

3D models related to the publication: Tooth Function of the Northern Raccoon (*Procyon lotor*) and Adaptations to Omnivory in the Order Carnivora

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Abstract

The present dataset contains the 3D models of the cheek teeth of eight raccoons analyzed in Koomen, S. E., Lang, A. J. & Martin, T. (2026). Tooth Function of the Northern Raccoon (*Procyon lotor*) and Adaptations to Omnivory in the Order Carnivora. *Journal of Morphology*.

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Inventory number

ZFMK-MAM-2013.0341

ZFMK-MAM-1993.0289

ZFMK-MAM-2016.0912

ZFMK-MAM-2016.0914

ZFMK-MAM-2016.0923

ZFMK-MAM-2016.0937

ZFMK-MAM-2016.0938

ZFMK-MAM-2016.0967

Table 1. List of cheek teeth models of *Procyon lotor*. Collection: Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany

INTRODUCTION

Procyon lotor is an omnivore within the Order of Carnivora. Its dentition differs from most other carnivorans in that its carnassial shearing blades are reduced and its molars are rounded and flattened (see figure 1 and table 1) (Ahrens, 2012). *P. lotor* is furthermore in possession of a hypocone on the upper P4 and M1 as well as an enlarged metaconule on the upper M1, which function as adaptation to its omnivorous diet (Hunter & Jernvall, 1995). However, no thorough analysis has been done of the tooth function of *P. lotor*. Tooth function of *P. lotor* is described using wear facet analysis (Schulz-Kornas et al., 2020), a dentine exposure series, a mastication compass (Koenigswald et al., 2013) and an OFA analysis showing the jaw movement during the power stroke (Kullmer et al., 2009, 2020). The 3D models given show the specimens used for the dentine exposure series and thus show the teeth in various states of abrasion. Specimen ZFMK-MAM-2013.0341 shows the unworn state.

METHODS

Micro-computed tomographic scans were made using a v—tome—x s 240 microtomograph. Image stacks were manually segmented and 3 D surfaces were extracted using Avizo Lite version 2020.2. Surfaces are provided in .ply format.

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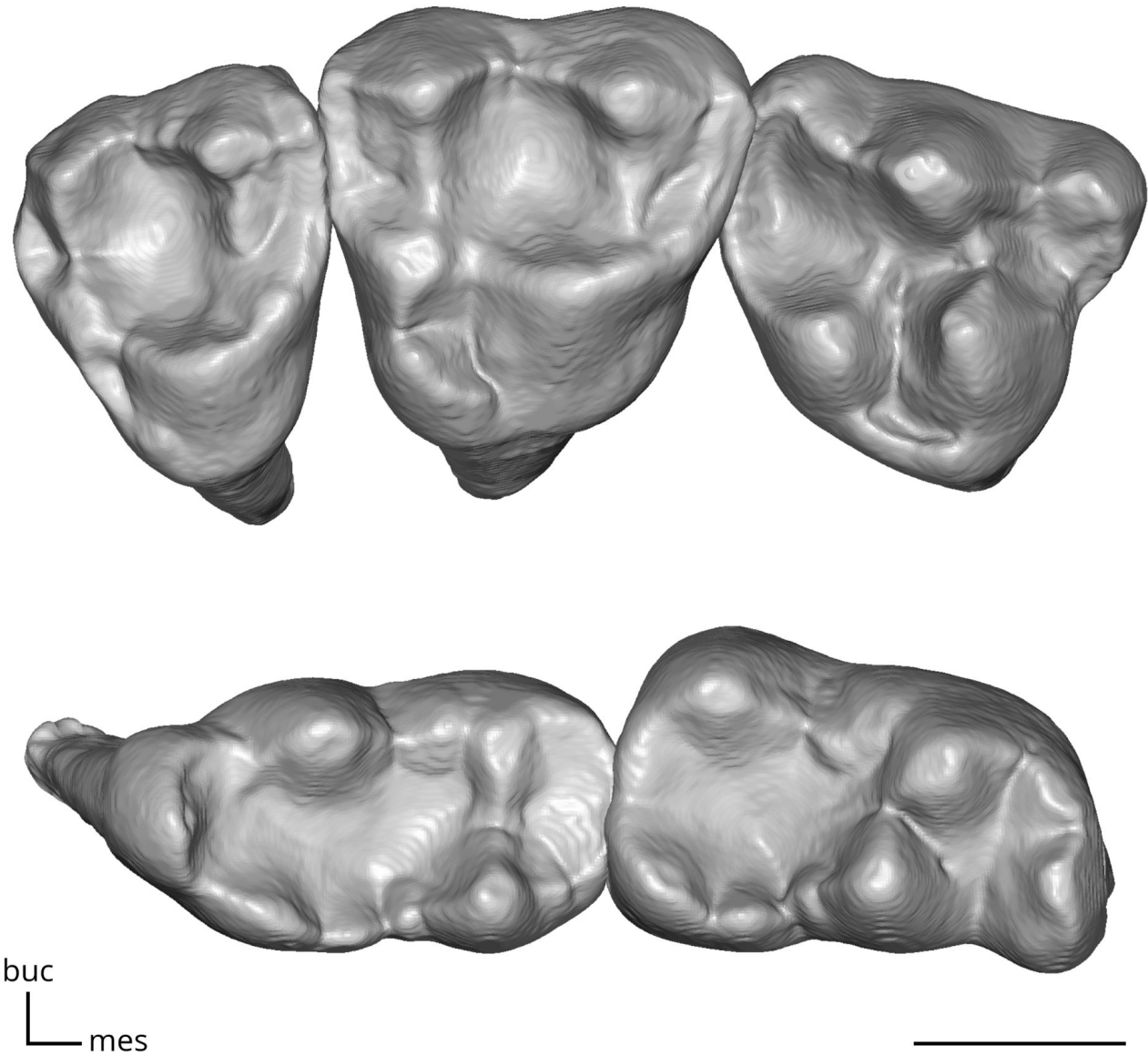


Figure 1. Occlusal view of upper P4, M1 and M2 from the right side of the jaw and lower m1 and m2 of the left side of the jaw of specimen ZFMK-MAM-2013.0341. Mes = mesial, buc = buccal. The scale bar represents 5 mm.

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