Twenty-first list of new mineral names.

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PREVIOUS lists (nos. 1–20), given triennially (1897–1955) at the ends of vols. 11–30 of this Magazine, contain 3153 mineral names that have appeared in the world's literature since the publication in 1892 of the sixth edition of Dana's 'System of Mineralogy'. The present list adds a further crop of 210.

For international usage it is of prime importance that the original spelling of a name should be retained as nearly as possible.[1] Unfortunately, however, there are still national tendencies to modify the spelling of names with the mistaken idea of indicating the 'correct' pronunciation, whether that of the original language or of one or other dialects in some other language. For example, the old and well-known name Childrenite has recently been altered in German to Tschildrenit, and is so lost in an alphabetical index.

The Latin alphabet is used in most European languages, but often with a variety of diacritical marks. For example, Jarošite (15th List) is not the same mineral as Jarosite. [š (Czech, Croatian) = sh (English), ch (French), sch (German), sz (Polish), ş (Romanian, Turkish), s (Magyar).][2] For languages with other alphabets there are further difficulties. For example, Шубниковит (Russ.) = Shubnikovite (Eng.) = Choubnikovite (Fr.) = Schubnikowit (Germ.), with scatter in an alphabetical index. In the case of double transliteration errors arise and there may be startling metamorphic changes. For example:

Halloysite → Галлуазит → Galluasite[3] → Gaylussite (?).
Hibschite → Гибшит → Gibshite → Gibbsite.[4]
Humite → Гумит → Gumite → Gummite (?).
Whewellite → Вевеллит → Vevellite → Wavellite (?).

[1] L. J. Spencer, International agreement in mineralogical and crystallographical nomenclature. Min. Mag., 1925, vol. 20, pp. 353–363; Some mineral names. Amer. Min., 1937, vol. 22, pp. 682–685.

[2] Alphabets of foreign languages. Roy. Geogr. Soc., Techn. Ser. no. 2, reprint of 2nd edition with corrections, London, 1951.

[3] Brit. [Chem.] Abstr., 1950, AI, col. 99.

[4] Journ. Chem. Soc. London, 1910, Aii, p. 137.

Abernathyite. M. E. Thompson, B. Ingram, and E. B. Gross, 1956. Amer. Min., vol. 41, p. 82. $K(UO_2)AsO_4.4H_2O$, tetragonal, meta-autunite group. Small yellow crystals from Temple Mts., Utah. Named after Mr. Jess Abernathy, who found the material. [M.A. **13**–86.]

Absite. A. W. G. Whittle, 1954. Mining Rev. South Australia Dept. Mines, no. 97 (for 1952), p. 99 (absite), p. 142 (absite, thorium brannerite). Variety of brannerite (9th List) containing ThO_2 12·81 %. $2UO_2.ThO_2.7TiO_2.5H_2O$. From Crockers Well, South Australia. Deposit located with air-borne scintillometer, hence the name. [M.A. **13**–87.]

Agathocopalite. J. Paclt, 1953. Tschermaks Min. Petr. Mitt., ser. 3, vol. 3, p. 342. A recent resin (copalite) containing agathic acid ($C_{20}H_{30}O_4$), from the conifer *Agathis*. [M.A. **12**–306.]

Allokite. B. J. S. Collins, 1955. Diss. Univ. Illinois, vol. 15, no. 11, p. 2163. Composite name for a clay mineral with layer structure intermediate between allophane and kaolinite.

Alouchtite. Bull. Soc. Franç. Min. Crist., 1956, vol. 79. p. 339. French spelling of alushtite from Russian алуштитъ (10th List). A mixed clay mineral.

Alterite. Tj. H. van Andel, 1950. Rhine sediments, Diss. Groningen, p. 45 (alterites), p. 46 (epidote-alterite, &c.). D. Carroll, Amer. Min., 1957, vol. 42, p. 110. A loose term for weathered (altered) grains of heavy minerals, usually not identifiable from their optical characters.

Alumoferroascharite. D. P. Serdyuchenko, 1956. Mém. Soc. Russ. Min., vol. 85, p. 292 (алюмоферроашарит). Variety of ascharite containing Al_2O_3 6·47, FeO 8·79, Fe_2O_3 4·30 %. Formula $(Mg,Fe)(B,Al)O_2.OH$. [M.A. **13**–522 (alumoferroasharite).]

Alumolimonite. G. A. Bilibin, 1928. A. K. Boldyrev, Kurs Opisat. min., Leningrad, 1928, no. 2, p. 97 (алюмолимонит). S. I. Beneslavsky, Doklady Acad. Sci. USSR, 1957, vol. 113, p. 1130. Mixture of aluminium and iron hydroxides. [M.A. **13**–520.]

Ammersooite. H. W. van der Marel, 1954. Soil Science, vol. 78, pp. 172, 176 (ammersooite). A variety of illite capable of fixing potassium in Dutch soils. Named from the potash experimental field near Ammerzoden (locally called Ammersooien), Gelderland, Holland.

Andreattite. R. C. Mackenzie, 1954. Anal. Edafol. y Fisiol. Veget., Madrid, vol. 13, p. 122 (andreattita); Potassium-Symposium, Berne, 1955, p. 130 (andreattite). The clay minerals illidromica, illite-hydromica of C. Andreatta (19th List) are divided into: hydromica-Al, hydromica-Mg, a layered series between illite and hydromuscovite (or hydrobiotite); and andreattite-Al, andreattite-Mg, a non-interstratified

series between illite (or mica) and smectite. Named after Prof. Ciro Andreatta (1906–) of Bologna.

Anhydrosaponite. A. Weiss, G. Koch, and U. Hofmann, 1955. Ber. Deutsch. Keram. Gesell., vol. 32, pp. 16–17 (Anhydrosaponit). Artificially dehydrated saponite (from Grosschlattengrün, Bavaria). An endothermal peak at 600° C. is attributed to loss of water from the OH group, with further change at 800° to enstatite $+Al_2O_3$. This is criticized by R. C. Mackenzie, Min. Mag., 1957, vol. 31, pp. 676–678.

Arsenate-belovite. L. K. Yakontova and G. A. Siderenko, 1956. Mém. Soc Russ. Min., vol. 85, p. 297 (арсенат-беловит). The two minerals, belovite (E. I. Nefedov, 1953) and belovite (L. S. Borodin and M. E. Kazakova, 1954) (20th List), are distinguished as arsenate-belovite and phosphate-belovite (фосфат-беловит) respectively. [M.A. **13**–523.]

Arsenopalladinite. F. A. Bannister, G. F. Claringbull, and M. H. Hey, 1955. M. H. Hey, Index of Minerals (Brit. Mus.), 1955, pp. 23, 339. G. F. Claringbull and M. H. Hey, Min. Soc. Notice, 1956, no. 94; M.A. **13**-237. Palladium arsenide, Pd_3As, hexagonal. With gold from Itabira, Brazil. Named from the composition.

Barium-adularia. T. Yoshimura, H. Shirozu, and M. Kimura, 1954. Mem. Fac. Sci. Kyushu Univ., ser. D, vol. 4, p. 163. Adularia from Japan containing BaO 3·36 %. Compare barium-orthoclase (4th List) and barium-sanidine (16th List).

Berillite. M. Fleischer, Amer. Min., vol. 40, p. 787. Direct transliteration of бериллит. (In Russian beryl is берилл.) Synonym of beryllite (20th List). A. H. Chester (Dict. 1896, p. 30) gives berylite as a synonym of beryl.

Beta-roselite. C. Frondel, 1955. Amer. Min., vol. 40, p. 828. $Ca_2Co(AsO_4)_2.2H_2O$, triclinic, previously labelled as 'roselite' from Schneeberg, Saxony. Dimorphous with monoclinic roselite. [M.A. **13**–8.]

Beta-uranophane. C. Frondel, 1956. Amer. Min., vol. 41, p. 551 (beta-uranophane). The monoclinic polymorph of orthorhombic uranophane, $Ca(UO_2)_2(SiO_3)_2(OH)_2.5H_2O$. [M.A. **13**–204.] Synonym of β-uranotile [M.A. **6**–149, **7**–409].

Betekhtinite. A. Schüller and E. Wohlmann, 1955. Geologie Zeitschr. East Berlin, vol. 4, p. 535 (Betechtinit). E. Hörne, Fortschr. Min., 1957, vol. 35, p. 50. $Cu_{10}PbS_6$, orthorhombic needles in ores from Mansfeld, Germany. Named after academician A. G. Betekhtin (А. Г. Бетехтин), mineralogist and geochemist, of Moscow. [M.A. **13**-85.]

Bikitaite. C. S. Hurlbut, 1957. Amer. Min., vol. 42, p. 792. Hydrous silicate, $LiAlSi_2O_6.H_2O$, monoclinic, as white granular aggregates with eucryptite in lithia-pegmatite from Bikita, Southern Rhodesia. Named from the locality.

Birnessite. L. H. P. Jones and A. A. Milne, 1956. Min. Mag., vol. 31, p. 283. A manganese oxide, near $(Na_{0\cdot7},Ca_{0\cdot3})Mn_7O_{14}.2{\cdot}8H_2O$, optically uniaxial negative, with X-ray pattern similar to δ-MnO_2 and manganous manganite [M.A. **9**–227, **10**–105]. From manganese pan in gravel at Birness, Aberdeenshire. Named from the locality. [M.A. **13**–237.]

Bismuth-jamesonite. M. S. Sakharova, 1955, Trudy Min. Mus. Acad. Sci. USSR, no. 7, p. 122 (бисмутовый джемсонит). Sulphosalt, $PbS.(Bi,Sb)_2S_3$, as lead-grey acicular crystals, with ustarasite (q.v.) from Siberia. Variety of jamesonite containing some bismuth and very little iron. [M.A. **13**–164.]

Bismutoniobite. G. Frenzel, 1955. Neues Jahrb. Min., Monatshefte, p. 243 (Bismutoniobit). End-member of the series $Bi(Ta,Nb)O_4$. Compare bismutotantalite, 12th List.

Bobkovite. Y. V. Kazitzyn, 1955. [Kristallografiya, Acad. Sci. USSR, no. 4, p. 116.] Abstracts in Mém. Soc. Russ. Min., 1956, vol. 85, p. 376 (бобковит); Amer. Min., 1957, vol. 42, p. 440. A variety of opal, SiO_2 89·20, H_2O 3·24 %, with small amounts of Al, Fe, Ca, Mg, K. Named after N. A. Bobkov, crystallographer, of Leningrad. [M.A. **13**–521.]

Boltwoodite. C. Frondel and J. Ito, 1956. Science (Amer. Assoc. Adv. Sci.), vol. 124, p. 931. Hydrous potassium uranyl silicate, $K_2(UO_2)_2(SiO_3)_2(OH)_2.5H_2O$, analogous to sklodowskite with K in place of Mg, orthorhombic or monoclinic, as yellow fibres from Utah. Named after Bertram Borden Boltwood (1870–1927), professor of radiochemistry at Yale University; discoverer of ionium. [M.A. **13**–380.]

Bonattite. C. L. Garavelli, 1957. Rend. Soc. Min. Ital., vol. 13, p. 269. $CuSO_4.3H_2O$, monoclinic. Partly dehydrated chalcanthite ($CuSO_4.5H_2O$) from Elba. Named after Prof. Stephano Bonatti of Pisa.

