

Basin to reef transition in the Middle Triassic Northwestern Croatian rift related basin (NCTRB)

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ABSTRACTS BOOK



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Theme 2. Shallow-marine carbonate depositional systems and carbonate platforms**Special Session 2.1.** Biogeodynamics of Mesozoic marine carbonate depositional systems

Oral presentation

Basin to reef transition in the Middle Triassic Northwestern Croatian rift related basin (NCTRB)

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In NW Croatia Middle Triassic volcano-sedimentary successions were deposited on the passive continental margin during a period of extensional tectonic related to the Neotethyan rifting. The studied succession in Očura Quarry on Ivanščica Mt is 34 m thick section, divided into three parts. The lower part is composed of dominantly basaltic rocks. In the basal part glomeroporphyritic basalt is overlaid by basaltic autoclastite and peperite. The middle part is composed of cm–dm thick irregularly and wavy bedded calcarenites, in places coarsening upward. Carbonate lithoclasts are mostly micritic limestones with bioclasts. Basaltic lithoclasts are less common, one with the porphyritic to glomeroporphyritic texture, similar to basalt from the lower part; and the other type completely hyaline. There are also thin layers of biomicrites with filaments and radiolarians, thin layers of volcanoclastics, and a thick breccia interval. The upper part is composed of extremely unsorted breccia with slump-texture. Clasts of limestones, calcarenites, and subordinate basalts are supported by fine grained matrix of carbonate and basaltic particles. Within breccia there are abundant framestone clasts containing complex reef community, dominating of sponge *Celyphia zoldana*, with other microorganisms of uncertain taxonomy *Plexoramea cerebriformis* and *Olangocoelia otti*, and others. The investigated section represents sedimentation in the deeper marine environment near the steep edge of the carbonate platform that prograde over it. Basalts found at the base of the section represent submarine effusions, and their fragmentation and reworking. A thick interval of calcarenites with basaltic lithoclasts is formed by shedding of the carbonate material from the nearby platform to the pelagic/basinal areas, indicated by the pelagic limestone interlayers. Chaotic breccia with meter sized fragments of reefal limestones indicates a more proximal position regarding to the shallow marine area from which these clasts were derived. Slump texture emphasizes gravitational processes. The general trend of coarsening upward, as well as the predominance of the framestone clasts in the breccias imply the progradation of the platform over the basinal areas. Similar successions have been described from the neighbouring area.