

Article XXIX.—NEW MAMMALS FROM COLOMBIA AND ECUADOR.

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Since the publication of my paper on 'Mammals from Western Colombia,' in April, 1912 (this Bulletin, XXXI, pp. 71-95), much new material has been received from the American Museum collectors still at work at different points in northern South America. A general report on the mammals collected in the Republic of Colombia is in course of preparation, but as its publication is likely to be somewhat delayed, descriptions of some of the new forms are here presented.

Cholœpus florenciæ sp. nov.

Figs. 3, 9, 15.

Type, No. 33910, ♀ ad., Florencia (alt. 1000 ft.), Rio Bodoquera, Caquetá, Colombia, June 23, 1912; coll. Leo E. Miller.

General color of upper parts and limbs blackish brown, darkest on the limbs, head, shoulders, and flanks, much lighter on the lower back where the hairs have very long yellowish white tips; chin and throat black; rest of ventral surface nearly uniform dark brown, the hairs dark brown basally tipped with rusty gray, producing a rusty grizzled effect; median space between the eyes rusty; crest very long and full, the longer hairs attaining a length of 130 to more than 140 mm.; claws dark bluish gray. Mammaria, 1-1 = 2, pectoral.

Length (type, measured in the flesh), 800 mm.; hind foot without claws, 97; front claws, arc, 60, over the curvature, 80; middle hind claws, arc, 53, curvature, 68.

Skull, occipito-nasal length, 119; condylo-basal length, 115; zygomatic breadth, 66; interorbital breadth, 32; breadth across postorbital processes, 52; least postorbital breadth, 37; mastoid breadth, 48; palatal length, 48; length of nasals, 38; diastema, 12, upper tooththrow, 21; breadth of rostrum at base of canines, 34; lower jaw, length, 87, height at condyle, 21, height at coronoid, 31.5.

A half grown topotype is nearly uniform dark brown with a rusty tinge, the hairs of the forehead with short pale rusty tips, and those of the lower back with short pale yellowish gray tips; a small pectoral area and a narrow median line with the hairs slightly tipped with rusty gray.

The type is a very old female with the cranial sutures almost wholly obliterated, the posterior border of the nasals being only faintly indicated, while all other sutures have entirely disappeared. The topotype is a half grown female, resembling the adult in color, but with the lower back not so strongly in contrast with the rest of the dorsal surface.

The skull of this species is not only very large in comparison with female skulls of *C. hoffmanni* from Costa Rica and Panama of corresponding age, but radically different in form, the skull in *C. florenciæ* being long and narrow and only moderately convex in dorsal outline, instead of broad, short, and highly convex as in *C. hoffmanni*. The nasals are also much longer than in *hoffmanni* and quite different in outline, and the postorbital processes are less developed. The skull in *hoffmanni* (Figs. 1, 7, 13) is similar in general form to that of *didactylus* (Figs. 2, 8, 14), and also in the size and shape of the nasals and postorbital processes.

***Cholœpus agustinus* sp. nov.**

Figs. 4, 10, 16.

Type, No. 33909, ♀ ad., near San Agustin (alt. 5000 ft.), Huila, Colombia, April 19, 1912; coll. Leo E. Miller.

Head and shoulders dark russet brown, the tips of the hairs yellowish; rest of dorsal surface yellowish white to the base of the hairs over the median area, passing into dark brown at base laterally and on rump; frontal band straw yellow, extending across the forehead to beyond outer border of eyes, and about 12 mm. wide; limbs dark reddish brown like the head and shoulders; whole ventral surface dull rusty brown, brighter and more yellowish on throat and lower abdomen; nails pearl gray.

