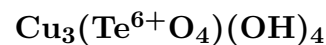


Xocomecatlite



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Crystal Data: Orthorhombic (probable). *Point Group:* n.d. Needlelike crystals in subparallel radial and spherulitic aggregates, to 0.15 mm.

Physical Properties: *Tenacity:* Brittle but tough. Hardness = 4 D(meas.) = 4.65(1) D(calc.) = 4.42

Optical Properties: Semitransparent. *Color:* Bright emerald-green. *Streak:* Pale green. *Optical Class:* Biaxial (-). *Pleochroism:* In rich bluish greens. *Orientation:* $X \perp$ length; $Z \parallel$ length. *Absorption:* $Z > X = Y$. $\alpha = 1.775(5)$ $\beta = 1.900(5)$ $\gamma = 1.920(5)$ $2V(\text{meas.}) = \text{n.d.}$ $2V(\text{calc.}) = 41^\circ$

Cell Data: *Space Group:* n.d. $a = 12.140(60)$ $b = 14.318(100)$ $c = 11.662(60)$ $Z = 12$

X-ray Powder Pattern: Bambollita mine, Mexico. 4.627 (10), 2.673 (6), 3.439 (4), 3.099 (4), 2.434 (4b), 3.320 (3), 2.831 (3)

Chemistry:	(1)	(2)
TeO ₃	38.7	39.00
CuO	51.3	53.00
ZnO	2.4	
H ₂ O	8.0	8.00
Total	100.4	100.00

(1) Bambollita mine, Mexico; results of several partial microchemical analyses, CuO, ZnO by AA, TeO₃ by spectrophotometry, presence of Te⁶⁺ confirmed by microchemical test; after deduction of insoluble 12.4%, then corresponds to (Cu_{2.93}Zn_{0.14})_{Σ=3.07}(TeO₄)_{1.0}(OH)_{4.13}.

(2) Cu₃(TeO₄)(OH)₄.

Occurrence: A rare secondary mineral in the oxidized zone of hydrothermal Au–Te deposits.

Association: Parakhinite, dugganite (Emerald mine, Arizona, USA); mcalpineite, leisingite, jensenite, hinsdalite–svanbergite, goethite (Centennial Eureka mine, Utah, USA).

Distribution: From the Oriental (Bambollita) mine, northeast of the Moctezuma (Bambolla) mine, 12 km south of Moctezuma, Sonora, Mexico. In the USA, at the Emerald mine, Tombstone, Cochise Co., Arizona; from the dump of the Centennial Eureka mine, Tintic district, Juab Co., Utah.

Name: From the Nahuatl language *xocomecatli*, for *grape*, in allusion to its appearance as a bunch of grapes.

Type Material: Natural History Museum, Paris, France; National Museum of Natural History, Washington, D.C., USA, 135059.

References: (1) Williams S.A. (1975) Xocomecatlite, Cu₃TeO₄(OH)₄, and tlalocite, Cu₁₀Zn₆(TeO₃)(TeO₄)₂Cl(OH)₂₅•27H₂O, two new minerals from Moctezuma, Sonora, Mexico. *Mineral. Mag.*, 40, 221–226. (2) (1976) *Amer. Mineral.*, 61, 504 (abs. ref. 1).