

ENGLISH ABSTRACT

The Late Devonian to Early Carboniferous kinematic evolution of the Teplá–Barrandian/Moldanubian boundary

The Staré Sedlo complex (SSC) is a relic of meta-igneous arc-related pluton in the southern part of the Sedlčany–Krásná Hora roof pendant, intruded by granitoids of the Central Bohemian Plutonic Complex along the boundary of Teplá–Barrandian (TBU) and Moldanubian units (MU), Bohemian Massif. The SSC mainly comprises deformed orthogneisses of calc-alkaline granodiorite to tonalite protoliths of Late Devonian age (380–365 Ma; Košler et al., 1993) that were commonly mingled with minor basic magmas.

Locally preserved subhorizontal intrusive contacts of the orthogneisses against their meta-sedimentary host rock indicate that these magmas intruded as a sill complex. The SSC preserves a rather unusual flat-lying subsolidus foliation (dip $<40^\circ$) associated with subhorizontal ~NE–SW-trending mineral lineation. Mesoscopic structures, anisotropy of magnetic susceptibility (AMS), and deformational microstructures indicate prolate shape of the strain ellipsoid with dominant coaxial pure shear regime. The solid state microstructures record cooling of the orthogneiss protolith down to the ambient greenschist facies conditions followed by its static recrystallization due to the intrusion of the younger granitoids. Thus the emplacement level of the SSC is inferred to have been between 10 to 12 km.

Finally, it is suggested that the intrusion of the SSC might have been related to the subduction of the Saxothuringian oceanic crust below the Teplá–Barrandian unit and that a dextral transtensional (pull-apart?) regime operated along the SE flank of the TBU during the Late Devonian, with the maximum principal extension in the NE–SW direction. At the same time, however, dextral transpression operated along the subduction/collision zone to the

NW (the Teplá suture) with the same direction of the principal extension. The flat lying Late Devonian fabrics of the SSC were reworked in a ~100 m wide transition zone along the contact with ~346 Ma Kozárovice intrusion into steep subsolidus foliations (dip >75°) bearing also subhorizontal ~NE–SW-trending mineral lineation; the fabric reorientation was associated with dextral transpression during intrusion of the Kozárovice granodiorites.

Keywords: Bohemian Massif, Central Bohemian shear zone, Moldanubian unit, Teplá–Barrandian unit, Variscan orogeny, transtension