 1986. *Amer. Min.* **71,** 1022. White surface layers replacing analcime crystals in green dolomitised crystalline schist of the Sanbagawa metamorphic belt, Tatarazawa, Fujioka, Gumma Prefecture, Japan, are tetragonal $I4_1/a$, *a* 13.214, *c* 13.713 Å, Z = 16, $D_{calc.}$ 2.24, $D_{meas.}$ 2.29. Composition $(NH_4)AlSi_2O_6$. Optically uniaxial positive, *n* = 1.518, ϵ–ω very small. The ammonium analogue of leucite, named accordingly.

Amstallite. R. Quint, 1987. *Neues Jahrb. Min. Mh.* 253. Colourless prismatic to acicular crystals in open fissures in the pegmatoid schlieren at the Amstall graphite quarry, Lower Austria, are monoclinic *C*2/*c*, *a* 18.830, *b* 11.517, *c* 5.190 Å, β 100.86°, Z = 4, $D_{meas.}$ 2.40, $D_{calc.}$ 2.38. Composition

$$CaAl(OH)_2[Al_{0.8}Si_{3.2}O_8(OH)_2] . [(H_2O)_{0.8}Cl_{0.2}].$$

Optically biaxial positive, α 1.5328, β 1.5340, γ 1.5378. Named for the locality.

Argentotennantite. E. M. Spiridonov, N. F. Sokolova, A. K. Gapeev, D. M. Dashevskaya, T. L. Evstigneeva, T. N. Chvileva, V. G. Demidov, E. P. Balashov, and V. I. Shul'ga, 1986. *Dokl. Akad. Nauk SSSR,* **290,** 206 [Аргентотеннантит]. Small grains in the polymetallic Kvartsitoviye Gorki deposit, northern Kazakhstan, USSR, is a member of the tetrahedrite group $A_{12}B_4X_{13}$ with Ag > Cu > Zn > Fe in the *A* site and As > Sb in the *B* site. Cubic $I\bar{4}3m$, *a* 10.584 Å, $D_{\text{calc.}}$ 5.05. Composition $(Ag,Cu)_{10}(Zn,Fe)_2(As,Sb)_4S_{13}$. Reflectance values given. Named for relationship with tennantite.

Arsenoflorencite-(Ce). E. H. Nickel and J. E. Temperley, 1987. *Min. Mag.* **51,** 605. Colourless to light brown scalenohedral crystals and crystal fragments at three localities in Australia: at two places on the Eyre Peninsula, South Australia, and near the Gulf of Carpentaria on the Northern Territory/Queensland border. The mineral is hexagonal (rhombohedral) *R*3*m*, *a* 7.029 and *c* 16.517 Å, Z = 3, $D_{\text{meas.}}$ 4.096, $D_{\text{calc.}}$ 4.091. Composition $RE\text{Al}_3(\text{AsO}_4)_2(\text{OH})_6$, with Ce as the dominant *RE* element. Optically uniaxial positive, ω 1.739, ϵ 1.745. Named as the arsenic analogue of florencite, with Ce as the predominant rare earth element.

Ashoverite. A. M. Clark, E. F. Fejer, G. Cressey, and P. C. Tandy, 1988. *Min. Mag.* **52,** 699–702. Colourless platy crystals on fluorite in an oxidised vein exposure at Milltown, Ashover, Derbyshire, England, are tetragonal, *a* 6.825, *c* 33.36 Å, Z = 32, $D_{\text{meas.}}$ 3.3, $D_{\text{calc.}}$ 3.44. Composition $Zn(OH)_2$; a further polymorph of $Zn(OH)_2$ from this locality (see sweetite, 34th List). Optically uniaxial positive, ω 1.629, ϵ 1.639. Named for locality.

Asisite. R. C. Rouse, D. R. Peacor, P. J. Dunn, A. J. Criddle, C. J. Stanley and J. Innes, 1988. *Amer. Min.* **73,** 643. Transparent yellow to greenish yellow platy crystals associated with baryte at the Kombat mine, South West Africa (Namibia), are tetragonal, space group *I*4/*mmm*, *a* 3.897, *c* 22.81 Å, Z = 1, $D_{\text{calc.}}$ 8.041. Composition $Pb_7SiO_8Cl_2$. Optically uniaxial negative, ω 2.39, ϵ 2.32. Spectral reflectance data and colour values given. Named for the Asis Farm, where the Kombat mine is located.

Atlasovite. V. I. Popova, V. A. Popov, N. S. Rudashevsky, S. F. Glavatskikh, V. O. Polyakov, and A. F. Bushmakin, 1987. *Zap. Vses. Min. Obshch.* **116,** 358 [Атласовит]. The mineral forms zones in crystals of nabokoite (this List) in sublimates of the Tolbachik volcano, Kamchatka, USSR. Tetragonal, space group *P*4/*nnc*, *a* 9.86, *c* 20.58 Å, Z = 4, $D_{\text{meas.}}$ 4.20, $D_{\text{calc.}}$ 4.12. Composition $Cu_6Fe^{3+}Bi^{3+}O_4(SO_4)_5 . KCl$. Optically uniaxial negative, ω 1.783, ϵ 1.776. Named for V. V. Atlasov, first Russian investigator of Kamchatka. Forms an isomorphous series with nabokoite (this List).

Baileychlore. A. C. Rule and F. Radke, 1988. *Amer. Min.* **73,** 135. Dark green rims on colloform calcite veins at the Red Dome deposit, Chillagoe, Queensland, Australia, are a new Zn-rich chlorite. Probably triclinic, $C\bar{1}$ or *C*1, *a* 5.346, *b* 9.257, *c* 14.401 Å, β 97.12°, $D_{\text{meas.}}$ 3.18, $D_{\text{calc.}}$ 3.195. Composition

$$(Zn_{2.50}Fe^{2+}{}_{1.20}Al_{1.17}Mg_{0.76}Mn^{2+}{}_{0.01}\square_{0.36})(Si_{3.55}Al_{0.45})O_{10}(OH)_8.$$

Optically biaxial, α 1.582, γ 1.614. Named for S. W. Bailey following the nomenclature of Bayliss.

Baraćite. Error for barićite. K. A. Rodgers, 1987. *Neues Jahrb. Min. Mh.* 183.

Bayankhanite. V. I. Vasil'ev, 1984. *Trudy Inst. Geol. Geofiz., Siber. Otdel. Akad. Nauk SSSR,* no. 587, 5. Black grains in fluorite deposits at Idermeg-Bayan-Khan-Ula, Mongolia, have compositions Cu 43.00–59.0, Hg 20.9–40.9, S 17.0–18.7%. May be several phases.

Bazhenovite. B. V. Chesnokov, V. O. Polyakov and A. F. Bushmakin, 1987. *Zap. Vses. Min. Obshch.* **116,** 737 [Баженовит]. Bright yellow elongated thin plates in burning dumps formed by spontaneous combustion of clays and shales in the Chelyabinsk coal basin, southern Urals, USSR, are monoclinic (pseudohexagonal), space group $P2_1/c$, *a* 8.45, *b* 17.47, *c* 8.24 Å, β 119.5°, Z = 1, $D_{\text{meas.}}$ 1.83, $D_{\text{calc.}}$ 1.824. Composition $CaS_5 . CaS_2O_3 . 6Ca(OH)_2 . 20H_2O$. Optically biaxial positive, α 1.697, β 1.619, γ 1.595. The powder pattern is very similar to synthetic material (PDF 22-154). Named for A. G. Bazhenov and his wife L. F. Bazhenova.

Blatterite. G. Raade, M. H. Mladeck, V. K. Din, A. J. Criddle, and C. J. Stanley, 1988. *Neues Jahrb. Min. Mh.* 121. Black lath-shaped crystals embedded in manganosite or calcite from Nordmark, Sweden, are orthorhombic *Pnnm* or *Pnn*2, *a* 37.693, *b* 12.620, *c* 6.2541 Å, Z = 32, $D_{\text{meas.}}$ 4.7, $D_{\text{calc.}}$ 4.35. Composition $(Mn^{2+},Mg)_2(Mn^{3+},Sb^{3+},Fe^{3+})(BO_3)O_2$; in pinakiolite group. Spectral reflectance data given. Named for F. Blatter, who first recognised it as a new mineral and provided the type specimen.

Blossite. P. D. Robinson, J. M. Hughes, and M. L. Malinconico, 1987. *Amer. Min.* **72,** 397. Black anhedral crystals occurring as a fumarolic sublimate from the Izalco volcano, El Salvador, are orthorhombic *Fdd*2, *a* 20.676, *b* 8.392, *c* 6.446 Å, Z = 8, $D_{\text{calc.}}$ 4.051. Composition α-$Cu_2^{2+}V_2^{5+}O_7$; previously described as a synthetic phase in the CuO–V_2O_5 system by C. Brisi and A. Molinari (1958) *Ann. Chim. Roma,* **48,** 263. Blossite is the low-temperature polymorph of ziesite, β-$Cu_2V_2O_7$, which was discovered at the same locality. Blossite is opaque; reflectance values are given. The name is for F. D. Bloss, Virginia Polytechnic Institute and State University.

Bobfergusonite. T. S. Ercit, A. J. Anderson, P.

Cerný, and F. C. Hawthorne, 1986. *Can. Min.* **24,** 599. Large brown anhedral crystals in a granitic pegmatite at Cross Lake, Manitoba, Canada, are monoclinic $P2_1/n$, a 12.773, b 12.486, c 11.038 Å, β 97.15°, Z = 4, $D_{\text{meas.}}$ 3.54, $D_{\text{calc.}}$ 3.57. Composition $Na_2Mn_5Fe^{3+}Al(PO_4)_6$. Optically biaxial positive, α 1.694, β 1.698, γ 1.715. Named for Dr Robert Bury Ferguson, University of Manitoba.

