NEW MINERAL NAMES

Schoderite, Metaschoderite

D. M. Hausen. Schoderite, a new phosphovanadate mineral from Nevada. *Bull. Geol. Soc. Am.*, **71**, 1883 (1960) (abstract).

The mineral occurs as yellowish-orange microcrystalline coatings associated with wavellite and vashegyite along fractures in phosphatic chert near Eureka, Nevada. It is in microscopic monoclinic, bladed tabular crystals, elongated parallel to (001). Unit cell dimensions a 11.4, b 15.8, c 9.2 A., beta 79°. The strongest x-ray lines are 2.79–10, 9.6–10, 11.1–5, 15.8 A.–4. It is biaxial, positive, alpha 1.542, beta 1.548, gamma 1.566, 2V (calcd) 60°, $\gamma=b$. Formula $2Al_2O_3 \cdot P_2O_5 \cdot V_2O_5 \cdot 16\ H_2O$.

At room temperature in a dry atmosphere, the mineral dehydrates to metaschoderite, $2Al_2O_3 \cdot V_2O_5 \cdot P_2O_5 \cdot 12H_2O$. This rehydrates to schoderite on contact with water. Metaschoderite has the same a, c, and beta as schoderite, but b shrinks to 14.9 A. Biaxial, positive (given as negative), α 1.598, β 1.604, γ 1.626, 2V 73° (calcd.), $Z=b$. The strongest x-ray line are 7.5–10, 14.9–6, 11.1–5, 3.02 A.–3.

The name is for William P. Schoder, research chemist, Union Carbide Nuclear Co.

Discussion.—Presumably to be classed with the aluminum vanadates steigerite and al'vanite.

Michael Fleischer

Unnamed Pt and Pd minerals

I. B. Borovskii, A. N. Deev, and I. D. Marchukova. Application of the method of local x-ray spectrographic analysis to the study of minerals of the platinum group. *Geol. Rudnykh Mestorozhdenii* **1959,** No. 6, 68–73 (in Russian).

A. D. Genkin. Conditions of occurrence and features of the composition of minerals of the platinum group in the Noril'sk deposits. *Ibid.*, 74–84 (in Russian).

Platinum minerals of the Noril'sk deposits were studied optically and analyzed by means of an electron probe. The following minerals appear to be new:

Mineral No. 5.—Analysis gave Pd∼70, Pb∼30, Ag∼1%, corresponding approximately to Pd_4Pb. Occurs in chalcopyrite and cubanite as elongated crystals and fills interstices in sperrylite. Brownish tint. Reflecting power 65%. Weakly anisotropic. Relief less than that of platinum and sperrylite, greater than that of cubanite. Blackened by aqua regia, not etched by concd. HCl or HNO_3.

Mineral No. 8.—Analysis gave Pd58, S∼40, approximating PdS_2. X-ray diagram (not given) stated to be similar to that of braggite (Pt, Pd, Ni)S. Reflecting power low, 44–45%. Weakly anisotropic, hardness medium, scratched by steel, microhardness 32 kg/sq.mm. Relief greater than that of chalcopyrite or millerite. Not etched by aqua regia or concentrated acids.

Mineral No. 6.—Analysis gave Pt∼36, As∼28, Ru∼3%; it is not known what element is missing, perhaps osmium which could not be determined. In small (0.02–0.05 mm.) isometric crystals. Grayish-white, low reflecting power. Hardness and relief highest of all Pt minerals. Perhaps an osmian sperrylite?

Data are also given for two alloys of Pt (Minerals No. 1 and 3) containing Pt 82–86.5, Sn∼8, Ir∼5, Pd∼2, Fe 0.5%, and Pt 75–76.4, Fe∼10, Ir∼6–8, Ni∼3–4, Cu and Ag<1%; sperrylite (Mineral No. 4) containing Pt 60–63, As 40, Sn 2–4, Rh∼1%, stibiopalladinite (Mineral No. 7) containing Pd∼73, Sb 25%, and a mineral, perhaps near stannopalladinite (Mineral No. 2) containing Pd 28, Pt∼50, Sn∼30, Ir∼2.5%.

M. F.

Niobozirconolite

L. S. Borodin, A. V. Bykova, T. A. Kapitonova, and Yu A. Pyatenko. New data on zirconolite and its niobian variety. *Doklady Akad. Nauk. S.S.S.R.* **134,** 1188–1191 (1960) (in Russian).

