Luanshiweiite $KLiAl_{1.5}(Si_{3.5}Al_{0.5})O_{10}(OH)_2$

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As grains < 1 mm; in scaly aggregates.

Physical Properties: *Cleavage*: Perfect on (001). *Tenacity*: Flexible. *Fracture*: n.d.
Hardness = ~3 VHN = 84.93-119.75, 102 average. D(meas.) = 2.851 D(calc.) = 2.868

Optical Properties: Transparent to translucent. *Color*: n.d. *Streak*: n.d. *Luster*: n.d.
Optical Class: Biaxial (-). α = l.5474 β = l.5700 γ = l.5729 2V(meas.) = 36°-40°
Orientation: *X* = *c*, *Y* = *b*, *Z* = *a*. Widely wavy extinction.

Cell Data: *Space Group*: *C*2/*c*. *a* = 5.1861(7) *b* = 8.9857(3) *c* = 19.970(3) β = 95.42° Z = 4

X-Ray Diffraction Pattern: No. 309 pegmatite, Lushi country, Henan Province, China.
2.565 (100), 3.468 (42), 3.314 (36), 9.891 (35), 2.973 (34), 4.451 (31), 2.378 (31)

Chemistry:

	(1)
SiO_2	51.65
TiO_2	0.01
Al_2O_3	3.50
FeO	0.72
CaO	0.02
MnO	0.22
MgO	0.04
Na_2O	0.15
K_2O	11.62
Li_2O	3.80
Rb_2O	0.78
Cs_2O	0.53
F	3.85
H_2O	2.82
-O = F	1.62
Total	98.09

(1) No. 309 pegmatite, Lushi country, Henan Province, China; average electron microprobe analysis Li, Rb and Cs determined by atom absorption spectra; F and OH determined by wet analyses; corresponds to $(K_{1.01}Rb_{0.03}Cs_{0.02}Na_{0.02})_{\Sigma=1.08}(Li_{1.04}Al_{1.39}Fe_{0.04}Mn_{0.01})_{\Sigma=2.48}(Si_{3.51}Al_{0.49})_{\Sigma=4.00}[O_{9.89}(OH)_{0.11}]_{\Sigma=10.00}[(OH)_{1.17}F_{0.83}]_{\Sigma=2.00}$.

Mineral Group: Mica group, 2M_1 polytype.

Occurrence: In veinlets cutting and the outer zone of a granitic pegmatite dike.

Association: Quartz, an "F-dominant analog of luanshiweiite", montebrasite, pollucite, bismutotantalite, Na- and Ca-poor but Li- and OH- or F-rich tourmaline, tantalite, tantalite-Mn, trilithionite, polylithionite(?), microlite group minerals, albite (An ≤ 4), spodumene, oxynatromicrolite, fluorcalciomicrolite, muscovite.

Distribution: From the No. 309 rare-metal granitic pegmatite dike, Guonpo town, Lushi country, Henan Province, China.

Name: Honors Chinese pegmatitic petrologist Professor *Luanshiwei* (1928-2012).

Type Material: Geological Museum of China, Beijing (M 11797).

References: (1) Fan, G., G. Li, G. Shen, J. Xu, and J. Dai (2013) Luanshiweiite: A new member of lepidolite series. Acta Mineralogica Sinica 33, 713-721.