Canaphite. D. R. Peacor, P. J. Dunn, W. B. Simmons, and F. J. Wicks, 1985. *Min. Record* **16,** 467. Colourless prismatic crystals coating stilbite, supposedly from Haledon, New Jersey, USA, are monoclinic Pa, a 10.529, b 8.48, c 5.673 Å, β 106.13°, Z = 2, $D_{\text{meas.}}$ 2.24, $D_{\text{calc.}}$ 2.27. Composition $CaNa_2H_2(PO_4)_2.3H_2O$. Optically biaxial negative, α 1.496, β 1.504, γ 1.506. Named as a contraction of its principal chemical constituents. Subsequently shown to be identical to synthetic α-$CaNa_2P_2O_7.4H_2O$ and monoclinic Pc, a 5.673, b 8.48, c 10.529 Å, β 106.13°; R. C. Rouse, D. R. Peacor, and R. L. Freed, 1988. *Amer. Min.* **73,** 168.

Cesplumtantite. A. V. Volvoshin, Ya. A. Pakhomovy, A. Yu Bakhchisaraitsev, and N. N. Devnina, 1986. *Min. Zhurn.* **8,** no. 5, 92 [Цезплюмтантит]. Found on a museum specimen of thoreaulite from a granite pegmatite at Monono, Zaïre, forming veinlets and elongated concretions. Tetragonal, a 13.552, c 6.445 Å, Z = 2, $D_{\text{calc.}}$ 6.87. Composition $(Cs,Na)_2(Pb,Sb^{3+})_3Ta_8O_{24}$. Named for chemical composition.

Cetineite. C. Sabelli and G. Vezzalini, 1987. *Neues Jahrb. Min. Mh.* 419. Tufts of orange-red acicular crystals in cavities in rock fragments on the spoil heaps at the Cetine mine, Tuscany, Italy, are hexagonal $P6_3$, a 14.230, c 5.579 Å, Z = 2, $D_{\text{calc.}}$ 4.21. Composition $(K,Na)_{3+x}(Sb_2O_3)_3(SbS_3)(OH)_x.(2.8-x)H_2O$. Optically uniaxial negative, $n > 1.74$. Named for locality.

Chaidamuite. W. Li, G. Chen, and Z. Peng, 1986. *Acta Min. Sinica* **6,** 109. Small grains or granular aggregates in the oxidation zone of a Pb-Zn deposit at Xitieshan, Chaidamu, Qinhai Province, China, are monoclinic, $P2_1/m$ or $P2_1$, a 9.759, b 7.134, c 7.335 Å, β 106.2°, Z = 2, $D_{\text{meas.}}$ 2.722. Composition $ZnFe^{3+}(SO_4)_2(OH).4H_2O$. Optically biaxial, α 1.632, β 1.640, γ 1.688. Named for locality.

Chvilevaite. V. M. Kacholovskaya, B. S. Osipov, N. G. Nazarenko, V. A. Kukoev, A. O. Mazmanyan, I. N. Egorov, and L. N. Kaplunnik, 1988. *Zap. Vses. Min. Obshch.* **117,** 204 [Чвилеваит]. Tabular to prismatic orange metallic grains in polymetallic ores of the Acatuya deposit, Zabaycalia, USSR, are hexagonal (trigonal), space group $P\bar{3}m1$, a 3.88, c 13.68 Å, Z = 2, $D_{\text{calc.}}$ 3.91. Composition $Na(Cu,Fe,Zn)_2S_4$. Spectral reflectance values given. Named for T. N. Chvileva.

Cobaltaustinite. E. H. Nickel and W. D. Birch, 1988. *Austral. Min.* **3,** 53. Dull green botryoidal coatings on albitite from the Dome Rock copper deposit, South Australia, are orthorhombic, a 7.50, b 9.01, c 5.92 Å, space group $P2_12_12_1$, Z = 4, $D_{\text{calc.}}$ 4.24. Composition $CaCoAsO_4(OH)$; the cobalt analogue of austinite, so named.

Criddleite. D. C. Harris, A. C. Roberts, J. H. G. Laflamme, and C. J. Stanley, 1988. *Min. Mag.* **52,** 691-7. Small rare grains in the Hemlo gold deposit, Hemlo, Ontario, Canada, are monoclinic (pseudotetragonal), space group $A2/m$, $A2$, or Am, a 20.015, b 8.075, c 7.831 Å, β 92.01°. Density of synthetic material is 6.86; $D_{\text{calc.}}$ 6.57. Composition $TlAg_2Au_3Sb_{10}S_{10}$. Reflectance spectra and colour values are given. Named for A. J. Criddle.

Cuproiridisite, variant of cuproiridsite (34th list). *Min. Abs.* 86M/4977.

Danielsite. E. H. Nickel, 1987. *Amer. Min.* **72,** 401. In polished section, grey crystals with weak bireflectance from a pocket of primary sulphides near Coppin Pool, Western Australia, have a composition similar to balkanite ($Cu_9Ag_5HgS_8$) but a different X-ray powder diffraction pattern which has not been indexed. Composition of danielsite is $(Cu,Ag)_{14}HgS_8$ with Cu:Ag approximately 8:5. Reflectance values are given. The name is for Dr J. L. Daniels of Geoscan Pty. Ltd., who collected the material.

Delindeite. D. E. Appleman, H. T. Evans, Jr., G. L. Nord, E. J. Dwornik, and C. Milton, 1987. *Min. Mag.* **51,** 417. Microscopic crystals in miarolitic cavities in nepheline syenite from the Diamond Jo quarry, Hot Spring Co., Arkansas, USA, are monoclinic, a 21.617, b 6.816, c 5.383 Å, β 94.03°, Z = 1, $D_{\text{meas.}}$ 3.3. Composition $(Na,K)_{2.7}(Ba,Ca)_4(Ti,Fe,Al)_6Si_8O_{26}(OH)_{14}$. Biaxial positive, average n–1.813. Named for H. de Linde, owner of the Diamond Jo quarry. Occurs as flake-like crystallite spherules, light pinkish grey in colour, associated with lourenswalsite (*q.v.*).

Diomignite. D. London, M. E. Zolensky, and E. Roedder, 1987. *Can. Min.* **25,** 173. Small anhedral to euhedral colourless crystals as daughter minerals in fluid inclusions in spodumene from the Tanco pegmatite, Bernic Lake, Manitoba, Canada, are the natural counterpart of synthetic $Li_2B_4O_7$. Tetragonal $I4_1cd$, a 9.470, c 10.279 Å, Z = 8, $D_{\text{calc.}}$ 2.437. Optically uniaxial negative, ω 1.612, ϵ 1.554. Named from the

Homeric Greek *dios mignen* (divine mix), alluding to the pronounced fluxing effects of $Li_2B_4O_7$ on the hydrous pegmatite magma.

Ecandrewsite. W. D. Birch, E. A. J. Burke, V. J. Wall, and M. A. Etheridge, 1988. *Min. Mag.* **52,** 237. Disseminated opaque dark brown to black grains in quartz-rich metasediments from the Melbourne Rockwell mine, Broken Hill, New South Wales. Australia, are hexagonal, *a* 5.090, *c* 14.036 Å, $Z = 6$, $D_{calc.}$ 4.99. Composition $(Zn,Fe,Mn)TiO_3$. The zinc analogue of ilmenite, described originally from Broken Hill by R. N. Brown, J. F. Riley, and R. K. Schultz, 1970. *AMDEL Bull.* no. 10, 48. Subsequently found also at the San Valentin mine, La Union district, Sierra de Cartegena, Spain. Named for E. C. Andrews, former New South Wales Government geologist.

Ertixiite. R. Zhang, F. Han, and C. Du, 1985. *Geochem.* (Beijing, China) **4,** 192. White granular crystals from a miarolitic cavity in the Altay pegmatite, Xinjiang, China, are cubic, *a* 1.493 Å, $Z = 1$. Composition $Na_2Si_4O_9$. Isotropic, *n* 1.502. Named for the nearby Ertixi River.

Esseneite. M. A. Cosca and D. R. Peacor, 1987. *Amer. Min.* **72,** 148. Reddish brown prismatic crystals with melilite, anorthite, magnetite-hercynite, and glass in paralava (fused sedimentary rock) are associated with naturally combusted coal seams at Gillette, Wyoming, USA. Monoclinic *C2/c*, *a* 9.79, *b* 8.822, *c* 5.37 Å, *β* 105.81°, $D_{calc.}$ 3.54. Composition $CaFe^{3+}AlSiO_6$; pyroxene group. Optically biaxial negative, α 1.795, β 1.815, γ 1.825. Named for Prof. E. Essene of University of Michigan.

Fahleite. O. Medenbach, K. Schmetzer, and K. Abraham, 1988. *Neues Jahrb. Min. Mh.* 167. Tiny fibrous aggregates or spherules of straw yellow to grey or bright green crystals from the Tsumeb mine, Namibia, are orthorhombic, *a* 6.40, *b* 11.72, *c* 21.9 Å, $Z = 2$; related to smolianinovite. Composition $Zn_5CaFe_2^{3+}[AsO_4]_6 \cdot 14H_2O$. Optically biaxial, α 1.628, β 1.631, γ 1.656. Named for R. Fahle, mineral dealer from Munich, donor of the type specimen.

Fedotovite. L. P. Vergasova, S. K. Filatov, E. K. Serafimova, 1988. *Dokl. Akad. Nauk SSSR,* **299,** 961 [Федотовит]. Green tabular to micaceous crystals in products of fumarolic activity of the Tolbachik main fracture eruption, Kamchatka, USSR, are monoclinic $P2_1/n$, *a* 19.06, *b* 9.47, *c* 14.18 Å, *β* 112.36°, $Z = 8$, $D_{meas.}$ 3.205, $D_{calc.}$ 3.17. Composition $K_2Cu_3O(SO_4)_3$. Optically biaxial positive, α 1.577, β 1.594, γ 1.633. Named for S. A. Fedotov.

