Twenty-third list of new mineral names

By M. H. Hey, M.A., D.Sc.
Dept. of Mineralogy, British Museum (Natural History)

[Read 5 November 1964]

THE present list includes 310 names; of these 19 are errors (including mistransliterations; as in previous lists, only those errors that are not readily recognized, that are consistently used by their authors, or that are dangerously near another accepted name are included); 40 are other spelling variants (including French and German transliterations of Russian names); 8 are for mixtures or groups rather than for individual species; three are for hypothetical compounds that the author failed to synthesize; and 48 are synonyms, new names proposed for minerals already named.

Further, 26 are for inadequately characterized minerals, and 32 are unnecessary varietal names (of these two groups, 18 are due to two authors, E. I. Semenov and G. A. Sidorenko, and their co-workers). Of the remaining 134 acceptable names, 23 are for artificial products not known to occur naturally (14 of these being due to H. Wondratschek) and 14 are names for end-members of isomorphous series, not actually observed in nature.

The number of acceptable names remains at the same level as in the last (22nd) triennial list, while the number of inadequately described minerals has fallen appreciably.

Akaganéite. M. Nambu, 1961. Min. Mag., vol. 33, p. 270. Natural β-FeOOH, occurring at the Akagané mine, Iwate prefecture, Japan, and named from the locality. Synthetic material described by A. L. Mackay, Min. Mag., 1960, vol. 32, p. 545; natural β-FeOOH first described from Belgium by R. Van Tassel, Bull. Soc. belge Géol., 1959, vol. 68, p. 360 [M.A. **15**–133], and from India by K. C. Chandy, Indian Minerals, 1961, vol. 40, p. 197.

Aksaite. L. N. Blazko, V. V. Kondrateva, and Ya. Ya. Yarzhemsky, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 447 (Аксаит); M.A. **16**–65. Orthorhombic blades in impure halite from Ak-sui, Kazakhstan. Formula given as $5[Mg_2B_{10}O_{17}.8H_2O]$ or

$4[Mg_3B_{14}O_{24}.10H_2O]$, but M. Mrose and M. Fleischer (Amer. Min., 1963, vol. 48, p. 210) point out that the X-ray powder data agree reasonably well with synthetic $MgB_6O_{10}.5H_2O$ (Lehmann and Papenfuss, 1959), and this is confirmed by J. R. Clark and R. C. Erd (Amer. Min., 1963, vol. 48, p. 930); the unit cell contains 8 of these formulae, leading to a calculated sp. gr. of 1·97 (obs., 2·07, 2·37). Named from the locality. [M.A. **16**–65.]

Alkali–chlorapatite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 155 (Alkali-Chlor-Apatit). A name for an artificial member of the apatite group prepared by F. Zambonini (1923).

Alkali–pyromorphite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 114 (Alkali-Pyromorphit). A group name for the artificial compounds $Pb_4A(XO_4)_3$, where A is an alkali metal or Tl.

Aluminiumskorodit, variant of Aluminoscorodite (Hintze, Handb. Min., Erg.-bd. II, pp. 8, 10, and 11.

Aluminobetafite. T. Kawai, 1960. [Journ. Chem. Soc. Japan, Pure Chem. Sect., vol. 81, p. 1219], abstr. in M.A. **16**–62; Amer. Min., 1963, vol. 48, p. 1183. Dark grey cubic crystals from Kaijo, Manchuria, are regarded as an aluminian betafite. 'Data inadequate' (M. Fleischer). Named from the composition.

Alumobritholite. M. A. Kudrina, V. S. Kudrin, and G. A. Sidorenko, 1961. [Геол. Мест. Редк. Элем. (Geol. Depos. Rare Elem.), vol. 9, p. 108], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc., 1962, vol. 91, p. 200 (Алюмобритолит, alumobritolite), and in Amer. Min., 1961, vol. 46, p. 1514. $(Ca,Ce,Y)_3(Al,Fe)_2\{(Si,Al,P)O_3\}_3(F,O)$, from an unspecified Siberian locality; an aluminian variety of britholite. See also Pravdite (this List). [M.A. **16**–553.]

β–Alumohydrocalcite. A. Morawiecki, 1961. [Przegląd geol., vol. 9, p. 382], abstr. in Amer. Min., 1963, vol. 48, p. 212, and in Bull. Soc. franç. Min. Crist., 1964, vol. 87, p. 111. A mineral from shales at Nowa Ruda, Dolny Śląsk, Poland, has the composition of alumohydrocalcite, $(CaAl_2(CO_3)_2(OH)_4.3H_2O)$, but the fibres give straight extinction. The distinction from alumohydrocalcite is doubtful.

Alumomelanocerite. I. I. Kupriyanova and G. A. Sidorenko, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 148, p. 212 (Алюмомеланоцерит). Aluminian melanocerite. 'A superfluous name' (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 456).

Alumospencite. I. I. Kupriyanova and G. A. Sidorenko, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 148, p. 212 (Алюмоспенсит). Aluminian spencite. 'A superfluous name' (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 456) (Алюмоспенсит, alumospensite).

Alvarolite. W. Florencio, 1952. [Anais Acad. Brasil. Cienc., vol. 24, p. 261], abstr. in Amer. Min., 1954, vol. 39, p. 159; M.A. **12**–305. A supposed new mineral subsequently shown to be manganotantalite ([Anais Acad. Brasil. Cienc., 1955, vol. 27, p. 7], abstr. in Amer. Min., 1956, vol. 41, p. 168).

Amakinite. I. T. Kozlov and P. P. Levshov, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 72 (Амакинит). Occurs as thin veins in kimberlite from the 'Lucky Eastern' pipe, presumably in Yakutia, and has the composition $(Fe,Mg)(OH)_2$; rhombohedral; oxidizes rapidly in air. Named from the Amakin expedition (Amer. Min., 1962, vol. 47, p. 1218; M.A. **15**–541).

Arkelite. W. B. Blumenthal, 1958. Chem. Behavior of Zirconium. Princeton, 1962. The cubic phase of ZrO_2 (cf. M.A. **7**–131).

Anthonyite. S. A. Williams, 1963. Amer. Min., vol. 48, p. 614. Monoclinic, lavender-coloured pleochroic crystals from the Centennial mine, Calumet, Michigan, have the composition $Cu(OH,Cl)_2.3H_2O$ with $OH \gg Cl$. The mineral is unstable in dry air. Named for Prof. John W. Anthony. [M.A. **16**–54.] (Cf. Calumetite).

Antimonpearceite. C. Frondel, 1963. Amer. Min., vol. 48, p. 565. $(Ag,Cu)_{16}(Sb,As)_2S_{11}$, the antimony end-member corresponding to polybasite, and members of this series with $Sb > As$. Dimorphous with polybasite, which has a unit-cell 8 times as large. [M.A. **16**–546.]

Argento–Perrylit, original erroneous spelling of Argentopercylite (2nd List). Chemiker Zeitung, 1893, vol. 16, p. 1593.

Arsenpolybasite. C. Frondel, 1963. Amer. Min., vol. 48, p. 565. $(Ag,Cu)_{16}(As,Sb)_2S_{11}$, the arsenic end-member corresponding to polybasite, and members of this series with $As > Sb$. Dimorphous with pearceite, with a unit-cell 8 times as large. Not to be confused with Arsenpolybasit of Penfield (1895; 2nd List), a synonym of Pearceite. [M.A. **16**–546.]

Arthurite. R. J. Davis and M. H. Hey, 1964. Min. Mag., vol. 33, p. 937. Thin apple-green crusts on quartz from Hingston Down Consols mine, Calstock, Cornwall, consist of an intimate mixture of pharmacosiderite and $Cu_2Fe_4(AsO_4)_3(OH)_7.6H_2O$. Named for Sir Arthur Russell and Mr. Arthur W. G. Kingsbury.

Astrapia. John Walker, 1781. Schediasma Fossilium, in usus Academicos Edinburgi, p. 13. Radiating baryte from the Isle of Sheppey, Kent.

Barium–oxyapatite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 159 (Bariumoxyapatit). The compound $Ba_{10}(PO_4)_6O$, synthesized by H. Bauer, 1959.

Barsanovite. M. D. Dorfman, V. V. Ilyukhin, and T. A. Burova, 1964. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 155, p. 1164 (Барсановит). Near $(Ca,Na)_9(Fe,Mn)_2(Zr,Nb)_2Si_2(O,Cl)_{37}$; monoclinic; in a pegmatite from Petrelius, Khibina massif, Kola peninsula. Named for G. P. Barsanov. [M.A. **16**–549.]

Bearsite. E. V. Kopchenova and G. A. Sidorenko, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 442 (Беарсит). Monoclinic Be_2AsO_4OH, the arsenic analogue of moraesite, in the oxidation zone of an ore deposit in Kazakhstan. Named from the composition (Amer. Min., 1963, vol. 48, p. 210; M.A. **16**–68).

Betechtinite, German transliteration of Бетехтинит (Betekhtinite, 21st List). H.-J. Bautsch, Neues Jahrb. Min., Monatschr., 1962, p. 21.

Biolite. E. I. Parfenova and E. A. Yarilova, 1958. [Почвоведение (Pedology), no. 12, p. 28], abstr. in M.A. **14**–98. A group name for minerals formed by biological action.

Biringuccite. C. Cipriani, 1961. Atti (Rend.) Accad. Naz. Lincei, Cl. Sci. fis. mat. nat., ser. 8, vol. 30, pp. 74 and 235; vol. 31, p. 141. $Na_4B_{10}O_{17}.4H_2O$, in recent incrustations at Larderello, Tuscany; monoclinic. Named for the alchemist V. Biringucci (1480–1539) (Amer. Min., 1963, vol. 48, p. 709; M.A. **16**–373).

Blei–Brom–Apatit. H. Wondratschek, 1959. Original form of Brompyromorphite, *q.v.*

Blei–Jod–Apatit. H. Wondratschek, 1959. Original form of Iodopyromorphite, *q.v.*

Bleizinkolivenit. Author?; quoted by C. Guillemin, Bull. Soc. franç. Min. Crist., 1956, vol. 79, p. 71. Synonym of α-Duftite.

Bokite. E. A. Ankinovich, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 51 (Бокит). Black massive material from shales in the Balasauskandyk area, Kara-Tau, Kazakhstan, is near the ill-defined Corvusite (13th List; Henderson and Hass, 1933), but has a different V^{4+}/V^{5+} ratio and more Fe and Al. Its composition is near $KAl_3Fe_6V_6^{4+}V_{20}^{5+}O_{76}.30H_2O$. Named for I. I. Boky. [M.A. **16**–285.]

Boleslavite. C. Haranczyk, 1961. Bull. Acad. Polon. Sci., sér. sci. géol. géogr., vol. 9, p. 85. A superfluous name for finely divided (colloidal) galena. [M.A. **16**–546.]

Bostrichites. R. Jameson, 1800. Min. Scot. Isles, vol. 1, p. 11. An early synonym of Prehnite.

Brockite. F. G. Fisher and R. Meyrowitz, 1962. Amer. Min., vol. 47, p. 1346. $(Ca,Th,Ln)\{(PO_4),(CO_3)\}.H_2O$, from Wet Mountains, Colorado; the carbonate is probably not essential, and the mineral appears to be the hexagonal polymorph of Grayite (which is orthorhombic), and essentially $CaTh(PO_4)_2.2H_2O$. Rhabdophane group. Named for M. Brock of the U.S. Geol. Survey. [M.A. **16**–286.]

Bromatacamite. P. Chirvinsky, 1906. Bull. Univ. Kiev, p. 1 (Бромистый атакамитъ); Zeits. Kryst. Min., 1909, vol. 46, p. 293. The artificial compound $Cu_2Br(OH)_3$, subsequently shown to be an analogue of Botallackite, not of Atacamite, and renamed accordingly (*see below*).

Brombotallackite. H. R. Oswald, 1961. Helvet. Chim. Acta, vol. 44, p. 2103. The artificial compound $Cu_2Br(OH)_3$ formerly termed Bromatacamite (*q.v.*) is really the bromine analogue of Botallackite, and is renamed accordingly.

Brompyromorphite. H. Wondratschek, 1959. Zeits. anorg. Chem., vol. 300, p. 41 (Blei-Brom-Apatit). The artificial compound $Pb_5(PO_4)_3Br$.

Calciocopiapite. M. A. Kashkai and R. M. Aliev, 1960. [Труды Азербайдж. Геогр. Общ. (Trans. Azerbaidzhan Geogr. Soc.) 1960, p. 49]; abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 196 (Кальциокопиапит, calciocopiapite), and in Amer. Min., 1962, vol. 47, p. 807. The calcium member of the copiapite family, $CaFe_4(SO_4)_6(OH)_2.10H_2O$, occurring at Dashkesan, Middle Caucasus. Named from the composition. *See also* Tusiite. [M.A. **16**–553.]

Calcirtite, erroneous transliteration of Кальциртит (Calzirtite, 22nd List). Crystallography (translation of Кристаллография), 1961, vol. 6, p. 155.

Calcium lipscombite. D. McConnell, 1963. Amer. Min., vol. 48, p. 300. Tetragonal $(Ca,Fe^{\cdot\cdot})(Fe^{\cdot\cdot\cdot},Al)_2(PO_4)_2(OH,F)_2$, formed by heating Richellite at 500° C.

