

**Crystal Data:** Orthorhombic; metamict. *Point Group:*  $2/m\ 2/m\ 2/m$ . Crystals indistinct, tabular, to 5 cm, with {100} and {110} striated.

**Physical Properties:** *Fracture:* Subconchoidal. *Tenacity:* Brittle. Hardness = 5.5–6  
D(meas.) = 5.77–5.87 D(calc.) = n.d. Radioactive.

**Optical Properties:** Opaque, transparent in thin fragments. *Color:* Brownish black to chestnut-brown; amber-yellow in thin fragments. *Luster:* Resinous.

*Optical Class:* Isotropic.  $n = n.d.$

R: n.d.

**Cell Data:** *Space Group:*  $Pbcn$ .  $a = 14.574(3)$   $b = 5.555(1)$   $c = 5.184(3)$   $Z = 4$

**X-ray Powder Pattern:** Craveggia, Italy; after heating at 1000 °C in air.  
3.12 (10), 2.87 (7), 2.67 (3), 2.52 (3), 2.28 (1), 2.15 (1)

<b>Chemistry:</b>	(1)	(2)		(1)	(2)
UO <sub>3</sub>	3.35	4.16	Ce <sub>2</sub> O <sub>3</sub>	7.22	9.54
Nb <sub>2</sub> O <sub>5</sub>	3.83	15.27	Fe <sub>2</sub> O <sub>3</sub>	1.18	1.53
Ta <sub>2</sub> O <sub>5</sub>	47.31	22.95	Bi <sub>2</sub> O <sub>3</sub>		0.04
SiO <sub>2</sub>	0.90	0.13	MnO	0.35	0.28
TiO <sub>2</sub>	14.17	21.05	PbO	trace	1.71
SnO <sub>2</sub>	0.14	0.44	CaO	2.22	0.97
ThO <sub>2</sub>	trace	2.86	Na <sub>2</sub> O	trace	
Al <sub>2</sub> O <sub>3</sub>		0.31	LOI	2.40	2.24
(Y, Er) <sub>2</sub> O <sub>3</sub>	17.48	16.36	<hr/>		
			Total	100.55	99.84

(1) Cooglegong, Australia. (2) Woodstock, Australia.

**Occurrence:** A detrital mineral in tin placers (Western Australia); in a granite pegmatite (Craveggia, Italy).

**Association:** Strüverite, columbite, ilmenite, tourmaline, spessartine, beryl, allanite, monazite, xenotime (Craveggia, Italy).

**Distribution:** From Eleys, 16 km south of Cooglegong, and at Woodstock, Pilbara district, Western Australia. From Piano del Lavonchio, near Craveggia, Val Vigizzo, Piedmont, Italy. At Ituri, Haut-Zaire Province, Congo (Zaire).

**Name:** For its relation to *euxenite*, with TANTalum greater than niobium.

**Type Material:** The Natural History Museum, London, England, 1928,340–341.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 787–792 [euxenite–polycrase, part], 808 [delorenzite]. (2) Frondel, C. (1958) Systematic mineralogy of uranium and thorium. U.S. Geol. Sur. Bull. 1064, 341–343 [delorenzite = tanteuxenite-(Y)]. (3) De Pol, C. and L. Vescovi Minutti (1967) Ricerche roentgenografiche sulla tanteuxenite de Craveggia (delorenzite di Zambonini). Rend. Soc. Ital. Mineral. Petrol., 23, 31–45 (in Italian).