Ferristrunzite. D. R. Peacor, P. J. Dunn, W. B. Simmons, and R. A. Ramik, 1987. *Neues Jahrb. Min. Mh.* 453. Light brownish yellow crystals as secondary mineral in argillaceous and clastic sediments exposed by the Nimy-Péronnes canal in a section from Mt Groseilliers to Blaton, Belgium; the mineral was originally described, but not named, by R. van Tassel, 1966. *Bull. Soc. Belge Geol.* **75,** 38. Triclinic *P*1 or *P*$\bar{1}$, *a* 10.01, *b* 9.73, *c* 7.334 Å, *β* 90.5°, 97.0, 116.4, $Z = 2$, $D_{calc.}$ 2.55, $D_{meas.}$ 2.38–2.50. Composition

$Fe^{3+}Fe_2^{3+}(PO_4)_2(OH)_2\ [(H_2O)_5(OH)]$; strunzite group. Optically biaxial positive, α 1.664, β 1.698, γ 1.757. Named for its isostructural relationship with ferrostrunzite and strunzite.

Ferropyrosmalite. J. P. Vaughan, 1987. *Min. Mag.* **51,** 174. The Fe-rich end member of the pyrosmalite series (J. P. Vaughan, 1986, *Min. Mag.* **50,** 527) is named, occurring at the Pegmont Pn–Zn deposit, Queensland, Australia. Hexagonal, *a* 13.33, *c* 7.11 Å. Composition $(Fe,Mn)_8(OH,Cl)_{10}Si_6O_{15}$ with Fe/(Fe + Mn) up to 0.92. Named for relationship with pyrosmalite.

Filipstadite. P. J. Dunn, D. R. Peacor, A. J. Criddle, and C. J. Stanley, 1988. *Amer. Min.* **73,** 413. Black euhedral to subhedral crystals associated with ingersonite (*q.v.*), jacobsite, and calcite on a specimen from the dumps of the Långban mine, near Filipstad, Värmland, Sweden, are orthorhombic, pseudocubic, *a* 36.7, *b* 36.7, *c* 25.9 Å, with a cubic sub-cell dimension of 8.640 Å showing a structural relation with spinel. $D_{calc.}$ 4.9. Composition $(Mn,Mg)_2(Sb_{0.5}^{5+}Fe_{0.5}^{3+})O_4$. Full spectral reflectance data given. Named for the nearby town of Filipstad.

Fluorellestadite. B. V. Chesnokov, L. F. Bazhenova and A. F. Bushmakin, 1987. *Zap. Vses. Min. Obshch.* **116,** 743 [Флюорэллестадит]. Needle-like crystals in burning dump in the Chelyabinsk coal basin, southern Ural Mountains, USSR, are hexagonal, space group $P6_3/m$, *a* 9.485, *c* 6.916 Å, $Z = 1$, $D_{meas.}$ 3.03, $D_{calc.}$ 3.10. Composition $Ca_{10}[(SO_4)_9(SiO_4)]_6F_2$. Optically uniaxial negative, ω 1.638, ϵ 1.632. The mineral is the F analogue of hydroxylellestadite and is named for its composition. The name was previously proposed for the hypothetical material by R. C. Rouse and P. J. Dunn, 1982. *Am. Min.* **67,** 90.

Franciscanite. P. J. Dunn, D. R. Peacor, R. C. Erd, and R. A. Ramik, 1986. *Amer. Min.* **71,** 1522. Sparse dark brownish red segregations occurring with sonolite, hausmannite, and gageite in the Franciscan complex at the Pennsylvania mine, San Antonio valley, Santa Clara Co., California, USA, are hexagonal *P*3, *a* 8.148, *c* 4.804 Å, Z = 1, $D_{\text{meas.}}$ 4.1, $D_{\text{calc.}}$ 3.93. Composition $Mn_6[V,\square]_2Si_2(O,OH)_{c.\,13}$; the vanadium analogue of welinite. Uniaxial positive, ω 1.859, ε 1.876. Named for the Franciscan complex.

Franklinfurnaceite. P. J. Dunn, D. R. Peacor, R. A. Ramik, S.-C. Su, and R. C. Rouse, 1987. *Amer. Min.* **72,** 812. Dark brown crystals in vuggy intergrowths with other zinc minerals at the Franklin mine, Sussex County, New Jersey, USA, are monoclinic *C*2, *a* 5.483, *b* 9.39, *c* 14.51 Å, β 97.04°, Z = 2, $D_{\text{meas.}}$ 3.66, $D_{\text{calc.}}$ 3.737. Composition $Ca_2Fe^{3+}Mn^{2+}_3Mn^{3+}Zn_2Si_2O_{10}(OH)_8$; isotypic with chlorite. Optically biaxial negative α 1.792, β 1.798, γ 1.802. Named for locality.

Gasparite-(Ce). S. Graeser and H. Schwander, 1987. *Schweiz. Min. Petr. Mitt.* **67,** 103. Light brownish red flat pseudo-rhombohedra from Pizzo Cervandone (Cherbadung), Penninic Alps, on the Italy-Switzerland border, are monoclinic $P2_1/n$, *a* 6.937, *b* 7.137, *c* 6.738 Å, β 104.69°, Z = 4; $D_{\text{calc.}}$ 5.63. Composition (Ce,*REE*)AsO_4; the arsenate analogue of monazite. Optically biaxial, α 1.810, β 1.825, γ 1.92. Named for G. Gaspari, finder of the mineral.

Ginzburgite. A. V. Voloshin, Yu. A. Pakhomovsky, D. K. Rogachev, F. N. Tyusheva, and N. M. Shishkin, 1986. *Min. Zhurn.* **8,** no. 4, 85 [Гинзбчргит]. Radiating spherules of colourless crystals in zones of hydrothermal alteration of pegmatites in the Urals, USSR, are tetragonal, *a* 18.366, *c* 9.183 Å, Z = 4, $D_{\text{meas.}}$ 2.3. Composition $Ca_4Be_2Al_4Si_7O_{24}(OH)_4 . 3H_2O$. Named for Prof. A. I. Ginsburg, but not approved by IMA. Not the ginzburgite of Chukhrov (21st List).

Godovikovite. E. P. Shcherbakova, L. F. Bazhenova, and B. V. Chesnokov, 1988. *Zap. Vses. Min. Obshch.* **117,** 208 [Годовиковит]. Compact and porous chalk-like masses in burning dumps of the Chelyabinsk coal basin, southern Urals, USSR, are hexagonal, space group *P*321, *a* 4.75, *c* 8.30 Å, Z = 1, $D_{\text{meas.}}$ 2.56, $D_{\text{calc.}}$ 2.52. Composition $NH_4(Al,Fe)(SO_4)_2$; the Al analogue of sabieite, $NH_4Fe(SO_4)_2$. Optically uniaxial positive, ω 1.572, ε 1.581. Named for A. A. Godovikov.

Grischunite. See 34th List. Erroneously spelled as Grishunite.

Grumantite. A. P. Khomyakov, M. F. Korobitsin, T. A. Kurova, and G. E. Cherepivskaya, 1987. *Zap. Vses. Min. Obshch.* **116,** 244 [Грчмантит]. Fine-grained veins in ultra-agpaitic pegmatites at Mount Alluiav, Lovozero massif, Kola Peninsula, USSR, are orthorhombic, *a* 16.00, *b* 18.24, *c* 7.18 Å, Z = 16, $D_{\text{meas.}}$ 2.21, $D_{\text{calc.}}$ 2.26. Composition $NaHSi_2O_5 . H_2O$. Optically biaxial positive, α 1.494, β 1.507, γ 1.523. Named from old Russian name for Spitzbergen archipelago.

Hannebachite. G. Hentschel, E. Tillmanns, and W. Hofmeister, 1985. *Neues Jahrb. Min. Mh.* 241. Lath-like crystals in a fine-grained melilite-nepheline leucitite at Hannebacherley, near Hannebach, Eifel, West Germany, are orthorhombic *Pbna*, *a* 6.473, *b* 9.782, *c* 10.646 Å, Z = 8, $D_{\text{meas.}}$ 2.52, $D_{\text{calc.}}$ 2.54. Composition $CaSO_3 . H_2O$, the second recorded sulphite mineral. Optically biaxial positive, α 1.596, β 1.600, γ 1.634. Name derived from the locality.

Heneuite. G. Raade, M. H. Mladeck, and V. K. Din, 1986. *Neues Jahrb. Min. Mh.* 343. Pale blue-green nodular masses in the serpentine–magnesite deposit at Tingelstadtjern, Modum, Norway, are triclinic $P\bar{1}$, *a* 6.3069, *b* 10.8386, *c* 8.6736 Å, α 95.013°, β 93.412°, γ 101.039°, Z = 2, $D_{\text{meas.}}$ 3.016, $D_{\text{calc.}}$ 3.007. Composition $CaMg_5(CO_3)(PO_4)_3(OH)$. Optically biaxial negative, α 1.586, β 1.620, γ 1.630. Named for Dr Heinrich Neumann.

Henmilite. I. Nakai, H. Okada, K. Masutomi, E. Koyama, and K. Nagashima, 1986. *Amer. Min.* **71,** 1234. Small bluish violet crystals in borate veins cutting marble at the Fuka mine, Okayama Prefecture, Japan, are triclinic $P\bar{1}$, *a* 5.7627, *b* 7.9774, *c* 5.6488 Å, α 109.611°, β 91.473°, γ 83.686°, Z = 1, $D_{\text{calc.}}$ 2.523. Composition $Ca_2Cu(OH)_4[B(OH)_4]_2$. Biaxial negative, α 1.585, β 1.608, γ 1.615. Named for Prof. K. Henmi and his daughter Dr C. Henmi, Dept. of Earth Science, Okayama University.

Hentschelite. N. H. W. Sieber, E. Tillmanns, and O. Medenbach, 1987. *Amer. Min.* **72,** 404. Dark green translucent crystals in a silicified baryte vein near Reichenbach, Odenwald, West Germany, are monoclinic $P2_1/n$, *a* 6.984, *b* 7.786, *c* 7.266 Å, β 117.68°, Z = 2, $D_{\text{calc.}}$ 3.79. Composition $CuFe_2(PO_4)_2(OH)_2$, a member of the lazulite group. Optically biaxial positive, α 1.843, β 1.848, γ 1.945. Named for Dr G. Hentschel, Wiesbaden, FRG. The mineral has also been recorded from the Spring Creek copper mine, South Australia, by W. D. Birch and W. G. Mumme, 1988, *Min. Mag.* **52,** 408.