Calcurmolite. A. S. Povarennykh, 1962, in Мин. Таблицы, the Russian translation of H. Strunz's Min. Tabellen, at pp. 210 and 394. The unnamed mineral $Ca(UO_2)_3(MoO_4)_3(OH)_2.8H_2O$ described by L. S. Rudnitskaya (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.),

1961, vol. 90, p. 101), is named from its composition. See also Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 464; M.A. **16**–458.

Calumetite. S. A. Williams, 1963. Amer. Min., vol. 48, p. 614. Azure-blue spherules and sheaves of orthorhombic scales with good basal cleavage from the Centennial mine, Calumet, Michigan, have the composition $Cu(OH,Cl)_2.2H_2O$, with OH $\gg$ Cl. Named from the locality. [M.A. **16**–547.] (Cf. Anthonyite.)

Carbonate–cyanotrichite. E. A. Ankinovich, I. I. Gekht, and R. I. Zaitseva, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 458 (Карбонат-цианотрихит). Pale blue fibrous aggregates from NW. Kara-Tau give X-ray powder data corresponding to cyanotrichite, but contain carbonate replacing a large proportion of the sulphate, and approximate to $(Cu,Zn)_{3\cdot7}Al_{2\cdot3}(C_{0\cdot67}S_{0\cdot33})O_{2\cdot98}(OH)_{1\cdot02}(OH)_{12}.2H_2O$ (Amer. Min., 1964, vol. 49, p. 441; M.A. **16**–548).

Castaingite. A. Schüller and J. Otteman, 1963. Neues Jahrb. Min., Abh., vol. 100, p. 317 (Castaingit). $CuMo_2S_5$, intergrown with molybdenite; hexagonal, with molybdenite-like crystal structure. From Mansfeld, Anhalt, Germany. Named for R. Castaing.

Cefluorosil, variant of Cefluosil (Цефтосил, 22nd List), a cerian variety of Britholite. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), 1962, vol. 146, p. 1182.

Cerafolite. H. H. Lohse, 1958. Diss. Kiel, referred to in Neues Jahrb. Min., Abh., 1961, vol. 97, p. 113 (footnote). The residue when Koenenite is leached with water; near $Mg_5Al_4(OH)_{22}.4H_2O$.

Chambersite. R. M. Honea and F. R. Beck, 1962. Amer. Min., vol. 47, p. 665. The manganese analogue of boracite, occurring in tetrahedra in brines from Barber's Hill salt dome, Chambers County, Texas; $Mn_3B_7O_{13}Cl$. Named from the locality. [M.A. **16**–66.]

Chervetite. P. Bariand, F. Chantret, R. Pouget, and A. Rimsky, 1963. Bull. Soc. franç. Min. Crist., vol. 86, p. 117. $Pb_2V_2O_7$, in small monoclinic crystals at the Mounana uranium mine, Republic of Gabon. Named for J. Chervet. [M.A. **16**–373.]

Chlormimetesit. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 113. Synonym of Mimetite.

Chloroxyapatite. R. D. Morton, 1962. Norsk geol. Tidsskr., vol. 41, p. 223. Artificial $Ca_{10}(PO_4)_6(O,Cl_2)$.

Chlorpyromorphit. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 113. Synonym of Pyromorphite.

Chlorvanadinit. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 113. Synonym of Vanadinite.

Chlorvoelckerite, synonym of Chloroxyapatite. [M.A. **15**–528.]

Chowachsit, German transliteration of Ховахсит, khovakhsite (22nd List). Hintze, Handb., Min., Erg.-bd. II, p. 873.

Chromatite. F. J. Eckhardt and W. Heimbach, 1963. Naturwiss., vol. 50, p. 612. Finely crystalline citron-yellow crusts from clefts in limestones on the Jerusalem–Jericho highway are identified by X-ray data as $CaCrO_4$. Named from the composition (Amer. Min., 1964, vol. 49, p. 439).

Chromspinell. P. de Wijkerslooth, 1943. [Maden Tektik ve Arama Enstitüsü Mecmuası, Ankara, vol. 8, p. 254], abstr. in M.A. **9**–244. Synonym of Chromite. Not to be confused with the old term Chrome-spinel, a synonym of Picotite.

Chromspinellide. J. Bauer, J. Fiala, and R. Hřichová, 1963. Amer. Min., vol. 48, p. 540 (the chromspinelides). A group name or general term for the chromium spinels. (M.A. **16**–540, chromspinellid). Formed on the basis of Spinellide (9th List), a general term for all spinels.

Cobalt skutterudite. E. H. Roseboom, 1962. Amer. Min., vol. 47, p. 310. The pure end-member, $CoAs_3$, of the Skutterudite series.

Cryophillite, error for Cryophyllite. Amer. Min., 1963, vol. 48, p. 435.

Cuprohalloysite. L. K. Yakhontova, 1961. Труды Мин. Муз. Акад. Наук СССР (Proc. Min. Mus. Acad. Sci. USSR), no. 11, p. 123 (Купрогаллуазит). A cuprian halloysite from the Dashkesan ores, named from the composition; it has not been shown that the material is monomineralic or the copper an essential constituent (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 903).

Denningite. J. A. Mandarino, S. J. Williams, and R. S. Mitchell, 1961. Canad. Min., vol. 7, p. 340; Amer. Min., 1961, vol. 45, p. 1201; 1962, vol. 47, p. 1484. Colourless to pale green tetragonal plates and platy masses from Moctezuma, Sonora, Mexico, have the composition $(Mn,Ca,Zn)Te_2O_5$. Named for Prof. R. M. Denning. [M.A. **16**–551.]

Djeskasganite, aberrant transliteration of Джезказганит (Dzhezkazganite). Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 566.

Djurleïte. E. H. Roseboom jr. and N. Morimoto, 1962. Amer. Min., vol. 47, p. 1181, and Min. Journ. (Japan), vol. 3, p. 338. The synthetic

polymorph of $Cu_{2-x}S$ described by S. Djurle (1958) and named $Cu_{1\cdot96}S$–III has been found occurring naturally at a number of localities, and is named for Djurle. [M.A. **16**–180, 282.]

Dzhalindite. A. D. Genkin and I. V. Muraveva, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 445. A yellow-brown alteration product of Indite (*q.v.*) at the Dzhalind ore deposit, Little Khingan ridge, Far Eastern Siberia, is identified as $In(OH)_3$, agreeing closely with the synthetic product. Named from the locality (Amer. Min., 1963, vol. 49, p. 439; M.A. **16**–457).

Dzhezkazganite. E. M. Poplavko, I. D. Merchukova, and C. S. Zak, 1962. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 146, p. 433 (Джезказганит). An incompletely described mineral from the Dzhezkazgab copper ores, Kazakhstan, containing 40 to 50 % Re and 15 to 20 % Cu, probably an alloy or a sulphide; appears to be amorphous to X-rays. Named from the locality. (Amer. Min., 1963, vol. 48, p. 209; M.A. **16**–180.)

Edgarite. R. C. Morris, 1962. Amer. Min., vol. 47, p. 1079. A provisional name for material subsequently shown to be Osarizawaite (*q.v.*).

Epiramsayite. V. I. Gerasimovsky, 1956. Геохимия, no. 5 (Эпирамсаит); translation in Geochemistry (Геохимия), 1956, no. 5, p. 494. $Na_2Ti_2Si_3O_{11}.H_2O$; no details.

Eremeevite, standard English transliteration of Еремеевит, replacing Eremeyevite.

Erikite. E. I. Semenov, 1959. (Мат. Мин. Колск. Полуост., Акад. Наук СССР (Mater. Min. Kola Peninsula), vol. 1, p. 91]; abstr. in Amer. Min., 1962, vol. 47, p. 419. A name for a mineral from the Kola peninsula, considered to be related to Rhabdophane on the grounds of a certain resemblance in their powder patterns; but the data fit Monazite as well as they do Rhabdophane. Not to be confused with the Erikite of O. B. Bøggild (4th List), which has been shown to be Monazite (Amer. Min., 1959, vol. 44, p. 1329; M.A. **14**–370). An inappropriate name for a doubtful species.

Fabianite. H. Gaertner, K.-L. Roese, and R. K. Kühn, 1962. Naturwiss., vol. 49, p. 230; Kali und Steinsalz, 1962, vol. 3, p. 285. Monoclinic crystals from halite at Rehden, Diepholz, Germany, have the composition CaB_3O_5OH, but are distinct from the synthetic compound. Named for the geologist H.-J. Fabian. [M.A. **16**–181.]

Farringtonite. E. R. DuFresne and S. K. Roy, 1961. Geochimica Acta, vol. 24, p. 198. $Mg_3(PO_4)_2$, monoclinic, occurring in the Springwater pallasite (Amer. Min., 1961, vol. 46, p. 1513; M.A. **15**–212).

Femolite. K. V. Skvortsova, G. A. Sidorenko, A. D. Dara, N. I. Silanteva, and M. M. Medoeva, 1964. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 93, p. 436 (Фемолит). Colloform material with composition near $(Mo,Fe)S_2$ (Fe near 6·5 %) gives a weak X-ray pattern near that of Molybdenite, from which it shows minor differences. There are no valid grounds for regarding this as homogeneous; a superfluous name for an inadequately characterized substance.

Fenghuangite. Chi-Jui Peng and Yuan-Lung Liu, 1962. [Scientia Sinica, vol. 11, p. 577], abstr. in Amer. Min., 1963, vol. 48, p. 210, and in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 574 (Фенгуангит, fenghuangite). Variant spelling of Fenghuanglite (22nd List). [M.A. **16**–183.]

α–Fergusonite, synonym of Fergusonite as distinct from β-Fergusonite, *q.v.*

β–Fergusonite. S. A. Gorzhevskaya, G. A. Sidorenko, and I. E. Smorchkov, 1961. [Геол. Мест. Редк. Элем. (Geol. Depos. Rare Elem.), vol. 9, p. 28], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 190 β-фергусонит, β-fergusonite), and in Amer. Min., 1961, vol. 46, p. 1516. An orthorhombic or monoclinic polymorph of Fergusonite. [M.A. **16**–552.]

Ferrifayalite. I. V. Ginzburg, G. A. Lisitsina, A. T. Sadikova, and G. A. Sidorenko, 1936. Труды Мин. Муз. Акад. Наук СССР (Proc. Min. Mus. Acad. Sci. USSR), vol. 13, p. 16 (Феррифаялит). $(Fe,Fe,Mn)_{2-x}SiO_4$, with 32 to 47 % Fe_2O_3 and 27 to 12 % FeO, from the Cherkassk massif, Kuraminsk, Siberia. The homogeneity of the material is doubtful, and the name premature (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 455).

Ferro–alluaudite. D. J. Fisher, 1957. Amer. Min., vol. 42, p. 661. Synonym of Varulite.

Ferro–eckermannite. R. Phillips and W. Layton, 1964. Min. Mag., vol. 33, p. 1097. The hypothetical amphibole end-member $Na_3Fe_4^{2+}AlSi_8O_{22}(OH)_2$.

Ferro–miyashiroite. R. Phillips and W. Layton, 1964. Min. Mag., vol. 33, p. 1097. The hypothetical amphibole end-member $Na_3Fe_3^{2+}Al_3Si_7O_{22}(OH)_2$.

Ferro–sundiusite. R. Phillips and W. Layton, 1964. Min. Mag., vol. 33, p. 1097. The hypothetical amphibole end-member $Na_2CaFe_3^{2+}Al_4Si_6O_{22}(OH)_2$.

Fluorarfvedsonite. W. G. Ernst, 1962. Journ. Geol., vol. 70, p. 733. A variety of Arfvedsonite rich in fluorine; near $(Na,Ca)_{2\frac{1}{2}}(Fe^{2+},Fe^{3+},Mg)_5Si_8O_{22}(OH)_2$.

Fluorhectorite. J. L. Miller and R. C. Johnson, 1962. Amer. Min., vol. 47, p. 1049. The end-member $K_xMg_{3-x}Li_xSi_4O_{10}F_2$, where x is between $\frac{1}{3}$ and $\frac{2}{3}$.

Fluor–magnesio–richterite. G. V. Gibbs, J. L. Miller, and H. R. Shell, 1962. Amer. Min., vol. 47, p. 75. The synthetic amphibole end-member $Na_2Mg_6Si_8O_{22}F_2$.

Fluortaeniolite. J. L. Miller and R. C. Johnson, 1962. Amer. Min., vol. 47, p. 1049. Original, incorrect spelling of Fluortainiolite, *q.v.* (Compare Tainiolite, 2nd List, and Taeniolite, 3rd List.)

Fluortainiolite. J. L. Miller and R. C. Johnson, 1962. Amer. Min., vol. 47, p. 1049 (Fluortaeniolite). The mica end-member $KMg_2LiSi_4O_{10}F_2$.

Fontainebleau sandstone. H. A. Miers, 1902. Mineralogy, London, p. 215. Synonym of Fontainebleau limestone.

