

**Crystal Data:** Orthorhombic. *Point Group:* 2/m 2/m 2/m. As prismatic crystals to 4 mm elongated along [001] and showing dominant {100}, {001}, (110) and {210} or as spherulites to 8 mm of radial fibrous crystals elongated along [010]. Striations sometimes on {001} parallel to [010] and typically on {110} and {210} parallel to [001]. As auto-epitactic intergrowths of the two morphological varieties.

**Physical Properties:** *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = 3.5-4 D(meas.) = 3.62(1) D(calc.) = 3.63 In SW UV, crystals fluoresce strong pinkish orange; spherulites show weak bluish lilac. Strong effervescence in dilute HCl when powdered.

**Optical Properties:** Transparent, translucent (fibrous). *Color:* Colorless, snow-white (fibrous). *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (-).  $\alpha = 1.500(2)$   $\beta = 1.612(2)$   $\gamma = 1.614(2)$  2V(meas.) = 10(5)° 2V(calc.) = 14° *Orientation:* X = a, Y = b, Z = c.

**Cell Data:** *Space Group:* Cmcn.  $a = 12.511(5)$   $b = 5.857(2)$   $c = 9.446(4)$  Z = 4

**X-Ray Diffraction Pattern:** Kirovskii mine, Mt. Kukisvumchorr, Kola Peninsula, Russia. 3.527 (100), 3.397 (71), 2.609 (20), 2.313 (43), 1.940 (40), 1.948 (39), 2.302 (22)

Chemistry:	(1)	(2)
Na <sub>2</sub> O	0.11	
K <sub>2</sub> O	0.05	
CaO	29.02	29.87
SrO	0.13	
BaO	40.77	40.83
MnO	0.07	
FeO	0.25	
CO <sub>2</sub>	22.9	23.44
F	9.95	10.12
-O = F <sub>2</sub>	4.19	4.26
Total	99.06	100.00

(1) Kirovskii mine, Mt. Kukisvumchorr, Kola Peninsula, Russia; average electron microprobe analysis supplemented by IR spectroscopy, H<sub>2</sub>O by TGA; corresponds to Ba<sub>1.02</sub>(Ca<sub>1.98</sub>Fe<sub>0.01</sub>Na<sub>0.01</sub>Sr<sub>0.005</sub>)<sub>Σ=2.005</sub>C<sub>1.99</sub>O<sub>6</sub>F<sub>2.00</sub>. (2) BaCa<sub>2</sub>(CO<sub>3</sub>)<sub>2</sub>F<sub>2</sub>.

**Occurrence:** In cavities within a hydrothermal lensoidal body in urtite.

**Association:** Natrolite, biotite, ilmenite, aegirine, lorenzenite, barytocalcite, calcite, fluorite, astrophyllite, burbankite.

**Distribution:** From the Kirovskii apatite mine, Mt. Kukisvumchorr, Khibiny massif, Kola Peninsula, Russia.

**Name:** Honors Aleksandr Semenovich *Podlesnyi* (b. 1948), Russian amateur mineralogist and mineral collector, for his contributions to the mineralogy of the Khibiny massif.

**Type Material** A.E. Fersman Mineralogical Museum, RAS, Moscow, Russia (3460/1).

**References:** (1) Pekov, I.V., N.V. Zubkova, N.V. Chukanov, D.Y. Pushcharovsky, N.N. Kononkova, and A.E. Zadov (2008) Podlesnoite BaCa<sub>2</sub>(CO<sub>3</sub>)<sub>2</sub>F<sub>2</sub> a new mineral species from the Kirovskii mine, Khibiny, Kola Peninsula, Russia. *Mineral. Record*, 39, 137-148. (2) Zubkova, N.V., D.Y. Pushcharovsky, I.V. Pekov, and M.K. Rabadanov (2007) The crystal structure of podlesnoite, BaCa<sub>2</sub>(CO<sub>3</sub>)<sub>2</sub>F<sub>2</sub>. *Zeitschrift Kristallog.*, 222, 474-476.