

**Crystal Data:** Monoclinic. *Point Group:* 2/m. Granular fragments with angular edges due to cleavage, typically elongated, to 0.5 mm, or rounded due to alluvial transport; may be enclosed in platinum. *Twinning:* Commonly polysynthetic on {001}.

**Physical Properties:** *Cleavage:* Good on {001} *Hardness* = n.d. VHN = 322–620, 461 average (15 g load). D(meas.) = 10.68–12.78 D(calc.) = 13.02

**Optical Properties:** Opaque. *Color:* Dark bronze; white with a greenish yellow hue in reflected light. *Luster:* Metallic.  
*Optical Class:* Biaxial. *Pleochroism:* Low. *Anisotropism:* Very high. *Birefractance:* Very high. R<sub>1</sub>–R<sub>2</sub>: (400) 39.0–44.8, (420) 40.0–45.8, (440) 41.0–47.0, (460) 42.0–48.0, (480) 43.0–49.2, (500) 44.2–50.2, (520) 45.2–51.6, (540) 46.3–52.8, (560) 47.5–53.8, (580) 48.2–54.5, (600) 49.2–55.5, (620) 50.2–56.6, (640) 51.0–57.7, (660) 52.0–58.6, (680) 52.5–59.2, (700) 52.9–59.8

**Cell Data:** *Space Group:* P2<sub>1</sub>/c. a = 6.584(5) b = 4.602(3) c = 11.10(1) β = 101.6(1)°  
Z = 2

**X-ray Powder Pattern:** Mutushi, Congo.  
1.875 (100B), 2.93 (80), 1.812 (70), 5.45 (60), 3.27 (60), 2.78 (60), 2.465 (60)

Chemistry:	(1)	(2)	(3)
Pt	75.76	75.6	75.54
Pd		0.4	
Se	24.24	24.1	24.46
Total	100.00	100.1	100.00

(1) Mutushi, Congo; by electron microprobe, average of 12 analyses; corresponds to Pt<sub>5.00</sub>Se<sub>3.95</sub>.  
(2) Lubero, Congo; by electron microprobe, corresponds to (Pt<sub>4.95</sub>Pd<sub>0.05</sub>)<sub>Σ=5.00</sub>Se<sub>3.90</sub>. (3) Pt<sub>5</sub>Se<sub>4</sub>.

**Occurrence:** In concentrates from placers derived from granodioritic source rocks.

**Association:** Platinum, anatase, florencite, gorceixite, kaolinite, chlorite, quartz.

**Distribution:** From Mutushi, Lubero district, Kivu Province, Congo (Zaire) [TL].

**Name:** For its occurrence in the Lubero district, Congo.

**Type Material:** Royal Institute of Natural Sciences, Brussels, Belgium, RC4.215.

**References:** (1) Jedwab, J., B. Cervelle, G. Gouet, X. Hubaut, and P. Piret (1992) The new platinum selenide luberoite Pt<sub>5</sub>Se<sub>4</sub> from the Lubero region (Kivu Province, Zaire). *Eur. J. Mineral.*, 4, 683–692. (2) (1993) *Amer. Mineral.*, 78, 450–451 (abs. ref. 1). (3) Matković, P. and K. Schubert (1977) Krystall Struktur von Pt<sub>5</sub>Se<sub>4</sub>. *J. Less-common Metals*, 55, 185–190 (in German). (4) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 332.