Gagarinite. A. V. Stepanov and E. A. Severov, 1961. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 141, p. 954 (Гагаринит). A white massive mineral from Kazakhstan (exact locality not stated) is near $NaCaLnF_6$; probably hexagonal. Named for Yu. A. Gagarin (Amer. Min., 1962, vol. 47, p. 805; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 195; M.A. **15**–459).

Gaudefroyite. G. Jouravsky and F. Permingeat, 1964. Bull. Soc. franç. Min. Crist., vol. 87, p. 216. Black hexagonal prisms from Tachgagalt, Morocco, are appreciably altered; after deduction of pyrolusite the probable composition is $Ca_4Mn^{\cdot\cdot\cdot}_{3-x}(BO_3)_3CO_3(O,OH)_3$, with x about 0·17. Named for C. Gaudefroy.

Gaylussacite. J. W. Mellor, 1927. Compr. Treat. Inorg. Theor. Chem., London, vol. 2, p. 711. Variant of Gaylussite.

Gel–cassiterite, Gel–cristobalite, Gelgoethite, Gel–thorite, Gel–zircon. E. I. Semenov, 1960. Труды Инст. Мин. Геохим. Крист. Редк. Элем. (Trans. Inst. Min., Geochem., Cryst. Rare Elem.), no. 4, p. 85 (Гелькасситерит, Гелькристобалит, Гельгётит, Гельторит, Гельциркон). Superfluous names for Arandisite, Opal, Limonite, a hydrous Thorite, and Arshinovite respectively. See also Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, pp. 198, 211, 212, 217, and Amer. Min., 1962, vol. 47, p. 809; M.A. **16**–556, 557).

Gel–pristobalite, Geltohorite, errors for Gel-cristobalite, Gel-thorite (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, pp. 198, 212).

Germanate–pyromorphite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 116 (Germanatpyromorphit). Artificial $Pb_5(PO_4)_2GeO_4$; apatite family.

Giessenite. S. Graeser, 1963. Schweiz. Min. Petr. Mitt., vol. 43, p. 471. Fine orthorhombic needles of $Pb_8Bi_6S_{17}$ occur in dolomite near Giessen in the Binn valley, Valais, Switzerland. Named from the locality. [M.A. **16**–546.]

Glucine. N. A. Grigoriev, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 691 (Глюцин, glucin). $CaBe_4(PO_4)_2(OH)_4.\frac{1}{2}H_2O$, massive and encrusting, with moraesite from a locality in the Urals. Named from the alternative name of beryllium—glucinum. [M.A. **16**–550.]

Glushinskite. Yu. A. Zhemchuznikov and A. I. Ginzburg, 1960. [Основы петрол. углей, Изд. Акад. Наук СССР (Problems in the Petrology of Coal), p. 93], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 204 (Глушинскит, glushinskite), and in Amer. Min., 1962, vol. 47, p. 1482. Oxalate of Mg, as orthorhombic plates in chalky clay in an unspecified Arctic locality. [M.A. **16**–555.]

Goldmanite. R. C. Moench and R. Meyrowitz, 1964. Amer. Min., vol. 49, p. 644. A garnet from the Laguna uranium mining district, Albuquerque, New Mexico, has the composition $Ca_3(V,Fe,Al)_2Si_3O_{12}$, with 60 % of the vanadium end-member. Named for M. I. Goldman.

Grantsite. A. D. Weeks, M. L. Lindberg, and R. Meyrowitz, 1961. U.S. Geol. Survey Prof. Paper no. 424–B, p. 293; Amer. Min., 1962, vol. 47, p. 414. $Na_4Ca(V^{4+}O)_2V_{10}O_{30}.8H_2O$ in dark olive-green to black fibrous aggregates at the F–33 mine, Grants, Valencia County, New Mexico, and at the La Salle and Golden Cycle mines, Montrose County, California. Named for the first locality. [M.A. **16**–551.]

Greigite. B. J. Skinner, R. C. Erd, and F. S. Grimaldi, 1964. Amer. Min., vol. 49, p. 543. Minute grains and crystals in clays from the Kramer–Four-Corners area, San Bernardino County, California, are the thiospinel of iron, Fe_3S_4; cubic. Named for J. W. Greig.

Guerinite. E. I. Nefedov, 1961. [Мат. Всесоюз. Науч.-Иссл. Геол. Инст., vol. 45, p. 113], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 196 (Геринит, guerinite), and in Amer. Min., 1962, vol. 47, p. 416. $Ca_5H_2(AsO_4)_4.9H_2O$, in spherulites and rosettes on a specimen labelled Wapplerite from Daniel mine, Schneeberg, Saxony, and one labelled Pharmacolite from Richelsdorf, Hesse. Named for H. Guerin, who synthesized this compound. [M.A. **16**–553.]

Gugiaite. Chi-Jui Peng, Rung-Lung Tsao, and Zu-Rung Zou, 1962. [Scientia Sinica, vol. 11, p. 977], abstr. in Amer. Min., 1963, vol. 48, p. 211 and in Bull. Soc. franç. Min. Crist., 1964, vol. 87, p. 113. $Ca_2BeSi_2O_7$, tetragonal, in skarn rocks near Gugia (presumably in China). A member of the Melilite family near Meliphane but containing little Na or F; an unnecessary name. Named from the locality. [M.A. **16**–548.]

Gunningite. J. L. Jambor and R. W. Boyle, 1962. Canad. Min., vol. 7, p. 209; Amer. Min., 1962, vol. 47, p. 1218. $ZnSO_4.H_2O$, the zinc member of the kieserite family, as efflorescences on blende from the Keno Hill and Galena Hill area, Central Yukon. Named for H. C. Gunning. [M.A. **16**–458.]

Halogenpyromorphite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 113 (Halogenpyromorphit). A group name for the artificial compounds $Pb_5(XO_4)_3Z$, where Z is a halogen and X is P, As, or V.

Hendersonite. M. L. Lindberg, A. D. Weeks, M. E. Thompson, D. P. Elston, and R. Meyrowitz, 1962. Amer. Min., vol. 47, p. 1252. A black fibrous mineral from the J. J. mine, Paradox Valley, Montrose County, Colorado, and the Eastside mine, San Juan County, New Mexico, has the composition $Ca_2V^{4+}(V^{5+},V^{4+})_8(O,OH)_{24}.8H_2O$, with about 0·1 V^{4+} replacing V^{5+}. Named for E. P. Henderson of the U.S. National Museum.

Hexastannite. P. Ramdohr, 1960. Die Erzmineralien und ihre Verwachsungen, Berlin, p. 514. To replace the name Stannite-I for the hexagonal mineral, believed to approximate to $Cu_3Fe_2SnS_6$. Imperfectly characterized (Amer. Min., 1961, vol. 46, p. 1204; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 195).

Hoeferite. C. Cipriani and P. Vannuccini, 1961. Atti (Rend.) Accad. Nac. Lincei, Cl. sci. fis. mat. nat., ser. 8, vol. 30, p. 74. A name proposed for the mineral subsequently named Biringuccite (*q.v.*), and withdrawn because of prior use for a variety of Nontronite (see 1st List). [M.A. **16**–373.]

Huanghoite. E. I. Semenov and P'ei-shan Chang, 1961. [Scientia Sinica, vol. 10, p. 1007; 1962, vol. 11, p. 251], abstr. in Amer. Min., 1963, vol. 48, p. 1179, and in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 199. $BaLn(CO_3)_2F$, the barium analogue of Synchysite, in hexagonal platy masses from hydrothermal deposits near the Huang-Ho river. Named from the locality. [M.A. **16**–181.]

Hydrated metavauxite. M. C. Bandy, 1946. Min. Llallagua, La Paz. Provisional name for an undetermined phosphate. [M.A. **10**–9.]

Hydrated paravauxite. M. C. Bandy, 1946. Min. Llallagua, La Paz. Provisional name for an undetermined phosphate, subsequently shown to be a valid species and renamed Sigloite (this List). [M.A. **10**–9.]

Hydrocatapleiite. E. I. Semenov and I. P. Tikhonenkov, 1962. Труды Инст. Мин. Геохим. Редк. Элем. (Trans. Inst. Min., Geochem., Cryst. Rare Elem.), no. 9, p. 88 (Гидрокатаплеит). A superfluous name for an insufficiently characterized alteration product of Catapleiite from Mt. Partomchorr, Khibina Tundra, Kola (Amer. Min., 1964, vol. 49, p. 443; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 575; M.A. **16**–558.]

Hydrohalloysite. J. Erdélyi, 1962. Chemie der Erde, vol. 21, p. 321. Superfluous name for a Halloysite containing slightly more water than corresponds to the formula $Al_2Si_2O_5(OH)_4.2H_2O$. Compare Hydrohalloysite of Sedletsky, 1940 (15th List), a synonym of Halloysite.

Hydrohaüyne. G. A. Ilinsky, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 109 (Гидрогаюин). A variety deficient in Na^+ and SO_4^{2-}, and with some H_2O, believed to be constitutional.

Hydroilmenite. B. H. Flinter, 1959. Econ. Geol., vol. 54, p. 720. A near-amorphous alteration product of Ilmenite, giving a diffuse pattern of Rutile. [M.A. **15**–299.]

Hydrometavauxite, variant of Hydrated metavauxite, *q.v.* Hintze, Handb. Min., Erg.-bd. II, p. 167.

Hydroparavauxite, variant of Hydrated paravauxite, *q.v.* Hintze, Handb. Min., Erg.-bd. II, p. 167.

Hydropyrochlore. E. I. Semenov, A. N. Spitzyn, and Z. N. Burova, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 150, p. 1128 (Гидропирохлор). A member of the Pyrochlore group from the Lovozero massif, with much Nb, little Ta or Ti, and low in bases (mainly Mg, Sr, and Ca), but with much H_2O.

Hydrothorite. E. I. Semenov and M. E. Kazakova, 1961. [Труды Инст. Мин. Геохим. Крист. Редк. Элем. (Trans. Inst. Min., Geochem., Cryst. Rare Elem.), no. 7, p. 123], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 455 (Гидроторит). Metamict hydrous Thorite (near $ThSiO_4.4H_2O$) from the Lovozero massif. An unnecessary name.

Hydroxylpyromorphit. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 147. Synonym of Lead hydroxyapatite.

Hydrozircon. R. G. Coleman and R. C. Erd, 1961. U.S. Geol. Surv. Prof. Paper no. 424–C, p. 297. Another unnecessary name for an altered, hydrous zircon. Also applied (E. Eberhard, Fortschr. Min., 1961, vol. 39, p. 340, Hydrozirkon) to $Zr\{SiO_4,(OH)_4\}$, in analogy with Hydrogrossular. [M.A. **16**–549.]

Ikaite. H. Pauly, 1963. [Naturens. Verden, June, 1963], abstr. in Amer. Min., 1964, vol. 49, p. 439. Chalky material from skerries in Ika Fjord, Ivigtut, Greenland, prove to be $CaCO_3.6H_2O$, close to the synthetic material. Named for the locality. (The names Lublinite, Hydroconite, Hydrocalcite, Protocalcite are discarded because their true connotation is doubtful.)

Imogolite. N. Yoshinaga and S. Aomine, 1962. [Soil Sci. and Plant Nutrition (Japan), vol. 8, pp. 6 and 114], abstr. in Amer. Min., 1963, vol. 48, p. 434. An imperfectly described mineral from Japanese soils, believed 'to have a more ordered structure than allophane'.

Indite. A. D. Genkin and I. V. Muraveva, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 445 (Индит). Minute iron-black isotropic grains in cassiterite from the Dzhalind deposit, Little Khingan ridge, Far Eastern Siberia, have a composition near $FeIn_2S_4$, and X-ray data agree closely with synthetic material. Named from the composition. [M.A. **16**–457.]

Iodatacamite. P. Chirvinsky, 1906. Bull. Univ. Kiev, p. 1. (Иодистый атакамитъ); Zeitschr. Kryst. Min., 1909, vol. 46, p. 293 (Jodatacamit). The artificial compound $CuI(OH)_3$, subsequently shown to be an analogue of Botallackite, not of Atacamite, and renamed accordingly.

Iodbotallackite. H. R. Oswald, 1961. Helvet. Chim. Acta, vol. 44, pp. 2102 (Iodbotallackit) 2103 (Iodobotallackit). The artificial compound $CuI(OH)_3$, formerly termed Iodatacamite (*q.v.*) is really the iodine analogue of Botallackite and is renamed accordingly.

Iodomimetite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 125 (Jodmimetesit). The artificial compound $Pb_5(AsO_4)_3I$; apatite family.

Iodopyromorphite. H. Wondratschek, 1959. Zeits. anorg. Chem., vol. 300, p. 41 (Blei-Jod-Apatit). Attempts to synthesize the compound $Pb_5(PO_4)_3I$ failed.

Iodovanadinite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 125 (Jodvanadinit). The artificial compound $Pb_5(VO_4)_3I$; apatite family.

Iranite. P. Bariand and P. Herpin, 1963. Bull. Soc. franç. Min. Crist., vol. 86, p. 133. $PbCrO_4.H_2O$, found in very small amount at the Sebarz mine, NE. of Anarak, Iran. Saffron yellow, anorthic. Named for the country. [M.A. **16**–374.]

