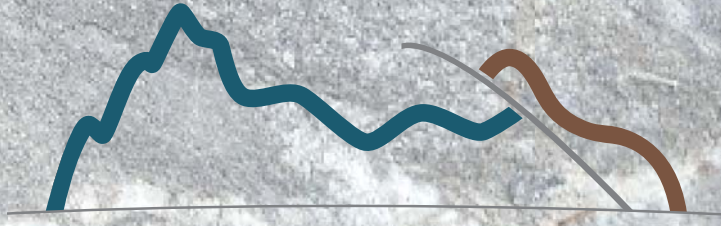


EGU series - Émile Argand Conference



13th Workshop on Alpine Geological Studies

September 7th-18th 2017
Zlatibor Mts. (Serbia)

ABSTRACT VOLUME



University of Belgrade
- Faculty of
Mining and Geology



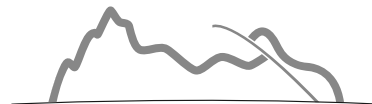
Serbian
Geological Society



Serbian Academy
of Sciences and Arts



European
Geosciences
Union



Significance of Jurassic early deformation structures in the SW-Bükk Mts.

Éva Oravecz^{1*}, László Fodor², Szilvia Kövér²

¹ – Eötvös Loránd University, Budapest, Hungary; ² – Geophysical and Space Science Research Group, Hungarian Academy of Sciences at the Eötvös Loránd University, Budapest, Hungary; * orav.eva@gmail.com

Field work in the quarry of Bükkzsérc and at the Patkó Cliffs (SW of Bükk Mts.) revealed several types of early, soft-sediment deformation structures in the Jurassic Bükkzsérc Limestone which was deposited in a subduction-related basin of the Neotethys ocean and now appears as olistoliths in the accretionary Mónosbél Complex. These structures include small syn-sedimentary normal faults, ductile shear surfaces and slump folds, both of which were not recognized by previous structural geological and sedimentological studies (e.g. Németh, 2007), although these structures have direct implications for the poorly known early deformation history of the Mónosbél Complex and possibly of the Bükk para-autochthonous unit.

The aim of our study was to estimate the Jurassic paleo-stress field for the Mónosbél Complex of the Bükk Mts. by measuring syn-sedimentary faults, and to estimate the paleoslope direction from the slump fold geometries.

In the case of the normal faults, the key observations in our interpretation were that the faults are characterized by rounded, curved shapes and that they don't have discrete fault planes. This can be explained by syn-sedimentary deformation in case of which the deformation in soft sediments is limited, while the diagenetic processes may have further effects on fault geometries as well.

Data were rotated back to its paleoposition by the average paleomagnetic data attributed for the Bükk Mts. (e.g. Márton and Márton. 1996). Based on the back-rotated small-scale deformation structures we estimated a NE-SW extension as the Jurassic paleostress field, while the results of the slump fold analysis showed a SW paleoslope direction. Although these extensional directions match the previous broad estimations, we need to take into account that the olistolith itself could have had a further rotation, so in order to finalize our estimations, additional measurements in other olistoliths and direct paleomagnetic data from the Bükkzsérc olistolith are still needed.

Acknowledgement: The research was supported by the research found NKFIH OTKA 113013 and the ÚNKP-16-1 New National Excellence Program of the Ministry of Human Capacities.

References:

Márton, E., Márton, P., 1996. Large scale rotations in North Hungary during the Neogene as indicated by paleomagnetic data. The Geological Society, London, Special Publications 105, p. 153-173.

Németh, N., 2007. Structural features of the quarry at the Patkó Cliffs, Bükkzsérc and its surroundings. *Földtani Közlöny* 137/4, p. 473-486.