

AMERICAN MUSEUM NOVITATES

Number 511

Published by
THE AMERICAN MUSEUM OF NATURAL HISTORY
New York City

Dec. 15, 1931

56.9.31 (119:729.1)

GENERA AND NEW SPECIES OF GROUND SLOTHS FROM THE PLEISTOCENE OF CUBA

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WITH PREFATORY NOTE BY WALTER GRANGER

PREFATORY NOTE

For many years the Department of Vertebrate Palæontology has been in possession of a large collection of vertebrate fossils from the Pleistocene of Cuba. The greater part of this material is from the hot springs deposit of Ciego Montero and was collected by Mr. Barnum Brown in the years 1911 and 1918, with the cooperation and assistance of Professor Carlos de la Torre of the University of Havana. In addition to the Ciego Montero material there is also a collection from the Casimba of the Sierra de Jatibonico belonging to Professor de la Torre and kindly lent by him for comparison and description. The Sierra Jatibonico fauna is probably contemporary with that from Ciego Montero but represents a somewhat different facies.

It has been intended to bring out a Memoir upon this material under the joint authorship of Professor de la Torre, Doctor Matthew, Mr. Brown and others, and some portions of it, including Doctor Matthew's treatment of the Mammalia, have been ready for some time, but it will be two years or more before the Memoir can be published. In the meantime it has seemed advisable to publish certain generic and specific descriptions from Doctor Matthew's manuscript in order to give standing to some generic names which he created and which have been published, but without reference to species. These generic names proposed by Doctor Matthew for three forms of small ground sloths are *Mesocnus*, *Miocnus* and *Microcnus*.

The names first appeared in 1915² in an abstract of the *Proceedings of the Palæontological Society* (Carlos de la Torre and W. D. Matthew). No diagnoses were given beyond a reference to size, and no species were mentioned. In 1918³ in a paper on the "Affinities and Origin of the Antillean Mammals" before the Palæontological Society, the three gen-

¹Doctor Matthew died on September 24, 1930, at Berkeley, California. He left at the American Museum, shortly before his death, several completed or partially completed manuscripts, some of which will be brought out in Museum publications within the next few years. The extracts which form this paper are from one of these manuscripts.

²Bull. Geol. Soc. Amer., XXVI, No. 1, p. 152.

³Bull. Geol. Soc. Amer., XXIX, No. 4, p. 660.

era were again mentioned and some distinguishing characteristics given, but still no mention of species. In 1919¹ in a paper on "Recent Discoveries of Fossil Vertebrates in the West Indies and their Bearing on the Origin of the Antillean Fauna," the three genera were mentioned for the third time, without reference to species, but with adequate diagnoses.

The descriptions which follow are extracted from Doctor Matthew's manuscript for Chapter III of the Memoir, "Description of the Fossil Mammals and Discussion of their Affinities," and the type of each genus is here designated for the first time.

WALTER GRANGER.

AMERICAN MUSEUM, DECEMBER, 1931.

Mesocnus²

1915, Bull. Geol. Soc. Amer., XXVI, No. 1, p. 152 [nomen nudum]; 1918, Bull. Geol. Soc. Amer., XXIX, No. 4, p. 660; 1919, Proc. Amer. Phil. Soc., LVIII, p. 168.

Type *M. browni*

GENERIC CHARACTERS.—Anterior teeth of moderate size, the upper pair oval and obliquely set, as in *Megalonyx*, the lower pair almost semicircular in cross-section, the inner side deeply grooved. Symphysis with a rather long median tongue slightly decurved. Cheek teeth subquadrate, obliquely set, the last lower teeth largest.

Skull slender, more elongate anteriorly, with a marked constriction in front of cheek teeth.

Humerus with no infraorbital foramen.

The two species are distinguished by size and robustness and by minor characters in the teeth.

Mesocnus browni, skull, jaw.

Mesocnus torrei, jaw.

Mesocnus browni, sp. nov.

TYPE.—Amer. Mus. No. 16877, anterior half of skull from Ciego Montero, Amer. Mus. Expedition, 1911.

PARATYPE.—Amer. Mus. No. 16878, lower jaw from the same locality.

The skull is widely different from that of *Megalocnus*, intermediate in some features between that genus and the Santa Cruz *Megalonychidæ*, in others peculiar.