Iron–wagnerite. A. Henriques, 1957. Arkiv Min. Geol., vol. 2, p. 149. The mineral named Talktriplite by Igelström (1882) is shown to be a ferroan wagnerite and is named accordingly; an international name would have been preferable, though even that is unnecessary.

Ishiganeïte. K. Kami and T. Tanaka, 1937. [Bull. Electrotechn. Lab. Japan, vol. 1, pp. 459 and 553; 1938, vol. 2, pp. 19 and 291; Electrochem., Japan, 1938, vol. 6, p. 366; 1939, vol. 7, p. 7], quoted by Y. Hariya, Amer. Min., 1963, vol. 48, p. 952. A manganese oxide from the Ishigane mine, Aichi prefecture, Japan, subsequently found by M. Nambu and K. Okada ([Journ. Soc. Earth Sci. Amat. Japan, 1961, vol. 12, p. 249; Journ. Jap. Ass. Min. Petr. Econ. Geol., 1962, vol. 48, p. 76], quoted by Y. Hariya, *loc. cit.*, to be a mixture of Cryptomelane and Birnessite (confirmed by Y. Hariya, *loc. cit.*).

Jalindite, erroneous transliteration of Джалиндит, dzhalindite (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 447).

Jemchuznikovite, erroneous transliteration of Жемчужниковит, Zhemchuzhnikovite (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 204).

Jezekite, spelling variant of Ježekite. Amer. Min., 1963, vol. 48, p. 435.

Jimboite. T. Watanabe, A. Kato, T. Matsumoto, and J. Ito, 1963. [Proc. Japan Acad., vol. 39, p. 170], abstr. in Amer. Min., 1963, vol. 48, p. 1416. $(Mn,Mg)_3B_2O_6$, occurring with other manganese minerals at the Kaso mine, Kanuma city, Tochigi prefecture, Japan. Orthorhombic, and the manganese analogue of Kotoite. Named for Prof. K. Jimbo. [M.A. **16**–547.]

Jodatacamit, German variant of Iodatacamite, *q.v.*

Jodmimetesit. H. Wondratschek, 1963. Original form of Iodomimetite, *q.v.*

Jodvanadinit. H. Wondratschek, 1963. Original form of Iodovanadinite, *q.v.*

Kalistrontite. M. L. Voronova, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 712 (Калистронцит). Prismatic crystals and hexagonal tablets of $K_2Sr(SO_4)_2$ from Alshtan, Bashkiria. Isostructural with Palmierite. Named from the composition. (Amer. Min., 1963, vol. 48, p. 709; M.A. **16**–183.)

Kaliumapatit. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 121. Original form of Potassium-apatite, *q.v.*

Kansite. F. H. Meyer, 1957. A.S.T.M. Powder Index Card no. 7–26. Cubic Fe_7S_8, found as a corrosion product on iron pipes in Kansas, Texas. Named from the locality.

Karelianite. J. V. P. Long, Y. Vuorelainen, and O. Kouvo, 1963. Amer. Min., vol. 48, p. 33. Black grains in boulders from the Outokumpu ore body, Karelia, Finland, are essentially V_2O_3 with a little Fe and Cr. X-ray powder data match synthetic rhombohedral V_2O_3. Named from the locality. [M.A. **16**–457.]

Keldychite, French transliteration of Келдышит, keldyshite (Bull. Soc. franç. Min. Crist., 1963, vol. 86, p. 306).

Keldyshite. V. I. Gerasimovsky, 1962. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 142, p. 916 (Келдышит). Irregular grains, optically biaxial, from the Lovozero massif, Kola peninsula, have a composition near $(Na,H)_2ZrSi_2O_7$, with Na $\gg$ H. Named for M. V. Keldysh (Amer. Min., 1962, vol. 47, p. 1216; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 209; M.A. **15**–543).

Khinganite. G. V. Itsikson and D. V. Rundkvist, 1959. [Труды Всесоюз. Геол. Инст., vol. 27, p. 120], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 205 (Хинганит). Synonym of Kësterite (21st List). Named from the locality.

Kmaite. A. A. Illarionov, 1961. [Вопр. Раз. Мест. Курск. Магнит. Аном., p. 250], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 202 (Кмаит, kmaite) and in Amer. Min., 1962, vol. 47, p. 808. An unnecessary name for a Celadonite rich in Fe_2O_3 and K_2O, from the Midailov iron ores, Kursk. [M.A. **16**–554.]

Korzhinskite. S. V. Malinko, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 555 (Коржинскит). The skarn from the N. Urals that contains the calcium borates Calciborite, Frolovite, Nifontovite, Uralborite, Sibirskite, and Pentahydroborite also contains another hydrate, $CaB_2O_4.H_2O$. Named for D. S. Korzhinsky. [M.A. **16**–547.]

Kotulskite. A. D. Genkin, N. N. Zhuravlev, and E. M. Smirnova, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 33 (Котульскит). Minute grains in chalcopyrite from Monchegorsk have the composition $Pd(Te,Bi)_{2-x}$ with Te:Bi ≈ 3 and $x \approx 0{\cdot}4$. Hexagonal, resembles synthetic PdTe and $PdTe_2$. Preliminary data in [Геол. Рудн. Мест., 1961, no. 5, p. 64], abstr. in Amer. Min., 1962, vol. 47, p. 809. Named for V. K. Kotulsky. [M.A. **16**–283.]

Kromspinel. P. de Wijkerslooth, 1943, Alternative spelling of Chromspinell, *q.v.*

Kusterite, error for Kësterite [M.A. **14**–280].

Lavendulanite. C. Guillemin, 1956. Bull. Soc. franç. Min. Crist., vol. 79, p. 13. Synonym of Lavendulane.

Lead feldspar. C. A. Sorrell, 1962. Amer. Min., vol. 47, p. 291. Synthetic $PbAl_2Si_2O_8$ with the Feldspar structure; probably anorthic.

Lindakerite, error for Lindackerite (Bull. Soc. franç. Min. Crist., 1956, vol. 79, p. 7).

Lithium fluor–hectorite. J. L. Miller and R. C. Johnson, 1962. Amer. Min., vol. 47, p. 1049. A synthetic product, $(K,Li)_xMg_{3-x}Li_x Si_4O_{10}F_2$, obtained as a fine-grained water-swelling phase.

Lodochnikovite. V. I. Gerasimovsky, 1956. [Атом. Энерг. (Atomic Energy), no. 4, p. 118], abstr. in Amer. Min., 1957, vol. 42, p. 307. $2(U,Th)O_2.3UO_3.14TiO_2$; synonym of, or probably an error for Lodochnikite (21st List). Not to be confused with Lodochnikovite (of Nefedov; 20th List).

β–Lomonosovite. V. I. Gerasimovsky and M. E. Kazakova, 1962. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 142, p. 670 (Беталомоносовит). Differs from Lomonosovite (17th List) by an appreciable water content and a lower alkali content; the X-ray powder photographs show some intensity differences. Identical with Metalomonosovite (*q.v.*), and the latter name is rejected because there is no evidence for the presence of metaphosphate ions. Formulated $Na_2Ti_2Si_2O_9.(Na,H)_3PO_4$ (Gerasimovsky), $Na_5MnTi_3Si_4O_{21}(OH)_3$ or $Na_2Ti_2Si_2O_9.NaPO_3$ (E. I. Semenov, N. I. Organova, and M. V. Kukharchik, Кристаллография, 1961, vol. 6, p. 925), or $Na_2Ti_2^{3+}Si_2O_8.NaPO_4$ (N. V. Belov and N. I. Organova, Геохимия, 1962, no. 1, p. 6). See also Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, pp. 210, 217, and Amer. Min., 1963, vol. 48, p. 1413. Apparently a rather indefinite intermediate stage in the alteration of Lomonosovite to Murmanite by leaching out of phosphate and hydration. [M.A. **16**–556.]

Mackinawite. H. T. Evans jr., R. A. Berner, and C. Milton, 1962. Progr. Ann. Meeting Geol. Soc. Amer., p. 47A (abstract); Amer. Min., 1963, vol. 48, p. 215. A tetragonal polymorph of FeS, from the Mackinaw mine, Snohomish County, Washington. Named from the locality. Compare O. Kouvo, Y. Vuorelainen, and J. V. P. Long, Amer. Min., 1962, vol. 47, p. 511.

Magnesiolaumontite. M. Borcos, 1960. Stud. Cercet. Geol. Acad. Rouman., vol. 5, p. 739 (Magneziolaumontitul), abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 203, and in Amer. Min., 1962, vol. 47, p. 1483. $(Ca,Mg)_6(Si,Al)_{36}O_{72}.19H_2O$, with only 0·7 % MgO, in monoclinic needles from Musari, Rumania. Relation to Laumontite doubtful, and name unsuitable in view of this and of the low content of MgO. [M.A. **16**–554.]

Magnesium kaolinite. N. Efremov, 1955. Bull. Geol. Soc. Amer., vol. 65, p. 1374. Flaky aggregates from the Elbrus mine, north Caucasus, have a composition near $Mg_2Al_4Si_3O_{10}(OH)_8$, with D.T.A. data and X-ray data nearer Kaolinite than Chlorite. [M.A. **12**–570.] Evidently a Septechlorite corresponding to Clinochlore; the name is unsuitable if this is the case.

Magnesium–leonite. W. Schneider, 1961. Acta Cryst., vol. 14, p. 785 (Magnesium-Leonit). Synonym of Leonite (1st List). [M.A. **15**–419.]

Magneziolaumontitul, original spelling of Magnesiolaumontite. See Amer. Min., 1962, vol. 47, p. 1483.

Magnijmontmorillonit, variant of Magnymontmorillonit (Zentr. Min., 1952, Teil 1, p. 246).

Magnioborite. E. I. Nefedov, 1961. [Мат. Всесоюз. Науч. Геол. Инст., ser. 2, vol. 45], referred to in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1961, vol. 90, p. 754, and 1962, vol. 91, p. 205. Described as a new mineral but shown to be identical with Suanite (20th List). [M.A. **16**–647, 648.]

Magnocolumbite. V. V. Matias, L. N. Rossovsky, A. N. Shostsky, and N. M. Kumskova, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 148, p. 420 (Магноколумбит). Black acicular and tabular orthorhombic crystals from Kugi-Lyal, south-west Pamir, are the magnesium analogue of Columbite. Named from the composition. [M.A. **16**–285.]

Manganese–leonite. W. Schneider, 1961. Acta Cryst., vol. 14, p. 784. Synonym of Manganleonite (19th List).

Mangangoslarite. L. J. Lawrence, 1961. Journ. Proc. Roy. Soc. New South Wales, vol. 95, p. 13. An unnecessary name for manganoan Goslarite. [M.A. **16**–144.]

Mangano–alluaudite. D. J. Fisher, 1957. Amer. Min., vol. 42, p. 661. Synonym of Mangan-alluaudite (19th List).

Manganomelane. A. A. Levinson, 1961. Amer. Min., vol. 46, p. 355. A portmanteau term for hard, unidentified manganese oxide minerals. [M.A. **15**–459.]

Marokite. C. Gaudefroy, C. Jouravsky, and F. Permingeat, 1963. Bull. Soc. franç. Min. Crist., vol. 86, p. 359. $CaMn_2O_4$, in large black orthorhombic crystals from Tachagalt, Ouarzazate, Morocco. Named from Maroc (= Morocco). [M.A. **16**–546.]

Mayenite. G. Hentschel, 1964. Neues Jahrb. Min., Monatschr., p. 22 (Mayenit). Cubic $Ca_{12}Al_{14}O_{33}$ as grains in metamorphosed limestone from the Bellerberg, Mayen, Eifel, Germany. Named from the locality. This compound has long been known as a constituent of cement clinker.

Mboziite. P. W. G. Brock, D. C. Gelatly, and O. von Knorring, 1964. Min. Mag., vol. 33, p. 1057. An amphibole near $Na_2CaFe^{2+}_3Fe^{3+}_2Al_2Si_6O_{22}(OH)_2$, from the Mbozi syenite-gabbro complex in SW. Tanganyika. Named from the locality.

Mendeleevite. standard English transliteration of Менделеевит, replacing Mendeleyevite.

Meta–allanite. S. C. Robinson, 1955. Bull. Geol. Surv. Canada, no. 31, p. 70. Undescribed; presumably a term for metamict Allanite.

Metaborite. V. V. Lobanova and N. P. Avrova, 1964. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 93, p. 329 (Метаборит, metaborite). White crusts were found to be the cubic modification of metaboric acid, HBO_2; named from the composition.

Metalomonosovite. E. I. Semenov, N. I. Organova, and M. V. Kukharchik, 1961. Кристаллография (Crystallography), vol. 6, p. 925 (Металомоносовит). A member of the Lomonosovite family, to which the formula $Na_2Ti_2Si_2O_9.NaPO_3$ was attributed; named from the supposed presence of a metaphosphate. The name was later changed to β-Lomonosovite (*q.v.*). See also Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 210, and Amer. Min., 1963, vol. 48, p. 1413. [M.A. **16**–182, 645.]

