

GEODYNAMICS OF THE PALEOZOIC OROGEN INCORPORATED IN THE SOUTH CARPATHIANS ALPINE CHAIN (ROMANIA)

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An integrated analysis based on petrologic, geochemical and geochronological data reveals the existence of Variscan metamorphic-magmatic rock-complexes and their relations with pre-Variscan basement, in the South Carpathians Alpine chain. Inherited fragments of a Variscan fold and thrust belt and related syn- to post-collisional migmatites and granitoids (Getic-Supragetic Mid-Cretaceous nappe complex) are characterized. Regional distribution of lithologies and metamorphic gradients, strain field, kinematics, physical P-T conditions and diversified features of the pre-metamorphic protholiths enable a belt restoration. Gneiss units are locally separated by Variscan shear zone (related pegmatites being dated at 338-332 Ma, Pb/Pb Cocherie) while some external units (rift-related assemblages and shear zone related eclogites, retrograded at 354-342 Ma, $^{40}\text{Ar}/^{39}\text{Ar}$, Maluski) contain syn-tectonic granites lately affected by prograde metamorphism and dynamic recrystallisation (331 Ma). In the lower Alpine units (Danubian basement), Paleozoic magmatic arc related granitoids override or crosscut an older ophiolitic complex and are connected with HT-LP mylonites. Underplated low-grade oceanic unit and continental dismembered metasediments define a plate boundary with a Proterozoic basement characterized by metamorphic terranes and large granitoids bodies of island-arc and collisional to post-collisional signature related to the Pan-African cycle (Liegeois et al., 1996).