

## Article XVI.—DESCRIPTIONS OF NEW AMERICAN MARSUPIALS.

By J. A. ALLEN.

During the last two years the Museum has received a considerable number of specimens of South American and Central American Marsupials, and in endeavoring to critically determine this material, as well as that previously in the Museum, the following species and subspecies appear to have been hitherto undescribed.

### *Didelphis pernigra*, sp. nov.

*Type*, No. 16071, ♀ ad., Juliaca, Peru, altitude 7000 feet, Feb. 12, 1900; coll. H. H. Keays.

Entire upper parts, except the head, intense glistening black, the long thick black overhair entirely unmixed with the long, stiff white hairs seen in the *D. marsupialis* group; basal half or more of the soft woolly underfur pale yellowish white, the tips black, the whitish underfur concealed by the thick, heavy coat of black overhair; head white, with three prominent, sharply defined black bands, two of which are lateral, enclosing the eyes and extending from the base of the whiskers to a little behind the eyes, and continued as an ill-defined dusky patch nearly to the ears; the median black band begins as a narrow stripe opposite the anterior margin of the eyes and rapidly widens posteriorly to the nape where it merges with the black of the body; cheeks and throat rusty buff; rest of the lower parts, except the area enclosing the abdominal pouch, buffy white, with the tips of the hairs black, imparting a strong tinge of this color to the ventral surface; pouch clothed within and around its outer border with short crisp woolly hairs of a reddish chestnut tint; ears of medium size, *entirely white*, in striking contrast with the deep black of the upper surface of the body; feet black, the toes dusky brown and nearly naked; tail black for the basal two to three fifths, the rest white.

A young male about one fourth to one third grown differs in no respect in coloration from the adults. None of the specimens show any trace of the long white bristly overhairs so characteristic of the other forms of *Didelphis*.

*Measurements*.—Type (female), total length, 750 mm.; head and body, 383; tail, 367; hind foot, 65; ear (in dry skin), 26 x 25. A second specimen, also an adult female, measures as follows: Total length, 710; head and body, 343; tail, 367; hind foot, 61.

Skull (of type), total length, 87.5; basal length, 82; nasals, 42; palate, 52; zygomatic breadth, 42.5; mastoid breadth, 28; interorbital breadth in front of postorbital processes, 28.5, behind postorbital processes, 11. The skull of a specimen of *D. karkinophaga* from Trinidad of corresponding age is much

larger, measuring, total length, 99; basal length, 94; nasals, 48; zygomatic breadth, 50. Other female *karkinophaga* skulls from Trinidad are still larger, but otherwise than in size there seems to be no very noticeable difference, except that in *D. pernigra* the bones are very smooth, dense, and heavy in comparison with other *Didelphis* skulls.

*Didelphis pernigra* is based on two adult females and one young male. In style of markings and coloration they are all remarkably uniform, and appear to be eminently distinct from any other known forms of *Didelphis*.

### ***Didelphis karkinophaga caucæ*, subsp. nov.**

*Type*, No. 14192, ♀ ad., Cali, Upper Cauca Valley, Colombia; coll. J. H. Batty.

Similar to *D. karkinophaga* from Trinidad, but darker colored throughout. Underfur whitish or yellowish white, more or less hidden by long black-tipped hairs, intermixed with long, wholly white bristly hairs, the abundance of the latter variable in different specimens; ventral surface buffy white, often inclining to rusty, the hairs tipped with blackish, so as often to give a grizzled blackish effect, wholly lacking in *karkinophaga*; head with a narrow blackish eyering, and no other distinct blackish markings, but with a general grizzled blackish effect over the whole head, the longer hairs being tipped with black, instead of almost wholly whitish as in *karkinophaga*; ears very large and wholly deep black; tail particolored, black at base and white for about the apical half.

*Measurements*.—Total length (of type), 740 mm.; head and body, 370; tail, 370; hind foot, 58; ear (in dry skin), 32 x 32. A male (young adult), measures, total length, 770; head and body, 410; tail, 360; hind foot, 53. Judging by the material in hand, skulls and skins (eleven specimens), the skins mostly without measurements of the fresh specimen, the Cauca Valley form of *Didelphis* is considerably smaller than the Trinidad animal, with a relatively shorter tail.

Skull rather broader than in true *karkinophaga*, but not otherwise different. Total length (of type), 94; basal length, 87; nasals, 45; palate, 55; zygomatic breadth, 50; interorbital breadth in front of postorbital processes, 19, behind postorbital processes, 11.

