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Meteorit Potůčky (Steinbach): historie a nové nálezy (Česká republika)

Meteorite Potůčky (Steinbach): history and new finds (Czech Republic)

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Abstract

In the years 2017 and 2019 two silicate-rich iron meteorites (IVA-an) with a total weight of over 7 kg were found during the collection of rock samples near the old mining locality Glücksburg near Potůčky in the Krušné hory/Erzgebirge Mountains. Subsequent research confirmed their structural, mineralogical and chemical similarity with the meteorites of the historical find called Steinbach. Due to the complicated circumstances of the finding of these meteorites (in addition to already recognized finds of Steinbach itself at Grimma, Rittersgrün in Saxony and Potůčky/Breitenbach in Bohemia), historical literary sources have been reviewed. In the study of mineralogical composition of both newly found meteorites, previously known and published data were confirmed, in several cases their data were refined (chromite, schreibersite and nickelphosphide). In addition, the presence of troilite-hosted veinlets of Fe-Ni sulfides mostly corresponding to Ni-rich binary mixtures troilite-godlevskite and troilite-heazlewoodite, and a supergene phosphate close to beraunite were found. In the final chapter, there a hypothetical area, in which the potential occurrence of additional pieces of meteorites of the Steinbach historical fall can be expected, is delineated. Based on the concentration of ^{40}K radionuclide in the meteorite found, its radiation age can be estimated at 70 ± 30 million years.

Key words: *iron IVA-an meteorite, Steinbach, new occurrence, history, mineral composition, Potůčky, Czech Republic*

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