NEW MINERAL NAMES

Navajoite


Navajoite is dark brown, soft, fibrous, with silky luster and brown streak. G = 2.56. Optically biaxial, probably negative, extinction parallel, α 1.905 ± 0.003, β about 2.02, γ slightly above 2.02; pleochroic with X and Y yellowish brown, Z dark brown and parallel to the fiber length.

The x-ray pattern is distinct from those of hewettite and corvusite. Single crystal measurements could not be made, but a rotation photograph of a small bundle of fibers gives the unit cell length along the fibers as 3.65 Å. Study of a zero-layer photograph suggests that navajoite is probably monoclinic with a 17.43 ± 1, b 3.65 ± 0.5, c 12.25 ± 0.1 Å, β = 97° ± 30'. This unit cell would contain approximately 6 (V₂O₅·3H₂O).

Analysis (Sherwood) gave V₂O₅ 71.68, V₂O₃ 3.08, Fe₂O₃ 3.58, H₂O 20.30, SiO₂ 1.20, CaO 0.22; sum 100.06%, indicating the formula V₂O₅·3H₂O.

Navajoite occurs in a U-V deposit in the Monument no. 2 mine, Navajo Indian Reservation, Apache County, Arizona. The ore impregnates sandstone. Associated minerals are corvusite, tyyuyamunite, rauvite, hewettite, steigerite, and limonite.

The name is for the Navajo Indians.

Matteuccite


Analyses are given of stalactites from the 1933 eruption of Vesuvius. These are mixtures: mercallite (KHSO₄) was identified optically; ralstonite (hydrated fluoride of Na, Mg, and Al) was identified optically and by its x-ray powder pattern. A third component with large 2V is probably NaHSO₄·H₂O (the synthetic compound has 2V = 86°, positive); the powder pattern shows a strong line at d = 3.47, which is interpreted as corresponding to lines at d = 3.55 and d = 3.43 given for NaHSO₄·H₂O in the A.S.T.M. file.

The name is for Vittorio Matteucci, 1862–1909, Director of the Vesuvius Observatory.

Väyrynenite

A. Volborth, Väyryneniiti, [BeMn(PO₄)(OH, F)], Geologi (Finland), 6, P. 7 (1954).

Preliminary announcement. The mineral is monoclinic, β = 102° 49' ± 10'. Optically negative, indices α = 1.640, β = 1.662, γ = 1.667, all ± 0.001. G. = 3.183. From the Viitaniemi pegmatite, Eräjärvi, Finland. The name is for Heikki Väyrynen, Finnish geologist.

Bøggildite


Analysis of material containing only traces of quartz and sphalerite gave Al 10.04, Fe 0.06, Sr 31.89, Ba 0.35, Mg 0.18, Ca 0.20, Mn trace, Na 8.60, K 0.15, Li trace, PO₄ 17.63,
NEW MINERAL NAMES 849

F 31.70, H2O none, Cl, Zn, Ce not found; sum 100.80%, corresponding closely to Na2Sr2Al4-(PO4)2F6. When heated in a glass tube over a Bunsen burner, the mineral melts and gives a small amount of white sublimate. Color flesh-red. Monoclinic (or triclinic) with twinning lamellae. H. = 4–5, G. = 3.66. Optically biaxial, positive, axial angle rather large, $\alpha$ above 1.46, $\beta$ and $\gamma$ below 1.47. Occurs at Ivigtut, Greenland, at the contact of cryolite with greisen. Associated minerals include siderite, fluorite, black cryolite, quartz, green mica, and sphalerite.

The name is for Professor O. B. Bøggild, University of Copenhagen.

M. F.

Tertschite


The new mineral occurs at the Kurtpinari mine, Faras, Turkey, as snow-white masses that are finely fibrous with silky luster, resembling ulexite. Analysis of air-dried material (W. Zwicker, analyst) gave CaO 22.40, MgO tr., B2O3 37.26, H2O (total) 37.72, gangue 2.68; sum 100.06%, corresponding to Ca3B10O19·20 H2O.

