

About microfacial character of selected profiles in the Western Orava part of Pieniny Klippen Belt - preliminary results

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The boundary between Outer Western Carpathians and Central Western Carpathians is a large scale suture zone called Pieniny Klippen Belt (PKB). Its evolution was effected by several tectonic events which resulted in contemporary complicated structure. Typical klippen appearance is caused by presence of Middle Jurassic to Lower Cretaceous limestone klippen (Oravic units) surrounded by less resistant Cretaceous to Paleogene marlstones and claystones (Non-oravic units). Klippen represent the remnants of Mesozoic sedimentary regions of PKB – Czorsztyn ridge and Pieniny basin. Performed field work was focused on the region around villages Istebné, Veličná and Revišné that are situated in the western Orava part of PKB. In the area of interest klippen are formed by rocks of Kysuca unit (deep marine strata) and Czorsztyn unit (shallow marine strata). The paleoenvironment of assigned units was locally changing in different parts of Oravic sedimentation space. This resulted in microfacial variability of strata in same successions. In the studied region attention was drawn to two profiles. Analysis of profile Revišné 1 show unusual facies evolution in Kysuca unit. Common Tithonian-Neocomian Calpionella microfacies are replaced by Radiolarian microfacies without presence of Calpionella fossils. The replacement of Calpionella fossils by Radiolaria fossils may indicate a local deepening of basin (under CCD) or may be a result of a change in current flow that made the environment for Calpionella fossils unhostile. Strata of profile Revišné 2 extend from Tithonian to Aptian age, while in other localities of Czorsztyn unit age ranging to Aptian lacks. This age range was evidenced primarily by foraminifera assemblages. Profile Revišné 2 is also unique by the presence of Krasín breccia which until now was documented only in Púchov part of Pieniny Klippen Belt. Krasín breccia is a product of Jurassic synsedimentary tectonics and it was formed at the cliffs of Czorsztyn elevation. Both profiles Revišné 1 and Revišné 2 need further analysing in order to provide complete results.