Two new analyses are given of zirconolite (AB_3O_7, nearly $CaZrTi_2O_7$, see *Am. Mineral.* **42,** 581 (1957). One of these, from apatite-magnetite rocks of the Vuorijarvi massif, Kola Peninsula, is called niobozirconolite. Analysis by A. V. B. gave $TiO_2$18.19, Nb_2O_5 24.84, Ta_2O_5 2.00, Fe_2O_3 1.11, ZrO_2 25.00, U_3O_8 0.40, ThO_2 2.90, Ce_2O_3 4.00, CaO 11.00, FeO 6.00, MnO 0.38, Na_2O 1.40, H_2O 2.48, F 0.60, sum 100.30—($O=F_2$) 0.25=100.05%. This corresponds to $(Ca, Zr, Fe^{+2})_2$ $(Ti, Nb, Zr)_2O_7$ with Ca:Zr about 1:1 and Ti:Nb=6:5. G. 4.51. Unit cell of cubic phase (presumably after heating M.F.).=5.03 A. This may be intermediate between zirconolite and pyrochlore, Ca Na Nb_2 $(O, F)_7$, but further study is required.

Discussion.—Unnecessary name for niobian zirconolite.

M. F.

Lazarevićite

C. B. Sclar and Matija Drovenik. Lazarevićite, a new cubic copper-arsenic from Bor, Jugoslavia. *Bull. Geol. Soc. Am.*, **71,** 1970 (1960) (abstract).

The mineral occurs as microscopic grains in copper ore from the Tilva Mika deposit, Bor, eastern Serbia. It is associated with enargite, luzonite, covellite, and pyrite. An electron-microprobe analysis gave Cu 52.5, As 12.5, Fe 1.9%. This with spectrochemical analysis leads to the formula Cu_3 $(As_{0.65}Cu_{0.22}Fe_{0.13}V_{tr})S_4$, ideally Cu_3AsS_4. Cubic, space group $P43m$, a_0 5.28±0.01 (not stated whether A or kX), Z=1, G. calcd. 4.39.

The name is for M. Lazarević, pioneer investigator of the geology and ore deposits of Bor, 1908–1913.

Discussion.—The name arsenosulvanite (see *Am. Mineral.*, **40,** 368–369 (1955)) was given to $Cu_3(As, V)S_4$ with As:V=2:1. I would have preferred to see this name extended to the As end number, so that the series could be described in terms of two names only.

M. F.

Paulite, Ellweilerite

H. W. Bültemann. Die Uranmineralien vom Bühlskopf bei Ellweiler, Kreis Birkenfeld/Nahe. *Der Aufschluss*, **11,** No. 11, 281–283 (1960).

The U deposit occurs in weathered porphyry. Minerals identified include pitchblende, coffinite (?), zeunerite, boltwoodite, curite, and two new minerals. Paulite forms very thin tablets, light yellow, transparent, strongly fluorescent under U. V. It is partly intergrown with zeunerite. Microchemical tests were obtained for Al, U, and As; it is suggested that it is the As-analogue of sabugalite, $HAl(UO_2)_2(PO_4)\cdot 16H_2O$. Ellweilerite occurs with zeunerite and partly intergrown with it. In thin tabular crystals and flaky aggregates, light yellow to nearly water-clear. Fluoresces very strongly in short- and long-wave U.V. Microchemical tests showed Na, U, and As. The d-values (not given) are stated to agree well with those of Mrose (*Am. Mineral.*, **38,** 1159–1168 (1953) on synthetic Na analogue of uranospinite.

The names are for Hans Paul, Gewerkschaft Brunhilde, and for the locality.

Discussion.—The name sodium uranospinite has already been given to ellweilerite (*Am. Mineral.*, **43,** 383–384 (1958)); the author considers the new name to be justified because the previously described material contained some calcium. I do not agree. The name paulite has been used for hypersthene (Dana's System, 6th Ed., p. 348) and is also easily confused with pallite (see *Am. Mineral.*, **45**, 256–257 (1960)). But above these considerations, names should not be given to minerals with such inadequate descriptions.

M. F.

Baotite (=Pao-t'ou-Kuang)

V. I. Simonov. Baotite, a mineral with a metasilicate ring (Si_4O_{12}). *Kristallografiya*, **5**, 544–546 (1960) (in Russian).

A preliminary note on this mineral was abstracted in *Am. Mineral.*, **45**, 754 (1960). In the Russian paper, the name is transliterated baotite. The formula is given as $Ba_4(Ti, Nb)_8ClO_{16}(Si_4O_{12})$.

M. F.

Garronite

G. P. L. Walker. The amygdale minerals in the Tertiary lavas of Ireland. III. Regional distribution. *Mineralog. Mag.* v. **32**, 503–527 (1960).

The information given is, "The list includes a probable new zeolite, related to phillipsite, for which the name 'garronite' is tentatively suggested."

Discussion.—Names should not be given without descriptions; the mineral should have been referred to as a possibly new zeolite, without a name.

M. F.

Loughlinite

J. J. Fahey, Malcolm Ross, and J. M. Axelrod. *Am. Mineral.*, **45**, 270–281 (1960).

Papagoite

C. O. Hutton and A. C. Vlisidis. *Am. Mineral.*, **45**, 599–611 (1960).

Paratellurite

George Switzer and H. E. Swanson. *Am. Mineral.*, **45**, 1272–1274 (1960).

