

Carnian-Norian tectonics and seawater from Silicka Brezova, Western Carpathians

Missoni, S.¹, Gawlick, H.-J.¹, Kronome, K.², Plasienska, D.², Prochaska, W.¹ & Aubrecht, R.²

¹ Montanuniversitaet Leoben: Department of Applied Geosciences and Geophysics, Leoben, Austria (sigrid.missoni@unileoben.ac.at)

² Comenius University: Faculty of Natural Sciences, Department of Geology and Palaeontology, Bratislava, Slovakia

After the Middle Triassic extension and the break-up of the Neotethys Ocean intense tectonic characterize the Late Triassic distal carbonate shelf, expressed in facies changes and breccia formation. A first tectonic pulse in the Late Carnian (Tuvalian 1) results in the flooding of the formerly emerged Wetterstein carbonate platform by forming a pelagic plateau, which lasts until the Late Norian (compare Muerzalpen facies of the Northern Calcareous Alps). The overlying Late Triassic sequence is exposed in a system of several quarries and trenches all west of the village Silicka Brezova in the Western Carpathians (Silica nappes). In the Tuvalian 1 and 2 deeper slope deposits of hemipelagic filament limestones with intercalated resediments from the nearby Waxeneck carbonate platform are relatively high in their Li and Br palaeo-seawater ionisation. A higher Li concentration in the Tuvalian 2 may correspond to volcanic activity; as known e.g., in the Buekk Mts. The next tectonic pulse is reflected in a rapid deepening around the Tuvalian 2/3 boundary: On top of an unconformity hemipelagic reddish Hallstatt-like limestones were deposited; they show a rapid decrease in Li and Br concentration. The Late Carnian to Middle Norian time span is characterized by deposition of grey and reddish hemipelagic limestones, still low in Li and Br. Intense tectonic in the Late Norian result in a sedimentary sequence with a general fining upward trend. The Hallstatt Limestones components of Late Carnian to Middle Norian age differ in their litho- and microfacies from the underlying sequence. The provenance area of the clasts might be the outer shelf in the Hallstatt Zone indicating Late Triassic strike-slip induced basin formation as evidenced e.g., in the Karavank Mts. A low NO₃ concentration and a higher F concentration reflect a typical palaeo-seawater of this palaeogeographic realm. The Dachstein carbonate platform progradation is evidenced by shallow-water resediments in the latest Norian hemipelagic limestones, again with an increase in the Li concentration. The tectonic and the known Late Triassic crisis events are reflected in the palaeo-seawater composition.

Petrographic features of chloritoid schist from southeastern slopes of Mt. Medvednica, (Zagorje-Mid-Transdanubian zone, Croatia)

Mišur, I.¹, Belak, M.¹ & Balen, D.²

¹ Croatian Geological Survey, Milana Sachsa 2, HR - 10 000 Zagreb, Croatia (imisur@hgi-cgs.hr)

² University of Zagreb, Faculty of Science, Department of Geology, Horvatovac 95, HR – 10 000 Zagreb, Croatia

In the frame of detail mapping of parametamorphic rocks on the southeastern slopes of Mt. Medvednica (Zagorje-Mid-Transdanubian zone, Croatia), samples of the chloritoid schists were analyzed in more detail.

This study is a part of preliminary research that included XRD, XRF, ICP-MS, SEM, electron microprobe and microstructural characterization of chloritoid schists in order to determine their petrography, microstructural features, mineral assemblages, phase composition, whole-rock and mineral chemical composition and morphology of accessory minerals (zircon typology).