I have been rather surprised to find that series of specimens of the *karkinophaga* type of *Didelphis* from, respectively, the Island of Trinidad, Santa Marta, Colombia, and the Upper Cauca Valley, Colombia, present color differences that are obvious on even superficial inspection. These series number from eight to fourteen specimens each, and are all referable at a glance to their respective series; these forms hence seem entitled to recognition in nomenclature. The Santa Marta serie ,

described below, is recognizable not only through differences of color, but in having the ears at least one third smaller than in either of the other forms. In each form the ears are wholly black. The Trinidad form is much the larger, as shown by the following average measurements of four adult males and three adult females. *Males*: Total length, 874 mm.; head and body, 452; tail, 446; hind foot, 60.5. *Females*: Total length, 807; head and body, 406; tail, 401; hind foot, 57. While in the average the tail measures less than the head and body, there are several exceptions where the tail considerably exceeds the head and body, as in No. 6063, ♂, where the tail measures 465 and the head and body 455; No. 6051, ♂, tail 425, head and body, 385; and No. 7732, ♀, tail 430 and the head and body 400.<sup>1</sup> It is therefore doubtful whether in any of the forms of *Didelphis* the tail regularly exceeds the head and body in length.

There is also considerable variation in respect to the prevalence of black or white hairs in the pelage of the dorsal surface in all the forms, in some examples the long white overhairs are so abundant as to render the prevailing color whitish; in other examples they are nearly absent, leaving the prevailing color blackish.

The color differences in these three forms are quite as strongly shown in young specimens, not more than one quarter grown, as in the adults.

### ***Didelphis karkinophaga colombica*, subsp. nov.**

*Type*, No. 15453, ♂ ad., Bonda, Santa Marta, Colombia, April 19, 1899; coll. H. H. Smith.

Similar to *D. karkinophaga cauca* but darker throughout, the underfur a deeper shade of buffy white, and the ears much smaller. Above the long overhair is more abundant and of a brownish black, often heavily mixed with stiff, longer white hairs, but frequently the latter are wholly wanting; head without very distinct markings but with a tendency to an indistinct median stripe and a lateral one on each side, more distinctly developed behind the eyes; whole top of the head, however, with the hairs more or less tipped with brownish black, giving a general blackish grizzled effect; ventral surface more deeply buff, overlaid with a blackish grizzle produced by black-tipped hairs; ears and feet brownish black; tail black for about the basal half, the rest yellowish white.

<sup>1</sup> See table of measurements given in this Bulletin, Vol. IX, 1897, p. 25.

*Measurements*.—Total length (of type), 824 mm.; head and body, 371; tail, 453; hind foot, 57; ear (in dry skin), 26 x 26 (as against 32 x 32 in *D. karkinophaga* and *D. k. caucis*).

Skull, total length, 94; basal length, —<sup>1</sup>; nasals, 46; palate, 54; zygomatic breadth, 53; mastoid breadth, 27; interorbital breadth in front of postorbital processes, 19, behind postorbital processes, 11. Another skull, of a very old male, measures, total length, 117; basal length, 109; nasals, 55; palate, 66; zygomatic breadth, 61; mastoid breadth, 35; interorbital breadth in front of postorbital processes, 23, behind postorbital processes, 10.5.

As shown by the subjoined table, the Santa Marta form averages considerably smaller than the Trinidad form.

EXTERNAL MEASUREMENTS OF *Didelphis karkinophaga colombica*.

Mus. No.	Sex.	Total Length.	Head and Body.	Tail.	Hind Foot.
14613	♂	710	355	355	57
15456	♂	980	497	483	68
15453	♂	824	371	453	57
14615	♂	786	456	330	57
14614	♀	863	406	457	54
15452	♀	812	406	406	57
15455	♀	673	318	355	57
Average of 4 males		825	420	405	60
Average of 3 females		783	377	406	56

***Metachirus fuscogriseus*, sp. nov.**

*Type*, No. 33333, ♂ ad., Central America; presented by Albert Smith.

Above dusky, the tips of the hairs silvery, the general effect being blackish with a grayish wash; whole top of the head and a more or less distinct median band black; sides lighter with more gray, the color of the dorsal surface sharply defined against the pale yellowish white of the ventral surface; supraocular spots pale yellowish white, with a narrow band of the same color at the base of the ears above, and a broader band of the same below the ears; cheeks, throat, and fore neck rather more strongly yellowish white than the rest of the ventral surface; outer surface of fore and hind limbs like the sides but rather paler; the inner surface of the limbs like the ventral surface; feet nearly naked, brownish both above and below; ears apparently flesh-color in life, broadly edged with dark brown; tail heavily furred for about the first (proximal) inch and a half; the rest naked, dark brown basally, gradually becoming lighter apically, the last two or three inches being light brown, perhaps flesh-color in life at the tip.

