Selenojalpaite Ag_3CuSe_2

Crystal Data: Tetragonal. *Point Group:* 4/*m* 2/*m* 2/*m.* Typically intergrown with eucairite and berzelianite in aggregates to several hundred μm; also occurs as grains to 200 μm.

Physical Properties: *Cleavage:* None. *Fracture*: Uneven. *Tenacity*: Brittle.
Hardness = 4-4.5 VHN = 36-40 (25 g load). D(meas.) = n.d. D(calc.) = 7.65

Optical Properties: Opaque. *Color:* Dark gray, light gray in reflected light. *Streak:* Black.
Luster: Metallic.
Optical Class: n.d. *Pleochroism*: Weak, brownish gray to slightly darker greenish gray.
R_1-R_2: (471.1) 33.5-37.1, (548.3) 31.8-35.1, (586.6) 30.4-34.0, (652.3) 29.3-32.4

Cell Data: Space Group: $I4_1/amd$. a = 8.939(1) c = 11.844(2) Z = 8

X-ray Powder Pattern: Skrikerum deposit, near Valdermarsvik, Småland, Sweden.
2.426 (100), 2.891 (85), 2.813 (80), 2.473 (75), 2.162 (70), 2.034 (65), 4.47 (60)

Chemistry:

	(1)	(2)
Ag	59.20	59.37
Cu	11.81	11.66
Se	29.01	28.97
Total	100.02	100.00

(1) Skrikerum deposit, near Valdermarsvik, Småland, Sweden; average of 15 electron microprobe analyses; corresponds to $Ag_{2.99}Cu_{1.01}Se_{2.00}$. (2) Ag_3CuSe_2.

Occurrence: In a mineralized hydrothermal calcite vein.

Association: Eucairite, altaite, berzelianite**,** copper, Au-Ag alloy, Se-bearing chalcopyrite, Se-bearing bornite, berzelianite, covellite, umangite, athabascaite, klockmannite, ferroselite, eucairite, naumannite, schesserite, crookesite, bukovite, clausthalite, Se-bearing sphalerite, Se-bearing stromeyerite, Se-bearing chalcocite.

Distribution: From the Skrikerum Cu-Ag-Tl selenide deposit, near Valdermarsvik, Småland, southeastern Sweden.

Name: As the selenium (*seleno*) analog of *jalpaite*.

Type Material: Natural History Museum, University of Florence, Italy (# 1768/I).

References: (1) Bindi, L. and G. Pratesi (2005) Selenojalpaite, Ag_3CuSe_2, a new mineral species from the Skrikerum Cu-Ag-Tl selenide deposit, Småland, southeastern Sweden. Can. Mineral., 43, 1373-1377. (2) (2006) Amer. Mineral., 91, 713-714 (abs. ref. 1).