Bonchevite. I. Kostov, 1958. Min. Soc. Notice, 1958, no. 101; Min. Mag., vol. 31, p. 821. Sulphosalt, $PbBi_4S_7$, orthorhombic. From Rhodope Mts., Bulgaria, in quartz-scheelite veins. Named after George Bonchev, Георгий Бончев (1866–1955), formerly professor of mineralogy and petrology, University of Sofia.

Borgniezite. P. de Béthune, 1956. Ann. (Bull.) Soc. Géol. Belgique, vol. 80, p. B 63 (borgniézite); Compt. Rend. Acad. Sci. Paris, 1956, vol. 243, p. 1133 (borgniezite). A soda-amphibole with special optical characters (pleochroism, high extinction), occurring with aegirine in

carbonatite and surrounding schists at Lueshe, Kivu, Belgian Congo. Previously described, but without name, by the author in Mém. Inst. Géol. Univ. Louvain, 1952, vol. 16, p. 278. Named after Georges Borgniez of Auderghem, Belgium.

Bornhardtite. P. Ramdohr and M. Schmitt, 1955. Neues Jahrb. Min., Monatshefte, no. 6, p. 141 (Bornhardtit). Cobalt selenide, Co_3Se_4, cubic (linnaeite group) from Trogtal, Harz. Named after Dr. W. Bornhardt, mine manager. [M.A. **13**–5.]

Boron-edenite. J. A. Kohn and J. E. Comeforo, 1955. Amer. Min. vol. 40, p. 410 (fluor-boron edenite), p. 411, (boron edenite), p. 413 (boron-edenite). Artificial $NaCa_2Mg_5(Si_{3\cdot5}B_{0\cdot5}O_{11})_2F_2$, containing B_2O_3 3·91 %. [MA. **13**–486.]

Boron-phlogopite. R. A. Hatch, R. A. Humphrey, and E. C. Worden, 1956. U.S. Bureau of Mines, report 5283, p. 28 (boron-phlogopite). Artificial $KMg_3BSi_3O_{10}F_2$. [M.A. **13**–448.]

Bursaite. R. Tolun, 1955. Bull. Min. Res. Inst. Turkey, no. 46–47, p. 124. Sulphosalt, $Pb_5Bi_4S_{11}$, as small grey prisms, monoclinic (?). Named after the locality, Bursa (Brusa), NW. Turkey. Evidently a synonym of cosalite ($Pb_2Bi_2S_5$). [M.A. **13**–380.]

Calciborite. E. S. Petrova, 1955. [Min. Syre (Min. Resources), no. 2, p. 218.] Abstracts in Mém. Soc. Russ. Min., 1956, vol. 85, p. 76 (кальциборит, calciborite); Amer. Min., 1956, vol. 41, p. 815. Calcium borate, $Ca_5B_8O_{17}$, monoclinic? White radial aggregates in drill-cores from limestone skarn, Urals. Named from the composition. [M.A. **13**–208.] *See* Frolovite.

Cardosonite. I. Asensio Amor, 1955. Estudios Geológicos, Madrid, no. 25, p. 37 (cardosonita). A mineral (Fe_2O_3 54·07, FeO nil, H_2O 9·21 %) of the dufrenite series, from Coruña, Spain, with X-ray pattern distinct from frondelite and rockbridgeite. Named after Gabriel Martín Cardoso (–1954), professor of crystallography in the University of Madrid. [Amer. Min. **41**–165; M.A. **13**–487.]

Carobbiite. H. Strunz, 1956. Rend. Soc. Min. Ital., vol. 12, p. 212 (Carobbiit). Potassium fluoride, KF, with some NaCl, &c., NaCl structure. Named after Prof. Greido Carobbi of Firenze (Florence) who had earlier [M.A. **6**–444) described the material in fumarole deposits from Vesuvius. [M.A. **13**–382.]

Carpathite. G. L. Piotrovsky, 1955. Min. Sbornik Lvov Geol. Soc., no. 9, p. 120 (карпатит). Hydrocarbon $C_{33}H_{17}O$, yellow monoclinic crystals in contact-zone between diorite-porphyrite and slate from Trans-Carpathians. Named from the locality. Distinct from curtisite

[M.A. 12–173, 418] from the same locality. (*See* Curtisitoids.) [M.A. 13–208.]

Cerianite. A. R. Graham, 1955. Amer. Min., vol. 40, p. 560; Contr. Canadian Min., vol. 5, pt. 7. Minute greenish-yellow octahedra in carbonate rock from Lachner, Sudbury, Ontario. Cubic CeO_2 with some ThO_2. Named from its relation to thorianite and uraninite. [M.A. 13–6.]

Chalconatronite. C. Frondel and R. J. Gettens, 1955. Science (Amer. Assoc. Adv. Sci.), vol. 122, p. 75. R. J. Gettens and C. Frondel, Studies in Conservation (London), 1955, vol. 2, no. 2, p. 64. $Na_2Cu(CO_3)_2.3H_2O$, probably monoclinic, as a greenish-blue incrustation on ancient bronze objects from Egypt. Named from χαλκος, copper, and natron, soda. [M.A. 13–6, 379.]

Chasovrite. S. V. Potapenko, 1952. [Bull. Acad. Architecture, Ukraine, p. 43.] Criticized by I. D. Sedletzky, Mém. Soc. Russ. Min., 1954, ser. 2, vol. 83, p. 292 (часоврит). A variety of clay mineral (glinite, q.v.) from the Chasovyar deposit in Ukraine. Named from the locality. [M.A. 13–5.]

Childro-eosphorite. H. Strunz and M. Fischer, 1957. Neues Jahrb. Min., Monatshefte, p. 78 (Childro-Eosphorit), p. 79 (Childrenit-Eosphorit). Midway between childrenite and eosphorite in the isomorphous series $AlPO_4.(Fe,Mn)(OH)_2.H_2O$. From Hagendorf, Bavaria.

Choubnikovite. Bull. Soc. Franç. Min. Crist., 1955, vol. 78, p. 216. French transliteration of шубниковит, shubnikovite (20th List).

Clino-sklodowskite. Author? H. Strunz, Min. Tab., 3rd edit., 1957, p. 276 (Klino-Sklodowskit). Monoclinic, $Mg(H_3O)_2[UO_2|SiO_4]_2.3H_2O$, as distinct from sklodowskite, orthorhombic (?), $Mg[UO_2|SiO_3OH]_2.5H_2O$.

Combeite. T. G. Sahama and K. Hytönen, 1957. Min. Soc. Notice, no. 98; Min. Mag., 1957, vol. 31, p. 503; M.A. 13–555. $Na_4Ca_3Si_6O_{16}(OH,F)_2$, rhombohedral. In nephelinite from Kivu, Belgian Congo. Named after Arthur Delmar Combe (1893–1949), Geological Survey of Uganda.

Corencite. C. Mira, 1939. [Rev. Matér. Const., Trav. Publ., no. 359, p. 87.] P. F. Kerr and P. K. Hamilton, Amer. Petrol. Inst., Clay mineral standards, 1949, rep. no. 1, p. 16. Synonym of nontronite.

Cornubite. G. F. Claringbull, M. H. Hey, and A. Russell, 1958. Min. Mag., vol. 31, p. 792 [M.A. 13–558]. Basic copper arsenate, $Cu_5(AsO_4)_2(OH)_4$, dimorphous and associated with cornwallite. The name was provisionally given as cornubianite (Min. Soc. Notice, 1957, no. 99), earlier applied to a metamorphic rock, hornfels (H. S. Boase, Trans.

Roy. Geol. Soc. Cornwall, 1832, vol. 4, pp. 390, 394). Named from the locality, *Cornubia*, *Cornubian*, medieval Latin, Cornwall, Cornish.

Curtisitoids. I. V. Grinberg and V. M. Shimansky, 1954. Min. Sbornik Lvov Geol. Soc., no. 8, p. 107 (кертиситоиди). Group name for hydrocarbons allied to curtisite (11th List) and carpathite (q.v.) differing in colour, composition, and melting-point. [M.A. **13**–120.]

Devillite. Dana, Syst. Min. 7th edit, 1951, p. 590. Synonym of devilline (F. Pisani, 1864). Liable to be confused with similar names with ending *-ite*.

Doloresite. T. W. Stern, L. R. Stieff, H. T. Evans, and A. M. Sherwood, 1957. Amer. Min., vol. 42, p. 587. H. T. Evans and M. E. Mrose, Acta Cryst., 1958, vol. 11, p. 57. Hydrous vanadium oxide, $3V_2O_4.4H_2O$, monoclinic (pseudo-orthorhombic). Dark-brown alteration product of montroseite in sandstone from several mines on the Colorado Plateau. Named from the Dolores river, Colorado.

Doverite. W. L. Smith, J. Stone, D. D. Riska, and H. Levine, 1955. Science (Amer. Assoc. Adv. Sci.), vol. 122, p. 31. Fluo-carbonate of yttrium and calcium, $YtFCO_3.CaCO_3$, as fine-grained aggregates giving an X-ray pattern similar to that of synchysite. From an iron mine at Dover, Morris Co., New Jersey. Named from the locality. [M.A. **13**–7.]

Duttonite. M. E. Thompson, C. H. Roach, and R. Meyrowitz, 1956. Science (Amer. Assoc. Adv. Sci.), vol. 123, p. 990; Amer. Min., 1957, vol. 42, p. 455. H. T. Evans and M. E. Mrose, Bull. Geol. Soc. Amer., 1956, vol. 67, p. 1693 (abstract); Acta Cryst., 1958, vol. 11, p. 58. Vanadium hydroxide, $VO(OH)_2$ or $V_2O_4.2H_2O$, monoclinic (pseudo-orthorhombic), as minute pale-brown scales; an alteration product of montroseite in sandstone from Colorado. Named after Clarence Edward Dutton (1841–1912), an early worker on the Geological Survey in Colorado. [M.A. **13**–378, 379, 524.]

Eisenalabandin. P. Ramdohr, 1957. Neues Jahrb. Min., vol. 91, p. 89 (Eisenalabandin), p. 90 (Fe-alabandin). Alabandine containing much FeS in solid solution, (Mn,Fe)S. As minute grains with native iron and troilite in basalt from Bühl, Kassel. Abstract in Amer. Min. **43**–378 (Iron-alabandite). Ferroalabandine more suitable for international use.

Ericaite. Author? H. Strunz, Min. Tab., 2nd edit., 1949, p. 135; 3rd edit., 1957, p. 185 (Ericait, Manganboracit, α-Ericait). Abstracts in Amer. Min., 1956, vol. 41, p. 372. Few analyses of boracite show the presence of MnO (up to 2·32 %); iron-boracite = huyssenite contains FeO (up to 35·26 %). Etymology?

Eunicite. J. E. Paiva Hetto, 1955. [Engenharia, mineria e metalurgia, vol. 22, no. 128, p. 99 (eunicita).] Abstracts in Mém. Soc. Russ. Min., 1956, vol. 85, p. 382 (эвнисит) and Amer. Min., 1957, vol. 42, p. 441. A variety of montmorillonite from the decomposition of melaphyre at Serra de Botucatu, Portugal. Etymology?

Ezcurrite. S. Muessig and R. D. Allen, 1957. Econ. Geol., vol. 52, p. 426. Hydrous sodium borate, $2Na_2O.5B_2O_3.7H_2O$, with characters very similar to those of kernite ($Na_2B_4O_7.4H_2O$). Associated with kernite, borax, tincalconite in the Tincalayu mine, prov. Salta, Argentina. Named after Juan Manuel de Ezcurra, manager of the mine. *See* Metakernite (14th List). [M.A. **13**–623.]