The skull is narrow and rather deep in the orbital region; in front of the orbits it is sharply contracted and then flares out a little at the muzzle. Although the cranial portion is not preserved, the relations of the jaw condyles to the tooth row indicate that the basicranial and basifacial axes were nearly in the same plane, the front of the skull not depressed relative to the cranium as it is in *Megalocnus* and *Miocnus*.

The palate is narrow, its width between the tooth rows barely exceeding the width of either row. Immediately in front it is sharply constricted and expands again anteriorly to the oval canine alveoli, which are about as far apart as the molars. In front of these it extends forward, the maxillaries ending about one-fourth inch in front

¹Proc. Amer. Phil. Soc., LVIII, p. 168.

²[*Mesos*, middle; *oknos*, sluggish.]

of the canines, and deeply notched at the middle line, the premaxillaries extending further forward as flat plates, only a small part of which is preserved. These premaxillæ, so far as preserved, resemble those of *Eucholazops* and *Megalonychotherium*. The canine socket is very like that of *Megalonyx*; the tooth, however, as will be seen, is widely different. The sockets of the cheek teeth are of characteristic form, the first triangular with broad side internal, the second and third obliquely quadrate, wider than long; the fourth triangular like the first but with flat side outward.

LOWER JAW.—There is some suggestion of *Megatherium* in the elongate, decurved, spout-like symphyseal tongue and the sharp convexity of the inferior border beneath and behind the molars. Otherwise it is more like the Santa Cruz *Megalonychidæ*, although not near to any one of them. The canine alveoli are about 20 mm. apart and the same distance in front of the cheek teeth; they indicate a tooth strongly convex externally, deeply grooved internally, somewhat smaller than in *Miocnus antillensis*. The symphyseal tongue is spatulate, decurved, 28 mm. long and 17 wide, with a sharp median crest on the under side; the anterior mental foramina are remarkably large, and the anterior end of the symphysis is rugose and somewhat thickened. These apparently indicate an extended flexible lower lip, such as is generally attributed to *Megatherium*.

TEETH.—The three lower cheek teeth increase from first to third in size, all of them being more or less trapezoidal in cross-section, but set obliquely in the jaw. The first and second are wider than long and the external side wider than the internal; the third is more nearly quadrate. All of them curve backward in the jaw, so that the base of M^2 lies beneath M^3 .

The lower canine is of rather peculiar form, rudely meniscoid in cross-section, with a concave posteriointernal, a flat anterior face and the external face flat medially, curving anteriorly and posteriorly around to the other surfaces. The tooth is but slightly curved. [$P^4-M^3=42$ mm. (approx.); $C-M^3=73$ mm.]¹

Mesocnus torrei, sp. nov.

A smaller species, less robust, molar teeth relatively smaller, and M_3 with posterior and internal faces merged into a single convex face.

TYPE.—Amer. Mus. No. 16879,² a lower jaw, the symphysis and left ramus with all the teeth, but the condyle angle and coronoid process incomplete. From the Casimba in the Sierra Jatibonico, La Torre collection.

A second lower jaw in the La Torre collection and a few separate teeth are referred to this species. It has not been recognized in the Ciego Montero material. [$M_{1-3}=27$ mm.; $C-M_3=54$ mm.]

*Miocnus*³

1915, Bull. Geol. Soc. Amer., XXVI, No. 1, p. 152 [nomen nudum]; 1918, Bull. Geol. Soc. Amer., XXIX, No. 4, p. 660; 1919, Proc. Amer. Phil. Soc., LVIII, p. 168.

Type *M. antillensis*

GENERIC CHARACTERS.—Jaw short, massive, anterior teeth semicylindrical with no groove in posteriointernal face. Cheek teeth subquadrate, not obliquely set. A

¹The measurements, in brackets, at the end of each species description, have been added to give better comparisons. As only one of the four types here described possesses a full set of cheek teeth, the measurements have been taken between the alveolar borders in each instance. W. G.

²Professor de la Torre has generously presented to the American Museum the various type specimens contained in his collection. W. G.

³[*Meion*, less; *oknos*, sluggish.]

short symphyseal tongue. Anterior teeth obliquely worn; wider apart than in *Mesocnus*, much wider than in *Megalocnus*; condyles high above tooth row as in *Megalocnus*, unlike *Mesocnus*.

