NEW MINERAL NAMES

MICHAEL FLEISCHER

Sibirskite

N. N. VASILKOVA, A new calcium borate, sibirskite. *Zapiski Vses. Mineralog. Obshch*, **91**, 455–464 (1962) (in Russian).

Analysis of a mixture of the mineral with calcite, a chlorite, and a little pyrite gave SiO_2 7.72, TiO_2 0.03, Al_2O_3 2.43, FeO 1.01, MgO 10.06, MnO 0.29, CaO 41.78, Na_2O 0.04, K_2O none, CO_2 16.72, B_2O_3 13.51, C 0.12, H_2O^- 0.36, H_2O^+ 6.38, S 0.48 = 100.93—(O = S) 0.24 = 100.69%. Separate analyses were made of the material soluble in acetic acid (calcite + sibirskite) and the insoluble. Recalculation indicates $CaO:B_2O_3:H_2O = 2.07:1:1.02$ or $Ca_2B_2O_4(OH)_2$ or $CaHBO_3$. The mineral is insoluble in boiling H_2O, soluble in cold acetic or hydrochloric acid. DTA curves showed strong endothermic peaks at 870° (due to calcite) and at 430°, and a weak endothermic peak at 670° (due to chlorite).

X-ray powder data by G. A. Sidorenko (19 lines) are given; the strongest lines are 2.93 (5), 2.58 (5), 1.878 (3). (The data are inadequate for comparison with the *x*-ray data of Lehmann *et al.*, *Zeits. anorg. allgem. Chem.* **296B**, 202–203 (1958) on synthetic $CaHBO_3 \cdot MF$).

Sibirskite occurs as diamond-shaped forms of size 1.0–1.5 mm or as aggregates of irregular grains colored dark gray by chlorite. The rhombs show angles of 110° and 70°. Measurements on the Federov stage show that the symmetry approximates orthorhombic. Biaxial (−); indices measured by Yu. A. Cherkasov are α 1.555, β 1.643, γ 1.658, 2V 43°. Powdery aggregates are weakly anisotropic to isotropic with n 1.513. Colorless in section, non-pleochroic. The plane of the optic axes is close to (100).

Sibirskite occurs in skarns near the contact of Middle Cambrian limestones with granites, locality not given. Other skarn minerals include garnet, vesuvianite, datolite, tourmaline and axinite.

Presumably named for Siberia.

Ferrohexahydrite

V. V. VLASOV AND A. V. KUZNETSOV, Melanterite and the products of its alteration. *Zapiski Vses. Mineralog. Obshch.* **91**, 490–492 (1962) (in Russian).

Melanterite was found in terrigenous Lower Carboniferous deposits of northeastern Tateria. "On the melanterite there was developed (mostly under conditions of core storage but possibly partly in the original bed) a colorless, fibrous mineral, fine acicular and capillary crystals which sometimes attained lengths of 5–6 mm." Microchemical analysis showed Fe^{2+}, no Mg or Zn. The *x*-ray pattern (64 lines, not indexed), is close to that of hexahydrite ($MgSO_4 \cdot 6H_2O$); the strongest lines are 4.43 (10), 2.97 (7), 2.93 (7), 4.89 (6), 2.03 (6), 1.881 (6), 1.862 (6), 1.202 (6), 2.80 (5), 2.76 (5), 2.30 (5). α 1.468, γ 1.498, both ± 0.002. Optical sign not given.

The name ferrohexahydrite was proposed for the hypothetical mineral of this composition by Shubnikova in 1947.

Thorosteenstrupine

I. I. KUPRIYANOVA, T. I. STOLYAROVA AND G. A. SIDORENKO, A new thorium silicate—thorosteenstrupine. *Zapiski Vses. Mineralog. Obshch.* **91**, 325–330 (1962) (in Russian).

Microchemical analysis by T.I.S. on 50 mg gave SiO_2 31.87, P_2O_5, TiO_2 none, Al_2O_3 0.31, Fe_2O_3 0.65, MgO none, MnO 7.75, CaO 8.38, TR_2O_3 (rare earths) 1.12, ThO_2 35.70, $H_2O^{\pm}$ 13.77, F 2.43 = 101.98 − (O = F_2) 1.02 = 100.96%, corresponding to (Ca, Th, Mn)$_3$

$Si_4 (O_{11.24} F_{0.96})_{12.2} \cdot 5.7 H_2O$, with Ca:Th:Mn=1.11:1.01:0.81. The rare earths are in the ratio (apparently wt. %) La 23, Ce 33, Pr 4, Nd 19, Sm 1, Y 19. This is similar to steenstrupine with rare earths almost entirely replaced by Th and Ca.

The mineral is amorphous, metamict. After being heated 30 minutes at 900°, it gave a powder pattern (57 lines) differing from those given by thorite and steenstrupine. The strongest lines are 4.08 (10), 3.25 (10), 2.61 (10), 3.06 (9), 2.84 (8), 1.790 (8), 1.940 (7), 1.905 (7), 1.861 (7), 3.31 (6), 2.73 (6), 2.13 (6), 1.618 (6), 1.165 (6), 1.065 (6).

The mineral is dark brown, nearly black, translucent reddish-brown in thin splinters, streak dark brown. Luster greasy to vitreous. Brittle. Fracture conchoidal. Hardness about 4. G.3.02±0.02. Weakly magnetic. Occurs as fine platy crystals, usually 2–5 mm, sometimes up to 1 cm in length, with rough faces. Isotropic, brownish in transmitted light, *n* 1.63–1.66. The infra red spectrum shows a small minimum at about 1620 and a large broad minimum at about 1000 mu. The DTA curve shows a diffuse endothermic effect at about 200° and a sharper exothermic effect at 890°. Steenstrupine gave similar infra red and DTA curves.

