Dataset

3D model related to the publication: Earliest-diverging rhynchocephalian from Gondwana: a new sphenodontian from the Upper Triassic Los Colorados Formation (northwestern Argentina).

Léandro C. Gaetano [1,2*], Juan C. Sotomayor Chacón [1*], María R. Arcaria [1], Nahuel Vega [3], Juan M. Leardi [1], Federico D. Seoane [1], Alejandro Otero [4]

[1] *Instituto de Estudios Andinos "Don Pablo Groeber" (IDEAN, UBA-CONICET), Ciudad Autónoma de Buenos Aires, Argentina, C1428EGA*
[2] *Evolutionary Studies Institute, University of the Witwatersrand, Johannesburg, South Africa, WITS 2050*
[3] *Laboratorio Argentino de Haces de Neutrones, Comisión Nacional de Energía Atómica, Centro Atómico Constituyentes, San Martín, Argentina, B1650*
[4] *División de Paleontología de Vertebrados, Facultad de Ciencias Naturales y Museo, Universidad Nacional de La Plata, La Plata, Argentina, B1900FWA*
*__Corresponding author__: leandrogaetano@gmail.com

Abstract
This contribution contains the 3D dataset analyzed in L. C. Gaetano, J. C. Sotomayor Chacón, M. R. Arcaria, N. Vega, J. M. Leardi, F. D. Seoane, and A. Otero. submitted. Earliest-diverging rhynchocephalian from Gondwana: a new sphenodontian from the Upper Triassic Los Colorados Formation (northwestern Argentina). Scientific Reports.

Keywords: anatomy, Gondwana, Late Triassic, Norian, Sphenodontia

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Inv nr.	Taxon	Description
PULR-V264	*Coloradosphenodon lahni*	fragmentary skull and lower jaws

Table 1. Related 3D model. Collection : Museo de Ciencias Naturales, Universidad Nacional de La Rioja, Argentina

INTRODUCTION

We present here a 3D model of the holotype of a new sphenodontian from the Late Triassic (Norian) Los Colorados Formation of the Ischigualasto-Villa Unión Basin, north-western Argentina (Table 1). *Coloradosphenodon lahni* Gaetano et al. (submitted), gen. et sp. nov., is represented by a fragmentary cranium with articulated lower jaws (Fig. 1). The holotype preserves part of the snout, palate, and horizontal ramus of the lower jaws. It was analyzed through micro-tomography (µCT), which allowed the evaluation of features inaccessible through traditional techniques.

METHODS

PULR-V264 (holotype) was analysed through X-ray micro-tomography in order to make available for description structures obscured from the external view. We employed a Nikon XT225ST 2X micro-CT scan at the Laboratorio Argentino de Haces de Neutrones (Centro Atómico Constituyentes, Comisión Nacional de Energía Atómica). The equipment was set up to 85kV and 122µA. A total of 2000 projections of the specimen were captured with an exposure time of 708ms. No filter was employed. The experimental design resulted in a 8.3µm voxel size. The digital segmentation and 3D surface models of the bones were obtained using Avizo 2019.1 (FEI) through semi-automatic selection tools (i.e., Brush, Lasso, Magic Wand, Threshold Selection tools). The 3D surface models were colored and oriented in Morphodig (Lebrun, 2018). The 3D surface models are provided in .ply format and can therefore be opened with a wide range of freeware.

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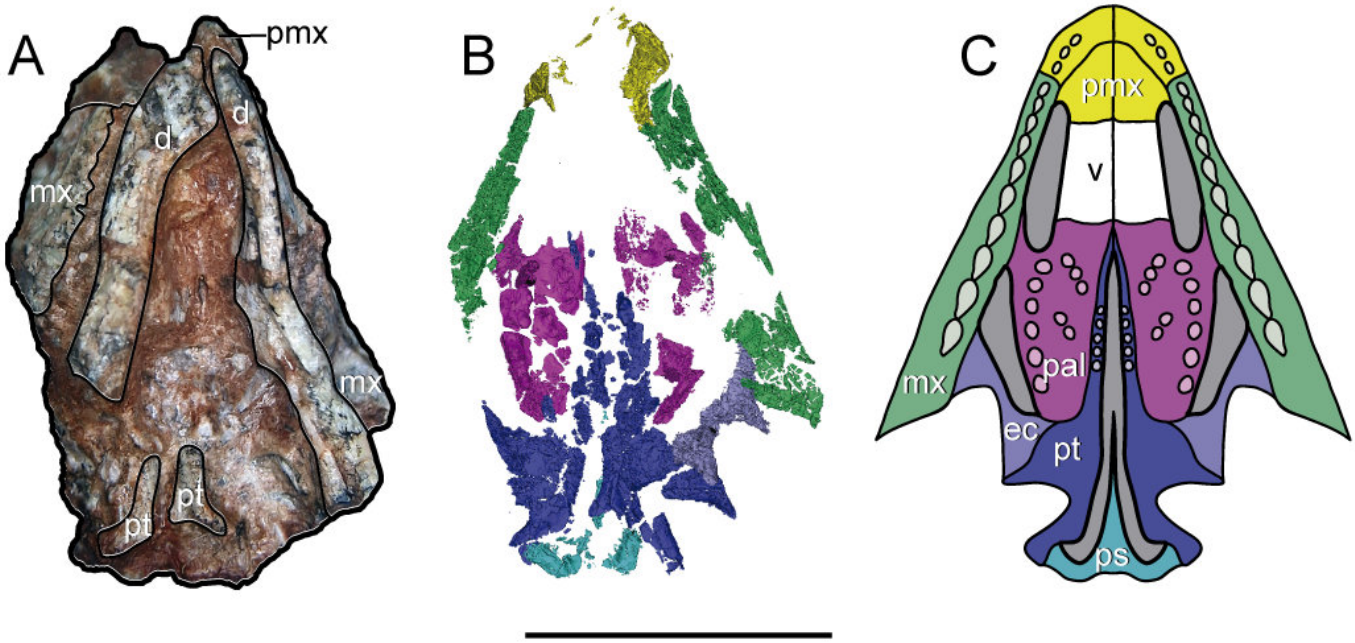

Figure 1. Holotype of *Coloradosphenodon lahni* gen. et sp. nov. (PULR-V264). Photograph (A), 3D model (B), and interpretative reconstruction of the preserved regions of the skull in ventral view (C). Colors in (B) and (C) match. Abbreviations: *d*, dentary; *ec*, ectopterygoid; *mx*, maxilla; *pal*, palatine; *pmx*, premaxilla; *ps*, parabasisphenoid; *pt*, pterygoid; *v*, vomer. Scale bar equals 10mm.

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