Feldspathides. A. Michel-Lévy, Structures et classification des roches éruptives, Paris, 1889, p. 38. A collective term to include leucite, nepheline, melilite, sodalite, haüyne, nosean, present in alkalic rocks. Later altered to felspathoids. Compare Lenad (5th List), Feloid (10th List), Foid (q.v.).

Ferri-hydroxykeramohalite. A. Dubanský, 1956. Chem. Listy, Praha, vol. 50, p. 1350 (ferri-hydroxykeramohalit). $(Al,Fe)_4(SO_4)_5(OH)_2.21H_2O$, with Al_2O_3 12·54, Fe_2O_3 11·58 %. (*See* Hydroxykeramohalite.)

Ferri-ilmenite. R. Chevallier, J. Bolfa, and S. Mathieu, 1955. Bull. Soc. Franç. Min. Crist., vol. 78, p. 310 (ferri-ilménites). Ilmenite containing up to 33 % Fe_2O_3 in solid solution, as distinct from titanohématites (titanhaematite, 17th List) containing up to 33 % TiO_2, in the isomorphous rhombohedral series Fe_2O_3–$FeTiO_3$.

Ferrikerolite. I. A. Rukavishnikova, 1956. [Kora vyvetrivaniya, Acad. Sci. USSR, no. 2, p. 141.] Abstract in Mém. Soc. Russ. Min., 1957, vol. 86, p. 125 (феррикеролит, ferrikerolite). Compact, green, variety of kerolite (cerolite), with karpinskite (q.v.) in serpentine. Urals.

Ferroalabandine. *See* Eisenalabandin.

Ferrodickinsonite. D. J. Fisher, 1954. Amer. Min., vol. 39, p. 676 (ferroan dickinsonite), p. 840 (ferro dickinsonite); ibid., 1955, vol. 40, p. 1107 (ferrodickinsonite); Science (Amer. Assoc. Adv. Sci.), 1955, vol. 121, p. 312. Alternative name for arrojadite (11th List). A dickinsonite richer in iron. [M.A. **12**–561.] *See* Manganodickinsonite.

Ferroferrimargarite. A. I. Ginzburg, 1955. Trudy Min. Mus. Acad. Sci. USSR, no. 7, p. 75 (ферроферримаргарит). A brittle mica, chemical variety of margarite. [M.A. **13**–209, 521.]

Ferrofillowite. D. J. Fisher, 1955. Bull. Geol. Soc. Amer., vol. 66, p. 1558. Na-Fe-Mn phosphate. 'The Fe″ compound ferrodickinsonite [q.v.], heated in vacuum, inverts irreversibly to ferrofillowite.' Synonym of fillowite (Brush and Dana, 1879).

Ferroselite. E. Z. Buryanova and A. I. Komkov, 1955. Doklady Acad. Sci. USSR, vol. 105, p. 812 (ферроселит). Iron selenide $FeSe_2$, orthorhombic, resembling marcasite, from Tuva, Siberia. Named from the composition. Compare achavalite (18th List, M.A. **12**–236), and eskebornite (19th List). [M.A. **13**–84.]

Ferrous riebeckite. W. G. Ernst, 1957. Ann. Rep. Geophysical Lab., for 1956–57, p. 228 (ferrous riebeckite). Artificial $Na_2Fe''_3Fe'''_2Si_8O_{22}(OH)_2$. *See* Magnesian riebeckite.

Ferutite. Y. V. Kazitzyn, 1954. Mém. Soc. Russ. Min., vol. 83, p. 425 (ферутит). The mineral from Mozambique [Min. Mag. **29**–101, 292], previously referred to davidite, is hexagonal with a distinctive X-ray pattern. Named from the composition, Fe, U, Ti. Abstracts in Bull. Soc. Franç. Min. Crist., 1956, vol. 79, p. 181 (ferrutite); Amer. Min., 1958, vol. 43, p. 382. *See* Mavudzite.

Fluor-edenite. J. A. Kohn and J. E. Comeforo, 1955. Amer. Min., vol. 40, p. 410 (fluor-edenite). Artificial $NaCa_2Mg_5(Si_{3\cdot5}Al_{0\cdot5}O_{11})_2F_2$. Compare fluor-richterite (19th List). [M.A. **13**–486.]

Foid, foidal. A. Johannsen, 1917. Journ. Geol., Chicago, vol. 25, pp. 69–71; Descriptive petrology of igneous rocks, 1931, vol. 1, pp. 141, 174. Abbreviations of felspathoids, felspathoidal. Compare feldspathides (q.v.), feloids (10th List), quarfeloids (10th List).

Francevillite. G. Branche, M. E. Ropert, F. Chantret, B. Morignat, and R. Pouget, 1957. Compt. Rend. Acad. Sci. Paris, vol. 245, p. 89; Bull. Techn. Atomic Energy, 1957, vol. 7, p. 14. Hydrous vanadate, $(Ba,Pb)(UO_2)_2(VO_4)_2.5H_2O$, orthorhombic, as yellow impregnations in sandstone from Franceville, French Equatorial Africa. Named from the locality. [M.A. **13**–522.]

Freboldite. H. Strunz, Min. Tab., 3rd edit., 1957, p. 98 (Freboldit). Cobalt selenide, CoSe, hexagonal, pyrrhotine group, artificial. 'Mineral 4' of P. Ramdohr, 1955 [M.A. **13**–6]. Etymology?

Frolovite. E. S. Petrova, 1957. Mém. Soc. Russ. Min., vol. 86, p. 622 (фроловит). Hydrous calcium borate, $CaB_2O_4.3\frac{1}{2}H_2O$. With calciborite (q.v.) in limestone skarn from Novo-Frolov copper mine, Turinsk district, northern Urals.

Galeite. A. Pabst, D. L. Sawyer, and G. Switzer, 1955. Bull. Geol. Soc. Amer., vol. 66, p. 1658 (abstract). $Na_2SO_4.Na(F,Cl)$, trigonal, the

same as schairerite (12th List), but with a difference in the X-ray pattern, the two perhaps intergrown as a polycrystal. From Searles Lake, California. Named after Mr. W. A. Gale. [M.A. **13**–86.]

Gallium-phlogopite. C. Klingsberg and R. Roy, 1957. Amer. Min., vol. 42, p. 629 (gallium phlogopite), p. 321 (Ga-phlogopite). Artificially prepared $KMg_3GaSi_3O_{10}.(OH)_2$, with Ga in place of Al in phlogopite.

Garrelsite. C. Milton, J. M. Axelrod, and F. S. Grimaldi, 1955. Bull. Geol. Soc. Amer., vol. 66, p. 1597 (abstract). Boro-silicate, $(Ba,Ca,Mg)_4B_4(BO_4)_2(SiO_4)_2(OH)_2.2H_2O$. Small monoclinic crystals related to datolite, from an oil boring at Onray, Utah. Named after Robert M. Garrels, of Harvard University. [M.A. **13**–86.]

Gearksite. I. F. Grigoriev and E. I. Dolomanova, 1951. Trudy Min. Mus. Acad. Sci. USSR, no. 3, p. 93 (геарксит). M. D. Dorfman, ibid., p. 97. Ca-Al hydrofluoride, $CaAl_3(F,OH)_{11}.H_2O$, as white powdery aggregates in hydrothermally metamorphosed sediments, from Transbaikal. Named from analogy with gearksutite ($CaAlF_4OH.H_2O$) and paragearksutite (18th List).

Germanium-phenakite. A. Van Valkenburg and C. E. Weir, 1957. Bull. Geol. Soc. Amer., vol. 68, p. 1809 (germanium phenacite). Artificial $2BeO.GeO_2$, with Ge in place of Si.

Gerstleyite. C. Frondel and V. Morgan, 1956. Amer. Min., vol. 41, p. 839. Sodium sulphantimonite and sulpharsenite, $Na_4As_2Sb_8S_{17}.6H_2O$, as red spherules, monoclinic (?) with borates in clay from Kramer, California. Named after Mr. J. M. Gerstley, of a borax company. [M.A. **13**–303.]

Ginzburgite. F. V. Chukhrov, 1955. [Colloids in the earth's crust, Acad. Sci. USSR, p. 598.] Abstracts in Mém. Soc. Russ. Min., 1956, vol. 85, p. 382 (гинзбургиты, ginsburgites) and Amer. Min., 1957, vol. 42, p. 440. A general term for clay minerals with composition $(Al,Fe)_2O_3:SiO_2$ ranging from 1:1 to 1:1·25. Named after I. I. Ginzburg. [M.A. **13**–628.]

Glinite. S. V. Potapenko, 1952. [Publ. Acad. Architecture, Ukraine, p. 43]. Criticized by I. D. Sedletzky, Mém. Soc. Russ. Min., 1954, ser. 2, vol. 83, p. 289 (глинит). A group name for clay minerals, from глина, clay. Compare Clayite (5th List). *See* Chasovrite. [M.A. **13**–5.]

Gonyerite. C. Frondel, 1955. Amer. Min., vol. 40, p. 1090. A chlorite rich in manganese (MnO 33·83 %) and poor in aluminium (Al_2O_3 0·58 %), from Långban, Sweden. Named after Forest A. Gonyer, analytical chemist, of Harvard University. [M.A. **13**–87.]

Götzenite. T. G. Sahama and K. Hytönen, 1957. Min. Soc. Notice, no. 98; Min. Mag., 1957, vol. 31, p. 503; M.A. **13**–555. $(Ca,Na,Al)_7(Si,Ti)_5O_{15}F_{3\cdot5}$, triclinic, rinkite group. In nephelinite from Kivu, Belgian Congo. Named after Count G. A. von Götzen, German traveller in East Africa.

Grayite. S. H. U. Bowie, 1957. Summ. Progr. Geol. Surv. Great Britain for 1956, p. 47. Thorium phosphate, hexagonal, related to rhabdophane. Pale yellow, powdery, in lithia-pegmatite from Southern Rhodesia. [M.A. **13**–494.]

Gyulekhite. C. M. Khalife-Zade, 1957. [Doklady Acad. Sci. Azerbaijan SSR, 1957, vol. 13, p. 647.] Abstract in Mém. Soc. Russ. Min., 1958, vol. 87, p. 83 (гюлехит, gewlekhite, Gülechit). Hydrous silicate, SiO_2 31·44, Al_2O_3 14·50, Fe_2O_3 29·88, FeO 3·52, MgO 4·00, K_2O 3·71, H_2O+ 8·09, H_2O- 3·31 %. Named from the locality, Гюлех village, SE. Caucasus.

Häggite. H. T. Evans and M. E. Mrose, 1958. Acta Cryst., vol. 11, p. 57. Vanadium hydroxide, $V_2O_3.V_2O_4.3H_2O = V_2O_2(OH)_3$, as black monoclinic crystals in sandstone from Wyoming. Named after Prof. Gunnar Hägg of Uppsala University.

Hastite. P. Ramdohr and M. Schmitt, 1955. Neues Jahrb. Min., Monatshefte, no. 6, p. 140 (Hastit). Cobalt selenide, $CoSe_2$, orthorhombic (marcasite group). From Trogtal, Harz. Named after Dr. P. F. Hast, mining director. [M.A. **13**–5.]