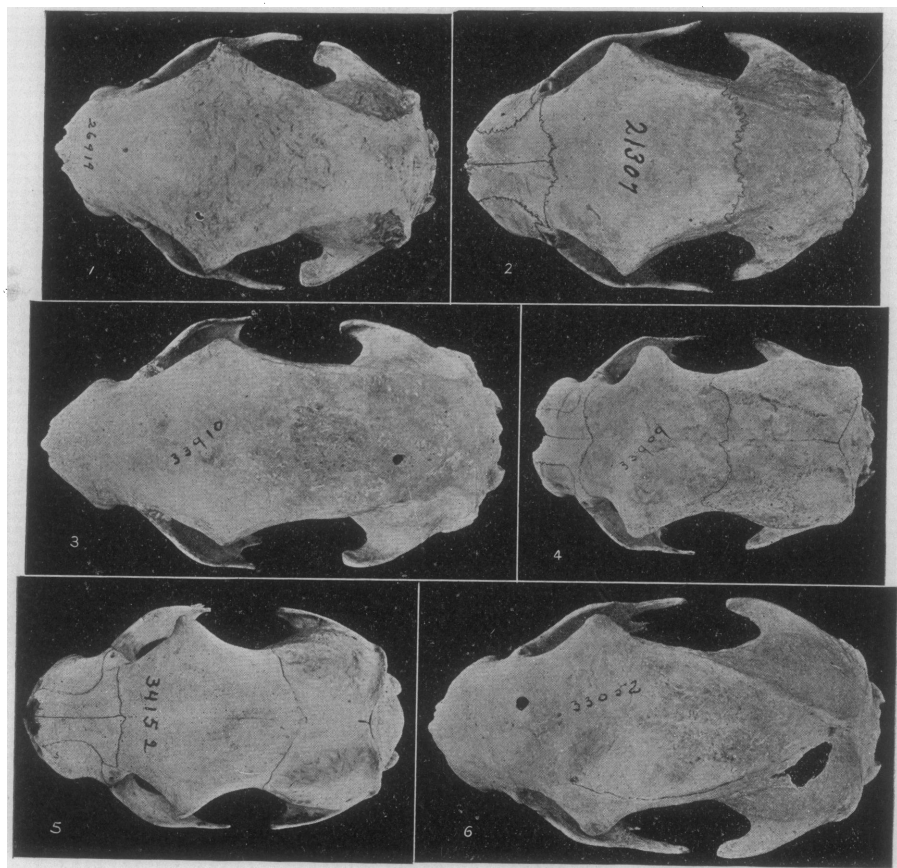
Length (type, measured in the flesh), 600 mm.; hind foot without claws, 82; front nails in straight line (arc), 57, over curvature, 68; middle hind nail, arc 46, over curve 53.

Skull, occipito-nasal length, 93; condylo-basal length, 105¹; zygomatic breadth, 60; interorbital breadth, 31; breadth across postorbital processes, 53; least postorbital breadth, 38; mastoid breadth, 45; palatal length, 45; length of nasals, 27; greatest width of nasals, 24, least 15; diastema, 9; upper toothrow, 21; breadth of rostrum at canines, 34.5.

The type is a young adult female with the cranial sutures still open; the single topotype is a young specimen about one third grown. It resembles the adult in having the head and shoulders dark brown and the rest of the upper parts strong buff, the buff tint extending to the base of the hairs over the median area, but basally the hairs are more or less dark on the rump and sides of lower back.

The striking feature of the coloration is the dark color of the head and shoulders and the light color of the rest of the dorsal surface, the two regions being in striking contrast. The skull is similar in size and shape to average skulls of *C. hoffmanni* and *C. didactylus*, but the nasals are small with the basal wings abbreviated by the upward extension of the lacrymals.

¹ Estimated, premaxillaries lacking.



Figures all $\frac{1}{2}$ nat. size.

- Fig. 1. *Cholæpus hoffmanni* Peters. No. 26919, ♀, Boqueron, Chirique, Panama.
 Fig. 2. *Cholæpus didactylus* (Linné). No. 21307, ♀, La Union, Venezuela.
 Fig. 3. *Cholæpus florenciae* sp. nov. No. 33910, ♀, Florencia, Caquetá, Colombia.
 Type.
 Fig. 4. *Cholæpus agustinus* sp. nov. No. 33909, ♀, San Agustín, Huila, Colombia.
 Type. Premaxillaries lacking.
 Fig. 5. *Cholæpus capitalis* sp. nov. No. 34152, ♀, Barbacoas, Colombia. Type.
 Fig. 6. *Cholæpus andinus* sp. nov. No. 33052, ♀, Salento, Cauca, Colombia. Type.

***Cholœpus andinus* sp. nov.**

Figs. 6, 12, 18.

Type, No. 33052, ♀ ad., Salento, West Quindio Andes (alt. 7000 ft.), Cauca, Colombia, Oct. 31, 1911; coll. Leo E. Miller.

Top of head, including frontal ruff and crest, dingy yellowish white, the longer (outer) crest hairs darkening to dull brown; middle of back with a large area of yellowish white, lighter and clearer than top of head, the hairs unicolor to the base; rest of the dorsal surface, flanks, and limbs dull umber brown; a narrow rusty eye-ring, from which a rusty line extends to the cheek; ventral surface dark rusty brown, lighter on the throat and abdominal area, where the hairs are tipped with buff; claws pale yellowish white.

Length (type, measured in the flesh), 640; hind foot without claws, 102. An adult male topotype, length in the flesh, 637.

The topotype (male) is much paler throughout than the type (female), the entire dorsal surface being dull grayish or yellowish white, except a broad band over the shoulders where the hairs are dull brown for the greater part of their length with light-colored tips. The ventral surface is also correspondingly lighter. A young female (about one third grown, young of the type) is similar in pattern of coloration to the type, but the tints are duller and the pelage soft and woolly.

