



## A new carnivorous cynodont (Synapsida, Therapsida) from the Brazilian Middle Triassic (Santa Maria Formation): *Candelariodon barberenai* gen. et sp. nov.

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### Abstract

A new small cynodont, *Candelariodon barberenai* gen. et sp. nov., from the Middle Triassic of Brazil (Santa Maria Formation) is reported. The new taxon is represented by a partial mandible having some complete teeth. The morphology of the dentary and splenial is similar to other carnivorous cynodonts, except for the absence of the angular process of the dentary. The anterior-most lower teeth are slightly expanded buccolingually with a tall and posteriorly curved main cusp and one or two accessory cusps. The posterior-most preserved lower postcanine, however, has lingual and buccal rows of cusps, each formed by four anteroposteriorly aligned cusps, separated by a shallow basin. This tooth resembles the posterior-most lower teeth of *Aleodon* Crompton 1955 from the Middle Triassic of Tanzania, but the anterior-most teeth of *Candelariodon* and *Aleodon* are essentially different. In this context, the phylogenetic relationships of the new taxon remain unclear until the discovery of more informative material.

**Key words:** Ladinian, Eucynodontia, Paraná Basin

### Introduction

The Middle Triassic deposits from Rio Grande do Sul State, Brazil (Fig. 1A), are notorious because of their very rich tetrapod faunas (von Huene 1935–1942; Langer *et al.* 2007). These strata encompass two biostratigraphic units, the basal *Dinodontosaurus* Assemblage Zone (AZ) and the *Santacruzodon* AZ (Schultz *et al.* 2000; Abdala *et al.* 2001; Abdala & Ribeiro 2010; Soares *et al.* 2011). The cynodont fauna of the first biozone includes several taxa, some of which are shared with other paleofaunas around Gondwana, such as *Massetognathus* Romer 1967 (see Barberena 1981) that occurs also in Argentina (Romer 1967), *Chiniquodon* von Huene 1936 that is also found in Argentina (Romer 1969) and Namibia (Abdala & Smith 2009), and *Luangwa* Brink 1963 (see Abdala & Sá-Teixeira 2004) also known from Zambia (Brink 1963) (the exact stratigraphic provenance of the Brazilian form is unclear; Abdala & Sá-Teixeira 2004). Other taxa, however, are exclusive to Brazil, such as *Traversodon* von Huene 1936, *Protuberum* Reichel *et al.* 2009, and *Protheriodon* Bonaparte *et al.* 2006. In the *Santacruzodon* AZ, which occurs in slightly younger strata, the content of cynodonts is quite different, including a *Massetognathus*-like form (not yet described) as the most abundant taxon of the assemblage (Abdala *et al.* 2001), accompanied by *Santacruzodon* Abdala and Ribeiro 2003, *Menadon* Flynn *et al.* 2000 (see Melo *et al.* 2009), and cf. *Probainognathus* Romer 1970 (see Soares *et al.* in press).