Hochelagaite. J. L. Jambor, A. P. Sabina, A. C. Roberts, M. Bonardi, D. R. Owens, and B. D. Sturman, 1986. *Can. Min.* **24,** 449. White globules in vugs in a dawsonite-bearing sill in the Francon limestone quarry, Montreal, Quebec, Canada, are monoclinic, a 19.88, *b* 12.83, *c* 6.44 Å, β 93.20°, Z = 4, $D_{\text{meas.}}$ 2.85–2.94, $D_{\text{calc.}}$ 2.82–2.88; possibly isostructural with franconite. Composition $(Ca,Na,Sr)(Nb,Ti,Si,Al)_4O_{11} . nH_2O$, with *n* about 8.

Optically biaxial negative, α 1.72, β 1.81, γ 1.82. The name is derived from Hochelaga, original name for city of Montreal and Montreal Island, which includes the Francon quarry.

Holdawayite. D. R. Peacor, E. J. Essene, R. C. Rouse, P. J. Dunn, J. A. Nelen, J. D. Grice, J. Innes, and O. von Knorring, 1988. *Amer. Min.* **73,** 632. Translucent pink subhedral crystals forming coarse veins cutting Mn-bearing rocks at the Kombat mine, South West Africa (Namibia), are monoclinic, space group *C2/m*, *a* 23.437, *b* 3.3137, *c* 16.618 Å, β 111.15°, Z = 4, $D_{meas.}$ 3.19, $D_{calc.}$ 3.24. Composition $Mn_6(CO_3)_2(OH)_7(Cl,OH)$. Optically biaxial negative, α 1.644, β 1.719, γ 1.721. Crystal structure given by D. R. Peacor and R. C. Rouse, 1988. *Amer. Min.* **73,** 637. Named for M. J. Holdaway, professor of petrology at the Southern Methodist University.

Howardevansite. J. M. Hughes, J. W. Drexler, C. F. Campana, and M. L. Malinconico, 1988. *Amer. Min.* **73,** 181. Black tabular euhedral crystals in a fumarolic sublimate from the Izalco volcano, El Salvador, are triclinic $P\bar{1}$, *a* 8.198, *b* 9.773, *c* 6.651 Å, α 103.82°, β 101.99°, γ 106.74°, Z = 2, $D_{calc.}$ 3.814. Composition $NaCuFe^{3+}_2(VO_4)_3$. Reflectance values given. Named for Dr Howard T. Evans, U.S. Geological Survey.

Ingersonite. P. J. Dunn, D. R. Peacor, A. J. Criddle, and C. J. Stanley, 1988. *Amer. Min.* **73,** 405. Aggregates of brownish yellow crystals on a specimen from the mine dumps at Långban, Värmland, Sweden, are hexagonal, *a* 7.287, *c* 17.679 Å, Z = 3, $D_{calc.}$ 5.42. Composition $Ca_3MnSb_4O_{14}$ with a structural relationship to the pyrochlore group. Full reflectance data given. Named for Dr H. E. Ingerson, Professor Emeritus of the University of Texas.

Isocubanite. R. Caye, B. Cervelle, F. Cesbron, E. Oudin, P. Picot, and F. Pillard, 1988. *Min. Mag.* **52,** 509. The name is to replace the terms 'cubic cubanite', 'cubanite II', 'chalcopyrrhotite', and 'iss' (intermediate solid solution) for the cubic polymorph of cubanite, $CuFe_2S_3$. Space group *Fm*3*m*, *a* 5.303 Å. The mineral has been found in submarine sulphide deposits of the East Pacific Rise and Red Sea.

Izoklaheite. Error for izoklakeite. *Min. Abs.* 87M/4080.

Jaskólskiite, M.A. Zahrzewski, 1985 (for 1983). *Min. Polonica* **14,** 113. Variant of jaskolskite (34th list).

Kadyrelite. V. I. Vasil'ev, 1987. *Zap. Vses. Min. Obshch.* **116,** 733 [Кадырзлит]. Orange crystalline aggregates intergrown with eglestonite in the mercury ores of the Kadyrel deposit, Tuva ASSR, USSR, are cubic, space group *Ia*3*d*, *a* 16.166 Å, Z = 24, $D_{calc.}$ 8.85. Composition $Hg_4(Br,Cl)_2O$; the Br-dominant analogue of eglestonite. Spectral reflectance values given. Named for locality.

Kamiokite. A. Sasaki, S. Yui, and M. Yamaguchi, 1985. *Min. J.* **12,** 393. Granular to thick tabular crystals with hexagonal outlines in molybdenite–quartz veinlets in the Kamioka Ag–Pb–Zn mining area, Gifu Prefecture, Japan, are hexagonal $P6_3mc$, *a* 5.782, *c* 10.053 Å, Z = 2, $D_{meas.}$ 5.96, $D_{calc.}$ 6.02. Composition $Fe_2Mo_3O_8$. Grey in reflected light, with strong anisotropism. Reflectance values given. Named for locality.

Kamotoïte-(Y). M. Deliens and P. Piret, 1986. *Bull. Min.* **109,** 643. Crusts of bright yellow pointed blades on a uraninite matrix from the Cu–Co deposit of Kamoto, S. Shaba, Zaïre, are monoclinic $P2_1/a$, *a* 21.22, *b* 19.23, *c* 12.39 Å, β 115.3°, Z = 4, $D_{calc.}$ 3.94, $D_{meas.}$ 3.93. Composition $4UO_3.(Y,Nd,Gd,Sm,Dy)_2O_3.3CO_2.14.5H_2O$. Optically biaxial negative, α 1.604, β 1.667, γ 1.731. Named for locality and following Levinson's rule.

Kimuraite. K. Nagashima, R. Miyawaki, J. Takase, I. Nakai, K. Sakurai, S. Matsubara, A. Kato, and S. Iwano, 1986. *Amer. Min.* **71,** 1028. Light purplish to pinkish white crystals in fissures in alkali basalt at Kirigo, Hizen-cho, Higashi Matsura-gun, Saga Prefecture, Japan, are orthorhombic, *a* 9.2545, *b* 23.976, *c* 6.0433 Å, Z = 4, $D_{calc.}$ 2.98. Composition $CaY_2(CO_3)_4.6H_2O$. Biaxial negative, α 1.584, β 1.612, γ 1.626. Named for Dr K. Kimura, Emeritus Professor at the University of Tokyo.

Kitaibelite. N. Nagy, 1983. *Földtani Közlöny*, Budapest **113,** 247. A phase with composition $15Bi_2S_3.5Ag_2S.PbS$ intergrown with other bismuth minerals from Nagyborzsony, northern Hungary.

Kombatite. R. C. Rouse, P. J. Dunn, and J. Innes, 1986. *Neues Jahrb. Min. Mh.* 519. Bright yellow anhedral grains in a massive, fine-grained hematite matrix from the Kombat mine, Namibia, are monoclinic, *Cc* or *C2/c*, *a* 12.552, *b* 22.495, *c* 11.512 Å, β 118.99°, Z = 4, $D_{calc.}$ 7.979. Composition $Pb_{14}(VO_4)_2O_9Cl_4$, the vanadium analogue of sahlinite. Optically biaxial negative, $n > 1.90$. Named for locality.

Kondörite, variant of kondërite (34th list). *Min. Abs.* 86M-2258.

Kuliokite-(Y). Erroneously recorded as kuliokote (34th List).

Kuzminite. V. I. Vasil'ev, Yu. G. Lavrent'ev, and N. A. Paltchik, 1986. *Zapp. Vses. Min. Obshch.* **115,** 595 [Кчзьминит]. Elongate to irregular grains in the Kadyrel mercury ore deposit, Tuva ASSR, Southern Siberia, USSR, are tetragonal

I4/mmm, *a* 4.597, *c* 11.034 Å. Composition $Hg_2(Br,Cl)_2$. The mineral is optically uniaxial positive, $n > 2.00$. Named for Russian mineralogist A. M. Kuzmin.

Lehnerite. A. Mücke, 1988. *Der Aufschluss* **39,** 209. Bronze-yellow to yellow platy crystals in decomposed zwieselite and rockbridgeite in the Hagendorf pegmatite, Oberpfalz, West Germany, are monoclinic (pseudotetragonal), space group $P2_1/n$, *a* 7.04, *b* 17.16, *c* 6.95 Å, *β* 90.56°, Z = 2, $D_{\text{meas.}} > 3.50$, $D_{\text{calc.}}$ 3.674. Composition $Mn[VO_2/PO_4]_2 . 8H_2O$; the Mn analogue of bassetite. Optically biaxial negative, *α* 1.599, *β* 1.607, *γ* 1.607. The name is for F. Lehner, a mineral collector, of Pleystein, near Hagendorf. The name, with the same etymology, was used by F. Müllbauer, 1925, *Zeits. Krist.* **61,** 331, for a mineral which was subsequently found to be identical with ludlamite.

Lisetite. D. C. Smith, S. Kechid, and G. Rossi, 1986. *Amer. Min.* **71,** 1372. Anhedral crystals in clinopyroxene-rich layers in the Liset eclogite pod, Selje district, Western Gneiss region, Norway, are chemically identical to 50% anorthite plus 50% of the pure-Na equivalent of nepheline, but the mineral, although a tectosilicate, is neither a feldspar nor a feldspathoid. Orthorhombic, $Pbc2_1$, *a* 8.260, *b* 17.086, *c* 9.674 Å, Z = 4, $D_{\text{calc.}}$ 2.73. Composition $CaNa_2Al_4Si_4O_{16}$. Its refractive indices are estimated to be similar to those of calcic plagioclase. Named for locality.

