

**Korobitsynite**

**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . As prismatic grains and needle-like crystals to 2 cm, showing {110}, {001}, {010}, {100}, and {021}. Epitaxial intergrowths with elpidite and irregular intergrowths with labuntsovite are common.

**Physical Properties:** *Cleavage:* Imperfect on {001}. *Tenacity:* Brittle. *Fracture:* Uneven. Hardness = ~5 VHN = 620(50) (25 g load).  $D(\text{meas.}) = 2.72$   $D(\text{calc.}) = 2.68$   
Korobitsynite and nenadkevichite are megascopically indistinguishable.

**Optical Properties:** Transparent. *Color:* Colorless. *Luster:* Vitreous.  
*Optical Class:* Biaxial (+)  $\alpha = 1.646\text{--}1.650(2)$   $\beta = 1.654\text{--}1.658(2)$   $\gamma = 1.763\text{--}1.780(5)$   
 $2V(\text{meas.}) = 30^\circ$  *Orientation:*  $X = b, Y = c, Z = a$ .

**Cell Data:** Space Group: *Pbam*.  $a = 7.349(2)$   $b = 14.164(2)$   $c = 7.130(1)$   $Z = 2$

**X-ray Powder Pattern:** Lovozero massif, Kola Peninsula, Russia.  
3.262 (100), 6.53 (85), 7.09 (79), 2.075 (57), 2.553 (56), 3.180 (52)

<b>Chemistry:</b>	(1)
Na <sub>2</sub> O	13.87
K <sub>2</sub> O	0.03
BaO	0.54
ZrO <sub>2</sub>	0.04
TiO <sub>2</sub>	21.38
SiO <sub>2</sub>	40.91
Nb <sub>2</sub> O <sub>5</sub>	10.14
<u>H<sub>2</sub>O</u>	<u>12.20</u>
Total	99.11

(1) Lovozero massif, Kola Peninsula, Russia; by electron microprobe analysis, H<sub>2</sub>O by TGA; corresponding to  $\text{Na}_{2.62}\text{Ba}_{0.02}(\text{Ti}_{1.57}\text{Nb}_{0.45})_{\Sigma=2.02}[\text{Si}_4\text{O}_{12}][(\text{OH})_{1.13}\text{O}_{1.03}]_{\Sigma=2.16} \cdot 3.4\text{H}_2\text{O}$ .

**Mineral Group:** Labuntsovite-group, nenadkevichite subgroup.

**Occurrence:** In miarolitic cavities in pegmatite.

**Association:** At Mt. Alluaiv: albite, aegirine, shortite, rhodochrosite, epididymite, leifite, tainiolite, pyrrhotite, thermonatrite, nahpoite, amorphous bitumen; or albite, aegirine, elpidite, lorenzenite, sphalerite, galena, shomiokite-(Y), trona, natron, natroxalate; or elpidite, quartz, epididymite, aegirine, sidorenkite, sphalerite, löllingite, pyrrhotite, belovite-(Ce). At Mt. Kasnasurt: in nests of a cryptocrystalline Na-Fe hydrosilicate, natrolite, apophyllite, fluorite, sphalerite, galena, molybdenite.

**Distribution:** At Mts. Alluaiv and Karnasurt, Lovozero massif, Kola Peninsula, Russia. From the Aris phonolites, Windhoek, Namibia.

**Name:** For amateur mineralogist Mikhail Fyodorovich *Korobitsyn* (1928-1996), for significant contributions to the mineralogy of the Lovozero massif.

**Type Material:** A.E. Fersman Mineralogical Museum, Moscow, Russia.

**References:** (1) Pekov, I.V., N.V. Chukanov, A.P. Khomyakov, R.K. Rastsvetaeva, Ya.V. Kucherinenko, and V.V. Nedel'ko (1999) Korobitsynite,  $\text{Na}_{3-x}(\text{Ti}, \text{Nb})_2[\text{Si}_4\text{O}_{12}](\text{OH}, \text{O})_2 \cdot 3\text{--}4\text{H}_2\text{O}$ , a new mineral from Lovozero massif, Kola Peninsula. *Zapiski VMO*, 3, 72-79 (in Russian). (2) (2000) *Amer. Mineral.*, 85, 1322-1323 (abs. ref. 1). (3) Chukanov, N.V., I.V. Pekov, and A.P. Khomyakov (2002) Recommended nomenclature for labuntsovite-group minerals. *Eur. J. Mineral.*, 14, 165-173. (4) Niedermayr, G., R. Gault, A. Petersen, and O.V.F. Brandstätter (2002) Korobitsynite from the Aris phonolites, Windhoek, Namibia. *N. Jb. Miner. Mh.*, 42-48.