

A BRIEF CHARACTERISATION OF THE LOWER PONTIAN ENVIRONMENTS FROM THE MOLDAVIAN PLATFORM

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Abstract. *The present paper makes an analysis of the Lower Pontian land biocoenoses from the Moldavian Platform. The reconstruction of the Lower Pontian palaeoenvironments from this region is based on mammal assemblages and pollen data.*

Keywords: *Early Pontian, palaeoenvironments, mammals, pollen.*

Rezumat. Scurtă caracterizare a paleomediilor Ponțianului timpuriu din Platforma Moldovenească. *În lucrare sunt menționate biocenozele de uscat ponțian inferioare din Platforma Moldovenească. În limitele teritoriului studiat au fost delimitate paleomedii pe baza analizei mamiferelor fosile și a palinocomplexelor determinate din depozitele Ponțianului inferior.*

Cuvinte cheie: *Ponțianul timpuriu, paleomedii, mamifere, polen.*

INTRODUCTION

This work refers to the study of new finds of fossil mammals originating from the neighbourhoods of the villages of Leordoiaia, Veverița, Bahmut and Bălănești, all located in the central part of the Codru Rands. The systematic analysis of the fossil remains evidences the presence of the Early Pontian (unit MN13). These data, issued from mammal assemblages, as well as from pollen and macroflora analysis, are now interpreted in accordance with previous results from the southern regions of Republic of Moldova and Odessa region in Ukraine (NESIN, 1995).

RESULTS AND DISCUSSION

The studied deposits of the central part of Codru Rands are known as the Stolniceni Formation (BUKATCHUK et al., 1968). The deposits are represented by two or three alluvial cycles embedded with wash-out erosion on the alluvio-lacustrine beds of the Balta Formation, showing the sharp difference from the latter, both in mineralogy and granulometry. The lithological peculiarities of the Stolniceni Formation mainly refer to the presence of pebbles of Carpathian origin, as well as to the coarse arenite forming these deposits and the cross-bedded sedimentation. The features of these deposits suggest their fluvial genesis. The mineralogical composition of the Stolniceni Formation is identical to the deposits from the lower terraces of the Dnestr and the Prut rivers (BUKATCHUK et al., 1968).

Facies analysis revealed the hydrological regime of the river system that generated these deposits. The presence of coarse clasts and clay indicates a turnover in intensity of water streams, seemingly due to the base level lowering. This process probably evolved under tectonic control.

The well-preserved fossils provide detailed information on chronology of deposits and character of space differentiation of the terrain (NICOARA & LUNGU, 2008). The analysis of oryctocoenosis of the terrestrial faunas from Leordoiaia, Veverița-2, and Bălănești revealed the occurrence of mammals belonging to various ecosystems:

- Wetlands
- Floodplain meadows
- Floodplain (gallery) forests
- Watershed forests
- Savannah

Wetland ecosystems are represented by taxa as *Euroxenomys*, *Castor*, *Microstonyx*, *Mygalinia* and others, which lived on floodplain environments with swamp tendencies, covered by grasses. The presence of such biotopes is supported also by pollen documenting plants as *Podocarpus*, *Salvinia*, *Sphagnum*, *Osmunda*, *Sparganiaceae*, *Typhaceae*, *Tiperaciae*, *Myriofyllum*, etc.

Evidences for the floodplain meadow environment are *Keramidomys*, *Anamolospalax tordosi* KORDOS, 1989, and *Crusafontina kormosi* (BACHMAYER & WILSON, 1970), while large-sized mammals were represented by *Zygodolophodon turicensis* (SCHINZ, 1824). According to the lithological and carpological data (fossil seeds and imprint of plants), the river valleys borders were covered by broad-leaved forests composed by *Ulmus*, *Quercus*, *Betula*, *Carpinus*, *Salix*, as well as by subtropical representatives as *Liquidambar*, *Taxodium* etc (MEDEANIK, 2007).

The watershed forests were composed by coniferous trees like *Cedrus*, *Sequoia*, *Picea*, *Eupicea*, *Pinus haploxylon*, *Pinus strobus*, *Tsuga*, *Glyptostrobus*, *Abies* etc. (NEGRU, 1986). The fauna of watershed forests included *Miopetaurista*, *Spermophilinus*, *Pliopetaurista*, *Hylopetes*, *Blackia* etc.

The open landscapes were covered by shrubs and high grasses. This ecosystem was inhabited by reptiles as *Ophisaurus* and *Protestudo*, as well as by mammals: *Proochotona*, *Prolagus*, *Parapodemus*, *Lophocrictetus*, *Miocricetodon*, *Hipparion*, *Metailurus* etc.

The mammal fauna originating from the ecosystems of forests mixed with meadows was represented by *Glis*, *Myomimus*, *Cervavitus*, *Procapreolus* etc., which lived in forests dominated by: *Ulmus*, *Quercus*, *Betula*, *Carpinus* and *Salix*.

CONCLUSION

According to the Lower Pontian vertebrate oryctocoenoses and pollen data, this region of the Moldavian Platform was a wide uneven plain. In this area, several environments developed: swampy meadows, floodplain forests, watershed forests, and expansive open spaces of savannah-steppe type.

The recorded changes in lithology and granulometry compositions were caused by a sedimentary turnover, which also suggest a significant landscape differentiation. Those changes are clearly marked by the occurrence of pebbles originating from Carpathian source areas in the deposits of the Stolniceni Formation. Their presence could be related to the intensification of the tectonic movements and involvement of jasper-bearing beds in the fluvial erosion (BILINKIS, 1992).

Altogether, in the Early Pontian, on the Moldavian Platform, there developed wood and savannah vegetations on the plain that took shape after the regression of the Sarmatian and Meotian seas. The plain was dismembered by the river erosion with the development of wetland, floodplain meadows and floodplain (gallery) forests, watershed forests and savannah landscape.

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