

CALCIAN DRAVITE IN MARBLE AND ACTINOLITE SCHIST FROM HNÚŠŤA–MÚTNIK MAGNESITE-TALC DEPOSIT, SLOVAKIA: COMPOSITION AND ORIGIN

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Recent electron microprobe study of unusual tourmaline, previously determined as “uvite” by classic wet analysis from the Hnúšťa–Mútnik magnesite-talc deposit (BOUŠKA *et al.*, 1973) shows calcian dravite compositions and reveals other associated minerals which improve our mineralogical and genetical knowledge.

Dravite forms 0.5–2 cm large crystal clusters in fine grained calcite marble or fan shaped aggregates in actinolite schist at exocontact zones of the magnesite-talc lenses of the metamorphic stratiform deposit. Dravite hand specimens show dark greyish-blue to brownish-black color with slight pleochroism under the microscope. Dravite from marble is relatively homogeneous (Table 1A), dravite from actinolite schist (Table 1B) reveals increasing of Ca and Mg toward the rim in some cases. Dravite from marble have higher Ca/(Ca+Na) and Mg/(Mg+Fe) values than dravite from actinolite schist: 0.33–0.44 vs. 0.05–0.46 and 0.89–0.91 vs. 0.79–0.88, respectively.

A plenty of minute mineral inclusions (~ 0.01 to 0.5 mm large) occur in both dravite types. Diopside, calcite, rarely quartz, titanite, apatite, galena and a Bi phase are included in dravite from the marble; actinolite, dolomite, rarely quartz, titanite, apatite and zircon form inclusions in dravite. Phlogopite (Mg/(Mg+Fe) = 0.82–0.85), partly altered to clinocllore, locally associates together with dravite in actinolite schist. The size and composition of actinolite (locally magnesiohornblende and tremolite) from the inclusions and adjacent actinolite schist is the same: Mg/(Mg+Fe) = 0.85–0.90, Si = 7.41–7.85 apfu.

Tourmaline is probably a product of younger (Alpine?) metamorphic overprint of Paleozoic metacarbonates or metabasic rocks with external influx of fluids, rich in B, Na, K (also Fe in marbles). A reaction between the fluids and Ca-Mg bearing rocks resulted in nucleation of calcian dravite poikiloblasts with numerous inclusions of primary metamorphic minerals.

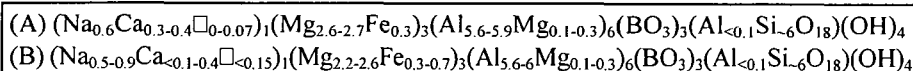


Table 1. Dravite formulae from marble (A) and actinolite schist (B), Hnúšťa deposit.

Reference

BOUŠKA, V., POVONDRA, P. & LISÝ, E. (1973). *Acta Univ. Carol. Geol.*, 3: 163–170.