New Mineral Names

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Drysallite°

Probe analysis by E. Joseph, with Mo, Se, and ZnS as standards, gave Mo 35.30, Se 60.40, S 3.40, sum 99.10 percent, corresponding to Mo₆Se₁₂ (Se₁₂₈S₁₂₈). Traces of Si, Mg, Al, Pb, Fe, Bi, Ca, Cu, Ni, and Ti were found spectrographically.

X-ray study showed the mineral to be hexagonal, space group probably Pb/mmc (by analogy with molybdenite), unit cell from 3 determinations, a 3.286-3.287, av. 3.287, Al, Pb, Fe, Bi, Ca, Cu, Ni, Ti were found spectrographically corresponding to Muroo (Se₂⁸₅₆). Trace of Si, Mg, gave Mo 35.30, Se 60.40, S 3.40, sum 99.10 percent.

E pinkish gray, pinker than molybdenite. Anisotropy very strong, with colors from light bluish-gray to purplish brown.

The strongest X-ray lines (36 given) are 7.25 10 100, 3.583 10 200, 2.220 10 400, 3.320 10 600, 1.913 10 100, 2.373 10 200, 2.845 55 100, 2.202 55 100, 3.118 10 100, 2.948 10 100, 2.568 10 100, 3.117 10 200, 2.891 10 300, 2.598 10 400, 2.399 10 300, 2.255 10 400, 8.115 10 600, 2.202 10 800.

Color very dark brown, nearly black, luster metallic to adamantine. Cleavages {100} perfect, 2 others distinct. Streak coffee-brown. H = 3. Opaque, n₁ a above 2.11, ρ below 2.13, biaxial, positive. In thin splinters transparent with pleochroism reddish-brown to bright yellow, absorption X > Y > Z. In section in reflected light, birefringence not apparent, anisotropy weak, greenish to brownish, internal reflections reddish-brown. Reflectance lower than that of chalcocite.

The mineral occurs in the deep oxidation zone at Tsumeb, S. W. Africa, in a druse with aggregates of crystals up to 7 mm, associated with chalcocite and zincian stottite. The name is for the late Hans Schneiderhöhn, Professor of Mineralogy at the University of Freiburg.

Unnamed Ag-Pb-Bi-S Minerals

Microprobe analyses of phase X, occurring with bismuthinite and galvastonite, gave Bi 42.1, 43.4, 44.8; Ag 4.2, 3.9, 3.7; Pb 37.7, 37.2, 36.0; Cu < 1.0; Fe < 1.0; S 15.8, 16.4, 16.6; sum 99.8, 101.0, 101.2 percent, average composition Ag₉Pb₁₈Bi₃S₉. This is phase X of Karup-Møller (abstr. 56, 634, 1972) who found Ag₉Pb₁₈Bi₃S₉.

Phase Z occurs with cosalite and galena. Probe analysis gave Bi 38.5, Ag 2.2, Pb 43.8, S 16.5, sum 100.9 percent, corresponding to Ag₅Pb₁₈Bi₃S₉.

Unnamed Bismuth Mineral

A gray mineral was found as an acicular incrustation between quartz crystals and bismite, Mbale pegmatite, S. W. Uganda. Spectrographic analysis shows major Bi and minor Ca. The X-ray pattern has strongest lines (25 given): 6.18 (s), 4.436 (vs), 4.073 (s), 3.241 (vs), 3.173 (vs), 3.118 (vs), 3.015 (vs), 2.948 (s), 2.568 (s). The same mineral occurs along cleavage planes of altered bismutotantalite from Wampewo, Buganda. Spectrographic analysis shows mainly Bi, with some Al and P.
Unnamed Lead Iron Sulfide


The mineral occurs in grains of oval-rhombohedral section up to 0.2 mm in size as inclusions in kobellite from quartz veins in the Ustasarai bismuth deposit, Pskem Ridge, S. E. Tien-Shan. Electron probe analysis showed major Fe, Pb, S, with 0.5 percent Ni. Two determinations gave Fe 40.4 (Fe standard), 39.2 (pyrite standard), av. 40.4 percent. It contained more Pb than the associated kobellite (>40 percent) and more sulfur (>17 percent), but quantitative analyses could not be made.

In reflected light light pale gray. Reflectance at 600 mm = 50 percent. Isotropic, birefringence, and internal reflections were not observed. H. 2-2.5.

Unnamed Na,ZrSiO₄ and K,ZrSiO₄


1. Na,ZrSiO₄. The mineral occurs as transparent material associated with kelydshiye in the Umbozera region, Lovozero massif, Kola Peninsula (Am. Mineral. 47, 1216; 55, 1072). X-ray study showed it to be triclinic, P1, a 6.66, b 8.83, c 5.42 A, α 92° 45', β 94° 15', γ 72° 20', Z = 2. The strongest X-ray lines (33 given): 6.14 35, 4.72 40, 4.18 65, 3.98 60, 3.20 35, 2.91 100, 2.22 40. Colorless, G. 3.2 ± 0.1, biaxial, neg., 2V 83°, α 1.670, β 1.697, γ 1.718. No analysis could be made, but spectrographic analysis indicated that the mineral had the same major components in nearly the same proportions as kelydshiye. Furthermore, heating kelydshiye to 500°-600° gave a product with the same powder pattern as the new mineral. It is therefore considered to be a high-temperature polymorph of kelydshiye, with ideal formula Na,ZrSiO₄.

