

PŮVODNÍ PRÁCE/ORIGINAL PAPER

Tourmalinit z Velkých Žernosek (oparenské krystalinikum, severní Čechy)

Tourmalinite from Velké Žernoseky (Oparno Crystalline Complex, northern Bohemia)

STANISLAV HOUZAR^{1)*}, JAN CEMPÍREK¹⁾²⁾, JIŘÍ TOMAN¹⁾³⁾, VLADIMÍR HRAZDIL¹⁾, JAN FILIP⁴⁾
A MIROSLAV RADOŇ⁵⁾

¹⁾Mineralogicko-petrografické oddělení, Moravské zemské muzeum, Zelný trh 6, 659 37 Brno, Česká republika,
*e-mail: shouzar@mzm.cz.

²⁾Department of Earth, Ocean and Atmospheric Sciences, University of British Columbia, 2207 Main Mall, Vancouver,
BC, V6T 1Z4 Canada.

³⁾Ústav geologických věd, Přírodovědecká fakulta, Masarykova univerzita, Kotlářská 2, 611 37 Brno

⁴⁾Regionální centrum pokročilých technologií a materiálů, Univerzita Palackého v Olomouci, Šlechtitelů 11,
783 71 Olomouc, Česká republika.

⁵⁾Regionální muzeum v Teplicích, Zámecké nám. 14, 415 01 Teplice, Česká republika

HOUZAR S., CEMPÍREK J., TOMAN J., HRAZDIL V., FILIP J., RADOŇ M. (2014) Tourmalinit z Velkých Žernosek (oparenské krystalinikum, severní Čechy). *Bull. mineral.-petrolog. Odd. Nár. Muz. (Praha) 22, 1, 15-24. ISSN 1211-0329.*

Abstract

Tourmalinite occurrences at Kalvárie hill near Velké Žernoseky (northern Bohemia, Czech Republic) are represented by massive tourmaline-rich layers (with minor quartz <10 vol.%) in biotite-muscovite metapelites (phyllite to schist). Two tourmalinite assemblages were identified: a) almost monomineral tourmalinites to quartz-tourmaline rocks with accessory biotite, chlorite, fluorapatite, muscovite, calcite, and K-feldspar; b) tourmaline-epidote-quartz tourmalinites with minor garnet, muscovite and chlorite, and rare titanite, epidote and zircon. Garnet from the contact of the latter assemblage with the host rock (schist) exhibits an inverse zoning of Fe and Mn (Mn-rich core, Fe-rich rims). Four textural and compositional types of tourmaline containing variable contents of Fe³⁺, Fe²⁺, Ti, Ca, Na, and F were found. Other tourmalinite occurrences in the Oparno Crystalline Complex (Oparno-Černodolský mlýn, Chotiměf) are characterized by an increased amount of quartz, and typically form tourmaline-quartz veins in muscovite-biotite gneisses. Compared to the occurrence at Kalvárie hill, the tourmaline from Oparno has higher Mg, Al, and Ca contents and lower amounts of Na and OH. All rocks most likely formed by metamorphic overprint of boron-bearing protolite (biotite-muscovite metapelite with mafic admixture); however, the source of boron remain ambiguous.

Key words: *dravite, trivalent iron, chemical composition, evolution, tourmalinite, Oparno Crystalline Complex, Northern Bohemia*

Obdrženo: 31. 3. 2014; přijato: 11. 6. 2014