-New contribution to the stratigraphy of the Upper Cretaceous
Lower Paleogene successions, Eastern Desert, Egypt

Nageh A. Obaidalla, Ahmed R.M. El-Younsy, Emad R. Phillobbos and Abdelhamid M.Salman

Abstract:

Integrated and comprehensive investigation of the upper Cretaceous-lower Paleogene sequence in the range of sectors exposed in the Eastern Desert as a vertical succession, showed the possibility of better explained and linking the different exposed lithologic rock units, after the numerous names given to them when roughly described in a separated and isolated sections during individual researches and studies. Detail litho- and biostratigraphical studies on four Upper Cretaceous-Lower Paleogene sections arranging in a geological profile from north to south (Wadi Tarfa, Timimit el Shifa, Gabal Qreiya and Gabal Oweina) between El Sheikh Fadl-Ras Gharib Asphaltic Road and Sibaiya (north of Aswan) have been carried out. Lithostratigraphically, the Rakhiyat Formation in the north is time-equivalent to the Quseir Formation in the south. The Sudr Formation in the north is time-equivalents to the Duwi and the lower parts of the Dakhla (the Hamama Member at G. Qreiya and the Sharawna Member at G. Oweina) formations in the south. Here, the Hamama and the Sharawna members are amended as the Sudr Formation. The Beida member at Wadi Tarfa and G. Qreiya and the Owaina Member at G. Oweina are time-equivalent all over the study area. Hence, these members are amended as the originally known Dakhla Formation. Upward The Tarawan, Esna and Thebes formations are resting on the Dakhla Formation all over the study area. A significant variant in the thickness of the Tarawan and Esna formations at different localities are observed. Biostratigraphically, the Upper Cretaceous-Lower Paleogene successions are subdivided into 25 planktonic foraminiferal zones. These zones covered the interval from Campanian to Ypresian. Some of these zones are absent in the studied sections. The integrated litho- and bio-stratigraphical investigations are led to delineate five syn-sedimentary tectonic events affected on the evolution of the Upper Cretaceous-Lower Paleogene sedimentary basins. These events are; (I) the Pre-Campanian/Campanian event (PC/C), (II) the Campanian/Maastrichtian (C/M) event, (III) the Cretaceous/Paleogene (K/P) event, (IV) the Danain/Selandian (D/S) event, and (V) the Paleocene/Eocene (P/E) event.

Keywords:

Biostratigraphy, Syn-sedimentary tectonic events, Upper Cretaceous, Lower Paleogene

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