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***Trucidocynodon riograndensis* gen. nov. et sp. nov. (Eucynodontia),
a new cynodont from the Brazilian Upper Triassic (Santa Maria Formation)**

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Abstract

An almost complete skeleton of a new carnivorous cynodont from the Upper Triassic of Southern Brazil, *Trucidocynodon riograndensis* gen. nov. et sp. nov., is described. The new taxon is very similar to *Ecteninion lunensis* Martinez *et al.* 1996 from Upper Triassic of Argentina (Ischigualasto Formation). Both have an elongated skull, large pterygoid flanges, a well developed orbitosphenoid, a relatively short osseous secondary palate, greatly developed canines and sectorial postcanines with posteriorly directed cusps. However, the new taxon shows some differences relative to *E. lunensis* such as an open pterygoparoccipital foramen, the posterior opening of the post-temporal foramen enclosed by tabular and squamosal, and upper incisors with serrated cutting edges. The more remarkable features of the postcranium of *T. riograndensis* are the presence of 32 presacral vertebrae, a greater number than in most of non-mammaliaform cynodonts, the accentuated lumbarisation of the posterior trunk vertebrae and a remarkable morphological gradient in the caudal vertebrae; the femur and humerus show some interesting adaptations suggesting a more upright limb posture. The overall morphology of the astragalocalcaneal complex is similar to that of *Diademodon* and of the therocephalian *Bauria*.

Key words: Therapsida, Cynodontia, phylogeny, Carnian

Introduction

Cynodonts were conspicuous members of Middle and Upper Triassic Brazilian paleofaunas. Herbivorous cynodonts are more abundant, whereas carnivorous are represented by few specimens. Sectorial toothed cynodonts known from Middle Triassic layers (Therapsid Cenozone, Ladinian) of the Sequence Santa Maria 1 (Zerfass *et al.* 2003), are the small *Protheriodon estudianti* Bonaparte *et al.* 2006 and the large carnivorous *Chiniquodon theotonicus* von Huene 1935–1942. In the Upper Triassic layers (Rhynchosaur Cenozone, Carnian) of the Sequence Santa Maria 2 (Zerfass *et al.* 2003) only small sectorial toothed forms (maybe scavengers or insectivorous), including *Therioherpeton carnini* Bonaparte and Barberena 1975, *Prozostrodon brasiliensis* Bonaparte and Barberena 2001 (Barberena *et al.* 1987), and *Charruodon tetracuspidatus* Abdala