Skull broad, moderately convex above. Occipito-nasal length, 111; condylo-basal length, 112; zygomatic breadth, 65; interorbital breadth, 32.5; breadth across postorbital processes, 53.5; least postorbital breadth, 36; mastoid breadth, 47; palatal length, 50; breadth of rostrum at base of canines, 35.2; diastema, 10; upper tooththrow, 25; lower jaw, length, 84; height at condyle 20, at coronoid 35; breadth of rostrum at base of incisors, 35. (The male skull is too imperfect for measurement.)

***Cholœpus capitalis* sp. nov.**

Figs. 5, 11, 17.

Type, No. 34152, ♀ ad., Barbacoas, Colombia, Oct. 5, 1912; coll. Wm. B. Richardson.

Head, including crest, white in sharp contrast with the brownish black of the neck and shoulders; frontal ruff clear white; crest hairs white to base with greenish tips; a broad band over the shoulders and the fore and hind limbs dark brownish black; middle of the dorsal region pale brown with the tips of the hairs slightly rufescent; throat (continuous with the sides of the head) yellowish white, the chin dull brownish; a broad dark brown pectoral band; ventral surface deep buff centrally, passing into dark hazel laterally; nails white at base, pale bluish gray for the apical four fifths.

An adult male (paratype) from Andagada, older (as shown by the skull) and much larger than the type, has the same pattern of coloration as the type, but the light tipping of the hairs of the dorsal surface is more extended and paler, due apparently to bleaching, and the white of the head is strongly tinged with green.

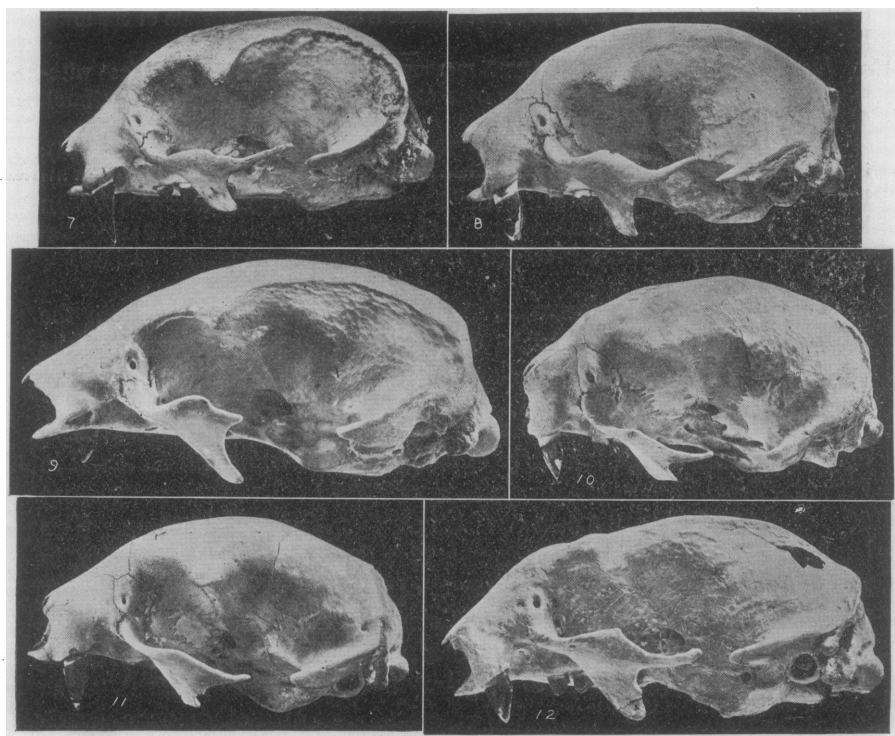
Figs. all $\frac{1}{2}$ nat. size.

Fig. 7. *Cholæpus hoffmanni* Peters. No. 26919, ♀, Boqueron, Chirique, Panama.

Fig. 8. *Cholæpus didactylus* (Linné). No. 21307, ♀, La Union, Venezuela.

Fig. 9. *Cholæpus florenciæ* sp. nov. No. 33910, ♀, Florencia, Caquetá, Colombia.

Type.

Fig. 10. *Cholæpus agustinus* sp. nov. No. 33909, ♀, San Agustín, Huila, Colombia.

Type. Premaxillaries lacking.

Fig. 11. *Cholæpus capitalis* sp. nov. No. 34152, ♀, Barbacoas, Colombia. Type.

Fig. 12. *Cholæpus andinus* sp. nov. No. 33052, ♀, Salento, Cauca, Colombia. Type.

Two young specimens in short woolly first pelage differ from the adults as follows: A young female from Baudo has the front half of the head whitish, the rest of the dorsal surface and the limbs dull reddish brown, the middle of the back strong rufescent, the limbs darker than the body; throat and chin pale rusty, the lower abdomen much lighter than the pectoral region. Another young female from Bogado, slightly larger but still in first pelage, differs from the Baudo specimen only in the much stronger rufescent tone of the upper parts, where a considerable portion of the lower back is ochraceous rufous.

