morphoMuseum

Dataset

3D models related to the publication: New remains of *Nalamaeryx* (Tragulidae, Mammalia) from the Ladakh Himalaya and their phylogenetical and palaeoenvironmental implications

Wasim A Wazir[1]*, Bastien Mennecart[2], Ramesh K Sehgal[3], Navin Kumar[4], Piyush Uniyal[4], Rajeev Patnaik[1], Rohit Kumar[1]

[1] *Department of Geology, Panjab University, Chandigarh, 160014, India*
[2] *Naturhistorisches Museum Basel, Augustinergasse 2, CH4001 Basel, Switzerland*
[3] *Wadia Institute of Himalayan Geology, Dehra Dun 248001, India*
[4] *Department of Mechanical Engineering, Indian Institute of Technology Ropar (IIT Ropar) Rupnagar, Punjab, India, 140001*
***Corresponding author**: abasswasim@gmail.com

Abstract
The present 3D Dataset contains the 3D models analyzed in Mennecart B., Wazir W.A., Sehgal R.K., Patnaik R., Singh N.P., Kumar N, and Nanda A.C. 2021. New remains of *Nalamaeryx* (Tragulidae, Mammalia) from the Ladakh Himalaya and their phylogenetical and palaeoenvironmental implications. Historical Biology. https://doi.org/10.1080/08912963.2021.2014479

Keywords: Ladakh Himalaya, Mandibles, *Nalameryx*, Oligocene, Ruminant

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Inv nr.	Taxon	Description
WIMF/A4801	*Nalameryx savagei*	Partial lower right jaw preserving m2 and m3.
WIMF/A4802	*Nalameryx savagei*	Partial lower right jaw preserving m2 and m3

Table 1. Information related to the represented specimens of. Collection: WIMF/A, Wadia Institute Microfossil / A Series collection of Wadia Institute of Himalayan Geology Dehradun, India.

INTRODUCTION

Nalameryx savagei is one of the rare mammals found in India during the Paleogene. The first phylogenetic hypothesis proposed *Nalameryx* to be closely related to the basal ruminant Lophiomerycidae. The description of new specimens from the type bed K/7b from the Kargil Formation (late Oligocene, India), led to a reinterpretation of the phylogenetic position of *Nalameryx* and of the early evolutionary history of the Tragulidae. Two partial lower right jaws preserving m2 and m3 are studied and described (Figure 1A-B and Table 1). Based on our phylogenetic hypothesis, *Nalameryx* is nested within the still living Tragulidae, making it one of the oldest known tragulid.

METHODS

The specimens (WIMF/A4801 and WIMF/A4802) examined here are housed at Wadia Institute of Himalayan Geology (WIHG) Dehradun, India. Micro-CT scanning of the samples were done at the Department of Mechanical Engineering, Indian Institute of Technology Ropar (IIT Ropar) Rupnagar, Punjab, India. The samples were imaged using high resolution micro computed tomography system (Phoenix Nanotom S, GE sensing & Inspection Technologies Wunstorf, Germany). Projection images on CCD camera were obtained at 70kV and 200µA with resolution of 10 µm. 1600 image projections were acquired during 360° rotation of sample. The software Phoenix Datosx 2 (Phoenix Nanotom S, GE sensing & Inspection Technologies Wunstorf, Germany) was used to construct a stack of 2-D sections from this series of projection images form each sample. The 3D surfaces of the teeth, the mandibles, and the sediment were extracted semi-automatically within AVIZO 9.0 using the segmentation threshold selection tool. All the 3D surface models are provided in .ply format, and can therefore be opened with a wide range of freeware.

