Mountain flour ice stalagmites of Pinega Caves / S. Potapov, N. Parshina, N. Maksimovich [и др.]. // 3-rd International Workshop on ice Caves: Volume of Abstracts, Kungur ice Cave, Perm region, Russia May 12-17, 2008. – 2008. – P.34.

MOUNTAIN FLOUR ON ICE STALAGMITES OF PINEGA CAVES

Potapov S.[1], Parshina N.[1], Shavrina E.[2], Maksimovich N.[3], Kadebskaja O.[4]

[1]Institute of mineralogy of UrB the Russian Academy of Science, Miass, Russia
[2]Natural reserve Pinega, Russia
[3]Natural scietific institute, Perm, Russia
[4]Laboratory of Mining institute of UrB the Russian Academy of Science, Kungur, Russia;

In 2003—2004 one of authors in a number of Pinega caves (Kitezh, 60 years of October, Pekhorovskaya, Kulogorskaya-Troya, Pevscheskaya estrada) have been selected 10 samples of a mountain flour from the stalagmites, stalagnates and integumentary ice. Also tests of water from dissolution of integumentary ice, stalagmites and stalagnates from a cave Kitezh have been analysed. pH waters neutral or alkalescent. Waters are sulphate-hudrocarbonate-calcium. The contents of calcium close or hardly above 600 mg/1; a sulfate-ion — about 1400 mg/1 and a hudrocarbonate-ion varies from 61 up to 146 mg/1. General rigidity varies from 29.5 up to 32 mg-equ/1. It is abnormal low mineralizations test of water from dissolution stalagnate has: Ca^{2+} — 108 mg/1; SO_4^{2-} —192 mg/1; HCO_3^- — 73 mg/1, rigidity of 5.4 mg-equ/1. Sampls of a mountain flour represent friable powder-like substance from white up to grey color. Some sampls contain a clay component. The mineralogical analysis (diffractometer DRON-2.0, CuKa-radiation) has shown, that a basis of a mountain flour is gypsum. Frequently similar mineral formations name a gypsum flour. In this case it is quite lawful. But the composition of a similar substance is not limited only to gypsum. Therefore it is primary, not knowing mineral composition of a flour, it is necessary to adhere more to the general term — «a mountain flour», on an image of «a mountain or lunar milk» — a viscous-plastic substance which composition is not limited only calcite, or gypsum. In more strict scientific terminology (after V. Andrejchuk, e. a.., 2004) similar mineral forms in view of their genetic nature should be named cryogenic formations as their formation is caused by processes of freezing and it is connected directly to formation at negative temperature of ice from dripping, exuding or current water in conditions of caves. Work is executed at support of the grant of the RFBR № 07-05-00618 on a theme «Mineralogy and ecology of caves of carbonate and a sulphate karst of Ural, natural and technogenic stalaktitegenesis».