Dyscrasite Ag_3Sb

Crystal Data: Orthorhombic. *Point Group:* $mm2$. Pyramidal crystals, to 5 cm, also cylindrical, prismatic to platy, striated; granular, foliated or massive. *Twinning:* On {110}, giving pseudohexagonal forms and V-shapes.

Physical Properties: *Cleavage:* Distinct on {001} and {011}; imperfect on {110}. *Fracture:* Uneven. *Tenacity:* Sectile, but brittle. Hardness = 3.5–4 VHN = 153–179 (100 g load). D(meas.) = 9.712 D(calc.) = 9.720

Optical Properties: Opaque. *Color:* Silver-white, tarnishing to lead-gray, pale yellow, or black. *Streak:* Silver-white. *Luster:* Metallic. *Pleochroism:* Very weak. *Anisotropism:* Weak. R_1–R_2: (400) 57.0–57.7, (420) 57.7–59.0, (440) 58.3–60.1, (460) 59.1–61.2, (480) 59.6–61.7, (500) 59.9–62.1, (520) 60.0–62.4, (540) 60.1–62.7, (560) 60.0–62.9, (580) 59.8–63.0, (600) 59.6–63.0, (620) 59.5–63.0, (640) 59.4–63.1, (660) 59.3–63.0, (680) 59.3–63.1, (700) 59.6–63.4

Cell Data: *Space Group:* $Pmm2$. $a = 3.008$ $b = 4.828$ $c = 5.214$ $Z = 1$

X-ray Powder Pattern: St. Andreasberg, Germany.
2.29 (100), 2.42 (40), 1.370 (40), 2.61 (30), 1.771 (30), 1.506 (30), 1.278 (30)

Chemistry:

	(1)	(2)	(3)
Ag	75.41	73.1	72.66
Sb	24.37	26.1	27.34
Total	99.78	99.2	100.00

(1) St. Andreasberg, Germany; average of seven analyses. (2) Do.; by electron microprobe. (3) Ag_3Sb.

Occurrence: In hydrothermal veins with other silver minerals as both a primary and secondary mineral.

Association: Silver, pyrargyrite, acanthite, stromeyerite, tetrahedrite, allemontite, galena, calcite, barite.

Distribution: In Germany, in the Black Forest, from Wenzelgang, near Wolfach [TL] and Wittichen; at St. Andreasberg, Harz Mountains. In France, from Wasserfall, about 20 km northwest of Belfort, Haute-Saône; and at Sainte-Marie-aux-Mines, Haut-Rhin. From Hiendelaencina, Guadalajara Province, Spain. At Příbram, Czech Republic. From Långsjön, Sweden. At Kongsberg and Sulitjelma, Norway. Large masses in the Consols mine, Broken Hill, New South Wales, Australia. From Chañarcillo, south of Copiapó, Atacama, Chile. At Colquechaca, Bolivia. From the Highbridge mine, Belmont district, Nye Co., Nevada, USA. In Canada, at Cobalt, Ontario, in a number of mines; and in the Tanco pegmatite, Bernic Lake, Manitoba. From the Ilímaussaq intrusion, southern Greenland. In the Yuzhnyi tin deposit, Tetukhe region, southern Maritime Territory, Russia. From the Aktepe Ag–As deposits, near Tashkent, Uzbekistan. At the Shkol'noe deposit, Kurama Ridge, Tadjikistan. From the Rampura Agucha Zn–Pb–Ag deposit, Rajasthan, India.

Name: From the Greek for *a bad alloy*.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 173–175. (2) Scott, J.D. (1976) Refinement of the crystal structure of dyscrasite, and its implications for the structure of allargentum. Can. Mineral., 14, 139–142. (3) Cipriani, C., M. Corazza, and G. Mazzetti (1996) Reinvestigation of natural silver antimonides. Eur. J. Mineral., 8, 1347–1350. (4) Berry, L.G. and R.M. Thompson (1962) X-ray powder data for the ore minerals. Geol. Soc. Amer. Mem. 85, 32. (5) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 149.