

*Twenty-fourth list of new mineral names*

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THE present list, for two years only, includes 373 names: of these, 31 are errors; 114 are other spelling variants, including French and German transliterations of Russian names; 12 are names for mixtures, pseudomorphs, or mineral groups; 2 are for hypothetical compounds, not known either naturally or artificially; and 50 are synonyms, new names for minerals already named, and not preferable to the old names.

Further, 15 are for inadequately characterized minerals, and 30 are unnecessary varietal names. Of the remaining 119 acceptable names, 15 are for artificial compounds not known in nature, 6 are for end-members of isomorphous series, not actually observed in nature, and 5 are desirable new names to replace names whose connotation was misleading; finally, there are 93 new named species or varieties worthy of distinctive names.

A large number of minor spelling variants (e.g. hyphens, capitals to the second member of German compound names) have been omitted, since they cannot lead to confusion, and so have a number of hyphenated names such as Tale-saponite and Montmorillonite-chlorite, used by clay mineralogists for minerals with regularly alternating layers of the structures denoted in the name (and sometimes for minerals with irregular interstratification). No attempt has been made to seek out the first use of the spelling variants listed, and they are, therefore, not attributed to any specific author and date.

**Aluminatspinelle.** H. Strunz, 1957. *Min. Tabellen*, 3rd edn, p. 352. Group name for those spinels in which Al is the principal trivalent metal.

**Aluminium-Ferroanthophyllit**, error for aluminian Ferroanthophyllite (C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 654).

**Alumo-aeschnite.** E. M. Eskova, A. G. Zhabin, and G. N. Mukhitdinov, 1964. [*Мин. геохим. редк. элем. Вишнева. Горы (Min. geochem. rare elements in the Vishnevaya Mts., Urals)*, Moscow (Издат. „Наука“)]; *abstr. Amer. Min.*, 1965, vol. 50, p. 2101; *Зап. Всесоюз.*

Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 672 (Алюмоэшинит, alumoeshynite). An unnecessary name for aluminian Aeschynite.

**Alumoberesowskit.** H. Strunz, 1957. Min. Tabellen, 3rd edn, p. 352. Synonym of Alumoberezovite. Aluminian berezovskite, a variety of chromite. Berezovskite (15th List) was originally named Beresofite (9th List), a name that had already been used twice; the aluminian variety was named Алюмо-Березовит (Alumoberezovite).

**Alumoeshynite**, undesirable spelling variant of Alumo-aeshynite (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 672).

**Antarcticite.** T. Torii and J. Ossaka, Science, vol. 149, p. 975. Acicular aggregates crystallizing from the brine of Don Juan Pond, Victoria Land, Antarctica, prove to be the well-known hexagonal salt  $\text{CaCl}_2 \cdot 6\text{H}_2\text{O}$ . Named for the locality. [A.M. 50-2098.]

**Antunit, Antunesit**, spelling variants of Antunezite (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 354).

**Apowite.** J. L. Jambor and R. W. Boyle, 1965. Canad. Min., vol. 8, p. 166. Bright pink, fine grained, with moorhouseite (*q.v.*) as an efflorescence on sulphides at the Magnet Cove Barium Corporation mine, Walton, Nova Scotia, have the composition  $(\text{Co}, \text{Mn}, \text{Ni})\text{SO}_4 \cdot 4\text{H}_2\text{O}$  with  $\text{Co}:\text{Mn}:\text{Ni}$  2:1:1, monoclinic and isomorphous with ilecite and rozenite. The name is given for A. P. Low, and defined to include all members of the series with Co as principal cation. [A.M. 50-809.]

**Ayatite.** A. K. Gladkovskii and I. N. Ushatinskii, 1961. Труды Горно-геол. инст. Уральск. фил. Акад. наук СССР (Proc. Mining-geol. Inst. Ural Div. Acad. Sci. USSR) vol. 56, p. 114], abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 311 (Аятит). Merely finely dispersed Corundum.

**Balchaschit, Balkaschit**, German transliterations of Балхашит, Balkhashite.

**Barringtonite.** B. Nashar, 1965. Min. Mag., vol. 34, p. 370. Nodular incrustations of  $\text{MgCO}_3 \cdot 2\text{H}_2\text{O}$  occur on olivine basalt under Rainbow Falls, Semphill Creek, Barrington Tops, New South Wales. The mineral is formed at about  $5^\circ\text{C}$ ; it is anorthic. Named from the locality [A.M. 50-2103; J. A. Mandarino notes that the optics are very near those of lansfordite, and the calculated density unexpectedly high].

**$\beta$ -Bassanite.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 260. A name for the hexagonal, high-temperature polymorph of  $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$  reported by O. W. Florke (1952). P. Gay (Min. Mag., 1965, vol. 35,

p. 345) concludes that the existence of this polymorph is very improbable.

**Bemagalite**, a name considered, but rejected, for Taaffeite (see 19th List).

**Bergalith**, a rock-name (Johannsen, *Descr. Petr. Ign. Rocks*, vol. 4, p. 379), is incorrectly given as a synonym of Deeckëite (7th List) (H. Strunz, *Min. Tabellen*, 2nd edn, p. 244).

**Berinel**, a name considered, but rejected, for Taaffeite (see 19th List).

**Berndtite**. G. H. Moh, 1966. *Fortschr. Min.*, vol. 42, p. 211.  $\beta$ - $\text{SnS}_2$ , hexagonal, described from Serro de Potosi, Bolivia (G. H. Moh and F. Berndt, *Neues Jahrb. Min., Monatsh.*, 1964, p. 94) is named for F. Berndt. [A.M. 50-2107.]

**Berryite**. E. W. Nuffield and D. C. Harris, 1965. *Canad. Min.*, vol. 8, p. 400 (abstr.). Lath-like crystals on the type specimen of Cuprobismutite (Hillebrand, 1884) from Park County, Colorado, and on specimens from Nordmark, Sweden, are monoclinic, probable composition  $\text{Pb}_2(\text{Cu,Ag})_3\text{Bi}_3\text{S}_{11}$ . Named for L. G. Berry. [A.M. 51-532.]

**Beryllium-Sodalith**. H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 455. Variant of Berylliosodalite (22nd List).

**Blackeit**, error for Blakeit (of Dana, 1850) (H. Strunz, *Min. Tabellen*, 1st edn, 1941, p. 229, and later edns).

**Blanchardite**. M. F. Strong, 1964. *The Mineralogist*, vol. 32, no. 3, p. 5. In a description of the Old Hansonburg or Blanchard lead mine, Bingham, New Mexico, it is stated that 'A (?) new mineral from the claim, *blanchardite* is being studied by Dr. Clifford Erondel'. [M.A. 17-233.]

**Bismostibnit**. H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 455. Synonym of Horobetsuite (22nd List).

**Bleikupferarsen**, cited by H. Strunz (*Min. Tabellen*, 4th edn, 1966, p. 456) as a synonym of Duftite (9th List) was stated by C. Guillemin (*Bull. Soc. franç. Min. Crist.*, 1956, vol. 79, p. 75) to be merely a name on a dealer's label on a specimen bearing a mixture of Malachite and  $\alpha$ -Duftite (22nd List).

**Borcarite**. N. N. Pertsev, I. V. Ostrovskaya, and I. B. Nikitina, 1965. *Зап. Всесоюз. Мин. Общ.* (Mem. All-Union Min. Soc.), vol. 94, p. 180 (Боркарит, borcarite). Dense blue-green masses in Kotoite marbles from an unnamed locality in Siberia are monoclinic, with composition  $\text{Ca}_4\text{Mg}(\text{HBO}_3)_4(\text{HCO}_3)_2$ . Named for the composition. [M.A. 17-398; A.M. 50-2097.]

**Briartite.** J. Francotte, J. Moreau, R. Ottenburgs, and C. Lévy, 1965. Bull. Soc. franç. Min. Crist., vol. 88, p. 432. Small grains with chalcopyrite, renierite, tennantite, and blende in the Prince Leopold mine, Kipushi, Katanga, are tetragonal, composition  $\text{Cu}_2(\text{Fe,Zn})\text{GeS}_4$  or  $\text{Cu}(\text{Fe,Zn,Ge})\text{S}_2$ , probably isostructural with chalcopyrite or stannite. [M.A. 17-499.]

**Buddingtonite.** R. C. Erd, D. E. White, J. J. Fahey, and D. E. Lee, 1964. Amer. Min. vol. 49, p. 811. The monoclinic ammonium feldspar,  $\text{NH}_4\text{AlSi}_3\text{O}_8$ , occurs in andesite and hydrothermally altered rocks at Sulphur Bank mercury mine, Lake County, California, as compact masses pseudomorphous after plagioclase, and as small crystals in cavities. Below about  $370^\circ\text{C}$  the mineral carries appreciable zeolitic water, up to about  $\text{NH}_4\text{AlSi}_3\text{O}_8 \cdot 0.5\text{H}_2\text{O}$ .

**Cadmium olivine.** H. Hayashi, N. Nakayama, M. Yoshida, T. Kozuka, M. Mizuno, K. Yamamoto, T. Yamamoto, and T. Noguchi, 1964. [Rept. Govt. Indust. Res. Inst., Nagoya, vol. 13, p. 285]; abstr. Min. Journ. [Japan], 1965, vol. 4, p. 322. Artificial  $\text{Cd}_2\text{SiO}_4$ .

**Calcioaegirine.** D. P. Serdyuchenko, A. V. Glebov, and V. A. Pavlov, 1961. [Изв. Акад. наук СССР, сер. геол. (Bull. Acad. Sci. USSR, geol. ser.) no. 2, p. 87]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, p. 680. (Кальциоаегирин, calcioaegirine). The *hypothetical* end-member  $\text{CaFe}_2^{3+}(\text{SiO}_3)_4$ .

**Calcium catapleite.** A. M. Portnov, 1964. Докл. акад. наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 154, p. 607 (Кальциевый катаплеит. The calcium end-member of the catapleite series. [M.A. 16-648; A.M. 49-1153 (Calcium catapleite).]

**Calciumkatapleite.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 459. Variant of Calcium catapleite (*q.v.*).

**Carbaborite.** Hsien-Te Hsieh, Tze-Chiang Chien, and Lai-Pau Liu, 1964. [Scientia Sinica, vol. 13, p. 813]; abstr. Amer. Min., 1965, vol. 50, p. 262, and in M.A. 17-75.  $\text{Ca}_2\text{MgCO}_3\text{B}_2\text{O}_3(\text{OH})_4 \cdot 8\text{H}_2\text{O}$ , monoclinic, from an unspecified lacustrine borate deposit in China. Named from the composition.

**Catapleite**, variant of or error for Catapleite (Amer. Min., 1964, vol. 49, p. 1153).

**Cerargerite**, error for Cerargyrite (A. S. Eakle, Bull. Dept. Geol. Univ. California, 1912, vol. 7, p. 1).

**Cerphosphorhuttonite.** A. S. Pavlenko, L. P. Orlova, and M. V. Akhmanova, 1965. [Труды Мин. Муз. Акад. Наук СССР (Proc. Min. Mus. Acad. Sci. USSR), vol. 16, p. 166]; abstr. Amer. Min., 1965, vol. 50, p. 2099; M.A. 17-503; Зап. Всесоюз. Мин. Общ. (Mem. All-

Union Min. Soc.), 1966, vol. 95, p. 320 (цeрфосфорхаттонит). A mineral almost exactly midway between Huttonite (monoclinic  $\text{ThSiO}_4$ ) and Monazite (monoclinic  $\text{CePO}_4$ ) occurs in amazonite pegmatite at an unspecified locality in south-eastern Siberia.

**Chrome-ferrimontmorillonite.** G. S. Gritsaenko, 1946. [Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 75, p. 150], abstr. in C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 79 (Chrom-Ferrimontmorillonit). Synonym of Chrome-nonttronite (13th List).

**Chrome-jadeite.** E. Gübelin, 1965. *Journ. Gemmology*, vol. 9, p. 372. Syn. of Chromojadeite (13th List). [M.A. 17-377.]

**Chromferrit**, variant of Chromoferrite (C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 684).

**Chromidokras**, variant of Chrome-idocrase (C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 115).

**Chromitspinelle.** H. Strunz, 1957. *Min. Tabellen*, 3rd edn, p. 364. Group-name for those spinels in which Cr is the principal trivalent metal (cf. Chromspinellids, this List).

**Chrom-Klinochlor**, German transliteration of Хромклинохлор, Chrome-clinochlore (H. Strunz, *Min. Tabellen*, 3rd edn, 1957, p. 318).

**Chrom-Lanarkit.** H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 247. An unnecessary and possibly incorrect name for the unnamed mineral, possibly a chromatian Lanarkite, from Leadhills, Scotland, described by A. K. Temple. (*Trans. Roy. Soc. Edin.*, 1956, vol. 63, p. 85; A.M. 45-909.)

**Chromspinellids.** V. D. Ladieva, 1964. [Chem. comp. and intern. struct. min., Kiev, p. 192]; abstr. M.A. 17-389. A group-name for chromian Spinels (cf. Spinellids, 9th List, and Chromitspinelle, this List).

**Chromsteigerite.** E. A. Ankinovich, 1963. [Труды Инст. геол. Наук, Акад. наук Казах ССР (Proc. Inst. Geol. Kazakh SSR), vol. 7, p. 207]; abstr. *Amer. Min.*, 1964, vol. 49, p. 1774; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 680 (Хромштейгерит). An unnecessary name for a chromian Steigerite from Kurumsak.

**Chuchrovit**, an inconsistent transliteration of Чухровит, Chukhrovite (22nd List) (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 148).

**Clino-antigorite.** H. Strunz, 1957. *Min. Tabellen*, 3rd edn, p. 322 (Klinoantigorit). Synonym of Antigorite.

**Clinoberthierine.** H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 403 (Klinoberthierin). Synonym of Berthierine.

**Clinoholmquistite.** I. V. Ginzburg, 1965. [Труды Мин. Муз. Акад. Наук СССР (Proc. Min. Mus. Acad. Sci. USSR), vol. 16, p. 73], abstr.

Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 326 (Клиноholmквистит, Clinoholmquistite). The monoclinic polymorph of Holmquistite (7th List), from an unnamed Siberian pegmatite.

**Coalingite.** F. A. Mumpton, H. W. Jaffe, and C. S. Thompson, 1965. Amer. Min., vol. 50, p. 1893. Soft reddish-brown platelets, optically uniaxial and probably hexagonal, occur in the surface weathering zone of the New Idria serpentinite, Fresno and San Benito Counties, California. The composition is near  $Mg_{10}Fe^{3+}CO_3(OH)_{24} \cdot 2H_2O$ . Named from the nearby town of Coalinga. Much 'Ferrobrucite' is probably coalingite. [M.A. 17-605.]

**Cobalt-olivine.** C. W. F. T. Pistorius, 1963. Neues Jahrb. Min., Monatsh., p. 30 (Cobalt-olivine; p. 31, Kobaltolivin). Artificial  $Co_2SiO_4$ , isostructural with Olivine.

**Cobalt-pimelite.** C. W. F. T. Pistorius, 1963. Neues Jahrb. Min., Monatsh., p. 30. The cobalt analogue of Alipite (Pimelite of Schmidt); artificial.

**Cobalt-talc.** C. W. F. T. Pistorius, 1963. Neues Jahrb. Min., Monatsh., p. 30 (Cobalt-talc; p. 31, Kobalttalkum). Artificial  $Co_3Si_4O_{10}(OH)_2$ , isostructural with Talc.