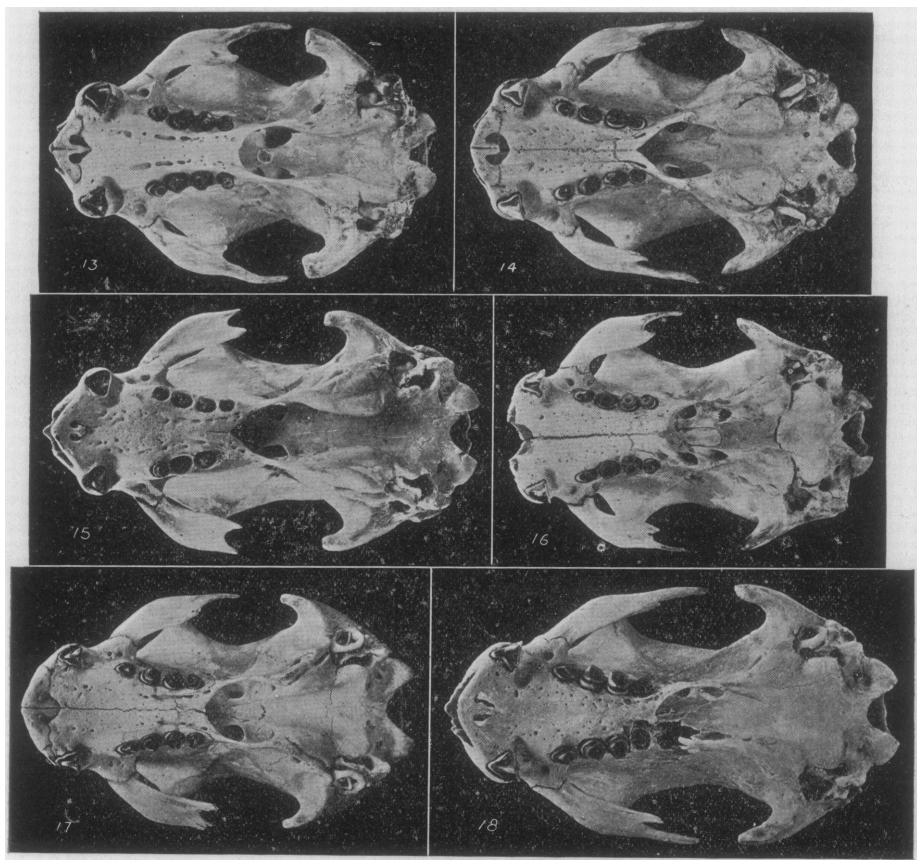
Measurements. Total length (type, measured in the flesh), 690; hind foot without claws, 90; front claws (arc), 48, over curvature, 58; middle hind claw (arc), 44, over curvature, 53.

Skull (type), condylo-basal length,¹ 102 (106); zygomatic breadth, 58 (64); interorbital breadth, 31.5 (30.5); breadth across postorbital processes, 52 (55.5); least postorbital breadth, 36.5 (33); mastoid breadth, 43 (40); palatal length, 47 (50); length of nasals, 29 (32); greatest breadth of nasals, 26 (30), least 11.5 (15); diastema, 10 (9); upper tooth-row, 20 (23); breadth of rostrum at canines, 34.5 (38).

The four specimens representing the present species are all from the coast region of western Colombia, the type being from Barbacoas and the others from the Rio San Juan valley.

The four forms of *Cholæpus* described above are widely different from each other, and all are strikingly different from *C. hoffmanni* as found in Panama, Costa Rica, and Nicaragua, represented in this Museum by about 50 specimens, the greater part of which are from Chiriqui, Panama. This large series of *C. hoffmanni* presents a wide range of variation in color, in size and in cranial characters, but none of the specimens resembles any of the specimens described above from Colombia sufficiently to require comparison, either in external or cranial characters. They are all from outside of the range usually ascribed to *C. didactylus* (type locality Guiana), which is also reputed to be a very variable species. The only other names previously proposed for forms of *Cholæpus* are *Cholæpus didactylus*, var. *columbianus* Gray, 1871, based on a specimen in the British Museum, "purchased of M. Parzudaki as coming from Columbia, . . . of a pale whitey brown paper color, darker at the root of the hairs, and has pale horn-coloured claws." The specimen is without definite locality, and, according to the description, closely resembles average specimens of *hoffmanni* from Panama (formerly a part of "Columbia"), and with no close resemblance to either of the four forms above described from southwestern Colombia. In the same year (1871), Fitzinger proposed two other names for species of *Cholæpus*, namely, *C. guianensis*, apparently as a new name for *didactylus*, and *C. brasiliensis*, from "Nord-Brasilien," based apparently on Natterer's specimens from

¹ The measurements in parentheses are of the paratype No. 34125



Figures all $\frac{1}{2}$ nat. size.