<sup>1</sup> Base of skull imperfect.

*Measurements.*—Total length, 534 mm.; head and body, 251; tail, 283; hind foot, with claws, 39, without claws, 36.

Skull, total length, 66; basal length, 62; length of nasals, 32; upper tooth-row from canine to posterior edge of last molar, 25.5; palatal length, 38; zygomatic breadth, 32; mastoid breadth, 19; least interorbital breadth, 8.5.

This species is nearly related to *Metachirus quica* (Temminck, ex Natterer, MS.), of which it is the Central American representative. The type locality of *M. quica* may be considered as the coast region of Brazil just south of Rio de Janeiro, Temminck having apparently described the species from Natterer's specimens collected there, he also adopting Natterer's manuscript name. It rather closely agrees with Mr. Thomas's description of *Didelphis (Metachirus) opossum* (Cat. Marsup. and Monotr. Br. Mus., 1888, p. 329), to which he there refers *D. quica*, Temminck. *Metachirus opossum* (Linn.), however, judging from Seba's description, on which Linnæus's name was exclusively based, was a very different animal, especially as distinguished from *D. quica* by Temminck in his monograph of this group (Monogr. de Mamm., I, p. 41); the upper parts being described by Seba as "chatain obscur" and by Temminck as "roux de rouille ou canelle." In either case the type locality is most probably Surinam; Temminck's specimens were, he states, from Surinam, and Seba's specimens were from either Surinam or eastern Brazil. In providing, for convenience, a *patrie* for *D. opossum*, Surinam may be properly taken as its type locality.

The locality of the type of *M. fuscogriseus* is unfortunately not definitely known; the specimen was found in a bunch of bananas in unloading a fruit steamer from a Central American port, most likely Colon, after its arrival alive in New York harbor. According to Alston (Biol. Centr. Am. Mam., p. 199) this form of Opossum ranges from southern Mexico to Costa Rica.

### *Metachirus tschudii*, sp. nov.

*Didelphys myosurus* TSCHUDI, Fauna Peruana, I, 1844, 145. Not of Temminck.

*Type*, No. 11111, ♀ ad., Guayabamba, Peru, altitude 5500 feet, August 30, 1894; coll. O. T. Baron.

Above yellowish gray-brown, darker (distinctly black) along the median line, more grayish over the shoulders, and more yellowish brown on the sides, with a decided rusty tinge on the hinder part of the sides, from the region of the

loins posteriorly; whole upper surface of the head, excepting the 'eye-spots,' deep brownish black, passing into deep black on the nape, where it joins the well-defined black dorsal line; cheeks and supraloral spots straw-color; posterior base of the ears fulvous gray, forming an ill-defined patch; outer surface of the limbs in general like the sides of the body, passing into dusky on the fore-arms; whole lower surface pale yellowish white, this tint a little stronger on the breast and throat; ears light brown, apparently flesh-color in life for the basal fourth; fore feet brown proximally, toes nearly bare, flesh-color; hind feet dark brown, the toes sparsely haired, light brown; tail dark brown proximally on the upper surface only, becoming gradually lighter towards the tip, the apical third being dull whitish; less than half an inch of the basal portion is clothed with short fur like that of the adjoining portion of the body. The pouch is indicated in the skin by an area about 50 mm. in length by about 25 mm. in width clothed with short, crisp, woolly hairs of a dark rusty brown color, in strong contrast with the rest of the ventral surface. The number of mammæ cannot be distinguished.

*Measurements*.—Total length, 500 mm.; head and body, 240; tail, 260; hind foot, 43.

Skull, total length, 55; basal length, 51; nasals, 26; palate, 30; zygomatic breadth, 26.5; mastoid breadth, 21.5; least interorbital breadth, 14.5. The skull is of the usual form for the genus and calls for no special comment.

This species is distinctly indicated by Tschudi (*l. c.*), under the name "*Didelphys myosurus* Temm." After citing Temminck's description he notes that his specimens do not wholly agree in coloration with examples from Guiana and Surinam, they being much more intensely colored, as is the case with many other Peruvian animals in comparison with their east coast representatives. The difference is often so considerable, he says, as to many times tempt one to recognize them as distinct species. *Metachirus tschudii* is undoubtedly the western representative of Temminck's *D. myosurus*, which, rightly or wrongly, is commonly synonymized with E. Geoffroy's *D. nudicaudata*.