**Coconinoite.** E. J. Young, A. D. Weeks, and R. Meyrowitz, 1966. Amer. Min., vol. 51, p. 651. Pale yellow microcrystalline  $Fe_2Al_2(UO_2)_2(PO_4)_4SO_4(OH)_2 \cdot 20H_2O$ , probably monoclinic, from various localities in Utah and from Arizona, Wyoming, and New Hampshire. Named for Coconino County, Arizona.

**Compreignacite.** J. Protas, 1964. Bull. Soc. franç. Min. Crist., vol. 87, p. 365; H. Brasseur *ibid.*, p. 629; M. M. Granger and J. Protas, *ibid.*, 1965, vol. 88, p. 251. Tiny yellow orthorhombic crystals with other oxidation products of pitchblende ore of the Margnac deposit, Compreignac, France, are identical with synthetic  $K_2O \cdot 0.6UO_3 \cdot 11H_2O$  (or possibly  $10H_2O$ ) and isostructural with Billietite. Named from the locality (the second c should presumably be hard). [M.A. 17-182; A.M. 50-807.]

**Cordobaite**, cited by H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 365, without reference, as a synonym of Brannerite (9th List).

**Creniadite**, cited by H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 366, without reference, as a synonym of Kaolinite from Colorado.

**Cs-Beryll.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 361. Synonym of Caesium beryl (Penfield, 1888), Vorobievite (5th List).

**Cyclo wollastonit.** H. Strunz, 1965. Min. Tabellen, 4th edn, p. 358. Synonym of Pseudowollastonite (4th and 7th Lists).

**D'Achiardit**, variant of Dachiardite (4th List) (H. Strunz, Min. Tabellen, 1st edn, 1941, p. 217).

**Deerite**. S. O. Agrell, M. G. Bown, and D. McKie, 1965. Amer. Min. 1965, vol. 50, p. 278 (abstr.). Black monoclinic crystals in metamorphic rocks of the Franciscan formation, Laytonville district, Mendocino County, California, are near  $\text{Fe}_{13}^{2+}\text{Fe}_7^{3+}\text{Si}_{13}\text{O}_{44}(\text{OH})_{11}$ . Named for Prof. W. A. Deer.

**Dellaite**. S. O. Agrell, 1965. Min. Mag., vol. 34, p. 1. Small grains in metamorphosed limestone at Kilchoan, Ardnamurchan, Scotland; a single crystal gave an X-ray oscillation photo identical to that obtained from a synthetic calcium silicate, phase  $\gamma$  of D. M. Roy (1958), to which the formula  $\text{Ca}_6\text{Si}_3\text{O}_{11}(\text{OH})_2$  was assigned by Glassner and Roy (1959). Named for Della M. Roy. [A.M. 50-2104; J. A. Mandarino comments: 'There is little doubt in my mind that this substance is a new mineral. The data presented, however, are of such a preliminary nature that I question the advisability of naming the mineral. Certainly more information is needed on the crystallography and, if an analysis is not possible, a comparison of the X-ray powder data of the natural and analyzed synthetic material would be desirable.']

**Demesmaekerite**. F. Cesbron, B. Backet, and R. Oosterbroch, 1965. Bull. Soc. franç. Min. Crist., vol. 88, p. 422. Green anorthic crystals in the Cu-Co deposit of Musonoi, Kolwezi, Katanga, have the composition  $\text{Pb}_2\text{Cu}(\text{UO}_2)_2(\text{SeO}_3)_6(\text{OH})_6\text{2H}_2\text{O}$ . Named for M. G. Demesmaeker. [M.A. 17-505.]

**Djalindit**, erratic German transliteration of Джалиндит, Dzhalindite (23rd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 200).

**Dschalindit**, standard German transliteration of Джалиндит, Dzhalindite (23rd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 466).

**Dscheskasganit**, German transliteration of Джебказганит, Dzhez-kazganite (23rd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 466).

**Dschulukulit**, German transliteration of Джулукулит, Dzulukulite (22nd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 466).

**Eisen-Berlinit**. H. Strunz, 1966. Min. Tabellen, 4th edn, p. 467. Translation of Iron berlinite (20th List).

**Esperite**. P. B. Moore and P. H. Ribbe, 1965. Amer. Min. vol. 50, p. 1170. The mineral named Calcium-larsenite by Palache, Bauer, and Berman (1918) is shown to be monoclinic and not related structurally to Larsenite, and is therefore re-named Esperite for Esper S. Larsen, Jr. [M.A. 17-606.]

**Fabulit**, cited without reference by H. Strunz, Min. Tabellen, 4th edn, 1966, p. 470; synthetic  $\text{SrTiO}_3$ ; presumably a trade name.

**Fairbanksite.** F. Morgan, 1965. *Rocks and Minerals*, vol. 40, p. 586. This name (for E. E. Fairbanks) is improperly given to unidentified microscopic crystals in shrinkage cracks of concretions at Greenbelt, Maryland. No data are given.

**Faröolith**, error for Faröelite (H. Strunz, *Min. Tabellen*, 1st edn, 1941, p. 239).

**Feitknechtite.** O. Bricker, 1965. *Amer. Min.*, vol. 50, p. 1296. Natural and synthetic Hydrohausmanite always consists of a mixture of Hausmannite and  $\beta$ -MnOOH; for the latter the name Feitknechtite is proposed after W. Feitknecht.

**Fenghuangit**, variant of Fenghuanglite (22nd List) (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 470).

**Ferri-chamosit**, variant of Ferric chamosite (20th List) (H. Strunz, *Min. Tabellen*, 3rd edn, 1957, p. 372).

**Ferri-reddingite.** P. B. Moore, 1964. *Amer. Min.* vol. 49, p. 1122. Synonym of Landesite (12th List).

**Ferrisalites.** T. E. Khmaruk and I. B. Shcherbakov, 1963. [Матер. петрограф. мінер. Україн. крист. щита, Акад. наук УРСР]; abstr. in *Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.)*, 1965, vol. 94, p. 199 (Феррисалиты, ferrisalites). A group-name for certain clinopyroxenes high in  $\text{Fe}_2\text{O}_3$  and  $\text{Al}_2\text{O}_3$  and low in  $\text{SiO}_2$ . Not to be confused with Ferrosalite (16th List), a magnesian Hedenbergite [in M.A. 17-408, the name is misprinted ferrosalite].

**Ferri-Sericit.** H. Strunz, 1957. *Min. Tabellen*, 3rd edn, p. 372. Internationalized form of Iron-sericite (20th List).

**Ferritspinelle.** H. Strunz, 1957. *Min. Tabellen*, 3rd edn, p. 352. Group-name for those spinels in which Fe is the principal trivalent metal.

**Ferroalunite.** G. A. Gvakhariya and Yu. I. Nazarov, 1963. [Сообщ. Акад. наук Груз. ССР (Comm. acad. sci. Georgian SSR), vol. 32, p. 381 (Ферроалунит)]; abstr. M.A. 17-402. An unnecessary and inaccurate name for ferrian (not ferroan) Alunite from the Madneul copper and baryte-lead-zinc deposits.

**Ferrocordierite.** W. Schreyer, 1966. *Fortschr. Min.*, vol. 42 (for 1964), p. 213. (Ferrocordierit). Internationalized form of Eisen-cordierit (3rd List), Iron-cordierite (10th List).

**Ferroferrichromite.** V. D. Ladieva, 1964. [Chem. comp. and intern. struct. min., Kiev, p. 192]; abstr. M.A. 17-389. An unnecessary name for a ferrian Chromite or chromian Magnetite.



**Ferrolizardite.** Ping-Wen Chia and Che Cheng, 1964. [Ti chih Hseuh Pao, vol. 44, p. 86]; abstr. Amer. Min., 1965, vol. 50, p. 2102; M.A. 17-504. An unnecessary name for a ferroan Lizardite from the neighbourhood of Peiping, China.

**Ferrosalites**, misprint for Ferrisalites (M.A. 17-408), with possible confusion with magnesian Hedenbergite (16th List).

**Ferrovonsenite.** A. A. Brovkin, S. M. Aleksandrov, and I. Ya. Nekrasov, 1963. [Рентгеногр. мин. сырья, Госгеолтехиздат, no. 3, p. 16]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 675 (Ферровонсенит, ferrovonsenite). Syn. of Vonsenite (= Ferroludwigite = Paigeite).

**Fluor-antigorite.** Wang Pu and Juan Shou-Tsuen, 1965. [Scientica Sinica, vol. 14, p. 327]; abstr. Amer. Min. 1965, vol. 50, p. 1506. An unnecessary name for a fluorian Serpentine containing  $\sim 2.5\%$  F, from the Shouwangfen magnetite deposit, Hopei, China.

**Fluorbastnäsite.** I. V. Aleksandrov, V. I. Ivanov, and L. A. Sinkova, 1965. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 94, p. 323 (Фторбастнезит). Syn. of Bastnäsite, as distinct from Hydroxylbastnäsite (*q.v.*). [M.A. 17-502.]

**Fluorine-hydroxyl-phlogopite.** T. Noda and N. Yamanishi, 1964. [Kogyo Kagaku Zasshi, vol. 67, p. 289]; abstr. Min. Journ. [Japan], 1965, vol. 4, p. 397. An unnecessary name for fluorian phlogopite.

**Fresnoite.** J. T. Alfors and M. C. Stinson, 1965. Min. Inform. Serv., Calif. Div. Mines Geol., vol. 18, p. 27. J. T. Alfors, M. C. Stinson, R. A. Matthews, and A. Pabst, Amer. Min., 1965, vol. 50, pp. 279 and 314. Lemon- to canary-yellow tetragonal crystals, fluorescing pale yellow in ultra-violet light, occur in sanbornite-quartz rock in the Big Creek and Rush Creek area of Fresno County, California. Emission spectrographic analysis leads to the formula  $Ba_2TiSi_2O_8$ , which is confirmed by synthetic experiments. Named from the locality. [M.A. 17-400; 17-502.]

**Galenobornite.** T. A. Satpaeva, G. S. Safargaliev, T. P. Polyakova, M. K. Satpaeva, V. L. Marzuvanov, and M. Z. Fursova, 1964. [Изв. Акад. наук Казах. ССР (Bull. Acad. Sci. Kazakh SSR, Ser. Geol), no. 2, p. 29]; abstr. Amer. Min. 1965, vol. 50, p. 809; M.A. 17-302; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 668. (Галеноборнит, galenobornite). A yellowish brown mineral in prismatic crystals in lead-copper ore of the Dzhelkazgan deposit, Kazakhstan, has a composition near  $(Cu,Pb)_{4-7}FeS_4$  (four analyses with rather variable Cu:Pb ratio), and is regarded as a distinct mineral, though all the strongest-lines of the rather diffuse X-ray powder pattern agree with those of galena; 8 weak lines are not accounted for. Probably a mixture.

**Gaspéite.** D. W. Kohls and J. L. Rodda, 1966. *Amer. Min.*, vol. 51, p. 677 (Gaspéite).  $(\text{Ni,Mg,Fe})\text{CO}_3$ , rhombohedral, with Ni dominant, occurs as light green crystals in siliceous dolomite in the Gaspé Peninsula, Quebec. The name, for the locality, is proposed for carbonates with calcite structure in which Ni is dominant, including the end-member  $\text{NiCO}_3$ .

**Getchellite.** B. G. Weissberg, 1965. *Amer. Min.*, vol. 50, p. 1817. Dark red monoclinic crystals from the Getchell mine, Humboldt County, Nevada, had the composition  $\text{AsSbS}_3$ . Named from the locality. [M.A. 17-696.]

**Gluschinkit**, German transliteration of Глущинскит, glushinskite (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 475).

**Groutellit**, cited without reference, H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 476. Groutite partially pseudomorphously altered to ramsdellite.

**Guilleminite.** R. Pierrot, J. Toussaint, and T. Verbeck, 1965. *Bull. Soc. franç. Min. Crist.*, vol. 88, p. 132. Canary yellow orthorhombic crystals and coatings in the oxidized zone of the copper-cobalt deposit of Musoni, Katanga, have the composition  $\text{Ba}(\text{UO}_2)_3(\text{SeO}_3)_2(\text{OH})_4 \cdot 3\text{H}_2\text{O}$ . Named for C. Guillemin. [M.A. 17-400; A.M. 50-2103.]

**Guyaquilite**, another variant of Guayaquilite (H. Strunz, *Min. Tabellen*, 1st edn, 1941, p. 220).

**Haematotokonit**, variant of Hematoconite (H. Strunz, *Min. Tabellen*, 3rd (1957) and 4th (1966) edns).

**Haradaite.** T. Watanabe *et al.*, 1963, *in* Appendix to the Second edition of *An Index of Mineral Species Arranged Chemically*, M. H. Hey, London, British Museum (Natural History), pp. 57 and 104. T. Yushimura and H. Momoi [*Sci. Rept. Kyushu Univ.*, 1964, *Geol.* ser. no. 7, p. 85], abstr. M.A. 17-183; J. Ito, *Min. Journ.* [Japan], 1965, vol. 4, p. 299. A strontium vanadium silicate,  $\text{SrVSi}_2\text{O}_7$ , occurring at the Yamato mine, Kagoshima prefecture, Japan.

**Hollingworthite.** E. F. Stumpfl and A. M. Clark, 1965. *Amer. Min.*, vol. 50, p. 1068; *Fortscher. Min.*, 1966, vol. 42 (for 1964), p. 213. Minute grains intergrown with Sperrylite, rhodian sulphurian Sperrylite, and Geversite, from the Driekop mine, Transvaal, are isotropic, with composition  $(\text{Rh,Pd,Pt})\text{AsS}$ ,  $\text{Rh}:\text{Pd}:\text{Pt} \approx 3.5:0.95:0.6$ , and are probably cubic with pyrite structure. Named for S. E. Hollingworth [M.A. 17-500].

**Hoshiite.** Yue Chu-Siang, Fuo Kuo-Fun, and S. Chen-Ea 1964. [*Acta Geol. Sinica*, vol. 44, p. 213], abstr. *Bull. Soc. franç. Min. Crist.*,

1965, vol. 88, p. 358; M.A. 17-501. An emerald-green mineral in the oxidation zone of a Cu-Ni deposit east of the Yellow River, China, is a nickeloan Magnesite with  $Mg:Ni \approx 3:2$ ; the origin of the name is not stated. M. Fleischer (Amer. Min., 1965, vol. 50, p. 2100) comments: 'Should not have been named, but the name may be used if a mineral with  $Ni > Mg$  is found.'

**Howieite.** S. O. Agrell, M. G. Bown, and D. McKie, 1964. Amer. Min., 1965, vol. 50, p. 278 (abstr.) (Howieite). Dark green anorthic blades in metamorphic rocks of the Franciscan formation, Laytonville district, Mendocino County, California, are near  $Na(Fe^{2+}, Mn)_{11}(Fe^{3+}, Al)_2(Si, Ti)_{12}O_{31}(OH)_{13}$ . Named for Dr. R. A. Howie.

**Huemulite.** C. E. Gordillo, E. Linares, R. O. Toubes, and H. Winchell, 1966. Amer. Min., vol. 51, p. 1. Botryoidal masses and infillings in sandstone at the Huemul mine, Malargüe area, Mendoza province, Argentina, have the composition  $Na_4MgV_{10}O_{28}.24H_2O$ ; anorthic. Named from the locality.

**Huangtsaoite**, alternative transliteration of Hungchaoite (*q.v.*).

**Hungchaoite.** I-Hua Chün, Hsien-Te Hsieh, Tze-Chiang Chien, and Lai-Pao Liu, 1964. [Scientia Sinica, vol. 13, p. 525; Hungtsaoite]; abstr. Amer. Min., 1965, vol. 50, p. 262; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 675. (Хунчжаоит, Huangtsaoite); M.A. 16-648.  $MgB_4O_7.9H_2O$ , monoclinic, occurring in a Chinese borate deposit (locality not given); identical with synthetic material. Named for Professor Chang Hung-chao.