Hawleyite. R. J. Traill and R. W. Boyle, 1955. Amer. Min., vol. 40, p. 555; Contr. Canadian Min., vol. 5, pt. 7. Cubic CdS, dimorphous with greenockite, as a yellow powder on blende. Named after Prof. James E. Hawley, of Queen's University, Kingston, Ontario. Compare optically isotropic xanthochroite (8th List). [M.A. **13**–7.]

Heidornite. W. v. Engelhardt and H Füchtbauer, 1956. Heidelberg. Beitr. Min. Petr., vol. 5, p. 177 (Heidornit). Borate, sulphate, and chloride, $Na_2Ca_3Cl(SO_4)_2B_5O_8(OH)_2$, monoclinic, as transparent spear-like crystals (up to 7 cm.) with glauberite from a deep boring in anhydrite at Nordhorn, Hannover. Named after Dr. Fritz Heidorn, geologist, of Bentheim. [M.A. **13**–382.]

Hibonite. H. Curien, C. Guillemin, J. Orcel, and M. Sternberg, 1956. Compt. Rend. Acad. Sci. Paris, vol. 242, p. 2845. L. Delbos, ibid., 1957, vol. 244, p. 214. Mixed oxides of aluminium, &c., $(Al,Fe''',Ti,Si,Mg,Fe'')_{12}$ $(Ca,rare\text{-}earths)O_{19}$, dark-brown, hexagonal crystals in metamorphic limestone with plagioclase, corundum, spinel, and thorianite, from southern Madagascar. Named after P. Hibon, who found the material. [M.A. **13**–380.]

Honessite. A. V. Heyl, C. Milton, and J. M. Axelrod, 1956. Bull. Geol. Soc. Amer., vol. 67, p. 1706 (abstract). Hydrous basic nickel-iron sulphate, as a green or brown powdery weathering product of millerite, from Wisconsin. Named after Prof. Arthur Pharaoh Honess (1887–1942).

Hydrocassiterite. H. Strunz, Min. Tab., 3rd edit., 1957, p. 151 (Hydro-Cassiterit). Synonym of souxite = varlamoffite (18th List).

Hydrogen-autunite. C. Frondel, 1950. Amer. Min., vol. 35, p. 762 (hydrogen-autunite). V. Ross, ibid., 1955, vol. 40, p. 917. Artificial base-exchange product, $HUO_2PO_4.4H_2O$, tetragonal. [M.A. **13**–7.]

Hydronasturan. R. V. Getzeva, 1956. [Atomic Energy, Moscow, no. 3, p. 135.] Abstracts in Mém. Soc. Russ. Min., 1957, vol. 86, p. 117 (гидронастуран, hydronasturan); Amer. Min., 1957, vol. 42, p. 442. $UO_2.kUO_3.nH_2O$. Compact, amorphous, black, in oxidized ore. Named from the composition. (настуран = pitchblende.) *See* urhite. [M.A. **13**–385.]

Hydroxykeramohalite. A. Dubanský, 1956. Chem. Listy, Praha, vol. 50, p. 1350 (hydroxykeramohalit). $Al_4(SO_4)_5(OH)_2.21H_2O$. Derivative of keramohalite (or alunogen), from Dubnik, Slovakia.

Iriginite. Author? Guide to USSR exhibit at Conference on Atomic Energy, Geneva, 1955, p. 9 (priguinite). Later publications, abstracts: Amer. Min., 1956, vol. 41, p. 816 (priguinite), 1958, vol. 43, p. 379 (iriginite); Mém. Soc. Russ. Min., 1953, vol. 87, p. 80 (иригинит, iriginite). $UO_3.2MoO_3.4H_2O$. Etymology?

Iron-alabandite. *See* Eisenalabandin.

Isostannite. G. F. Claringbull and M. H. Hey, 1955. Min. Soc. Notice, 1955, no. 91 [M.A. **13**–31]; M. H. Hey, Index of Minerals (Brit. Mus.) 1955, pp. 34, 468, 609. Cubic (isometric) modification of Cu_2FeSnS_4, as distinct from tetragonal stannite.

Istisuite. M. A. Kashkay and A. I. Mamedov, 1955. [Doklady Acad. Sci. Azerbaijan, vol. 11, no. 1, p. 21]; abstract in Mém. Soc. Russ. Min., 1955, ser. 2, vol. 84, p. 347 (истисуит). $(Ca,Na)_7(Si,Al)_8(O,OH)_{24}$, monoclinic. With wollastonite in skarn from Istisu (Истису), a health resort on the Terter river, Azerbaijan republic. [M.A. **13**–207.]

Jagoite. R. Blix, O. Gabrielson, and F. E. Wickman, 1957. Arkiv. Min. Geol., Stockholm, vol. 2, no. 18, p. 215 (jagoite). $(Pb,Ca)_3Fe'''Si_3O_{10}(Cl,OH)$; analysis, SiO_2 22·35, Pb 64·26 %, and fractional percentages of Al, Be, K, Mg, Mn, Na, Ti. Trigonal, yellow-green micaceous plates with melanotekite in iron ore. This is the tenth lead silicate from Långban, Sweden. Named after John B. Jago, mineral collector of San Francisco.

Janovite. Still another variation of janite (13th List), janowaite (15th List), and yanite (15th List). [M.A. **13**–180.]

Kadmoselite. E. Z. Buryanova, G. A. Kovalev, and A. I. Komkov, 1957. Mém. Soc. Russ. Min., vol. 86, p. 626 (кадмоселит). Cadmium selenide, CdSe, hexagonal, minute black grains. Named from the composition.

Kaliophyllite. Error for kaliophilite. Compare Corundophyllite (20th List). [M.A. **13**–493.]

Kandite. Clay Min. Bull., 1955, vol. 2, pp. 295, 296. Group name to include kaolinite, nacrite, dickite, halloysite. A portmanteau word, but overlooking halloysite.

Karpatite. Russian карпатит for carpathite (q.v.).

Karpinskite. I. A. Rukavishnikova, 1956. [Kora vyvetrivaniya, Acad. Sci. USSR, no. 2, p. 164.] Abstract in Mém. Soc. Russ. Min., 1957, vol. 86, p. 124 (карпинскит). $(Ni,Mg)_2Si_2O_5(OH)_2$, containing NiO 21·12, MgO 17·56 %, compact, greenish-blue, with cerolite minerals (nickel-β-kerolite, ferrikerolite, qq.v.) in crevices in serpentine. Urals. Named after A. P. Karpinsky. Not to be confused with karpinskyite (q.v.).

Karpinskyite. L. L. Shilin, 1956. Doklady Acad. Sci. USSR, vol. 107, p. 737 (Карпинскиит), English table of contents (karpinskyite). Radial aggregates of white hexagonal needles in pegmatite [from Kola peninsula]. $Na_2(Be,Zn,Mg)Al_2Si_6O_{16}(OH)_2$. Named after Alexander Petrovich Karpinsky, Александр Петрович Карпинский (1847–1936), Russian geologist. [Min. Mag. **25**–293, M.A. **13**–209.]

Kašparite. A. Dubanský, 1956. Chem. Listy, Praha, vol. 50, p. 1352 (Kašparit). $(Mg,Co)Al_3(SO_4)_5OH.28H_2O$. Variety of pickeringite containing CoO 1·52 %, from Dubnik, Slovakia. Named after Prof. Jan V. Kašpar of Praha. [Amer. Min. **42**–919.]

Kertisite. Russian кертисит for curtisite. *See* Curtisoids.

Këwhile. Z. V. Orlova, 1956. [Trudy Magadan Sci. Research Inst. 1956, p. 76.] Abstract in Mém. Soc. Russ. Min., 1958, vol. 87, p. 76 (кёстерит, custerite, Kösterit). (Cu,Sn,Zn)S, containing Cu 30·56, Sn 25·25, Zn 11·16, S 23·40%. In quartz-sulphide ore from Këster, Magadan, Yakutia, NE. Siberia. Named from the locality.

Kettnerite. L. Žak and V. Syneček, 1956. Časopis Min. Geol., vol. 1, p. 195. $CaF(BiO)CO_3$, tetragonal, brown to yellow crystals with bismuth, fluorite, &c., in pegmatite from Krupka, Bohemia. Named after Radim Kettner, professor of geology, Karlova University, Praha.

Kingite. K. Norrish, L. E. R. Rogers, and R. E. Shapter, 1956. Min. Soc. Notice, no. 94; Min. Mag., 1957, vol. 31, p. 351. Hydrous aluminium phosphate, $Al_2O_3.Al(OH)_3.P_2O_5.9H_2O$, as white nodules in phosphate deposits in South Australia. Named after Mr. D. King, geologist, Department of Mines, South Australia. (*See* Meta-kingite.)

Kirschsteinite. T. G. Sahama and K. Hytönen, 1957. Min. Mag., vol. 31, p. 698. $CaFeSiO_4$ (69·4 mol. %, with some Mg and Mn), orthorhombic, monticellite group. With combeite and götzenite (qq.v.) in nephelinite from Kivu, Belgian Congo. Named after the late Dr. Egon Kirschstein, German geologist.

Knipovitchite. Bull. Soc. Franç. Min. Crist., 1955, vol. 78, p. 218. French transliteration of книповичит, knipovichite (20th List).

Kupletskite. E. I. Semenov, 1956. Doklady Acad. Sci. USSR, vol. 108, p. 933 (Куплетскит). A variety of astrophyllite rich in manganese (MnO 27·65 %), in pegmatite from Kola. Named after Boris Mikhailovich Kupletsky, Борис Михаилович Куплетский, Russian mineralogist. Abstract in Bull. Soc. Franç. Min. Crist., 1957, vol. 80, p. 212 (koupletskite). [M.A. **13**–384.]

Kurnakite. E. Y. Rode, 1955. Trans. First Congress of Thermography (Kazan, 1953), Acad. Sci. USSR, 1955, p. 217 (курнакит). Two modifications of Mn_2O_3, usually confused with braunite and bixbyite: α-kurnakite is tetragonal and β-kurnakite is cubic. Named after N. S. Kurnakov. [M.A. **13**–302.] Not to be confused with kurnakovite (16th List).

Kurumsakite. E. A. Ankinovich, 1954. [Izv. Acad. Sci. Kazakhstan, no. 134, Geol. ser. no. 18, p. 116.] Abstract in Mém. Soc. Russ. Min., 1955, vol. 84, p. 343 (курумсакит). $8(Zn,Ni,Cu)O.4Al_2O_3.V_2O_5.5SiO_2.27H_2O$, orthorhombic? In bituminous shale from Kurumsk, Kara-tau Mts., Kazakhstan. Named from the locality. [M.A. **13**–207.]

Labuntzovite. E. I. Semenov and T. A. Burova, 1955. Doklady Acad. Sci. USSR, vol. 101, p. 1113 (лабунцовит). Abstracts in Amer. Min., vol. 41, p. 163 (labuntsovite) and Bull. Soc. Franç. Min. Crist., vol. 79, p. 333 (labountsovite). Hydrous titano-silicate, $(K,Na,Ba,Ca,Mn)(Ti,Nb)Si_2(O,OH)_7.\frac{1}{2}H_2O$, orthorhombic, from Kola, Russia. Originally described by A. N. Labuntzov [M.A. **3**–235] as titaniferous elpidite (titano-elpidite, 11th List), but now shown to contain only a trace of ZrO_2 with TiO_2 25·49, Nb_2O_5 1·45 %. Named after Alexander Nikolaevich Labuntzov, Александр Николаевич Лабунцов, formerly of the Lomonosov Institute, Moscow. [M.A. **13**–4.]

