

ABSTRACT

This thesis is focused on the study of the subvolcanic rocks from the northern part of the Jílové belt. The Jílové belt is a strip of magmatic rocks belonging to the Davle Volcanic Complex situated in the center of the Bohemian Massif, south of Prague, close to the border between the Teplá-Barandian and Moldanubian units. The sub-volcanic facies of its northern part has been previously ascribed to trondhjemite, alaskite or plagiogranite. In this study, we provide new geochemical data such as major and trace element analyses paralleled by Sr–Nd isotopic data, which indicate the origin of these rocks in the mantle wedge. They probably represent a final product of a magmatic differentiation of an island arc series. Here, we consider two possible models for their origin, according to which we could also choose the correct classification of these peculiar rocks: adakite, or plagiogranite. Adakites are rocks formed by melting of a subducted slab which are predominantly related to the volcanic arc settings. In comparison, plagiogranites are rocks formed by an extreme differentiation of a mantle-derived basaltic melt in the oceanic crust environment. Our new geochemical data, especially the low degree of light rare earth enrichment ($La_N/Yb_N = 0.8–1.3$), is clearly inconsistent with the genetic association with adakites, but rather suggest their association with plagiogranites.