### ***Metachirus nudicaudatus colombianus*, subsp. nov.**

*Type*, No. 15448, ♂ ad., Donamo, Santa Marta District, Colombia, April 20, 1899; coll. H. H. Smith.

Above dark yellowish brown, strongly varied with black, which forms a fairly well defined blackish median area; sides uniform yellowish brown; head brownish black, passing into black on the top of the head and nape and around the eyes, which are broadly margined with black; supraocular spots deep buff; fur at base of the ears above rusty buff; cheeks buff, a little paler than the eye-spots; below white, tinged faintly with yellowish, more strongly

on the fore neck and throat; ears (in dry skin) pale brown; outer surface of fore and hind limbs like the sides of the body but much less fulvous and tinged with gray; fore and hind feet brown with a tinge of grayish fulvous, the toes lighter and very thinly haired; tail blackish brown above at the extreme base, gradually becoming lighter, the lower surface throughout and the apical two fifths whitish; it is clothed with thick fur like that of the body for about one inch at the base.

*Measurements.*—Total length, 606 mm.; head and body, 296; tail, 310; hind foot, with claws, 45, without claws, 41.

Skull, total length, 59; basal length, 53; length of nasals, 27.5; palatal length, 31; zygomatic breadth, 29; mastoid breadth, 18.2; least interorbital breadth, 9.3.

Differs from *M. nudicaudatus* (type locality Cayenne) in its darker coloration and somewhat larger size.

### **Marmosa chapmani**, sp. nov.

*Didelphis (Micoureus) murina* ALLEN & CHAPMAN, Bull. Am. Mus. Nat. Hist. V, 1893, 230. Not of Linnæus and later authors.

*Type*, No. 7888, ♂ ad., Caura, Trinidad, April 7, 1894; coll. Frank M. Chapman.

Very much larger than *M. murina* and much darker colored. Above dark yellowish brown; below pale buffy white; black ocular spot large, extending from the base of the whiskers posteriorly nearly to the ear, restricted below the eye to a narrow line, expanded above the eye to a width of 3 to 4 mm., and behind the eye 7 to 9 mm.; nose patch buff, much lighter than the top of the head; ears large, pale brown; feet yellowish, much lighter than the general color above; tail dull brown above, much paler below, hence indistinctly bicolor.

*Measurements.*—Total length (of type), 376 mm.; head and body, 175; tail, 201; hind foot, 25; ear from notch, 32, from crown (dry skin), 18, by 17 in width. "Sixteen adult males, measured before skinning, range in size as follows: Total length, 361 (340-395) mm.; head and body, 171 (155-189); tail, 190 (175-218); hind foot, 24.4 (20-28); ear, 25 (22-29). Four females measure as follows: Total length, 324 (302-365); head and body, 148 (132-168); tail, 176 (163-197); hind foot, 22 (20-24); ear, 22 (20-23)."—Allen & Chapman, *l. c.*

Skull broad, the zygomatic arches much expanded, the supraorbital bead heavy, expanded at the middle in old skulls into a slight postorbital process. Total length (of type), 41; basal length, 37; nasals, 15; palate, 21; zygomatic breadth, 23; mastoid breadth, 15; interorbital breadth, 8.5.

Since Mr. Chapman and I referred the Trinidad species of *Marmosa* to *M. murina*, the Museum has received examples of true *M. murina* from Brazil and Venezuela. These show that

the Trinidad form—here named *M. chapmani*, in honor of my colleague Mr. Frank M. Chapman, to whom science is so deeply indebted for his researches on the mammals and birds of Trinidad—is a very much larger animal than the true *murina*, and much more deeply colored. Average male specimens of the latter have a total length of about 305 mm., the head and body constituting about 140 and the tail 165, as against 361, 171, and 190 for *M. chapmani*.

### ***Marmosa klagesi*, sp. nov.**

*Type*, No. 16121, ♂ ad., Ciudad Bolivar, Venezuela, Oct. 26, 1899; coll. Samuel M. Klages, after whom the species is named.

Above dull grayish brown with a dark rufescent tinge, the general effect approaching dull russet brown; space between the eyes but little lighter than the crown; dark loreal spot enclosing the eye deep black, extending from the base of the whiskers only to the posterior canthus of the eye, below the eye reduced to a narrow line, but above the eye widening so as to occupy nearly one third of the space between the eyes; whole ventral surface pale yellowish white, brighter on the chest, fore neck, and throat; ears brown, much darker than in *M. murina*; fore feet pale yellowish brown; tarsi dull brown, the toes much lighter.

