

Characterization Of The Ichnofossils Of The Estuary-shoreface Complex Of Cretaceous Abeokuta Group Offshore Eastern Dahomey Basin, Southwest, Nigeria

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Abstract : The ichnofossil assemblages of Cretaceous Abeokuta Group from Southeastern Dahomey have not been documented in the literature. This can be traced to deficit of outcrops from the onshore, and also scarce cores from the offshore wells. Ichnofossils and sediment are inseparable and significant in effective interpretation of depositional settings. The ichnology of the tide-dominated estuary to wave-dominated shoreface of offshore Abeokuta Group revealed a brackish water types. The bioturbation is mostly controlled by tidal sedimentation and the vertical succession through the cores within the tide-dominated estuary exhibits regular heterogeneous bioturbations. These are alternations of bioturbated and non-bioturbated units or highly bioturbated and scarce bioturbated alternations. The bioturbations within the wave-dominated shoreface is low to moderate at the lower units but scarce at the upper shoreface. Abeokuta Group sediment are mostly massive sandstone alternations with mud-rich heterolithic facies, sand-rich heterolithic and inclined heterolithic stratifications and shaly fine grained sandstone beds. The ichnofossils observed in Abeokuta Group are basically simple structured, stressed and of low diversity which belong to soft ground, loose ground and firm (substrate controlled) suites. Eleven ichnogenera were identified such as; Asterosoma, Chondrites, Ophiomorpha, Palaeophycus, Planolites, Phycosiphon Rhizocorallium, Rosselia, Skolithos, Teichichnus and Thalassinoides. These were grouped into four recurring ichnofacies of Cruziana, Skolithos Skolithos-Cruziana and Glossifungites ichnofacies. The ichnofossils are significant in distinguishing the upper estuarine embayment boundary from shoreface complex by the paucity of suspension feeding structures in delta front and predominance of suspension feeding structures in the shoreface. Also, the firm substrate suite identifies the flooding surface/transgressive surface, and the regressive surface of marine erosion within the intertidal flats and shoreface respectively.

Keywords : estuary, tide, ichnofossils, ichnogenera, ichnofacies, skolithos, cruziana, glossifungites

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