**Xocomecatlite**  
\[
\text{Cu}_3(\text{Te}^{6+}\text{O}_4)(\text{OH})_4
\]

**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 ⊥ length; Z ∥ length.  
**Absorption:** Z > X = Y.  
\[\alpha = 1.775(5) \quad \beta = 1.900(5) \quad \gamma = 1.920(5)\]  
2V(meas.) = n.d.  
2V(calc.) = 41°

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

**X-ray Powder Pattern:** Bambollita mine, Mexico.  

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TeO₃</td>
<td>38.7</td>
<td>39.00</td>
</tr>
<tr>
<td>CuO</td>
<td>51.3</td>
<td>53.00</td>
</tr>
<tr>
<td>ZnO</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>H₂O</td>
<td>8.0</td>
<td>8.00</td>
</tr>
<tr>
<td>Total</td>
<td>100.4</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(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 Cu₂.₹₃Zn₀.₁₄(Σ=3.₀₇(TeO₄)₁.₀₇(OH)₁.₃₇.  
(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 Nahua language xocomecatl, 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:**  