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A new crocodyliform from the Alcântara Formation (Cenomanian), Cajual Island, Brazil

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Abstract

A new mesoeucrocodylian (Crocodyliformes) is described from the Laje do Coringa site, earliest Late Cretaceous (early Cenomanian) of the São Luís Basin, northeastern Brazil. Due to the likely hetorodonty indicated by distinct alveoli shapes, *Coringasuchus anisodontis* **gen. et sp. nov.** is tentatively referred to the Notosuchia and distinguished from other members of this clade by the presence of obliquely implanted teeth with the main axis directed anterolingually-to-posterolabially and the presence of alveoli that are distinctively raised above the level of the dorsal margin of the dentary. The material further confirms the interpretation that the fossil concentration of the Laje do Coringa site is the result of multiple reworking events from previous deposits, but the degree of time-averaging was possibly higher than previously suspected.

Key words: *Coringasuchus anisodontis*, Mesoeucrocodylia, early Cenomanian, Maranhão, Brazil, Alcântara Formation, Laje do Coringa

Introduction

The site known as Laje do Coringa, situated on the coast of Cajual Island in Maranhão State, is one of the few bone-beds known from Brazil (Fig. 1). This deposit is regarded of early Cenomanian age and belongs to the Alcântara Formation, Itapecuru Group, of the São Luís Basin (Corrêa-Martins 1997; Medeiros & Schultz 2001), which was formed during the break up of Gondwana when the South American and the African continents drifted apart (Aranha *et al*. 1990).

Explored since 1994, the Laje do Coringa site has yielded hundreds of isolated elements, preserved in a coarse conglomerate intercalated with sandstones. This region of Brazil is strongly influenced by the tidal regime that exposes but at the same time significantly damages the fossils. Subjected to strong erosion processes, part of this deposit had already been destroyed prior to discovery and covered by sand transported from the shore. Elements are found disarticulated and clearly represent end products of transportation (Medeiros *et al*. 2007). Fossils are invariably badly fragmented and in most cases heavily abraded (Fig. 2).

Among the specimens collected are logs of conifers and pteridophytes (Mussa *et al*. 2000), fish remains including *Lepidotes*-like scales and isolated elements of the coelacanth *Mawsonia* Woodward (e.g., Medeiros *et al*. 2007), pterosaur teeth (Elias *et al*. 2007), putative mosasaur and plesiosaur teeth (Vilas-Bôas & Carvalho 2001), and a diverse dinosaurian fauna (e.g., Medeiros & Schultz 2001) that differs from that of other deposits in the Brazilian Cretaceous (Kellner & Campos 1999, 2000; Medeiros & Schultz 2002). Although the report of marine reptiles such as plesiosaurs should be regarded with caution, the nature of the

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