

# Introduction

This issue is devoted to classic Russian minerals. What do we mean by classic? Of course, it could hardly be defined for sure as it is not possible to mark a clear boundary between «classic» and «non-classic» with respect to mineralogical objects. This boundary will necessarily be diffuse because different people will see it in somewhat different ways. However, it is clear that the understanding of what «classics» is becomes obvious with time. Therefore, the historical aspect, the test of time, is perhaps most important in defining the «classics» in museum or private collections, and, in a way, this is similar to the processes in literature, art, and music.

From my point of view, to become a «classic» mineral, a species from one or another locality must fit two main criteria. The first one is related to time. The outstanding and interesting, in one or another aspect, specimens of a mineral from a certain locality must be well-known over a long period of time. But it is difficult to give a precise answer for how long, which, in my opinion, must be at least a half-century. The second criterion is the relative abundance of the material; it must be widely available in museums. It is important that such specimens are present in many serious and long established collections; particularly in the larger and more respected museums. In other words, if only one or two mineral specimens have been found at the deposit, even very outstanding ones, such material cannot be defined as classic. There should be at least several hundreds of them, and they should be available in many serious collections. For some mineralogical objects, their «classic» definition is not questionable. I can identify at least thirty mineral localities in Russia which qualify as above-specified «first world class.» They originated mainly from these four regions: the Central and South Urals, South Siberia, Far East, and the Kola Peninsula. They were discovered and became famous at different times.

According to official historical documents, mineral collecting and the cutting of local gemstones began in Russia in the early 16<sup>th</sup> century. However, serious systematic prospecting and collecting of gemstones and mineral specimens did not start until the 1720s, when Peter the Great redirected Russia to the Western European way of industrial and cultural development. The works began in two regions of the Central Urals and Eastern Transbaikalia.

In general, the history of classic Russian mineral objects can be divided into three periods:

- 1) 18<sup>th</sup> century (mainly its second half) to the early 19<sup>th</sup> century: this was an initial period, and unfortunately not so many mineral specimens survived.
- 2) 19<sup>th</sup> century to the early years of the 20<sup>th</sup> century: this was a Golden Age in mineral collecting in Russia. During this period numerous specimens from Russian mineral deposits occurred in collections worldwide;
- 3) the 1920s to the 1950s: this was an early Soviet period characterised by a great development of the mining industry,

To conclude, I would like to say a few words about some Russian mineralogical localities which became famous in the museums and collections during the last decades. They have an excellent chance to become classics in the future.

For the Kola Peninsula, it would be the Kovdor alkaline complex (magnetite, phlogopite, kovdorskite, bobierrite, baddeleyite, and others), metamorphic occurrences and amazonite pegmatites of Western Keivy (staurolite, kyanite, almandine, amazonite, plumbomicrolite, and others), and occurrences of «glendonite» (pseudomorphs of calcite after ikaite) on the Terskiy Coast. Then, there are the quartz deposits of the Subpolar Urals with numerous and outstanding specimens of quartz, anatase, brookite, titanite, and axinite-(Fe). Nice specimens with large bright-red crystals of corundum originate from the Rai-Iz ultramafic complex in the Polar Urals. In the South Urals, one can mention Vishnevye Gory (Cherry Mountains), with beautiful crystals of zircon, pyrochlore, and ilmenite from the alkaline rocks. In the Northern Caucasus there is the Elbrusskiy Mine with outstanding orpiment and barite. Most of the remarkable discoveries were made during the last fifty years in Siberia, Far East and Northeast Russia, developed during Soviet time. For instance, the Oktyabr'skoe copper-nickel deposit in the Norilsk District yielded outstanding sperryllite, whereas placers related to the Konder alkaline ultramafic complex produced unique large and well-shaped crystals and twins of isoferroplatinum. Some of the most beautiful diamond crystals originated from the Mir and other kimberlite pipes in Sakha-Yakutia. The new granitic-pegmatite Malkhan deposit in Central Transbaikalia became a source of beautiful specimens of colorful elbaite tourmaline. One of the brightest discoveries of the period is the Murun alkaline massif with charoite, a new rock-forming mineral and a spectacular decorative stone. The charoite rocks contain some other minerals, forming large and beautiful aggregations of tinaksite, fedorite and frankamenite. The world's largest and most perfect crystals of pyrochlore originated from the Tatarskiy alkaline massif. In the area of the Nizhnyaya Tunguska River and adjacent regions are the numerous deposits of Iceland spar, giving not only beautiful and large, often well-coloured crystals and twins of calcite, but also numerous outstanding specimens of the zeolites: analcime (the best in the world), stilbite, and heulandite. In Primorskiy Krai, a Sinerechenskoe deposit with beautiful crystal groups of andradite was discovered. The tin deposits of Chukotka, best of all Iul'tin, yielded beautiful large crystals of cassiterite. Finally, the most recent occurrence (first specimens were found in 2007, the best and most abundant material coming in 2008–2011), which will, most probably, become a classic is the Rubtsovskoe base-metal deposit in the NW Altai, which yielded numerous top quality specimens of the supergene minerals cuprite, native copper and iodides, namely marshite, miersite, and iodargyrite.

Of course, it is not possible to describe all classic Russian minerals in their localities in such a brief review, which covers only the most famous and outstanding occurrences. We represent many of them with photographs, and this is the main goal of this issue.

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