*Measurements*.—Total length of type, 325 mm.; head and body, 155; tail, 170 (collector's measurements from the fresh specimen); ear (in dry skin) 16 x 14; hind foot, 18.

Skull, in size and general form, much as in *M. murina*, but the supraorbital bead is much more expanded laterally, forming an obtuse postorbital process. Total length, 36.5; basal length, 31.5; nasals, 16.5; palate, 18.3; zygomatic breadth, 20.5; mastoid breadth, 18; least interorbital breadth, 6.3; greatest interorbital breadth, 8.6.

*Marmosa klagesi* is based on three specimens, all males, two of which are adult and the other about one third grown. The young specimen scarcely differs in any respect in coloration from the adults; the pelage, however, is softer in texture, or less firm and velvety. Even at this early age the skull shows an incipient supraorbital bead. The species seems to be very distinct from any previously described. It is smaller than *M. chapmani*, and differs from it markedly in coloration and cranial characters.

### ***Thylamys keaysi*, sp. nov.**

*Type*, No. 16068, ♂ ad., Juliaca, Peru, altitude 6000 feet, Jan. 8, 1900; coll. H. H. Keays, for whom the species is named.



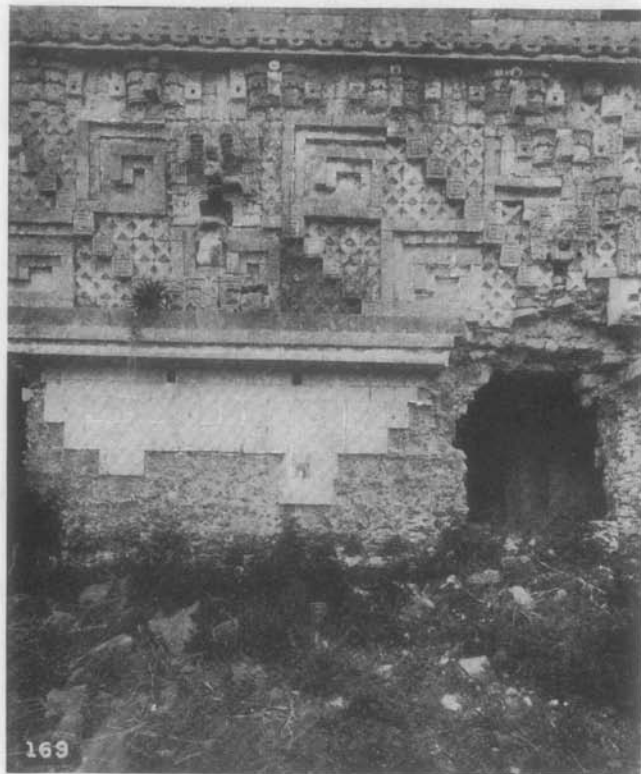
Above dark reddish brown suffused with blackish; sides lighter and more rufescent; ventral surface pale-buffy white; nose patch but little lighter than the top of the head; ocular patch deep black, barely enclosing the eye posteriorly, and extending as a broad band to the nose; cheeks pale buff; ventral surface dull yellowish white; ears blackish; feet blackish brown, the toes lighter; tail rather light brown, darkest proximally on the upper surface, the lower surface and the apical third almost flesh-color.

*Measurements.*—Type (collector's measurements), total length, 355 mm.; head and body, 151; tail, 204; hind foot, 22; ear (in dry skin), 15 x 14.

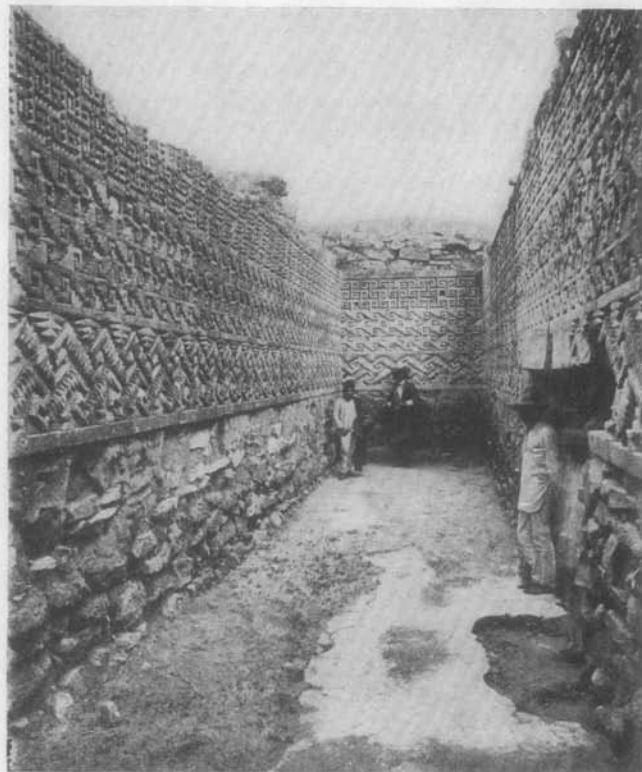
Skull long and narrow, zygoma very little expanded; nasals narrow, very slightly expanded posteriorly; interorbital region flat, cylindrical; supraorbital bead very slightly developed, and present only in very old specimens. Total length, 39.5; basal length, 36; nasals, 19; palate, 21; zygomatic breadth, 20; mastoid breadth, 13; interorbital breadth, 7.7.

