Evidence of Lateral Equivalence of Terminal Cretaceous Formations in the Upper Benue Basin, Nigeria

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with 2 figures

Abstract. The stratigraphic relationship of the three terminal Cretaceous formations in the Upper Benue Basin (Northeastern Nigeria) has hitherto remained unclear. The sequence: Sukuliyê (Sekule) Shale (oldest), overlain by Numanha Shale and then Lamja Sandstone (youngest) erected by pioneers, has been accepted by some later workers and modified or rejected by others. Employing paleontological and sedimentological evidence, the formations are shown here to be, in part, laterally equivalent.


1 Introduction

The Benue Basin is a narrow (80–150 km wide) linear NE-SW trending feature which extends from below the Niger Delta to the southern limit of the Chad Basin, Nigeria (Fig. 1a). It is widely held to have originated as a tectonic trough whose origin was closely linked with the separation of Africa and South America during the Mesozoic (King 1950, Cratchley & Jones 1965). The basin has a 6,000 metre-thick Cretaceous sedimentary fill which is uniquely folded parallel to its axis. Because of this unique trait, its link to the breakup of Gondwanaland, and the occurrence in it of substantial economic deposits (McConnell 1949, Farrington 1952, Ofo diile 1980, Ford 1981), it has generated considerable research interest. Consequently, virtually all aspects of the basin’s geology have either been or are currently being studied.