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Editorial

Foreword to the special issue 'Advances in petrology of magmatic rocks of the Bohemian Massif: a tribute to František V. Holub'

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The main goal of this special issue is to pay homage to our colleague František V. Holub, an outstanding petrologist and teacher who passed away in summer 2015 (*Verner*, this issue). For that reason, we collected contributions covering the principal fields of František's scientific interest. His whole professional career was devoted to magmatic processes, especially to petrogenesis of syn- and post-orogenic plutonic suites and dykes of the Variscides as well as of Cenozoic rift-related alkaline volcanics (*Fediuk and Verner*, this issue). But his favourites were always the ultrapotassic rocks.

The contributions in this issue are arranged in a geochronological order from overviews of various types of pre-Variscan and Variscan granites thru emplacement of ultrapotassic dykes and Late Variscan post-orogenic magmatism to Cenozoic alkaline basalts. The issue starts with a geochemical study of *Oberc-Dziedzic et al.* who compare the compositional characteristics of Cadomian (late Neoproterozoic), Ordovician, and Variscan (meta-) granitoids and suggest that their all were generated from crustal protoliths of contrasting provenance. Based on inherited zircon core ages, *Oberc-Dziedzic et al.* argue that, despite the *c.* 600 Ma and *c.* 500 Ma (meta-)granitoids now occupy the same unit, they were derived from different, tectonically juxtaposed terranes akin to Avalonia or Armorica, respectively, and later stitched by late-Variscan plutons at *c.* 300 Ma.

In a following paper, *Buriánek et al.* examine granitic and pegmatitic dykes that were coeval and genetically related to the rather specific, *c.* 340 Ma ultrapotassic durbachites of the Třebíč Pluton, Moldanubian Zone. In a detailed mineral chemistry and fluid inclusion study, they argue for a polyphase saturation of tourmaline at various temperatures.

The area of the Central Bohemian Plutonic Complex and its host Teplá–Barrandian Unit and Moldanubian Zone were intruded by *c.* 338 Ma dyke swarms of lamprophyres and related quartz syenite to melagranite porphyries, broadly coeval with the durbachites. The emplacement mechanisms of these dykes were studied by *Hrouda et al.*, who applied a combination of rock-magnetic methods, petrology and structural geology.

Besides the ultrapotassic rocks, post-collisional plutonism in the Moldanubian Zone in the interior Bohemian Massif was dominated by voluminous crustally-derived granites. A paper by *René* provides a brief overview of the main suites of these granites and then concentrates on interpreting their source rocks from major-element ratios and melting temperature estimations.

Although no superficial volcanic facies related to Variscan syn-collisional magmatism have been preserved in the Bohemian Massif, post-orogenic magmatism was associated with numerous tuff-layers, ignimbrites and mafic volcanic fields distributed across its northern half. The earliest post-orogenic volcanic activity is represented by the Schönfeld–Altenberg Depression Complex (*c.* 325 Ma) preserved in the fill of the Altenberg–Teplice Caldera on the Czech/German border. The systematic geological, petrographical, volcanological, petrophysical and geochemical description is presented in contribution by *Walther et al.*, describing evolution of this early post-orogenic volcanism. The pre-eruptive sediments were buried by succession of ignimbrites, lavas, laccoliths and related volcaniclastic deposits.

After deposition of the Schönfeld–Altenberg Depression Complex, the magmatic activity within the Altenberg–Teplice Caldera continued with several ignimbrite and lava eruptions forming accumulation of rhyolitic rocks collectively known as the Teplice Rhyolite. This rhyolitic succession was later intruded by numerous granite porphyry dykes and finally by the Cínovec/Zinnwald granite. Cupola of this A-type Li-bearing granite contains historically exploited Li–Sn–W–Mo mineralization. The contribution by *Štemprok* summarizes vertical compositional and textural variations across the cupola down to fresh granite revealed from data obtained from CS-1 drillcore, with general implications for formation of A-type granite associated hydrothermal mineralization.

Finally, examples of younger, post-Variscan magmatic activity are discussed by *Awdankiewicz et al.* in their geochemical study. Besides the main Cenozoic volcanic complexes within the Eger Rift, several other coeval volcanic fields are also scattered across the northern part of the Bohemian Massif. *Awdankiewicz et al.* present geochemical variability in the Strzelin Volcanic Field, where

even within spatially limited volcanic field significant differences in composition of erupted magmas were documented. The heterogeneity of the mantle source appears to be the main cause that controlled the composition of primary magmas. These primary variations indirectly influenced subsequent differentiation processes, and finally also governed distinct eruptive styles.

We believe that the breadth and multitude of topics presented in the following papers will stimulate new studies on orogenic and post-orogenic magmatic processes in the Variscan belt and will thus keep the František V. Holub's legacy alive.

We would also like to express our gratitude to all the authors who have contributed such a variety of articles to this special issue. Last but not least, we would like to acknowledge the reviewers of the above papers who volunteered their time and effort to improve the quality of this special issue.