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*** START OF THE PROJECT GUTENBERG EBOOK NEW SUBSPECIES OF THE RODENT BAIOMYS FROM CENTRAL AMERICA ***

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America**

BY

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UNIVERSITY OF KANSAS
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**New Subspecies of the Rodent Baiomys From Central
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ROBERT L. PACKARD

The southern pygmy mouse, *Baiomys musculus*, is known as far north as the Mexican states of Jalisco, Michoacán, south of the Mesa Central, east to central Veracruz (see Hooper, 1952a:90), and south to western Nicaragua (see Goodwin, 1942:161). Previously, two subspecies have been recognized from the southern part of the known range of this species: *B. m. nigrescens*, blackish mice from Chiapas, México, and Guatemala, and *B. m. grisescens*, grayish-brown mice from

Honduras and western Nicaragua. Study of recently acquired specimens from Guatemala, El Salvador, and Nicaragua reveals two additional subspecies.

For the loan of comparative material, I am grateful to the United States National Museum (USNM) and the American Museum of Natural History (AMNH). Unless otherwise indicated, specimens are in the University of Kansas Museum of Natural History. Measurements are as taken by Hooper (1952b:10). Postpalatal length is the distance from the posterior margin of the hard palate to the anterior margin of the foramen magnum. Unless otherwise noted, statistical significance as used in this paper is at the 95 per cent confidence limit or higher.

The two heretofore undescribed subspecies are characterized below and may be known as:

Baiomys musculus handleyi, new subspecies

Type.—Adult female, USNM No. 275604 (Biological Surveys Collection), skin and skull; from Sacapulas, El Quiché, Guatemala; obtained on April 24, 1947, by Charles O. Handley, Jr., original number 991.

Distribution.—Known only from the type locality; probably inhabits parts of the east-west drainage of the Río Negro.

Diagnosis.—General ground color of upper parts between Wood Brown and Buffy Brown (all capitalized color terms are those of Ridgway, Color Standards and Color Nomenclature, Washington, D. C., 1912), dorsal parts of fore- and hind-feet, and ankles white; in region of median venter, throat, and chin, hairs white to base; in lateral regions hairs Neutral Gray at base; dorsal hairs below tips Avellaneous, Neutral Gray at base; guard hairs black-tipped; tail white below, brownish above; nasals truncate anteriorly; frontalparietal suture forming an obtuse angle with median-parietal suture; alveolar-length of upper molar tooth-row and tail long.

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Comparisons.—From *Baiomys musculus nigrescens* (paratypes, from the Valley of Comitán, Chiapas, México), found to the north, *B. m. handleyi* differs in: color paler dorsally and ventrally; fore- and hind-feet whitish instead of dusky to sooty; hairs in region of facial vibrissae white instead of brown; tail bicolored instead of unicolored; anterior tips of nasals square, not rounded; frontoparietal suture forming obtuse angle with median parietal suture instead of a right angle; tail and alveolar length of upper molar tooth-row significantly larger (see table 1); zygomatic breadth, breadth of braincase, occipitonasal length, least interorbital constriction, and length of rostrum all averaging larger (see table 2).

From *Baiomys musculus grisescens* (paratypes, from Comayabuela, to the south, *B. m. handleyi* differs in: buff-colored hairs in dorsal and ventral region lacking; fore- and hind-feet white, not flesh-colored with gray overtones; tail bicolored, not unicolored; face paler, lacking buff-brown coloration; anterior tips of nasals squared rather than flaring; tail and upper molar tooth-row significantly longer (see Table 1); hind foot, ear from notch, and rostrum longer; braincase averaging broader (see Table 2).

Remarks.—The occurrence of these pale mice in the Río Negro Valley was first noted by Goodwin (1934:39, 40) when he referred specimens from Sacapulas and Chanquejelve, Guatemala, to *B. m. musculus*. Hooper (*op. cit.*:92-94) correctly assigned specimens from the southern coast and eastern part of Chiapas to *B. m. nigrescens*. The continued assignment of specimens from Sacapulas, Guatemala, to the subspecies *musculus* produces a hiatus both in the range of *B. m. nigrescens* and *B. m. musculus*. Twenty-four specimens, 14 from 1 mi. S Rabinal, and 10 from 1/2 mi. N, 1 mi. E Salama, Guatemala, are intergrades between *handleyi* and *grisescens*, but show more resemblance to the latter and, therefore, are referred to that subspecies. To the north, *handleyi* intergrades with *nigrescens*. The specimen from Chanquejelve is an intergrade between the two subspecies just mentioned.

