

A COPROLITE OF THE BONE-CRACKING DOG *BOROPHAGUS* FROM THE PLIOCENE OF SOUTHWESTERN NEW MEXICO AND A REVIEW OF PLIO-PLEISTOCENE COPROLITES OF LARGE VERTEBRATES FROM THE STATE

Adrian P Hunt¹ and Spencer G Lucas²

¹Flying Heritage and Combat Armor Museum, 3407 109th St. SW, Everett, WA, 98204, adrianhu@flyingheritage.org

²New Mexico Museum of Natural History and Science, 1801 Mountain Road N.W, Albuquerque, NM, 87104

The upper part of the Pliocene Gila Group is exposed on Pearson Mesa, south of Virden in Hidalgo County, New Mexico. Here, there are two late Blancan vertebrate faunas from the fluvial Pearson Mesa Formation: early late Blancan Pearson Mesa LF from the lower 15 m of the section and the latest Blancan Virden LF 30 m higher in the section. NMMNH (New Mexico Museum of Natural History) P-33202 is a bone-bearing segment of a coprolite of a large carnivore from the Pearson Mesa LF (NMMNH locality 4596). The segment is off white in color and highly apatitic in composition. It has a sub-rounded cross section with one side more flattened. The maximum width is 35 mm, and the length is 25 mm. One end is slightly concave and reveals two large, angular bone fragments. The other end is a rounded, slightly-irregular cone. We identify this specimen as representing a posterior conical segment of a borophagid coprolite based on: (1) composition; (2) morphology; (3) size; (4) bone content; and (5) age. Borophagid coprolites are currently only identified from the latest Miocene Mehrten Formation in California. *Borophagus*, the bone-crushing dog or hyena-like dog, is rare in New Mexico, represented by only five specimens from four faunas of early Blancan age. Skeletal remains of this taxon do not occur at Pearson Mesa.

This is the only vertebrate coprolite currently reported from the Pliocene of New Mexico. The most numerous coprolites from the Pleistocene of the state represent small taxa, notably rodent coprolites from neotomalites (fossil packrat middens) and chiropteraguanolite (fossil bat guano). Coprolites of large vertebrates occur at three localities in the Pleistocene of New Mexico and consist principally of specimens of *Castrocopros martini* produced by the ground sloth *Nothrotheriops shastensis*. Aden Crater is one of two localities of sloth coprolites in Doña Ana County in southern New Mexico. A narrow opening on the eastern side of the crater leads to a near vertical fumarole that formed a pitfall trap. The bottom of the shaft has extensive deposits of chiroptoguanalite in which was partially buried an incompletely mummified sub-adult skeleton of *Nothrotheriops shastensis* and an associated coprolite. Shelter Cave (Bishop Cap Cave) is west of Aden Crater on Bishop's Cap, a southern outlier of the Organ Mountains. The cave yielded seven specimens of *Castrocopros martini*. The coprolites from Aden Crater and Shelter Cave have yielded radiometric dates of late Rancholabrean age. Carlsbad Caverns National Park in Eddy County is well known for its extensive deposits of chiropteraguanolite. Sloth coprolites also occur at the park. The taphonomy of large Plio-Pleistocene coprolites of New Mexico is consistent with other localities in the Southwest. The majority of coprolites occur in caves, and these coprofaunas are dominated by herbivores. Carnivore coprolites are most common in fluvial environments.

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