THE TECTONIC SETTING OF THE PLUTONIC SEQUENCE IN SOUTHERN ALBANIAN OPHIOLITES

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The Albanian (Mirdita) Ophiolites are part of a large NNW–SSE striking ophiolite zone, which comprises the Dinaric Ophiolites as well as some Greek ophiolites such as Pindos, Vourinos or Othris. Their Jurassic age is constrained by palaeontological evidence of the sediments on top of the ophiolites, by the age of the metamorphic soles and by the age determinations of the intrusive plagiogranite (BORTOLOTTI *et al*., 2004; DILEK *et al.*, 2005 and references herein). The origin of the Albanian ophiolites is essential to restore the continent/ocean distribution in the Jurassic in the Eastern Mediterranean realm and the possible sites of the subduction zones and related thrusts. The environment of formation of these ophiolites and the mode of their emplacement is still controversial.

The Mirdita zone is commonly divided into two ophiolite belts, an eastern one and a western one (e.g. SHALLO *et al*., 1990). The western belt of the Southern Albanian ophiolites consists of six major (Voskopoja, Rehove, Morava, Devolli, Vallamara, Shpati) and two smaller (Luniku and Stravaj) ophiolite massifs. Each massif has a distinct sequence of mantle tectonites, ultramafic cumulates, cumulate gabbros, troctolites and isotropic gabbros. The western belt was supposed to consist of predominantly MOR-type ophiolites with lherzolites, troctolites, gabbros and MOR-type basalts (HOECK *et al*., 2002). A volcanic section together with volcanogenic sediments is restricted to the massifs of Voskopoja and Rehove as well as to the small massifs of Luniku and Stravaj.

The eastern belt is characterized by harzburgites, wehrlites, gabbronorites, clinopyroxene gabbros, plagiogranites and volcanics. The latter show a wide range of SSZ compositions from basalts to andesites, dacites and rhyolites (SHALLO, 1994; BORTOLOTTI *et al.*, 1996; ROBERTSON & SHALLO, 2000; BORTOLOTTI *et al*., 2004).

Here we present evidence that at least in southern Albania the SSZ influence in the western belt is not restricted to the volcanic suite but is as well recorded in the ultramafic tectonites, ultramafic and mafic cumulates as in gabbros. Based on the close spatial and temporal relationship of MOR and SSZ magmas and cumulates, a backarc origin for the Albanian ophiolites is discussed.

The whole-rock geochemistry and mineral chemistry suggest a mid-ocean ridge environment for the origin of cumulates and gabbros from Voskopoja, Rehove and Morava, with only a minor SSZ contribution. The Shpati and the small Luniku massifs show MOR and SSZ signatures in their plutonic sequence. Cumulates and gabbros from Devolli and Vallamara formed in a SSZ environment. The predominance of MOR-generated crustal rocks and the relatively minor occurrence of SSZ-generated plutonics together with the volcanogenic sediments in Voskopoja and Rehove indicate a backarc basin origin of the western belt ophiolites and a westward-dipping subduction zone.

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