MIDDLE TURONIAN TO CONIACIAN INTERGRATED BIOSTRATIGRAPHY IN SOUTHERN NIGERIA

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Micro- and macrofossil assemblages of the Nkalagu Formation (Cenomanian to Coniacian, southern Nigeria, Lower Benue Trough) have been investigated qualitatively and quantitatively. Zonations for several fossil groups have been erected, integrated and correlated with international standart zonations (high resolution biostratigraphy). The following biozones have been identified. Planktonic foraminifers: Praeglobotruncana cf. stephani-Zone (?middle Turonian), Marginotruncana sigali-Zone (late Turonian), Dicarinella primitiva-Zone (latest Turonian), Dicarinella concavata-Zone (Coniacian). Calcareous nannofossils: Eiffellithus eximius-Zone (middle Turonian to early late Turonian), Marthasterites furcatus-Zone (late Turonian to Coniacian). Ostracods: Cythereis vitiliginosa reticulata-Zone (?middle to late Turonian), Cythereis sp. 2-Zone (latest Turonian to Coniacian). Inoceramids and ammonites confirm the age of the zones listed. Integration of fossil groups allows separation of integrated zones with an average duration of about 0.4 Ma. The Turonian/Coniacian-boundary will be dicussed in detail, using the occurring biological events. As an easily identifiable marker, the first appearence of Dicarinella concavata is proposed as base of the Coniacian. Sediments were deposited in the upper bathyal under normal marine salinity and low oxic conditions of the bottom-water. High surface productivity and a high organic flux into the sediment as the cause for low oxigen contents inside the sediment and high bottom productivity. Planktonic foraminifers and calcareous nannofossils show distinct tethyan influence and indicate warm waters.