Metamurmanite. E. I. Semenov, N. I. Organova, and M. V. Kukharchik, 1961. Кристаллография (Crystallography), vol. 6, p. 925

(Метамурманит). A superfluous name for a weathering product intermediate between Metalomonosovite (= β-Lomonosovite, *q.v.*) and Murmanite (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 211; Amer. Min., 1963, vol. 48, p. 1413; M.A. **16**–182, 645).

Metasandbergit, error for Meta-Sandbergerit (= Metaheinrichite). Hintze, Handb. Min., Erg.-bd. II, p. 765.

Meta–Uranosandbergit. K. Walenta, quoted in Hintze, Handb. Min., Erg. bd. II, pp. 765, 878. Synonym of Metaheinrichite.

Mg–blödite. M. Giglio, 1958. Acta Cryst., vol. 11, p. 789. Synonym of Blödite (M.A. **14**–103).

Miyashiroite. R. Phillips and W. Layton, 1964. Min. Mag., vol. 33, p. 1097. The hypothetical amphibole end-member $Na_3Mg_3Al_3Si_7O_{22}(OH)_2$. Named for A. Miyashiro.

Mn–feldspat. E. Eberhard, 1963. Fortschr. Min., vol. 40, p. 52. Synonym of Manganese-anorthite.

Moncheïte. A. D. Genkin, N. N. Zhuravlev, and E. M. Smirnova, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 33 (Мончеит). Minute steel-grey grains in Chalcopyrite from Monchegorsk have the composition $(Pt,Pd)(Te,Bi)_2$, with Pt:Pd ≈ 2 to 4 and Te:Bi 2 to 10. Hexagonal and isostructural with $PtTe_2$. Named from the locality. Preliminary data in [Геол. Рудн. Мест., 1961, no. 5, p. 64], abstr. in Amer. Min., 1962, vol. 47, p. 809 (Amer. Min., 1963, vol. 48, p. 1181; M.A. **16**–283, 550).

Mourite. E. V. Kopchenova, K. V. Skvortsova, N. I. Silanteva, G. A. Sidorenko, and L. V. Mikhailova, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 67 (Моурит). Violet nodules, crusts, and plates from an unnamed locality have a composition near $(UO_2,UO_3).5\frac{1}{2}MoO_3 5\frac{1}{3}H_2O$. Named from the composition (Amer. Min., 1962, vol. 47, p. 1217; M.A. **15**–541).

Nafalapatite. D. J. Fisher and A. Volborth, 1960. Amer. Min., vol. 45, p. 645. Artificial sodian aluminian apatite produced by heating Morinite to 400° C. An unnecessary name given from the composition.

Nafalwhitlockite. D. J. Fisher and A. Volborth, 1960. Amer. Min., vol. 45, p. 645. Artificial sodian aluminian Whitlockite produced by heating Morinite to 800° C. An unnecessary name given from the composition.

Nakalifite. A. V. Stepanov, 1961. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 195. A provisional name for the

mineral subsequently named Gagarinite (*q.v.*); derived from натрий, кальций, фтор (Na,Ca,F).

Nasinite. C. Cipriani, 1961. Atti (Rend.) Accad. Naz. Lincei, Cl. sci. fis. mat. nat., ser. 8, vol. 30, pp. 74 and 235; vol. 31, p. 141. $Na_4B_{10}O_{17}.7(\text{or } 5)H_2O$, in recent incrustations at Larderello, Tuscany; monoclinic. Named for R. Nasini. Identical with 'Auger's borate' (Amer. Min., 1963, vol. 48, p. 709; M.A. **16**–373).

Natriummimetesit. H. Wondratschek, 1963. Original form of Natromimetite, *q.v.*

Natromimetite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 116 (Natriummimetesit). The artificial compound $Pb_4Na(AsO_4)_3$; apatite family.

Natroniobite. A. G. Bulakh, A. A. Kukharenko, Yu. N. Knipovich, V. V. Kondrateva, K. A. Baklanova, and E. N. Baranova, 1960. [Матер. Всесоюз. Науч. Геол. Инст.], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 190. The monoclinic dimorph of Lueshite (22nd List), $NaNbO_3$, from the Lesnaya Baraka and Sallanlatvi massifs, Kola peninsula. Named from the composition. [M.A. **16**–552.]

Natropal. V. I. Gerasimovsky, 1956. [Геокимия, no. 5 (Натропал)], translated in Geochemistry, no. 5, p. 494. Unnecessary name for a sodian Opal.

Niobo-aeschynite. A. G. Zhabin, G. N. Mukhitdinov, and M. E. Kazakova, 1960. Труды Инст. Мин. Геохим. Крист. Редк. Элем. (Trans. Inst. Min., Geochem., Cryst. Rare Elem.), vol. 4, p. 51 (Ниобоэшинит). Near $Ln(Nb,Ti)_2O_6$ with Nb > Ti (Aeschynite has Ti > Nb), in black prisms from Vishnevye Gor. Named from the composition. [M.A. **16**–556.]

Niobo–eschynite, undesirable variant spelling of Niobo-aeschynite., Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 199; Amer. Min., 1962, vol. 47, p. 417.

Nordstrandite. D. Papée, R. Tertian, and R. Biais, 1958. Bull. Soc. Chim. France, p. 1301. The polymorph of $Al(OH)_3$ synthesized by R. A. van Nordstrand, W. P. Hettinger, and C. D. Keith, 1956. Since found occurring as a mineral in Sarawak (J. R. D. Wall, E. B. Wolfenden, E. H. Beard, and T. Deans, Nature, 1962, vol. 196, p. 264; Min. Mag. vol. 33, p. lxix) and in Guam (J. C. Hathaway and S. O. Schlanger, Nature, 1962, vol. 196, p. 265). [M.A. **16**–283, 284.]

Nsutite. W. K. Zwicker, W. O. J. Groenveld Leijer, and H. W. Jaffe, 1962. Amer. Min., vol. 47, p. 246. The natural occurrence of γ-MnO_2 at Nsuta, Ghana, is confirmed; it is named from the locality, and is shown to be a fairly common mineral. It had earlier been described and named Yokosukaite (*q.v.*) by K. Kami and T. Tanaka (1937). [M.A. **16**–65.]

Olovotantalite, direct transliteration of Оловотанталит; synonym of Stannotantalite. Amer. Min., 1961, vol. 46, p. 1514.

Oriental jasper. R. Jameson, 1800. Min. Scot. Isles, vol. 2, p. 68. An early name for Heliotrope.

Orthokalsilite. Th. G. Sahama, 1961. Fortschr. Min., vol. 39, p. 25. The artificial orthorhombic high-temperature polymorph of $KAlSiO_4$.

Ortholomonosovite. N. V. Belov and N. I. Organova, 1962. Геохимия (Geochemistry), no. 1, p. 6 (Ортоломоносовит). An unnecessary name for Lomonosovite (17th List) as distinct from Metalomonosovite (= β-Lomonosovite; this List), given to emphasize the presence of orthophosphate ions. See also Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 211, and Amer. Min., 1963, vol. 48, p. 1413.

Osarizawaite. Y. Taguchi, 1961. Min. Journ. (Japan), vol. 3, p. 181. A yellow powdery crust from the Osarizawa mine, Akita prefecture, Japan, has a composition near $PbCuAl_2(SO_4)_2(OH)_6$, and is the aluminium analogue of Beaverite. Named from the locality. See also Amer. Min., 1962, vol. 47, pp. 1079 and 1216; M.A. **16**–69.

Osmiridium. C. Lévy and P. Picot, 1961. Bull. Soc. franç. Min. Crist., vol. 84, p. 312. This name is here applied to the hexagonal Os-Ir alloys instead of to the cubic (compare M. H. Hey, Chem. Index Min., 1950; F. V. Chukhrov, Min., vol. 1, pp. 47 and 53; and the review in Min. Mag., 1963, vol. 33, p. 712).

Oxymimetesit. H. Wondratschek, 1963. Original form of Oxymimetite, *q.v.*

Oxymimetite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 145 (Oxymimetesit). The hypothetical compound $Pb_{10}(AsO_4)_6O$; attempts at synthesis failed. Compare H. P. Rooksby, Analyst, 1952, vol. 77, p. 759.

Oxypyromorphite. H. Wondratschek, 1960. Zeits. anorg. Chem., vol. 306, p. 25 (Oxypyromorphit). Artificial $Pb_{10}(PO_4)_6O$; apatite family. See also Analyst, 1952, vol. 77, p. 759; Naturwiss., 1956, vol. 43, p. 494; and Neues Jahrb. Min., Abh., 1963, vol. 99, p. 135.

Oxyvanadinite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 113 (Oxyvanadinit). The hypothetical compound $Pb_{10}(VO_4)_6O$.

Paraduttonite. H. T. Evans jr., 1960. U.S. Geol. Surv. Prof. Paper 400–B, p. 444. A black oxidation product of Duttonite ($V_2O_4.H_2O$; 21st List), probably near $V_2O_5.H_2O$, found at Monument Valley, Arizona, U.S.A.

Parakutnohorite. V. I. Pavlishin and M. M. Slivko, 1962. Мин. Сборн. Львовск. Геол. Общ. (Min. Mag. Lvov Geol. Soc.), no. 16, p. 445 (Паракутнагорит). $(Ca,Mn)CO_3$, near the 1:1 ratio but with calcite (disordered) rather than dolomite (ordered) structure. (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 450 Паракутнагорит, parakutnahorite). The use of separate names for ordered and disordered phases is, in general, undesirable; the suffixes *-o* and *-d* are to be preferred (cf. M.A. **14**–21).

Paxite. Z. Johan, 1962. Acta Univ. Carolinae, Geol. no. 2, p. 77. Cu_2As_3, probably orthorhombic and isostructural with Sb_2S_3, in intergrowths with Novákite, Koutekite, and Arsenic, from Černy Důl, Krkonoše, Bohemia. (Amer. Min., 1962, vol. 47, p. 1484; M.A. **14**–279). Previously referred to as Mineral X (Nature, 1958, vol. 181, p. 1553; Chemie der Erde, 1960, vol. 20, p. 217; Amer. Min., 1961, vol. 46, p. 885). Named from the Latin *pax*. [M.A. **16**–557.]

Pentahydroborite. S. V. Malinko, 1961. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 90, p. 673 (Пентагидроборит). $CaB_2O_4.5H_2O$ in granular masses from a skarn deposit in the Urals. (Amer. Min., 1962, vol. 47, p. 1482; M.A. **16**–556).

Plumbomicrolite. A. Safiannikoff and L. Van Wambeke, 1962. Bull. Soc. franç. Min. Crist., vol. 84, p. 384. Greenish-yellow and orange crystalline masses and octahedra from Kivu, Congo, have a composition near $(Pb,Na,Ca)_{2-x}(Ta,Nb,Ti)_2(O,OH)_7$, with x about 0·9. The authors do not definitely class the mineral as a microlite, but refer to it as a plumboan member of the Microlite family; yet in a few places they use the name Plumbomicrolite.

Potassium–apatite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 121 (Kaliumapatit). Artificial $Ca_4K(PO_4)_3$; apatite family (Zeits. anorg. Chem., 1938, vol. 237, p. 49).

Pravdite. A. N. Nurlbaev, 1962. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 147, p. 689). A metamict mineral from the Ishim pegmatites, Central Kazakhstan, near $Ca_4Ln_2Al_{10}Si_5O_{32}$, with about 5 % ThO_2. Named for the newspaper Pravda. (Amer. Min., 1963, vol. 48, p. 709). Discredited, being shown to be an aluminian

Britholite, comparable to Alumobritholite (this List), see Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 106. [M.A. **16**–558.]

Preobratschenskit, German transliteration of Преображенскит, Preobrazhenskite. Der Aufschluss, 1962, vol. 13, p. 63.

Proarizonite. A. D. Bykov, 1964. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 156, p. 567 (Проаризонит). An intermediate stage in the alteration of Ilmenite to arizonite.

Protodoloresite. H. T. Evans jr., 1960. U.S. Geol. Surv. Prof. Paper 400–B, p. 433. A tentative name for the mineral from Carlile, Wyoming, described in Acta Cryst., 1958, vol. 11, p. 56 as Phase B; formulated $V_2O_3.2V_2O_4.5H_2O$.

Pseudobarthite. Author?; quoted by C. Guillemin, Bull. Soc. franç. Min. Crist., 1956, vol. 79, p. 71. Synonym of β-Duftite.

Pseudoboehmite. D. Papée, R. Tertian, and R. Biais, 1958. Bull. Soc. Chim. France, p. 1301. An imperfectly crystallized or highly disordered form of Boehmite.

Pseudochlorite. R. F. Youell, 1960. Clay Min. Bull., vol. 4, p. 191. An artificial product obtained by adsorbing Mg salts on Montmorillonite and precipitating $Mg(OH)_2$ between the layers of the mineral. Not to be confused with the Pseudochlorite of Frank-Kamenetsky (1958; 22nd List), a synonym of Septechlorite.

Pseudo–ixiolite. E. H. Nickel, J. F. Rowland, and R. C. McAdam, 1963. Amer. Min., vol. 48, p. 975. $(Fe,Mn,Nb,Ta)O_2$, a disordered structure corresponding to Tantalite and Columbite in composition. Differs from Ixiolite in the absence of Sn and in transforming to Tantalite or Columbite on heating.

