



Synophiolitic Metamorphic Rocks of Albania

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Abstract: Synophiolitic metamorphic rocks of Albania represent a well developed formation with particular geological setting and wide petrographic variety. They occur mainly along peripheral parts of the Albanian ophiolitic belt, at the contact zone with continental margins, usually associated with Liassic rift-related volcano-sedimentary formation; rarely do they overlie serpentized peridotites. Main rock types of synophiolitic metamorphics are amphibolites, paragneisses, amphibole schists, micaschists and greenschists; more representative paragenetic mineral assemblages are: Hb-Pl (An₄₀₋₆₀) ± (Gt, Cpx); Hb-Gt ± (PlAn₄₀₋₆₀, Cpx); Hb-Pl (An₂₅₋₃₅)-Bt; Hb-Bt-Ep-Ab; Mu-Bt-Qu-Pl (An₄₀₋₆₀)-Gt; Pl (An₄₀₋₆₀)-Bt-Qu-Gt; Mu-Bt-Qu-Pl (An₂₀₋₃₀); Mu-Qu ± Gt; Act-Ep; Chl-Qu ± Ep; Mu-(Ser)-Qu, etc. Well expressed metamorphic zonation is caused by increasing grade of metamorphism towards contacts with ultramafic rocks. Thermobarometric estimations and mineral paragenesis show for amphibolite-granulite to amphibolite and greenschists facies conditions of metamorphism. These metamorphics are affected by retrograde metamorphism of the greenschists facies conditions. Radiometric dating (⁴⁰Ar/³⁹Ar method) shows that synophiolitic metamorphic rocks were formed during Middle Jurassic (162.1-174.0 ± 2.5My). Geochemical data of amphibolites indicate for their MORB partly WPB-affinity very similar to the chemical composition of the basalts of the associated volcano-sedimentary formation, which can be considered as protoliths of the amphibolites and amphibole schists; the protoliths of paragneisses and micaschists are pelitic rocks, arenites and cherts of the volcano-sedimentary formation.

Keywords: *metamorphics, ophiolite, protolith, metamorphic facies, genesis.*

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