Lourenswalsite. D. E. Appleman, H. T. Evans, Jr., G. L. Nord, E. J. Dwornik, and C. Milton, 1987. *Min. Mag.* **51,** 417. Microscopic crystals in miarolitic cavities in nepheline syenite from the Diamond Jo quarry, Hot Spring Co., Arkansas, USA, are hexagonal, *a* 5.244, *c* 20.49 Å, Z = 1, $D_{\text{meas.}}$ 3.17. Composition $(K,Ba)_2(Ti,Mg,Ca,Fe)_4(Si,Al,Fe)_6O_{14}(OH)_{12}$. Biaxial negative with very low 2*V*; *α* 1.815, *β*-*γ* 1.840. Named for Dr Lourens Wals, Belgian mineral collector. Occurs as thin hexagonal plates in rosettes, silver grey to light brownish grey in colour, associated with delindeite (*q.v.*).

Luanheite. S. Dianxin, Z. Jianxiong, Z. Jianhong, and B. Daxi, 1984. *Acta Min. Sinica* **4,** 97. Irregular spherical aggregates in gold placer deposits in Hebei Province, China, are hexagonal, *a* 6.61, *c* 10.98 Å, Z = 6, $D_{\text{meas.}}$ 12.5. Composition Ag_3Hg. Milky white in reflected light. Named for a river in the locality.

Lucasite-(Ce). E. H. Nickel, I. E. Grey and I. C. Madsen, 1987. *Amer. Min.* **72,** 1006. Brown translucent grains from heavy-mineral concentrates derived from an olivine lamproite tuff at Argyle, east Kimberley region, Western Australia, are monoclinic *I2/a*, *a* 5.178, *b* 8.756, *c* 9.768 Å, *β* 93.52°, Z = 4, $D_{\text{calc.}}$ 5.00. Composition $CeTi_2(O,OH)_6$. Optically biaxial with $n > 2.0$; reflectance values given. Named after H. Lucas, discoverer of the mineral.

Ludjibaïte. P. Piret and M. Deliens, 1988. *Bull. Min.* **111,** 167. Crest-like aggregates and small blue-green blades on the surface of deep green pseudomalachite in red micaceous shale at Ludjiba, Zaïre, are triclinic, $P\bar{1}$, *a* 4.446, *b* 5.871, *c* 8.680 Å, *α* 103.9°, *β* 90.3°, *γ* 93.2°, Z = 1, $D_{\text{calc.}}$ 4.36. Composition $Cu_5(PO_4)_2(OH)_4$, polymorphous with pseudomalachite. Optically biaxial with *α* 1.786, *γ* 1.840, and 2V large. The mineral is known as an artificial compound. Named for locality.

Lyonsite. J. M. Hughes, S. J. Starkey, M. L. Malinconico, and L. L. Malinconico, 1987. *Amer. Min.* **72,** 1000. Dark grey opaque lath-like crystals occurring as a fumarolic sublimate from the Izalco volcano, El Salvador, are orthorhombic *Pcnm*, *a* 10.296, *b* 17.207, *c* 4.910 Å, Z = 2, $D_{\text{calc.}}$ 4.215. Composition $Cu_3^{3+}(VO_4)_6^{3-}$. Reflectance values given. Named for Dr J. B. Lyons.

Magnesiohulsite. G. Yang, Z. Peng, and Z. Pan, 1985. *Acta Min. Sinica* **5,** 97. Black needles in a magnesian skarn borate deposit are monoclinic *P2/m*, *a* 10.70, *b* 3.06, *c* 5.45 Å, *β* 94.6°, Z = 2. $D_{\text{meas.}}$ 4.18. Composition $(Mg,Fe^{2+})_2(Fe^{3+},Sn,Mg)[BO_3]O_2$ with Mg > Fe; the Mg-dominant analogue of hulsite, named accordingly. Reflectance and IR data given.

Manganarsite. D. R. Peacor, P. J. Dunn, W. B. Simmons, and F. J. Wicks, 1986. *Amer. Min.* **71,** 1517. Light pinkish-brown crystals associated with fluorite and armangite on a specimen from Långban, Värmland, Sweden, are trigonal, *a* 11.451, *c* 7.252 Å, Z = 4, $D_{\text{calc.}}$ 3.60. Composition $Mn_3As_2O_4(OH)_4$; the arsenite analogue of manganpyrosmalite. Biaxial negative, *α* 1.78, *β* 1.81, *γ* 1.81. Named for chemical composition.

Mattheddleite. A. Livingstone, G. Ryback, E. E. Fejer, and C. J. Stanley, 1987. *Scott. J. Geol.* **23,** 1. Tiny crystals forming creamy-white linings to cavities in quartz from Leadhills, Strathclyde Region, Scotland, are hexagonal $P6_3/m$, *a* 9.963, *c* 7.464 Å, $D_{\text{calc.}}$ 6.96. X-ray powder data similar to lead hydroxyapatite. Composition $Pb_{20}(SiO_4)_7(SO_4)_4Cl_4$. Optically uniaxial negative, *ω* 2.017, *ϵ* 1.999. Named for M. F. Heddle, Scottish mineralogist.

Mcbirneyite. J. M. Hughes, B. S. Christian, L. W. Finger, and L. L. Malinconico, 1987. *J. Volc. Geotherm. Res.* **33,** 183. Opaque black crystals in the 'Y' fumarole of the Izalco volcano, El

Salvador, are triclinic $P\bar{1}$, *a* 5.3418, *b* 6.5100, *c* 5.1798 Å, α 88.61°, β 68.11°, γ 69.22°, Z = 1, $D_{calc.}$ 4.50. Composition $Cu_3(VO_4)_2$; isostructural with stranskiite and artificial $Cu_3(PO_4)_2$. In reflected light the mineral is medium dark grey and non-pleochroic. Reflectance values are given. Named for Dr A. R. McBirney of the Center for Volcanology, University of Oregon.

Molochite. C. M. Bristow, 1986. Priv. comm. to R. P. Hicks. 'A coloured clay made by calcining in a tunnel kiln at Parkandillack at about 1400 °C. Used for investment casting and kiln furniture'.

Monazite-(Nd). S. Graeser and H. Schwander, 1987. *Schweiz. Min. Petr. Mitt.* **67,** 103. Bright rose-coloured prismatic crystals in gneiss blocks on the north slope of Pta. Glogstafel, Val Formazza, Italy, are monoclinic $P2_1/n$, *a* 6.745, *b* 6.964, *c* 6.435 Å, β 103.65°, Z = 4, $D_{calc.}$ 5.43. Composition (Nd,Ce,*REE*)PO_4; monazite-(Ce) with Nd > Ce. Optically biaxial, α 1.793, β 1.795, γ 1.860. Named following Levinson's rule.

Mongshanite. J. Zhou, K. Zhou, Y. Fkang, and G. Yang, 1982. *Bull. Inst. Min. Deposits, Chinese Acad. Geol. Sci.* **5,** 103. Inclusions in ilmenite give analysis corresponding to $(Mg,Cr,Fe^{2+},Ca,K)_2(Ti,Zr,Cr,Fe^{3+})_5O_{12}$. The material is hexagonal and strongest lines of X-ray pattern are given. Physical properties said to be similar to ilmenite. Poorly characterised.

Montroyalite. A. C. Roberts, A. P. Sabina, M. Bonardi, J. L. Jambor, R. A. Ramik, B. D. Sturman, and M. J. Carr, 1986. *Can. Min.* **24,** 455. White translucent hemispheres in cavities in a silicocarbonatite sill exposed at the Francon quarry, Montreal, Quebec, Canada, are probably triclinic but crystals show complex twinning. $D_{meas.}$ 2.677. Composition $Sr_4Al_8(CO_3)_3[(OH),F]_{26}.10\text{–}11H_2O$. Optically biaxial negative, α 1.515, β 1.530, γ 1.545. Named after the hill Mont Royal, a prominent landmark in Montreal and from which the district is named.

Moydite. J. D. Grice, J. van Velthuizen, P. J. Dunn, D. E. Newbury, E. S. Etz, and C. H. Nielsen, 1986. *Can. Min.* **24,** 665. Platy aggregates of yellow crystals in cavities in massive quartz from the Evans-Lou granitic pegmatite, near Wakefield, Quebec, Canada, are orthorhombic *Pbca*, *a* 9.080, *b* 12.222, *c* 8.911 Å, Z = 8, $D_{meas.}$ 3.13, $D_{calc.}$ 3.01. Composition (Y,*REE*)$[B(OH)_4](CO_3)$. Optically biaxial negative, α 1.588, β 1.681, γ 1.690. Named for L. Moyd.

Nabokoite. V. I. Popova, V. A. Popov, N. S. Rudashevskii, S. F. Glavatskikh, V. O. Polyakov, and A. F. Bushmakin, 1987. *Zap. Vses. Min. Obshch.* **116,** 358 [Набокоит]. Tabular crystals found in sublimates of the Tolbachik volcano, Kamchatka, USSR. Tetragonal, space group *P4/nnc*, *a* 9.84, *c* 20.52 Å, $D_{calc.}$ 4.18. Composition $Cu_7TeO_4(SO_4)_5.KCl$. Optically biaxial negative, α 1.773, γ 1.778. Named for S. I. Naboko, investigator of post-volcanic processes at Kamchatka. Forms an isomorphous series with atlasovite (this List).

Natronambulite. S. Matsubara, A. Kato, and T. Tiba, 1985. *Min. J.* **12,** 332. Pinkish orange crystals in low-grade Mn ore from the Tanohata mine, Iwate Prefecture, Japan, are triclinic *P*1 or $P\bar{1}$, *a* 7.620, *b* 11.762, *c* 6.737 Å, α 92.81°, β 94.55°, γ 106.87°, Z = 2, $D_{meas.}$ 3.51, $D_{calc.}$ 3.50. Composition $(Na,Li)(Mn,Ca)_4Si_5O_{14}OH$. Optically biaxial positive, α 1.706, β 1.710, γ 1.730. Named as the Na-dominant analogue of nambulite.