Pseudonocerite, variant of Pseudonocerina (B.M. Index, 27th edn, 1936).

Redledgeite. H. Strunz, 1961. Neues Jahrb. Min., Monats., p. 107; Amer. Min., 1961, vol. 46, p. 1201. The mineral from the Red Ledge mine, Nevada County, California, formerly regarded as a variety of Rutile and named Chromrutile (11th List), is a distinct species, of composition near $Mg_4Cr_6Ti_{24}Si_2O_{65}$, and is named from the locality. [M.A. **15**–211.]

Rhatite, error for Rathite. Bull. Soc. franç. Min. Crist., 1961, vol. 85, p. 316.

Rijkeboerite. A. H. van der Veen, 1963. [Verhandl. Kon. Ned. Geol. Mijnb. Gen., geol. ser., vol. 22, p. 1], abstr. M.A. **16**–373. A member of the Pyrochlore family, with Ta > Nb, much H_2O, and Ba as principal cation; the tantalum analogue of Pandaite (22nd List); near $Ba_{0\cdot3}Ta_2O_{5\cdot3}.2H_2O$. Compare Hydropyrochlore, this List.

Roquesite. P. Picot and R. Pierrot, 1963. Bull. Soc. franç. Min. Crist., vol. 86, p. 7. Sulphide of copper and indium, $CuInS_2$, isostructural with Chalcopyrite, as small (0·2×0·3 mm) inclusions in Bornite from Charrier, Allier, France. Named for Prof. M. Roques. [M.A. **16**–372.]

Ruffite. W. B. Blumenthal, 1958. Chem. Behavior Zirconium, Princeton, 1962, p. 161. A name for artificial tetragonal ZrO_2.

Rusacovite, variant of Rusakovite (Русаковит). Bull. Soc. franç. Min. Crist., 1961, vol. 84, p. 107.

Sandberĝit, error for Sandbergerit (= Heinrichite). Hintze, Handb. Min., Erg.-bd. II, p. 765.

Sangarite. V. A. Drits and A. G. Kossovskaya, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 156, p. 934 (Сангарит). An alteration product of Biotite from the Vilui depression, Sangar region, proves to be a regularly alternating layer structure. Named for the locality. 'The introduction of a new name to apply to one so carefully analyzed example of a structure which will apparently emerge to be infinitely variable is unwise' (W. F. Bradley, Amer. Min., 1946, vol. 49, p. 444).

Sary-arkite. O. F. Krol, V. I. Chernov, Yu. V. Shapovalov, and G. A. Khan, 1964. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 93, p. 147 (Сарыаркит). Silicate and phosphate of Al, rare earths, Th, and Ca; tetragonal.

Schmeiderite. J. Olsacher, 1962. Appendix to 2nd edn, Chem. Index Min., p. 84. A selenate of Pb and Cu, probably $(Pb,Cu)_2SeO_4OH$ and isostructural with Linarite, from Condor mine, La Rioja, Argentina.

Scyelite. M. F. Heddle, 1883, in J. Young, Trans. Geol. Soc. Glasgow, vol. 7, p. 419. A silicate 'similar to bastite' from Loch Scye, Caithness, later described as a rock (Quart. Journ. Geol. Soc., 1885, vol. 41, p. 401).

Sibirskite. N. N. Vasilkova, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 455 (Сибирскит). Minute crystals, probably orthorhombic, from limestone from an undisclosed area have a composition near $CaHBO_3$. M. Fleischer (Amer. Min., 1963, vol. 48, p. 433) notes that the X-ray powder data are inadequate for comparison with the synthetic $CaHBO_3$ of Lehmann (1958). See also Bull. Soc. franç. Min. Crist., 1963, vol. 86, p. 96: M.A. **16**–66.

Sigloite. C. S. Hurlbut and R. Honea, 1962. Amer. Min., vol. 47, p. 1. The alteration product of Paravauxite described by M. C. Bandy under the name Hydrated paravauxite (this List) is shown to be a valid mineral and is named from the locality, Siglo XX mine, Llallagua, Bolivia. $(Fe^{3+},Fe^{2+})Al_2(PO_4)_2(O,OH).8H_2O$; anorthic. [M.A. **16**–68.]

Silicate–pyromorphite. H. Wondratschek, 1963. Neues Jahrb. Min., Abh., vol. 99, p. 112 (Silikatpyromorphit). The artificial compound $Pb_5(PO_4)_2SiO_4$; apatite family. (Ber. Glastechn., 1956, vol. 29, p. 345.)

Silikatapatit. G. Trömel and W. Eitel, 1957. Zeits. Krist., vol. 109, p. 231. Group name for Britholite, Abukumalite, and other silica-bearing members of the Apatite family.

Silikatpyromorphit. H. Wondratschek, 1963. Original form of Silicate-pyromorphite, *q.v.*

Skunolite (Скунолит), error for Ikunolite (Икунолит), Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 92, p. 187.

Sonolite. M. Yoshinaga, 1963. [Mem. Fac. Sci. Kyushi Univ., ser. D, Geol., vol. 14, p. 1], abstr. in Amer. Min., 1963, vol. 48, p. 1413. $4Mn_2SiO_4.Mn(OH,F)_2$, the manganese analogue of Clinohumite, occurring as monoclinic prisms and anhedral crystals at the Sono, Hanawa, and other manganese mines in Japan; named from the locality at which it was first found. [M.A. **16**–549].

Spiroffite. J. A. Mandarino, S. J. Williams, and R. S. Mitchell, 1962. Canad. Min., vol. 7, p. 340; Min. Soc. Amer. Spec. Paper no. 1 (1963), p. 305. Red to purple cleavable masses from Moctezuma, Sonora, Mexico, have the composition $(Mn,Zn)_2Te_3O_8$; monoclinic. Named for Prof. K. Spiroff. (Amer. Min., 1962, vol. 47, p. 196; 1964, vol. 49, p. 444.)

Stannoenargite. G. H. Moh and J. Otteman, 1962. Neues Jahrb. Min., Abh., vol. 99, p. 1 (Stannoenargit). An unnecessary name for a stannian Enargite.

Stannoluzonite. G. H. Moh and J. Otteman, 1962. Neues Jahrb. Min., Abh., vol. 99, p. 1 (Stannoluzonit). An unnecessary name for a stannian Luzonite.

Stannotantalite. V. V. Matias, 1961. [Геол. Мест. Редк. Элем. (Geol. Depos. Rare Elem.), vol. 9, p. 30], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 190 (Оловотанталит), in Amer. Min., 1961, vol. 46, p. 1514 (Tin-tantalite, Olovotantalite), and in M.A. **16**–552 (Stannotantalite). Black crystals, possibly

monoclinic, with a composition near $(Mn,Sn)(Ta,Nb,Sn)_2O_6$. Possibly identical with the unnamed phase obtained by heating Ixiolite, or may have the same cell-dimensions as Wodginite (Amer. Min., 1963, vol. 48, p. 216).

Stenonite. H. Pauly, 1962. Medd. om Grønland, vol. 169, no. 9. $Sr_2AlCO_3F_5$, in monoclinic grains in the Cryolite mine at Ivigtut, South Greenland. Named for N. Steensen (= Steno), 1638–1686 (Amer. Min., 1963, vol. 48, p. 1178). [M.A. **16**–648.]

Stibioluzonite. H. Strunz, 1957. Min. Tabellen, 3rd edn, p. 97 (Stibioluzonit). A synonym of Famatinite. Not to be confused with the Stibioluzonite of S. Stevanovic (3rd List), an antimonian Luzonite.

Stipoverite. D. P. Grigoriev, 1962. [Вест. Акад. Наук СССР, vol. 4, p. 21], abstr. in Amer. Min., 1963, vol. 48, p. 434. A name proposed for Stishovite, but discarded (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 635).

Stishovite. E. C. T. Chao, J. J. Fahey, J. Littler, and D. J. Milton, 1962. Journ. Geophys. Research, vol. 67, p. 419. A dense polymorph of silica isolated from the coesite-bearing Coconino sandstone at Meteor Crater, Arizona, proves to be identical with the high-pressure polymorph described by S. M. Stishov (С. М. Стишов) and S. V. Popova (С. В. Попова), and is named for the former. (Amer. Min., 1962, vol. 47, p. 807; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 197.)

Strontium–apatite. A. S. Efimov, S. M. Kravchenko, and Z. V. Vasileva, 1962. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 142, p. 439 (Стронцийапатит). The use of this name for all phosphatic members of the Apatite family with > 50 atomic % Sr is proposed. (Amer. Min., 1962, vol. 47, p. 808; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 206 (Стронцийапатит, strontiumapatite); M.A. **15**–542). Not to be confused with the Strontiumapatite of Winchell (15th List), the Strontium apatite of Volkova and Melentiev (16th List), or the Strontium-Apatit of Strunz (22nd List). The use of this name to replace Phosphate-belovite (21st List) has also been suggested; with all these alternatives the term is best dropped altogether.

Sudoite. G. Müller, 1962, quoted in W. von Engelhardt, G. Müller, and H. Kromer, Naturwiss., 1962, vol. 49, p. 205. A name for the dioctahedral series of phyllosilicates corresponding to the Chlorites, the name Chlorite being restricted to the trioctahedral series.

Sundiusite. R. Phillips and W. Layton, 1964. Min. Mag., vol. 33, p. 1097. The hypothetical amphibole end-member $Na_2CaMg_3Al_4Si_6O_{22}(OH)_2$.

Svitalskite. A. P. Nikolsky and A. N. Efimov, 1960. [Труды ВСЕГЕИ, vol. 37, p. 142], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 213 (Свитальскит) and in Amer. Min., 1963, vol. 48, p. 1181. An unnecessary name for a green mica from Krivoi Rog, formulated $(K,Na,H_3O)_{0\cdot98}(Mg,Fe)_{0\cdot78}(Fe,Al)_{1\cdot14}(Si,Al)_4O_{10}(OH)_2$ and classed with the phlogopite–biotite series. It is a dioctahedral mica and very near some Celadonites; 'the name is therefore unnecessary' (M. Fleischer). Named for N. I. Svitalsky. [M.A. **16**–557.]

Tantalbetafite. A. P. Kalita and A. V. Bykova, 1961. Труды Инст. Мин. Геохим. Крист. Редк. Элем. (Trans. Inst. Min., Geochem., Cryst. Rare Elem.), no. 7, p. 104 (Танталбетафит). Betafite with Ta > Nb, in contrast to normal Betafite, which has Nb > Ta (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 199; M.A. **16**–555).

Tatarskite. V. V. Lobanova, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 697 (Татарскит). $Ca_3Mg(SO_4)(CO_3)Cl_2(OH)_2.3\frac{1}{2}H_2O$, massive, in Anhydrite. Named for Prof. V. B. Tatarsky. [M.A. **16**–548.]

Thorobritholite. I. I. Kupriyanova and G. A. Sidorenko, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 148, p. 212 (Торобритолит). Thorian britholite. 'A superfluous name' (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 456).

Thoromelanocerite. I. I. Kupriyanova and G. A. Sidorenko, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 148, p. 212 (Торомеланоцерит). Thorian melanocerite. 'A superfluous name' (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 456).

Thorosteenstrupine. I. I. Kupriyanova, T. I. Stolyarova, and G. A. Sidorenko, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 325. (Торостенструпин). A dark brown metamict mineral from an undisclosed locality in eastern Siberia has a composition near $CaMnThSi_4O_{11}(OH)F.5\frac{1}{3}H_2O$, 'similar to Steenstrupine with rare earths almost entirely replaced by Th and Ca'. Named from the composition. Relation to Steenstrupine uncertain, and name therefore inappropriate (Amer. Min., 1963, vol. 48, p. 433; M.A. **16**–66).

Tikhonenkovite. A. P. Khomyakov, V. I. Stepanov, V. A. Moleva, and Z. V. Pudovkina, 1964. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 156, p. 345 (Тихоненковит). $SrAlF_4OH.H_2O$, from Karasug, Tannu-Ola, Tuva in small monoclinic crystals; named for I. P. Tikhonenkov, The strontium analogue of Gearksutite.

Tin–tantalite, translation of Оловотанталит; synonym of Stannotantalite. Amer. Min., 1961, vol. 46, p. 1514.

Titano–aeschynite. A. G. Zhabin, G. N. Mukhidtinov, and M. E. Kazakova, 1960. Труды Инст. Мин. Геохим. Крист. Редк. Элем. (Trans. Inst. Min., Geochem., Cryst. Rare Elem.), no. 4, p. 51 (Титаноэшинит). An unnecessary name for Aeschynite, which normally has Ti > Nb (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 199; Amer. Min., 1962, vol. 47, p. 417; M.A. **15**–556).

Titanoclinohumite. W. T. Huang, 1957. Amer. Min., vol. 42, p. 686. A titanian variety of Clinohumite containing appreciable F (1 %), as distinct from the fluorine-free Titanhydroclinohumite (9th List). The variant Titanclinohumite has been used (16th List) as a synonym of Titanhydroclinohumite, but should properly include both fluorine-free and fluorine-bearing varieties, and has priority in this sense.

Titano–eschynite, undesirable spelling variant of Titano-aeschynite. Amer. Min., 1962, vol. 47, p. 417; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 199.

