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Evolution of the Early Triassic marine depositional environment in the Croatian Dinarides

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In the central part of the Dinarides in Croatia, the Early Triassic depositional sequence was investigated by means of litho-, bio- and chemostratigraphy at locality Plavno (ca. 1.000m thick). Conodont and δ^{13}C-isotope analysis were a powerfull tool to determine stage and substage boundaries. The succession begins with the second conodont zone of the Griesbachian *Isarcicella staeschei* and *I. isarcica* with low δ^{13}C-values and a steadily increase towards the Griesbachian-Dienerian boundary. Around that boundary a minor, short, negative excursion occurs. In the Dienerian the δ^{13}C-values increase with a steepening of the slope towards the Dienerian-Smithian boundary. Around that boundary a maximum of +5‰ in shallow water carbonate occurs followed by a steep and continuous drop to low, often negative values in the Smithian. Just before the Smithian-Spathian boundary a steep rise to a second maximum is documented. It is followed by decline in the Spathian and a gentle increase to a rounded peak at the Spathian-Anisian boundary.

In lithological sense Plavno succession has threefold division: 1) carbonates representing the oldest Early Triassic strata (early Griesbachian); 2) dominantly red clastics (shales, siltstones and sandstones) with intercalation of oncoid/ooid or bioclast rich grainstones (uppermost Griesbachian, Dienerian and Smithian) and 3) dominantly grey carbonaceous lime mudstones, marls and calcisiltites with ammonoids representing Spathian strata. In the oldest strata (Griesbachian) in macrocrystalline subhedral dolomites rare microspheres and foraminifers *Earlandia* and *Cornuspira* point to the stressful conditions related to the end Permian mass extinction. In the uppermost Griesbachian and Dienerian strata, within dominantly clastic deposition, rare coarse oncoliths with typical microbial cortices occur. Their presence fits to the interpretation of biotical-induced precipitation related to PTB extinction and can suggest still stressful condition. The Dienerian and Smithian are characterized by strong siliciclastic input and deposition of red shales, siltstones and sandstones with intercalation of oolithic and bioclastic grainstones. Hummocky-cross-strata witness the importance of storms. Presence of loadcasts and abundant casts of bivalve shells suggest quick deposition of terrigenous material and instant burying of epifauna during storms. Abundant trace fossils preserved in shales evidence intensive life activity in an overall shallow depositonal environment. During the Spathian deposition of lime mudstones and marls prevails. Two Spathian intervals bear ammonoid fauna suggest deposition in slightly deeper environment and a connection with the open sea testifying a transgression at the beginning of Spathian. Even in deeper environment storms play a significant role assuming deposition above storm wave base. The influence of storms in this deeper environment is recognized as accumulation of coarsegrained bioclastic lag at the base of storm beds, graded calcisiltites, gutter casts and hummocky-cross-stratified beds. Intense bioturbation suggest colonization by organisms between storms. Pending from nature and distribution of facies the Plavno sequence has been interpreted as epeiric ramp. An epeiric ramp is defined here as having a very low bathymetric slope (negligible in its inner regions), no grainy shoreface facies, water depths of tens of meters, a width of many hundreds of kilometers and depositional processes dominated by storms.