

A new genus of Saurodontidae (Teleostei: †Ichthyodectiformes) from Upper Cretaceous rocks of the Western Interior of North America

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Abstract

To date, only two genera of saurodontid teleosts have been recognized: *Saurocephalus* HARLAN 1824 and *Saurodon* HAYS 1830. LOOMIS (1900) named a new species of *Saurodon* (*Saurodon pygmaeus*), based upon a mandible from the Niobrara Chalk Formation of Kansas, U.S.A. Specimens of this species have been published incorrectly as *Ichthyodectes ctenodon* and *Saurodon leanus*. The species is valid and cannot be assigned to either of those genera. It exhibits several synapomorphies of the Saurodontidae, but does not share some synapomorphies that unite *Saurodon* and *Saurocephalus*; it is a sister-group to those two genera. I therefore propose the generic name *Prosaurodon*, whose type species is *Prosaurodon pygmaeus* (LOOMIS 1900). *Prosaurodon* is known from Santonian and Campanian horizons in North America, but the divergence time for that lineage must be no younger than the Cenomanian, because there are Cenomanian specimens of *Saurodon* from Texas.

The new genus exhibits, in addition to the predentary, three character states that have at times been considered synapomorphies of the Ichthyodectidae: unpaired (fused) parietals; parietal participating in the supra-occipital crest, and basal sclerotics with a serrated margin. Furthermore, the only complete saurodontid skeleton known to date shows a short, remote anal fin which also has been suggested as a synapomorphy of the Ichthyodectidae. New evidence supports the separation of the Saurodontidae plus Ichthyodectidae from the Cladocyclidae. However, the Ichthyodectidae may be paraphyletic with respect to the Saurodontidae.

Saurodontids retained a narrow gular. The presence or absence of this element should be determined for other ichthyodectoid genera.

Introduction

Saurodontids are a specialized group of rather primitive teleosts. The most bizarre specialization of the family is a mandible that juts out beyond the upper jaw and is tipped with an edentulous triangular median element, the predentary. To date, there are only two recognized genera, *Saurodon* HAYS 1830 and *Saurocephalus* HARLAN 1824. Although both were described early in the 19th century, the first record of a saurodontid predentary was published by Alban STEWART (1898). This was the beginning of the recognition that these two genera formed a group distinct from other ichthyodectiforms.

The Bayerische Staatssammlung für Paläontologie und Historische Geologie, München, apparently purchased a collection of fossils from the Niobrara Formation of Kansas from C. H. STERNBERG about 1893. Many of the actinopterygians in this collection were described by F. B. LOOMIS (1900). Among the new taxa he described was *Saurodon pygmaeus* based on a single mandible. One of the most distinctive features of this species was the absence of notches below the teeth on the labial side. All other species of this genus were thought to have a notch at the base of each tooth. The small size was also distinctive. The type description contained no direct mention of the facet on the anterior end of the dentary for the predentary, but assignment to this genus implied that one was present. Unlike many of the larger Cretaceous fossils from the collection, this tiny specimen largely survived the ravages of the second World War. Judging from the illustration in the type description, only the coronoid area has been lost (Figs. 1, 2). The

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