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Máté Velki[1,2], Emő Márton[2], Vesna Cvetkov[3], Szilvia Kövér[4,5]

[1]ELTE Eötvös Loránd University, Institute of Geography and Earth Sciences, Department of Geophysics and Space Science, Pázmány Péter 1/C, 1117 Budapest, Hungary
[2]SARA, Department of Geophysical Research, Paleomagnetic Laboratory, Columbus 17-23, 1145 Budapest, Hungary
[3]University of Belgrade, Faculty of Mining and Geology, Djusina 7, 11000 Belgrade, Serbia
[4]ELTE Eötvös Loránd University, Institute of Geography and Earth Sciences, Department of Physical and Applied Geology, Pázmány Péter 1/C, 1117 Budapest, Hungary
[5]Institute of Earth Physics and Space Science, ELKH, Csatkai E. 6-8. 9400 Sopron, Hungary

The Drina-Ivanjica Unit belongs to the internal part of the Dinaric collisional belt, situated between the Vardar Zone and the Durmitor Nappe. Cretaceous-Paleogene collision resulted in the overthrusting of the Durmitor Nappe by the Drina-Ivanjica Unit, which in its turn was overthrusted by the Western Vardar Zone. The basement of the Drina-Ivanjica Unit is made up of Paleozoic metamorphic rocks and sediments and are overlain by Triassic clastics and carbonates, Jurassic limestones and ophiolites, and following a large statigraphical gap, Upper Cretaceous transitional sediments and flysch. Oligocene extension produced small sedimentary basins and activated Miocene volcanism in the area, which resulted in the Golija intrusion and in extrusive magmatic rocks.

The tectonically complicated Drina-Ivanjica Unit was in the focus of several geodynamical and geological study, but this is the first paleomagnetic research in the area, involving Miocene magmatic rocks, Upper Cretaceous siliciclastic formations and limestones, Jurassic and Triassic sedimentary rocks.

Standard laboratory processes resulted in well-defined directions for most of the igneous sites and sedimentary localitites. The site-mean paleodeclinations of the Miocene magmatic rocks are well-clustered, suggesting a moderate, 30° CW vertical axis rotation after about 20 Ma. Some inclinations are highly variable, which can be explained by non-separable, composite natural remanent magnetizations (NRM) of the rocks. The Campanian – Maastrichtian flysch, close to the magmatic bodies in the Golija area, showed similar CW rotation before tilt correction. Thus we interpret them as remagnetized during the Miocene magmatic events.

Upper Cretaceous (Albian to Santonian) limestones elsewhere in the Drina-Ivanjica Unit exhibit minor CW rotation after tilt correction, but the age of this magnetization is questionable as the tilt test was indeterminate. Thus we tentatively suggest a maximum 15° CCW rotation, probably of the whole Drina-Ivanjica Unit after the Upper Cretaceous and before 20 Ma. The Jurassic and Triassic results indicate CCW (30-60°) rotation during the Mezozoic.

Earlier paleomagnetic directions had been published for Oligocene–Miocene igneous rocks from the adjacent Vardar Zone. These studies document about 30° clockwise rotation for the area, after 23 Ma, which is in good agreement with the new Miocene results from the Drina-Ivanjica Unit, suggesting co-ordinated vertical axis CW rotation in the Miocene.

The paleomagnetic results so far obtained for the Triassic and Jurassic sediments are fairly scattered, thus insufficient to constrain the magnitude of a possible general CCW rotation affecting the Drina-Ivanjica unit. Further investigation is needed to decide if the variations in declinations are due to local tectonics or the changing orientation in time of the whole unit.

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