Ledikite. G. Brown and others, 1955. Clay Min. Bull., vol. 2, pp. 299, 300. 'The trioctahedral analogue of illite', as an alteration product of biotite in soil-clay from East Ledikin, Aberdeenshire. Named from the locality. Compare cardenite (20th List).

Lermontovite. Author? Guide to USSR exhibit at Conference on Atomic Energy, Geneva, 1955, p. 8 (lermontovite). Later publications, abstracts: Amer. Min., 1956, vol. 41, p. 816, 1958, vol. 43, p. 379; Mém. Soc. Russ. Min., 1958, vol. 87, p. 81 (лермонтовит, lermontovite). $(U,Ca,rare\text{-}earths)_3(PO_4)_4.6H_2O$. Named after Mikhil Yurevich Lermontov (1814–44), Russian poet of Scottish origin.

Lesserite. C. Frondel, V. Morgan, and J. L. T. Waugh, 1956. Amer. Min., vol. 41, p. 927. Hydrous magnesium borate, $Mg_2B_6O_{11}.15H_2O$, monoclinic, dimorphous with triclinic inderite, from Kramer, California. Named after Mr. Federico Lesser, of the borate industry. [M.A. **13**–303.]

Lithiophosphate. V. V. Mathias and A. M. Bondareva, 1957. Doklady Acad. Sci. USSR, vol. 112, p. 124 (литиофосфат, lithiophosphate). Lithium phosphate, Li_3PO_4, as white to colourless masses in pegmatite from Kola. It is a hydrothermal alteration product of montebrasite, and weathers to mangan-apatite and davisonite. Named from the composition. The suffix *-ate* is new for mineral names (except agate) and may be confused with chemical and other terms; for example, selenite ($CaSO_4.2H_2O$ and $CaSeO_3$), evaporate, precipitate, separate. [M.A. **13**–383.]

Lizardite. E. J. W. Whittaker and J. Zussman, 1955. Min. Soc. Notice, no. 91; Min. Mag., 1956, vol. 31, pp. 108, 118; J. Zussman and others, Amer. Min., 1957, vol. 42, p. 134. A platy serpentine mineral with X-ray *c*-axis half that of chrysotile. Named from the locality, Lizard, Cornwall.

Lodochnikite. Author? Guide to USSR exhibit at Conference on Atomic Energy, Geneva, 1955, p. 9 (lodochnikite). Later publications, abstracts: Amer. Min., 1957, vol. 42, p. 307 (lodochnikite, lodochnikovite), Amer. Min. **43**–380; Mém. Soc. Russ. Min., 1958, vol. 87, p. 78 (лодочникит, lodochnikite). $2(U,Th)O_2.3UO_3.14TiO_2$. Named after Vladimir (= Wartan) N. Lodochnikov, Владимир Н. Лодочников (1887–1942). Not to be confused with lodochnikovite of E. I. Nefedov, 1953 (20th List).

Lodotchnikovite, Lodotschnikowit. French (Bull. Soc. Franç. Min. Crist., 1955, vol. 78, p. 219) and German (Geologie Zeitschr., East Berlin, 1955, vol. 4, p. 528) transliterations of лодочниковит, lodochnikovite of E. I. Nefedov, 1953 (20th List).

Mafite. A. Johannsen, 1917. Journ. Geol. Chicago, vol. 25, p. 70. Collective name for dark rock-forming minerals. Metamorphism of ferromagnesian through the stages femag and mafic.

Maghæmite. P. T. Davey and T. R. Scott, 1957. Nature, London, vol. 179, p. 1363. Variant of maghemite (12th List).

Magnesian glaucophane. W. G. Ernst, 1957. Ann. Rep. Geophysical Lab., for 1956–57, p. 228 (magnesian glaucophane). Artificial $Na_2Mg_3Al_2Si_3O_{22}(OH)_2$.

Magnesian riebeckite. W. G. Ernst, 1957. Ann. Rep. Geophysical Lab., for 1956–57, p. 228 (magnesian riebeckite). Artificial $Na_2Mg_3Fe'''_2Si_8O_{22}(OH)_2$. *See* Ferrous riebeckite.

Magnussonite. O. Gabrielson, 1956. Arkiv Min. Geol. Stockholm, vol. 2, p. 133. Arsenite of Mn, &c. $(Mn,Mg,Cu)_5(AsO_3)_3(OH,Cl)$, cubic, as green crusts on dolomite from Långban, Sweden. Named after Nils H. Magnusson, director of the Geological Survey of Sweden. [M.A. **13**–381.]

Manganboracite. *See* Ericaite.

Manganodickinsonite. D. J. Fisher, 1957. Amer. Min., vol. 42, p. 662 (mangano-dickinsonite). Synomyn of dickinsonite (Brush and Dana, 1878). *See* Ferrodickinsonite.

Mauritzite. L. Tokody, T. Mándy, and S. Nemes-Varga, 1957. Neues Jahrb. Min. Monatshefte, p. 33 (Mauritzit). Hydrous oxides, $(Fe''',Al)_2O_3.2(Mg,Fe'')O.5H_2O$, as bluish-black rods in altered andesite from Hungary. The structure is similar to that of montmorillonite with $(OH)_4$ in place of SiO_2, but containing much intermixed quartzine. Named after Prof. Béla Mauritz (1881–) of Budapest. [M.A. **13**–381.]

Mavudzite. A. V. P. Coelho, 1954. [Garcia de Orta, Rev. junta missões geogr. e invest. do Ultramar, vol. 2, p. 209.] Bibliography of geology, Geol. Soc. Amer., 1955, vol. 19, p. 369; Amer. Min., 1956, vol. 41, p. 164. A metamict radioactive mineral from Mavudzi, Tete district, Mozambique. Named from the locality. Previously described [Min. Mag. **29**–101, 292] as a variety of davidite. *See* Ferutite.

Mesomicrocline. Author? H. Strunz, Min. Tab., 3rd edit., 1957, p. 334 (Mesomikroklin). Triclinic pseudo-monoclinic, $K(Al,Si)_2Si_2O_8$. Greek $\mu\varepsilon\sigma o\varsigma$, middle.

Meta-kingite. K. Norrish, L. E. R. Rogers, and R. E. Shapter, 1957. Min. Mag., vol. 31, p. 351. An artificially, partially dehydrated form, $Al_2O_3.Al(OH)_3.P_2O_5.4H_2O$, of kingite (q.v.).

Metanováčekite. C. Frondel, 1956. Prof. Paper U.S. Geol. Surv., no. 300, p. 578 (metanovacekite). $Mg(UO_2)_2(AsO_4)_2.8H_2O$, partly de-

hydrated form of nováčekite (19th List). H. Strunz, Min. Tab., 3rd edit., 1957, p. 253 (Meta-Novačekit), $Mg(UO_2)_2(AsO_4)_2.4H_2O$, tetragonal.

Micheewit. E. I. Nefedov, Geologie, Zeits. Geol., East Berlin, 1955, vol. 4, p. 526. German spelling of mikheevite (20th List). Named after Viktor Ivanovich Mikheev, Виктор Иванович Михеев (1912–56), X-ray crystallographer. [M.A. **13**–85.]

Microantiperthite. A. F. Buddington, J. Fahey, and A. Vlisidis, 1955. Amer. Journ. Sci., vol. 253, p. 503. A fine intergrowth of potash-felspar and plagioclase with the former predominating. Compare Antiperthite (4th List).

Minguzzite. C. L. Garavelli, 1955. Rend. Accad. Lincei, Cl. Sci. fis. mat. nat., ser. 8, vol. 18, p. 400. Oxalate of potassium and ferric iron, $K_3Fe(C_2O_4)_3.3H_2O$, green monoclinic crystals, with oxalite = humboldtine, $FeC_2O_4.2H_2O$, in limonite from Elba. Named in memory of Carlo Minguzzi (1910–1953), Italian mineralogist. [M.A. **13**–86.]

Mogensenite. A. F. Buddington, J. Fahey, and A. Vlisidis, 1955. Amer. Journ. Sci., vol. 253, p. 409. A titaniferous magnetite containing exsolution ulvöspinel. Named after Fredrik Mogensen, of Djursholm, Sweden, who described ulvöspinel (Fe_2TiO_4, 18th List). *See* Titanmagnetite.

Moluranit. Author? Guide to USSR exhibit on Atomic Energy, Geneva, 1955, p. 9 (moluranite). Later publications, abstracts: Amer. Min., 1956, vol. 41,p. 816, Amer. Min. **43**–381, $UO_2.2UO_3.5MoO_3.12H_2O$; Mém. Soc. Russ. Min., 1958, vol. 87, p. 79 (молуранит), $UO_2.2UO_3.5MoO_3.12H_2O$? Named from the composition.

Mountainite. J. A. Gard and H. F. W. Taylor, 1957. Min. Soc. Notice, 1957, no. 97; Min. Mag., 1957, vol. 31, p. 611. A fibrous zeolitic mineral containing no Al_2O_3, unit-cell contents $(Ca,Na_2,K_2)_{16}Si_{32}O_{80}.24H_2O$, monoclinic. Closely associated and confused with rhodesite (q.v.) from Bultfontein mine, Kimberley, South Africa. Named after Prof. Edgar Donald Mountain (1901–) of Rhodes University, Grahamstown.

Nekoite. J. A. Gard and H. F. W. Taylor, 1955. Min. Soc. Notice, no. 90; Min. Mag., 1956, vol. 31, p. 5. A dimorphous triclinic form of $CaO.2SiO_2.2H_2O$, applied to the 'okenite' from Crestmore, California, which differs in optical and X-ray data from okenite from other localities. Anagrammatic name.

Nenadkevite. V. A. Polikarpova, 1956. [Atomic Energy, Moscow, no. 3, p. 132.] Abstract in Mém. Soc. Russ. Min., 1957, vol. 86, p. 123

(ненадкевит). Earlier note in guide to USSR exhibit at Conference on Atomic Energy, Geneva, 1955, p. 7 (nenadkevite). Abstracts in Amer. Min. **41**–816, **42**–441. Composition variously given as $(U^{iv},Yt,Ce,Th)U^{vi}(Ca,Mg,Pb)(SiO_4)_2(OH)_4.nH_2O$ and $U^{vi}(U^{iv},Th)(Mg,Ca,Pb)_3(SiO_4)_2(OH)_8.nH_2O$. Named after Konstantin Avtonomovich Nenadkevich, Константин Автономович Ненадкевич, Russian mineralogist and geochemist. Not to be confused with Nenadkevichite of M. V. Kuzmenko and M. E. Kazakova, 1955 (20th List). [M.A. **13**–385.]

Neomesselite. C. Frondel, 1955. Amer. Min., vol. 40, p. 828. $(Ca,Fe,Mn,Mg)_3(PO_4)_2.2H_2O$, triclinic, from Palermo mine, North Groton, New Hampshire. Synonym of messelite (W. Muthmann, 1889) from Messel, Hesse. [M.A. **13**–8.]

Nickel-β-kerolite. I. A. Rukavishnikova, 1956. [Kora vyvetrivaniya, Acad. Sci. USSR, no. 2, p. 141.] Abstract in Mém. Soc. Russ. Min., 1957, vol. 86, p. 125 (никелевый β-керолит, nickel-β-kerolite). $(Mg,Ni)_3Si_4O_{10}(OH)_2.H_2O$, containing MgO 20·05, NiO 18·06 %, compact, bright green, with karpinskite (q.v.) in serpentine. Urals.

