THE SOUTH-ALBANIAN OPHIOLITES IN THE FRAMEWORK OF THE DINARIC- HELLENIC OPHIOLITES

Hoeck Volker[1], **Koller** Friedrich[2], **Furtmueller** Gert[1], **Onuzi** Kjutim[3]
1) Inst Geology, Univ. Salzburg, Austria, e-mail:volker.hoeck@sbg.ac.at
2) Inst. Petrology, Univ. Vienna, Austria, e-mail:Friedrich.Koller@univie.ac.at
3) Geologial Institute, Tirana, Albania

The Albanian Ophiolites are part of a large ophiolitic belt ranging from former Yougoslavia across Albania to Greece. A more westerly belt (Mirdita Zone) is accompanied by an eastern belt (Vardar Zone) bordering the Serbo-Makedonian massif ranging from Central Serbia across the Vardar zone to Northern Greece. The western belt in turn, can be partly divided into two zones with distinct geology, petrology and geochemistry. These twofold division is best developed in Northern Albina but not so clear anymore in the South-Albanian ophiolites. In Greece generally one uniform zone is recognizable execept for the Pindos -Vourinos ophiolites.

In Albania the eastern zone is characterized by thick harzburgitic tectonites followed by dunitic and pyroxenitic cumulates as well as gabbros and plagiogranites. A well developed sheeted dike complex exists beneath the volcanic sequence consisting of basaltic pillow lavas, andesites and rhyodacites. The ophiolitic sequence ends with a relatively thin chert which in turn is overlain by Jurassic and Lower Cretaceous turbidites. The western ophiolites comprise harzburgitic and lherzolitic tectonites as well as plagioclase bearing lherzolitic and dunitic cumulates. Relatively thin troctolites and gabbros are directely overlain by basaltic pillow lavas. A sheeted dike complex is missing.

The geochemistry reflects the differences between both ophiolite types. Basalts of the western ophiolites show mainly MORB character. The basalts of the eastern zone are comparable with basalts formed above a Supra Subduction Zone environment or an Island Arc. Both ophiolites form metamorphic aureoles consisting of amphibolites, micaschists and greenschists at their basis. Age dating indicates an emplacement of the ophiolites and consequently the formation of the metamorphic soles at an age intervall of 161-173 Ma at middle to late Jurassic times. Paleontological evidence for the formation of the ophiolites indicates a middle Jurassic age.

Both belts, E and W of the Pelagonian and Drina-Ivanica Zones resp., or some of their segments were believed to be dominated either by harzburgite (eastern belt and central to southeren part of the western belt) or lherzolite (western belt N of the Scutari-Pec line). More recent studies on the Albanian ophiolites however, have revealed a separation of the Albanian Mirdita Zone ino a western lherzolite and a eastern harzburgite bearing area each with a characteristic ophiolite sequence. Comparison with the Hellenic ophiolites shows that towards the S no clear separation can be made between western and eastern ophiolites and that profiles contain elements of both zones.

There is obviously a wide variety in ophiolite composition alon strike over the whole western belt from southern Croatia to Central Greece. The variation within the western belt is probably as large as between the western and the eastern belts. The same middle to late Jurassic formation age, the occurrence of metamorphic soles and comparable sediments on top indicate a common formation and emplacement history.