**Hungtsaoite**, original transliteration of Hungchaoite (*q.v.*).

**Hydrobritholite.** A doubtful hydrated or altered Britholite. [Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 293]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683. (Гидробриголит); an unnecessary name.

**Hydrocatapleite**, error for Hydrocatapleite (23rd List) apparently through straight transliteration of Гидрокатаплеит (Amer. Min., 1964, vol. 49, p. 443; H. Strunz, Min. Tabellen, 4th edn, 1966, p. 480).

**Hydrochlorbechilite**, apparently an error for Hydrochlorborite (*q.v.*); cited in Bull. Soc. franç. Min. Crist., 1966, vol. 89, p. 144, and in Zentr. Min., 1964, Teil 1, p. 158.

**Hydrochlorborite.** Chien Tzu-Chiang and Chen Shu-Chien, 1965. [Scientia Sinica, vol. 14, p. 945]; abstr. in Amer. Min., 1965, vol. 50, p. 2099; M.A. 17-501. Massive, colourless,  $Ca_4B_8O_{15}Cl_2.22H_2O$ , in Tertiary sediments from an unspecified Chinese locality. Named from the composition. [See also Bull. Soc. franç. Min. Crist., 1966, vol. 89, p. 144.]

**Hydromolysite.** A. S. Povarennykh, 1962. Мин. Таблицы (translation, with addenda, of H. Strunz, Min. Tabellen, 3rd edn, 1957), p. 115 (Гидромолизит). The doubtful unnamed mineral of C. Garavelli (Period. Min., 1958, vol. 27, p. 211);  $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ , from Rio Marina, Elba.

**Hydroniojarosite.** A. S. Povarennykh, 1962. Мин. Таблицы (translation, with addenda, of H. Strunz, Min. Tabellen, 3rd edn, 1957), p. 192 (Гидрониярозит, Hydroniojarosite). Variant of Hydronium jarosite (22nd List).

**Hydrorinkolite.** Synonym of Mosandrite. [Геохим., мин., генет. типы месторожд. редк. элем. Изд. „Наука“, 1964, p. 308], abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683 (Гидроринколит).

**Hydrograndite.** Tsao Yung Lung, 1964. [Acta Geol. Sinica, vol. 44, p. 219]; abstr. Bull. Soc. franç. Min. Crist., 1965, vol. 88, p. 359; M.A. 17-400. A hydrogarnet  $(\text{Ca}, \text{Mg})_3(\text{Fe}, \text{Al})_2[\text{SiO}_4(\text{OH})_4]_3$ , with  $\text{Ca} : \text{Mg} \approx 2$ ,  $\text{Fe} \approx \text{Al}$ , and  $\text{Si} \approx 2\frac{1}{4}$ . [Complete miscibility between the four end-members grossular, andradite,  $\text{Ca}_3\text{Al}_2(\text{OH})_{12}$ , and  $\text{Ca}_3\text{Fe}_2(\text{OH})_{12}$  appears to be possible artificially (R. H. Boyne, Chem. Portland Cement, New York, 1947).]

**Hydroxidsodalith,** variant of Hydroxylsodalite (18th List) (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 382).

**Hydroxyl-bastnäsite.** A. S. Kirilov, 1964. Докл. Акад. наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 159, p. 1048 [Гидроксил-бастнезит]; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 51. The hydroxyl analogue of bastnäsite occurs as reniform aggregates in cavities of late carbonatite veins in an unnamed massif of alkalic ultrabasic rocks;  $\text{LnCO}_3(\text{OH}, \text{F})$  with  $\text{OH} > \text{F}$ ; the lanthanons are mainly La and Ce. [M.A. 17-303; A.M. 50-805, Hydroxyl-bastnaesite.]

**Illite-chlorite, Illite-montmorillonite.** P. Gallitelli, 1959. Com. Internat. stud. Arcillas, p. 23. Irregular interstratifications of illite and chlorite or montmorillonite layers.

**Imgreite.** O. E. Yushko-Zakharova, 1964. Докл. Акад. наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 154, p. 613 (Имгрейт). A superfluous name for an unanalysed member of the melonite-NiTe solid solution series, possibly near the NiTe end, from the Nittis-Kumuzhya deposit, Monchegorsk. Named for the Institute of Mineralogy, Geochemistry, and Crystal Chemistry of Rare Elements (IMGRE). (M.A. 16-647; Amer. Min. 49-1151 (Imgreite).]

**Imhofite.** G. Burri, S. Graeser, F. Marumo, and W. Nowacki, 1965. [Chimia, vol. 19, p. 499]; abstr. Amer. Min., 1966, vol. 51, p. 531. Thin

translucent copper-red plates from Lengenbach, Binn, Valais, Switzerland, are monoclinic, composition near  $\text{TiCuAs}_{16}\text{S}_{40}$ . Named for J. Imhof. M. Fleischer comments that while it is probably a valid mineral, the X-ray data should be published.

**Indium.** V. V. Ivanov, 1964. [Индий самородный. В сб: Хеохим., мин., генет. типы месторожд. редк. элем. Изд. „Наука“, vol. 2, p. 568]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 665 (Индий, indium). Native indium is said to occur in granites of eastern Transbaikal, in association with native lead.

**Iridiumplatin.** H. Strunz, 1941. Min. Tabellen, 1st edn, p. 58. Synonym of Иридиястая платина, Iridic platinum.

**Iron-sanidine.** D. R. Wones and D. E. Appleman, 1961. U.S. Geol. Surv. Prof. Paper no. 424-C, p. 309. Synthetic monoclinic  $\text{KFeSi}_3\text{O}_8$  is believed to be analogous to Sanidine; it is not clear whether this material is distinct from Ferriorthoclase (11th List). [M.A. 17-578.]

**Iwanowit.** German transliteration of Ивановит, Ivanovite (20th List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 732).

**Jade-albite.** E. Gübelin, 1965. Journ. Gemmology, vol. 9, p. 372. A rock consisting of Albite and Chromojadeite. [M.A. 17-377.]

**Janovait**, variant of Janowait (15th List), a synonym of Janite (13th List). (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 383.)

**Jaroslavite**, erroneous transliteration of Ярославит (yaroslavite) (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 43).

**Jennite.** A. B. Carpenter, R. A. Chalmers, J. A. Gard, K. Speakman, and H. F. W. Taylor, 1966. Amer. Min., vol. 51, p. 56. Fibrous material in a vein in the contact rock at Crestmore, California, are anorthic bladed crystals of composition  $\text{Na}_2\text{Ca}_8\text{Si}_8\text{O}_{30}\text{H}_{22}$ , probably  $\text{Na}_2\text{Ca}_8(\text{SiO}_3)_3\text{Si}_2\text{O}_7(\text{OH})_6 \cdot 8\text{H}_2\text{O}$ . At about  $90^\circ\text{C}$  it loses some water to give Meta-jennite (*q.v.*). Named for C. M. Jenni.

**Ježekit**, variant of Ježekite (7th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 483).

**Joyganit**, error for Jogynait (C. Hintze, Handb. Min., Erg. Bd. II, pp. 733, 945).

**Jouravskite.** C. Gaudetroy and F. Permingeat, 1965. Bull. Soc. franç. Min. Crist. vol. 88, p. 254. Greenish-yellow to greenish-orange spots on dark manganese minerals on the dumps of the Tachgagalt No. 2 vein, Anti-Atlas, Morocco, consist of minute hexagonal crystals giving an X-ray powder photograph very similar to that of thaumasite. Composition near  $\text{Ca}_6\text{Mn}_2^{4+}\text{S}_{1.7}\text{C}_{0.3}\text{O}_{50}\text{H}_{60.6}$ . Named for G. Jouravsky. [M.A. 17-399; A.M. 50-2102.]

**Kalium-Richterit.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 484. Synonym of Magnophorite (15th List).

**Kamenskite.** A. K. Gladovskii and I. N. Ushatinskii, 1961. [Труды Горно-геол. Инст. Уралъск. фил. Акад. наук СССР (Proc. Mining-geol. Inst. Ural Div. Acad. Sci. USSR), vol. 56, p. 114], abstr. Зал. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 311 (Каменскит). Merely finely dispersed Diaspore.

**Karpathit,** German transliteration of Карпатит, Carpathite (21st List) (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 348).

**Karpinskiit,** variant transliteration of Карпинскит, Karpinskyite (21st List) (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 338). [This variant carries an increased risk of confusion with Карпинскит, Karpinskyite (21st List).]

**Kasparit,** variant of Kašparite (21st List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 485).

**Kertisitoidе,** Germanized transliteration of Кертиситоиди, Curtisitoids (21st List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 739).

**Khakasskyite,** variant of Khakassite (Хакасцит, 12th List) (H. Strunz, Min. Tabellen, 1st edn, 1941, p. 249).

**Kieselscheelit,** Germanized version of Siliceous scheelite (*q.v.*) (C. Hintze, Hand. Min., Erg.-Bd. II, p. 739).

**Kirchheimerite.** K. Walenta, 1964. Tschermaks Min. Petr. Mitt., vol. 9, p. 1. Artificial  $\text{Co}(\text{UO}_2)_2(\text{AsO}_4)_2 \cdot 12\text{H}_2\text{O}$ ; possibly occurs naturally. [M.A. 17-300.]

**Kitkaite.** T. A. Häkli, Y. Vuorelainen, and Th. G. Sahama, 1965. Amer. Min. vol. 50, p. 581. Carbonate-bearing veinlets in albitite veins in the albite diabase in the valley of the Kitka river, Kuusamo, north-east Finland, contain a variety of selenide minerals, including selenian Melonite and the isostructural trigonal Kitkaite, NiSeTe. Named from the locality. [M.A. 17-499.]

**Klinoantigorit,** original form of Clino-antigorite, *q.v.*

**Klinoberthierin,** original form of Clinoberthierine, *q.v.*

**Klinochrysofil.** H. Strunz, 1957. Min. Tabellen, 3rd edn, p. 322. German spelling of Clinochrysofile (20th List).

**Klinotscheffkinit,** variant of Clinochevkinite (20th List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 742).

**Knipowitschit,** German transliteration of Книповичит, Knipovichite (20th List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 742).

**Kobalt-manganspath**, original form of Cobalt-manganese-spar (18th List).

**Kobaltokalzit**, variant of Kobaltocalcit (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 386).

**Kobaltolivin**, German form of Cobalt-olivine, *q.v.*

**Kobaltorhodochrosit**, German form of Cobaltorhodochrosite (18th List) (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 386).

**Kobaltpentlandit**, German form of Cobalt pentlandite (22nd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 106).

**Kobalttalkum**, German form of Cobalt-talc, *q.v.*

**Koesterit**, another variant transliteration of K esterite (21st List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 487).

**Kollochrom**, error for Kallochchrom (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 487).

**Korschinskite**, German transliteration of Коржинскит, Korzhinskite (23rd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 487).

**Kostovite**. G. Terziev, 1966. Amer. Min., vol. 51, p. 29. Small grains in the copper ores of Chelopech, Bulgaria, give X-ray powder data similar to but distinct from those of Calaverite and Sylvanite. Anisotropic, possibly monoclinic. Composition  $\text{AuCuTe}_4$ . Named for I. Kostov.

**Kotoulskite**, French transliteration of Котульскит, Kotulskite (Bull. Soc. fran . Min. Crist., 1964, vol. 87, p. 459).

**Kowalewskit**, German transliteration of Ковалевскит, Kovalevskite (C. Hintze, Handb. Min., Erg.-Bd. II, p. 744).

**Krauskopfte**. M. C. Stinson and J. T. Alfors, 1964. Min. Inform. Serv. Calif. Div. Mines Geol., vol. 17, p. 235. J. T. Alfors, M. C. Stinson, R. A. Matthews, and A. Pabst, Amer. Min., 1965, vol. 50, pp. 279 and 314. Colourless massive material in veins in sanbornite-quartz rock near Big Creek and Rush Creek, Fresno County, California, are formulated  $\text{BaSi}_2\text{O}_5 \cdot 3\text{H}_2\text{O}$  (emission spectrography analysis). Monoclinic. Named for K. B. Krauskopf. [M.A. 17-399; 17-502.]

**Kryohalit**, German transliteration of Криогалит, Cryohalite (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 387).

**Kryptonickelmelan**, German transliteration of Криптоникелемелан, Cryptonickelmelane (22nd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 488).

**Kryshanovskit**, another variant German transliteration of Кръжа-

НОВСКИТ, Kryzhanovskite (19th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 488).

**Kullerudite.** Y. Vuorelainen, A. Huhma and A. Häkli, 1964. Compt. Rend. Soc. Géol. Finland, vol. 36, p. 113. Orthorhombic  $\text{NiSe}_2$ , mainly as an alteration product of wilkmanite (*q.v.*) from Kuusamo, north-east Finland; probably isostructural with ferroselite. Named for G. Kullerud. [M.A. 17-303; A.M. 50-520.]

**Kupfer-Vermiculit**, translation of Copper vermiculite (22nd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 488).

**Kupfferite.** In addition to its original use by Koksharov for a chromian Anthophyllite (the original analysis shows only 3%  $\text{CaO}$ , which would seem to rule out an Actinolite, suggested by H. Strunz, Min. Tabellen, 4th edn, 1966, p. 488), this name has been used for the magnesium end-member of the anthophyllite series (Allen and Clement, 1908), and recently for the *hypothetical* magnesium end-member of the Cumingtonite series (cited by H. W. Jaffe, W. O. J. G. Meijer, and D. H. Sekhow, Amer. Min., 1961, vol. 46, p. 651). A 'kupfferite' analysed by Lorenzen (1884, Dana, 6th edn, p. 347) was a mis-labelled Hypersthene.

**Kurchatovite.** C. V. Malinko, A. E. Lisintsyn, K. A. Dorofeeva, I. V. Ostrovskaya, and D. P. Shashkin, 1966. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 95, p. 203 (Курчатовит, kurchatovite). Orthorhombic crystals from Siberian skarns, composition  $\text{Ca}(\text{Mg}, \text{Mn})\text{B}_2\text{O}_8$ . Named for I. V. Kurchatova.

**Kushmurunite.** A. K. Gladovskii and I. N. Ushatinskii, 1961. [Труды Горно-геол. Инст. Уралск. Фил. Акад. наук СССР (Proc. Mining-geol. Inst. Ural Div. Acad. Sci. USSR) vol. 56, p. 114], abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 311 (Күшмурунит). Merely finely dispersed Boehmite.

**Labountsovite, Labuntzowit, Labunzovite, Labunzowit**, variant transliterations of лабунцовит, Labuntsovite (21st List).

**Laspeyrit.** H. Strunz, 1957. Min. Tabellen, 3rd edn, p. 389. A proposed name for Igleströmite (of Weibull), cf. C. Hintze, Handb. Min., Erg.-Bd. II, p. 748.

**Latrappite.** E. H. Nickel, 1964. Canad. Min., vol. 8, p. 121. The perovskite-family mineral from Oka, Quebec, described by E. H. Nickel and R. C. McAdam (Canad. Min., 1964, vol. 7, p. 683), of composition near  $(\text{Ca}, \text{Na})(\text{Nb}, \text{Ti}, \text{Fe})\text{O}_3$  with  $\text{Nb} \sim 0.54$ , is now named for the village of La Trappe, near the deposit in which the mineral was found. [A.M. 50-265.]

