



Geochemistry and origin of certain amphibolites, granofelses and related rocks from Romania

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Abstract

The metamorphic basic rocks from the Romanian crystalline schists belong to two tectono-magmatic cycles. Thus, the amphibolites and related rocks were formed during the Pre-Variscan tectono-magmatic cycle (820–717 Ma), while the granofelses resulted from igneous rocks erupted during the Variscan cycle (ca. 300 Ma). The amphibolites and the related rocks are associated with high-grade crystalline schists, while the granofelses and related rocks are associated with greenschist metamorphic rocks. Both of the igneous series from which the metamorphic basic rocks resulted originated in tholeiitic basaltic magmas of the MORB and IAV-types in the case of amphibolites, and of the WPB-type in that of granofelses. The tectonic setting of the protolith rocks shows that, along the current Carpathian Chain, a Pre-Variscan ocean preceded the Variscan one, while north of this mobile belt a stable tectonic plate was settled during the Variscan tectono-magmatic cycle.

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