Mollusks (Mollusca: Gastropoda, Bivalvia) from the Upper Eocene of Perunika village (East Rhodopes, Bulgaria)

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INTRODUCTION



Figure 1. Location of Perunika Village (Bulgaria)

MATERIALS AND METHODS

The fossil specimens were collected from the soil surface

The study of large number of fossil localities from a given geological period reveals useful information for the needs of the paleoecological reconstructions. The present work is intended to: (i) represent data on the community of the marine mollusks from a locality of Perunika Village in the Eastern Rhodopes Mountains, which was not studied until now, and (ii) to obtain some information on the local paleoecological environment.



(down to 20 cm) at area of 4 m2 in the region of village of Perunika, Eastern Rhodopes Mountains (Figure 1) during October-December 2011.

The material was stored in the collection of the Department of Ecology and Environmental Conservation, University of Plovdiv.





RESULTS Taxonomical information

During our research we collected 111 specimens consisted of minimum 14 species of gastropods from 11 genera, and 3 species of mussels from 3 genera Most of the species were with Priabonian age, and the rest were with more wide vertical distribution among the whole upper Eocene

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Ecological information

The diversity indices, calculated for the gastropod community showed greater values, compared with the mussel community. The equitability index (both Simpson and Shannon) showed a value closer to 1, which means the taxa is more or less equally presented in both communities. This statement is conformed by the low values of the Berger-Parker index. Based on these

CONCLUSIONS

A new locality of Upper Eocene marine mollusks in Bulgaria was investigated. As a synopsis of our study we can make the following conclusions:

results, we used only the predominating species and genera of snails for the paleoecological analysis of the Perunika locality. Paleo-ecological reconstruction

The representatives of the genus Tympanotonus are facial indicators for rocky conditions and olygo/mezzo halinity (Baldi, 1973; Barthelt, 1989).The Globularia snails were reported as indicators for typical marine conditions at the area of the East Mediterranean (Mesohellenic Basin, Greece) (Harzhauser, 2004). According the same author, such fauna represents increasing of the salinity and gradual transition from the littoral environment to sub littoral one. Mussels association, found in our study, consists mainly of mezzo thermophile forms which allow us to assume that the climate in the region has been moderately warm and humid. On the base of the gastropods identified and associated biota, the age of the studied sediments can be related to the Priabonian.
Regardless of anxious tectonic setting which has repeatedly changed the living conditions of the biotope, with a great deal of reliability can be said that the coastal part of the sea has been 100-200 m depth. Waters have been clear and unpolluted, oligoto mezzo salinity, with temperature between 18 to 22°C.