**Liberite.** Ch'un-Lin Chao, 1964. [Ti Chih Hsueh Pao, vol. 44,



p. 344]; abstr. Amer. Min., 1965, vol. 50, p. 519; M.A. 17-399.  $\text{Li}_2\text{BeSiO}_4$ , as pale-yellow monoclinic crystals in veins in tactite from the Nanling range, South China. The name is presumably for the composition.

**Lillehammerit**, variant of Lillhammerite (H. Strunz, Min. Tabellen, 1st edn, 1941, p. 253).

**Listvenit**, cited without reference by H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 391: 'ein grüner Glimmer, Beresowsk, Ural'.

**Lithiophosphatit**, variant of Литиофосфат, Lithiophosphate (21st List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 273).

**Lodotschnikit**, German transliteration of Лодочникит, Lodochnikite, (21st List) (C. Hintze, Erg.-Bd. II, p. 753).

**Lowtschorrit**, German transliteration of Ловчоррит, Lovchorrite (11th List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 753).

**Macallisterite**. W. T. Schaller, A. C. Vlisidis, and M. E. Mrose, 1965. Amer. Min. vol. 50, p. 629. Small white pellets, consisting of aggregates of minute rhombohedral crystals identical with synthetic  $\text{MgB}_6\text{O}_{10}\cdot 7\frac{1}{2}\text{H}_2\text{O}$ , occur with Ginorite, Sassolite, and other boron minerals at the Mott Colemanite prospect, Twenty Mule Team Canyon, Furnace Creek Wash area, Death Valley, Inyo County, California. It is the 'unidentified mineral' of Allen and Kramer (Amer. Min., 1957, vol. 42, p. 56) and the 'magnesium borate of uncertain identity' of Erd, McAllister, and Almond (Amer. Min., 1959, vol. 44, p. 913). Named for J. F. McAllister. [See also Trigonomagborite.] (M.A. 17-500.) H. Strunz, Min. Tabellen, 4th edn, 1966, p. 253, writes McAllisterit.

**Macdonaldite**. M. C. Stinson and J. T. Alfors, 1964. Min. Inform. Serv., Calif. Div. Mines Geol., vol. 17, p. 235. J. T. Alfors, M. C. Stinson, R. A. Matthews, and A. Pabst, Amer. Min., 1965, vol. 50, pp. 279 and 314. Colourless orthorhombic crystals in veins in sanbornite-quartz rock near Big Creek and Rush Creek, Fresno County, California, are formulated  $\text{BaCa}_4\text{Si}_{15}\text{O}_{35}\cdot 11\text{H}_2\text{O}$  (emission spectrography analysis). Named for G. A. Macdonald. [M.A. 17-399; 17-502.]

**Mckelveyite**. C. Milton, B. Ingram, J. R. Clark, and E. J. Dwornik, 1965. Amer. Min., vol. 50, p. 893. Light to dark green to black trigonal crystals in rocks of the Green River Formation in Sweetwater County, Wyoming, approximate to  $\text{Na}_2\text{Ba}_4(\text{Yt}, \text{Ln}, \text{Ca}, \text{Sr}, \text{U}^{4+})_3(\text{CO}_3)_9\cdot 5\text{H}_2\text{O}$ . The crystals include black carbonaceous matter, also Biotite, Acmite, and Quartz. The lanthanons are almost wholly of the yttrium group. Named for V. E. McKelvey. [M.A. 17-501.]

**Mackit**, cited without reference by H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 392, as a synonym of Hanksite.

**Mafurit.** H. Strunz, 1957. Min. Tabellen, 3rd edn, p. 392. A proposed name, apparently withdrawn (C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 755.)

**Magarfvedsonite.** I. V. Ginzburg, G. A. Sidorenko, and D. L. Rogachev, 1961. Труды Мин. Муз. Акад. наук СССР (Proc. Min. Mus. Acad. Sci. USSR), vol. 12, p. 3 (Магарфведсонит). An unnecessary name for magnesian Arfvedsonite; synonym of Magnesio-arfvedsonit.

**Magbasite.** E. I. Semenov, A. P. Khomyakov, and A. V. Bykova, 1965. Докл. Акад. наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 163, p. 718 (Магбасит). Colourless or rose-violet, finely fibrous deposits from an unnamed hydrothermal formation have a composition near  $\text{KBa}(\text{Al}, \text{Sc})(\text{Mg}, \text{Fe}^{2+})_6\text{Si}_6\text{O}_{20}\text{F}_2$ . Named from the composition, Mag-ba-si-te. [M.A. 17-504; A.M. 51-530.]

**Magbassite**, variant spelling of Magbasite (Bull. Soc. franç. Min. Crist., 1966, vol. 89, p. 146).

**Maghastingsite.** I. V. Ginzburg, G. A. Sidorenko, and D. L. Rogachev, 1961. Труды Мин. Муз. Акад. наук СССР (Proc. Min. Mus. Acad. Sci. USSR), vol. 12, p. 3 (Маггастингсит). An unnecessary name for magnesian Hastingsite; synonym of Magnesio-hastingsite.

**Magnesiocolumbite.** Synonym of magnocolumbite (23rd List). [Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 456], abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683 (Магнезиоколумбит).

**Magnesiocordierite.** W. Schreyer, 1966. Fortschr. Min., vol. 42, p. 213. Variant of Magnesia-cordierite (14th List).

**Magnesiomargarit.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 386. Variant of Магниевиий маргарит, Magnesium margarite (21st List).

**Magnesiumiobit.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 188. Synonym of Магнитоколумбит, Magnocolumbite (23rd List).

**Magnesiotriplit.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 281. An unnecessary variant of Магнитотриплит, Magniotriplite (19th List), synonym of Talktriplite.

**Magnesium chloritoid.** L. B. Halferdahl, 1961. Journ. Petrology, vol. p. 49. A name for the hypothetical end-member  $\text{Mg}_2\text{Al}_4\text{Si}_2\text{O}_{10}(\text{OH})_4$ . [M.A. 15-468.]

**Magnesium-Jacobsite.** Zentr. Min., 1964, Teil I, p. 152. Apparently an alternative name for Rhombomagnojacobsite (*q.v.*).

**Magnesium-Serizit**, variant of Magnesium-sericite (20th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 493).

**Magnodravite.** Wang Shu-chang and Hsu Xue-yen, 1966. [*Kexue Tongbao*, vol. 17 (2), p. 91], abstr. M.A. 17-606. A superfluous name for magnesian Dravite.

**Mäkinenite.** Y. Vuorelianen, A. Huhma, and A. Häkli, 1964. *Compt. Rend. Soc. Géol. Finlande*, vol. 36, p. 113. Trigonal  $\gamma$ -NiSe, isostructural with Millerite, occurring with Clausthalite and selenian Melonite at Kuusamo, north-east Finland. Named for E. Mäkinen. [M.A. 17-303; A.M. 50-520.]

**Malayaite.** J. B. Alexander and B. H. Flinter, 1965. *Min. Mag.*, vol. 35, p. 622. The tin analogue of sphene, mentioned without name in Malay. *Geol. Surv. Mem.* 9, p. 105 (A.M. 46-768), found in the valley of the Sungei Lok, Chenderiang, Perak, Malaya, is named for the country;  $\text{CaSnSiO}_5$ .

**Mangan-Arfvedsonit.** H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 494. Synonym of Juddite.

**Mangan-Cummingtonit.** H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 369. An unnecessary name for manganoean Cummingtonite; synonym of Tirodite (15th List).

**Mangandickinsonit**, error for Manganodickinsonite (21st List) (C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 758).

**Mawsonite.** N. L. Markham and L. J. Lawrence, 1965. *Amer. Min.*, vol. 50, p. 900. The copper deposits of Mt. Lyell, Tasmania, and of Tingha, New South Wales, carry a mineral corresponding closely to some of the material described by Murdoch (1916) and others as 'orange bornite'; some occurrences of 'orange bornite' have proved to be the germanium mineral, Reniérite, but the Mt. Lyell and Tingha mineral is in fact the tin analogue of Reniérite, and is named Mawsonite. It is pseudocubic, highly anisotropic and pleochroic, composition  $\text{Cu}_7\text{Fe}_2\text{SnS}_{10}$ . The Mt. Lyell material has been referred to as Reniérite, and also as 'orange stannite'. Some of the other occurrences of 'orange bornite' are probably Mawsonite. Named for Sir Douglas Mawson. [M.A. 17-499.]

**Merenskyite.** G. A. Kingston, 1966. *Min. Mag.*, vol. 35, p. 815. Small grains, often intergrown with Kotulskite, in platinum ore from the Rustenburg mine, Pretoria, Transvaal, is hexagonal, composition  $(\text{Pd,Pt})(\text{Te,Bi})_2$ , and isostructural with Moncheite. Named for H. Merensky. [M.A. 17-697.]

**Merrihueite.** R. T. Dodd, Jr., W. R. Van Schmus, and U. B. Marvin, 1965. *Science*, vol. 149, p. 972. Rare minute inclusions in the Mezö-Madaras meteorite prove to be a member of the Osumilite group:

$(\text{K,Na})_2(\text{Fe,Mg})_5\text{Si}_{12}\text{O}_{30}$ , with  $\text{K} > \text{Na}$  and  $\text{Fe} > \text{Mg}$ ; hexagonal. Named for C. M. Merrihue. [A.M. 50-2096.]

**Meta-ankoleite.** —. Gallagher and —. Atkin, 1963. Cited, without reference, by H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 312 (Meta-Ankoleit).  $\text{KUO}_2\text{PO}_4 \cdot 3\text{H}_2\text{O}$ ; synonym of Potassium autunite.

**Meta-jennite.** A. B. Carpenter, R. A. Chalmers, J. A. Gard, K. Speakman, and H. F. W. Taylor, 1966. *Amer. Min.*, vol. 51, p. 56. An *artificial* product of partial dehydration of Jennite; monoclinic  $\text{Na}_2\text{Ca}_8\text{Si}_5\text{O}_{26}\text{H}_{14}$ .

**Metakaolinite.** Chang-Ling Liu, Te-Yeh Liu, Fuchang, Chin-Cheng Li, Mo-Chun Sun, and Wen-Han Lu, 1963. [K'o Hsueh T'ung Pao, no. 10, p. 59]; abstr. in *Amer. Min.*, 1964, vol. 49, p. 1777. The name Metakaolinite, previously used (Johns, 1953, *Min. Mag.*, vol. 30, p. 186) as a synonym of Metakaolin (Rinne, 1925) for an artificial dehydration product of Kaolinite, is now applied to an inadequately described mineral containing somewhat less water than Kaolinite.

**Metalomonossowit**, variant transliteration of Металомоносовит, Metalomonosovite (23rd List) (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 497).

**Meta-Natriumautunit.** Original form of Metanatro-autunite, *q.v.*

**Meta-Natrium-uranospinit.** The original form of Meta-sodium-uranospinite, *q.v.*

**Metanatro-autunite.** K. Walenta, 1965. *Chemie der Erde*, vol. 24, p. 263 (Meta-Natriumautunit). Natro-autunite (Sodium autunite, 9th List, *internationalized Fersman and Shubnikova*, 1937) probably belongs to the meta series, and if so should be named accordingly.

**Meta-Na-Uranospinit.** H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 313. Synonym of Meta-sodium-uranospinite (*q.v.*).

**Metaskolezit**, variant of Metascolecite. (H. Strunz, *Min. Tabellen*, 1st edn, 1941, p. 257).

**Meta-sodium-uranospinite.** K. Walenta, 1965. *Chemie der Erde*, vol. 24, p. 254 (Meta-Natrium-uranospinit). The mineral described as sodium uranospinite (19th List; M.A. 14-53; 15-364) belongs to the meta series and is re-named accordingly.

**Metatujamunit**, variant of Metatyuyamunite (20th List) (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 316).

**Metauramphite.** Z. A. Nekrasova, 1957. [Вопр. геол. уран., p. 67], cited by H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 312. The lower hydrate of Uramphite (22nd List).

**Mn-Beljankinit.** H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 182.

Another variant German transliteration of Манган-Белянкинит, Manganbelyankinite (22nd List).

**Moctezumite.** R. V. Gaines, 1965. Amer. Min., vol. 50, p. 1158. Orange blades and rosettes in the oxidized zone of the Te-Au deposit at the Moctezuma mine, Sonora, Mexico, are monoclinic, with composition  $\text{PbUO}_2(\text{TeO}_3)_2$ . Named from the locality. [M.A. 17-607.]

**Mohrite.** C. L. Garavelli, 1964. Atti (Rend.) Accad. Naz. Lincei, Cl. sci. fis. mat. nat., vol. 36, p. 524. Pale green incrustations collected by A. Pelloux in 1927 from the boriferous soffioni of Travale, Val de Cecina, Tuscany, prove to consist of  $(\text{NH}_4)_2\text{Fe}(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$  and  $(\text{NH}_4)_2(\text{Fe},\text{Mg})(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$  with  $\text{Fe} \geq \text{Mg}$ . The Fe end-member has long been known as Mohr's salt after K. F. Mohr. [M.A. 17-505; A.M. 50-805.]

**Monohydrocalcite.** E. I. Semenov, 1964. Кристаллография, vol. 9, p. 109 (Моногидрокальцит). The unnamed  $\text{CaCO}_3 \cdot 0.65\text{H}_2\text{O}$  of Sapozhnikov and Tsvetkov (Докл. Акад. наук СССР (Compt. Rend. Acad. Sci. URSS), 1959, vol. 124, p. 402) gives an X-ray powder pattern very near that of  $\text{CaCO}_3 \cdot \text{H}_2\text{O}$  (Brooks, Clark, and Thurston, Phil. Trans., Ser. A, vol. 243, p. 145; Baron and Pesneau, Compt. Rend. Acad. Sci. Paris, 1956, vol. 243, p. 1217; Lippmann, Naturwiss., 1959, vol. 46, p. 553). Sapozhnikov and Tsvetkov report  $\gamma$  1.590,  $\alpha$  and  $\beta$  1.545 for the natural mineral, while Lippmann found the synthetic material to be uniaxial negative,  $\omega$  1.590,  $\epsilon$  1.543. Named from the composition. [M.A. 16-648; A.M. 49-1151.]

**Moorhouseite.** J. L. Jambor and R. W. Boyle, 1965. Canad. Min., vol. 8, p. 166. A pink efflorescence, with Aplowite (*q.v.*) on sulphates at the Magnet Cove Barium Corporation mine, Walton, Nova Scotia, have the composition  $(\text{Co},\text{Ni},\text{Mn})\text{SO}_4 \cdot 6\text{H}_2\text{O}$ , with  $\text{Co}:\text{Ni}:\text{Mn} \approx 11:5:2$ , with a little Cu, monoclinic and isomorphous with hexahydrate. The name is given for W. W. Moorhouse, and defined to include all members of the hexahydrate family with Co as principal cation. [A.M. 50-808.]

**Muirite.** J. T. Alfors and M. C. Stinson, 1965. Min. Inform. Serv., Calif. Div. Mines Geol., vol. 18, p. 27. J. T. Alfors, M. C. Stinson, R. A. Matthews, and A. Pabst, Amer. Min., 1965, vol. 50, pp. 279, 314, and 1500. Orange grains and tetragonal crystals in sanbornite-quartz rock near Big Creek and Rush Creek, Fresno County, California, are near  $\text{Ba}_{10}\text{Ca}_2\text{MnTiSi}_{10}\text{O}_{30}(\text{OH},\text{Cl},\text{F})_{10}$  (emission spectrography analysis, Cl by X-ray spectrography). Named for J. Muir. [M.A. 17-400; 17-502.]

**$\beta$ -Murmanite.** Synonym of Metamurmanite (23rd List). [Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 546]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683 (Бетамурманит).

