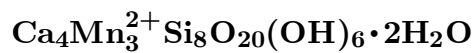


Orlymanite



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Crystal Data: Hexagonal. *Point Group:* $\bar{3}$ or 3. As fibrous crystals, with fibrils || [1000], forming spheres, to 3 mm; in irregular botryoidal aggregates.

Physical Properties: *Cleavage:* {0001}, perfect. Hardness = 4–5 D(meas.) = 2.7–2.8 D(calc.) = 2.93

Optical Properties: Translucent. *Color:* Dark brown; in transmitted light, light to dark brown. *Streak:* Light brown. *Luster:* Vitreous.

Optical Class: Uniaxial (-). *Pleochroism:* *O* = pale brown; *E'* = dark brown. $\omega = 1.598$ $\epsilon = \text{n.d.}$

Cell Data: *Space Group:* $P\bar{3}$ or *P3*. $a = 9.60(2)$ $c = 35.92(10)$ $Z = 5$

X-ray Powder Pattern: Wessels mine, South Africa.

3.60 (100), 1.840 (90), 3.13 (80b), 7.15 (70), 4.18 (70), 2.545 (40b), 2.469 (40b)

Chemistry:

	(1)
SiO ₂	46.8
Al ₂ O ₃	0.2
Fe ₂ O ₃	0.8
MnO	19.7
MgO	1.6
CaO	21.6
Na ₂ O	0.6
H ₂ O	8.68
Total	100.0

(1) Wessels mine, South Africa; by electron microprobe, H₂O by the Penfield method; corresponds to $(\text{Ca}_{18.6}\text{Mn}_{13.4}\text{Mg}_{2.4}\text{Na}_{0.7}\text{Fe}_{0.5})_{\Sigma=35.6}(\text{Si}_{37.7}\text{Al}_{0.2})_{\Sigma=37.9}\text{O}_{111} \cdot 23.3\text{H}_2\text{O}$.

Occurrence: Apparently as a vein mineral in a manganese ore body.

Association: Inesite, hematite, calcite.

Distribution: In a specimen attributed to the Wessels mine, near Kuruman, Cape Province, South Africa.

Name: In honor of Orlando Lyman (?–1986), founder of the Lyman House Memorial Museum in Hilo, Hawaii, USA.

Type Material: National Museum of Natural History, Washington, D.C., USA, 166368.

References: (1) Peacor, D.R., P.J. Dunn, and J.A. Nelen (1990) Orlymanite, Ca₄Mn₃Si₈O₂₀(OH)₆•2H₂O, a new mineral from South Africa: a link between gyrolite-family and conventional phyllosilicate minerals? *Amer. Mineral.*, 75, 923–927.