

NEW MINERAL NAMES

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Indium

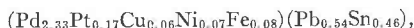
V. V. IVANOV, Native indium. In *Geochemistry, mineralogy, and genetic types of deposits of rare elements*, v. 2, p. 568-569 Izdatelstvo "Nauka," Moscow (1964) (in Russian).

Found as grains up to 1 mm. in size in close association with native lead in greisenized and albitized granite in Eastern Transbaikal. Composition established by microspectrographic analysis (not given). Tetragonal, $a=3.25$, $c=4.95$ Å. $Z=2$. Strongest lines of powder diagram 2.74 (10), 2.30 (3), 2.50 (2), 1.69 (2), 1.398 (2), in good agreement with data on indium metal. Color gray with yellowish tint, luster metallic. Hardness 130-159, av. 142 kg/sq mm. In polished sections in reflected light rose-white. Weakly anisotropic, not birefringent. Reflecting powder very high, 92.3% (in air), 85.7% (immersion).

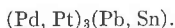
Zvyagintsevite

A. D. GENKIN, I. V. MURAV'eva, AND N. V. TRONEVA, Zvyagintsevite, a natural intermetallic compound of palladium, platinum, lead, and tin: *Geol. Rud. Mestorozhd.* 8, 94-100 (1966) [translation by E. Maser, Ottawa, kindly furnished by L. J. Cabri.]

The mineral had been described previously without a name as probably Pd₄Pb (*Amer. Mineral.* 46, 464 (1961)). Microspectrographic analyses gave Pd 61.4, 60.1; Pb 38.6, 39.9%; Sn, Pt, Fe, and Ni were also detected. The average of electron probe analyses (individual analyses not given) was Pd 55.0±5, Pd 7.5±1, Pb 25.0±2, Sn 12.0±2, Cu 1.0±1, Fe 1.0±1, Ni 1.0±1, sum 102.5%, corresponding to



or



X-ray study showed the mineral to be cubic face-centered, $a=4.02\pm 0.01$ Å. (synthetic Pd₃Pb has $a=4.021$, Pd₃Sn has $a=3.97$ Å). The strongest lines (13 given) are 2.315 (10)(111), 1.207 (9)(311), 2.011 (8)(200), 1.418 (7)(220).

Luster metallic, powder black. In polished sections white with a cream colored tinge. Isotropic. Reflectivity measured at 11 wave lengths increases from 57.6 at 410 mμ to 69.4 at 650 mμ, then decreases to 66.0 at 750 mμ. Relative relief much less than that of ferroplatinum. Microhardness 316 kg/sq mm.

The mineral occurs in pentlandite-chalcopyrite and pentlandite-cubanite-chalcopyrite veins of the Noril'sk ore deposit, USSR, as grains up to 0.3 mm and skeletal forms bordered by ferroplatinum.

The name is for Professor Orest Evgenevich Zvyagintsev, who did research on the geochemistry of the platinum metals. The mineral was approved before publication by the Commission on New Minerals and Mineral Names, IMA.

Pseudorutile

A. K. TEMPLE, Alteration of ilmenite: *Econ. Geol.* 61, 695-714 (1966).

G. TEUFER AND A. K. TEMPLE, Pseudorutile, a new mineral intermediate between ilmenite and rutile in the natural alteration of ilmenite: *Nature* 211, 179-181 (1966).

The oxidation of ilmenite in nature involves oxidation and progressive removal of iron. The name pseudorutile is given to an intermediate stage of this oxidation corresponding to the composition of Fe₂^{III}Ti₃O₉. It is present in various amounts in weathered "ilmenites,"

up to 70% in material from Quilon, India, 75% from Trail Ridge, Fla., 85% from New Jersey. The first paper gives chemical analyses and electron probe determinations on samples rich in pseudorutile and also containing ilmenite and rutile. The second paper gives X-ray powder data (13 lines) but no intensity data. Diffuse streaks were present, indicating disorder. Single crystal work (not given, but promised in another paper) leads to a primitive hexagonal structure with $a=2.867$, $c=3.608$ Å. (first paper), $a=2.872$, $c=4.594$ Å (second paper). (Note—rutile is tetragonal, $a=4.594$, $c=2.958$ Å.)

DISCUSSION.—The problem of the products of oxidation of ilmenite has long been in dispute (See *Amer. Mineral.*, **35**, 117–119 (1950) on “arizonite” and *Amer. Mineral.* **49**, p. 1774 (1964) on “proarizonite”). The present papers add only more confusion. For example, every line of the powder diagram corresponds closely to lines of rutile or ilmenite, or both; although the strongest line of rutile is missing. The data are insufficient to establish the proposed mineral.

Silicomanganberzeliite

M. M. KAYUPOVA, Mineralogy of the iron-manganese deposits of Dzhumart: *Izv. Akad. Nauk. Kazakh SSR, Ser. Geol.*, **6**, 57–80 (1963), from an abstract by E. M. Bohnstedt-Kupletskaya, *Zap. Vses. Mineral. Obschest.* **94**, 678–679 (1965).

Analysis gave As_2O_2 37.20, V_2O_5 4.47, SiO_2 9.83, CaO 18.40, MnO 18.10, MgO 5.40, Na_2O 3.54, K_2O 0.25, R_2O_3 ($Al > Fe$) 2.30, “remainder” 0.13, total 99.62%. The author ascribed R_2O_3 , K_2O , and 6.83% of the SiO_2 to admixtures and deduces the formula



DISCUSSION.—The abstractor considers the name to be unnecessary. I agree, especially in view of the impure material.

Unnamed calcium iron arsenite

L. K. YAKHONTOVA, The role of compounds of trivalent arsenic in the zone of oxidation of iron-cobalt-nickel arsenides: *Trudy Mineral. Mus. Akad. Nauk SSSR*, **15**, 176–183 (1964) (in Russian).

The material occurs as bright orange crusts up to 1 mm thick in leached cavities of skutterudite-rammelsbeigite-loellingite ore, with finely-firous crystals, tenths of a millimeter long, in fissures. Analysis (mean of 4 on 20–40 mg each) gave As_2O_3 61.51, Fe_2O_3 16.68, Al_2O_3 none, FeO 5.64, MgO 0.72, CoO and NiO traces, CaO 5.19, H_2O 12.24, sum 101.98%. Insoluble in water, readily soluble in acids. The water is lost at 40–140°. The DTA curve has an endothermal break at 160°, and exothermic breaks at 460°, 510°, and 610°. The strongest lines of the X-ray pattern are 9.24 (10), 6.69 (8), 4.61 (7). G. 2.8–2.85. H. about 3. Massive material has mean n 1.89, non-pleochroic; crystals are biaxial, $\alpha'=1.820$, $\gamma=1.955$, pleochroism X light yellow, Y pale brown, Z reddish-brown. Parallel extinction, positive elongation.