Osgood suggested (1909:259) that the degree of relative humidity might in some way control color of pelage in this species. Relative humidity and its subsequent effect on other related environmental factors indeed may account for the superficial resemblance of *B. m. musculus* to *B. m. handleyi* (although *handleyi* averages paler throughout than the paratypical series of *musculus*). Both subspecies inhabit relatively arid country. According to Goodwin (*op. cit.*:39 and Plate 5, Fig. 1), and Handley (*in verbis*), the Río Negro Valley in the vicinity of Sacapulas is extremely hot, dry, and rather isolated. Extremes of climate there may exceed those in the arid habitat occupied by *B. m. musculus*. The resemblance between these two subspecies may result from nearly parallel selective forces that have given rise to two distinct subspecies. *B. m. handleyi* may have developed *in situ*.

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Specimens examined.—Total 49, from the type locality, including the type (12, USNM; 37, AMNH).

Baiomys musculus pullus, new subspecies

Type.—Adult female, skin and skull, University of Kansas Museum of Natural History, No. 71605, from 8 mi. S Condega, Esteli, Nicaragua; obtained on July 15, 1956, by A. A. Alcorn, original No. 4218.

Distribution.—West-central Nicaragua, from Matagalpa northwest into the valley

of the Río Esteli, east as far as Jinotega.

Diagnosis.—Dorsum Fuscus-Black (see remarks), individual dorsal hairs being black-tipped with a subterminal Ochraceous-Buff band, Neutral Gray at base; some hairs on dorsum all black to Neutral Gray at base; hair on sides Neutral Gray tinged with blackish; facial region blackish becoming more buffy ventrally; vibrissae black; tail unicolored Chaetura Black; fore- and hind-feet whitish to dusky-white; mid-ventral region of belly white to as far anteriorly as region of throat, hairs being white to base; in region of anus and throat, hairs white-tipped, Neutral Gray at base; tail long; upper molar tooth-row short as in *B. m. nigrescens*; zygotoma bowed as in *B. m. grisescens*.

Comparisons.—From *B. m. grisescens* (paratypes from Comayaguela, Honduras), *B. m. pullus* differs in: dorsal ground-color and tail darker; sides and distal region of belly grayish instead of buffy-brown, thus making white stripe in region of belly distinct; average length of body and tail significantly longer, thus, total length greater; length of hind foot averaging longer (68 per cent confidence limits); alveolar length of upper molar tooth-row significantly shorter; occipitonasal and rostral length averaging longer; zygomatic spread and interorbital region narrower; length of incisive foramina, depth of cranium, postpalatal length, and breadth of braincase all averaging larger (see table 2).

From *B. m. nigrescens* (paratypes from Valley of Comitán), *B. m. pullus* differs in: dorsal ground-color slightly darker; facial region grayish, not sooty; mid-ventral white stripe present on belly and becoming grayish laterally; tail darker and less hairy, average length significantly longer; body, occipitonasal length of skull, incisive foramina, and postpalatal length averaging smaller; hind foot shorter; zygomatic spread, interorbital region and braincase broader (see table of measurements); cranium deeper.

Remarks.—*B. m. pullus* is the darkest dorsally of any subspecies of this species. Dalquest (1953:156) pointed out that preserved specimens of one of the subspecies of the northern pygmy mouse, *Baiomys taylori taylori*, tended to fade considerably over a period of four years. Post-mortem changes in color also are apparent in the southern species *musculus*. For example, the series of specimens from 8 mi. S of Condega, and 9 mi. NNW Esteli, Nicaragua, have faded from near Chaetura Black to the present Fuscous-Black in a period of two years. The most notable change in color came after the first six months of preservation. Allowing for this fading, the several color differences between *pullus*, *nigrescens* and *grisescens* are, nevertheless, distinctive.

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TABLE 1.—ANALYSIS OF VARIATION IN ADULTS OF FOUR SUBSPECIES OF *BAIOMYS MUSCULUS* (measurements in millimeters)

Number of adults averaged	Total length	Length of body	Length of tail	Length of hind foot	Upper molar length (alveolar)
<i>Baiomys musculus handleyi</i>, Sacapulas, El Quiché, Guatemala					
9 Av	121.44	70.77	50.67	15.33	3.48
Max	128.00	77.00	54.00	16.00	3.60
Min	115.00	66.00	49.00	15.00	3.40
2xStand. error	3.60	3.22	1.26	.44	.05
<i>Baiomys musculus pullus</i>, 8 mi. S Condega, Nicaragua					
17 Av	117.29	70.42	47.18	15.47	3.13
Max	121.00	74.00	50.00	17.00	3.20
Min	111.00	66.00	44.00	14.00	3.00
2xStand. error	1.27	1.51	.75	.35	.03
<i>Baiomys musculus grisescens</i>, Comayaguela, Honduras					
7 Av	103.71	59.00	44.71	14.57	3.31
Max	118.00	68.00	50.00	15.00	3.40
Min	97.00	51.00	42.00	13.00	3.20
2xStand. error	5.50	4.16	2.40	.78	.06
<i>Baiomys musculus nigrescens</i>, Valley of Comitán					
11 Av	115.00	72.09	42.91	15.31	3.15
Max	120.00	77.00	45.00	16.00	3.40
Min	108.00	69.00	39.00	14.50	2.90
2xStand. error	2.12	1.59	1.0	.23	.10

Geographically, *pullus* is partly isolated by the Cerros De Villaguiare and the Cerros El Zapotillo to the west and the Cerros De Azaculapa to the north. Certain individuals of a series of specimens, referable to *B. m. nigrescens*, from 1 mi. NW San Salvador and 1 mi. S Los Planes, El Salvador, are intermediate in coloration between that subspecies and *pullus*. Three of 28 specimens from El Salvador possess the mid-ventral white stripe.

