



***Campinasuchus dinizi* gen. et sp. nov., a new Late Cretaceous baurusuchid (Crocodyliformes) from the Bauru Basin, Brazil**

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Abstract

A remarkably diverse terrestrial mesoeucrocodylian fauna has been recovered from the continental Cretaceous of the Bauru Basin in fluvial and lacustrine deposits. Members of at least six distinct groups are now recognized, including notosuchids, sphagesaurids, candidodontids, peirosaurids, trematochampsids, and baurusuchids. These mostly terrestrial crocodyliforms potentially developed ecological strategies that allowed them to live in a hot and arid climate during the Cretaceous. A new genus and species of Baurusuchidae, *Campinasuchus dinizi* **gen. et sp. nov.**, is established on the basis of several partial skulls and skeletons from the Turonian-Santonian Adamantina Formation. This taxon is notable for its relatively short, anteriorly tapering snout, marked maxillary heterodonty with third maxillary and fourth dentary teeth extremely enlarged relative to other teeth, and the presence of a large anteroposterior depression on each palatine between the palatal fenestrae. The presence of yet another crocodyliform from the Adamantina Formation reinforces the idea that aridity, or maybe a seasonally warm and dry climate alternating with periods of higher rainfall, drove the diversification of terrestrial crocodyliforms throughout the Late Cretaceous.

Key words: *Campinasuchus dinizi*, Baurusuchidae, Crocodyliformes, Adamantina Formation, Bauru Basin, Brazil

Introduction

The inland continental basins of the Cretaceous of South America, Africa, Madagascar and Asia preserve a remarkable diversity of terrestrial crocodyliforms. Perhaps most notably, the Bauru Basin (southeastern Brazil) preserves species from at least six major groups including notosuchids, sphagesaurids, candidodontids, peirosaurids, trematochampsids and baurusuchids. This diversity was likely driven by ecological strategies that allowed survival in a hot and arid climate (Carvalho *et al.* 2010). Most were clearly terrestrial animals, living in semi-arid environments markedly distinct from the aquatic to semi-aquatic habitats of extant crocodylians. Late Cretaceous crocodyliform species currently described from the Bauru Basin include: *Baurusuchus pachecoi* Price, 1945, *Sphagesaurus huenei* Price, 1950a, *Itasuchus jesuinoi* Price, 1955, *Peirosaurus tormini* Price, 1955, *Mariliasuchus amarali* Carvalho and Bertini, 1999, *Stratiosuchus maxhechti* Campos, Suarez, Riff and Kellner, 2001, *Uberabasuchus terrificus* Carvalho, Ribeiro and Avilla, 2004, *Baurusuchus salgadoensis* Carvalho, Campos and Nobre, 2005, *Adamantinasuchus amarali* Nobre and Carvalho, 2006, *Mariliasuchus robustus* Nobre, Carvalho, Vasconcellos and Nava, 2007, *Montealtosuchus arrudacamposi* Carvalho, Vasconcellos and Tavares, 2007, *Sphagesaurus montealtensis* Andrade