

**Crystal Data:** Cubic. *Point Group:*  $4/m\bar{3}2/m$ . Rarely as small octahedra; may be discoidal, then forming rosettes, to 3  $\mu\text{m}$ ; commonly in grains, which may have a radial fibrous texture.

**Physical Properties:** *Tenacity:* Ductile, malleable. Hardness = 4.5–5 VHN = n.d.  
D(meas.) = 11.9 D(calc.) = 12.04

**Optical Properties:** Opaque. *Color:* Whitish steel-gray. *Luster:* Metallic.  
R: (400) 60.6, (420) 62.0, (440) 63.4, (460) 64.6, (480) 65.6, (500) 66.4, (520) 67.2, (540) 67.8, (560) 68.3, (580) 68.9, (600) 69.5, (620) 70.2, (640) 70.9, (660) 71.7, (680) 72.5, (700) 73.4

**Cell Data:** *Space Group:*  $Fm\bar{3}m$  (synthetic).  $a = 3.8898$   $Z = 4$

**X-ray Powder Pattern:** Potaro River, Guyana.  
2.259 (100), 1.184 (60), 1.957 (50), 1.387 (40), 1.132 (20), 0.9824 (10), 0.9019 (4b)

|                   |            |
|-------------------|------------|
| <b>Chemistry:</b> | (1)        |
|                   | Pd 77.2    |
|                   | Hg 22.6    |
|                   | <hr/>      |
|                   | Total 99.8 |

(1) Potaro River, Guyana; by electron microprobe.

**Occurrence:** An oxidation product of palladium-bearing sulfides and as a primary phase in platinum deposits.

**Association:** Pt–Fe alloys, Pd–Hg minerals, gold, Au–Ag alloy, lead, sobolevskite.

**Distribution:** In Brazil [TL], in Minas Gerais, from placers in the Bom Sucesso Stream, northwest of Serro; and around Itabira, as at the Cauê iron mine. In placers in the Department of Chocó, Cauca, Colombia. In Russia, from placers in the Ural Mountains. In Poland, at the Lubin copper mine, near Legnica, Zechstein copper district, and in the weathered cover of the Szklary massif. From the Transvaal, South Africa. In Guyana, in placers on the Potaro River.

**Name:** In honor of the discovery of the planetoid *Pallas*.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 109–110. (2) Hull, ?? and ?? Davy (1921) ??title?? Strukturbereich??, 1, 70–??. [Os,Ir also, cf]?? (2) Cabri, L.J., Ed. (1981) Platinum group elements: mineralogy, geology, recovery. Can. Inst. Min. & Met., 125–126, 160. (3) Ramdohr, P. (1969) The ore minerals and their intergrowths, (3rd edition), 342.