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TABLE 2.—CRANIAL MEASUREMENTS (in millimeters) OF ADULTS OF FOUR SUBSPECIES OF BAIOMYS MUSCULUS

Table headings:

- Col A: Occipitonasal length
- Col B: Zygomatic breadth
- Col C: Postpalatal length
- Col D: Least interorbital breadth
- Col E: Length of incisive foramina
- Col F: Length of rostrum
- Col G: Breadth of braincase
- Col H: Depth of cranium

	A	B	C	D	E	F	G	H
<i>Baiomys musculus handleyi</i>, Sacapulas, El Quiché, Guatemala								
Number of specimens	8	8	8	9	9	9	8	8
Type 275604 ♀ USNM	20.0	10.4	7.3	4.0	4.5	7.3	9.7	7.1
Average	19.6	10.5	6.9	4.0	4.2	7.2	9.8	7.1
Maximum	20.7	11.0	7.4	4.0	4.5	7.7	10.2	7.2
Minimum	18.8	10.2	6.4	3.9	4.0	7.0	9.7	6.8
<i>Baiomys musculus pullus</i>, 8 mi. S Condega, Esteli, Nicaragua								
Number of specimens	17	17	15	17	17	17	17	17
Type 275605 ♀ KU	19.2	10.2	6.8	3.8	4.3	6.8	9.5	7.0
Average	19.3	10.2	7.0	3.9	4.3	7.0	9.6	7.0
Maximum	19.8	10.6	7.3	4.1	4.6	7.4	10.0	7.3
Minimum	18.9	9.7	6.8	3.8	4.0	6.5	9.3	6.8
<i>Baiomys musculus grisescens</i>, Comayagua, Guatemala								
Number of specimens	6	7	7	7	7	6	7	7
Average	19.7	10.5	6.9	3.9	4.1	7.1	9.6	6.9
Maximum	20.3	10.9	7.2	4.1	4.4	7.3	9.9	7.1
Minimum	19.2	10.2	6.7	3.7	3.9	6.8	9.3	6.8
<i>Baiomys musculus nigrescens</i>, Valley of Comitán, Chiapas, México								
Number of specimens	14	14	13	14	14	14	14	14
Average	19.5	10.1	7.1	3.8	4.4	6.9	9.3	6.9
Maximum	20.3	11.1	7.4	4.0	4.6	7.4	9.6	7.3
Minimum	19.1	9.8	6.7	3.6	4.2	6.6	9.0	6.7

Albert Alcorn wrote in his itinerary that some of the type series were taken shortly after lunch (I assume this would mean near noon) near a small creek, and that the specimens from 9 mi. NNW Esteli were trapped in wood piles and rock piles about dusk.

Specimens examined.—Total (all from Nicaragua) 36 as follows: Esteli: type locality, 22 (including the type); 8 mi. NNW Esteli, 3; 9 mi. NNW Esteli, 8. Jinotega: 1 mi. NW Jinotega, 1; San Rafael Del Norte, 1 AMNH. Matagalpa: Matagalpa, 1 AMNH.

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LITERATURE CITED

DALQUEST, W. W.

1953. Mammals of the Mexican state of San Luis Potosí. Louisiana State Univ. Studies, Biol. Sci. Ser. No. 1:1-229, 1 fig., December 28.

GOODWIN, G. G.

1934. Mammals collected by A. W. Anthony in Guatemala, 1924-1928. Bull. Amer. Mus. Nat. Hist., 68:1-60, 5 pls., December 12.

HOOPER, E. T.

1952a. Notes on the pygmy mouse (*Baiomys*), with description of a new subspecies from Mexico. *Jour. Mamm.*, 33:90-97, February 18.

1952b. A systematic review of the harvest mice (Genus *Reithrodontomys*) of Latin America. *Misc. Publ., Mus. Zool., Univ. Mich.*, 77:1-255, 9 pls., January 16.

OSGOOD, W. T.

1909. Revision of the mice of the American Genus *Peromyscus*. *N. Amer. Fauna*, 28:1-285, 8 pls., 12 figs., April 17.

Transmitted August 25, 1958.

Transcriber's Note

Variations of spelling as presented in the paper have been retained
fuscus; fuscous
foramen; foramina
comayabuela; comayaguella

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