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INVITATION

to the Meeting of Young Geoscientists

31 March – 01 April 2017

Kaposvár, Hotel Kapos
www.kaposhotel.hu

Useful information:

Accommodation and meals are available only for pre-registered participants.

The talks are open and public.

Official languages of the conference are English and Hungarian.

Registration desk open: from 9:00 am, 31st March onwards

Organisers

The Pannonian mollusc fauna of the Transylvanian Basin

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During the Late Miocene, an enormous and long-lived lake – Lake Pannon – with rich endemic fauna covered most of the Carpathian Basin [3]. For a while, the water mass of the Transylvanian Basin was connected to Lake Pannon through the Sălaj area and/or the Mureş Valley.

Today, the Pannonian sediments occur in a more or less contiguous area in the central, southwestern and eastern part of the basin. After their deposition, exhumation and erosion started due to tectonic inversion, therefore the average thickness of the Pannonian sequence is only 300 m [1]. The estimated age of these sediments is between 11.6 and 9.5 Ma [4].

In the lack of a detailed and comprehensive treatise on the Pannonian fossils of the area, the accurate biostratigraphic resolution of this ca. 2 Ma has not been developed so far [2]. The widely outcropping Early Pannonian deposits offer an excellent opportunity for a modern investigation of the fauna and for exploring the changes that occurred at the beginning of the Pannonian. The rocks of similar age and their fauna are deeply buried in the Pannonian Basin and are mostly known from boreholes [5].

Taxonomic determination and revision of Pannonian brackish-water gastropods and bivalves were carried out from 63 localities. The material came from our own collection (12 localities) and from collections of the Geological and Geophysical Institute of Hungary (47 localities), the Hungarian Natural History Museum, Budapest (6 localities), and the Palaeontological Collection of the Department of Palaeontology of the Eötvös Loránd University (2 localities). Altogether 2592 specimens were determined, representing 18 genera

and 51 species. There are 77 mollusc taxa in the material, including 3 probably new species.

On the basis of faunal composition and sedimentological characteristics of the localities, shallow-water (littoral) and deep-water (sublittoral and profundal) associations were separated. The shallow-water outcrops are mainly on the basin-margin, while the deep-water ones are rather located in the central part of the basin. We hypothesize that 9.5-9 million years ago the Transylvanian Basin became isolated from the Pannonian Basin, as suggested by the appearance of new endemic taxa, and evolved as an independent lake.

Authigenic $^{10}\text{Be}/^9\text{Be}$ isotopic dating method was applied on 7 samples from 4 localities. The tentative results were combined with the biostratigraphic data, thus in case of the deep-water sediments, 2 biozones and 4 subzones („*Lymnocardium*” *praeponticum* – *Gyraulus vrapceanus* assemblage zone and *Congerina banatica* assemblage zone with *Radix croatica*, *Velutinopsis velutina*, *Undulotheca nobilis* and *U. rotundata* lineage subzones) were established.

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