**Na-Autunit.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 311. Synonym of Natro-autunite.

**Na-Meta-Autunit.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 312. Synonym of Metanatro-autunite (*q.v.*).

**Natrium-Hewettit.** H. Strunz, 1957. Min. Tabellen, 3rd edn, p. 257; *ibid.*, 4th edn, 1966, p. 318. A *hypothetical* sodium analogue of Hewettite, formulated  $\text{Na}_2\text{V}_6\text{O}_{16}\cdot 9\text{H}_2\text{O}$ ; the only hydrate of  $\text{Na}_2\text{V}_6\text{O}_{16}$  known is the trihydrate, Barnesite (22nd List), the analogue of Meta-hewettite.

**Natron-Carnotit.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 316. Synonym of Sodium carnotite (*q.v.*).

**Natron-Heulandit.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 430. Synonym of Clinoptilolite (10th List).

**Natronkatapleit**, variant of Natronkatapleiiit (H. Strunz, Min. Tabellen, 1st edn, 1941, p. 260).

**Ni-Chlorit**, variant of Nickelchlorit (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 398).

**Nickelhexahydrite.** B. V. Oleinikov, S. L. Shvartsev, N. T. Mandrikova, and H. N. Oleinikova, 1965. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 94, p. 534 (Никельгексагидрит, Nickelhexahydrite). Crusts and coatings in the Severnaya mine, Norilsk, USSR, are a magnesian ferroan variety of the nickel analogue of Hexahydrite (monoclinic, dimorphous with Retgersite). Named from the composition. [M.A. 17-697; A.M. 51-529.]

**Nickelmagnetkies**, a mixture of pentlandite and pyrrhotine (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 400, without reference).

**Nickel-pimelite.** C. W. F. T. Pistorius, 1963. Neues Jahrb. Min. Monatsh., p. 30. Synonym of Alipite (= Pimelite of Schmidt, as distinct from Pimelite of Karsten).

**Nickel-talc.** C. W. F. T. Pistorius, 1963. Neues Jahrb. Min., Monatsh., p. 30. *Artificial*  $\text{Ni}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$ , isostructural with Talc.

**Niobochevkinite.** A superfluous name for niobian Chevkinite Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 308]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 94, p. 683 (Ниобочевкинит, Niobochevkinite).

**Niobolabuntsovite.** A superfluous name for niobian Labuntsovite. Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 533]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683 (Ниоболабунцовит, niobolabuntsovite).

**Niobophyllite.** E. H. Nickel, J. F. Rowland, and D. J. Charette, 1964. *Canad. Min.*, vol. 8, p. 40. An anorthic mineral from Seal Lake, Labrador, has a unit-cell containing approximately  $(K,Na)_3(Fe,Mn)_{6.4}(Nb,Ti)_2(Si,Al)_{7.7}(O,OH,F)_{31}$ , and is regarded as the niobium analogue of Astrophyllite for which a unit-cell containing twice  $(K,Na)_3(Fe,Mn)_7Ti_2Si_8(O,OH,F)_{31}$  has recently been found (*M.A.* 16-611, 615). [*A.M.* 50-263.]

**Niobotapiolite.** A superfluous name for niobian Tapiolite. *Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 438*]; *abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683* (Ниоботапиолит, niobotapiolite).

**Nickel iodine boracite.** Author? Mentioned in *The New Scientist*, 1966, vol. 30, p. 314. *Artificial* cubic  $Ni_3B_7O_{13}I$ , analogous to Boracite.

**Ni-Skutterudit**, variant of Nickel-skutterudite (H. Strunz, *Min. Tabellen*, 3rd edn, 1957, p. 400).

**Noonkanbahite.** R. T. Prider, 1965. *Min. Mag.*, vol. 34, p. 403. A highly pleochroic accessory mineral in coarse-grained lamproite at Wolgidee Hills, West Kimberley, Western Australia, has a composition near  $NaKBaTi_2Si_4O_{14}$ , and is related to Batisite ( $Na_2BaTi_2Si_4O_{14}$ ) and Sheherbakovite ( $NaK(Ba,K)(Ti,Nb)_2Si_4O_{14}$ ). The X-ray powder data differ from those of Batisite except for the four strongest lines. Named from the Noonkanbah sheep station, on which most of the lamproites occur. [*A.M.* 50-2105.]

**Nowackiite.** F. Marumo and G. Burri, 1965. [*Chimia*, vol. 19, p. 500]; *abstr. Amer. Min.*, 1966, vol. 51, p. 531. About 10 grey to black crystals on honey-yellow blende from Lengenbach, Binn, Valais, Switzerland, are rhombohedral, composition near  $Cu_6Zn_3As_4S_{12-13}$ . X-ray powder data (not published!) show a strong relation to the Blende structure. Named for W. Nowackii.

**Nyerereite.** C. Milton and B. Ingram, 1963. Cited by H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 214, without reference or details of occurrence, etc.  $Na_2Ca(CO_3)_2$ .

**Ondrschejit**, variant of Ondřejite (C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 292).

**Orthoberthierine.** H. Strunz, 1966. *Min. Tabellen*, 4th edn, p. 403. To replace Orthochamosite (22nd List), since the mineral is not a chlorite.

**Ortholomonossowit**, German transliteration of Ортолomonосовит, Ortholomonosovite (23rd List) (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 503).

**Orthotscheffkinit**, variant of Orthochevkinite (20th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 503).

**Ottemannite**. G. H. Moh, 1966. Fortschr. Min., vol. 42, p. 211.  $\beta$ - $\text{Sn}_2\text{S}_3$ , orthorhombic, described from Cerro de Potosi, Bolivia (G. H. Moh and F. Berndt, Neues Jahrb. Min., Monatsh., 1964, p. 94) is named. [A.M. 50-2107.]

**Ouralborite**, French transliteration of Уралборит, Uralborite (Bull. Soc. franç. Min. Crist., 1964, vol. 87, p. 460).

**Oxonic pyrochlore**, for Oxonium pyrochlore (*q.v.*).

**Oxonium pyrochlore**. A. S. Sergeev, 1961. Зап. Всесоюз. Мин. Общ., vol. 90, p. 400 (Оксониевый пирохлор, Oxonic pyrochlore). Amber yellow to pale brown Pyrochlore in fenites from the Kola peninsula is very low in Na, low in total cations, and high in  $\text{H}_2\text{O}$ . It is formulated with 0.98  $\text{H}_3\text{O}^+$  in the *A* positions of the general pyrochlore formula  $A_2B_2X_7$ . [M.A. 16-645.]

**Pabstite**. E. B. Gross, J. E. N. Wainwright, and B. W. Evans, 1965. Amer. Min., vol. 50, p. 1164. Colourless grains fluorescing blueish-white in short-wave ultraviolet light, occurring in recrystallized siliceous limestone at Santa Cruz, California, are trigonal and have the composition  $\text{Ba}(\text{Sn},\text{Ti})\text{Si}_3\text{O}_8$  with  $\text{Sn}:\text{Ti} \approx 7:2$ ; they are a titanian variety of the tin analogue of Benitoite, to which the name is assigned for A. Pabst. [M.A. 17-606.]

**Pb-Dolomit**, variant of Plumbodolomite (14th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 213).

**Peligonit**, error for Peligotite (original Пелигоит, a misprint; named for E. M. Péligot) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 599).

**Perdell**, variant of Peredell (var. of Topaz) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 506).

**Phosphorogummit**, error for Phosphor-Gummit (C. Hintze, Handb. Min., Erg.-Bd. II, p. 814).

**Piezotite**. P. A. Vaughan and R. Berman, 1963. Acta Cryst., vol. 26, suppl., p. A.13. Artificial  $\text{Al}_3\text{Si}_2\text{O}_7(\text{OH})_3$ , obtained by hydrothermal decomposition of Spessartine; anorthic.

**Pikrophyll**, variant of Pierophyll, Pikrophyllit (H. Strunz, Min. Tabellen, 1st edn, 1941, p. 264).

**Phosphate-WalpurGINE**. H. Strunz, 1966. Min. Tabellen, 4th edn, p. 310. The phosphate analogue of Walpurgite; natural occurrence attributed to V. G. Melkov, 1946.  $(\text{BiO})_2\text{UO}_2(\text{PO}_4)_2 \cdot 3\text{H}_2\text{O}$ .

**Piddintonite**, error for Piddingtonite (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 404; 4th edn, 1966, p. 506).



**Pietersite**, a variety of agate from South-West Africa (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 507).

**Plumbosvanbergite**. A superfluous name for plumbian Svanbergite. [Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 194]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683 (Плюмбосванбергит).

**Poitevinite**. J. L. Jambor, G. R. Lachance, and S. Courville, 1964. Canad. Min., vol. 8, p. 109. The unnamed  $(\text{Cu,Fe})\text{SO}_4 \cdot \text{H}_2\text{O}$  of Jambor, Canad. Min., 1962, vol. 7, p. 245, from Bonaparte River, Lillooet District, British Columbia, a copper analogue of Szomolnokite, has been restudied, and named for Dr. E. Poitevin. Poitevinite is defined as the Cu-rich half of the series. [A.M. 50-263.]

**Pragit**, German transliteration of Прагит, Praguite (22nd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 333).

**Priazorit**, error for Priazovit (H. Strunz, Min. Tabellen, 4th edn, 1966, pp. 175, 509).

**Priazovite**. Yu. Yu. Yurk, 1956. [Редк. Мин. Пегматит. Приазовья] cited in A. I. Ginzburg, S. A. Gorzhevskaya, E. A. Erofeeva, and G. A. Sidorenko [Геохимия, 1958, p. 486], translated as Geochemistry, 1958, p. 615. A cation-deficient yttrian uranian Pyrochlore from the Azov region. Named for the region. An unnecessary name. In an abstract of a paper by V. S. Dzhun [Доповиди Акад. наук УССР, 1963, vol. 10, p. 1379], abstr. Amer. Min., 1965, vol. 50, p. 268, the date of Yurk's name is given as 1941.

**Pseudo-autunite**. A. S. Sergeev, 1964. [Мин. геохим., Ленинград унив., Сборн. статей, no. 1, p. 31]; abstr. Amer. Min., 1965, vol. 50, p. 1505; M.A. 17-400; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 679 (Псевдоотенит, pseudoautunite). Crusts of small platy hexagonal crystals in cavities of Albite-Acmite veins in an alkalic ultrabasic massif of northern Karelia are formulated  $(\text{H}_3\text{O})_2(\text{UO}_2, \text{Ca})_2(\text{PO}_4)_2 \cdot 2\frac{1}{2}\text{H}_2\text{O}$ , with  $\text{UO}_2 \sim 1.14$ . M. Fleischer notes that there is no evidence that alkalis or ammonium were looked for, and the oxonium formulation is therefore not proven.

**Pseudorutile**. G. Teufer and A. K. Temple, 1966. Nature, vol. 211, p. 189.  $\text{Fe}_2\text{Ti}_3\text{O}_9$ , a distinct intermediate stage in the topochemical transformation of ilmenite to rutile; hexagonal; observed in 'Ilmenites' from Florida, New Jersey, India, and Brazil. Distinct from 'Arizonite' (5th List) and 'Proarizonite' (23rd List).

**Raenthalite**. R. Pierrot, 1964. Bull. Soc. franç. Min. Crist., vol. 87, p. 169. White spherules and minute crystals, monoclinic or anorthic, of  $\text{Ca}_3(\text{AsO}_4)_2 \cdot 10\text{H}_2\text{O}$  from the Raenthaler vein system at Sainte-

Marie-aux-Mines, Alsace. Named from the vein system. [M.A. 17-79; A.M. 50-805.]

**Reposit**, variant of or error for Reposite (14th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 512).

**Rosinca**, German variant of Inca rose, a massive rhodochrosite used as an ornamental stone (H. Strunz, Min. Tabellen, 2nd edn, 1949, p. 290).

**Rhombomagnojacobsite**. Fan De Lian, 1964. [Acta Geol. Sinica, vol. 44, p. 343]; abstr. Bull. Soc. franç. Min. Crist., 1965, vol. 88, p. 361; M.A. 17-398. A black orthorhombic mineral, composition given as  $(\text{Mn}^{2+}, \text{Mg})(\text{Mn}^{3+}, \text{Fe})_2\text{O}_4$  with  $\text{Mn}^{2+}:\text{Mg} \approx 3:2$  and  $\text{Mn}^{3+} \approx \text{Fe}$ ; locality of origin not stated. M. Fleischer (Amer. Min., 1965, vol. 50, p. 2101, comments: 'A badly chosen and confusing name, even if correct, for an orthorhombic analogue of magnesian Hausmannite (not jacobsonite). Further study of the symmetry and of the chemistry, including determination of active oxygen, is essential.'

**Rustumite**. S. V. Agrell, 1965. Min. Mag., vol. 34, p. 1. Crudely tabular monoclinic crystals in metamorphosed limestone at Kilchoan, Ardnamurchan, Scotland. Composition  $\text{Ca}_4\text{Si}_2\text{O}_7(\text{OH})_2$ . Named for Rustum Roy. [A.M. 50-2104.]

**Ruthen-Iridosmium**. H. Strunz, 1966. Min. Tabellen, 4th edn, p. 93. A name to replace Ruthenosmiridium (15th List), because the mineral, being hexagonal, is a ruthenian Iridosmine rather than a ruthenian Osmiridium; neither name is necessary.

**Sainfeldite**. R. Pierrot, 1964. Bull. Soc. franç. Min. Crist., vol. 87, p. 169. Colourless to light pink rosettes and monoclinic crystals of  $\text{Ca}_5\text{H}_2(\text{AsO}_4)_4 \cdot 4\text{H}_2\text{O}$  from Sainte-Marie-aux-Mines, Alsace, identical with synthetic material. Named for P. Sainfeld. [M.A. 17-79; A.M. 50-806.]

**Sakhaite**. I. V. Ostravskaya, N. N. Pertsev, and I. B. Nikitina, 1966. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 95, p. 193 (Сахаит, Sakhaite). A cubic borate-carbonate, with chloride, of Ca and Mg, closely related to Harkerite (18th List); the composition is nearly that of Harkerite with Si completely replaced by B — near  $\text{Ca}_{12}\text{Mg}_4(\text{CO}_3)_4(\text{BO}_3)_7\text{Cl}(\text{OH})_2 \cdot \text{H}_2\text{O}$ . Named for the place of find, in Siberia.

**Sakharowit**, variant German transliteration of Sakharovait (22nd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 514).

**Saryarkite**, erroneous transliteration of Сарыаркит, Sary-arkite (Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1964, vol. 93, no. 2, p. ii, Amer. Min. 1964, vol. 49, p. 1775).

**Schaureite.** H. Strunz and C. L. Tennyson, 1965. Min. Tabellen, 4th edn, 1966, p. 515 (Schaurteit). Hexagonal  $\text{Ca}_3\text{Ge}(\text{SO}_4)_2(\text{OH})_4 \cdot 4\text{H}_2\text{O}$ , analogous to Fleischerite, from Tsumeb, South-West Africa.

**Schemtschuschnikovite**, German transliteration of Жемчужникoвит, Zhemchuzhnikovite (23rd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 444).

**Scherbakovit**, variant German transliteration of Шчербаковит, Shcherbakovite (21st List), alternative to Schtscherbakowit (22nd List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 347).

**Sederholmite.** Y. Vuorelainen, A. Huhma, and A. Häkli, 1964. Compt. Rend. Soc. Géol. Finlande, vol. 36, p. 113. Hexagonal  $\beta\text{-NiSe}$ , often nickel-deficient, with Penroseite and Wilkmanite (*q.v.*) and as grains in Clausthalite, from Kuusamo, north-east Finland. Named for J. J. Sederholm. [M.A. 17-303; A.M. 50-519.]