Neodymium bastnäsite. Ye. K. Podporina and V. V. Burkov, 1986. *Dokl. Akad. Nauk SSSR*, **289,** 959 [Неодимовый бастнезит]. White oöids in a lateritic weathering zone in Kazakhstan, USSR, are hexagonal, space group $P\bar{6}2c$, *a* 7.02, *c* 9.54 Å, $D_{meas.}$ 3.08. Composition $(Nd,Y,La,Ca)(CO_3)(OH,F).nH_2O$. Optically uniaxial positive, ω 1.63, ε 1.717. (= hydroxyl bastnäsite-(Nd), 34th List).

Nickelaustinite. F. P. Cesron, D. Ginderow, R. Giraud, P. Pelisson, and F. Pillard, 1987. *Can. Min.* **25,** 401. Green crystals on dolomite from the Co–Ni district of Bou-Azzer, Morocco, are orthorhombic $P2_12_12_1$, *a* 7.455, *b* 8.955, *c* 5.916 Å, Z = 4, $D_{calc.}$ 4.27. Composition Ca(Ni,Zn) $(AsO_4)(OH)$. Optically biaxial positive, α 1.770, γ 1.778. Named for its compositional and structural relationship with austinite.

Okhotskite. K. Togari and M. Akasaka, 1987. *Min. Mag.* **51,** 611. Aggregates of deep orange prisms in veinlets cutting hematite ore at the Kokuriki mine, Tokoro district, Hokkaido, Japan, are monoclinic *A*2/*m*, *a* 8.887, *b* 6.000, *c* 19.53 Å, β 97.08°, Z = 1, $D_{calc.}$ 3.40. Composition

$$Ca_8(Mn^{2+},Mg)_4(Mn^{3+},Al,Fe^{3+})_8 \\ Si_{12}O_{56-n}(OH)_n;$$

an Mn^{3+}-dominant member of the pumpellyite group. Optically biaxial negative, α 1.782, β 1.820, γ 1.827. Named for the Sea of Okhotsk, on the shore of which the mine is located.

Orebroite. P. J. Dunn, D. R. Peacor, R. C. Erd, and R. A. Ramik, 1986. *Amer. Min.* **71,** 1522. Associated with calcite, the dark brown crystals were found on one of Igelström's specimens from the Sjö mine, Orebro, Sweden, and the mineral was known to him as 'retinostibian', Hexagonal *P*3, *a* 8.183, *c* 4.756 Å, Z = 1, $D_{\text{calc.}}$ 4.77. Composition

$$Mn_6[Sb^{5+},Fe^{3+}]_2Si_2(O,OH)_{c.\,14};$$

an Fe^{3+}-Sb analogue of welinite and franciscanite. Named for locality.

Orthoserpierite. H. Sarp, 1985. *Schweiz. Min. Petr. Mitt.* **65**. Sky-blue crystalline masses and fibrous crusts from the old mines at Chessy, France, are orthorhombic $Pca2_1$, *a* 22.10, *b* 6.20, *c* 20.39 Å, Z = 8, $D_{\text{calc.}}$ 3.07. Composition $Ca(Cu,Zn)_4(SO_4)_2(OH)_6.3H_2O$. Optically biaxial negative α 1.586, β 1.645, γ 1.650. Named as an orthorhombic polymorph of serpierite.

Pahasapaite. R. C. Rouse, D. R. Peacor, P. J. Dunn, T. J. Campbell, W. L. Roberts, and F. J. Wicks, 1987. *Neues Jahrb. Min. Mh.* 433. Colourless to light pink crystals in seams in fractured beryl crystals from the Tip Top pegmatite, South Dakota, USA, are cubic *I*23, *a* 13.781 Å, Z = 1, $D_{\text{meas.}}$ 2.28, $D_{\text{calc.}}$ 2.241. Composition

$$(Ca_{5.5}Li_{3.6}K_{1.2}Na_{0.2}\square_{13.5})\\ Li_8Be_{24}P_{24}O_{96}.38H_2O;$$

a beryllophosphate zeolite. Optically isotropic, *n* 1.523. Named from the Dakota Sioux word for the Black Hills, 'Pahasapa'.

Pahasapite, error for pahasapaite (this List). *Min. Abs.* 88M/2664.

Palenzonaite. R. Basso, 1987. *Neues Jahrb. Min. Mh.* 136. Small anhedral grains in veinlets cutting black manganese ore deposits at the Molinello mine, Val Graveglia, Northern Apennines, Italy, are cubic *Ia*3*d*, *a* 12.534 Å, $D_{\text{meas.}}$ 3.63, $D_{\text{calc.}}$ 3.78–3.79. Composition $(Ca,Na)Mn_2V_3O_{12}$. The mineral is a vanadate with the garnet structure. Refractive index 1.965. The name is for Prof. A. Palenzona, discoverer of the mineral.

Panunzite. E. Franco and M. de Gennaro, 1988. *Amer. Min.* **73,** 420. Short colourless hexagonal prisms in cavities in pyroxene-rich metamorphic ejecta from Monte Somma, Vesuvius, Italy, have *a* 20.513, *c* 8.553 Å, space group $P6_3$, Z = 8, $D_{\text{meas.}}$ 2.59, $D_{\text{calc.}}$ 2.62. Composition $Na_{0.30}K_{0.70}AlSiO_4$. The crystal structure had been previously given by S. Merlino, E. Franco, C. A. Mattia, M. Pasero, and M. de Gennaro, 1985. *Neues Jahrb. Min. Mh.* 322. Optically uniaxial negative, ε 1.535, ω 1.540. Named for Dr A. Panunzi, University of Naples.

Parabariomicrolite. T. S. Ercit, F. C. Hawthorne, and P. Cerný, 1986. *Can. Min.* **24,** 655. Translucent, white to pale pink crystals, as topotaxic replacements of microlite and as open-space fillings in oxide mineral assemblages at the Alto do Giz pegmatite, Brazil, are hexagonal (rhombohedral), $R\bar{3}m$, *a* 7.4290, *c* 18.505 Å, Z = 3, $D_{\text{calc.}}$ 5.97. Composition $BaTa_4O_{10}(OH)_2.2H_2O$ with a structure derived from that of pyrochlore. Optically anisotropic, $n > 2.0$. Named for relationship with pyrochlore.

Parabrandtite. P. J. Dunn, D. R. Peacor, S.-C. Su, F. J. Wicks, and F. J. Parker, 1987. *Neues Jahrb. Min. Abh.* **157,** 113. Colourless crystals from a vein in primary ore at the Sterling Hill mine, Ogdensburg, New Jersey, USA, are triclinic *P*1 or $P\bar{1}$, *a* 5.89, *b* 7.031, *c* 5.64 Å, α 96.77°, β 109.32°, γ 108.47°, Z = 1, $D_{\text{meas.}}$ 3.55, $D_{\text{calc.}}$ 3.60. Composition $Ca_2Mn(AsO_4)_2.2H_2O$; the Mn analogue of talmessite and polymorphous with brandtite, hence the name. Optically biaxial positive, α 1.701, β 1.721, γ 1.751.

Paraotwayite. E. H. Nickel and J. Graham, 1987. *Can. Min.* **25,** 409. Masses of emerald green parallel to sub-parallel fibres on millerite nodules from the Otway nickel occurrence. Pilbara region, Western Australia, are monoclinic, *a* 7.89, *b* 2.96, *c* 13.63 Å, β 91.1°, Z = 6, $D_{\text{meas.}}$ 3.30, $D_{\text{calc.}}$ 3.520. Composition $Ni(OH)_{2-x}(SO_4,CO_3)_{0.5x}$ with $x \simeq 0.6$. Assumed to be optically biaxial, *n* 1.655 (normal to fibre length), 1.705 (parallel to fibre length). The name reflects the mineral's close compositional and physical similarity to otwayite.

Perroudite. H. Sarp, W. D. Birch, P. F. Hlava, A. Pring, D. K. B. Sewell, and E. H. Nickel, 1987. *Amer. Min.* **72,** 1251. Bright red transparent prismatic crystals of a new sulphide–halide of Hg and Ag have been found at three localities: Cap-Garonne, Var, France; Broken Hill, New South Wales; and Coppin Pool, Western Australia. The mineral is orthorhombic $P2_12_12$, *a* 17.47, *b* 12.23, *c* 4.29 Å, Z = 2, $D_{\text{calc.}}$ 6.92. Composition $Hg_{5-x}Ag_{4+x}S_{5-x}(Cl,I,Br)_{4+x}$ $(-1.4 < x < 1.4)$; W. G. Mumme and E. H. Nickel, ibid. **72,** 1257. Optically biaxial positive, *n* 2.3–2.4. Named for P. Perroud of Geneva, Switzerland.

Petedunnite. E. J. Essene and D. R. Peacor, 1987. *Amer. Min.* **72,** 157. Dark green crystals in a single specimen from Franklin, New Jersey, USA, are monoclinic *C*2/*c*, *a* 9.82, *b* 9.00, *c* 5.27 Å, β 105.6°, $D_{\text{calc.}}$ 3.68. Composition $CaZnSi_2O_6$; a zinc clinopyroxene. Refractive indices, α 1.68, β 1.69, γ 1.70. Named for Dr Pete J. Dunn of the Smithsonian Institution, Washington DC.

Ponomarevite. L. P. Vergasova, S. K. Filatov, E. K. Serafimova, and T. F. Semenova, 1988. *Dokl. Akad. Nauk SSSR*, **300,** 1197 [Пономаревит]. Fine-grained to glassy crusts as products of fumarolic activity of the Tolbachik Main Fracture eruption, Kamchatka, USSR, are monoclinic, space group $C2/c$, *a* 14.73, *b* 14.86, *c* 8.93 Å, *β* 104.9°, Z = 4, $D_{meas.}$ 2.78, $D_{calc.}$ 2.73. Composition $K_4Cu_4OCl_{10}$. Optically biaxial negative, α 1.686, β 1.718, γ 1.720. Named for Dr V. V. Ponomarev (1940–1976), investigator of the products of fumarolic activity at Tolbachik.

