diagrams suggest that possible protoliths for the first were tholeiitic island arc basalts and for the second group within-plate alkali basalts. The metamorphic rocks were formed between 160-150 Ma ago when their protoliths were overthrusted by hot ultramafic slab reflecting the time of the beginning of compression i.e. closing stages of the ocean basin. The age of these metamorphic sole rocks is very close to the age obtained for the sole rocks in Zlatibor (Dinaride Ophiolite belt), the amphibolites at the Rogozna Mt. (Western Vardar ophiolite belt), as well as with the Ar/Ar ages obtained for the Albanian amphibolite soles (165-175 Ma) and slightly younger than the sole rocks in Brezovica (over 170 Ma).

Quaternary glacial features on the Tzumerka Massif (Pindos chain, Greece) Preliminary data

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Many glacial traces as cirques and moraine deposits have been found and studied on the Athamanion Massif, Pindos chain (Hellas). The Athamanion Massif, is situated at a latitude between 39°22'N - 39°35'N and a longitude of 21°05'E – 21°15'E, includes some of the highest peaks of Hellas like, from North to South, Kakarditsa (2,429m), Chila Exida (2,254m), Katafidi (2,098m), Strogoula (2,112m), Gerakovouni (2,364m), Sxismeno Lithari (2,306m), Megalolivado (2,199m) and Sklava (2,088m). All this mountains show to have been interested affected by also impressive glacial features. The studies curried out allow determining, probably, that great glacial tongues were located in particular, along the eastern slopes from Tsouma Plastari to Kakarditsa, as well as in the valleys inside the Massif, like that of the Melissourghitikos and of the Xistras rivers.

An impressive difference in moraines preservation has been observed between the eastern general slope of the Massif and the western one. It is due to the fragile and strongly eroded geological bodies outcropping along the last.

Glacial circus, laterals and frontals moraines deposits have been recognised and mapped in the study area. Here and there also well preserved, seems to be referable to the last great glacial expansion, so called Wurm of alpine glacial, and to three periods of stasis during and after the glacial retreat. In particular the last and more recent moraine seems to be referable to the late glacial, but more data must be searched.

The ELA of the maximum glacial expansion has been calculated by mean of the "average elevation" method, results lowered at about 1600m of elevation.

The quaternary lithostratigraphy aspects of the Wallachian Depression (Romania)

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The Pliocene and Quaternary continental lithostratigraphy from the Wallachian Depression (situated between the South Carpathians and the Balkans) in Romania, named the Bucharest Group can be subbdivided into (progressively subsiding west to east from north-eastward of the Romanian Plain): 1-Dacian Subgroup, characterized by the Dacian Area (Environment), predominantly alluvial plain, unconsolidated marshland, drained by the Dacian River Network (terrace free); 2-Wallachian Subgroup, characterized by the

Wallachian Area (Environment), consolided dry ground, drained by the Wallachian River Network (straight and terraced water courses); 3-Cândeşti Subgroup, characterized by the Cândeşti Area (alluvial fan-Environment); 4-Danube Delta Subgroup, characterized by the Danube Delta Area (delta environment). The Dacian Subgroup can be divided into two formations: Danube-Siret Formation, Wallachian-Lower Pleistocene in the west of the Romanian Plain (Bălăciţa – Olt Member: detritic dominance) and the Wallachian – Lower Holocene in the east of the Romanian Plain (Titu – Măicăneşti Member: pelitic dominance.). The Wallachian Subgroup can be divided into four formations: 1-Drincea-Olt Formation (red ferruginous clays, weathering crust), at the limit between the Lower Pleistocene and Middle Pleistocene; 2-Craiova-Galaţi Formation (predominant aeolian loess deposits), Middle Pleistocene-Upper Pleistocene); 3-Romanian Plain Formation (Complex), terrace and floodplain deposits of the Wallachian River Network valleys, Middle Pleistocene-Holocene; 4-Calafat Formation, Holocene, aeolian sandy dunes. The evolution of the Danube itself marked two periods: 1-Paleofluvial Period (Lower Pleistocene, presumably beginning in the Upper Pontian), when the Dacian Danube did already exist (a modest river, flowing in the Dacian River Network at its entrance into the Romanian Plain) and the Pannonian Danube (Danubes) also a rather modest rivers which flowed into the Dacian River Network at its entrance into the Pannonian Plain; 2-Neofluvial Period, Middle Pleistocene-Actual, when the Pannonian-Dacian (Actual) Danube already exist and was part of the Wallachian River Network formed in the lower part of the Middle Pleistocene, right after being caught in the Defile which had facilitated the formation of very important lively river. The Danube reached Galaţi (and the Black Sea) after the Siret and the Prut River dit it, during the upper part of the Upper Pleistocene. The Danube Channel, the Danube Canyon, yhe Danube Deep-Sea Fan, the Paleo-Danube presumably represent the Siret (including the Prut) Channel, the Siret Canyon.

Geochronological, geochemical and metamorphic framework of the Moslavačka Gora Massif (Croatia)

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The Moslavačka Gora Massif (MGM) in Croatia, located about 50 km east-south-east of Zagreb, is a major exposure of crystalline basement within the Tertiary sediments of the Pannonian Basin. The central part of the massif is built up of a finegrained, two-mica S-type granite. The peripheral parts are formed by a metamorphic complex which includes mainly felsic anatexites and orthogneisses of granitic composition, some metapelites (paragneisses and micaschists) and rare amphibolites.

In terms of the Alpine plate tectonic framework, the MGM has been considered as a part of the Tisia block. Recently, the MGM has been related to the so-called “Sava Zone”, which is believed to host the suture between Tisia and the Dinarides. Reliable information concerning the geological evolution of the massif was as yet hardly available, so that any correlation with neighboring basement units remained largely speculative.

For a long time it was a common belief that the MGM represents Variscan crystalline basement. However, our new geochronological data indicate that this massif is a Cretaceous high-temperature/low-pressure metamorphic dome that was intruded in its center by a Cretaceous granite pluton. The age of the LP/HT metamorphism is estimated at ca. 90–100 Ma using the method of electron microprobe based Th-U-Pb dating on monazites. U-Pb dating of zircons by means of LA-SF-ICP-MS method for the Central Granite gave a concordant age of 82 ± 1 Ma. Zircons from three different samples of metagranites were dated at 486 ± 6 Ma, 483 ± 6 Ma and 491 ± 1 Ma, suggesting that most of the metamorphic complex of the MGM represents an Early Ordovician granitic series.