Dataset

3D model related to the publication: Cranial Anatomy of *Indohyus indirae* (Raoellidae), an artiodactyl from the Eocene of India, and its implications for raoellid biology

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Abstract
The present 3D Dataset contains the 3D model of the skull of the raoellid *Indohyus indirae* described in Patel et al. 2024.

Keywords: Artiodactyla, Cetacea, skull anatomy

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Inv nr.	Description
RR 207	dorsoventrally crushed skull
RR 601	dorsoventrally crushed skull

Table 1. List of models of *Indohyus indirae*. Collection: Ranga Rao-Obergfell Trust for Geosciences in Dehra Dun, India.

INTRODUCTION

Raoellidae are small-sized semiaquatic artiodactyls mostly retrieved from the Indian subcontinent, closest relatives to the Cetacea clade (Thewissen et al. 2007; Orliac and Ducrocq 2012). The phylogenetic gathering of Raoellidae with Cetacea was notably triggered by the presence, in the genus *Indohyus*, of an involucrum on the auditory bulla, a hallmark of the cetacean ear. The skull of *Indohyus* has been illustrated in some works (Thewissen et al., 2007, 2009, 2020), but no detailed description of its cranial anatomy has been published. The work of Patel et al. (2024) aims to fill that void notably with the description of the specimens RR 207 and RR 601, dorsoventrally crushed skulls. The 3D models of the external surface of these specimens (Fig. 1 and table 1) are provided here in this direct contribution.

METHODS

The specimens are housed at the Ranga Rao-Obergfell Trust for Geosciences in Dehra Dun, India. They were extracted from sediment by Dr. Richard Conley of Northeast Ohio Medical University. The 3D data acquisition was performed at the µCT scanner facility of the Montpellier Ressources Imagerie platform (MRI) using an EasyTom 150 µCT scanner; the voxel size is of 91.2 µm. The 3D surface of the skull was first extracted semi-automatically within AVIZO 9.3.0 (FEI) using the segmentation threshold selection tool. The matrix was then partly removed manually using the selection tool. The 3D surface models are provided in .ply format, and can therefore be opened with a wide range of freeware.

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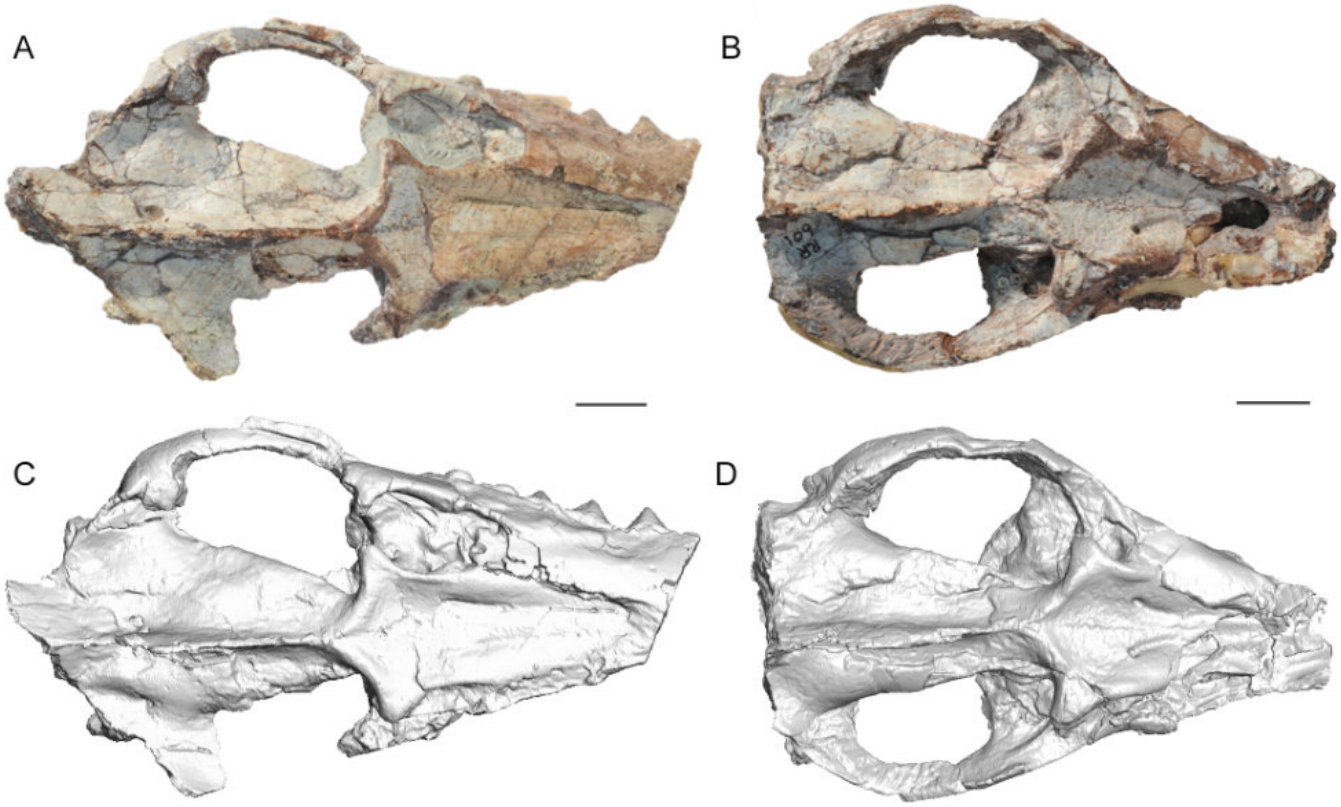

Figure 1. Dorsal view of the skulls of *Indohyus indirae* RR207 (A, C) and RR 601 (B, D), A-B, physical specimens, C-D, 3D models. Scale bar = 10 mm.

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