

## Rossovskyite

## (Fe<sup>3+</sup>,Ta)(Nb,Ti)O<sub>4</sub>

**Crystal Data:** Monoclinic. *Point Group:* 2/m. As flattened anhedral grains to 6 cm.

**Physical Properties:** *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Uneven. Hardness = 6  
D(meas.) = 6.06 D(calc.) = 6.302

**Optical Properties:** Opaque. *Color:* Black; gray in reflected light. *Streak:* Black.  
*Luster:* Semi-metallic to dull.

*Optical Class:* Biaxial. Distinctly bireflectant. *Pleochroism:* Gray to light gray.  
R<sub>1</sub>-R<sub>2</sub>: (470) 18.9-17.1, (546) 17.9-16.2, (589) 17.4-16.1, (650) 17-15.9

**Cell Data:** *Space Group:* P2/c. *a* = 4.668(1) *b* = 5.659(1) *c* = 5.061(1)  $\beta$  = 90.21(1) $^\circ$  *Z* = 2

**X-ray Powder Pattern:** Bulgut occurrence, Altai Mts., Western Mongolia.  
2.938 (100), 3.604 (49), 1.698 (31), 2.476 (29), 2.337 (27), 1.718 (26), 2.534 (23)

<b>Chemistry:</b>	(1)
MnO	1.68
FeO	[5.92]
Fe <sub>2</sub> O <sub>3</sub>	[14.66]
TiO <sub>2</sub>	7.69
Nb <sub>2</sub> O <sub>5</sub>	26.59
Ta <sub>2</sub> O <sub>5</sub>	37.51
<u>WO<sub>3</sub></u>	<u>5.61</u>
Total	99.66

(1) Bulgut occurrence, Altai Mts., Western Mongolia; average of 5 electron microprobe analyses, Fe apportioned by Mössbauer spectroscopy; corresponds to Mn<sup>2+</sup><sub>0.06</sub>Fe<sup>2+</sup><sub>0.21</sub>Fe<sup>3+</sup><sub>0.47</sub>Ti<sub>0.25</sub>Nb<sub>0.51</sub>Ta<sub>0.43</sub>W<sub>0.06</sub>O<sub>4</sub>.

**Occurrence:** In a lens-shaped, zoned pegmatite body at the contact of porphyritic biotite granite with crystalline schist.

**Association:** Quartz, microcline, muscovite, triplite, albite, apatite, pyrite, schorl, almandine-spessartine garnet, beryl, zircon, yttriotantalite-(Y), unspecified tantalio-niobates.

**Distribution:** Found at the Bulgut occurrence, Altai Mts., Western Mongolia.

**Name:** Honors Lev Nikolaevich Rossovsky (1933-2009), a specialist in the geology, geochemistry and mineralogy of granite pegmatites for his contributions to the investigation of numerous pegmatite fields in Central Asia and Russia.

**Type Material:** Mineralogical Museum, Tomsk State University, Tomsk, Russia (20927).

**References:** (1) Konovalenko, S.I., S.A. Ananyev, N.V. Chukanov, R.K. Rastsvetaeva, S.M. Aksenov, A.A. Baeva, R.R. Gainov, F.G. Vagizov, O.N. Lopatin, and T.S. Nebera (2015) A new mineral species rosovskyite, (Fe<sup>3+</sup>,Ta)(Nb,Ti)O<sub>4</sub>; crystal chemistry and physical properties. Physics and Chemistry of Minerals, 42(10), 825-833. (2) (2018) Amer. Mineral., 103, 2530-2531 (abs. ref. 1).