2. The second mineral was found in the Gakman Valley, Khibina massif, in ovoids up to 2-3 cm in diameter in aegirine-rich metasomatic rocks. The outer zone of the ovoids consists of eudialyte, the inner zone of zircon and the euedialyte-rich metasomatic rocks. The outer zone of the ovoids was analyzed for major components, but quantitative analyses could not be made.

New Mineral Names

NEW DATA

Millosevichite


New Phosphates


X-ray data for white rosettes of an unknown phosphate showed strongest lines (31 given): 4.208(s), 3.847(s), 3.286(vs), 2.554(s). The strongest lines for a greenish-yellow unknown (24 given) are 3.437(s), 3.076(vs), 2.657(s), 2.590(s), 2.318(s), 1.711(s).

New Sr-Ti Silicate


Analysis by E.P.M.A. (sic) gave SiO₂ 34.79, TiO₂ 10.27, FeO 0.20, SrO 47.37, H₂O 6.68, H₂O⁻ none, Al, Mg, Ca, Na, K not detected, sum 99.31 percent, corresponding to the title composition. The second paper states that this is by electron microprobe, H₂O by loss on ignition.

Precession, Weissenberg, and diffractometer data show the mineral to be monoclinic, space group P2₁/m, a 10.958, b 7.785, c 7.799 A, β 100° 54', Z = 2. G. 3.394 calc, 3.38 mea. The strongest lines (41 given) are: 10.83 70 100, 7.77 50 111, 3.83 90 002, 3.26 85 310, 3.03 80 221, 3.01, 2.83 111 312, 2.73 50 112, 022, 2.60 103.

The mineral occurs as aggregates of radiating fibrous crystals up to 0.2 mm across. Individual grains are less than 10 μm long, 5 μm wide. Color pink to pinkish brown; streak white. H. about 3.5. Cleavage (100) perfect. Optically biaxial, 2V and sign not determinable, ns α 1.649, γ 1.715, both ± 0.003, Y = a, Z = b, pleschoem weak from nearly colorless to light pink.

The mineral occurs in albite of a quartz-amphibolette dike cutting serpentine in Ohmi, Niigata Prefecture, Japan. Associated minerals include blue fibrous amphibole (magnesioriebeckite), phlogopite, benitoite, and a joaquinite-like mineral.

Unnamed Lead Iron Sulfide


The mineral occurs in grains of oval-rhombohedral section up to 0.2 mm in size as inclusions in kobellite from quartz veins in the Ustasarai bismuth deposit, Pskem Ridge, S. E. Tien-Shan. Electron probe analysis showed major Fe, Pb, S, with 0.5 percent Ni. Two determinations gave Fe 40.4 (Fe standard), 39.2 (pyrite standard), av. 40.4 percent. It contained more Pb than the associated kobellite (>40 percent) and more sulfur (>17 percent), but quantitative analyses could not be made.

In reflected light light pale gray. Reflectance at 600 mm = 50 percent. Isotropic, birefringence, and internal reflections were not observed. H. 2-2.5.
Analysis gave Al₂O₃ 20.90, Fe₂O₃ 8.80, MgO 2.32, CaO 0.86, H₂O 2.55, SO₃ 54.35, insol. 9.96, total 99.74 percent. After deducting impurities of country rock (not specified), this is stated to give (Al₁₃Fe₆₇) (SO₄)₂₇. Direct calculation, assuming SO₃ = 3.00, gives (Al₁₃Fe₆₇) M.F. The DTA curve gives a slight break at 95° (hygroscopic water) and a large endothermic break at 850° (decomposition of sulfate). Insoluble in water, dissolved by acids.

X-ray powder data are given (Cu radiation, Ni filter). The strongest lines (16 given) are 5.8 8, 3.50 10, 2.92 8, 2.65 9, 2.22 6, 2.03 6, 1.75 6, 1.66 6, 1.53 7.

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Color cherry-red, in the air becomes clear red to brick-red, streak red, luster vitreous. H. 1.5, G 1.72. Under the microscope brown, isotropic, n 1.573.

**Smolyaninovite**


Smolyaninovite was described by Y. in 1956 [Am. Mineral. 42, 307 (1957)] as (Co, Ni, Ca, Mg)₆(Fe, Al)₆(AsO₄)₆(OH)·5H₂O. New data on type material are given. The X-ray pattern (7 lines, strongest 21.94 19 001, 11.58 8 010, 3.20 6 200, 2.52 5 040, 1.642 5 400) is indexed on an orthorhombic cell with a 6.40, b 11.72, c 21.9Å., Z = 2, G. calc 2.2, det 2.05–2.15. The DTA curve shows a double endothermic effect at 120° and 180° and an exothermic peak at 700°. Infra-red absorption spectra indicate (AsO₄)²⁻ ion, H₂O, but no (OH)⁻ groups. The mineral is considered to be the Co–Ni analogue of arseniosiderite.

**Discussion**