Pottsite. S. A. Williams, 1988. *Min. Mag.* **52,** 389. Bright yellow small euhedral crystals from the oxide zone of a tungsten mine northwest of Potts, Lander County, Nevada, USA, are tetragonal $I4_122$, *a* 11.084, *c* 12.634 Å, Z = 10, $D_{meas.}$ 7.0, $D_{calc.}$ 7.31. Composition $HPbBi(VO_4)_2.2H_2O$. Uniaxial negative, ω 2.49, ε 2.37. Named for locality.

Poudretteite. J. D. Grice, T. S. Ercit, J. van Velthuizen, and P. J. Dunn, 1987. *Can. Min.* **25,** 763. Colourless crystals resembling quartz in marble xenoliths from the Poudrette quarry, Mont St. Hilaire, Quebec, Canada, are hexagonal $P6/mcc$, *a* 10.239, *c* 13.485 Å, Z = 2, $D_{meas.}$ 2.51, $D_{calc.}$ 2.53. Composition $KNa_2B_3Si_{12}O_{30}$, a member of the osumilite group. Optically uniaxially positive, ω 1.516, ε 1.532. Named for the Poudrette family, associated with the quarry.

Qitianlingite. G. Wang, S. Wang, Z. Peng, and J. Bu, 1985. *Acta Min. Sinica* **5,** 193. Black platy crystals from the Qitianling granite, Hunan Province, southern China, are orthorhombic, space group *Pbcn*, *a* 23.706, *b* 5.723, *c* 5.045 Å, Z = 4, $D_{meas.}$ 6.42. Composition $(Fe,Mn)_2(Nb,Ta)_2WO_{10}$. Yellow in polished section. Named for locality.

Reichenbachite. N. H. W. Sieber, E. Tillmanns, and O. Medenbach, 1987. *Amer. Min.* **72,** 404. Dark green translucent crystals in a silicified baryte vein near Reichenbach, Odenwald, West Germany, are monoclinic $P2_1/a$, *a* 9.198, *b* 10.691, *c* 4.476 Å, *β* 92.42°, Z = 2, $D_{calc.}$ 4.35. Composition $Cu_5(PO_4)_2(OH)_4$; a polymorph of pseudomalachite. Optically biaxial negative, α 1.782, β 1.833, γ 1.867. Named for locality.

Ribbeite. D. R. Peacor, P. J. Dunn, S.-C. Su, and J. Innes, 1987. *Amer. Min.* **72,** 213. Pink granular aggregates at the Kombat mine, Tsumeb, Namibia, are orthorhombic *Pbnm* or $Pbn2_1$, *a* 4.799, *b* 10.742, *c* 15.70 Å, Z = 4, $D_{calc.}$ 3.84. Composition $Mn_5(OH)_2(SiO_4)_2$; in leucophoenicite group and polymorphous with alleghanyite. Biaxial positive, α 1.780, β 1.792, γ 1.808. Named for Dr P. H. Ribbe.

Rouseite. P. J. Dunn, D. R. Peacor, B. D. Sturman, and F. J. Wicks, 1986. *Amer. Min.* **71,** 1034. Yellow–orange grains in banded calcite-hausmannite ore from Långban, Värmland, Sweden, are triclinic, *P*1 or $P\bar{1}$, *a* 6.36, *b* 7.29, *c* 5.54 Å, α 97.34°, *β* 114.2°, γ 106.0°, Z = 1, $D_{calc.}$ 5.70. Composition $Pb_2Mn(AsO_3)_2.2H_2O$. Biaxial negative, $n > 1.80$. Named for Dr R. Rouse of the University of Michigan.

Roxbyite. W. G. Mumme, G. J. Sparrow, and G. S. Walker, 1988. *Min. Mag.* **53,** 323. Small crystals from drill cores at the Olympic Dam deposit, Roxby Downs, Pastoral Station, South Australia, are monoclinic, *a* 53.79, *b* 30.90, *c* 13.36 Å, *β* 90.0°. Composition $Cu_{1.74-1.82}S$. Named for locality. The mineral has similar X-ray powder diffraction data to the unnamed $Cu_{1.83}S$ from the El Teniente deposit, Chile, of A. H. Clark, 1972, *Nature, Phys. Sci.* **238,** 123; Cu_xS, with $1.75 \leqslant x \leqslant 1.86$ has also been prepared artificially. Roxbyite was mentioned but not named by R. J. Ragozzini, M. A. Ross-Smith, G. J. Sparrow, and G. S. Walker, 1986, *Hydrometallurgy* **16,** 377, and by R. J. Ragozzini and G. J. Sparrow, 1987, Ibid. **18,** 367.

Sidwellite, error for sidwillite. *Min. Abs.* 87M/4808.

Sieleckiite. W. D. Birch and A. Pring, 1988. *Min. Mag.* **52,** 515. Deep sky blue to royal blue spherules in a fracture in a boulder of quartzite and shale at the Mt Oxide Copper Mine, Queensland, Australia, are triclinic, *a* 9.41, *b* 7.56, *c* 5.95 Å, α 90.25°, *β* 91.27°, γ 104.02°, Z = 1, $D_{calc.}$ 2.94. Composition $Cu_3Al_4(PO_4)_2(OH)_{12}.2H_2O$. Refractive indices in range 1.63–1.66. Named for R. Sielecki, discoverer of the mineral.

Skippenite. Z. Johan, P. Picot, and F. Ruhlmann, 1987. *Can. Min.* **25,** 625. Steel grey crystals in a complex assemblage of selenides, tellurides, and sulphides in the Otish Mountains basin, Quebec, Canada, are hexagonal (rhombohedral), space group $R\bar{3}m$, *a* 4.183, *c* 29.12 Å, Z = 3, $D_{calc.}$ 7.94. Composition Bi_2Se_2Te. White in polished section with moderate anisotropy; spectral reflectance values given. Named for Professor G. Skippen, Carleton University, Ottawa.

Stronalsite. H. Hori, I. Nakai, K. Nagashima, S. Matsubara, and A. Kato, 1987. *Min. J.* **13,** 368. White crystals in veinlets cutting metabasic tuff xenoliths enclosed in serpentinite at Rendai, Kochi City, Japan, are the strontium analogue of banalsite, named accordingly. Orthorhombic *Ibam* or *Iba*2, *a* 8.415, *b* 9.901, *c* 16.729 Å, Z = 4, $D_{meas.}$ 2.95, $D_{calc.}$ 2.95. Composition $SrNa_2Al_4Si_4O_{16}$. Optically biaxial positive, α 1.563, β 1.564, γ 1.574. Preliminary report published by S. Matsubara, 1985. *Bull. Nat. Sci. Mus., Tokyo*, ser. C, **11,** 37.

Sztrokbayite. B. Nagy, 1983. *Földtani Közlöny*, Budapest, **113,** 247. A phase with composition

Bi_3TeS_2 intergrown with other bismuth minerals from Nagybörzsöny, northern Hungary.

Tengchongite. C. Zhangru, L. Keding, T. Falan, Z. Yi, and G. Xiaofa, 1986. *Kexue Tongbao* **31,** 396. Transparent yellow crystals in the oxidation zone of uranium mineralisation in Tengchong County, Yunan Province, China, are orthorhombic, space group $A2_122$, a 15.616, b 13.043, c 17.716 Å, Z = 4, $D_{\text{meas.}}$ 4.25, $D_{\text{calc.}}$ 4.24. Composition $CaO.6UO_3.2MoO_3.12H_2O$. Optically biaxial negative, α 1.663, β 1.760, γ 1.762. Named for locality.

Thornasite. V. E. Ansell and G. Y. Chao, 1987. *Can. Min.* **25,** 181. Small colourless to pale green anhedral crystals in patches of white powdery brockite from the floor of the De-Mix quarry, Mont St. Hilaire, Quebec, Canada, are hexagonal (rhombohedral), $R3m$ or R32, with a 29.08, c 17.30 Å, Z = 18, $D_{\text{meas.}}$ 2.62, $D_{\text{calc.}}$ 2.627. Composition $(Na,K)ThSi_{11}(O,H_2O,F,Cl)_{33}$; the mineral is slightly metamict. Optically uniaxial positive, ω 1.510, ϵ 1.512. The name is for a thorium sodium silicate.

Tibiscumite. L. Ghergari and S. Nicolerscu, 1987. *Studia Univ. Babes-Bolyai, Geol.-Geogr.* **32,** pt 2, 29. A clay mineral from bentonitized volcanic tuffs associated with the Badenian coal levels in the Caransebes basin, Romania, is monoclinic, a 5.15, b 8.93, c 23.15 Å, β 98.62°. Composition

$$(Ca_{0.12}Na_{0.53}K_{0.07})Al_{1.50}Fe_{0.15}Mg_{0.23}\,[Al_{0.09}Si_{3.91}O_{10}\mid(OH)_2].0.84H_2O;$$

smectite group. Named from the Latin *Tibiscus*, the name of the River Timis, in the basin of which the samples originate.

Trabzonite. H. Sarp and G. Burri, 1986. *Schweiz. Min. Petr. Mitt.* **66,** 453. Small, irregular colourless crystals from skarn near Ikizdere, NW of Varda Yaylasi (Rize), near Trabzon county, Turkey, are monoclinic $P2_1$ or $P2_1/m$, a 6.895, b 20.640, c 6.920 Å, β 98°, Z = 4, $D_{\text{meas.}}$ 2.9, $D_{\text{calc.}}$ 3.08. Composition $Ca_4Si_3O_{10}.2H_2O$. Optically biaxial positive, α 1.632, β 1.634, γ 1.640. Named for locality.

Usonite. *Amer. Min.* **71,** 1280 (1986). Alternative transliteration of uzonite (34th List).

