Johnkoivulaite $Cs(Be_2B)Mg_2Si_6O_{18}$

Crystal Data: Hexagonal. *Point Group*: 6/*m* 2/*m* 2/*m*. As a crystal fragment 5.8 × 5.7 × 5.5 mm.

Physical Properties: *Cleavage*: None. *Tenacity*: Brittle. *Fracture*: Conchoidal. Hardness = ~7.5 D(meas.) = 3.01(10) D(calc.) = 3.157 Nonfluorescent.

Optical Properties: Translucent. *Color*: Grayish violet. *Streak*: White. *Luster*: Vitreous. *Optical Class*: Uniaxial (-). ω = 1.607(1) ε = 1.605(1) *Pleochroism*: Strong, colorless with $E \perp c$, dark bluish violet with $E \parallel c$.

Cell Data: *Space Group*: *P*6/*mmc*. a = 9.469(2) c = 9.033(2) Z = 2

X-ray Powder Pattern: Pein Pyit area of the Mogok region, Myanmar.
3.272 (100), 2.940 (85), 3.064 (82), 1.744 (40), 1.5444 (30), 1.7939 (29), 2.274 (27)

Chemistry:

	(1)
BeO	[7.25]
B_2O_3	5.99
Na_2O	0.04
MgO	10.34
Al_2O_3	0.38
SiO_2	55.36
K_2O	0.71
MnO	0.10
FeO	2.98
Cs_2O	18.36
Total	101.51

(1) Pein Pyit area of the Mogok region, Myanmar; average electron microprobe analysis, BeO calculated from stoichiometry and confirmed by LA-ICP-MS measurements; corresponding to $(Cs_{0.85}K_{0.10}Na_{0.01})(Be_{1.88}B_{1.12})(Mg_{1.66}Fe_{0.27}Mn_{0.01}Al_{0.05})(Si_{5.98})O_{18}$.

Mineral Group: Beryl group.

Occurrence: In an alluvial gravel deposit mined for gemstones.

Association: Unknown.

Distribution: From the Pein Pyit area of the Mogok region, Myanmar.

Name: Honors gemologist *John Koivula* for his contributions to mineralogy and gemology.

Type Material: Gemological Institute of America Museum, Carlsbad (41653) and the Natural History Museum of Los Angeles County, Los Angeles, California, USA (75133).

References: (1) Palke, A.C., L.M. Henling, C. Ma, G.R. Rossman, Z. Sun, N. Renfro, A.R. Kampf, K. Thu, N. Myo, P. Wongrawang, and V. Weeramonkhonlert (2021) Johnkoivulaite, $Cs(Be_2B)Mg_2Si_6O_{18}$, a new mineral of the beryl group from the gem deposits of Mogok, Myanmar. Amer. Mineral., 106, 1844-1851.