

NEW DATA ABOUT Bi-Te MINERALS FROM THE MÁTRA MTS., HUNGARY

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Bi-Te minerals have been described in the Central Mátra ore district only in Gyöngyössolymos (Nyirjes) and in the surroundings of Gyöngyössolymos, Asztagkő Hill. At the Nyirjes area, tetradymite nests appear rarely disseminated in quartzite and are accompanied by secondary Bi-Te-bearing minerals, so-called "tellurium-ochres" (KISS, 1960; DÓDONY & GATTER, 1987). Tetradymite and tellurobismuthite were found in a drilling core near the Asztagkő Hill by microprobe analyses as microscopic inclusions in pyrite, accompanying arsenopyrite and sphalerite (NAGY, 1986).

The identification of these minerals was completed by X-ray diffraction, optical examination (Budapest), EDS analysis and SEM methods (Miskolc).

Gyöngyössolymos, Nyirjes area

The tetradymite and tellurobismuthite appear in the quartzite as fine-grained, dissemination and also forming lamellar aggregates of 0.5–1 cm size. The accompanying sulphides are pyrite and arsenopyrite. Some of the sulphides, especially in a fissured, vuggy environment are rimmed by secondary minerals as montanite, goethite, more rarely jarosite and scorodite. The montanite usually forms yellowish brown, thin encrustations or more thicker crusts of globular and reniform aggregates.

Gyöngyösoroszi, pit heading at the 100 m level

The polymetallic ore deposit occurring in altered, pyrite-bearing andesite, andesite agglomerate is associated in several areas with fissures filled of quartz, adularia, fluorite and calcite. In these areas tetradymite occurs sometimes among the sulphides.

The tabular and rhombohedral tetradymite crystals (up to 1.8 mm) appear usually enclosed in quartz and fluorite. Thin-tabular crystals with forms {0001} and $\{10\bar{1}1\}$ and scale aggregates of the tabular crystals occur more rarely. According to microprobe analyses, a mineral phase close to tetradymite and another one with composition between tetradymite-ingodite-"csiklovaite" were found. In the succession order, tetradymite follows the pyrite whilst it is followed by arsenopyrite, bismuthinite etc.

Based on the mineral paragenesis and the succession order, the Bi-tellurides of the Mátra Mts. presumably had been formed before the formation of the Zn-Pb-Cu-type hydrothermal ores that are well-known in this territory.

References

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