



## **New considerations on the Miocene flora from the Bozovici Basin, Romania**

Alexandru Gabriel Călin (1,2), Roxana Pirnea (1), Valentin Paraschiv (2), and Mihai Emilian Popa (1)

(1) University of Bucharest, Faculty of Geology and Geophysics, Department of Geology, Bucharest, Romania, (2) Geological Institute of Romania, Geology, Bucharest, Romania

This paper aims to discuss the paleoecology of the Bozovici Basin, based on the study of the fossil plants. Located in the South Carpathians, the Bozovici Basin consists of sedimentary sequences which overlay the Getic metamorphic formations. The age of the basin filling is Miocene, with a thickness up to 750 m. They consist mainly of sandstones, clays, marls and conglomerates, including nine interbedded coal seams with highly fossiliferous roof shales as well as rich, fossiliferous beds in between the seams.

The studied material was collected from the Lighidia quarry, Bozovici Basin, in several field works campaigns in 2015. The material is preserved as both compressions and impressions on red and grey porcelanites, from the Lăpușnicul Mare Formation which has two members: Valea Slătinecului and Pârâul Lighidia. One essential particularity of this flora is the presence of nicely preserved petrified trunks. The Bozovici Basin was studied primarily because of the coal seams, the fossil flora being only briefly mentioned by the previous authors.

This flora is nicely preserved, some of the leaves preserving their cuticles. The fossil remains are represented by a large number of flowering plants and some representatives of the gymnosperms such as *Taxodium* (Family Cupressaceae). Nonetheless, the taxonomic composition of the studied flora from Bozovici Basin points to a humid-temperate climate. The overall character of the depositional conditions of Bozovici Basin fit best to a intramontaneous depression with surrounding uplands. From a taphonomical point of view this flora is mainly parautochthonous. The essential feature of the Bozovici Basin is the occurrence of the coal seams and the remains of a rich Miocene ecosystem.