The mineral occurs in metesomatic veins "of eastern Siberia," associated with microcline, albite, aegirine-augite, quartz, fluorite, thorite and miserite that contains rare earths. The exact locality is not given, as usual.

The name is for the composition.

Imogolite

NAGANORI YOSHINAGA AND SHIGENORI AOMINE, Allophane in some Ando soils. *Soil Sci. and Plant Nutrition (Japan)* **8** (2), 6–13 (1962); Imogolite in some Ando soils. *Ibid.*, **8** (3), 114–121 (1962) (in English).

Four soils derived from volcanic ash were investigated. Study of the clay mineral fraction showed, besides quartz, cristobalite, gibbsite and vermiculite or chlorite-vermiculite, the presence of allophane and of a second mineral named imogolite (Imogo is a brownish-yellow volcanic ash soil). It differs from allophane in being dispersed only in an acid medium, whereas allophane is dispersed in both acid and alkaline media, and by forming a more voluminous flocculate. Electron microscope photographs show thread-like particles of diameter 100–200 Å. *X*-ray diffractometer tracings are given of Na- and Mg-saturated imogolites and allophane. "Although its chemical and mineralogical properties are not well known at present, it is considered to have a more ordered structure than allophane."

DISCUSSION.—The data are clearly inadequate to justify a new name.

Stipoverite (=Stishovite)

D. P. GRIGORIEV, Cosmic mineralogy, a new branch of science: *Vestnik Akad. Nauk SSSR* **4**, 21–24 (1962).

D. P. GRIGORIEV, On the name of the mineral—the modification of silica of greatest density. *Zapiski Vses. Mineralog. Obshch.* **91**, 635–636 (1962).

During editing of the first paper cited, the name stishovite was changed to stipoverite (for Stishov and Popova, the discoverers of the high-pressure form?) (see *Am. Mineral.* **47**, 807, 1962). Grigoriev points out in the second paper cited that this name should be relegated to the synonymy.

Sigloite

C. S. HURLBUT, JR. AND RUSSELL HONEA, *Am. Mineral.* **47**, 1–8 (1962).

Nsutite

W. K. ZWICKER, W. O. J. G. MEIJER AND H. W. JAFFE, *Am. Mineral.* **47**, 246–266 (1962).

Benstonite

FRIEDRICH LIPPMANN, *Am. Mineral.* **47,** 585–598 (1962).

Schoderite, Metaschoderite

D. M. HAUSEN, *Am. Mineral.* **47,** 637–648 (1962).

Chambersite

R. M. HONEA AND F. R. BECK, *Am. Mineral.* **47,** 665–671 (1962).

Wightmanite

JOSEPH MURDOCH, *Am. Mineral.* **47,** 718–722 (1962).

Hendersonite

M. L. LINDBERG, A. D. WEEKS, M. E. THOMPSON, D. P. ELSTON AND ROBERT MEYROWITZ, *Am. Mineral.* **47,** 1252–1272 (1962).

Brockite

F. G. FISHER AND ROBERT MEYROWITZ, *Am. Mineral.* **47,** 1346–1355 (1962).

NEW DATA

Tellurobismuthite, Wehrlite, Hedleyite

ALLAN BROWN AND B. LEWIS, The systems bismuth-tellurium and antimony-tellurium and the synthesis of the minerals hedleyite and wehrlite: *Jour. Phys. Chem. Solids,* **23,** 1597–1604 (1962).

X-ray study shows that a single solid solution series exists from Te 32 at % to Te 60 at % in the system Bi-Te, which includes the minerals tellurobismuthite (Te 60 at %) (*Dana's System,* 7th Ed., Vol. **I,** 160), wehrlite (Te 40–50 at %), (*Dana's System* 7th Ed., Vol. **I,** 167), and hedleyite (Te 43 at %) (*Am. Mineral.* **30,** 644, 1945). The variation of unit cell size with composition is given.

Spencite

H. W. JAFFEE AND V. J. MOLINSKI, *Am. Mineral.* **47,** 9–25 (1962).

Doverite

A. A. LEVINSON AND R. A. BORUP, *Am. Mineral.* **47,** 337–343 (1962).

Cryophillite

M. D. FOSTER AND H. T. EVANS, JR., *Am. Mineral.* **47,** 344–352 (1962).

Cuprorivaite (revalidated)

FIORENZO MAZZI AND A. PABST, *Am. Mineral.* **47,** 409–411 (1962).

Coulsonite

A. S. RADTKE, *Am. Mineral.* **47,** 1284–1291 (1962).

DISCREDITED MINERALS

Jezekite (=Morinite)

D. J. FISHER, *Am. Mineral.* **47,** 398–400 (1962).

Jenkinsite (=ferroan Antigorite)

CLIFFORD FRONDEL, *Am. Mineral.* **47,** 783–785 (1962).

Thierschite (=Whewellite)

CLIFFORD FRONDEL, *Am. Mineral.* **47,** 786 (1962).

Tantalum (=TaC)

CLIFFORD FRONDEL, *Am. Mineral.* **47,** 786–787 (1962).

Toddite (=mixture of Uraninite+Samarskite)

E. WM. HEINRICH, *Am. Mineral.* **47,** 1363–1379 (1962).