

The Late Devonian to early Carboniferous kinematic evolution of the Teplá-Barrandian/Moldanubian boundary

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The Staré Sedlo complex (SSC) is a relic of meta-igneous arc-related rocks in the southern part of Sedlčany–Krásná Hora roof pendant, surrounded by granitoids of the Central Bohemian Plutonic Complex (CBPC) along the boundary of Teplá–Barrandian and Moldanubian units, Bohemian Massif. The SSC comprises deformed orthogneisses of calc-alkaline granodiorite to tonalite protoliths of Late Devonian 380–365 Ma age (Košler et al., 1993) with abundant enclaves and synplutonic dikes of basic magmas. Locally preserved intrusive contacts of the orthogneisses against their meta-sedimentary wall rock indicate that these magmas intruded as thin subhorizontal sheets along foliation and bedding planes. The SSC preserves a rather unusual flat-lying subsolidus foliation (dip $<40^\circ$) associated with subhorizontal \sim NE–SW-trending stretching lineation. In a \sim 100 m wide transition zone along the contact with \sim 346 Ma Kozárovec granodiorite, this flat fabric was reworked into steep subsolidus foliations (dip $>75^\circ$) bearing also subhorizontal \sim NE–SW-trending stretching lineation. Steep magmatic to subsolidus fabrics of the same orientation in the Kozárovec granodiorite (Janoušek et al., 2010) suggest that the fabric reorientation was associated with

dextral transpression during intrusion of the granodiorite (Žák et al., 2005). The anisotropy of magnetic susceptibility (AMS) corroborates this structural pattern. The maximum principal susceptibilities (k_1) are generally oriented in the NE–SW direction, whereas minimum principal susceptibilities (k_3) show a girdle-like orientation distribution corresponding to subhorizontal magnetic foliations reoriented into steep foliations about the average k_1 axis. Along with the steepening of magnetic foliations, the shape of the AMS ellipsoid changes from prolate to oblate. The subhorizontal foliations may preserve an important record of early Variscan orogenic processes along the Teplá–Barrandian /Moldanubian boundary just after deposition of the Srbsko formation (Givetian) and before emplacement of the Sázava pluton (\sim 354 Ma; Janoušek et al., 2004). However, the relation of the SSC to the position and direction of presumed subduction zone(s) remain unclear. We infer that the SSC was emplaced syntectonically and further deformed during after emplacement; lineations suggest dominant NE–SW tectonic transport the kinematics of which is currently being investigated.

Literatura:

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