

Playa Cycles of the Classic Germanic Triassic - Variations on a Theme

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The Germanic Triassic was deposited in the almost landlocked cratonic Central European Basin. Marine carbonates and evaporites prevailed in Middle Triassic times, whereas carbonates and shales that were deposited in a playa-like setting, are abundant in the Early and Late Triassic. The playa sediments show a pronounced m-scale cyclicity which varies the theme "sandstone-carbonate-shale" and is interpreted as "transgressive-regressive" or better: "wetter-drier". Pedogenic features are characteristic for the upper "drier" part of many cycles. Modifications may occur by occasional marine incursions.

The Lower Buntsandstein (Scythian), for instance, contains numerous cycles of sandstone-oolite-shale; the Upper Buntsandstein contains sandstone-shale cycles. Dolomite-shale cycles are abundant in the Middle Keuper (Carnian, Norian).

The cyclic nature of the sediments suggests a climatic control, possibly in the 100,000 year Milankovitch band. The cycles fit into the sequence stratigraphic framework already established for the Germanic Triassic.