TERRANES OF EASTERN BOHEMIAN MASSIF: TECTONOOSTRATIGRAPHIC AND LITHOLOGICAL UNITS OF THE MORAVICUM AND MOLDANUBICUM

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Terranes and terrane boundaries were recently defined and reinterpreted by Mísař and Dudek (1993): Moldanubicum (M), Moravosilesicum (MS), Bohemicum (B), Brunovistulicum (BV), Moravosilesian Tectonic Zone (MTZ) – redefined Moldanubian overthrust off F. E. Suess, Brunovistulian Marginal Fault (BMF), South Bohemicum Fault (SBF) – Fig. 1.

The terrane of the MS was overthrust along the MTZ by the M + B in the time of final Variscan amalgamation (cca 341–335 Ma) and all these terranes were subducted along the BMF by the Brunovistulicum.

Moravicum. Original subdivision of Moravian windows by F. E. Suess (1912) into the Outer and Inner Phyllites separated by the Bítéš gneiss is still generally accepted both by Czech and Austrian geologists even if different names for tectonostratigraphic and lithological units have been used. However, there are still some disagreements as to the place of the Moldanubian overthrust, terrane boundaries and character of contacts between single groups and/or nappes of the Moravicum (e. s. Frasl, 1991, Hek, 1991, Matte et al. 1990, Mísař and Dudek 1993, Schulmann et al. 1991). By our interpretation we propagate a model as presented in the Fig. 1.

**Fig. 1.** Correlation scheme of tectonostratigraphic and lithological units of the Moravicum. SBF South Bohemicum Fault, MTZ Silesian Tectonic Zone, BMF Brunovistulian Marginal Fault.

**Moldanubicum.** The main tectonostratigraphic and lithological units of Austrian part of eastern Moldanubicum are marked on the Fig. 2 of Steyer and Finger (in this volume). The most questionable are eg. the correlation of the Dobrá gneiss (207Pb/206Pb age of 1380 Ma according to Gebauer and Friedl
Fig 2. Correlation scheme of the Moldanubian Units (Czech and Austrian parts). The limits of technostratigraphic units according to geological maps 1:50,000 scale of Geological Survey and Faculty of Science, Charles University of Prague were modified by author.
MAIN GENETIC FEATURES OF THE BASE METAL DEPOSITS
IN THE JESENÍKY MTS. (A REVIEW)

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The stratabound Fe–Pb–Zn–Cu–Au–Ba deposits at the Jeseníky Mts. area analogously to the sulfide deposits of the Iberian Pyrite Belt, Meggen and Rammelsberg, seem to have formed in the similar geotectonic environment with dominance of crustal extension and increased heat flow. The deposits (Zlaté Hory, Horní Benešov, Horní Město, Oskava) are mostly bound to the products of the Devonian acid volcanism, often pyroclastics, and less to sedimentary rocks. Disseminated, streaky and irregularly banded ores are composed of prevailing pyrite, sphalerite and less abundant galena. Pyrrhotite and chalcopyrite are more common in the Zlaté Hory ore district only. Barite often forms separate lenses in the vicinity of stratabound sulfide bodies. The Variscan polyphase deformation, metamorphism and subsequent remobilization caused changes in the fabric and morphology of the ore bodies, resulting in folds, boudinage, fracture and the development of vein systems.

Fluid inclusion studies showed a great influence of metamorphism and only secondary inclusions were observed. At Horní Benešov (low greenschist facies) temperature of homogenization in water–rich inclusions in sphalerite ranges up to 170 °C and salinity up to 7 wt.% NaCl eq. while in barite the total Th reaching 210–250 °C was documented in H2O-CO2+HHC inclusions (higher hydrocarbons) (Doběš, Mixa 1993). Late metamorphic quartz veins with chalcopyrite and pyrite from Zlaté Hory district (garnet zone) originated at T 220–280 °C (Durišová 1990).

The Variscan metamorphism and deformation had insignificant influence on isotopic composition of sulphur. The most δ34S values of base metal sulfides lie between 0 and −12 0‰ with maximum in the range of −2 to −6‰ (Hladíková et al. 1990). The δ34S values of barites from Silesian stratabound deposits range from 18 to 26‰ and are consistent with the δ34S of the European Devonian evaporites. The wide scatter (over 50%) of δ34S values of both ore and in host rock disseminated sulfides indicates that these sulfides cannot be generated from only one source of sulfur. Sulfur derived from the marine sulfate and sulfur mobilized by hydrothermal solutions from the surrounding sedimentary rocks played a major role during the formation of the stratabound deposits. Analysis of sulfur isotope composition proved a polygenic character of the Jeseníky Mts. deposits (Hladíková et al. 1990).