

Preliminary geochemical data of Variscan granitoids from Somes pre-Alpine terrane from W Romania (Apuseni Mts.)

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The Tisia Composite Terrane (TCT) is built up from Variscan high-grade metamorphic series and granitoids. The TCT forms the basement of South Hungary, NE Croatia, N Serbia and W Romania and it is surrounded by mobile zones and fault lines. The present study focuses on different, presumably Variscan granitoid occurrences in W Romania. Outcrops of these granitoid suits are located in the Apuseni Mts. (Romania). In order to obtain correlation studies between granitoid suits from the TCT, an extended field survey is being carried out in the Apuseni Mountains. The Apuseni Mountains consist of four Alpine tectonic units: the Bihor Unit, the Codru Nappe System, the Biharia Nappe System and the Mures zone. Its basement is built up from three pre-Alpine metamorphic Godwanan terranes: Somes, Biharia and Baia de Aries which contains Variscan granitoid intrusions. This paper presents preliminary geochemical data of granitoid occurrences in the Somes terrane: Siria granitoid (SG) (presumably the same age as CG), Codru granitoid (CG) (372 Ma), Codru migmatite (CM) (516 Ma), Muntele Mare granitoid (MMG) (both main pluton and satellite branches) (297-291 Ma). The composition of the suits is more or less heterogenic, many structural and compositional variations are represented within a group. The MMG suite contains: equigranular two-mica granitoids, biotite granitoids, K-feldspar megacryst bearing granitoids, leucogranites, leucogranites with gneissic texture. The CM suite is mostly metatexite, where both paleosome (~70%) and neosome are present (~30%). The SG and CG are two-mica granites either containing or lacking feldspar megacrysts. The studied samples have calc-alkaline and moderately peraluminous character, the only exceptions are framed by the CM which are calcic. Modal and geochemical classifications show granodiorite to monzogranite compositions for MMG, granitic (monzo- and syeno-) for CG and SG, and granodiorite to tonalite for CM. The MMG samples contain both K-feldspar (orthoclase and microcline) and plagioclase. MMG main pluton plagioclase content varies from albite to andesine being present in almost equal proportions. Samples from the MMG satellite are more abundant in albite and andesine while oligoclase is almost missing. K-feldspar is nearly absent from CM, and the plagioclase feldspars are mostly andesine and oligoclase. The mg# values in the MMG main rocks are ranging from 0.34 to 0.38 which is slightly lower than the Mg content in MMG satellites where mg# falls between 0.38-0.42. The mg# values for the CM biotites are between 0.37-0.42. The Al^{VI} content is relatively high for CM and MMG satellite samples, mean values are 2.81 for CM and 2.76 for MMG satellite. In the case of the main MMG pluton samples the Al^{VI} content is much lower, the mean value is 0.35. All values for bioties are calculated for 22 O. Petrogenetic and geotectonic interpretations were elaborated based on whole rock geochemical compositions (major and trace elements). The samples from MMG, CG and SG show a relatively small scatter, they plot to the syn-collision and post orogenic fields on the multicationic diagrams (R₁-R₂), while the CM samples are mantle fractionates.

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