Nickel-phlogopite. C. Klingsberg and R. Roy, 1957. Amer. Min., 1957, vol. 42, p. 629 (nickel phlogopite), p. 631 (Ni-phlogopite). Artificially prepared $KNi_3AlSi_3O_{10}(OH)_2$, with Ni in place of Mg (Mg-phlogopite).

Nickel-vermiculite. C. S. Ross and E. V. Shannon, Amer. Min., 1926, vol. 11, p. 90 (nickeliferous vermiculite), NiO 11.25%, North Carolina [M.A. **3**–352]. A. P. Nikitina, 1956. [Kora vyvetrivaniya, Acad. Sci. USSR, no. 2, p. 188 (никелевый вермикулит).] Variety of vermiculite containing NiO 8·6 %, from weathering of ultra-basic rocks, Ukraine. [M.A. **13**–514.]

Nioboloparite. I. P. Tikhonenkov and M. E. Kazakova, 1957. Mém. Soc. Russ. Min., vol. 86, p. 641 (ниоболопарит). Variety of loparite (10th List) with niobium predominating over tantalum, $(Na,Ce,Ca)(Ti,Nb)O_3$, as black octahedra in alkali-pegmatite from Kola.

Niocalite. E. H. Nickel, 1956. Amer. Min., vol. 41, p. 785, p. 969 (nicolatie). K. Kern, A. Rimsky, and J. C. Monier, Compt. Rend. Acad. Sci. Paris, 1957, vol. 245, p. 2063. Niobo-silicate of calcium, $Ca_4NbSi_2O_{10}(OH,F)$, orthorhombic, as pale yellow prismatic crystals in metamorphic limestone from Oka, Quebec. Named from the composition. [M.A. **13**–211.]

Nolanite. S. C. Robinson, 1955. Bull. Geol. Surv. Canada, no. 31, p. 67. W. H. Barnes and M. M. Qurashi, Amer. Min., 1952, vol. 37, p. 420 (iron vanadate [M.A. **12**–210]). S. C. Robinson, H. T. Evans, W. T. Schaller, and J. J. Fahey, Amer. Min., 1957, vol. 42, p. 619. Iron

vanadate, $3FeO.V_2O_3.3V_2O_4$ or $4FeO.V_2O_3.4V_2O_4$, as minute, black hexagonal plates with uranium ore from Beaverlodge (= Goldfields), Saskatchewan. Intergrown with a second phase ($FeO.2V_2O_4$). Named after Thomas Bennan Nolan (1901–), Director, U.S. Geological Survey.

Obruchevite. Author? Guide to USSR exhibit at Conference on Atomic Energy, Geneva, 1955, p. 9 (obruchevite), contains U, Ti, Nb, Ta. Later publications, abstracts: Amer. Min., 1957, vol. 42, p. 307, 1958, vol. 43, p. 380, $(Yt,U,Na_2)Ta_2O_6(OH,F)$; Mém. Soc. Russ. Min., 1958, vol. 87, p. 79 (обручевит, obruchevite), $3Na_2O.4(Ca,Fe)O.3Yt_2O_3.(U,Th)O_2$. A. Kalina, Doklady Acad. Sci. USSR, 1957, vol. 117, p. 117, обручевит, variety of pyrochlore in pegmatite from Karelia. Named after the veteran geologist Vladimir Afanasevich Obruchev, Владимир Афанасьевич Обручев (1863–1956).

Orlite. Author? Guide to USSR exhibit at Conference on Atomic Energy, Geneva, 1955, p. 7 (orlite). Later publications, abstracts: Amer. Min., 1956, vol. 41, p. 816, 1957, vol. 42, p. 307, 1958, vol. 43, p. 381; Mém. Soc. Russ. Min., 1958, vol. 87, p. 83 (орлит, orlite). Formula variously given as $3PbO.3UO_3.4SiO_2.6H_2O$ and '$Pb_3(UO_2)_3Si_2O_7.6H_2O$'. Etymology?

Painite. G. F. Claringbull, M. H. Hey, and C. J. Payne, 1956. Min. Soc. Notice, 1956, no. 95; Min. Mag., 1957, vol. 31, p. 420. Mixed oxide, near $Al_{20}Ca_4BSiO_{37\cdot5}$. A single, small, transparent, dark-red, hexagonal crystal from gem-gravel at Mogok, Burma. Named after Arthur Charles Davy Pain, who collected the material. Compare Hibonite (q.v.).

Para-autunite. Author? H. Strunz, Min. Tab., 3rd edit., 1957, p. 254 (Para-Autunit). $Ca(UO_2)_2(PO_4)_2$, orthorhombic (pseudo-tetragonal). Meta-autunite-II of J. Beintema, 1938 [M.A. **7**–237]. Completely dehydrated in the para-uranite (Para-Uranit) series. In other mineral names (e.g. 18th List) the prefix para- is used in different senses.

Para-chrysotile. E. J. W. Whittaker and J. Zussman, 1955. Min. Soc. Notice, 1955, no. 91; Min. Mag., 1956, vol. 31, p. 116. A variety of chrysotile with X-ray fibre-axis 9·2 Å., distinct from clino- and ortho-chrysotile (20th List).

Paradamite. G. Switzer, 1956. Science (Amer. Assoc. Adv. Sci.), vol. 123, p. 1039. Zinc arsenate, Zn_2AsO_4OH, triclinic, dimorphous with adamite and isomorphous with tarbuttite. From Mexico. [M.A. **13**–380.]

Paramontroseite. H. T. Evans and M. E. Mrose, 1955, Amer. Min., vol. 40, p. 861. Vanadium dioxide V_2O_4, orthorhombic, as an oxidation product of montroseite, (V,Fe)O(OH) (19th List), from Paradox Valley, Colorado. [M.A. **13**–9.]

Phosphate-belovite. *See* Arsenate-belovite.

Plumbolimonite. G. H. Vertushkoe and Yu. A. Sokolov, Mém. Soc. Russ. Min., 1958, vol. 87, p. 96 (плумболимонит). PbO 15·38, Fe_2O_3 45·20, MnO 18·37, SiO_2 5·00, H_2O 12·51 %. With pyromorphite from Verkhne Ufaleya, Urals.

Polynite. E. A. Yarilova and E. I. Parfenova, 1957. Pochvovedenie (Pedology), 1957, no. 9, p. 37 (полынит). A montmorillonoid clay mineral in soils. Named after B. B. Polynov, Б. Б. Полынов (1877–1952). [M.A. **13**-580.]

Potash-scapolite. D. P. Serdyuchenko, 1955. Problems of geology of Asia, Acad. Sci. USSR, vol. 2, p. 742 (калиевые скаполиты). Scapolites containing up to 5·88 % K_2O from Yakutia. [M.A. **13**–186.]

Preobrazhenskite. Y. Y. Yarzhemsky, 1956. Doklady Acad. Sci. USSR, vol. 111, p. 1087 (преображенскит, preobrazhensquite). Magnesium borate, $3MgO.5B_2O_3.4{\cdot}5H_2O$, monoclinic (?). From the salt deposits at Inder, Kazakhstan. Named after Paul Ivanovich Preobrazhensky, Павл Иванович Преображенский (1874–1944), investigator of Russian salt deposits. Abstract in Bull. Soc. Franç. Min. Crist., 1957, vol. 80, p. 217 (preobrajenskite). [M.A. **13**–300.]

Priguinite. Error for Iriginite (q.v.).

Protodolomite. D. L. Graf and J. R. Goldsmith, 1955. Bull. Geol. Soc. Amer., vol. 66, p. 1566 (abstract); Journ. Geol. Chicago, 1956, vol. 64, p. 173. Imperfectly crystallized, artificial material approaching $CaCO_3.MgCO_3$ in composition. [M.A. **13**–88, 270.]

Przhevalskite. Author? Guide to USSR exhibit at Conference on Atomic Energy, Geneva, 1955, p. 8 (prjevalskite). Later publications, abstracts: Amer. Min., vol. 41, p. 816, vol. 43, p. 381; Mém. Soc. Russ. Min., 1958, vol. 87, p. 81 (пржевальскит, przhewalskite). $PbO.2UO_3.P_2O_5.4H_2O$. Named after Nikolai Mikhailovich Przhevalsky, H. M. Пржевальский (1839–88), Russian explorer in Central Asia.

Pseudolaueite. H. Strunz, 1956. Naturwissenschaften, vol. 43, p. 128. Orange-yellow monoclinic crystals from Hagendorf, Bavaria, with the same composition, $MnFe^{'''}_2(PO_4)_2(OH)_2.8H_2O$, as laueite (20th List). [M.A. **13**-210.]

Randomite. R. A. Van Nordstrand, W. P. Hettinger, and C. D. Keith, 1956. Nature, London, vol. 177, p. 714. Preliminary name for an artificial form of $Al(OH)_3$, with X-ray pattern distinct from those of associated gibbsite and bayerite. At first thought to have a random stacking structure. Later named bayerite-II.

Rhodesite. E. D. Mountain, 1956. Min. Soc. Notice, 1957, no. 97; Min. Mag., 1957, vol. 31, p. 607. J. A. Gard and H. F. W. Taylor, Min. Soc. Notice, 1956, no. 95, 1957, no. 97; Min. Mag., 1957, vol. 31, p. 611. A fibrous zeolitic mineral containing Al_2O_3 only 0·29 %, $4(Ca,Na_2,K_2)O.10SiO_2.7H_2O$, unit cell contents $(Ca,Na_2,K_2)_8Si_{16}O_{40}.11H_2O$, orthorhombic. Closely associated with mountainite (q.v.) from Bultfontein mine, Kimberley, South Africa. Named after Cecil John Rhodes (1853–1902) and Rhodes University, Grahamstown.

Santafeite. M. S. Sun and R. H. Weber, 1957. Bull. Geol. Soc. Amer., vol. 68, p. 1802 (abstract). Hydrous vanadate, $Na_2O.3MnO_2.6(Mn,Ca,Sr)O.3(V,As)_2O_5.8H_2O$, orthorhombic, black needles, on limestone from New Mexico. Named after the Santa Fe Railroad Company. [M.A. **13**–624.]

Sauconite. D. M. Roy and F. A. Mumpton, 1955. Bull. Geol. Soc. Amer., vol. 66, p. 1610 (abstract). Artificial $Zn(OH)_2$ as various polymorphs, the original sauconite (W. T. Roepper, 1875, 2nd List) being a montmorillonoid phase.

Sborgite. C. Cipriani, 1957. Atti (Rend.) Accad. Naz. Lincei, Cl. Sci. fis. mat. nat., ser. 8, vol. 22, p. 524. Hydrous sodium borate, $Na_2O.5B_2O_3.10H_2O$, triclinic. Deposit in steam pipes at the hot springs of Larderello, Tuscany. Named for Umberto Sborgi (1883–1955), professor of chemistry in the University of Milano. [Amer. Min. **43**–378.]

Schubnikowit. Geologie Zeits., East Berlin, 1955, vol. 4, p. 528. German transliteration of щубниковит, shubnikovite (20th List).

Serpentine-talc. H. Füchtbauer and H. Goldschmidt, 1956. Heidelberg. Beitr. Min. Petr., vol. 5, p. 195 ('Serpentintalk'). Between serpentine and talc in composition, $Mg_6Si_6O_{15}(OH)_6$, and physical characters. From silicification of dolomite in anhydrite bed of the Werra salt-deposits, Thuringia.