Fig. 13. *Cholæpus hoffmanni* Peters. No. 26919, ♀, Boqueron, Chirique, Panama.

Fig. 14. *Cholæpus didactylus* (Linné). No. 21307, ♀, La Union, Venezuela.

Fig. 15. *Cholæpus florenciæ* sp. nov. No. 33910, ♀, Florencia, Caquetá, Colombia. Type.

Fig. 16. *Cholæpus agustinus* sp. nov. No. 33909, ♀, San Agustín, Huila, Colombia. Type. Premaxillaries lacking.

Fig. 17. *Cholæpus capitalis* sp. nov. No. 34152, ♀, Barbacoas, Colombia. Type.

Fig. 18. *Cholæpus andinus* sp. nov. No. 33052, ♀, Salento, Cauca, Colombia. Type.

Rio Xié, near the Ecuador-Colombian boundary. Geographically this species might suggest relationship with my *C. florenciæ*, but the description suggests no resemblance to it either in coloration or size. It is described as a light gray-brown animal, of small size, while *florenciæ* is almost black in general coloration, and of maximum size for the genus.

***Tayassu niger* sp. nov.**

Dicotyles torquatus TOMES (non Cuvier), P. Z. S., 1860, p. 262 (Esmeraldas, Ecuador).

Type, No. 33249, ♂ ad., Esmeraldas, Ecuador, Nov. 4, 1912; coll. Wm. B. Richardson.

General color black, the hairs black ringed narrowly midway their length with white on the back and with yellowish white on the flanks; 'collar' as usual in the forms of the subgenus *Tayassu* and well-marked, the hairs being black conspicuously banded with white or yellowish white; sides of head and throat lighter than body, the hairs tipped or subapically ringed broadly with pale buffy white; ears blackish externally, buffy gray internally.

A young male topotype is more intensely black than the type, with the 'collar' less distinct, and the sides of head and throat varied with deep buff.

No measurements from the fresh specimen are available. The skin is evidently stretched (in length), and the foot bones have been removed, so that no satisfactory measurements can be taken.

Skull (imperfect) of type, occipito-nasal length, 221 mm.; condylo-basal length, 200; zygomatic breadth, 140; breadth of rostrum at base of canines, 52; length of upper tooththrow, 66; lower jaw, length (condyle to front border), 160; height at condyle, 61, at coronoid, 74; lower tooththrow, 70.

This species, represented by two specimens, is about the size of *Tayassu torquatus* and *T. crusnigrum*, but differs from all previously described forms in its practically uniform black color, instead of grizzled gray or tawny. The type is an old male with the cranial sutures wholly obliterated but the teeth are only slightly worn. The topotype is a young male with m² and the permanent canines just appearing.

This is undoubtedly the species referred to by Mr. Fraser in his field notes (cf. Tomes, l. c.) as follows: "Esmeraldas, Nov. 1859. *Tatabara*. This is a species of Collared Peccary (*D. torquatus*), having the collar, but is a very different colour in all other parts. It is a more solitary than gregarious animal; when hard pressed, retreats to its den, which is constructed beneath masses of dead vines."

***Sylvilagus (Tapeti) salentus* sp. nov.**

Type, No. 33050, ♂ ad., Salento, West Quindio Andes (alt. 7000 ft.), Oct. 2, 1911; coll. Leo E. Miller.

Above grizzled buffy and black, black prevailing over the median dorsal area, the hairs being subapically ringed with ochraceous buff (the buff zone about 5 mm. wide) with long black tips (about 15 mm. long on the middle of the back); flanks paler, the black tips of the hairs short and inconspicuous; top of head cinnamon rufous, most of the hairs with minute black tips; nape patch hazel (slightly darker than top of head), extending slightly beyond the tips of the ears when laid back; sides of head buff varied with black; no distinct eyering or other facial markings; chin and throat and median ventral area white with a faint wash of pinkish cinnamon, most pronounced on the lower abdomen, the hairs at base ashy plumbeous; prepectoral band cinnamon buff, the hairs plumbeous at base; inner surface of fore limbs whitish like the belly, anterior and lateral surfaces pinkish cinnamon; inner surface of hind limbs pinkish buff, like lower part of abdominal region, outer surface uniform pinkish cinnamon; ears short, thinly haired, front outer half grizzled cinnamon and black, posterior outer half very thinly clothed with fine cinnamon hairs, like the whole inner surface; no distinct blackish border or apical area; tail buffy, wholly concolor with the rump.

Measurements. Total length (type, measured in the flesh), 340; tail, 12; hind foot, 83 (with claws). The skull is badly broken and some parts lost; only the following measurements are available: length of nasals (oblique), 28; greatest breadth, 13; least interorbital breadth, 13; width of palate between first premolars, 7; length of upper toothrow (at alveolar line), 13.

Represented only by the type, an adult male in fresh pelage.

