Geophysical Research Abstracts
Vol. 16, EGU2014-498, 2014
EGU General Assembly 2014
© Author(s) 2013. CC Attribution 3.0 License.

Foraminifera fauna of the Tethys Ocean Basin from the Aalenian - Bajocian boundary from Bakony Mountain (Hungary)

Gábor Zsiborás (1) and Ágnes Görög (2)

(1) Department of Paleontology, Eötvös Loránd University, Budapest, Hungary (zsgabedavies@gmail.com), (2) Department of Paleontology, Eötvös Loránd University, Budapest, Hungary (gorog@ludens.elte.hu)

The Middle Jurassic foraminiferal fauna of the Tethys Ocean Basin is hardly known. It is especially true for the Aalenian- early Bajocian, from when only BARBIERI (1964) published some forms from Sicily. Thus the aim of our study was to give a detailed systematic description of the foraminiferal fauna and microfacies analyses of Tűzköves Gorge of Bakonycsernye, Bakony Mountains, Western Hungary. The studied succession is near to the classic Jurassic locality – which become famous by the pioneering ammonite work of GÉCZY. According to the recent study of GALÁCZ & EVANICS, ammonites indicate Concavum (Aalenian), Discites and Ovale (Bajocian) zones. Seventeen samples were collected from the 3.5 m thick sequence of Ammonitico Rosso type reddish and greenish grey marl with limestone nodules. For the microfacies studies thin sections were made. To extract the microfossils, each sample was dissolved in concentrated acetic acid. The layers were rich in macrofossils: the most abundant were *Bositra* shells and ammonites. The microfauna consist of foraminifers, ostracods, radiolarians, Echinodermata parts and rhyncholits. The preservation of the foraminiferal fauna is relatively poor. 36 taxa, 29 genera and 27 species were identified, for the paleoecological evaluation quantitative analysis and classifying into morphogroups were made.

Throughout the studied succession, the foraminiferal fauna is relative monotonous, poor and low diversity in species. All these taxa have wide stratigraphical distribution, significant Aalenian or Bajocian species have not been found. At the Aalenian-Bajocian transition the foraminiferal fauna showed an impoverishment. The most abundant genus was *Spirillina*, its amount is more than 90% in some samples. In suborder Lagenina the most frequent genera were *Lenticulina*, *Dentalina* and *Nodosaria*, moreover, *Vaginulina*, *Eoguttulina*, *Ramulina* and *Bullopora* could have been found. Agglutinated forms and *Paalzowella* were subordinated. Porcelaneous forms did not appear. Very few specimens of planktonic protoglobigerinds occured only in the upper Aalenian beds.

Based on microfacies analysis and paleoecological evaluation of the foraminiferal fauna the environment of sedimentation was in the upper bathyal zone, the bottom was covered by microbial mats, most probably build by chemosynthetic iron bacteria. The environment gradually became deeper from the Concavum up to Ovale zone.

The studied fauna compared with the Sicilian one shows similarity in the *Bositra*-radiolarian microfacies, dominance of the spirillinids and lack of the protoglobigerinids in the Bajocian layers. The main difference was that the marker ornamented lenticulinids did not occur in the studied succession. These lenticulinids are also characteristic in the Boreal foraminiferal fauna of the Bajocian GSSP section of Murtinheira, Western Portugal.

The succession of Bakonycsernye served the first detailed record about the composition and ecological features of the late Aalenian - early Bajocian foraminiferal fauna of the Tethyan basin.