Dataset

3D models related to the publication: A new large pantherine and a sabre-toothed cat (Mammalia, Carnivora, Felidae) from the late Miocene hominoid-bearing Khorat sand pits, Nakhon Ratchasima Province, northeastern Thailand.

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Abstract

This contribution contains the 3D models described and figured in the following publication: Bonis et al. 2023. A new large pantherine and a sabre-toothed cat (Mammalia, Carnivora, Felidae) from the late Miocene hominoid-bearing Khorat sand pits, Nakhon Ratchasima Province, northeastern Thailand. The Science of Nature 110(5):42. https://doi.org/10.1007/s00114-023-01867-4

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Inv nr.	Description
CUF-KR-1	Holotype of *Pachypanthera piriyai*, a left hemi-mandible with alveoli for i1-i3 and canine, roots of p3, p4 and partially broken off m1 crown.
CUF-KR-2	Paratype of *Pachypanthera piriyai*, a right hemi-maxilla with P3-P4, alveoli of C and M1, root of P2

Table 1. List of models of *Pachypanthera piriyai*. Collection: Bangkok-Khorat Fossils, Geological Department, Chulalongkorn University, Bangkok.

INTRODUCTION

We provide the surface data of a left hemi-mandible and a right hemi-maxilla belonging to two individuals of a new pantherine felid recovered from late Miocene sand pits of Khorat, Thailand (Figure 1 and table 1). The new taxon may represent the oldest pantherine record and shows adaptations to bone-cracking behavior.

METHODS

The microtomographic acquisition of the left hemi-mandible (CUF-KR-1) was carried out using an EasyTom XL Duo mCT-Scan (RX-solutions, France) available at the PLATINA platform (IC2MP, University of Poitiers). Parameters of the acquisition were 130kV (tube voltage), 350µA (tube current) and a resolution of 75 µm. The 3D surface of the mandible was extracted semi-automatically within AVIZO 8 (Thermo Fisher Scientific) using the segmentation threshold selection tool. We acquired surface data of the right hemi-maxilla (CUF-KR-2) with a 3D Artec Space Spider at the analytical platform of PALEVOPRIM (UMR 7262, CNRS INEE and University of Poitiers). The model was generated with a resolution of 0.1 mm. After a polygon reduction using the 'decimation' tool of Geomagic Wrap (3D Systems), we obtained a Mesh composed of 1412644 triangles for a surface of 234.82 cm^2. The 3D surface models are provided in .ply format, and can therefore be opened with a wide range of freeware applications.

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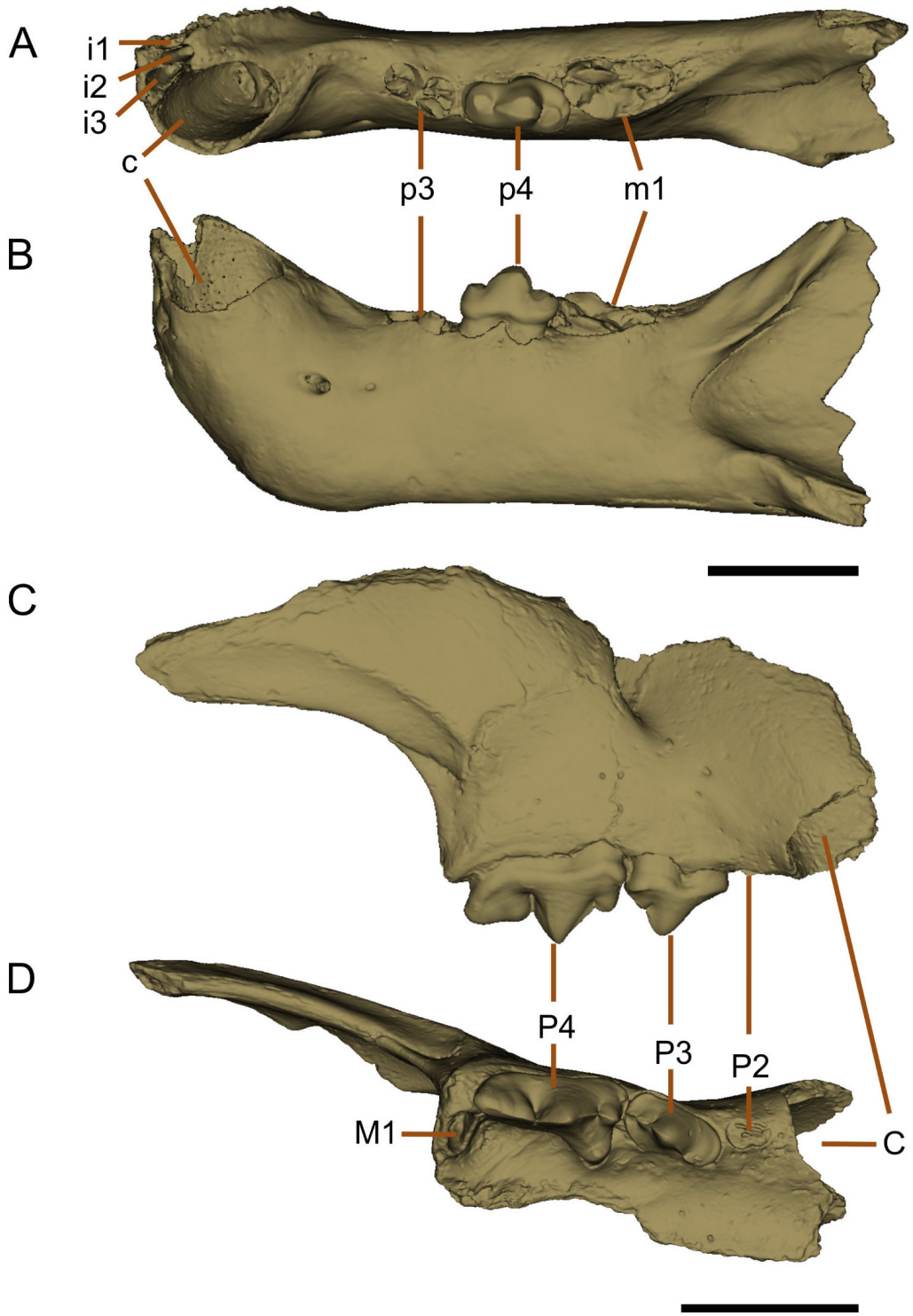

Figure 1. 3D models of the holotype (CUF-KR-1, left hemi-mandible) and paratype (CUF-KR-2, right hemi-maxilla) of the Thai pantherine *Pachypanthera piriyai*. CUF-KR-1 in occlusal (A) and labial (B) views, CUF-KR-2 in labial (C) and occlusal (D) views. Scale = 4 cm (same scale for A-B and C-D). Tooth loci are indicated on the corresponding crowns, roots or alveoli preserved on the specimens (c= lower canine; C= upper canine; i= lower incisor; m= lower molar; M= upper molar; p= lower premolar; P= upper premolar).

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