

Yeatmanite

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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As euhedral crystals, typically lath-shaped, rarely pseudohexagonal by twinning; as warped foliae. *Twinning:* Multiple lamellar on {010}; also on {023}.

Physical Properties: *Cleavage:* Perfect on {100}. *Tenacity:* Brittle. *Hardness* = 4
D(meas.) = 5.02 D(calc.) = 5.04

Optical Properties: Semitransparent. *Color:* Clove-brown. *Streak:* Very light brown.
Optical Class: Biaxial (-). *Orientation:* $X \perp \{100\}$ cleavage. *Dispersion:* $r > v$, distinct.
 $\alpha = 1.864(4)$ $\beta = 1.895(4)$ $\gamma = 1.905(2)$ $2V(\text{meas.}) = 52^\circ$ $2V(\text{calc.}) = 59^\circ$

Cell Data: *Space Group:* $P\bar{1}$. $a = 5.604(2)$ $b = 11.602(7)$ $c = 9.058(4)$ $\alpha = 92^\circ 10(3)'$
 $\beta = 100^\circ 54(2)'$ $\gamma = 77^\circ 18(5)'$ $Z = 1$

X-ray Powder Pattern: Franklin, New Jersey, USA.
2.969 (100), 2.782 (60), 2.587 (60), 2.474 (60), 1.605 (60), 2.547 (40), 2.146 (40)

Chemistry:	(1)
	SiO ₂ 14.7
	Sb ₂ O ₅ 18.9
	FeO 1.0
	MnO 37.8
	ZnO 29.1
	MgO 0.0
	Total 101.5

(1) Franklin, New Jersey, USA; by electron microprobe, corresponds to $\text{Mn}_{8.89}\text{Zn}_{5.97}\text{Sb}_{1.95}\text{Fe}_{0.23}\text{Si}_{4.08}\text{O}_{28}$.

Occurrence: In veins in massive granular ore in a metamorphosed stratiform zinc deposit.

Association: Sarkinite, willemite, calcite, diopside, andradite, roméite.

Distribution: From Franklin, Sussex Co., New Jersey, USA.

Name: For Pope Yeatman (1861–1953), mining engineer at Franklin, New Jersey, USA.

Type Material: National School of Mines, Paris, France; Harvard University, Cambridge, Massachusetts, 92878; National Museum of Natural History, Washington, D.C., USA, C6290.

References: (1) Palache, C., L.H. Bauer, and H. Berman (1938) Yeatmanite, a new mineral, and sarkinite from Franklin, New Jersey. *Amer. Mineral.*, 23, 527–530. (2) Moore, P.B. (1966) Catoptrite and yeatmanite – stuffed pyrochroite structures? *Amer. Mineral.*, 51, 1494–1500. (3) Moore, P.B., T. Araki, and G.D. Brunton (1976) Catoptrite, $(\text{Mn}_5^{2+}\text{Sb}_2^{5+})(\text{Mn}_8^{2+}\text{Al}_4\text{Si}_2)\text{O}_{28}$, a novel close-packed oxide sheet structure. *Neues Jahrb. Mineral., Abh.*, 127, 47–61. (4) Dunn, P.J. and P.B. Leavens (1980) Yeatmanite: new data. *Amer. Mineral.*, 65, 196–199. (5) Kato, T. (1986) The crystal structure of yeatmanite. *Mineral. J. (Japan)*, 13, 53–64.