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Mennecart B., Wazir W.A., Sehgal R.K., Patnaik R., Singh N.P., Kumar N, and Nanda A.C. 2021. New remains of Nalamaeryx (Tragulidae, Mammalia) from the Ladakh Himalaya and their phylogenetical and palaeoenvironmental implications. HistoricalBiology. https://doi.org/10.1080/08912963.2021.2014479

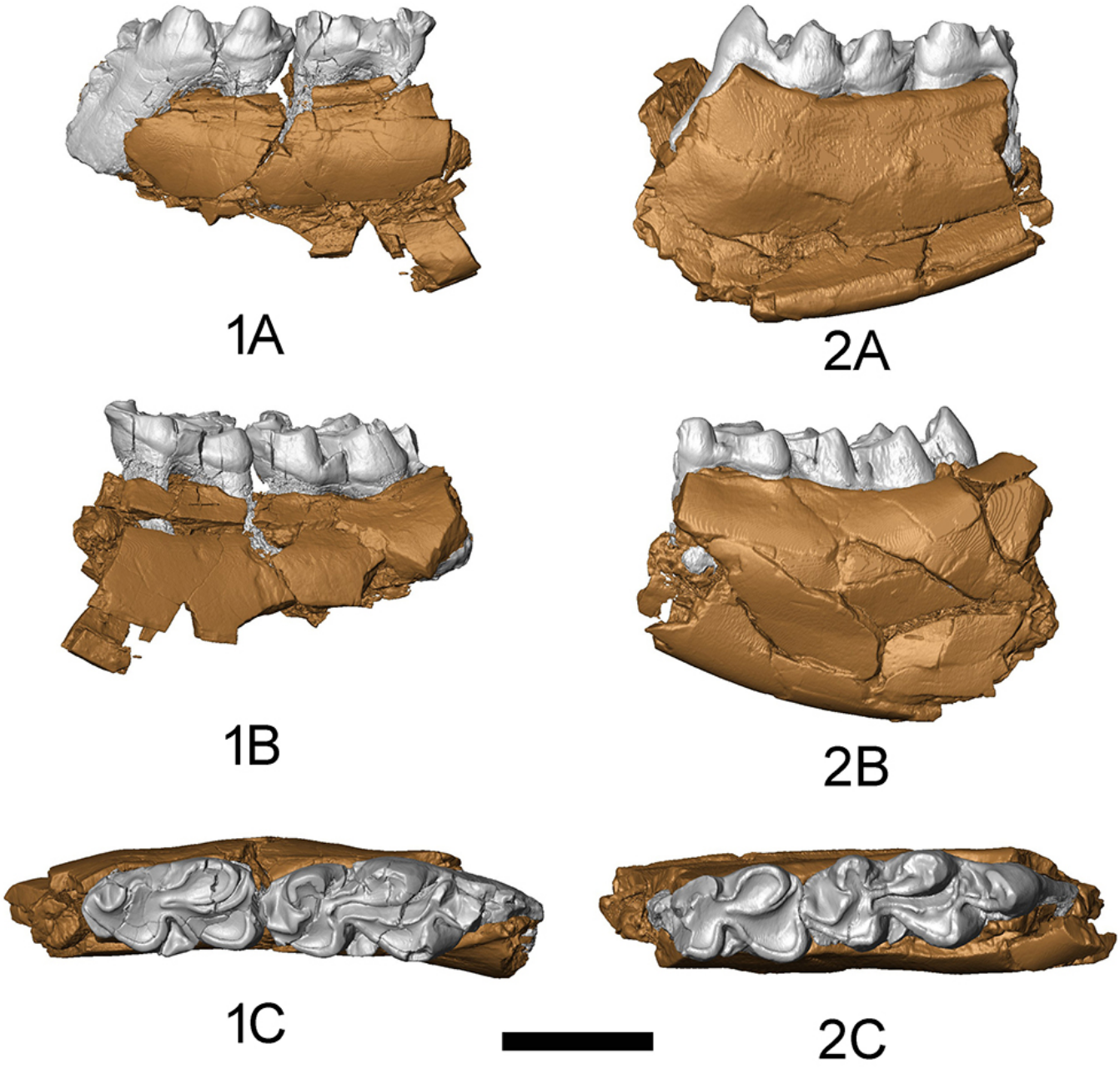

Figure 1. New *Nalameryx savagei* (Nanda & Sahni 1990) remains from Kargil (late Oligocene, India). (1) WIMF/A4801, partial lower right jaw preserving m2 and m3; (2) WIMF/A4802, partial lower right jaw preserving m2 and m3. (A) lingual, (B) labial and (C) occlusal views. Scale is 5mm. WIMF/A: Wadia Institute Microfossil / A Series.

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