Tosudite. V. A. Frank-Kamenetsky, N. V. Logvinenko, and V. A. Drits, 1963. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 92, p. 560 (Тосудит). One constituent of Alushtite is a mixed-layer phase composed of Dickite and Montmorillonite [M.A. **16**–279]; this proves to be a regularly alternating structure and is named for Prof. Toshio Sudo, who described a similar assemblage [M.A. **14**–96; **16**–549.]

Trilithionite. M. D. Foster, 1960. U.S. Geol. Surv. Prof. Paper 354–E, p. 115. Proposed as a more appropriate name for the mica end-member $K_2Li_3Al_5Si_6O_{20}(F,OH)_4$, in place of the name Lithium-muscovite (15th List).

Tugtupite. H. Sørensen, 1962. Medd. om Grønland, vol. 169, no. 1. Aluminosilicate and chloride of Be and Na, from the Ilimaussaq massif, SW. Greenland. Very near to and perhaps identical with Beryllosodalite (22nd List). Amer. Min., 1963, vol. 48, p. 1178; 1961, vol. 46, p. 241; M.A. **15**–212.

Tunellite. R. C. Erd, V. Morgan, and J. R. Clark, 1961. U.S. Geol. Surv. Prof. Paper 424–C, p. 294. $SrB_6O_{10}.4H_2O$, monoclinic and isostructural with the calcium borate Nobleite. In monoclinic crystals from Kramer and from Furnace Creek, Death Valley, California. Named for Prof. G. Tunell (Amer. Min., 1962, vol. 47, p. 416; M.A. **16**–547).

Tusiite. M. A. Kashkai and R. M. Aliev, 1960. [Труды Азербайдж. Геогр. Общ. (Trans. Azerbaidzhan Geogr. Soc.), p. 49], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 196 and in Amer. Min., 1962, vol. 47, p. 807. An alternative name proposed for the mineral finally named Calciocopiapite (*q.v.*).

Tuwit, German transliteration of Тувит, Tuvite. Hintze, Handb. Min., Erg.-bd. II, p. 873.

Tynite. L. N. Ovchinnikov, 1960. [Труды Горно-геол. Инст. Урал. фил. Акад. наук СССР, vol. 39, p. 297], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 203 (Тынит, tynite) and in Amer. Min., 1962, vol. 47, p. 1483. An inadequately characterized aluminosilicate of Fe, Ca, and Mg, near $Ca_3(Fe,Mg)(Fe,Al)_2Si_3O_{12}(OH)_2 \cdot H_2O$, from the Urals. Named from the Tyny river. [M.A. **16**–554.]

Ulvite. H. Strunz, 1957. Min. Tabellen, 3rd edn, p. 147 (Ulvit). Synonym of Ulvöspinel.

Uralborite. S. V. Malinko, 1961. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 90, p. 673 (Уралборит). $CaB_2O_4.2H_2O$, in radiating fibrous aggregates from a skarn deposit in the Turinsk area, Urals (Amer. Min., 1962, vol. 47, p. 1482; M.A. **16**–556).

Uralolite. N. A. Grigoriev, 1964. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 93, p. 156 (Уралолит) $CaBe_3(PO_4)_2(OH)_2 \cdot 4H_2O$; monoclinic. Named from its occurrence in the Urals.

Uranopissinit, error for Uranopissite (6th List). Hintze, Handb. Min., Erg.-bd. II, p. 877.

Uranosandbergit. K. Walenta, quoted in Hintze, Handb. Min., Erg.-bd. II, pp. 765, 878. Synonym of Heinrichite (22nd List).

Usigit, error for Usihite (Усигит, 21st List). Hintze, Handb. Min., Erg.-bd. II, p. 879.

U–wulfenite. O. B[radley], 1962. Min. Abstr., vol. 15, p. 460. A name for the uraniferous wulfenite of A. A. Chernikov, T. L. Pokrovskaya, Yu. S. Nesterova, and N. I. Organova.

Vanadiumgranat, German form of Vanadium-garnet (21st List). Hintze, Handb. Min., Erg.-bd. II, p. 881.

Vanadiumturmalin, German form of Vanadium-tourmaline (21st List). Hintze, Handb. Min., Erg.-bd. II, p. 881.

Vanalite. E. A. Ankinovich, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 307 (Ваналит). $NaAl_8V_{10}O_{38}.30H_2O$, in

bright yellow incrustations on weathered shales from NW. Kara-Tau, Kazakhstan. Named from the composition. [M.A. **16**–68.]

Vanuralite. G. Branche, P. Bariand, F. Chantret, R. Pouget, and A. Rimsky, 1963. Compt. Rend. Acad. Sci. Paris, vol. 256, p. 5374 $(UO_2)_2Al(VO_4)_2OH.8H_2O$; yellow, monoclinic, occurring at Mounana, Gabon Republic. Named from the composition. [M.A. **16**–374.]

Viterite. D. Siftar and I. Jurkovic, 1961. [Geol. Vjesnik, vol. 14, p. 89], abstr. in M.A. **16**–540. Croatian spelling of Witherite.

Vysotskite. A. D. Genkin and O. E. Zvygintsev, 1962. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 91, p. 718 (Высоцкит, Vysozkite); *ibid.*, 1963, vol. 93, p. 567 (Высоцкит, vyssotskite). (Pd,Ni)S as minute grains or prismatic tetragonal crystals, isomorphous with Braggite, from Norilsk. Named for N. K. Vysotsky (Amer. Min., 1961, vol. 46, p. 464; 1963, vol. 48, p. 708; M.A. **16**–180).

Wairauite. G. A. Challis and J. V. P. Long, 1964. Min. Mag., vol. 33, p. 942. Minute grains of CoFe, occurring with Awaruite in the Red Hills serpentinites of Wairau Valley, South Island, New Zealand. Named from the locality.

Waylandite. O. von Knorring and M. E. Mrose, 1962. Progr. Ann. Meeting Geol. Soc. Amer., p. 156A; Amer. Min., 1963, vol. 48, p. 216. A white mineral replacing Bismutotantalite at Wampiro Hill, Busiro County, Buganda, Uganda, is a member of the Plumbogummite family, $(Bi,Ca)Al_3\{(P,Si)O_4\}_2(OH)_6$. Named for E. J. Wayland, sometime Director of the Uganda Geol. Survey.

Wegscheiderite. J. J. Fahey, K. P. Yorks, and D. E. Appleman, 1961. Progr. Ann. Meeting Geol. Soc. Amer., p. 48A; Amer. Min., 1962, vol. 47, p. 415. $Na_5H_3(CO_3)_4$, in fibrous aggregates from Perkins Wells nos. 1 and 2 and Grierson Well no. 1, Sweetwater County, Wyoming; anorthic. Named for R. Wegscheider, who synthesized this compound in 1913. [M.A. **15**–358; **16**–284.]

Weilite. P. Herpin and R. Pierrot, 1963. Bull. Soc. franç. Min. Crist., vol. 86, p. 368. $CaHAsO_4$, the arsenic analogue of Monetite, has been found on museum specimens labelled Pharmacolite and Haidingerite from various French and German localities. Named for R. Weil (Amer. Min., 1964, vol. 49, p. 816; M.A. **16**–551).

Wenkite. J. Papageorgakis, 1962. Schweiz. Min. Petr. Mitt., vol. 42, p. 269. Hexagonal crystals in the marbles of Candoglia, Italy, are possibly related to Cancrinite. Formulated $(Ba,Ca)_7Al_9Si_{12}(SO_4)_2O_{42}(OH)_5$, or (M. Fleischer, Amer. Min., 1963, vol. 48, p. 213) $(Ba,Ca,Na,K)_9Al_9Si_{12}O_{42}(SO_4)_2(OH)_4$. Named for Prof. E. Wenk. [M.A. **15**–360; **16**–67.]

Westgrenite. O. van Knorring and M. E. Mrose, 1962. Progr. Ann. Meeting Geol. Soc. Amer., p. 156A; Amer. Min., 1963, vol. 48, p. 215. The pink alteration product of Bismutotantalite from Uganda, mentioned by L. J. Spencer (Min. Mag., 1929, vol. 22, p. 191), is shown to be a distinct mineral of the Pyrochlore group, $BiTa_2O_6OH$; the powder pattern closely resembles that of $BiTa_2O_6F$, which was synthesized by Prof. A. Westgren, for whom the mineral is named.

Wightmanite. Murdoch, 1962. Amer. Min., vol. 47, p. 718. Colourless, roughly hexagonal prisms from Commercial quarry, Crestmore, California; anorthic, cell-contents $Mg_9B_2O_{12}.8H_2O$. Named for R. H. Wightman. [M.A. **16**–65.]

Winogradowit, German transliteration of Виноградовит (Vinogradovite, 21st List). Hintze, Handb. Min., Erg.-bd. II, p. 883.

Wismutblüte. H. Strunz, 1957. Min. Tabellen, 3rd edn, p. 426. Synonym of Bismite.

Wismut–Jamesonit, German form of Bismuthjamesonite (21st List), the original name given to Sakharovaite (22nd List). Hintze, Handb. Min., Erg.-bd. II, p. 884.

Wismutmikrolith, German form of Bismuthmicrolite (22nd List). Hintze, Handb. Min., Erg.-Bd. II, p. 885.

Wodginite. E. H. Nickel, J. F. Rowland, and R. C. McAdam, 1963. Canad. Min., vol. 7, p. 390. Black grains from Bernic Lake, Manitoba, have the composition $(Ta,Sn,Mn)O_2$. X-ray powder patterns resemble those of Manganotantalite, but with some major differences, and the unit cell is monoclinic and contains 32 oxygen. Material described by E. S. Simpson in 1909 as Ixiolite proves to be Wodginite. Named from the locality, Wodgina, Western Australia. Compare Stannotantalite (this List).

Wöhlerite. G. P. Vdovykin, 1960. Метеоритика (Meteoritika), no. 18, p. 78. An unsatisfactory name for the carbon compounds in carbonaceous chondrites. Not to be confused with Wöhlerite of Scheerer, 1843 (Amer. Min., 1961, vol. 46, p. 244).

Xanthus. R. Jameson, 1800. Min. Scot. Isles, vol. 2, p. 68. An early name for Heliotrope.

Yanshainshynite, erroneous transliteration of Яншайншит, Yanshynshite (22nd List). Amer. Min., 1961, vol. 46, p. 1200.

Yokosukaite. K. Kami and T. Tanaka, 1937. [Bull. Electrotechn. Lab. Japan, vol. 1, pp. 459 and 553; 1938, vol. 2, pp. 19 and 21;

Electrochem., Japan, 1938, vol. 6, p. 366; 1939, vol. 7, p. 7], quoted by Y. Hariya, Amer. Min., 1963, vol. 48, p. 952. A manganese oxide from Yokosuka, Aichi prefecture, Japan, gave a distinctive X-ray pattern, recognized by M. Nambu and K. Okada ([Journ. Soc. Earth Sci. Amat. Japan, 1961, vol. 12, p. 249; Journ. Jap. Ass. Min. Petr. Econ. Geol., 1962, vol. 48, p. 76], quoted by Y. Hariya, *loc. cit.*), and by Y. Hariya (*loc. cit.*) as that of artificial γ-MnO_2, subsequently named Nsutite (*q.v.*) by W. K. Zwicker *et al.* The name Yokosukaite has priority.

Yttroapatite. K. Omori and H. Konno, 1962. Amer. Min., vol. 47, p. 1191. A name for the hypothetical Apatite end-member $Y_{10/3}(PO_4)_3$ (F,OH).

Yttrobetafite. A. P. Kalita, A. V. Bykova, and M. V. Kukharchik, 1962. Труды Инст. Мин. Геохим. Крист. Редк. Элем. (Trans. Inst. Min., Geochem., Cryst. Rare Elem.), no. 8, p. 210 (Иттробетафит); 1959, no. 2, p. 164. A superfluous name for intermediate members of the Pyrochlore-Obruchevite series from Alakurti, NW. Karelia (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, p. 570; Amer. Min., 1963, vol. 49, p. 440; M.A. **16**–558).

Yttrobritholite. I. I. Kupriyanova and G. A. Sidorenko, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 148, p. 212 (Иттробритолит) Yttrian britholite. 'A superfluous name' (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 456).

Yttromelanocerite. I. I. Kupriyanova and G. A. Sidorenko, 1963. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 148, p. 212 (Иттромеланоцерит). Yttrian melanocerite. 'A superfluous name' (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, p. 456).

Zavaritskite. E. I. Dolomanova, V. M. Senderova, and M. T. Yanchenko, 1962. Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 146, p. 680 (Заварицкит, zawaryzkite). BiOF, in pseudomorphs after Bismuthinite, from Sherlova Gory, East Transbaikal. Named for A. N. Zavaritsky (Amer. Min., 1963, vol. 48, p. 210; M.A. **16**–181).

Zawaryzkite, erroneous transliteration of Заварицкит, Zavaritskite, *q.v.*

Zellerite. H. G. Granger, 1963. [New Mexico Bur. Mines Min. Resources Mem. 15, p. 21], abstr. in Amer. Min., 1964, vol. 49, p. 439.