**Sedovite.** K. V. Skvortsova and G. A. Siderenko, 1965. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 94, p. 548 (Седовит, Sedovite). Brown powdery deposits or radiating fibrous on altered Pitchblende and Femolite (23rd List) at an unnamed uranium-molybdenum deposit consist of uranous molybdate,  $\text{U}(\text{MoO}_4)_2$ ; probably orthorhombic. [A.M. 51-530; M.A. 17-607.]

**Seidoserit**, German transliteration of Сейдозерит, Seidozerite (22nd List) (C. Hintze, Handb. Min. Erg.-Bd. II, p. 834).

**Selenio-melonite.** Y. Vuorelainen and A. Häkli, 1964. Geologi (Helsinki), vol. 5, p. 53. A highly selenian Melonite from Kuusamo, north-east Finland. [M.A. 16-647.] An unnecessary name.

**Selenio-polydymite.** Y. Vuorelainen and A. Häkli, 1964. Geologi (Helsinki), vol. 5, p. 53. Selenian polydymite from Kuusamo, north-east Finland. [M.A. 16-547.] An unnecessary name.

**Selenjosëite.** L. G. Berry and R. M. Thomson, 1962. Mem. Geol. Soc. Amer., no. 85. Material from Falun, described under this name, was later found by L. G. Berry (Canad. Min., 1963, vol. 7, p. 677) to be identical with Laitakarite (22nd List).

**Siliceous scheelite.** N. N. Kohanowski, 1953. Mines Mag., Denver, Colorado, vol. 43, p. 17. An extremely doubtful and inadequately described mineral found as coatings on scheelite from various localities, formulated  $2\text{CaO} \cdot \text{SiO}_2 \cdot 12\text{WO}_3 \cdot 24\text{H}_2\text{O}$ . [M.A. 12-306; A.M. 39-160.]

**Silicomanganberzeliite.** M. M. Кауирова, 1963. [Изв. Акад. наук Казах. ССР, сер. геол. (Bull. Acad. Sci. Kazakh. SSR, ser. geol.), vol. 6, p. 57]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 678 (Силикоманганберцелиит, silicomangan-

berzeliite). An unnecessary name for a manganoan and possibly silicatian Berzeliite.

**Sinnerite.** F. Marumo and W. Nowacki, 1964. Schweiz. Min. Petr. Mitt., vol. 44, p. 439; abstr. with correction, Amer. Min., 1965, vol. 50, p. 1504. A small steel-grey crystal found with tennantite in the Lenggenbach quarry near Binn, Switzerland, is pseudocubic with a pseudocell content  $Cu_{1.4}As_{0.9}S_{2.1}$ , but is probably anorthic and twinned. Named for R. von Sinner. In the abstract E. Seeliger notes that the X-ray powder pattern is very near that of luzonite, tetragonal  $Cu_3AsS_4$ , and suggests that it might be twinned luzonite or an oriented intergrowth of luzonite and tennantite. [M.A. 17-74.]

**Sinoite.** C. A. Andersen, K. Keil, and B. Mason, 1964. Science, vol. 146, p. 256. Silicon oxynitride,  $Si_2N_2O$ , identical with the synthetic material (Brosset and Idrestedt, Nature, 1964, vol. 201, p. 1211), occurs in the Jajh deh Kot Lalu meteorite and some other enstatite chondrites. It appears to have been first observed as an unidentified mineral in the Pillistfer and Hvittis falls by Lacroix in 1905 (Mason, Geochimica Acta, 1966, vol. 30, p. 23). Named from the composition. [M.A. 17-302; A.M. 50-521.]

**Sjanchualinit**, German form of Hsianghualite (22nd List). Zentr. Min., 1964, Teil 1, p. 151.

**Sodium carnotite.** P. B. Barton, 1958. Amer. Min., vol. 43, p. 799. *Synthetic*  $NaUO_2VO_4$ , the sodium analogue of carnotite; several other analogues were also synthesized (Rb,Cs,Tl, $NH_4$ ) but not formally named.

**Söhngeite.** H. Strunz, 1965. Naturwiss., vol. 52, p. 493 (Söhngeit).  $Ga(OH)_3$ , as light-brown crystal aggregates on germanite from Tsumeb, South-west Africa; cubic. Named for G. Söhnge.

**Solanite.** Huang Yun-Hue, 1965. [Dizhi lumping, geological review, vol. 23, p. 7], abstr. in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 321 (Соланит, solanite); Tseng Jo-ku, Hsueh Chi-yueh, and Peng Chih-chung, [Kexue Tongbao, 1966, vol. 17 (1), p. 45], abstr. M.A. 17-605 (suolunite). Orthorhombic  $Ca_2H_2Si_2O_7 \cdot H_2O$ .

**Stanierit**, error for Stainierite (12th List) (C. Hintze, Handb. Min., Erg.-Bd. II, pp. 619, 954).

**Sterretit**, error for Sterrettite (16th List) (C. Hintze, Handb. Min., Erg.-Bd. II, pp. 620, 955).

**Stibiobismutantalit**, error for Stibiobismutotantalite (19th List) (C. Hintze, Handb. Min., Erg.-Bd. II, pp. 375, 452, 955).

**Stibiopearceite.** A. D. Genkin and M. G. Dobrovolskaya, 1965.

[Труды Мин. Муз. Акад. наук СССР (Proc. Min. Mus. Acad. Sci. USSR), vol. 16, p. 90], abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 310 (Стибиопирсит). Synonym of Antimonpearceite (23rd List).

**Strontiogehlenite.** C. Brisi and F. Abbatista, 1960. [Ann. Chim. (Roma), vol. 50, p. 1061], cited by H. Strunz, Min. Tabellen, 4th edn, 1966, p. 346. *Artificial* tetragonal  $\text{Sr}_2\text{Al}_2\text{SiO}_7$ , the strontium analogue of gehlenite.

**Strontiumolivine.** H. Hayashi, N. Yamamoto, M. Yoshida, M. Mizuno, T. Noguchi, K. Yamamoto, 1964. [Rept. Govt. Indust. Res. Inst., Nagoya, vol. 13, p. 318]; abstr. Min. Journ. [Japan], 1965, vol. 4, p. 323. *Artificial*  $\text{Sr}_2\text{SiO}_4$ .

**Strontiumthomsonite.** A. F. Efimov, S. M. Kravchenko, and E. M. Vlasova, 1963. [Труды Инст. Мин., Геохим., Крист. Редк. Элем. (Trans. Inst. Min., Geochem., Cryst. Rare Elem.), no. 16, p. 141]; abstr. Amer. Min., 1965, vol. 50, p. 2100; М.А. 17-402; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 199 (Стронций-томсонит). A rose-coloured mineral from the Inagli massif gave on analysis:  $(\text{Na}_{15}\text{K}_{0.09})(\text{Ca}_{0.63}\text{Sr}_{0.44}\text{Ba}_{0.01})(\text{Al}_{4.14}\text{Fe}_{0.02}\text{Mg}_{0.60}\text{Mn}_{0.01})\text{Si}_{5.86}\text{O}_{20.46}\cdot 4\cdot 28\text{H}_2\text{O}$ . It is interpreted as a substituted thomsonite.

**Sulfate-monazite, Sulfat-Monazit,** American and German forms of Сульфат-монацит, Sulphate-monazite (22nd List) (Amer. Min., 1962, vol. 47, p. 417; H. Strunz, Min. Tabellen, 4th edn, 1966, p. 522).

**Suolunite,** alternative transliteration for Solanite, *q.v.*

**Switzerit,** variant of Schweizerite (H. Strunz, Min. Tabellen, 3rd edn, 1957, p. 419, without reference).

**Symant,** *synthetic*  $\text{SrTiO}_3$  (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 522; presumably a trade name).

**Takowit,** Germanized form of Takovite (22nd List) (C. Hintze, Handb. Min., Erg.-Bd. II p. 858).

**Talknebeit,** error for Talkknebelit (C. Hintze, Handb. Min., Erg.-Bd. II, p. 955).

**Talspat,** error for Talkspat (C. Hintze, Handb. Min., Erg.-Bd. II, p. 955).

**Tantalcarbide.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 93. The doubtful mineral Tantalum carbide (*q.v.*), formerly supposed to be native Tantalum.

**Tantalobetafite,** variant of Tantalbetafite (23rd List). A. H. van der Veen, Verhandl. Kon. Ned. Geol. Mijnbouw. Genootsch., geol. ser., 1963, no. 22.

**Tantalo-obruchevite.** A. H. van der Veen, 1963. *Verhandel. Kon. Nederland. geol. mijnbouw. Genootschap., geol. ser., no. 22.* A micro-lite in which the principal  $A$  cation in the formula  $A_2B_2X_7$  is yttrium.

**Tantalum carbide.** C. Frondel, 1962. *Amer. Min., vol. 47, p. 786.* Type material of 'native Tantalum' is shown to be tantalum carbide; it is uncertain whether the material was native or of artificial origin.

**Tantalpolykras,** variant of Tantalopolycrase (15th List) (H. Strunz, *Min. Tabellen*, 3rd edn, 1957, p. 419).

**Tantpolycrase,** synonym of Tantalopolycrase (15th List). [*Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 470*]; abstr. *Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683* (Тантполикраз).

**Tetraferribiotite.** O. M. Rimskaya-Korsakova and E. P. Sokolova, 1964. *Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 93, p. 411* (Тетраферрибиотит). A term for biotites having some ferric iron in tetrahedral co-ordination. [*M.A. 17-504.*]

**Tetraferriphlogopite.** O. M. Rimskaya-Korsakova and E. P. Sokolova, 1964. *Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 93, p. 411.* (Тетраферрифлогопит). A term for phlogopites having some ferric iron in tetrahedral co-ordination. [*M.A. 17-504.*]

**Thermospinell,** error for Thermitospinel (18th List) (C. Hintze, *Handb. Min., Erg.-Bd. II, pp. 388, 955*).

**Thiolaterit,** error for Thioelaterit (14th List) (C. Hintze, *Handb. Min., Erg.-Bd. II, p. 955*).

**Thorbastnäsite.** A. S. Pavlenko, L. P. Orlova, M. U. Akhmanova, and K. I. Tobelko, 1965. *Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 94, p. 105* (Торбастнезит, Thorbastnesite). Brown crypto-crystalline material from an unnamed nepheline syenite intrusion in eastern Siberia has a composition near  $(Ca, Ln)Th(CO_3)_2F_2 \cdot 3H_2O$ . X-ray powder data indicate hexagonal symmetry. The water may not be essential. [*M.A. 17-398; A.M. 50-1505, Thorbastnaesite.*]

**Thorchevkinite,** a superfluous name for the thorian Chevkinite (?) analysed by Hermann (1866). [*Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 305*]; abstr. *Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1956, vol. 94, p. 683* (Торчевкинит).

**Thoro-aeschynite.** E. M. Es'kova, A. G. Zhabin, and G. N. Mukhitdinov, 1964. [*Мин. геохим. редк. элем. Вишнев. Гор. (Min. geochem. rare elements in the Vishnevaya Mts., Urals), Moscow (Izdatel Nauka)*]; abstr. *Amer. Min., 1965, vol. 50, p. 2101*; *Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 312* (Тороэшинит,

thoroaeshynite). An unnecessary name for a thorian Aeschnite from the alkalis complex at the Vishnevaya Mts., Urals.

**Timazit**, listed by H. Strunz (Min. Tabellen, 1st edn, 1941, p. 278) as a synonym of Gamsigradite, is a rock name (A. Breithaupt, Berg. Hüttenmann. Zeit., 1861, p. 51). Timagite or Timazite, included in T. A. Readwin's list of minerals 'of very doubtful character' (Chem. News, 1874, vol. 30, p. 164; 1875, vol. 32, p. 18) is probably the same.

**Tinaksite**. Yu. G. Rokov, V. P. Rogova, A. A. Voronkou, and V. A. Moleva, 1965. Докл. Акад. наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 162, p. 658. (Тинаксит). Pale yellow prismatic anorthic crystals in potash-feldspar metasomatic rocks in the border of the Murunsk massif, north-west Aldan. The unit cell contains  $2[\text{NaK}_2(\text{Ca}, \text{Fe}^{3+})_2(\text{Ti}, \text{Fe}^{3+})_2\text{Si}_7\text{O}_{11}\text{OH}]$ . Named for the composition (Ti, Na, K, Si). [M.A. 17-502; A.M. 50-2098.]

**Titanbetafit**, variant of Titanobetafite (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 175).

**Titanmikrolith**. H. Strunz, 1966. Min. Tabellen, 4th edn, p. 175. A name for a member of the pyrochlore family in which  $\text{Ti} > \text{Ta} > \text{Nb}$ . Since there appears to be no break in the  $\text{Ti} \rightleftharpoons (\text{Nb} + \text{Ta})$  substitution, but a distinct break in the  $\text{Nb} \rightleftharpoons \text{Ta}$  substitution in natural minerals, van der Veen's division of the Nb:Ta:Ti triangle of pyrochlore minerals into three (Pyrochlore, Microlite, and Titanopyrochlore) appears preferable.

**Titanobetafite**. A. I. Ginzburg, S. A. Gorzhevskaya, E. A. Erofeeva, and G. A. Sidorenko, 1958. [Геохимия, p. 486], translated as Geochemistry, 1958, p. 615. A name for members of the pyrochlore family in which  $\text{Ti} > (\text{Nb} + \text{Ta})$ .

**Titanonenadkevichite**. A superfluous name for titanian Nenadkevichite. [Геохим., мин., генет. типы месторожд. редк. элем., Изд. „Наука“, 1964, p. 533]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683 (Титаноненадкевичит).

**Titano-obruchevite**. A. H. van der Veen, 1963. Verhandel. Kon. Nederland. geol. mijnbouw. genootschap, geol. ser. no. 22. A Titanopyrochlore in which the principal A cation in the formula  $A_2B_2X_7$  is yttrium.

**Titanopriorite**. Cited from Scientia Sinica, 1963, vol. 12, p. 237 in Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 672 (Титаноприорит, titanopriorite). Syn. of blomstrandine.

**Titanopyrochlore**. A. H. van der Veen, 1963. Verhandel. Kon. Nederland. geol. mijnbouw. genootschap, geol. ser. no. 22. F. Machatschki (1932) proposed the name Titanpyrochlore (13th List, p. 625) for

a *hypothetical* end-member of the pyrochlore group; a spelling variant is now proposed for all members of the Pyrochlore–Microcline family in which  $Ti > Nb$  and  $Ti > Ta$ .

**Traskite.** J. T. Alfors and M. C. Stinson, 1965. *Min. Inform. Serv.*, Calif. Div. Mines Geol., vol. 18, p. 27. J. T. Alfors, M. C. Stinson, R. A. Matthews, and A. Pabst, *Amer. Min.* 1965, vol. 50, pp. 279, 314, and 1500. Brownish-red grains and hexagonal crystals in Sanbornite–Quartz rock near Big Creek and Rush Creek, Fresno County, California, are near  $Ba_9Fe_2Ti_2Si_{12}O_{30}(OH,Cl,F)_{18}$  (emission spectrography analysis). Named for J. B. Trask. [M.A. 17-400; 17-502.]

**Trigonomagneborite.** I-Hua Ch'u, Yu-T'en Han, Tzu-chiang Chen, Lai-Pao Liu, and Ling-Sheng Min, 1965. [*Scientia Sinica*, vol. 14, p. 1246]; *abstr. Amer. Min.* 1965, vol. 50, p. 2110. An independent discovery, as a white efflorescence in salts of an unnamed Chinese lake, of  $MgB_6O_{10} \cdot 7\frac{1}{2}H_2O$ ; clearly identical with Macallisterite, which name has priority.

