Calcareous nannoplakton from the Triassic-Jurassic boundary interval (Kardolina section, Western Carpathians)

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The Kardolína section, from the Belianske Tatras Mountains, Slovak Republic, yielded an almost complete record of the Rhaetian marine transgression onto the Western Carpathian segment of the Austro-Carpathian shelf, and included the Triassic-Jurassic boundary interval. A multidisciplinary study has provided detailed information about the environmental changes at the end of the Triassic when the carbonate ramp experienced a deeper, dysoxic basin. Calcareous nannoplankton were recorded throughout the entire section (a total of 109 samples in 93m of section), although preservation was not perfect. Nannoplankton abundances varied between 0.5–4 specimens/100 fields of view (coccoliths) and 0.5–40 specimens/100 fields of view (calcareous spheres).

Based on abundance and species composition of calcareous nannoplankton assemblages, five intervals were distinguished through the Kardolina sections:

(1) Calcareous nannoplankton appeared in "coprolite shales" 15m above a basal transgressive layer where stabilization of normal marine conditions is indicated. The nannoplankton included small coccoliths and rare spheres.
(2) An interval that was nearly barren of nannoplankton that is interpreted to be a lagoonal environment.
(3) An interval where *Prinsiosphaera triassica* of various sizes dominated the nannoplankton assemblage. Some other coccoliths also occurred locally. Within this interval, nannoplankton were missing from the "spherule beds" (volcanic glass?) that had high oscillating δO^{18} and δC^{13} values.
(4) Nannoplankton disappeared 10m below the Triassic-Jurassic boundary, where the amount of organic matter significantly increased.
(5) The Hettangian interval where nannoplankton reappeared 4m above the Triassic-Jurassic boundary and included small coccoliths, one specimen of *Watzenauria* sp., and representatives of Polycyclolithaceae.