An inadequately described mineral, said to be a carbonate, from Gas Hills, Wyoming, and Alta mine, Grants District, New Mexico.

Zeraltite, error for Ceraltite, Doklady Acad. Sci. USSR, 1961, Earth Sci. Sect., vol. 134, p. 1025 (translation of Докл. Акад. Наук СССР (Compt. Rend. Acad. Sci. URSS)).

Zhemchuzhnikovite. Yu. A. Zhemchuzhnikov and A. I. Ginzburg, 1960. [Основы петрол. углей, Изд. Акад. наук СССР (Problems of coal petrology), p. 93], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1962, vol. 91, p. 206 (Жемчужниковит, Jemchuznikovite) and in Amer. Min., 1962, vol. 47, p. 1482; [Труды Всесоюз. Науч.-Иссл. Геол. Инст. (Trans. All-Union Geol. Inst.), 1963, vol. 96, p. 131], abstr. in Amer. Min., 1964, vol. 49, p. 442 and with corrections in Зап. Всесоюз. Мин. Общ., 1964, vol. 93, p. 457. $NaMg(Fe,Al)(C_2O_4)_3.8H_2O$, in green trigonal crystals (violet in artificial light) from veinlets in coal in the Chaitumusuk deposits, 200 Km from the estuary of the Lena river, Siberia. The unit cell is given as *a* 16·70, *c* 12·50, while Stepanovite ($NaMgFe(C_2O_4)_3.8$ to $9H_2O$; 20th List) is given as *a* 9·84 ($= 17{\cdot}04/\sqrt{3}$), *c* 36·77; confirmation of this difference is desirable. Named for Yu. A. Zhemchuzhnikov (1885–1957). [M.A. **16**–551, 555.]

Zinnfahlerz. G. H. Moh and J. Otteman, 1962. Neues Jahrb. Min., Abh., vol. 99, p. 1. Synonym of Fredricite.

Zircopal. V. I. Gerasimovsky, 1956. Geochemistry (translation of Геохимия), no. 5, p. 494. Unnecessary name for a zirconian Opal.

Zirsite. I. D. Dorfman, 1962, quoted by E. M. Bonshtedt-Kupletskaya, Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1963, vol. 92, pp. 214, 217. An unnecessary name for a low-iron variety of Zirfesite (17th List) from the Yukspor Mts., Khibina massif, Kola peninsula. Named from the composition (Amer. Min., 1963, vol. 48, p. 1182; M.A. **16**–557).

Zn–blödite. M. Giglio, 1958. Acta Cryst., vol. 11, p. 789. Artificial $Na_2Zn(SO_4)_2.4H_2O$, the zinc analogue of Blödite. [M.A. **14**–103.]

CLASSIFIED LIST OF NEW MINERALS

Elements, Alloys, Sulphides, Arsenides, etc.

Wairauite, CoFe.
Dzhezkazganite, alloy or sulphide of Re and Cu.
Djurleïte, $Cu_{2-x}S$.
Paxite, Cu_2As_3.
Roquesite, $CuInS_2$.
Indite, $FeIn_2S_4$.
Castaingite, $CuMo_2S_5$.
Mackinawite, FeS.
Kansite, Fe_7S_8.
Greigite, Fe_3S_4.
Cobalt skutterudite, $CoAs_3$.
Vysotskite, (Pd,Ni)S.
Kotulskite, $Pd(Te,Bi)_{2-x}$.
Moncheïte, $(Pt,Pd)(Te,Bi)_2$.
Arsenpolybasite, $(Ag,Cu)_{16}(As,Sb)_2S_{11}$.
Antimonpearceite, $(Ag,Cu)_{16}(Sb,As)_2S_{11}$.
Giessenite, $Pb_8Bi_6S_{17}$.

Halides

Calumetite, $Cu(OH,Cl)_2.2H_2O$.
Anthonyite, $Cu(OH,Cl)_2.3H_2O$.
Brombotallackite, $Cu_2Br(OH)_3$.
Iodbotallackite, $Cu_2I(OH)_3$.
Tikhonenkovite, $SrAlF_4OH.H_2O$.
Zavaritskite, BiOF.

Carbonates

Wegscheiderite, $Na_5H_3(CO_3)_4$.
Ikaite, $CaCO_3.6H_2O$.
Stenonite, $Sr_2AlCO_3F_5$.
Huanghoite, $BaLn(CO_3)_2F$.
Carbonate-cyanotrichite, carbonate and sulphate of Cu, Zn, and Al.

Tantaloniobates

Natroniobite, $NaNbO_3$, monoclinic.
Magnocolumbite, $MgNb_2O_6$.
Hydropyrochlore, $(Mg,Sr,Ca)_{2-x}Nb_2(O,OH,H_2O)_7$.
Rijkeboerite, $Ba_{0\cdot3}Ta_2O_{5\cdot3}.2H_2O$.
Wodginite, $(Ta,Sn,Mn)O_2$.
Stannotantalite, $(Mn,Sn)(Ta,Nb,Sn)_2O_6$.
Plumbomicrolite, $(Pb,Na,Ca)_{1\cdot1}(Ta,Nb,Ti)_2(O,OH)_7$.
Westgrenite, $BiTa_2O_6OH$.
Pseudoixiolite, $(Fe,Mn,Nb,Ta)O_2$.
β-Fergusonite, $(Yt,Er)(Nb,Ta)_2O_6$.
Nioboaeschynite, $Ln(Nb,Ti)_2O_6$.

Oxides and Hydroxides

Nordstrandite, $Al(OH)_3$.
Cerafolite, $Mg_5Al_4(OH)_{22}.4H_2O$.
Mayenite, $Ca_{12}Al_{14}O_{33}$.
Dzhalindite, $In(OH)_3$.
Stishovite, SiO_2 (tetragonal).
Arkelite, ZrO_2 (cubic).
Ruffite, ZrO_2 (tetragonal).
Karelianite, V_2O_3.
Protodoloresite, $V_2O_3.2V_2O_4.5H_2O$.
Paraduttonite, near $V_2O_5.H_2O$.
Nsutite, γ-MnO_2.
Marokite, $CaMn_2O_4$.
Redledgeite, $Mg_4Cr_6Ti_{24}Si_2O_{65}$ (?).
Amakinite, $Fe(OH)_2$.
Akaganéite, β-FeOOH.

Borates

Metaborite, HBO_2.
Biringuccite, $Na_4B_{10}O_{17}.4H_2O$.
Nasinite, $Na_4B_{10}O_{17}.7(\text{or } 5)H_2O$.
Aksaite, $MgB_6O_{10}.5H_2O$.
Wightmanite, $Mg_9B_2O_{12}.8H_2O$.
Sibirskite, $CaHBO_3$.
Korzhinskite, $CaB_2O_4.H_2O$.
Uralborite, $CaB_2O_4.2H_2O$.
Pentahydroborite, $CaB_2O_4.5H_2O$.
Fabianite, CaB_3O_5OH.
Tunellite, $SrB_6O_{10}.4H_2O$.
Jimboite, $(Mn,Mg)_3B_2O_6$.
Chambersite, $Mn_3B_7O_{13}Cl$.
Gaudefroyite, $Ca_4Mn_3^{\cdot\cdot}(BO_3)_3CO_3(O,OH)_3$.

Silicates and Aluminosilicates

Trilithionite, $K_2Li_3Al_5Si_6O_{20}(F,OH)_4$.
Orthokalsilite, $KAlSiO_4$ (orthorhombic).
Miyashiroite, $Na_3Mg_3Al_3Si_7O_{22}(OH)_2$.
Sundiusite, $Na_2CaMg_3Al_4Si_6O_{22}(OH)_2$.
Keldyshite, $(Na,H)_2ZrSi_2O_7$.
Lead feldspar, $PbAl_2Si_2O_8$.
Goldmanite, $Ca_3(V,Fe,Al)_2Si_3O_{12}$.

Thorosteenstrupine,
$CaMnThSi_4O_{11}.5\frac{1}{2}H_2O$.
Ferromiyashiroite,
$Na_3Fe_3Al_3Si_7O_{22}(OH)_2$.
Ferroeckermannite,
$Na_3Fe_4AlSi_8O_{22}(OH)_2$.
Ferrosundiusite,
$Na_2CaFe_3Al_4Si_6O_{22}(OH)_2$.
Mboziite, $Na_2CaFe_3^{\cdot\cdot}Fe_2^{\cdot\cdot\cdot}Al_2Si_6O_{22}(OH)_2$.
Sangarite and Tosudite, phyllosilicates with regularly alternating layers.

Silicates with Other Anions

Fluortainiolite, $KMg_2LiSi_4O_{10}F_2$.
Fluorhectorite, $K_xMg_{3-x}Li_xSi_4O_{10}F_2$.
Lithium fluorhectorite,
$(K,Li)_xMg_{3-x}Li_xSi_4O_{10}F_2$.
Fluor-magnesio-richterite,
$Na_2Mg_6Si_8O_{22}F_2$.
Sonolite, $4Mn_2SiO_4.Mn(OH,F)_2$.
Fluorarfvedsonite,
$(Na,Ca)_{2\frac{1}{2}}(Fe^{\cdot\cdot},Fe^{\cdot\cdot\cdot},Mg)_5Si_8O_{22}(OH,F)_2$.
Barsanovite,
$(Ca,Na)_9(Fe,Mn)_2(Zr,Nb)_2Si_2(O,Cl)_{37}$.
Sary-arkite, silicophosphate of Al, Ca, Th, and rare earths.
Waylandite, silicophosphate of Al, Ca, and Bi (Plumbogummite group).
Hydrohaüyne, a variety deficient in Na_2SO_4 and high in H_2O.
Wenkite,
$(Ba,Ca)_9Al_9Si_{12}O_{42}(SO_4)_2(OH)_4$.

Sulphates and Selenates

Calciocopiapite,
$CaFe_4(SO_4)_6(OH)_2.10H_2O$.
Kalistrontite, $K_2Sr(SO_4)_2$.
Gunningite, $ZnSO_4.H_2O$.
Osarizawaite, $PbCuAl_2(SO_4)_2(OH)_6$.
Tatarskite,
$Ca_3MgSO_4CO_3Cl_2(OH)_2.3\frac{1}{2}H_2O$.
Schmeiderite, $(Pb,Cu)_2SeO_4OH$.

Chromates and Molybdates

Chromatite, $CaCrO_4$.
Iranite, $PbCrO_4.H_2O$.
Mourite, $(UO_2,UO_3).5\frac{1}{2}MoO_3.5H_2O$.
Calcurmolite,
$Ca(UO_2)_3(MoO_4)_3(OH)_2.8H_2O$.

Tellurites

Spiroffite, $(Mn,Zn)_2Te_3O_8$.
Denningite, $(Mn,Ca,Zn)Te_2O_5$.

Phosphates

Alkali-chlorapatite,
$(Ca,Na)_5(PO_4)_3(O,Cl)$.
Potassium-apatite, $KCa_4(PO_4)_3$.
Uralolite, $CaBe_3(PO_4)_2(OH)_2.4H_2O$.
Glucine, $CaBe_4(PO_4)_2(OH)_4.\frac{1}{2}H_2O$.
Farringtonite, $Mg_3(PO_4)_2$.
Chloroxyapatite, $Ca_{10}(PO_4)_6(O,Cl_2)$.
Barium-oxyapatite, $Ba_{10}(PO_4)_6O$.
Yttroapatite, $Yt_{10}(PO_4)_9(F,OH)_3$.
Brockite, $(Ca,Th,Ln)(PO_4,CO_3).H_2O$.
Oxypyromorphite, $Pb_{10}(PO_4)_6O$.
Brompyromorphite, $Pb_5(PO_4)_3Br$.
Germanate-pyromorphite,
$Pb_5(PO_4)_2GeO_4$.
Sigloite,
$(Fe,Fe)_2Al_2(PO_4)_2(O,OH).8H_2O$.
Calcium lipscombite,
$(Ca,Fe)(Fe,Al)_2(PO_4)_2(OH,F)_2$.

Arsenates

Arthurite, $Cu_2Fe_4(AsO_4)_3(OH)_7.6H_2O$.
Bearsite, Be_2AsO_4OH.
Weilite, $CaHAsO_4$.
Guerinite, $Ca_5H_2(AsO_4)_4.9H_2O$.
Natromimetite, $NaPb_4(AsO_4)_3$.
Iodomimetite, $Pb_5(AsO_4)_3I$.

Vanadates

Chervetite, $Pb_2V_2O_7$.
Iodovanadinite, $Pb_5(VO_4)_3I$.
Vanalite, $NaAl_8V_{10}O_{38}.30H_2O$.
Grantsite, $Na_4Ca(VO)_2V_{10}O_{30}.8H_2O$.
Bokite, $KAl_3Fe_6V_6^{4+}V_{20}^{5+}O_{70}.30H_2O$.
Hendersonite,
$Ca_2V^{4+}(V^{5+},V^{4+})(O,OH)_{24}.8H_2O$.
Vanuralite, $(UO_2)_2Al(VO_4)_2OH.8H_2O$.

Oxalates

Glushinskite, oxalate of Mg.
Zhemchuzhnikovite,
$NaMg(Fe,Al)(C_2O_4)_3.8H_2O$.