Paulingite

W. B. Kamb and W. C. Oke. *Am. Mineral.*, **45**, 79–91 (1960).

Ranquilite

M. J. de Abeledo, M. R. de Benyacar, and E. E. Galloni. *Am. Mineral.*, **45**, 1078–1086 (1960).

Reedmergnerite

Charles Milton, E. C. T. Chao, and J. M. Axelrod. *Am. Mineral.*, **45**, 188–199 (1960).

Weeksite

W. F. Outerbridge, M. H. Staatz, R. Meyrowitz, and A. M. Pommer. *Am. Mineral.*, **45**, 39–52 (1960).

NEW DATA

Teineite

Anna Zemann and J. Zemann. Zur Kentniss des Teineits: *Beitr. Mineral. u. Petrog.*, **7**, 436–438 (1960).

Teineite has been considered to be $Cu_{13}(SO_4)_3(TeO_4)_{10}\cdot 26H_2O$ or perhaps Cu[(Te,

$S)O_4] \cdot 2H_2O$ (Dana's System, 7th Ed., **2**, 635–636). Weissenberg study of type material shows it to have space group $P\ 2_12_12_1$; the unit cell has a 6.63, b 9.61$_5$, c 7.43$_3$ Å. These are so close to the data for chalcomenite, $CuSeO_3 \cdot 2H_2O$, that it is probable that teineite is a tellurite, and not a tellurate.

The sp. gr. calculated for $CuTeO_4 \cdot 2H_2O$ is 4.08, for $CuTeO_3 \cdot 2H_2O$ is 3.85, determined 3.80. (But if the S shown in the analysis is included, the calculated sp. gr. is far too low; a new analysis is needed. M.F.)

M. F.

Eskebornite

Gerhard Tischendorf. Über Eskebornit von Tilkerode im Harz: *Neues Jahrb. Mineral., Abhandl.*, **94** (Ramdohr Festband), 1169–1182 (1960).

The formula of eskebornite has been given as FeSe and Fe_3CuSe_4. Two analyses of synthetic preparations with a_0 5.53–5.55 A. (for natural material a_0 5.53$_5$ A.) gave $Cu_{0.43}Fe_{0.61}Se$ and $Cu_{0.55}Fe_{0.62}Se$, and an x-ray fluorescence analysis of another synthetic preparation gave $Cu_{0.55}Fe_{0.55}Se$. The general formula may be $(Cu, Fe)_{1.1}Se$. X-ray powder data are given.

M. F.

Koutekite

Zdenek Johan. Koutekit—Cu_2As, ein neues Mineral. *Chem. der Erde*, **20,** 217–226 (1960).

A preliminary note was abstracted in *Am. Mineral.*, **43,** 794 (1958). New data given: luster metallic, streak black. Hardness 4–4½. X-ray powder data are given for the mineral; they are identical with those for synthetic Cu_2As and are clearly different from those of β-domeykite. The pattern is indexed on a hexagonal cell with a 11.51, c 14.54 Å. The strongest lines are 2.078 (10)(142), 2.024 (10)(126), 1.994 (10)(050), 1.147 (9)(085), 1.324 (8)(170), 1.197 (8)(266,272), 1.178 (8)(084), 2.446 (7)(041), 1.374 (7)(261)(443), 3.33 (6)(030), 1.785 (6)(333). A perfect cleavage in one direction was noted in a synthetic preparation. Koutekite is replaced by an unknown copper arsenide and by löllingite.

M. F.

DISCREDITED MINERALS

Gajite (=Calcite+Brucite)

L. J. Baric. Gajit, ein Gemenge von Calcit und Brucit. *Neues Jahrb. Mineral., Abhandl.*, **94** (Ramdohr Festband), 1200–1202 (1960).

Gajite, described in 1911 (Dana's System, 7th Ed., vol. II, p. 264), was found by optical and x-ray study to be a mixture of calcite and brucite.

M. F.

Deltaite (=Crandallite+Hydroxylapatite)

W. T. Elberty and S. S. Greenberg. Deltaite is crandallite plus hydroxylapatite. *Bull. Geol. Soc. Am.*, **71,** 1857 (1960) (abstract).

X-ray study of deltaite (Dana's System, 7th Ed., p. 837) indicates it to be a mixture.

M. F.

Delatorreite (=Todorokite)

C. Frondel, U. B. Marvin and J. Ito. *Am. Mineral.*, **45,** 1167–1173 (1960).

J. A. Straczek, Arthur Horen, Malcolm Ross, and C. M. Warshaw. *Am. Mineral.*, **45,** 1174–1184 (1960).

Lesserite (=Inderite)

W. T. Schaller and M. E. Mrose. *Am. Mineral.*, **45,** 732–734 (1960).

Pilinite (=Bavenite)

George Switzer and L. E. Reichen. *Am. Mineral.*, **45,** 757–762 (1960).

Woodfordite (=Ettringite)

Joseph Murdoch and R. A. Chalmers. *Am. Mineral.*, **45,** 1275–1278 (1960).