MIDDLE TURONIAN TO LOWER CONIACIAN AMMONITE ASSEMBLAGES IN NORTHERN GERMANY, WITH REFERENCE TO NOSTOCERATIDS AND DIPLOMOCERATIDS

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Different basin parts are occupied by distinct ammonite assemblages, each of which is characterized by an ensemble of certain morphologies (WESTERMAN 1996). Based on WALTHER's Law of Facies, a lateral shift from proximal to distal ammonite assemblages and back must be also visible in a vertical succession that reflects a transgressive/regressive cycle. This can be observed in the Middle Turonian to Lower Coniacian of northern Germany, where distinct ammonite assemblages can be referred to individual positions in a sea level cycle. As mainly regressive parts of a cycle are documented lithologically, the successions of ammonite assemblages reflect thus shallowing. In the Turonian, i) Scaphitidae, Baculitidae and *Lewesiceras* are ubiquitous. Their presence alone is not significant. It is the absence of other taxa, which is suggestive for distal environments. Smooth forms such as *Mesopuzosia* and *Jimboiceras* co-occur. ii) Collignoniceratinae & Anisoceratidae increase in number in more proximal environments. iii) The shallowest assemblage is mainly characterized by Nostoceratidae (e. g. *Hyphantoceras*, *Neocrioceras*-like forms, *Pseudoxybeloceras*). In the Lower Coniacian, i) the shallowest ammonite fauna is characterized by Peroniceratinae (*Peroniceras*, several species). ii) Nostoceratid/diplomoceratid ammonites (*Neocrioceras*, *Scalarites*) with *Placenticeras* and *Forresteria* (Barroisiceratinae) occupy a more distal position. iii) Like in the Turonian, desmoceratids, Scaphitidae and Baculitidae dominate distal environments. The observed ammonite distribution shows some accordance with other models (comp. WESTERMANN 1996), but the occurrence of *Eubostrychoceras*, *Hyphantoceras* and *Neocrioceras*-like forms mostly in near-swell setting deviates from these models that suggest this group occurring in open marin, deeper water environment (e. g. BATT 1989; morphogroup 13: loosley coiled torticones, demersal mode of life; WESTERMAN 1996: water depth 100-200 m). The data contrast KAPLAN (1991), who suggested that the sequence of an allocrioceratid/collignoniceratid fauna, followed by a nostoceratid and a desmoceratid ammonite assemblage in the Upper Turonian of northern Germany reflects transgression. As the nostoceratid/diplomoceratid faunas are comparatively restricted to shallower environment, they should have been sensitive to sea level changes. This may be confirmed by the rapid evolution of this group that shows a clear relation between phylogeny and sea level fluctuation.

References:

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