**Trustedtite.** Y. Vuorelainen, A. Huhma, and A. Häkli, 1964. *Compt. rend. Soc. géol. Finlande*, vol. 36, p. 113. Cubic  $Ni_3Se_4$ , isostructural with Linnaeite, as crystals in Clausthalite, associated with Penroseite and Sederholmite (*q.v.*) at Kuusamo, north-east Finland. Named for O. Trustedt. [M.A. 17-303; A.M. 50-520.]

**Tschevkinite**, another variant of Chevkinite (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 355).

**Tučanite.** M. Karšulin, Yugoslav. Akad. Znan. Umjet., 1960, p. 113; *Acad. Yougoslav. Sci. Arts, Sympos. Bauxites*, 1964, vol. 2, p. 37. White chalky material from bauxite at Carev Most, Niksic, Montenegro, has a composition near  $Al_2O_3 \cdot 5H_2O$ ; at 150° C the composition is  $Al_2O_3 \cdot 3H_2O$  but the powder photograph is quite different from that of gibbsite. The powder data are indexed on a monoclinic cell containing  $8[Al_2(OH)_6 \cdot H_2O]$  and the mineral is named for F. Tučan. M. Fleischer (*Amer. Min.*, 1965, vol. 50, p. 1504) points out that the X-ray powder data, dehydration curves, and electron diffraction photographs match those of Scarbroite (*Min. Mag.*, 1960, vol. 32, pp. 353 and 363); there can be no doubt that  $CO_2$  (8 %) has been overlooked and that Tučanite is Scarbroite (R. C. Mackenzie, *priv. comm.*).

**Tundrite.** E. I. Semenov, 1963. [*Мин. редк. элем. (Mineralogy of rare earths)*, Издат. Акад. наук СССР, p. 209]; *abstr. Amer. Min.*, 1965, vol. 50, p. 2097: M.A. 17-401. The mineral previously described as Titanorhabdophane (22nd List) is found to be anorthic, and is renamed for the Lovozero tundra; composition  $Ce_2Ti(Si,P)(O,OH)_7 \cdot 4H_2O$ .

**Tyretskite.** V. V. Kondratyeva, 1964. [*Рентгеногр. мин. сырья*,



Moscow, no. 4, p. 10]; abstr. М.А. 17-500. А. А. Ivanov and Ya. Ya. Yarzhemskii, [Труды Всесоюз. науч. исслед. Инст. Галургии, 1954, vol. 29, p. 210]; abstr. М.А. 17-500; Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1966, vol. 95, p. 315 (Тыретский). Fibrous aggregates with Sylvine, Carnallite, Halite, and Anhydrite in dolomite from near Tyret on the East Siberian railway are anorthic, near  $\text{Ca}_3\text{B}_8\text{O}_{13}(\text{OH})_4$ .

**Uklonskovite.** M. N. Shyusareva, 1964. Докл. Акад. наук СССР (Compt. Rend. Acad. Sci. URSS), vol. 158, p. 1093 (Уклясовит). I. M. Rumanova and E. P. Popova, Кристаллография, 1964, vol. 9, p. 275. Monoclinic  $\text{NaMgSO}_4\text{OH}\cdot 1\frac{1}{2}$  or  $2\text{H}_2\text{O}$ , in cavities in clay at Kara-Kalpakii, lower Amu-Darya river, with Glauberite and Polyhalite. Named for A. S. Uklonskii. [М.А. 17-304; А.М. 50-520.]

**Ureyite.** C. Frondel and C. Klein, 1965. Science, vol. 149, p. 742. An emerald-green mineral found in the Coahuila, Toluca, and Hex River Mountains siderites, is  $\text{NaCrSi}_2\text{O}_6$ , the chromium analogue of Jadeite; monoclinic. Named for H. C. Urey. It is clearly identical with Cosmochlore, which name has priority (Laspeyres, 1897; 1st List). [А.М. 50-2096.]

**Valahite**, spelling variant of Vallachite [М.А.17-138].

**Vallachite.** G. Gita and E. Gita, 1962. [Ann. Pedology Sect., Centr. Res. Inst. Agric., Bucharest, vol. 30, p. 279]; abstr. М.А. 17-138. An undesirable name for a mixed-layer clay mineral from a Rumanian soil. 'Belongs to the open illite type or ammersooite' (21st List). Presumably named for Wallachia.

**Vanadiumspinell.** H. Strunz, 1966. Min. Tabellen, 4th edn, p. 528. Synonym of Coulsonite (14th List).

**Vanuranilite.** E. Z. Buryanova, G. C. Stroková, and V. A. Shitov, 1965. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 94, p. 437 (Вануранилит, vanuranilite). A yellow microcrystalline mineral of composition  $\text{H}_3\text{O}^+\text{UO}_2\text{VO}_4\cdot 2\text{H}_2\text{O}$  with some replacement of  $\text{H}_3\text{O}^+$  by Ba, Ca, Pb, and K. The composition is near that of Vanuralite ( $\text{AlOH}(\text{UO}_2)_2(\text{VO}_4)_2\cdot 8\text{H}_2\text{O}$ ; 23rd List), and the optics, X-ray powder data, and unit-cell dimensions are close to those of Vanuralite; the very similar names may lead to confusion.

**Verplanckite.** J. T. Alfors and M. C. Stinson, 1965. Min. Inform. Serv., Calif. Div. Mines Geol., vol. 18, p. 27. J. T. Alfors, M. C. Stinson, R. A. Matthews, and A. Pabst, Amer. Min., 1965, vol. 50, pp. 279, 314, and 1500. Brownish-orange to brownish-yellow hexagonal crystals in sanbornite-quartz rock near Big Creek and Rush Creek, Fresno County, California, are near  $\text{Ba}_2(\text{Mn,Fe,Ti})\text{Si}_2\text{O}_6(\text{O,OH,Cl,F})_2\cdot 3\text{H}_2\text{O}$  (emission

spectrography analysis, Cl by X-ray spectroscopy). Named for W. E. Ver Planck. [M.A. 17-400; 17-502.]

**Volkonkoit**, error for Volkonskoit (C. Hintze, *Handb. Min., Erg.-Bd. II*, pp. 412, 957).

**Volkovskite**. V. V. Kondrateva, I. V. Ostrovskaya, and Ya. Ya. Yarzhevskii, 1966. *Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.)*, vol. 95, p. 45 (Волковскит, volkovskite). A calcium borate,  $\text{CaB}_6\text{O}_{10}\cdot 3\text{H}_2\text{O}$ .

**Volynskite**. M. S. Bezsmertnaya and L. N. Soboleva, 1965. [Экспер. метод. исслед. рудн. мин., Акад. наук СССР, p. 129]; abstr. *Amer. Min.*, 1966, vol. 51, p. 531. The unnamed telluride of Bi and Ag, reported by the authors in 1963 (*Труды Инст. мин., геохим., крист. редк. элем.*, vol. 18, p. 70; abstr. *Amer. Min.*, 1964, vol. 49, p. 818) from gold ores of Armenia is fully described and named. Analyses lead to the composition  $\text{AgBi}_{1-16}\text{Te}_2$ , while X-ray patterns match those of artificial orthorhombic  $\text{AgBiTe}_2$ . Named for I. S. Volynskii.

**Wallisite**. W. Nowacki, 1965. [*Eclogae Geol. Helvet.*, vol. 58, p. 403]; abstr. *Amer. Min.*, 1966, vol. 51, p. 532. A preliminary account of an overgrowth on rathite (rathite-I) from Lengenbach, Binn, Valais, Switzerland. The material is anorthic, with composition near  $(\text{Cu}, \text{Ag})\text{TlPbAs}_2\text{S}_4$ . Named for the Canton (Wallis *Germ.*, Valais *Fr.*). [Publication of a new name with preliminary, inadequate data is undesirable; no density or X-ray powder data are given.]

**Walstromite**. M. C. Stinson and J. T. Alfors, 1964. *Min. Inform. Serv., Calif. Div. Mines Geol.*, vol. 17, p. 235. J. T. Alfors, M. C. Stinson, R. A. Matthews, and A. Pabst, 1965. *Amer. Min.*, 1965, vol. 50, pp. 279 and 314. Colourless grains and anorthic crystals, fluorescing pink in ultraviolet light, in sanbornite-quartz rock near Big Creek and Rush Creek, Fresno County, California are formulated  $\text{BaCa}_2\text{Si}_3\text{O}_9$  from emission spectrography analysis; X-ray and optical data show that the mineral is identical with synthetic  $\text{BaCa}_2\text{Si}_3\text{O}_9$  (Glasser and Glasser, *Zeits. Krist.*, 1961, vol. 116, p. 263). Named for R. E. Walstrom. [M.A. 17-399; 17-502.]

**Weinbergit**, error for Weinbergerit (4th List) (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 529; C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 957).

**Welichowit**, German transliteration of Велиховит, Velikhovite (17th List) (H. Strunz, *Min. Tabellen*, 4th edn, 1966, p. 530; C. Hintze, *Handb. Min., Erg.-Bd. II*, p. 416).

**Wilkmanite**. Y. Vuorelainen, A. Huhma, and A. Häkli, 1964. *Compt. Rend. Soc. Géol. Finlande*, vol. 36, p. 113. Monoclinic  $\text{Ni}_3\text{Se}_4$ ,

as a primary mineral and as an alteration product of sederholmite (*g.v.*), from Kuusamo, north-east Finland. Named for W. W. Wilkman. [M.A. 17-303; A.M. 50-519.]

**Wilkonite**, variant of Wilkinitite (19th List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 421).

**Wiltshireite**, Germanized form of Wiltshireite (6th List) (C. Hintze, Handb. Min., Erg.-Bd. II, pp. 447, 957).

**Wismutparkerit**, German form of Bismuth-parkerite (17th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 530).

**Yamatoite**. T. Yoshimura and H. Momoi, 1964. [Sci. Rep. Fac. Sci. Kyushu Univ., geol. ser., no. 7, p. 85]; abstr. Amer. Min., 1965, vol. 50, p. 810; M.A. 17-183. A manganoan goldmanite,  $(\text{Ca}, \text{Mn})_3(\text{V}, \text{Al})_2\text{Si}_3\text{O}_{12}$  with  $\text{Ca}:\text{Mn} \approx 3:2$  and  $\text{V}:\text{Al} \approx 1.4:1$ , has been found at the Yamato mine, Kagoshima prefecture, Japan. The name Yamatoite, from the locality, is given to the hypothetical garnet end-member  $\text{Mn}_3\text{V}_2\text{Si}_3\text{O}_{12}$ .

**Yamazuchilith**, error for Yamuguchilit (15th List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 957).

**Yaroslavite**. M. I. Novikova, G. A. Sidorenko, and N. N. Kuznetsova, 1966. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 95, p. 39 (Ярославит, Jaroslavite). An orthorhombic fibrous mineral, in spherules from an unnamed Siberian locality, has the composition  $\text{Ca}_3\text{Al}_2\text{F}_{10}(\text{OH})_2\cdot\text{H}_2\text{O}$ .

**Yttrium-Granat**, German form of Yttrium garnet (Bergemann, 1854, Yttergranat) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 329).

**Yttrogranat**, German form of Yttrogarnet (19th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 531; C. Hintze, Handb. Min., Erg.-Bd. II, p. 435).

**Yttrosynchysite**. Synonym of Doverite (21st List). [Геохим., мин., генет. типы месторожд. редк. элем, Изд. „Наука“, 1964, p. 272]; abstr. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), 1965, vol. 94, p. 683 (Иттросинхизит).

**Zincalunite**. K. Omori and P. F. Kerr, 1963. Bull. Geol. Soc. Amer., no. 74, p. 709. R. C. Erd, R. J. P. Lyon, and B. C. Madsen, *ibid.*, 1965, no. 76, p. 271; K. Omori and P. F. Kerr, *ibid.*, 1965, vol. 74, p. 283. A mineral referred to as zincalunite from Laurion, Greece, gave an infra-red adsorption spectrum resembling that of alunite, while X-ray fluorescence data indicate the presence of zinc. The X-ray powder data, however, do not resemble those of the alunite group. The name can be accorded no standing without proper chemical analysis. [A.M. 50-810.]

**Zincbotryogen**, error for Zincobotryogen, *q.v.* Zentr. Min., 1964, Teil I, p. 159.

**Zinc-epsomite**. M. Yu. Fishkin and V. S. Melnikov, 1965. Мин. Сборн. ЛЬВОВ. Геол. Общ. (Min. Mag. Lvov Geol. Soc.), vol. 19, p. 495 (Zn-эпсомит). Synonym of goslarite.

**Zincobotryogen**. Kuang Tu-Chih, Hsi-Lin Li, Hsien-Te Hsieh, and Shu-Shen Yin, 1964. [Ti Chih Hsueh Pao, vol. 44, p. 99]; abstr. Amer. Min. 1964, vol. 49, p. 1776; M.A. 17-504. The unnamed zinc analogue of Botryogen (Zeman, Fortschr. Min., 1961, vol. 39, p. 84) has been found on the northern border of the Tsadam basin, China, and is named from its composition.

**Zincocopiapite**. Kuang Tu-Chih, Hsi-Lin-Li, Hsien-Te Hsieh, and Shu-Shen Yin, 1964. [Ti Chih Hsueh Pao, vol. 44, p. 99]; abstr. Amer. Min., 1964, vol. 49, p. 1777; M.A. 17-504. The zinc member of the Copiapite family, previously known from several localities (Scharizer, Zeits. Kryst. Min., 1913, vol. 52, p. 372) has been found on the northern border of the Tsadam basin, China, and is named from its composition.

**Zinkbotryogen**, German form of Zincobotryogen (*q.v.*) Zentr. Min., 1964, Teil I, p. 159.

**Zinkcopiapit**, German form of Zincocopiapite (*q.v.*) Zentr. Min., 1964, Teil I, p. 159.

**Zinkferrit**. J. T. Ebelmen, 1851. Journ. prakt. Chem., vol. 54, p. 143. In a translation of Ebelmen's paper in Ann. Chim. Phys., 1851, ser. 3, vol. 33, p. 34, the term ferrite de zinc for artificial  $ZnFe_2O_4$  is translated Zinkferrit; it is a chemical, not a mineral name, and its essential identity with Franklinite was recognized by Ebelmen (cf. C. Hintze, Handb. Min., Erg.-Bd. II, p. 646).

**Zink-Högbomit**, German transliteration of Цинк-хёгбомит, Zinc-högbomite (20th List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 532).

**Zinksaponit**, Germanized form of Zinc-saponite (19th List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 439).

**Zircosulfate**, variant of Zircosulphate, *q.v.*

**Zircosulphate**. Yu. L. Kapustin, 1965. Зап. Всесоюз. Мин. Общ. (Mem. All-Union Min. Soc.), vol. 94, p. 530 (Циркосулфат, Zircosulphate). Compact powdery masses in a cavity in nepheline-syenite pegmatite of the Korgeredabin massif, south-east Tuva agree with synthetic orthorhombic  $Zr(SO_4)_2 \cdot 4H_2O$  in X-ray pattern and composition. Named from the composition. [A.M. 51-529, Zircosulfate; M.A. 17-607.]

**Zirkonoid**, German transliteration of Цирконоид, Zirconoid (15th List) (C. Hintze, Handb. Min., Erg.-Bd. II, p. 440).

**Zirkonolith**, German transliteration of Цирконолит, Zirconolite (21st List) (H. Strunz, Min. Tabellen, 4th edn, 1966, p. 175).

