

3D models related to the publication: The Neogene record of northern South American native ungulates

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Abstract

This contribution contains the 3D models described and figured in: The Neogene record of northern South American native ungulates. Smithsonian Contributions to Paleobiology. <https://opensi.si.edu/index.php/smithsonian/catalog/book/172>

Keywords: Astrapotheria, Castilletes Formation, Neogene, Notoungulata, San Gregorio Formation

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INTRODUCTION

We present the surface models of three specimens (Table 1) representing two taxa of South American native ungulates (SANUs) from northern South America. The models include part of the holotype of *Hilarcotherium miyou* sp. nov. (Astrapotheria, Mammalia) and one specimen referred to the same species. They come from the Castilletes Formation (middle Miocene) in the Cocinetas Basin, Colombia. In addition, we include one specimen referred to *Falcontoxodon* aff. *aguilerai* (Notoungulata, Mammalia) (Figure 1), a new genus and species described from the San Gregorio Formation (Pleistocene) in the Falcón Basin, Venezuela. These specimens, along with others that are described in the publication: “The Neogene record of northern South American native ungulates”, characterize the fauna of SANUs in northern South America during the Neogene. These specimens provide insights into the paleobiogeography and systematics of astrapotheriids and toxodontids in South America.

METHODS

The fossil specimens were scanned with an Artec Spider 3D using the geometry and texture tracking setting and processed with Artec Studio 9 Education Software (Artec 3D). The 3D surfaces scans were aligned semi-automatically with Artec Studio 9. The aligned scans were converted into a single coordinate system using the Global Registration function (texture and geometry) and then fused into a single 3D model with the Fast Fusion function of Artec Studio. The 3D surface models are provided in .ply format, and can therefore be opened with a wide range of freeware.

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Inv Nr	Taxon	Description	Collection
IGMp881327	<i>Hilarchotherium miyou</i>	Right upper M2	IGMp, Bogota, Colombia
MUN-STRI34216	<i>Hilarchotherium miyou</i>	Right upper P4	MUN, Barranquilla, Colombia
MUN-STRI34216	<i>Hilarchotherium miyou</i>	Right upper M2	MUN, Barranquilla, Colombia
AMU-CURS585	<i>Falcontoxodon</i> aff. <i>aguilerai</i>	Partial skull with left M3-P2 and right I2	AMU-CURS, Urumaco, Venezuela

Table 1. List of specimens and 3D models



Figure 1. Partial skull of *Falcontoxodon* aff. *aguilerai* (AMU-CURS 585) in ventral view.