Ganterite $[Ba_{0.5}(Na,K)_{0.5}]Al_2(Si_{2.5}Al_{1.5}O_{10})(OH)_2$

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As tabular lamellae to 0.5 mm.

Physical Properties: *Cleavage*: Perfect on {001}. *Fracture*: Laminated. *Tenacity*: Flexible. Hardness = 4-4.5 VHN = 260 (100 g load). D(meas.) = n.d. D(calc.) = 3.11

Optical Properties: Translucent to transparent. *Color*: Light gray to silvery, colorless in transmitted light. *Streak*: White. *Luster*: Vitreous.
Optical Class: Biaxial (-). α(calc.) = 1.600 β = 1.619 γ = 1.622 2V(meas.) = 42° - 45°
Dispersion: Weak.

Cell Data: *Space Group*: *C*2/*c*. a = 5.212(1) b = 9.046(2) c = 19.978(4) β = 95°48' Z = 4

X-ray Powder Pattern: Berisal complex, Wasenhorn, Simplon region, Switzerland.
2.571 (100), 2.602 (95), 1.5054 (91), 3.737 (77), 3.887 (76), 4.481 (71), 3.495 (71)

Chemistry:

	(1)
BaO	15.54
CaO	0.03
Na_2O	1.91
K_2O	3.02
MgO	0.86
FeO	0.69
MnO	0.03
Al_2O_3	36.5
SiO_2	37.47
TiO_2	0.73
H_2O	3.90
Total	100.68

(1) Berisal complex, Wasenhorn, Simplon region, Switzerland; average of 32 electron microprobe analyses supplemented by IR spectroscopy, H_2O by TGA; corresponding to $(Ba_{0.44}K_{0.28}Na_{0.27})_{\Sigma=0.99}(Al_{1.84}Mg_{0.09}Fe_{0.04}Ti_{0.04})_{\Sigma=2.01}[Si_{2.72}Al_{1.28}O_{10}](OH)_{1.89}$.

Mineral Group: Mica group.

Polymorphism & Series: $2M_1$ polytype, dioctahedral; forms a series with muscovite.

Occurrence: A rock forming mineral in bands and lenses of white-mica schists and in zoisite–celsian gneiss.

Association: Muscovite, zoisite, quartz, plagioclase, apatite, zircon, amphibole (schist); zoisite, celsian, quartz, margarite ± armenite (gneiss); dumortierite, barite, muscovite (Nevada).

Distribution: From the Berisal complex, Wasenhorn, Simplon region, Switzerland. In the USA, from Lincoln Hill, near Oreana, Nevada.

Name: For *Ganter*tal, a valley in the Simplon region that produced the first specimens.

Type Material: At the Natural History Museum and the Mineralogical Institute, University of Basil, Switzerland.

References: (1) Graeser, S., C.J. Hetherington, and R. Gieré (2003) Ganterite, a new barium-dominant analogue of muscovite from the Berisal complex, Simplon region, Switzerland. Can. Mineral., 41, 1271-1280. (2) (2004) Amer. Mineral., 89, 1827 (abs. ref. 1). (3) Chi Ma and G.R. Rossman (2006) Ganterite, the barium mica $Ba_{0.5}K_{0.5}Al_2(Al_{1.5}Si_{2.5})O_{10}(OH)_2$, from Oreana, Nevada. Amer. Mineral., 91, 702-705.