The mineral loses 10.16% H2O at 50°, 21.24 at 110°, 26.70% at 150°. It is slightly soluble in hot H2O, easily soluble in dilute HCl. The optical properties are difficult to measure because of the fibrous character. Monoclinic? $\alpha' 1.502, \gamma' 1.517$, extinction inclined, $\gamma'$ to long axis 30–33°. X-ray powder data are given; the strongest lines are at 2.83, 2.35, 2.02, 3.12, 2.16, and 1.93 Å. Under ultra-violet light, it fluoresces light to deep blue-violet, the same as ulexite.

The name is for Prof. Hermann Tertsch, Univ. of Vienna.

M. F.

Tavorite


Tavorite is the iron analogue of montebrasite, with which it is isostructural. Analysis: Li2O 7.64, FeO 2.39, MnO 1.47, Fe2O3 42.57, P2O5 39.78, H2O 5.76, H2O− 0.40; sum 100.01%, formula LiFe(PO4)(OH). It is yellow, fine-grained, with mean $\alpha$ 1.807, sp.gr. 3.29. X-ray powder diagrams show principal d-spacings at 3.045, 3.285, 4.99, 4.68, and 2.474 Å. Tavorite occurs in the Supucaia pegmatite, Minas Gerais, intimately intergrown with barbosalite, and associated with many phosphates including triphylite and its oxidation products, frondelite, faheyite, variscite, montebrasite, and apatite.

The name is for Professor Elysiario Tavora, Universidade do Brasil, Rio de Janeiro.

M. F.

Barbosalite

M. L. Lindberg and W. T. Pecora, op. cit.

Barbosalite is the ferric analogue of scorzalite. Analysis, recalculated after deducting admixed tavorite, gave FeO 13.12, MnO 2.82, Fe2O3 41.70, P2O5 37.54, H2O 4.92%, corre-
sponding to the formula Fe"Fe"^+(PO_4)_3(OH)_2. It is structurally identical with the synthetic compound described by Gheith (Am. Mineral., 38, 612–628 (1953)) as ferrous ferric lazulite. It occurs in black, nearly opaque, grains and masses. Thin edges are dark blue-green and show pleochroism. The mean apparent n is 1.810, sp. gr. 3.60. X-ray powder diagrams show principal d-spacings at 3.361, 3.313, 4.84, 3.239, 3.160, and 2.327 Å. For occurrence, see Tavorite above.

The name is for A. L. de M. Barbosa, Professor of Geology, Escola de Minas, Ouro Preto, Brazil.

M. F.

NEW DATA

Lead Selenate (PbSeO₄) (=kerstenite?)


Lead selenate, PbSeO₄, was found in orthorhombic prisms and acicular needles 1 mm. long, at Pacajake, Bolivia, and at Cerro de Cacheuta, Argentina. Colorless to greenish yellow, luster greasy, hardness=3½. Cleavage imperfect perpendicular to the elongation. Optically biaxial, negative, α = 1.96, γ = 1.98, 2V about 50°, elongation positive, extinction parallel. Difficulty soluble in warm (1 + 1) HNO₃. The x-ray pattern is given; it is identical with that of synthetic PbSeO₄ and very similar to that of anglesite. This may be identical with kerstenite (see Dana’s System, Vol. II, p. 640), but the properties of the latter are so little known that comparison is not yet possible.

M. F.

Ahlfeldite

J. Goni and C. Guillemin, op. cit.

The validity of ahlfeldite, hydrate nickel selenite, is established on material from the type locality, Pacajake, Bolivia. Ahlfeldite is rose-colored, luster vitreous, no cleavage, fracture conchoidal. Hardness=2½, G.=3.4 ± .05. Optically biaxial negative, α = 1.73, γ = 1.76, 2V about 80°, extinction inclined 16°; strongly pleochroic, X rose, Y pale green, Z brown green. Easily soluble in dilute HNO₃. Gives microchemical reactions for nickel. Selenite, and a little Co. X-ray powder data are given. Cobaltomenite may be identical with ahlfeldite, but the type material is not available to check this.