This species is represented by three specimens, an 'old adult' male (the type), a 'young adult' male, and a 'young adult' female. The two males present practically the same measurements; the female is much smaller than the males, measuring as follows: Total length, 317; head and body, 132; tail, 185; hind foot, 17. The female has no pouch; three nipples are clearly visible on the left side of the inguinal region; on the right side the skin is not in good condition.

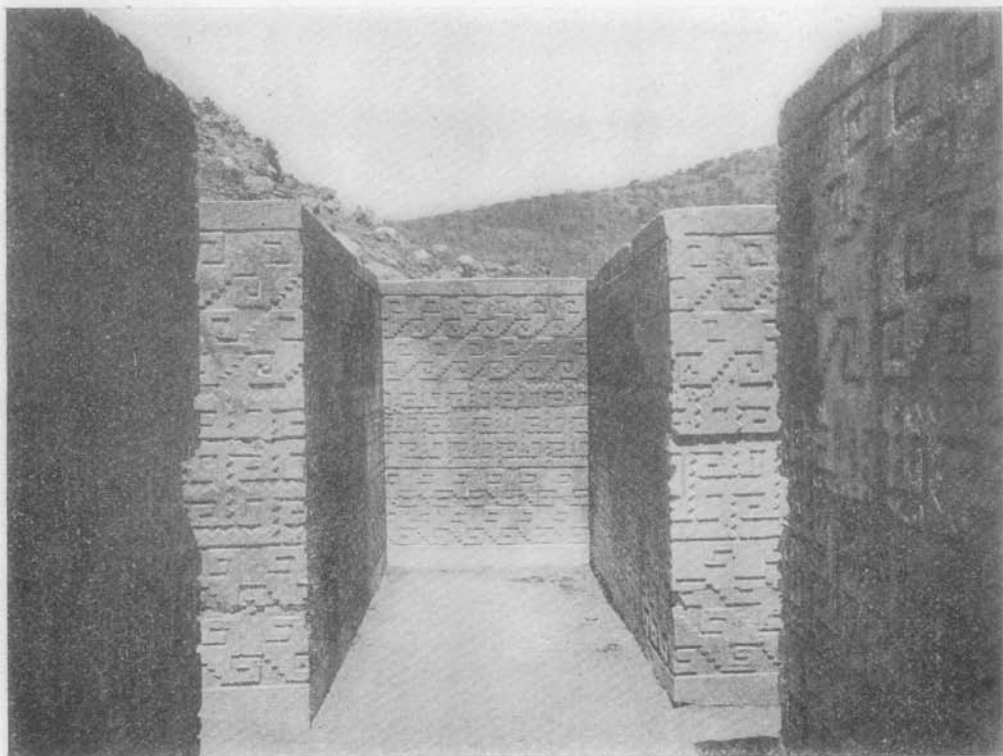
*Thylamys keaysi* is easily recognized by its dusky brown color and very long tail, which is fully one fourth longer than the head and body. Its long, narrow skull, the nearly smooth edges of the interorbital region, and the very slight posterior widening of the nasals seem to ally it more nearly with the *Thylamys* group than with the typical forms of *Marmosa*. In coloration it also resembles *T. carri* from Trinidad, but the tone is darker, and it is also a much larger animal.



PORTION OF FACADE OF "HOUSE OF THE GOVERNOR,"  
UXMAL, YUCATAN.



