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3D model related to the publication: A fossil terrestrial fauna from Tobène (Senegal) provides a unique early Pliocene window in western Africa

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Dataset

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Abstract
The present contribution contains the 3D virtual restoration of a Pliocene right femur belonging to a Lutrinae indet. (Carnivora) from Tobène, Senegal, described and figured in Lihoreau et al. (2021) : "A fossil terrestrial fauna from Tobène (Senegal) provides a unique early Pliocene window in Western Africa ". https://doi.org/10.1016/j.gr.2021.06.013

Keywords: Carnivora, Lutrinae, Femur, Pliocene, Senegal

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Inv nr.	Description
SN-Tob-12-02	3D surface virtual restoration

Table 1. Related model of a right femur belonging to a Carnivora (Lutrinae indet). Collection: Université Cheikh-Anta-Diop, Dakar, Senegal.

INTRODUCTION

SN-Tob-12-02 is an uncomplete right femur of Lutrinae indet, preserving a fragmentary portion of the proximal part of the diaphysis, as well as a fragmentary distal extremity, including the condyles. This specimen belongs to the fauna retrieved from the Pliocene locality of Tobène, Senegal. As most specimens from this locality, SN-Tob-12-02 is fragmentary, and several parts, such as the patellar facet have been shifted post-mortem. Therefore, a virtual restoration of this specimen was performed and is presented here (see Table 1 and Fig. 1).

METHODS

SN-Tob-12-02 was digitized using X-ray microtomography (µCT) using an EasyTom 150 microtomograph (MRI platform). The distal extremity of this femur contains four main fragments (the patellar facet, a part of the lateral condyle, the medial condyle, and a part of proximal shaft), which had been slightly broken and displaced post-mortem. 3D surfaces representing these four parts were extracted with Avizo 9.2 (Thermo Fisher Scientific). The surfaces belonging to the distal extremity and to the proximal part of the diaphysis were positioned in space with MorphoDig software (Lebrun, 2018) in order to retrieve anatomical connection.

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BIBLIOGRAPHY

Fabrice Lihoreau, Raphaël Sarr, Dominique Chardon, Jean-Renaud Boisserie, Renaud Lebrun, Sylvain Adnet, Jeremy Martin, Bernard Sambou, Rodolphe Tabuce, Mohamadou M. Thiam, Lionel Hautier (2021). A fossil terrestrial fauna from Tobène (Senegal) provides a unique early Pliocene window in western Africa. Gondwana Research. https://doi.org/10.1016/j.gr.2021.06.013

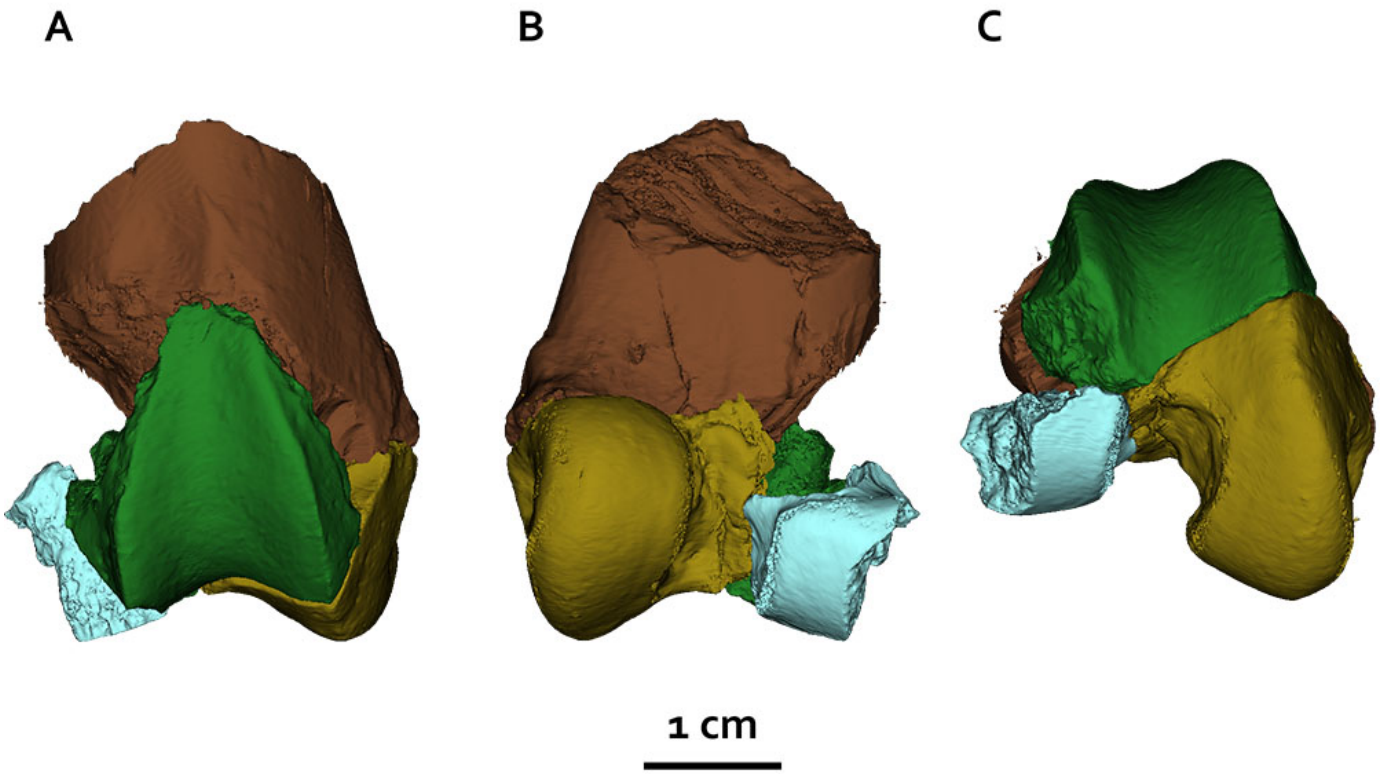

Figure 1. Distal extremity of SN-Tob-12-02 in cranial (A) caudal (B) and distal (C) orientation. Brown: proximal shaft fragment. Green: patellar facet. Yellow: medial condyle. Cyan: lateral condyle fragment.

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