Severginite. G. P. Barsanov, 1951. Trudy Min. Mus. Acad. Sci. USSR, no. 3, p. 10 (севергинит). A variety of axinite containing MnO 14·79 %. Synonym of manganaxinite (5th List) and tinzenite (10th List, M.A. **12**–340). Named after Vasilii Mikhailovich Severgin, Василий Михайлович Севергин (1765–1826), Russian mineralogist. [M.A. **13**–353.]

Shorsuite. N. T. Vinnichenko, 1955. [Trudy Central Asiatic State Univ., no. 63, p. 19.] Abstracts in Mém. Soc. Russ. Min., 1956, vol. 85, p. 377 (шорсуит, shorsuite); Amer. Min., 1957, vol. 42, p. 441. White, fibrous, $(Fe,Mg)Al_2(SO_4)_4.19·6H_2O$, between halotrichite and pickeringite. Named from the locality, Шор-Су, in Turkestan. [M.A. **13**–521.]

Simplotite. M. E. Thompson, C. H. Roach, and R. Meyrowitz, 1956. Science (Amer. Assoc. Adv. Sci.), vol. 123, p. 1078; Amer. Min., 1958, vol. 43, p. 16. Hydrous tetravanadite of calcium, $CaV_4O_9.5H_2O$, monoclinic, as dark-green plates and warty aggregates with U-V ores in crevices in sandstone from Peanut mine, Montrose Co., Colorado, and other localities in Colorado and Utah. Named after J. R. Simplot, former owner of the Peanut mine. [M.A. **13**–379.]

Smirnovite. V. G. Melkov and L. Ch. Pukhalsky 1957. [Minerals of the Urals, Moscow, 1957, p. 35.] Abstract in Mém. Soc. Russ. Min., 1958, vol. 87, p. 79 (смириовит, smirnovite = торутит, thorutite). $2[(Th,U,Ca)Ti_2O_6].H_2O$. Presumably named after S. S. Smirnov (see smirnovskite). Thorutite = thoria+rutile (?).

Smirnovskite. I. F. Grigoriev and E. I. Dolomanova, 1957. Mém. Soc. Russ. Min., vol. 86, p. 607 (смирновскит). Hydrous fluo-silicophosphate of thorium, &c. $(Th,Ce,Ca...)OH.(P,Si,Al)(O,F,OH)_4$, Metamict. With cassiterite in quartz veins from Trans-Baikal. Named after academician Sergei Sergesich Smirnov, Сергей Сергесич Смирнов.

Smolyaninovite. L. K. Yakhontova, 1956. Doklady Acad. Sci. USSR, vol. 109, p. 849 (смольяниновит, smolianinovite). Hydrous arsenate, $2As_2O_5.(Fe,Al)_2O_3.4(Co,Ni,Mg,Ca)O.11H_2O$. Yellow, earthy oxidation product of Ni-Co ores from Bou-Azzer, Morocco. Named after Prof. N. A. Smolyaninov, Н. А. Смольянинов.

Smythite. R. C. Erd and H. T. Evans, 1956. Journ. Amer. Chem. Soc., vol. 78, p. 2017. R. C. Erd, H. T. Evans, and D. H. Richter, Amer. Min., 1957, vol. 42, p. 309. Iron sulphide, Fe_3S_4, rhombohedral; X-ray pattern similar to but distinct from pyrrhotine. Named after Prof. Charles Henry Smyth, Jr. (1866–1937), economic geologist. [M.A. **13**–380, 523.]

Soda-beryl. A. A. Beus and N. E. Zalashkova, 1936. Min. Sbornik Lvov Geol. Soc., no. 10, p. 273 (натриевый берилл). An alkali-beryl (12th List) containing up to 1·44 % Na_2O. [M.A. **13**–184.]

Sodium-nepheline. G. Donnay, 1957. Ann. Rep. Geophysical Lab., for 1956–57, p. 237 (sodium nepheline). Artificial $NaAlSiO_4$, as distinct from the usual nepheline $(Na,K)AlSiO_4$. Also, as deduced from X-ray data, natural at Monte Somma, Vesuvius.

Sogrenite. Author? [Russian textbooks, 1956, 1957.] Abstract in Amer. Min., 1958, vol. 43, p. 382. A black organo-uranium complex, perhaps identical with thucholite. Locality? etymology?

Starkeyite. O. R. Grawe, 1945. Missouri Geol. Surv., ser. 2, vol. 30, p. 209; Amer. Min., 1956, vol. 41, p. 662. First described from the

X-ray pattern as $FeSO_4.4H_2O$, and later shown to be $MgSO_4.4H_2O$ [leonardtite, 19th List, not to be confused with leonardite]. Named from the locality, Starkey mine, Madison Co., Missouri. [M.A. **13**–302.]

Stcherbakovite. Bull. Soc. Franç. Min. Crist., 1955, vol. 78, p. 352. French transliteration of щербаковит, shcherbakovite (20th List).

Stibioenargite. Author? H. Strunz, Min. Tab. 3rd edit., 1957, p. 97 (Stibioenargit). $Cu_3Sb.S_4$, orthorhombic. Artificial (?). Natural enargite $Cu_3(As,Sb)S_4$ contains up to 6 % Sb.

Stibio-tellurobismutite. I. G. Magakyan, 1956. [Doklady Acad. Sci. Armenian SSR, 1956, vol. 23, p. 215.] Abstract in Mém. Soc. Russ. Min., 1958, vol. 87, p. 76 (стибио-теллуровисмутит, stibio-tellurobismutite). $(Bi,Sb)_2Te_3$, rhombohedral, containing Sb 2·7 %. From Zodsk, Armenia.

Stilleite. P. Ramdohr, 1956. Geotektonisches Symposium zu Ehren von Hans Stille, Stuttgart, 1956, p. 481 (Stilleit). Abstract in Amer. Min., vol. 42, p. 484. Microscopical examination of an ore sample from Katanga showed a cubic mineral with X-ray pattern similar to that of artificial ZnSe. Named after Hans Stille (1876–), German geologist.

Stillwellite. J. McAndrew and T. R. Scott, 1955. Nature, London, vol. 176, p. 509. P. Gay, Min. Mag., 1957, vol. 31, p. 465. Boro-silicate of lanthanons, $(Ln,Ca)BSiO_5$, rhombohedral, in radioactive ore from Queensland. Named after Dr. Frank Leslie Stillwell, of Melbourne. [M.A. **13**–7.]

Strunzite. C. Frondel, 1957. Neues Jahrb. Min., Monatshefte, 1957, p. 222 (Strunzit). Monoclinic polymorph of laueite (20th List) and pseudo-laueite (q.v.), $MnFe^{'''}_2(PO_4)_2(OH)_2.8H_2O$, as straw-yellow radiating fibres from alteration of triphyline, at Hagendorf, Bavaria, and 12 United States localities. Named after Prof. Hugo Strunz of Regensburg and Berlin.

Tetra-kalsilite. J. V. Smith and O. F. Tuttle, 1957. Amer. Journ. Sci., vol. 255, p. 286. T. G. Sahama and J. V. Smith, Amer. Min., vol. 42, p. 286. A form of kalsilite, $(K,Na)AlSiO_4$, with the hexagonal *a*-axis 20 Å., in the composition range Na_{20-30}. *See* Tri-kalsilite. [M.A. **13**–524.]

Thorutite. *See* Smirnovite.

Tialite, Tielite, Tieilite. Various renderings of the Japanese name, H. Strunz, Min. Tab., 3rd edit., 1957, p. 155 (Tialit). K. F. Chudoba, Hintze, Min., Erg.-Bd. II, p. 390 (Tielit). M.A. **11**-415; 19th List (Tieilite). Artificial aluminium titanate, Al_2TiO_5, isomorphous with pseudobrookite.

Titanmagnetite. A. F. Buddington, J. Fahey, and A. Vlisidis, 1955. Amer. Journ. Sci., vol. 253, p. 409. A titaniferous magnetite (titanomagnetite, P. Groth, 2nd List) containing TiO_2 in solid solution, as distinct from ilmenomagnetite (20th List) with exsolution ilmenite. *See* Mogensenite.

Titano-haematite. R. Chevallier, J. Bolfa, and S. Mathieu, 1955. Bull. Soc. Franç. Min. Crist., vol. 78, p. 310 (titano-hématites rhomboédriques). Variant of titanhaematite (17th List). *See* Ferri-ilmenite.

Tri-kalsilite. T. G. Sahama and J. V. Smith, 1957. Amer. Min., vol. 42, p. 286. A form of kalsilite, $(K,Na)AlSiO_4$, in parallel intergrowth with nepheline, $(Na,K)AlSiO_4$. The hexagonal a-axis 15·4 Å. is three times longer than that of kalsilite (a 5·15 Å.). *See* Tetra-kalsilite. [M.A. **13**–524.]

Trogtalite. P. Ramdohr and M. Schmitt, 1955. Neues Jahrb. Min., Monatshefte, no. 6, p. 139 (Trogtalit). Cobalt selenide, $CoSe_2$, cubic (pyrite group). Named from the locality, Trogtal, Harz. [M.A. **13**–5.]

Ufertite. Author? Guide to USSR exhibit at Conference on Atomic Energy, Geneva, 1955, p. 9 (ufertite). Later publications, abstracts: Amer. Min., 1957, vol. 42, p. 307, 1958, vol. 43, p. 378 (ufertite, uferite); Mém. Soc. Russ. Min., 1958, vol. 87, p. 78 (уфертит, ufertite). $20FeO.8Fe_2O_3.4$(rare-earths)$.74TiO_2$. Named from the composition U, Fe, Ti.

Ulvite. Author? H. Strunz, Min. Tab., 3rd edit., p. 138 (Ulvit). Fe_2TiO_4, cubic. Abbreviated form of ulvöspinel (18th List).

Uran-microlite. Author? H. Strunz, Min. Tab., 3rd edit., 1957, p. 147 (Uran-Mikrolith). Variety of microlite containing some uranium.

Uran-pyrochlore. Author? H. Strunz, Min. Tab., 3rd edit., 1957, p. 147 (Uran-Pyrochlor). Variety of pyrochlore containing some uranium.

Urhite. R. V. Getzeva, 1956. [Atomic energy, Moscow, no. 3, p. 135.] Abstracts in Mém. Soc. Russ. Min., 1957, vol. 86, p. 118 (ургит, urhyte); Amer. Min., 1957, vol. 42, p. 442 (urgite); Bull. Soc. Franç. Min. Crist., 1957, vol. 88, p. 538 (urgite). Hydrous oxide, $UO_3.2·3–3·1H_2O$, amorphous, yellow, in oxidized ore. Named from the composition. *See* Hydronasturan. [M.A. **13**–385 (urhyte).]

Usihite. V. G. Melkov and L. Ch. Pukhalsky, 1957. [Minerals of the Urals, Moscow, 1957, p. 67.] Abstract in Mém. Soc. Russ. Min., 1958, vol. 87, p. 84 ((усигит, usihyte). $R(UO_2)_2Si_2O_7.nH_2O$. Named from the composition.

Ustarasite. M. S. Sakharova, 1955. Trudy Min. Mus. Acad. Sci. USSR, *no.* 7, p. 116 (устарасит). Sulphosalt $PbS.3(Bi,Sb)_2S_3$, as grey prismatic crystals in bismuth ore from the Ustarasaisk deposit in western Tyan-shan, Siberia. Named from the locality. [M.A. **13**–164.]

