Allargentum Ag_6Sb

Crystal Data: Hexagonal. *Point Group:* n.d. In complex intergrowths with silver, and as very small grains.

Physical Properties: Hardness = n.d. VHN = 172–203, 189 average. D(meas.) = 10.0 (synthetic). D(calc.) = 10.12

Optical Properties: Opaque. *Color:* Silver. *Luster:* Metallic. *Anisotropism:* Weak. *Bireflectance:* Strong.
R_1–R_2: (400) 67.0–68.8, (420) 66.5–68.2, (440) 66.0–67.6, (460) 65.9–67.3, (480) 67.1–68.6, (500) 67.4–68.7, (520) 68.9–70.4, (540) 69.5–70.9, (560) 70.2–71.6, (580) 70.5–71.8, (600) 71.0–72.3, (620) 71.7–73.0, (640) 72.1–73.4, (660) 72.6–73.9, (680) 73.1–74.3, (700) 73.8–74.9.

Cell Data: *Space Group:* n.d. $a = 2.952$ $c = 4.773$ $Z = 2$

X-ray Powder Pattern: Cobalt, Canada.
2.370 (100), 2.252 (60), 2.548 (40), 1.353 (40), 1.756 (30), 0.943 (30), 1.473 (20)

Chemistry:

	(1)	(2)	(3)
Ag	84.3	83.09	84.17
Hg	0.3		
Ni		0.05	
Sb	15.3	15.82	15.83
As		0.08	
Total	99.9	99.04	100.00

(1) Cobalt, Canada; by electron microprobe, average of 15 analyses. (2) Wasserfall, France; by electron microprobe. (3) Ag_6Sb.

Occurrence: In high-grade Ag–Sb ores.

Association: Silver containing antimony and mercury, dyscrasite, breithauptite, domeykite, kutínaite, stephanite.

Distribution: In Canada, in Ontario, from the Hi-Ho mine, Cobalt [TL], and abundant in many mines of the Cobalt district; also in the Red Lake area. At the Calliope mine, Ouray district, Ouray Co., Colorado, USA. From the Consols and Junction mines, Broken Hill, New South Wales, and North Arm, Queensland, Australia. At Wasserfall, about 20 km northwest of Belfort, Haute-Saône, France. From Rejská, near Kutná Hora, and at Příbram, Czech Republic. In Germany, at Hartenstein, Saxony. From Hällefors, Bergslagen metallic province, Sweden. In the Aktepe district, near Tahkent, Uzbekistan.

Name: From the Greek for *another* and the Latin *argentum*, silver.

Type Material: Canadian Museum of Nature, Ottawa, 61343–61345, 61519; The Natural History Museum, London, England; National Museum of Natural History, Washington, D.C., USA, 135409.

References: (1) Petruk, W.L., L.J. Cabri, D.C. Harris, J.M. Stewart, and L.A. Clark (1970) Allargentum, redefined. Can. Mineral., 10, 163–172. (2) (1971) Amer. Mineral., 56, 638 (abs. ref. 1). (3) Picot, P. and F. Ruhlmann (1978) Présence d'arséniures de cuivre de haute température dans le granite des Ballons (Vosges méridionales). Bull. Minéral., 101, 563–569 (in French with English abs.). (4) Cipriani, C., M. Corazza, and G. Mazzetti (1996) Reinvestigation of natural silver antimonides. Eur. J. Mineral., 8, 1347–1350.