Geophysical Research Abstracts
Vol. 21, EGU2019-1671, 2019
EGU General Assembly 2019

Reviewing of the Testudines occurrence in the Late Cretaceous from South Western Desert, Egypt

Mohamed AbdelGawad (1), Waleed Kassab (1), and Gebely AbuElKheir (2)

(1) Cairo University, Faculty of Science, Geology Department, Giza, Egypt (mkabdelgawad@sci.cu.edu.eg), (2) Geology Department, Faculty of Sciences, Wadi El –Gadid University, Wadi El –Gadid, Egypt, (gebely2006@scinv.au.edu.eg)

Kharga, Dakhla and Farafra oases and their surrounding areas in the southern and central parts of the Western Desert of Egypt yield excellent exposures of Cretaceous and lower Tertiary succession. The Late Cretaceous rocks has a great attention for paleontologists as it coincides with the greater mass extinction of many vertebrate groups such as non-avian dinosaurs and marine reptiles and invertebrate groups such as ammonites. The two main late Cretaceous formations that contain those vertebrate horizons are Quseir and Dakhla formations. Quseir Formation starts with varicolored claystone, siltstone and sandstone yielding plant remains fresh water gastropods, fresh water reptiles and dinosaur bones indicating a deposition in terrestrial to brackish environments (tidal flat / estuaries). This grades upward to shallow shelf facies of poorly fossiliferous varicolored mudstone and sandstone being in some intervals glauconitic and containing some marine gastropods and pelecypods. The Dakhla Formation is divided into three distinctive members being from older to younger: 1) Mawhoob shale member: It consists of inner to middle shelf papery shale and marl of Early to Middle Maastrichtian age. 2) Baris oyster member (named Ammonite Hill Member at west Dakhla and Abu Minqar areas): it consists of shale and limestone interbeds crowded with Exogyra overwegi and Libycoceras ismaeli, which dated to middle to Late Maastrichtian. 3) Kharga shale member: it consists of dark green to gray shale with dwarfed fauna in its lower part grading in the upper part to fossiliferous marl and shale yielding fossils of Paleocene age. The Campanian horizon of Quseir Formation in Kharga oasis contains vertebrate fauna such as turtles, crocodiles, fish and dinosaurs. The Maastrichtian horizon of Dakhla Formation in Dakhla oasis and west Dakhla -Abu Minqar areas contains vertebrate fauna such as turtles, crocodiles, fish, marine reptiles and dinosaurs. Field excursions were undertaken to locate the vertebrate fauna horizons as mentioned previously in literature. The collected vertebrate faunas are from Quseir Formation in Kharga oasis contains at least two new taxa of Testudines from important lineages of the family Bothremydidae. The other collection is from Dakhla Formation from west Dakhla – Abu Minqar area includes at least one new taxa of Testudines, in addition to marine reptiles, shark and fish fragments. The specimens from Quseir Formation are recorded the oldest known Testudines from South Western Desert, Egypt. The specimens from Dakhla Formation represents the second recording of Maastrichtian Testudines remains from Egypt. Our last collected specimen from the basal part of Dakhla Formation from Abu Minqar area represents the first record of gigantic Testudines in Egypt. The two collections are filling the missing evolutionary gap from the Late Cretaceous Testudines records in Egypt and generally in Africa.