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The Later Paleozoic granites of the Greater Caucasus Fore Range zone: geochemistry, magnetic properties and the structural and metamorphic evolution.

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Clarification of the position of the granitic intrusions associated with the Blyb Metamorphic Complex is the important problem of the reconstruction of the structural evolution of the Greater Caucasus Fore Range zone.
Based of the rock geochemistry we found out that the quartz diorites, granodiorites and syeno-granites of the BMC formed in suprasubduction conditions and refer to I-type granites. However, their emplacement was multistage coinciding with the various stages of the BMC evolution. We detected the mineral associations typical for the epidote-amphibolite facies in the Balkan massif, but these metamorphic features are absent in the granodiorite intrusions in the southern part of the Fore Range zone. Thus, quartz diorites of the Balkan intrusion intruded after the high-pressure metamorphism of the host rocks, but before the epidote-amphibolite stage, and the Southern granodiorite intrusions are younger.
The measurements of the anisotropy of the magnetic susceptibility (AMS) in the Balkan intrusion indicated the shallow orientation of the minimal (north-eastern strike) and maximal (north-western strike) axes of the AMS ellipsoid. This result is compatible with the idea of the north-east compression fixed in the fold deformation structures of the BMC host rocks (Vidyapin, Kamzolkin, 2015). However, the macroscopic foliation in the granites dips to the east steeply. The discrepancy of the texture orientation of the granites, the host rock structure and the magnetic fabric can be explained as a result of the repeated changes of the stress field during the evolution of the Fore Range nappe structures.
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