Vantasselite. A.-M. Fransolet, 1987. *Bull. Min.* **110,** 647. White isolated lamellar crystals on dumps at a quarry 1 km north of Bihain, Stavelot massif, Belgium, are orthorhombic, a 10.528, b 16.541, c 20.373 Å, Z = 8, $D_{\text{meas.}}$ 2.30, $D_{\text{calc.}}$ 2.312. Composition $Al_4(PO_4)_3.9H_2O$. Optically biaxial negative, α 1.511, β 1.560, γ 1.578. Vantasselite is a phosphate with a sheet structure, like vashegyite and matulaite; named for Prof. R. Van Tassel of Brussels and Leuven, Belgium.

Velikite, V. S. Gruzdev, V. Y. Volgin, E. M. Spiridonov, L. N. Kaplunnik, E. A. Pobedimskaya, T. N. Chvileva, and N. M. Chernitsova, 1988. *Dokl. Akad. Nauk SSSR*, **300,** 432 [Великит]. Small grains and scalenohedral crystals in the Khaidarkan Sb-Hg deposit, Kirgizia, USSR, are tetragonal, space group $I\bar{4}2m$, a 5.554, c 10.911 Å, Z = 1, $D_{\text{calc.}}$ 5.27, $D_{\text{meas.}}$ 5.59. Composition Cu_2HgSnS_4; stannite group. Light grey in reflected light. Named for A. C. Velikii (1913-1970), expert on central Asian mineral deposits.

Volfsonite. V. A. Kovalenker, I. Ya. Nekrasov, and V. S. Malov, 1986. *Geol. Rudn. Mest.* **28,** no 2, 67 [Вольфснит]. Occurs in volcanic gold-silver deposits in Soviet Central Asia. Tetragonal, space group $P\bar{4}2_1m$ or $P42_12$, a 10.78, c 5.39 Å. Composition $Cu^{+}_{10}Cu^{2+}Fe^{2+}Fe^{3+}_2Sn_3S_{16}$. Not approved by IMA.

Watkinsonite. Z. Johan, P. Picot, and F. Ruhlmann, 1987. *Can. Min.* **25,** 625. Irregular grains enclosed by skippenite (this List) in a complex assemblage of selenides, tellurides, and sulphides in the Otish Mountains basin, Quebec, Canada, are monoclinic, space group $P2/m$, Pm, or $P2$, a 12.921, b 3.997, c 14.989 Å, β 109.2°, Z = 2, $D_{\text{calc.}}$ 7.82. Composition $Cu_2Bi_4(Sr,S)_8$. White in reflected light, with a bluish tinge, spectral reflectance values given. Named for Prof. D. H. Watkinson, Carleton University, Ottawa, Ontario.

Weishanite. L. Yuheng, O. Shan, and T. Peixue, 1984. *Acta Min. Sinica* **4,** 102. Pale yellow aggregates in a silicified zone of a gold-silver orebody in the Poshan mining district, Tongbai, Henan Province, China, are hexagonal, space group $P6_3mmc$, a 2.9265, c 4.8178 Å, Z = 2, $D_{\text{calc.}}$ 18.17. Composition $(Au,Ag)_3Hg_2$. Light yellow in reflected light; spectral reflectance values in air given. The mineral is the natural counterpart of synthetic Au_3Hg_2.

Wendwilsonite. P. J. Dunn, B. D. Sturman, and J. A. Nelen, 1987. *Amer. Min.* **72,** 217. Pink crystals from the Sterling Hill mine, Ogdensburg, New Jersey, USA, from Bou-Azzer, Morocco, and from Coahuila, Mexico, are the Mg-dominant analogue of roselite. Monoclinic $P2_1/c$, a 5.806, b 12.912, c 5.623 Å, β 107.40°, Z = 2, $D_{\text{meas.}}$ 3.52, $D_{\text{calc.}}$ 3.57. Composition $Ca_2Mg(AsO_4)_2.2H_2O$. Biaxial positive, α 1.694, β 1.703, γ 1.713. Named for Dr Wendell E. Wilson, editor and publisher of the *Mineralogical Record.*

Wheatleyite. R. C. Rouse, D. R. Peacor, P. J. Dunn, W. B. Simmons, and D. Newbury, 1986. *Amer. Min.* **71,** 1240. Aggregates of blue acicular crystals associated with galena and sphalerite at the Wheatley mine, Phoenixville, Pennsylvania, USA, are triclinic $P\bar{1}$, *a* 7.559, *b* 9.665, *c* 3.589 Å, α 76.65, β 103.67, γ 109.10, Z = 1, $D_{\text{meas.}}$ 2.27, $D_{\text{calc.}}$ 2.25. Composition $Na_2Cu(C_3O_4)_2 . 2H_2O$. Biaxial positive, α 1.400, β 1.499, γ 1.667. Named for locality.

Xinganite. L. Ximen and P. Zhizlong, 1985. *Acta Min. Sinica* **5,** 289. Milky white to light yellow to light green grains from Heilongjiang, China, are monoclinic, *a* 4.7681, *b* 7.6757, *c* 9.9301 Å, β 90.17°, Z = 4, $D_{\text{calc.}}$ 4.72, $D_{\text{meas.}}$ 4.57. Composition $(Y,Ce)BeSiO_4(OH)$. Optically biaxial positive, α 1.765, β 1.7553, γ 1.744. The name was not approved by IMA and the mineral is thought to be gadolinite-(Y). See Yttroceberysite (this List).

Yakhontovite. V. P. Postnikova, S. I. Isipursky, G. A. Sidorenko, and A. V. Mokhov, 1986. *Min. Zhurn.* **8,** no. 6, 80 [Яхонтовит]. Occurs as veinlets in oxidised sulphide–cassiterite ores of the Komsomolks region, Soviet Far East. Monoclinic, *a* 5.26, *b* 9.108 Å, *c* sin β 13.89. Composition

$$(Ca,Na,K)_{0.1-0.3}(Cu_{0.6-1.0}Fe^{3+}_{0.5-0.9}Mg_{0.1-1.2})_{2.2-2.4}[Si_4O_{10}](OH)_2 . 3H_2O.$$

The mineral is a layered silicate of the smectite group. Optically biaxial, α 1.530–1.547, γ 1.560–1.570.

Yecoraite. S. A. Williams and F. P. Cesbron, 1985. *Soc. Mexicana De Mineralogia* **1,** 10. Pitchy or resinous masses at the San Martin de Porres mine, near Yecora, Sonora, Mexico, have composition $Fe_3Bi_5(TeO_3)(TeO_4)_2O_9 . nH_2O$. Unindexed X-ray powder diffraction pattern, either tetragonal or hexagonal. Optically uniaxial positive, ω 1.812, ε 1.824. Named for locality.

Ye'elimite. S. Gross, 1984. *GSI, Current Research*, Israel, 1. Found in a conglomerate, fragments of a high-temperature metamorphic mineral assemblage, in the southeastern part of the Hatrurim basin, west of the Dead Sea, Israel. Cubic, *a* 18.392 Å, $D_{\text{calc.}}$ 2.61. Composition $Ca_4Al_6O_{12}SO_4$; known as a synthetic compound, intermediate in the formation of cement minerals. Optically isotropic, *n* 1.568. Named for Har Ye'elim and Nahal Ye'elim, the most conspicuous hill and wadi respectively in the Hatrurim basin.

Yttroceberysite. Z. Yuan and L. Sun, 1981. *Geol. Rev. China* **27,** 459. Disseminated irregular grains in a Be- and *REE*-bearing granophyre in the Greater Khingan area, Manchuria, China, are monoclinic, *a* 4.74, *b* 7.50, *C* 9.88 Å, β 90°, Z = 2, $D_{\text{meas.}}$ 4.57, $D_{\text{calc.}}$ 4.53. Composition $(Ce,Y)_2Be_2Si_2O_8(OH)$. Optically biaxial positive, α 1.748, β 1.765, γ 1.783. The X-ray powder pattern is similar to gadolinite and the formula corresponds to gadolinite-(Ce); however the analysis shows Y > Ce and the mineral is in fact gadolinite-(Y). See Xinganite (this List).

Zharchikhite. S. V. Bolokhontseva, S. V. Baturin, E. S. Il'menev, M. A. Panova, and S. P. Purusova, 1988. *Zap. Vses. Min. Obshch.* **117,** 79 [Жарчихит]. Colourless, transparent prismatic crystals as divergent aggregates in cavities in explosion breccia tubes in the Zharchikh layered molybdenum deposit, Transbaikal, USSR. Monoclinic, space group $P2_1/a$, *a* 5.164, *b* 7.843, *c* 5.179 Å, β 116.244°, Z = 4, $D_{\text{obs.}}$ 2.81. Composition $AlF(OH)_2$. Optically biaxial negative, α 1.567, β 1.552, γ 1.532. Named from the Zharchikh deposit.

Zincochromite. A. R. Nesterov and E. V. Rumyantseva, 1987. *Zap. Vses. Min. Obshch.* **116,** 367 [Цинкохромит]. Small disseminated crystals in micaceous metasomatites in the Onega trough, Transonega Peninsula, South Karelia, USSR, are cubic, space group $Fd3m$, *a* 8.352 Å, Z = 8, $D_{\text{calc.}}$ 5.22. Composition $ZnCr_2O_4$; the zinc analogue of chromite, named accordingly. Brownish grey in reflected light; spectral reflectance values given.

Zincroselite. P. Keller, J. Innes, and P. J. Dunn, 1986. *Neues Jahrb. Min. Mh.* 523. White aggregates of subparallel intergrown lath-like crystals from the Tsumeb mine, Namibia, are monoclinic $P2_1/c$, *a* 5.832, *b* 12.889, *c* 5.644 Å, β 107.72°, Z = 2, $D_{\text{meas.}}$ 3.75, $D_{\text{calc.}}$ 3.77. Composition $Ca_2Zn(AsO_4)_2 . 2H_2O$, the zinc-dominant analogue of roselite. Optically biaxial positive, α 1.703, β 1.710, γ 1.720. Named for composition and relation to roselite.

[*Manuscript received 28 July 1988*]