Ecdemite $Pb_6As_2^{3+}O_7Cl_4$

Crystal Data: Tetragonal. *Point Group:* n.d. As small tabular crystals, and in foliated masses.

Physical Properties: *Cleavage:* {001}, distinct. Hardness = 2.5–3 D(meas.) = 7.14 D(calc.) = [7.30]

Optical Properties: Translucent. *Color:* Greenish yellow to yellow. *Luster:* Vitreous on cleavages, greasy on fractures.
Optical Class: Uniaxial (–); biaxial in part, probably due to intergrown heliophyllite.
$\omega = 2.32(2)$ (Li) $\epsilon = 2.25(2)$

Cell Data: *Space Group:* n.d. $a = 10.82$ $c = 25.60$ Z = 8

X-ray Powder Pattern: Långban, Sweden.
2.85 (100), 3.66 (80), 2.72 (80), 2.07 (70), 1.591 (70), 1.92 (60), 1.652 (50)

Chemistry:

	(1)	(2)
As_2O_3	10.60	12.01
PbO	83.45	81.32
Cl	8.00	8.61
$-O = Cl_2$	1.81	1.94
Total	100.24	100.00

(1) Långban, Sweden. (2) $Pb_6As_2O_7Cl_4$.

Occurrence: A rare mineral in metamorphosed Fe–Mn orebodies (Sweden).

Association: Heliophyllite, finnemanite, freedite, lead, copper, manganoan calcite, andradite, magnetite (Långban, Sweden).

Distribution: In Sweden, from Långban, in the Harstigen mine, near Persberg, and at Jakobsberg, Värmland. From Laurium, Greece, in slag.

Name: From the Greek for *unusual*, in allusion to the composition.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 1036–1037. (2) Welin, E. (1968) X-ray powder data for minerals from Långban and the related mineral deposits of Central Sweden. Arkiv Mineral. Geol., 4(30), 499–541.