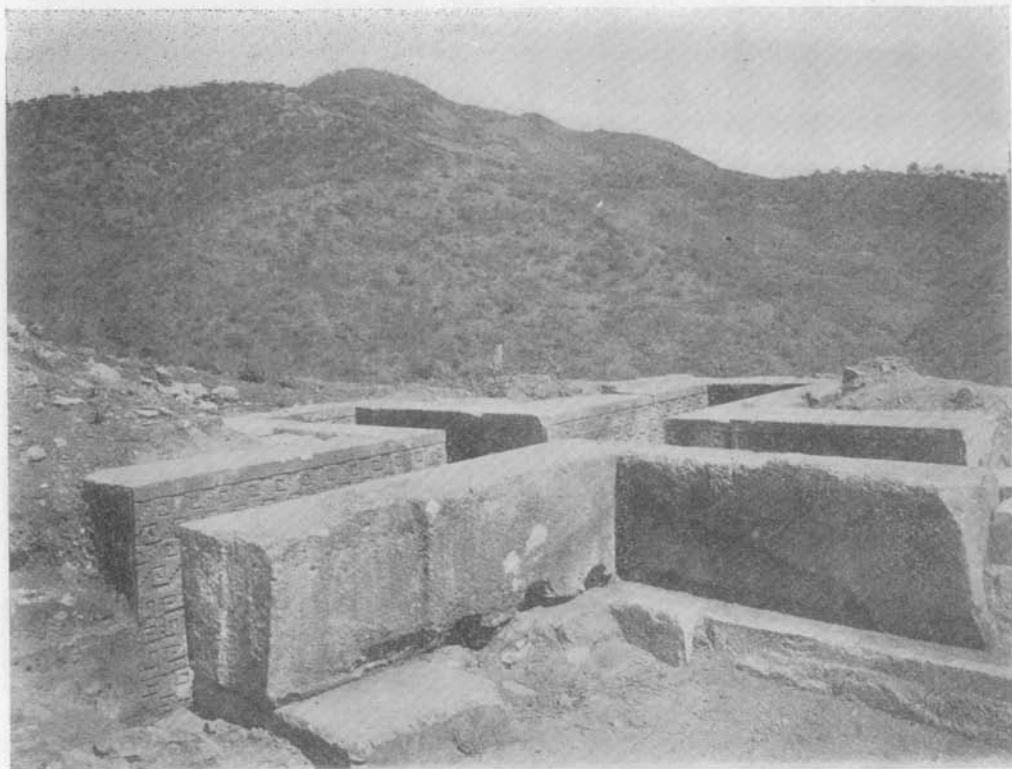
"HALL OF THE MOSAICS," MITLA.



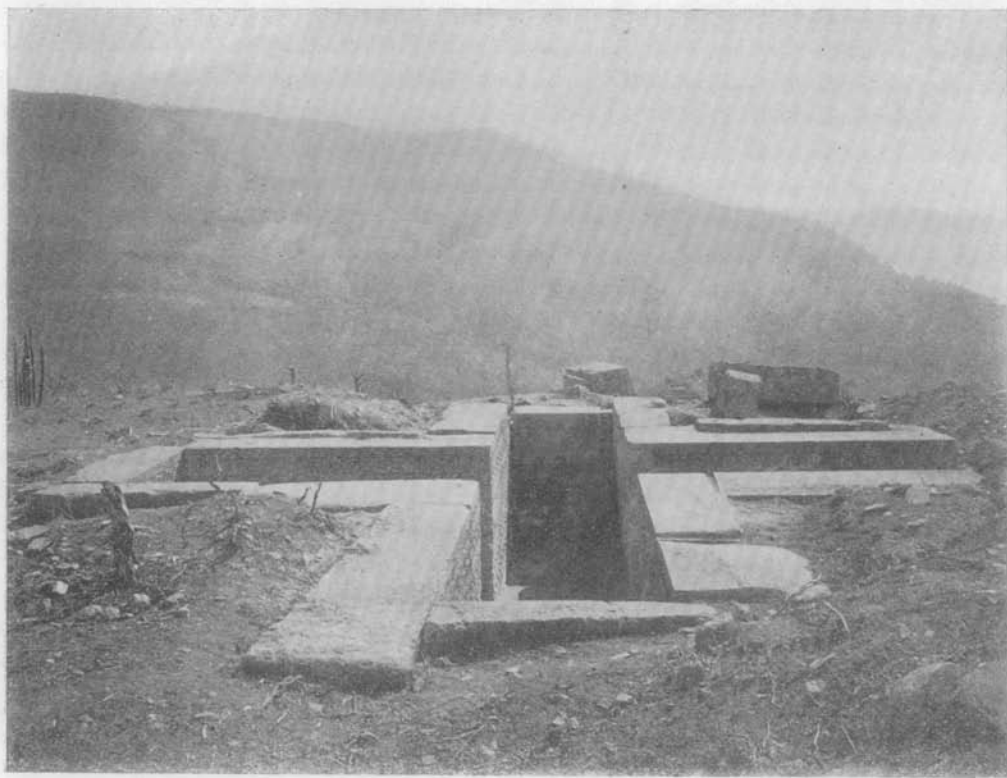
CRUCIFORM CHAMBER, LOOKING NORTH, INSIDE OF STRUCTURE. UPPER GUIAROO.