M. F.

Molybdomenite

J. Goni and C. Guillemin, op. cit.

Molybdomenite, considered to be a dubious mineral (Dana’s System, Vol. II, p. 640), is confirmed as a valid species by study of type material from Cerro de Cacheuta, Argentina, and from a new find at Trogtal, Harz. It is orthorhombic (?), with one perfect cleavage and another less distinct perpendicular to the first. Colorless to yellowish-white, luster pearly (Cerro de Cacheuta), greasy (Trogtal), hardness=3½. Optically biaxial, negative, α = 2.12, β = 2.14, 2V about 80°, extinction parallel, elongation positive. Soluble in cold (1 + 10) HNO₃; gives qualitative tests for lead and selenite. The x-ray powder pattern differs from that of PbSeO₄.

M. F.
NEW MINERAL NAMES

Churchite


Churchite from Cornwall, described in 1865 as a hydrated phosphate of Ca and rare earths, is shown by analysis and x-ray study to be \((Y, Er, La)\) PO\(_4\)·2H\(_2\)O, identical with weinschenkite (Laubmann, 1922). It is urged that the name churchite be retained, since it has priority, the error in the original description by which the yttrium group was overlooked being considered insufficient to cause preference to be given to weinschenkite.

**Discussion:** This is a hard decision to make; the original description was so incomplete that rather remarkable insight would have been needed by Laubmann to recognize the identity. For the sake of uniformity, the suggestion of the authors should be followed and the name weinschenkite abandoned.

M. F.

Chlorites


From consideration of 117 analyses, a new classification is suggested which retains the following names:

- Orthochlorites—corundophillite, pseudotubingite, sheridanite, ripidolite, daphnite, clinochlorite, pyrochlore, brunsviktite, pennine, diabentine, and tale-chlorite.
- The oxidized chlorites (Fe\(_2\)O\(_3\) more than 4%)—thuringite and its variety klementite, chamosite, and delessite.
- The following are varieties and the names can be discarded: aphrosiderite (=ripidolite), bavarte and metachlorite (daphnite), berlauite, chloropite, eurinite, and hallite (delessite), grochovite (sheridanite), leuchtenbergite (clinochlore), loganite and pyrosclerite (pennine), subdelessite (chamosite), also rumpite and pseudophilit, which fall into two of the new groups. Doubtful species include bavarte, ephichlorite, epifhanite, moravite, parathuringite, phyllochlorite, xeatargillite, and strigovite.

**Discussion:** We need more of this.

M. F.

DISCREDITED MINERALS

Arninite (=Antlerite?)


Arninite (Weisbach, 1886) was described as a calcium-free variety of devillite with formula Cu\(_4\)Al(SO\(_4\))\(_4\) (OH)\(_6\)·3H\(_2\)O. Frondel (* Dana's System*, 7th Ed., Vol. 2, p. 592) states that he "found an authentic specimen to be sensibly orthorhombic with \(aX\) 1.720±0.003. The five darkest powder lines are \(d\) 4.84, 3.60, 2.68, 2.57, 8; 2.13, 8."

Kokkoros points out that Frondel's x-ray data agree well with the strongest lines of the powder diagram given by antlerite, Cu\(_4\)Al(SO\(_4\))(OH)\(_6\)·4H\(_2\)O, which has \(aX\) 1.724—1.726.

M. F.

Jurupaite (=Xonolite)


X-ray study of jurupaite and xonolite, both from the type localities, showed them to be identical with \(a = 8.50\), \(b = 7.32\), \(c = 7.05\) Å, beta 90°±1°. The compositions differ in that
jurupaite was reported to contain 4.19% MgO and much more water than xonotlite.

**Falkenhaynite (= Tetrahedrite)**


Falkenhaynite (Scharizer, 1890) has been considered a dubious species, probably tetrahedrite. Spectrographic and x-ray study of the type material show it to contain Cu and Sb as essential elements, Ag, As, Fe, and Zn as subordinate to insignificant, and to give a powder pattern ($a_0$ 10.357 Å) identical with that of tetrahedrite.

M. F.