Niobium lorenzenite from metasomatic rocks of charoite deposits

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Lorenzenite, rare mineral, hasn't been known for a long time in the area of charoite deposit "Sirenevy Kamen" . As accessory mineral is found in ortoclase-aegirine metasomatic rocks. Aegirine, ortoclase, richterite, titanite, quartz, microcline, calcite, labuntsovite are in paragenesis with lorenzenite. The mineral is light brown, made of radial spicular aggregates with 5-10 mm in cross dimension. The mineral is orthorhombic with unit cell parameters as a_0 =14,43; b_0 =8,67; c_0 =5,20 Å. The most strong lines at X-ray powder pattern are: 0,330 (100); 0,554 (36); 0,275(33). Lorenzenite from "Sirenevy Kamen" differs from known ones (Greenland, Khibiny, Lovozero) in higher content of Nb2O5 (up to 12 mas.%) and twice lower content of SiO_2.

As we know the bands of 540 cm^{-1} and 700 cm^{-1} at infrared spectra are corresponded to Ti - O stretching vibration. These bands are present at infrared spectra of Nb - O containing lorenzenite, besides the broadening of low frequency arm and change of 900 cm^{-1} band relative intensity are observed.

SiO_2 deficiency in investigated lorenzenite in comparison with theoretical composition, high Nb_2O_5 content as well as difference in elementary cell parameters can testify to the new variety of this mineral.