Famennian tetracoralloid and heterocoralloid fauna from the Holy Cross Mountains (Poland)

Maria Różkowska


Famennian corals of the south-western part of the Holy Cross Mountains (Góry Świętokrzyskie) from Kadzielnia, Zaręby, Łagów (Ollie), Gałęzice (Besówka), Kowala and Jabłonna are described in the present work. About 3,000 specimens have been collected and 55 species and 5 subspecies of 36 genera - described. A new family, Kielcephyllidae, two new subfamilies, Friedbergiinae and Guerichiphyllinae, 9 new genera, 36 new species and 5 subspecies have been erected. On the basis of a lithological analysis of beds, faunal assemblages and the preservation state of corallites, it has been concluded that in the Lower Famennian a shallow sea existed at Kadzielnia. It was temporarily connected with the open sea. The corals are mostly preserved there in a life-time place. At Zaręby, there was a lagoon with the remains of plants but with a normal salinity of water. In the Upper Famennian of Gałęzice, the sea water was well aerated and connected with the open sea. Fossils are broken but not worn off and, therefo,re, they were not transported. At Kowala, the sea was probably calm, not deep and well aerated. Index species for the Lower and Upper Famennian have been determined among the coral fauna examined. The age of individual zones has been determined by conodonts and where such were lacking, climeniids or trilobites. The history of the research of Famennian corals, which in general occur rarely and in monotonous assemblages, has been presented. To settle their generic assignment, the ontogeny of corals has been studied and the results were a basis for changes introduced to the classification. A few phyla have been distinguished and their phylogenetic relationships discussed.

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