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A new saurodontid fish from the Late Cretaceous of the Western Desert, Egypt

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A new genus and species of the extinct family Saurodontidae (Ichthyodectiformes) is described from the Upper Cretaceous deposits of Dakhla Formation, Western Desert, Egypt. The specimen is identified as *Wadiichthys anbaawyi* gen. et sp. nov. The holotype comprises complete skull with maxillae, premaxillae, dentaries and predentary. The specimen was embedded in a compacted mudstone layer of the lower part of Dakhla Formation, Western Desert, Egypt. The new taxon *Wadiichthys anbaawyi* differs from the others saurodontid genera by (i) the dorsal margin of the predentary is longer than the ventral margin. (ii) the longitudinal foramina below each alveolus of the dentary, premaxilla and maxilla; (iii) a small diastema between the teeth; (iv) a convex contact between the rostrodermethmoid and the frontal; (v) the posterior margin of the maxilla is triangular shaped; (vi) the teeth are more deeply embedded in the premaxilla, maxilla and dentary. *Wadiichthys anbaawyi* represents the first formal description of a saurodontid from Africa that contributes to the increase of the knowledge of the diversity and the paleogeographic distribution of this family. The new taxon sheds light on the taxonomy, morphology and evolutionary history of the Cretaceous marine vertebrates of the Tethys Sea. To preserve and digitally document the fossil, a terrestrial laser scanner Trimble TX6 was employed. Each of the five fossil parts was scanned separately and processed with Trimble RealWorks software. This created a high-resolution 3D point cloud in true color, grayscale, and intensity mode. This method protects the fossil from possible damage or loss. It also allows for remote collaboration and morphometric analysis without physical handling.

Key words: Actinopterygii, Ichthyodectiformes, Saurodontidae, Dakhla Formation, Cretaceous, Western Desert, Egypt.

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