**Zn-Dolomit**. H. Strunz, 1966. Min. Tabellen, 4th edn, p. 213. An unnecessary name for a zincian Dolomite.

**Zussmanite**. S. O. Agrell, M. G. Bown, and D. McKie, 1964. Amer. Min., 1965, vol. 50, p. 278 (abstr.). Pale green tabular rhombohedral crystals in metamorphic rock of the Franciscan formation, Laytonville, Mendocino County, California, are near  $K(Fe^{2+}Mg,Mn,Al)_{13}(Si,Al)_{18}O_{42}(OH)_{14}$ . Named for Dr. J. Zussman.

## CLASSIFIED LIST OF NEW MINERALS

*Doubtful minerals, end-members not known in nature, and artificial products in italics.*

## ELEMENTS, SULPHIDES, ARSENIDES, ETC.

Indium, In.  
*Tantalum carbide*, TaC.  
 Kostovite, AuCuTe<sub>4</sub>.  
 Ottemannite,  $\beta$ -Sn<sub>2</sub>S<sub>3</sub>.  
 Berndtite,  $\beta$ -SnS<sub>2</sub>.  
 Getchellite, AsSbS<sub>3</sub>.  
 Galenobornite, (Cu, Pb)<sub>4-7</sub>FeS<sub>4</sub>.  
 Sederholmite,  $\beta$ -NiSe.  
 Mäkinenite,  $\gamma$ -NiSe.  
 Trustedtite, cubic Ni<sub>3</sub>Se<sub>4</sub>.  
 Wilkmanite, monoclinic Ni<sub>3</sub>Se<sub>4</sub>.  
 Kullerudite, NiSe<sub>2</sub>.  
 Kitkaite, NiSeTe.  
 Merenskyite, (Pd,Pt)(Te,Bi)<sub>2</sub>  
 Hollingworthite, RhAsS.  
 Sinnerite, Cu<sub>1.4</sub>As<sub>0.9</sub>S<sub>2.1</sub>.  
 Volynskite, AgBiTe<sub>2</sub>.  
 Nowackiite, Cu<sub>6</sub>Zn<sub>3</sub>As<sub>5</sub>S<sub>12-13</sub>.  
 Imhofite, TlCuAs<sub>16</sub>S<sub>40</sub>.  
 Wallisite, Tl(Cu,Ag)PbAs<sub>2</sub>S<sub>4</sub>.  
 Berryite, Pb<sub>2</sub>(Cu,Ag)<sub>3</sub>Bi<sub>3</sub>S<sub>11</sub>.  
 Mawsonite, Cu<sub>7</sub>Fe<sub>2</sub>SnS<sub>10</sub>.  
 Briartite, Cu<sub>2</sub>(Fe,Zn)GeS<sub>4</sub>.

## OXIDES AND HYDROXIDES

Söhngöite, Ga(OH)<sub>3</sub>.  
 Sinoite, Si<sub>2</sub>N<sub>2</sub>O.  
 Pseudorutile, Fe<sub>2</sub>Ti<sub>3</sub>O<sub>9</sub>.  
 Compreignacite, K<sub>2</sub>O.6UO<sub>3</sub>.10 or  
 11H<sub>2</sub>O.  
*Rhombomagnocjacobsite*,  
 (Mn,Mg)(Mn,Fe)<sub>2</sub>O<sub>4</sub>.

## HALIDES

Antarcticite, CaCl<sub>2</sub>·6H<sub>2</sub>O.  
 Yaroslavit, Ca<sub>3</sub>Al<sub>2</sub>F<sub>10</sub>(OH)<sub>2</sub>·H<sub>2</sub>O.  
*Hydromolysite*, FeCl<sub>3</sub>·6H<sub>2</sub>O.

## BORATES

Huangchaoite, MgB<sub>4</sub>O<sub>7</sub>·9H<sub>2</sub>O.  
 Macalisterite, MgB<sub>6</sub>O<sub>10</sub>·7½H<sub>2</sub>O.  
 Tyretskite, Ca<sub>3</sub>B<sub>2</sub>O<sub>13</sub>(OH)<sub>4</sub>.  
 Volkovskite, CaB<sub>6</sub>O<sub>10</sub>·3H<sub>2</sub>O.  
 Kurchatovite, Ca(Mg,Mn)B<sub>2</sub>O<sub>5</sub>.  
 Hydrochlorborite, Ca<sub>4</sub>B<sub>2</sub>O<sub>15</sub>Cl<sub>2</sub>·22H<sub>2</sub>O.  
*Nickel iodine boracite*, Ni<sub>3</sub>B<sub>2</sub>O<sub>13</sub>I.

Borcarite, Ca<sub>4</sub>Mg(HBO<sub>3</sub>)<sub>4</sub>(HCO<sub>3</sub>)<sub>2</sub>.  
 Carboborite, Ca<sub>2</sub>MgCO<sub>3</sub>B<sub>2</sub>O<sub>3</sub>(OH)<sub>4</sub>.  
 8H<sub>2</sub>O.  
 Sakhaite, Ca<sub>12</sub>Mg<sub>4</sub>(CO<sub>3</sub>)<sub>1</sub>(BO<sub>3</sub>)<sub>7</sub>Cl(OH)<sub>2</sub>.  
 H<sub>2</sub>O.

## CARBONATES

*Nyerecrite*, Na<sub>2</sub>Ca(CO<sub>3</sub>)<sub>2</sub>.  
*Barringtonite*, MgCO<sub>3</sub>·2H<sub>2</sub>O.  
 Monohydrocalcite, CaCO<sub>3</sub>·H<sub>2</sub>O.  
 Hydroxylbastnäsite, LnCO<sub>3</sub>(OH,F).  
 Mckelvyite, Na<sub>2</sub>Ba<sub>4</sub>(Yt,Ln,Ca,Sr,U<sup>4+</sup>)<sub>3</sub>  
 (CO<sub>3</sub>)<sub>9</sub>·5H<sub>2</sub>O.  
 Thorbastnäsite, (Ca,Ln)Th(CO<sub>3</sub>)<sub>2</sub>F<sub>2</sub>.  
 Coalingite, Mg<sub>10</sub>Fe<sub>2</sub><sup>3+</sup>CO<sub>3</sub>(OH)<sub>24</sub>·2H<sub>2</sub>O.  
*Hoshiite*, (Ni,Mg)CO<sub>3</sub>.

## SILICATES AND ALUMINOSILICATES

Buddingtonite, NH<sub>4</sub>AlSi<sub>3</sub>O<sub>8</sub>·½H<sub>2</sub>O.  
 Liberite, Li<sub>2</sub>BeSiO<sub>4</sub>.  
 Clinoholmquistite, the monoclinic poly-  
 morph.  
 Solanite, CaSiO<sub>3</sub>·H<sub>2</sub>O.  
 Rustumite, Ca<sub>4</sub>Si<sub>2</sub>O<sub>6</sub>(OH)<sub>2</sub>.  
*Dellaite*, Ca<sub>6</sub>Si<sub>3</sub>O<sub>11</sub>(OH)<sub>2</sub>.  
 Jennite, Na<sub>2</sub>Ca<sub>8</sub>Si<sub>5</sub>O<sub>30</sub>H<sub>22</sub>.  
*Metajennite*, Na<sub>2</sub>Ca<sub>9</sub>Si<sub>5</sub>O<sub>26</sub>H<sub>14</sub>.  
*Strontium olivine*, Sr<sub>2</sub>SiO<sub>4</sub>.  
*Strontiogehlenite*, Sr<sub>2</sub>Al<sub>2</sub>Si<sub>7</sub>O<sub>7</sub>.  
*Strontiumthomsonite*, (Na,K)<sub>1-6</sub>(Ca<sub>0-63</sub>  
 Sr<sub>0.4-4</sub>)(Al<sub>4-16</sub>Mg<sub>0-61</sub>)Si<sub>5-86</sub>O<sub>20-46</sub>.  
 4·28H<sub>2</sub>O.  
 Krauskopfite, BaSi<sub>2</sub>O<sub>5</sub>·3H<sub>2</sub>O.  
 Walstromite, BaCa<sub>2</sub>Si<sub>3</sub>O<sub>9</sub>.  
 Macdonaldite, BaCa<sub>4</sub>Si<sub>15</sub>O<sub>35</sub>·11H<sub>2</sub>O.  
 Fresnoite, Ba<sub>2</sub>TiSi<sub>2</sub>O<sub>8</sub>.  
 Noonkanbahite, NaKBaTi<sub>2</sub>Si<sub>4</sub>O<sub>14</sub>.  
 Traskite Ba<sub>9</sub>Fe<sub>2</sub>Ti<sub>2</sub>Si<sub>12</sub>O<sub>30</sub>(OH,Cl,F)<sub>18</sub>.  
 Verplankite, Ba<sub>2</sub>(Mn,Fe,Ti)Si<sub>2</sub>O<sub>6</sub>(O,OH,  
 Cl,F)<sub>2</sub>·3H<sub>2</sub>O.  
 Muirite, Ba<sub>10</sub>Ca<sub>2</sub>MnTiSi<sub>10</sub>O<sub>30</sub>(OH,Cl,F)<sub>10</sub>.  
*Cadmium olivine*, Cd<sub>2</sub>SiO<sub>4</sub>.  
*Piezotite*, Al<sub>3</sub>Si<sub>2</sub>O<sub>7</sub>(OH)<sub>3</sub>.  
 Magbasite, KBa(Al,Sc)(Mg,Fe)<sub>6</sub>Si<sub>6</sub>O<sub>26</sub>F<sub>2</sub>.  
 Howieite, Na(Fe,Mn)<sub>10</sub>(Fe,Al)<sub>2</sub>(Si,Ti)<sub>12</sub>  
 O<sub>31</sub>(OH)<sub>13</sub>.  
 Tinaksite, NaK<sub>2</sub>(Ca,Fe)<sub>2</sub>(Ti,Fe)<sub>2</sub>Si<sub>7</sub>O<sub>11</sub>  
 OH.

Malayaite,  $\text{CaSnSiO}_5$ .  
 Pabstite,  $\text{BaSnSi}_3\text{O}_9$ .  
 Haradaite,  $\text{SrVSi}_2\text{O}_7$ .  
*Yamatoite*,  $\text{Mn}_2\text{V}_2\text{Si}_3\text{O}_{12}$ .  
 Zussmanite,  $\text{K}(\text{Fe},\text{Mg},\text{Mn},\text{Al})_{13}(\text{Si},\text{Al})_8\text{O}_{42}(\text{OH})_{14}$ .  
 Hydrograndite,  $(\text{Ca},\text{Mg})_3(\text{Fe},\text{Al})_2\{\text{SiO}_4(\text{OH})_3\}$ .  
 Deerite,  $\text{Fe}_{13}^{2+}\text{Fe}_3^{3+}\text{Si}_{13}\text{O}_{44}(\text{OH})_{11}$ .  
*Calcioaegirine*,  $\text{CaFe}_2^{3+}(\text{SiO}_3)_4$ .  
*Calcium catapleite*,  $\text{CaZrSi}_3\text{O}_9 \cdot 2\text{H}_2\text{O}$ .  
 Merrihueite,  $(\text{K},\text{Na})(\text{Fe},\text{Mg})_5\text{Si}_{12}\text{O}_{30}$ .  
*Cobalt-pimelite*, a silicate of cobalt.  
*Cobalt-talc*,  $\text{Co}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$ .  
*Nickel-talc*,  $\text{Ni}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$ .  
 Cerphosphorhuttonite,  $\text{CeThSiO}_4\text{PO}_4$ .  
 Tundrite,  $\text{Ce}_2\text{Ti}(\text{Si},\text{P})(\text{O},\text{OH})_7 \cdot 4\text{H}_2\text{O}$ .  
 Niobophyllite,  $(\text{K},\text{Na})_3(\text{Fe},\text{Mn})_{6-8}(\text{Nb},\text{Ti})_2(\text{Si},\text{Al})_{7-7}(\text{O},\text{OH},\text{F})_{31}$ .

## TANTALITE AND NIOBATES

Latrappite,  $(\text{Ca},\text{Na})(\text{Nb},\text{Ti},\text{Fe})\text{O}_3$ .  
 Titanopyrochlore, with Ti predominant.  
 Titano-obruchevite, a titanopyrochlore rich in Yt.  
*Tantalo-obruchevite*, with  $\text{Ta} > \text{Nb}$ .  
*Oxonium pyrochlore*, with marked cation deficiency.

## PHOSPHATES

Metauramphite,  $\text{NH}_4\text{UO}_2\text{PO}_4 \cdot 3\text{H}_2\text{O}$ .  
*Pseudo-autunite*,  $(\text{H}_3\text{O})_2(\text{UO}_2,\text{Ca})_2(\text{PO}_4)_2 \cdot 2\frac{1}{2}\text{H}_2\text{O}$ .  
 Phosphate-walpurghine,  $(\text{BiO})_2\text{UO}_2(\text{PO}_4)_2 \cdot 3\text{H}_2\text{O}$ .

## ARSENATES

Rauenthalite,  $\text{Ca}_3(\text{AsO}_4)_2 \cdot 10\text{H}_2\text{O}$ .  
 Sainfeldite,  $\text{Ca}_8\text{H}_2(\text{AsO}_4)_4 \cdot 4\text{H}_2\text{O}$ .  
*Kirchheimerite*,  $\text{Co}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 12\text{H}_2\text{O}$ .

## VANADATES

Huemulite,  $\text{Na}_4\text{MgV}_{10}\text{O}_{28} \cdot 24\text{H}_2\text{O}$ .  
 Vanuranilite,  $\text{H}_3\text{OUO}_3\text{VO}_4 \cdot 2\text{H}_2\text{O}$ .  
*Sodium carnotite*,  $\text{NaUO}_2\text{VO}_4$ .

## SULPHATES

Mohrite,  $(\text{NH}_4)_2\text{Fe}(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$ .  
 Poitevinitite,  $(\text{Cu},\text{Fe})\text{SO}_4 \cdot \text{H}_2\text{O}$ .  
 Uklonskovite,  $\text{NaMgSO}_4 \cdot \text{OH} \cdot 1\frac{1}{2}$  or  $2\text{H}_2\text{O}$ .  
 Zincobotryogen,  $\text{ZnFe}(\text{SO}_4)_2 \cdot \text{OH} \cdot 7\text{H}_2\text{O}$ .  
 Zincocopiapite,  $\text{ZnFe}_4(\text{SO}_4)_6(\text{OH})_2 \cdot n\text{H}_2\text{O}$ .  
 Schaureiteite,  $\text{Ca}_3\text{Ge}(\text{SO}_4)_3(\text{OH})_4 \cdot 4\text{H}_2\text{O}$ .  
 Zircosulphate,  $\text{Zr}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$ .  
 Jouravskite,  $\text{Ca}_6\text{Mn}_2^+\text{S}_{1.7}\text{C}_{0.3}\text{O}_{50}\text{H}_{60.6}$ .  
 Aplowite,  $\text{CoSO}_4 \cdot 4\text{H}_2\text{O}$ .  
 Moorhouseite,  $\text{CoSO}_4 \cdot 6\text{H}_2\text{O}$ , monoclinic.  
 Nickelhexahydrate,  $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ , monoclinic.

## SELENITES

Guilleminite,  $\text{Ba}(\text{UO}_2)_3(\text{SeO}_3)_2(\text{OH})_4 \cdot 3\text{H}_2\text{O}$ .  
 Demesmaekerite,  $\text{Pb}_2\text{Cu}(\text{UO}_2)_2(\text{SeO}_3)_6 \cdot 2\text{H}_2\text{O}$ .

## TELLURITES

Moctezumite,  $\text{PbUO}_2(\text{TeO}_3)_2$ .

## MOLYBDATES

Sedovite,  $\text{U}(\text{MoO}_4)_2$ .