

A multistratigraphic approach for the Keuper (Upper Triassic) in the eastern Central European Basin (D, PL) and the Danish Basin (DK, S)

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A multistratigraphic approach for the Keuper has been developed for the eastern Central European Basin and the Danish Basin combining litho- and allostratigraphy, chrono- and cyclostratigraphy resulting in a framework for a basin-wide homogenised stratigraphy.

The Keuper of the eastern Central European Basin and the Danish Basin can be subdivided into 5 formations of the basinal facies that interfinger with 9 formations of Vindelician-Bohemian marginal facies, Scandinavian marginal facies and East European marginal facies. Lithostratigraphy is based on formations after DSK (2005) but used with advanced definition. The Keuper formations of both basinal and marginal facies have mostly diachronous boundaries. A further subdivision into members is possible using marker horizons and unconformities.

Characteristic of the Keuper are the so-called unconformities D 1 to D 8 (DSK 2005) which are partly of basinwide, partly of more local importance. Angular and erosional unconformities of swells and basin margins correlate with disconformities of basinal facies. Based on the basinwide correlation of D 1, D 2, D 4, D 5, D 8 the 4 allostratigraphic units, so-called called "Folgen" in German, are established giving a basinwide quasi-isochronous stratigraphic framework. A further subdivision into so-called "Subfolgen" is possible for larger parts of the basin using unconformities and marker horizons with a quasi-isochronous distribution (e. g. Grenzdolomit).

Some newly founds of conchostracans contribute to the improvement of a preliminary conchostracan zonation of KOZUR & WEEMS (2007) enabling an improved correlation of Keuper strata with the international chronostratigraphic scale

The Keuper shows a pronounced hierarchic cyclicity with depositional cycles > small scale cycles > bundles of small scale cycles > large scale cycles. Small scales cycles allow regional correlation and are grouped to bundles of small scale cycles which reflect trends of facial development and allow supra-regional correlation. Large scale cycles display the facial development of stages of the Central European Basin and enable basinwide correlation. Small scale cycles can be interpreted as short-term excentricity cycles, except for the Arnstadt Fm (Norian) that can be interpreted as long-term excentricity cycles. The results of cyclostratigraphy point to a duration of approximately 32,5–33,4 Ma for sediments the Keuper and additional 4–5 Ma for unconformities suggesting a more continuous sedimentation of the Keuper with a total time span of 37,5 Ma.

## References

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