Vanadium-garnet. S. T. Badalov, 1951. Mém. Soc. Russ. Min., vol. 80, p. 212 (ванадиевый гранат). Variety of grossular garnet containing V_2O_3 4·52 %.

Vanadium-tourmaline. S. T. Badalov, 1951. Mém. Soc. Russ. Min., vol. 80, p. 212 (ванадиевый турмалин). Variety of tourmaline containing V_2O_3 5·76 %.

Vesignieite. C. Guillemin, 1955. Compt. Rend. Acad. Sci. Paris, vol. 240, p. 2331 (vésigniéite); Bull. Soc. Franç. Min. Crist., 1956, vol. 79, p. 250. Copper-barium vanadate $Cu_3Ba(VO_4)_2(OH)_2$, with X-ray pattern similar to bayldonite $[Cu_3Pb(AsO_4)_2(OH)_2]$. Named after Colonel Jean Paul Louis Vésignié (1870–1954) of Paris, who supplied the material from his private collection. [M.A. **13**–6.]

Vinogradovite. E. I. Semenov, E. M. Bonshtedt-Kupletskaya, V. A. Moleva, and N. N. Sludskaya, 1956. Doklady Acad. Sci. USSR, vol. 109, p. 617 (виноградовит). Titano-silicate, $Na_5Ti_4AlSi_6O_{24}.3H_2O$, monoclinic (pseudo-orthorhombic), as white to colourless crystals and radial spherical aggregates in nepheline-syenite pegmatite from Kola. Named after Alexander Pavlovich Vinogradov, Александр Павлович Виноградов. [M.A. **13**–300.]

Wladimirit. E. I. Nefedov, Geologie, Zeits. Geol., East Berlin, 1955, vol. 4, p. 528. German transliteration of владимирит, vladimirite (20th List). [M.A. **13**–85.]

Wolkowit. E. I. Nefedov, Geologie, Zeits. Geol., East Berlin, 1955, vol. 4, p. 528. German transliteration of волковит, volkovite (20th List). [M.A. **13**–85.]

Wölsendorfite. J. Protas, 1957. Compt. Rend. Acad. Sci. Paris, vol. 244, p. 2942. $(Pb,Ca)O.2UO_3.2H_2O$, orthorhombic, as bright-red crusts in fluorite from Wölsendorf, Bavaria. Named from the locality. [M.A. **13**–520.]

Zirconolite. L. S. Borodin, I. I. Nazarenko, and T. L. Richter, 1956. Doklady Acad. Sci. USSR, vol. 110, p. 845 (цирконолит). A metamict mixed oxide $CaZrTi_2O_7$, containing also Nb, Fe, U, Ce, &c. In nepheline-pyroxenite [from Kola]. Similar to zirkelite [Min. Mag. **11**–86, **16**–309] from Brazil and Ceylon. [M.A. **13**–383.]

SYSTEMATIC CLASSIFICATION OF NEW MINERALS[1]

SULPHIDES, ETC.

Hawleyite, CdS, VII.
Kadmoselite, CdSe, VI.
Ferroselite, $FeSe_2$, III.
Smythite, Fe_3S_4, V.
Freboldite, CoSe, VI.
Hastite, $CoSe_2$, III.
Trogtalite, $CoSe_2$, VII.
Bornhardtite, Co_3Se_4, VII.
Stilleite, ZnSe, VII.
Betekhtinite, $Cu_{10}PbS_4$, III.
Këesterite, (Cu,Sn,Zn)S.
Arsenopalladinite, Pd_3As, VI.

SULPHOSALTS

Isostannite, Cu_2FeSnS_4, VII.
Bonchevite, $PbBi_4S_7$, III.
Bursaite, $Pb_5Bi_4S_{11}$, II ?
Ustarasite, $Pb(Bi,Sb)_6S_{10}$.
Gerstleyite, $Na_4As_2Sb_8S_{17}.6H_2O$, II ?
Stibioenargite, Cu_3SbS_4, III.

HALIDES

Carobbiite, KF, VII.
Gearksite, $CaAl_3(F,OH)_{11}.H_2O$.

OXIDES

Birnessite, δ-MnO_2.
Kurnakite, Mn_2O_3, IV, VII.
Cerianite, CeO_2, VII.
Paramontroseite, V_2O_4, III.
Zirconolite, $CaZrTi_2O_7$.
Hibonite, Al, Fe, Ca, Si, Ti, &c., VI.
Painite, $Al_{20}Ca_4BSiO_{37\cdot5}$, VI.
Lodochnikite, $2(U,Th)O_2.3UO_3.14TiO_2$.
Ulvite, Fe_2TiO_4, VII.
Uferite, Fe, Ti, rare-earths.

HYDROXIDES

Sauconite, $Zn(OH)_2$.
Duttonite, $VO(OH)_2$, II.
Doloresite, $3V_2O_4.4H_2O$, II.
Häggite, $V_2O_2(OH)_3$, II.
Urhite, $UO_3.nH_2O$.
Hydronasturan, $UO_2.kUO_3.nH_2O$.
Wölsendorfite, (Pb,Ca)O.$2UO_3.2H_2O$, III.
Absite, $2UO_2.ThO_2.7TiO_2.5H_2O$.
Mauritzite, $(Fe,Al)_2O_3.2(Mg,Fe)O.5H_2O$.
Smirnovite, $(Th,U,Ca)Ti_2O_6.\frac{1}{2}H_2O$.

CARBONATES

Kettnerite, $CaF(BiO)CO_3$, IV
Doverite, $YtFCO_3.CaCO_3$, V.
Chalconatronite, $Na_2Cu(CO_3)_2.3H_2O$, II.

BORATES

Frolovite, $CaB_2O_4.3\frac{1}{2}H_2O$.
Calcioborite, $Ca_5B_8O_{17}$, II.
Sborgite, $Na_2O.5B_2O_3.10H_2O$, I.
Ezcurrite, $2Na_2O.5B_2O_3.7H_2O$.
Preobrazhenskite, $3MgO.5B_2O_3.4\frac{1}{2}H_2O$, II.
Lesserite, $Mg_2B_6O_{11}.15H_2O$, II.
Heidornite, $Na_2Ca_3Cl(SO_4)_2B_5O_8(OH)_2$, II.
Garrelsite, $(Ba,Ca,Mg)_4B_4(BO_4)_2(SiO_4)_2.2H_2O$, II.
Stillwellite $(Ln,Ca)BSiO_5$, V.
Alumoferroascharite, $(Mg,Fe)(B,Al)O_2.OH$.

SULPHATES

Bonattite, $CuSO_4.3H_2O$, II.
Starkeyite, $MgSO_4.4H_2O$.
Galeite, $Na_2SO_4.Na(F,Cl)$, V.
Hornessite, Ni, Fe, hyd.
Shorsuite, $(Fe,Mg)Al_2(SO_4)_4.19\frac{1}{2}H_2O$.
Kašparite, $(Mg,Co)Al_3(SO_4)_5OH.28H_2O$.

[1] Only selected names from the preceding alphabetical list are here included. Following A. E. H. Tutton (Crystallography, 1911, 1922), the crystal systems are indicated as: I triclinic, II monoclinic, III orthorhombic, IV tetragonal, V trigonal, VI hexagonal, VII cubic.

Molybdates

Iriginite, $UO_3.2MoO_3.4H_2O$.
Moluranite, $UO_2.2UO_3.5MoO_3.12H_2O$.

Phosphates

Lithiophosphate, Li_3PO_4.
Neomesselite,
$(Ca,Fe,Mn,Mg)_3(PO_4)_2.2H_2O$, I.
Kingite, $Al_2O_3.Al(OH)_3.P_2O_5.9H_2O$.
Metakingite, ditto, $4H_2O$.
Pseudolaueite } $MnFe''_2(PO_4)_2(OH)_2$.
Strunzite } $8H_2O$, II.
Lermontovite,
$(U,Ca,\text{rare-earths})_3(PO_4)_4.6H_2O$.
Grayite, Th phosphate.
Przhevalskite, $Pb(UO_2)_2(PO_4)_2.4H_2O$.

Arsenates

Paradamite, $Zn_2AsO_4(OH)$, I.
Cornubite, $Cu_5(AsO_4)_2(OH)_4$.
β-Roselite, $Ca_2Co(AsO_4)_2.2H_2O$, I.
Smolyanskite, hyd. arsenate Fe, Al, Ni, Co, Mg, Ca.
Abernathyite, $K(UO_2)AsO_4.4H_2O$, IV.

Arsenite

Magnussonite,
$(Mn,Mg,Cu)_5(AsO_3)_3(OH,Cl)$, VII.

Vanadates

Simplotite, $CaV_4O_9.5H_2O$, II.
Vesignieite, $Cu_3Ba(VO_4)_2(OH)_2$.
Nolanite, $3FeO.V_2O_3.3V_2O_4$, VI.
Santafeite, $Na_2O.3MnO_2.6(Mn,Ca,Sr)O.3(V,As)_2O_5.8H_2O$, III.
Francevillite,
$(Ba,Pb)(UO_2)_2(VO_4)_2.5H_2O$, III.

Silicates

Kirschsteinite, $CaFeSiO_4$, III.
Sodium-nepheline, $NaAlSiO_4$, VI.
Bikitaite, $LiAlSi_2O_6.H_2O$, II.
Nekoite, $CaO.2SiO_2.2H_2O$, I.
Rhodesite, $4(Ca,Na,K)O.10SiO_2.7H_2O$, III.
Mountainite, $(Ca,Na,K)_{16}Si_{32}O_{80}.24H_2O$, II.
Combeite, $Na_4Ca_3Si_6O_{16}(OH,F)_2$, V.
Istisuite, $(Ca,Na)_7(Al,Si)_8(O,OH)_{24}$, II.
Götzenite $(Ca,Na,Al)_7(Si,Ti)_5O_{15}F_{3\cdot5}$, I.
Karpinskite, $(Ni,Mg)_2Si_2O_5(OH)_2$.
Karpinskyite,
$Na_2(Be,Zn,Mg)Al_2Si_6O_{16}(OH)_2$, VI.
Kurumsakite,
$8(Zn,Ni,Cu)O.4Al_2O_3.V_2O_5.5SiO_2.27H_2O$.
Jagoite, $(Pb,Ca)_3Fe'''Si_3O_{10}(Cl,OH)$, V.
Stillwellite, $(Ln,Ca)BSiO_5$, V.
Garrelsite,
$(Ba,Ca,Mg)_4B_4(BO_4)_2(SiO_4)_2(OH)_2.2H_2O$, II.
Vinogradovite, $Na_5Ti_4AlSi_6O_{24}.3H_2O$, II.
Niocalite, $Ca_4NbSi_2O_{10}(OH,F)$, III.
Labuntzovite,
$(K,Na,Ca)(Ti,Nb)Si_2(O,OH)_7.\frac{1}{2}H_2O$, III.
Boltwoodite,
$K_2(UO_2)_2(SiO_3)_2(OH)_2.5H_2O$, II?
Orlite, $3PbO.3UO_3.4SiO_2.6H_2O$.
Usihite, $R(UO_2)_2Si_2O_7.nH_2O$.
Nenadkevite, hyd. sil. U, Th, &c.
β-Uranophane,
$Ca(UO_2)_2(SiO_3)_2(OH)_2.5H_2O$, II.

Hydrocarbons

Carpathite, $C_{33}H_{17}O$, II.
Minguzzite, $K_3Fe(C_2O_4).3H_2O$, II.
Agathocopalite.