

Abstract

Numerous non-avian theropod dinosaur fossils have been reported from the Upper Cretaceous (Cenomanian) Bahariya Formation, Bahariya Oasis, Western Desert of Egypt, but unambiguous materials of Abelisauridae have yet to be documented. Here we report Mansoura University Vertebrate Paleontology Center (MUVP) specimen 477, an isolated, well preserved tenth cervical vertebra of a medium-sized abelisaurid from the Bahariya Formation. The new vertebra shows affinities with those of other Upper Cretaceous abelisaurids from Madagascar and South America, such as *Majungasaurus crenatissimus*, *Carnotaurus sastrei*, *Viavenator exxoni* and generically indeterminate Patagonian specimen (Museo Padre Molina specimen 99). Phylogenetic

analysis recovers the Bahariya form within Abelisauridae, either in a polytomy of all included abelisaurids (strict consensus tree) or as an early branching member of the otherwise South American clade Brachyrostra (50% majority rule consensus tree). MUVP 477, therefore, represents the first confirmed abelisaurid fossil from the Bahariya Formation and the oldest definitive record of the clade from Egypt and northeastern Africa more generally. The new vertebra demonstrates the wide geographical distribution of Abelisauridae across North Africa during the middle

Cretaceous and augments the already extraordinarily diverse large-bodied theropod assemblage of the Bahariya Formation, a record that also includes representatives of Spinosauridae, Carcharodontosauridae and Bahariasauridae.