Miocnus antillensis, sp. nov.

TYPE.—Amer. Mus. No. 16880, a lower jaw lacking condylar and angular region and with the alveoli only of the teeth. From the Casimba, Sierra Jatibonico, de la Torre collection.

PARATYPE.—Amer. Mus. No. 16881, a left ramus of the jaw, broken off at alveolus of M_1 but with condylar and angular region nearly complete and M_{2-3} preserved. A few teeth are doubtfully referable.

DISTINCTIVE CHARACTERS.—Size medium, $M_{1-3}=33$ mm.; $C-M_3=53$ mm. The canines are of semilunate cross-section, the posterointernal face being flat instead of strongly concave as in the other three genera. The second and third molars are more rectangular in cross-section than in *Mesocnus*; they are of nearly equal size, M_2 being larger, M_3 smaller than in *Mesocnus browni*. The first molar is not preserved but was evidently larger and more quadrate than in *M. browni*, as is also the canine. The symphyseal tongue is of quite different type from that of *Mesocnus*, shorter, pointed instead of spatulate, not decurved, and much less rugose at the tip. The anterior mental foramen is small in contrast to its enlargement in *Mesocnus*. The inferior face of the symphyseal tongue has a rounded median ridge, different from the sharp crest of *Mesocnus*.

The condylar region is raised high above the dentigerous part of the jaw, like that of *Megalocnus* but to a less degree. The angle is at or below the level of the tooth row; the coronoid process is as high as the condyle or higher; the dental foramen slightly above the line of the alveolar border. The condyle has the usual transverse expansion, flat upper surface rolled downward at the inner end. [$M_{1-3}=33$ mm., $C-M_3=55$ mm.]

Microcnus¹

1915, Bull. Geol. Soc. Amer., XXVI, No. 1, p. 152 [nomen nudum]; 1918, Bull. Geol. Soc. Amer., XXIX, No. 4, p. 660; 1919, Proc. Amer. Phil. Soc., LVIII, p. 168.

Type *M. gliriformis*

GENERIC CHARACTERS.—Anterior tooth grooved posterointernally. Molars subquadrate, not oblique, grooved on inner and outer sides. Condyle little elevated above tooth row. Symphysis short, tongue vestigial.

Microcnus gliriformis

TYPE.—Amer. Mus. No. 16882, a right ramus mandibuli with two last molars and alveoli of M_1 and C_1 . From the Casimba in the Sierra Jatibonico, La Torre collection.

DISTINCTIVE CHARACTERS.—Size very small; molars only 22.5; entire tooth row approximately 29 mm. The last molar somewhat longer than wide, 6×7 mm., subquadrate, a distinct but narrow and shallow groove on each side. Second molar

¹*Mikros*, small; *oknos*, sluggard, i.e., sloth.

6×5 mm., also grooved on both sides, but the outer groove near posteroexternal corner and external side in front of it, strongly convex. The first molar is not preserved, but the alveolus indicates a rounded subtrigonal cross-section and size about equal to M_3 . The post-canine diastema is short, only 5 mm. The anterior border of the canine alveolus is destroyed, but enough remains to indicate a tooth much like that of *Megalocnus* but probably not so broad.

The symphysis is quite short and wide, shaped as in *Megalocnus*, and the symphyseal tongue appears to be absent.

The lower border of the jaw is only moderately convex beneath the molars. The posterior portion of the jaw is singularly like certain Rodents, especially *Paramys*. The condyle is transversely expanded, set upon a long neck, the glenoid facet facing superiorly, nearly flat anteroposteriorly, rolling down on the inner side to a nearly vertical plane. The angle is broad, flat, thin, slightly incurved. The coronoid process is triangular, thin, somewhat higher than the condyle and separated from it by a broad, deep, rounded notch; the anterior border of the process springs from a point just behind M_2 . The posterior mental foramen is beneath M_2 and near the alveolar border. The dental foramen is beneath the broad notch just mentioned and somewhat below the level of the tooth row. [M_{1-3} = 24 mm., C- M_3 = 33 mm. (approx.)].

No additional specimens can be positively referred to this genus and species, but a few loose teeth display the characters indicated above and are of appropriate size; certain skull fragments and skeletal bones distinct in type from the larger genera may be referred to *Microcnus* by exclusion, although I have little faith in such identifications.

