

A
SYSTEM
OF
MINERALOGY.

DESCRIPTIVE MINERALOGY,

COMPRISING THE
MOST RECENT DISCOVERIES.

BY

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"Hæc studia nobiscum peregrinantur....rusticantur."

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REWRITTEN AND ENLARGED, AND ILLUSTRATED WITH UPWARDS OF SIX HUNDRED WOODCUTS.

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C

(fr. artif. cryst.). In capillary crystallizations tufted and radiated; also subfibrous massive; and as an earthy powder or incrustation.

H.=1-2. G.=4.49-4.50, Weisbach. Lustre of crystals silky to adamantine; earthy. Color straw-yellow, yellowish-white.

Comp.—Mo=Oxygen 34.29, molybdenum 65.71=100.

Pyr., etc.—B.B. on charcoal fuses and coats the charcoal with minute yellowish crystals of molybdic acid near the assay, becoming white near the outer edge of the coating. This coating treated for an instant in R.F. assumes a deep blue color, which changes to dark red on continued heating. With borax gives in O.F. a yellow bead while hot, becoming colorless on cooling; in R.F. a saturated bead becomes brown or black and opaque. With salt of phosphorus gives a yellowish bead in O.F., becoming green when treated in R.F. and allowed to cool.

Obs.—Occurs with molybdenite, from which it is probably derived, at the foreign localities of that species; at Aduu Tschilon in Dauria, and at Pitkäanta on L. Ladoga, in silky tufts of capillary crystals.

In N. Hamp., at Westmoreland, earthy; in Penn., at Chester, Delaware Co.; Georgia, Heard Co., in silky fibrous tufts; in the gold region, a few miles north of Virginia City, Nevada, in subfibrous masses, and tufted crystallizations of a deep yellow color (called *molybdate of iron* by D. D. Owen, in Proc. Ac. Philad., vi. 108, but shown by Genth to be this species mixed with limonite).

Artificial crystals of molybdate afforded A. E. Nordenskiöld the planes $O, \frac{1}{2}i, \frac{1}{2}i, \frac{1}{2}i, \frac{1}{2}i, \frac{1}{2}i, \frac{1}{2}i$, and the following angles: $O \wedge \frac{1}{2}i = 157^\circ 7'$, $O \wedge \frac{1}{2}i = 148^\circ 5'$, $O \wedge \frac{1}{2}i = 140^\circ 3'$, $\frac{1}{2}i \wedge \frac{1}{2}i = 106^\circ 12'$; and gave $a : b : c = 0.4792 : 1 : 0.3872$. Doubling the vertical axis, $a : b : c = 0.9584 : 1 : 0.3872$, which is very closely the relation in the corresponding acid of vanadium, which has $a : b : c = 0.9590 : 1 : 0.3832$. The above dimensions correspond to $I \wedge I = 137^\circ 40'$.

225. TUNGSTITE. Tungstic Ochre *B. Silliman*, Am. J. Sci., iv. 52, 1822. Wolframöcker, Scheelsaure *Germ.* Wolframine *Lettsom & Greg*, This Min., 1854, Brit. Min., 349, 1853.

Pulverulent and earthy.

Color bright-yellow, or yellowish-green.

Comp.—W, or pure tungstic acid=Oxygen 20.7, tungsten 79.3=100.

Pyr., etc.—B.B. on charcoal becomes black in the inner flame, but infusible. With salt of phosphorus gives in O.F. a colorless or yellowish bead, which treated in R.F. gives a blue glass on cooling. Soluble in alkalis, but not in acids.

Obs.—Occurs with wolfram in Cumberland, and Cornwall, England; at Lane's mine, Monroe, Ct., filling small cavities in other ores of tungsten, or coating them, and has resulted from their decomposition; in Cabarrus Co., N. C.; at St. Leonard, near Limoges, rarely in distinct cubes of a sulphur-yellow color on wolfram and quartz, a fine specimen of which is contained in the cabinet of Mr. Adam of Paris.

Artificial crystals, according to A. E. Nordenskiöld (Pogg., cxiv., 228), are orthorhombic, with $I \wedge I = 110^\circ$, and $a : b : c = 0.4026 : 1 : 0.6966$; $G = 6.302 - 6.384$. These axes approximate to those of molybdate, if for $c, \frac{1}{2}c$ is substituted, and then this axis is made the vertical; the axes becoming $0.4644 : 1 : 0.4026$.

The name *Wolframine* is changed to *Tungstite* in order to get rid of the chemical termination *ite*. *Wolframite* has been used for another species.

226. KERMESITE. Röd Spitzglasahn, Antimonium Sul. et Ars. mineralisatum, *Minera Ant. colorata*, Wall., 239, 1747 (fr. Bräunsdorf), *Cronst.*, 203, 1758. Antimonium plumosum *v. Born*, *Lithoph.*, i. 137, 1772. Mine d'antimoine en plumes, *ib.* granuleuse, =Kermes mineral natif, *Sage*, Min., ii. 251, 1779, *de Lisle*, *Crist.*, iii. 56, 60, 1783. Roth-Spiessglaserz *Wern.*, 1789. Rothspießglanz erz *Emmerling*, Min., 1793; *Klapr.*, Beitr., iii. 182, 1802 (with anal., making it an oxysulphid). Antimoine oxydé sulfuré *H.*, Tabl., 1809. Red Antimony. Spiessglanzblende *pt. Hausm.* Handb., 225, 1813. Antimony Blende *Jameson*, Min. iii. 421, 1820. Antimonblende *Leonh.*, Handb., 157, 1821. Kermes *Beud.*, Tr., ii. 617, 1832. Kermesite *Chapman*, Min., 61, 1843. Pyrostibit *Glock*, Syn., 16, 1847. Pyrantimonite *Breith.*

Monoclinic. $C = 77^\circ 51'$; $O \wedge i-i = 102^\circ 9'$, $O \wedge 1-i$, plane on acute