LARGE BLOCKS OF STONE LYING SOUTH OF CRUCIFORM CHAMBER. UPPER GUIAROO.



EXCAVATION MADE OUTSIDE OF CRUCIFORM CHAMBER. LOOKING NORTHEAST.  
UPPER GUIAROO.



CRUCIFORM CHAMBER. LOOKING SOUTH, SHOWING PLAIN WALL AT END OF  
SOUTHERN ARM. UPPER GUIAROO.



CRUCIFORM CHAMBER. LOOKING EAST, AFTER EXCAVATION. UPPER GUIAROO.



CRUCIFORM CHAMBER. LOOKING SOUTHEAST, BEFORE EXCAVATION. UPPER GUAROO.

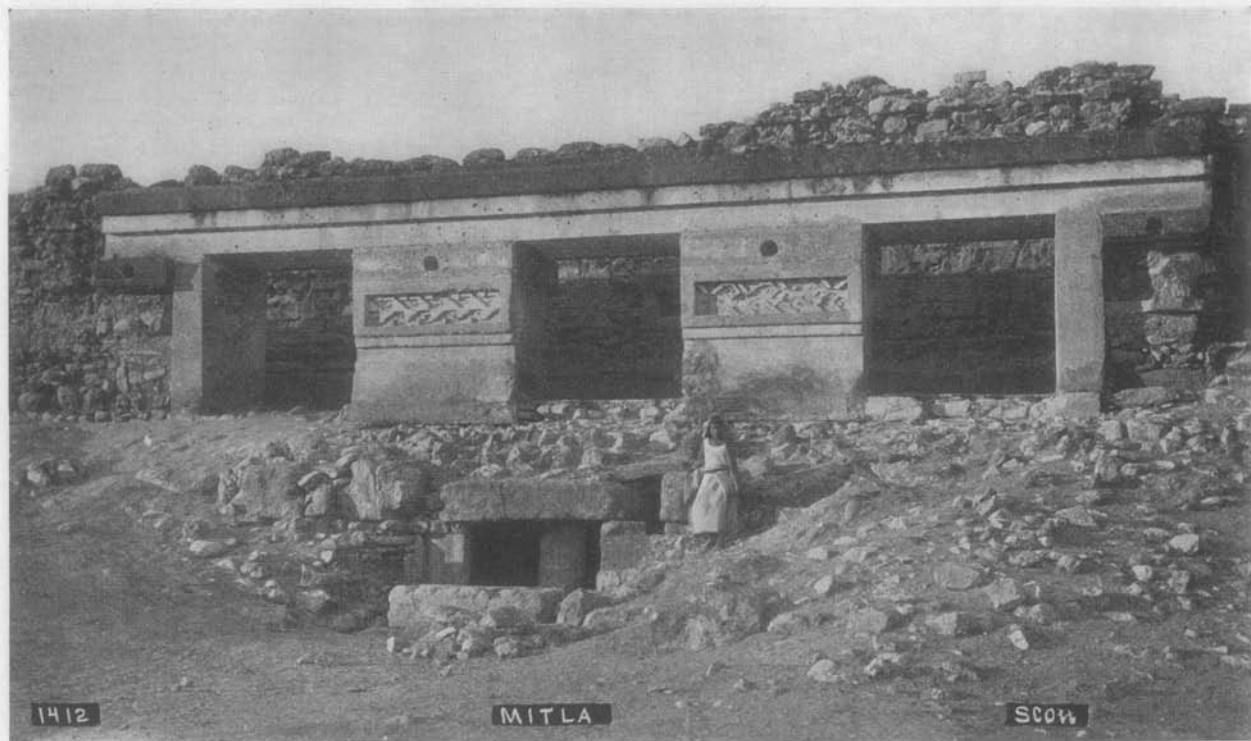




ENTRANCE OF CRUCIFORM CHAMBER. LOOKING EAST. LOWER GUIAROO.



GENERAL VIEW OF VALLEY OF MITLA. LOOKING EAST. GUIAROO MOUNTAIN IN THE BACKGROUND, "PALACES" IN THE FOREGROUND.



FRONT OF BUILDING, QUADRANGLE OF THE SUBTERRANEAN GALLERIES. SHOWING PRESENT ENTRANCE TO CRUCIFORM CHAMBER.