

pelagic swell. The over-regional significance of this geodynamic episode in the northernmost margin of the Tethyan Ocean is documented also by foundation of the Proto-Silesian Basin. Chaotic type of sedimentation dominated during Late Jurassic times indicating early stages of the Proto-Silesian Basin opening with increased tectonic activity. The detritic material was supplied from two sources: from the Baška-Inwald uplift separating the Proto-Silesian Basin and the Bachowice Basin located within the North European Platform, and from the island arcs within the Silesian Ridge separating the Proto-Silesian Basin and the Alpine Tethys. The biogenic material originated within shallow-water reefal and carbonate platform zones was transported by turbiditic currents from the uplifted structures on the Proto-Silesian Basin margins into the deeper zones of this basin. Both the calciturbidites and calcifluxoturbidites formed, constituting the main lithosome within the younger lithostratigraphic unit – the Cieszyn Limestone Formation. These deposits represent the oldest turbiditic currents sedimentation known from the Polish Outer Carpathian Basin.

Miocene Charophyta of Maoče, Pljevlja (Northern Montenegro)

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The siliciclastic sediments of Maoče, with its sand beds and sand lenses of fluvial origin, as the clearly featured former shoreline, characterize this remote gulf of DS Lake. Its shallow water is corroborated by the frequent appearance of desiccation cracks. The lacustrine influence is mirrored in rare marly interbeds. Gyrogonites with mostly smooth spiral cells also indicate a low water mineralisation. An age is determined by *Rhabdochara langeri*, the key fossil for Burdigalian equivalents of W Europe, found both in Maoče and close lying Pljevlja. *Nitellopsis merianii* is an Euroasian Miocene species. A large mammal, from Pljevlja - *Chalicotherium grande*, a small morph – indicates the Lower Miocene. An entire herd of *Chalicotherium* was killed by a catastrophic earthquake cutting forest they inhabit. The tuff of Maoče was destroyed by fluvial and wave actions; in mineralized lakes, as Pljevlja is, tuff was transformed into siderite. Basaltic flows cannot support age because of the melting of the lower crust part. So, the biostratigraphic age is the upper part of Lower Miocene.

Shows of lithospheric plates collision in region of Eastern Carpathians

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Classical shows of lithospheric plate collision in Carpathian region are known in the backside of Ukrainian Folded Carpathians and Trans-Carpathian flexure. These shows are: 1. Presence of sima (ophiolites) fragments in allochthonous occurrence. These are the complexes of basalts, andesite-basalts, trachytes that showed during the Upper Triassic – Lower Cretaceous. Fragments of ophiolites are known in the base of the Trans-Carpathian flexure, Marmarosh cliff zone and in the band of the thrust of Rakhiv-Burkut zone over the Krosno-Chornogora zone, as well as in the frontal part of the Marmarosh crystalline massif. 2. Post-orogenic magmatism is pronounced by Vygorlat-Gutyensk volcanic chain composed of basaltic andesites (70%), basalts (20-25%) and acidic differentiates (2-6%). Volcanic ridge stretches along the Trans-Carpathian flexure from the border with Slovakia to the town of Khust, where its strike changes to meridional and continues on the territory of Romania. 3. Increased heat flow in Trans-Carpathian flexure (more than 2 mkcal/cm²/sec) in