This species belongs to the *Tapeti* section of the genus and is nearly related to *S. gabbi* of Costa Rica. *Sylvilagus surdaster* is a member of the same group, but is larger, with "nearly wholly black" ears, and tail with the "upper side black, its lower buffy," not ears without black and tail wholly buffy as in the present species. Direct comparison with the type of *surdaster* shows that the pelage is widely different in the two,—coarse, short, and harsh on the back and short, crisp, and woolly on the ventral surface in *surdaster* and long and soft in *salentus*.

The type of *Sylvilagus (Tapeti) fulvescens* Allen (this Bulletin, XXXI, p. 75, April 19, 1912) has now been compared with all of the South American hares in the British Museum and found to be not near enough to any of them to require comment. It is nearest in size to *S. andinus* (Thomas), but very different in coloration, *andinus* being dark gray in general effect above while *fulvescens* is yellowish, with the ears uniform cinnamon buff instead of blackish brown.

***Myoprocta milleri* sp. nov.**

Type, No. 33656, ♂ ad. (skin), No. 34354 (skull),¹ La Murelia, Caquetá, altitude 600 feet, July 16, 1912; coll. Leo E. Miller, for whom the species is named.

¹ The type skin and type skull may or may not belong together, as the labels on the skulls became illegible in the transit of the collection from the field to the Museum. They were, however, both taken at the same locality.

Upperparts pale light yellow varied with black, giving the general effect of pale olivaceous yellow washed with black, the individual hairs narrowly ringed with pale yellow and black, with long black tips; median dorsal area darker than flanks; top of head orange heavily washed with black; sides of head orange, the hairs slightly black-tipped; rump slightly darker than the back; hairs of lower back and rump moderately lengthened; whole ventral surface light orange yellow, brighter on inside of thighs and on pectoral region, with a narrow white median line extending from the chest to lower part of abdomen; limbs externally like the flanks, internally like the ventral surface; soles of hind feet black, wholly naked; tail dusky above for the basal two thirds and at the base below, apical third or more and most of the lower surface white, well clothed with rather short hairs, ending in a pencil; ears broad, obtusely rounded above, nearly naked.

Measurements. Total length (type, measured in the flesh), 410; head and body, 360; tail, 50; hind foot, 80; ear (in dry skin), 23. Adult skull (type), total length, 80; condylo-basal length, 73; zygomatic breadth, 34; interorbital breadth, 22; mastoid breadth, 26; diastema, 21; upper tooththrow, 12.

Of the eleven specimens, all taken at Murelia, four are adult,¹ three are young adults, and four are about one-half to two-thirds grown. They are nearly uniform in coloration, both above and below. The white median stripe below is narrow, varying in different specimens from about 3 to 8 mm. in breadth (nearly obsolete in one). In one specimen the entire dorsal region is much darker than in the others, the yellow rings on the hairs being nearly obsolete on the lower back and rump.

This species is considerably smaller than *Myoprocta acouchy*, the hitherto only known species of the group, and widely different in coloration, *acouchy* being deep rufous above with the hairs narrowly ringed apically with black, and the lower back black; the lower surface lacks the white median line, and is orange, varying from pale to deep orange. The total length of three adult male skulls of *milleri* is 72.3 (76-81); of three adult male skulls of *acouchy* from British Guiana, 85.7 (83-89). The skulls of the two species differ only in size.

Coendu quichua richardsoni subsp. nov.

Type No. 33242, ♂ ad., Esmeraldas (near sea level), Ecuador, Oct. 23, 1912; coll. Wm. B. Richardson, for whom the species is named.

Similar in size to *Coendu quichua* Thomas, from Puenbo (alt. "about 2500 m."), Province of Pichincha, Ecuador, but the spines on the dorsal and ventral areas are without white tips.

Upper parts black, the spines clear yellowish white for basal two thirds with the apical third black, those on the head, shoulders and flanks with minute rusty white

¹ One is now in the British Museum.

tips, those of the dorsal region wholly black-tipped; ventral surface blackish, covered with rather coarse spines which are white basally with long slender black tips; tail black, the proximal half covered with spines like those of the back, the middle portion thickly clothed with stiff black hairs, the apical third or fourth naked; feet black; nose gray with the tips of the short, scant hairs blackish.

Type, measured in the flesh, total length, 590; head and body, 350; tail, 240; hind foot, 60. The skull is badly broken and all the parts lost except the left ramus and the palatal and premaxillary portions with the upper dentition.

This seems to be a coast form of *C. quichua* of the high Andes of the interior.

***Proechimys o'connelli* sp. nov.**

Type, No. 34595, ♂ ad., Villavicencio (alt. 1600 ft.), Colombia, March 15, 1913; coll. G. M. O'Connell, for whom the species is named.

