

Mineralogie „očkových“ opálů z Nové Vsi u Oslavan (moldanubikum, Český masív)

Mineralogy of „eye-like“ opals from Nová Ves near Oslavany (Moldanubian Zone, Bohemian Massif)

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KONIČKOVÁ Š., LOSOS Z., HRAZDIL V., HOUZAR S., VŠIANSKÝ D. (2016) Mineralogie „očkových“ opálů z Nové Vsi u Oslavan (moldanubikum, Český masív). *Bull. mineral-petrolog. Odd. Nár. Muz. (Praha) 24, 1, 144-152. ISSN: 1211-0329.*

Abstract

The locality Nová Ves near Oslavany, situated in Moldanubian zone of western Moravia, represents the only known occurrence of zonal „eye-like“ (concentric) opals in Bohemian Massif. This specific type of opal is characterized by a concentric zonal texture with white core („eye“), brown massive translucent inner rim and locally also white porous outer rim. These opals occur in residual sediments in small area along the contact of serpentinitized peridotite and granulite. Optical microscopy, Raman spectroscopy, X-ray powder diffraction and electron microprobe analysis of these individual zones showed that white and grey „eye“ and brown inner zone contains mainly opal-CT. Quartz and moganite are present in part in white aggregates of the „eye“ only. White outer rim of opals is composed of calcite with disseminated opal relics and this zone is younger as core and rim (calcite replaces opal). X-ray powder diffraction analysis proved presence of sepiolite admixture in brown part and accessory amount of sepiolite and chlorite in white rim. Origin of „eye-like“ opals from Nová Ves is not typical product of serpentinite weathering, but it is result of multistage weathering process on the boundary between peridotite and granulite. Source of younger calcification of opals remains unknown.

Key words: „eye-like“ concentric opal, quartz, moganite, calcite, mineralogy, residual rock, weathering, serpentinite, granulite, Moldanubian Zone, Bohemian Massif, Moravia

Obdrženo: 2. 6. 2016; přijato: 31. 7. 2016