

The diploma thesis presented deals with paleoecological, biostratigraphical and sedimentological research in the most important locality of the Chýnice Limestone - Čeřinka near Bubovice village. The research was carried out during the years 2006-2010. Multidisciplinary approach has been applied during the fieldwork as well as in the subsequent laboratory research. Such an approach brought a lot of valuable knowledge. The contact between the Zličov and Chýnice Limestone has been described and characterized for the first time within this thesis in this locality using sedimentological, biostratigraphical and geochemical data. Among others, microfacies analysis has been carried out and the sedimentary succession of Chýnice Limestone has been described and sedimentary environment has been interpreted. During my research I was able to gather the largest collection of fossils with the exact stratigraphic position, which was ever collected within the Chýnice Limestone (2500 pcs). Fifty new taxa in total have been recorded from the Čeřinka locality during my research, representing almost 80% increase of taxa known from this classic locality. Numerical analysis of the fauna diversity development of the Chýnice Limestone revealed an increase of the total diversity in time and in the same time decrease of dominancy values, providing thus evidence for an increase of ecological stability of the Chýnice Limestone assemblages. Two faunistic assemblages were identified based on the cluster analysis of the new paleontological data in the studied part of Chýnice Limestone. Each assemblage is related to slightly different paleoenvironment with different stratigraphical position. Structure of the Chýnice Limestone assemblage in the classic Čeřinka locality can be preferably described by “log – normal” model, typical for diversified assemblages in the stable, calm and nutrient-rich environment with a great variation in local niches. To sum up, thanks to this multidisciplinary approach, when all the new sedimentological, paleontological, biostratigraphical, geochemical and paleoecological knowledge was put together, the model of the sedimentary environment development of the Chýnice Limestone with characteristic faunal assemblages could be created.