Size of *Proechimys chrysæolus* (Thomas), but with much weaker spines and different color characters. Above (type) orange rufous finely lined with black, paler on the sides; below pure white sharply defined against the color of the upper parts; feet dark flesh-color, not white as in *P. chrysæolus* and *P. cherriei*; tail bicolor, dark above and light below (in the type irregularly marbled with light spots above and dark spots below), thinly clothed with short fine hairs.

Measurements. Type, total length, 415; head and body, 245; tail, 160; hind foot (with claws), 55. Skull, total length, 61; condylo-basal length, 51; zygomatic breadth, 28; interorbital breadth, 13; mastoid breadth, 23; nasals, 22.5; palatal foramina, 5.5×3 ; diastema, 11.5; upper molar series, 9.6.

Half-grown specimens are paler above,—yellowish brown finely lined with black, nearly as in *cherriei* of corresponding age, but with the feet dark grayish flesh-color instead of white.

This species seems to be nearly allied in general features to both *chrysæolus* and *cherriei* but these both have white feet, paler upper parts, and very much heavier spines. It is larger than *chrysæolus* and very much larger than *cherriei*, the total length of the skull being 7 mm. longer than the largest skull in a large series of *cherriei*, and also widely different in several details of cranial structure.

***Sigmodon chonensis* sp. nov.**

Type, No. 34290, ♀ ad., Chone, Manavi Province, Ecuador (altitude less than 100 feet), Dec. 16, 1912; coll. Wm. B. Richardson.

Above (type) pale buff (warm buff, Ridgway, 1912) finely lined with black, darker on lower back and rump, lighter (less dusky) on flanks and head; below hairs buffy gray at surface, dark gray basally; fore feet like the shoulders; hind feet grayish dusky with a faint wash of buffy; ears slightly darker than adjoining surface; tail indistinctly bicolor, dusky brown above, lighter and slightly buffy below.

Measurements. Total length, 260; head and body, 180; tail, 80; hind foot, 30. Six other specimens (topotypes), total length, 247 (230–270); head and body, 155 (130–170); tail, 87 (80–100); hind foot, 30.

Skull, total length, 36; zygomatic breadth, 20; interorbital breadth, 6; breadth of braincase, 14; mastoid breadth, 15; palatal length, 19; palatal foramina, 7; diastema, 9; upper toothrow, 6.5.

Represented by 11 specimens, of which 10 are from Chone and one from Rio de Oro, Dec. 16–29. Two are about one quarter grown, the others adults, several of which have well-worn teeth.

The series varies somewhat in color, but the greater part are like the type. Two differ strongly from the type in being suffused above with a much stronger tone of buff; others are paler and grayer than the type, while still others are intermediate between these extremes. In short, there is about the usual range of color variation seen in an equal number of specimens of any species of *Sigmodon*. The ventral surface varies from a prevailing tone of grayish white to a faint tone of yellowish white, dependent mainly upon wear and season, the long whitish tips being shorter and less conspicuous as the pelage becomes worn.

The single specimen from Rio de Oro, from the forested region, at an altitude of about 1000 feet, is markedly different from the rest of the series, all from the open plain, and may represent a different form, characterized by much deeper coloration (upper parts suffused with “ochraceous buff” instead of “warm buff” (Ridgway, 1912), with the belly whiter. It is also the largest of the series.

This species is very distinct from *Sigmodon puna*, from Puna Island in the Gulf of Guayaquil, and from *S. simonsi* from Eten, Peru, with both of which good series of topotypes are available for comparison; it is apparently equally distinct from the type (and only available specimen) of *S. peruanus* from Trujillo, Peru. It is smaller than *simonsi*, and differs from it not only in color but in important details of skull structure. It differs strongly in color from the pale *S. puna*, and greatly exceeds it in size, but resembles it in cranial characters. *S. peruanus* differs in coloration, in much larger size, and in its short, broad, massive skull.

***Akodon tolímæ* sp. nov.**

Type, No. 33009, ♂ ad., Rio Toché, Quindío Andes, Tolima, Colombia; altitude, 7000 feet; coll. Leo E. Miller.

Similar to *A. arosus* Thomas, from central Ecuador, but much smaller, less fulvous and darker above, and dark gray with barely a trace of fulvous (instead of pale buff) below.

Total length (type), 165; head and body, 89; tail, 76; hind foot, 20.5. Skull; total length, 25.5; zygomatic breadth, 13.5; nasals, 10; interorbital breadth, 5.5. breadth of braincase, 12; palatal foramina, 5.6; upper molar series, 4.6.

Fourteen adult topotypes measure: Total length, 162 (150–172); head and body, 92 (82–99); tail, 72 (62–78); hind foot *with claws* 21.3 (20–23). Seven adults (type and paratypes, in British Museum) of *A. arosus* measure: Total length, 187 (181–199); head and body, 107.4 (100–112); tail, 81 (75–88); hind foot *without claws*, 23 (21–24).

