

HISTORY OF MINERALOGICAL STUDIES OF RARE-ELEMENT AND AMAZONITE GRANITE PEGMATITES IN THE KOLA PENINSULA

Anatolii V. Voloshin,

Geological Institute, Kola Science Center, Russian Academy of Sciences

“**T**he most informative indicator of the scientific maturity of mineralogy is a number of mineralogical species at the particular historical moment”. These words belong to the famous Russian mineralogist Academician Nikolay P. Yushkin (1999).

The basis of mineralogy is a systematics of mineral species. Every new mineral gives new information that is important for both mineralogy itself and related sciences. Number of new mineral discoveries is the main indicator of development of mineralogy in a country. All these are especially actual for the Kola region, where the probability for discovery of the new minerals is high due to “extreme geochemical situations” (Pekov, 2001).

The Kola metallogenic province involves four major types of mineral-forming associations (systems), to which the deposits unique in scale and mineral diversity are related:

- the largest alkaline Khibiny and Lovozero Complexes;
- ultramafic alkaline massifs with carbonatite series;
- fractionated rare-metal granite pegmatites of the Kolmozero-Voron'i Zone and other;
- alkali-granite and alkali-syenite plutons with rare-metal metasomatic rocks and amazonite pegmatites (randpegmatites).

At present, in the Kola region, the other mineralogically important associations are studied. Sure, these systems could not compete with the aforementioned systems in discovery of new mineral species, but they should be mentioned.

The matter concerns with PGE and Au-Ag deposits and occurrences, which have been recently discovered and studied and are the novel in the Kola region. The deposits in the Fedorovo-Pansky layered complex, Moncha ore district, and other layered complexes are noteworthy in mineralogy in the first place. More than 50 of 129 known platinum-group mineral species and some mineral phases, which have no analogues among minerals, were established by electron microprobe at the Fedorovo-Pansky deposits (Balabonin *et al.*, 2000; Subbotin *et al.*, 2012).

Occurrences of massive sulfides in the Imandra-Varzuga belt should be mentioned. Some of them have been mineralogically studied since 1930s. Here, there are unique mineralogical occurrences, which are in the first place related to Panarechka vol-



1. Alexander Fedorovich Sosedko with colleagues before flight to fieldworks in Voron'i Tundras. Early 1950s. Photo from archive of Kola Science Center, Russian Academy of Sciences, Apatity,

2. Igor Vladimirovich Bel'kov in fieldworks in the West Keivy, 1950s. Photo from archive of Kola Science Center, Russian Academy of Sciences, Apatity,

Kola Peninsula

Kola Science Centre of the Russian Academy of Sciences, Apatity, Murmank Oblast
<http://www.kolasc.net.ru/english/index.html>

Geological Institute, Kola Science Centre of the Russian Academy of Sciences, Apatity, Murmank Oblast
geoksc.apatity.ru (on Russian)

Bel'kov Museum of Geology and Mineralogy, Geological Institute, Kola Science Centre of the Russian Academy of Sciences, Apatity, Murmank Oblast
<http://geoksc.apatity.ru/about/structure/105-museum->
 (on Russian); Museum Specimen Photos:
http://geo.web.ru/druza/m-mus_Apat_07.htm (on Rus)

Tietta, science-popilar magazine of Geological Institute, Kola Science Centre of the Russian Academy of Sciences, Apatity, Murmank Oblast,
 4 issues per year, New issue you can see online.
<http://geoksc.apatity.ru/images/stories/Print/zh23.pdf> (in Russian)

Dave Museum of Semi-Precious Stone, Monchegorsk, Murmank Oblast
<http://museum.3dn.ru/> (in Russian)

Museum of Regional Studies, North Rare Metals JSC, Revda Settlement, Murmank Oblast
<http://www.museum.ru/M2611>

Museum of Regional Studies, Lovozero GOK, Revda Settlement, Murmank Oblast
<http://www.lovgok.ru>

Kola Branch of Russian Mineralogical Society,
www.minsoc.ru/sections.php?id=19&sid=16&Lang=2
 (English);
http://geoksc.apatity.ru/index.php?option=com_content&view=category&layout=blog&id=32&Itemid=35 (in Russian)

Stone Flower, Minerals and Jewelry Show, Apatity, Murmank Oblast
<http://stone.apatity-city.ru> (in Russian)

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