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Morphological and systematic reassessment of †*Knightia brasiliensis* Woodward, 1939 (Teleostei: Clupeiformes) from the Pliocene of Parnaíba Basin, northeastern Brazil

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Abstract

†*Knightia brasiliensis*, a small clupeoid fish found in the Tertiary beds of Nova Iorque, State of Maranhão (Brazil), is morphologically redescribed in detail. It is separated from nominal species of †*Knightia*, including the type-species †*Knightia eoceana* from the Lower Eocene of Wyoming, mainly by the absence of dorsal scutes, presence of two supramaxillae, and one epural, and is therefore placed in a new genus, †*Paleopiquitinga* **gen. nov.** The caudal skeleton of †*Paleopiquitinga* **gen. nov.** shows some advanced features (one epural, parhypurapophysis, and pleurostyle) in comparison with other well-known fossil clupeomorphs from the Cretaceous and Tertiary of South America and Africa, and a combination of features indicates the placement of †*Paleopiquitinga* **gen. nov.** within the family Clupeidae. Although uncertainties about polarity of characters within the Clupeidae render the relationships of †*Paleopiquitinga* **gen. nov.** difficult to establish at present, certain features indicate a close relationship with the extant Atlantic and East-Pacific genus *Lile*.

Key words: †*Paleopiquitinga brasiliensis comb. nov.*, Clupeidae, Pliocene, Northeastern Brazil

Introduction

Woodward (1939) described a new clupeid fish from the Tertiary fish beds of Nova Iorque, State of Maranhão, northeastern Brazil. Due to superficial similarities shared with nominal species of the pellonuline genus †*Knightia* Jordan, 1907, until then only known from the Tertiary of North America, it was named †*Knightia brasiliensis* Woodward, 1939. The fish belongs to a typical lacustrine assemblage as indicated by the presence of characoids (*i.e.*, †*Lignobrycon altus* Santos, 1946; †*Procharax minor* Santos & Travassos, 1956) and cichlids (*i.e.*, †*Macracara prisca* Woodward, 1939) in association with plant remains (Cristalli, 1997; Santos & Carvalho, 2004). Data about this species have been obtained on the basis of material collected in late 1930s by the late geologist Josalfredo Borges and housed in the paleontological collections of the Museu de Ciências da Terra of Departamento Nacional da Produção Mineral (MCTer/DNPM) and Natural History Museum, of London. Nowadays, the outcrop where the specimens were found is totally immersed by the reservoir that resulted from the construction of the Boa Esperança hydroelectric dam (Goés & Feijó, 1994; Melo *et al.*, 2005).

Grande (1982, 1985), while working on a review of extant and fossil clupeomorphs, pointed out that Brazilian species of †*Knightia* do not belong to this genus, indicating a need for a reassessment of these taxon. But he also argued that in spite of the existence of a number of specimens of †*Knightia brasiliensis* in paleontological collections, their preservation is too poor for reliable redescriptions. He claimed that more complete specimens should be necessary before an emended description and erection of a new genus can be provided.

During a visit study to the collections housed in the MCTer/DNPM (Rio de Janeiro), I had the opportunity to examine in detail partial and complete material of †*Knightia brasiliensis*, specimens of which contained

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