



## **Micropaleontological evidence of Middle Miocene tuffs deposition in the north-eastern part of Pannonian basin, Abrămut sub-basin (Romania)**

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The Pannonian Basin is located in eastern Central Europe, as part of the Alpine orogenic system. The Alpine - Carpathian - Dinaric mountain belts surround this extensional Neogene - Quaternary basin. Neogene to Quaternary volcanism in the Carpathian - Pannonian Region was related with basin evolution and shows a highly diverse composition for magmatic rocks. According to recent studies the volcanism occurred between 21.0 and 0.1 Ma. and showed a distinct migration in time from west to east.

Middle to late Miocene volcanism is characterized by the presence of the acid to intermediary calc-alkaline rocks and is closely related with back-arc extensional processes in the Intracarpathian area/Pannonian Basin. In the north-eastern part of Pannonian basin, these rocks are known in different areas: Beregovo and Northern Trans-Tisza regions, Maramures and northern part of Transylvania basins, Gutâi Mts. and Apuseni Mts. (i.e., Borod, Beius and Zarand sub-basins).

We have identified several layers of volcanoclastic material intercalated within marls and sandstone into few boreholes in the Abrămut sub-basin situated in the north-eastern part of Pannonian basin, north-western part of Romania. This sub-basin might correlate with Derecske basin from the Hungarian sector of Pannonian basin. In this study we present new micropaleontological data obtained from the volcanoclastic and marl intersected materials. We identified within microforaminiferal assemblage two

marker species: *Praeorbulina glomerosa* and *Orbulina suturalis*. Based of the presence of these two species we suggests a Middle Badenian age (~ 15.0 - 14.0 Ma. according to chronostratigraphic time scale - Rögl, 1998) for the volcanoclastic deposits with marls and sandstone intercalations interval. These tuffs same stratigraphic position with similar volcanic rocks in the adjacent area (Transylvania's Dej Tuff, Maramures basin, Gutâi Mts, Apuseni Mts, Beregovo and Northern Trans-Tisza regions and Pericarpantian's Slânic Tuff).