Represented by 38 specimens, collected as follows: Salento, 8, Sept. 25–Oct. 1; Rio Toch , 19, Oct. 24–27; El Roble, 3, Nov. 9; Gallera, 5, June 28–July 4; La Florida, 2, July 8.

Thomas has referred (Ann. and Mag. Nat. Hist. (8), XI, April, 1913, p. 406) to the close resemblance externally of *A. arosus* to *Oryzomys (Melanomys) caliginosus* (Tomes). A re examination of the 36 specimens from Gallera and La Florida recorded by me (this Bull., XXXI, 1912, p. 87) as *O. (M.) phaeopus* and *O. (M.) obscurior* include 8 referable to *A. tolim *. Externally these forms are practically indistinguishable although belonging to different genera; they are thus readily separable on examination of the skulls, only a part of which were available for study at the time the Gallera and La Florida specimens were identified respectively as *phaeopus* and *obscurior*.

***Potos flavus tolimensis* subsp. nov.**

Type, No. 32722, Giradot (alt. about 1500 ft.), Magdalena Valley, Tolima, Colombia; coll. F. M. Chapman, 1911.

Differs from all the other known forms of the genus in its intense coloration throughout.

Pelage short, fine, and very soft. Upperparts grayish fulvous, the hairs dusky brown for the basal half, then broadly banded with fulvous and broadly tipped with black, the black tips forming a conspicuous blackish wash over the greater part of the dorsal surface; whole top of head and nape blackish; a broad black median band from the shoulders to base of tail; tail black above from base to tip, under surface orange buff; sides of neck and head (below ears and the dark eyering), throat, inside of limbs and whole ventral surface intense ochraceous rufous, deepening to rufous along the middle of the belly; outside of limbs like the adjacent parts of the body; ears of medium size, pale yellowish white with tips of hairs blackish.

Total length (type, a flat skin), 1085; head and body, 550; tail, 535. A second specimen measures 1015, 530, 485.

Represented by three flat skins, without feet or skull, but in other respects in excellent condition, purchased of a dealer by Mr. Chapman at Giradot, Tolima, Colombia. A fourth, indistinguishable from the one selected as the type, was in the lot when purchased, but is not at this writing available for examination. Three of the original four specimens were adult and are practically alike; the other repre-

sents a smaller and younger animal, which differs from the others in having the upper parts mainly orange rufous with the extreme tips of the hairs blackish, and the median line of back and tail darker.

This form agrees most nearly with topotypes of *Potos flavus meridensis* Thomas, but is strikingly richer in coloration, with the ears pale fulvous instead of brown, in contrast with the color of the head instead of similar to it, and the sides and ventral surface buffy yellow instead of ochraceous rufous. It is so different from *P. f. modestus*, *P. f. caucensis*, *P. f. chiriquensis*, and *P. f. aztecus* as to require no comparison with them. Unfortunately there is no skull of *tolimensis* for comparison with the skulls of the other forms. The richness of the coloration and the softness of the fur in *tolimensis* are conspicuous in comparison with any of the other described forms.

Martin's *Cercoleptes megalotus*¹ naturally comes up in this connection for consideration. It was based on a single skin (at least no reference is made to the skull) from an unknown locality. This name was adopted by Thomas in 1902² for an assemblage of specimens from Costa Rica and Colombia, including specimens from Santa Marta, but without designation of a type locality. In 1904³ I assigned "the name *megalotus* to the form of eastern Colombia," on the ground that "my Santa Marta specimens [a series of 7] agree far better with the description of *megalotus* than do those from Chiriqui," Panama, which were recognized as representing a subspecies *chiriquensis*. Martin described the ears of *megalotus* as an inch and a quarter long, and as being externally "fully clothed with hairs of a pale yellowish white." The Santa Marta specimens have the ears externally rusty brown like the top of the head, and in a series of nearly 50 specimens of *Potos flavus*, representing all the known forms of the group except *modestus*, the ears are concolor with the top of the head — brown or blackish as the case may be — except the Giradot (Tolima) specimens (*tolimensis* of this paper) and two menagerie specimens without locality and presumed to be true *flavus*. In no other respect, however, does the description of *megalotus* apply to *tolimensis*. If *megalotus* is to be used for any form of *Potos* it seems best to leave it for the Santa Marta form to which it was definitely assigned in 1904.

¹ Proc. Zool. Soc. London, 1836, pp. 82, 83.

² Ann. and Mag. Nat. Hist. (7), IX, April, 1902, p. 267.

³ Bull. Amer. Mus. Nat. Hist., XX, p. 74, Feb. 29, 1904.

***Nasua olivacea lagunetæ* subsp. nov.**

Nasua olivacea ALLEN (not of Gray), Bull. Amer. Mus. Nat. Hist., XXXI, p. 93, April 19, 1912.

Type, No. 33045, ♂ ad., La Guneta (alt. 10,300 ft.), West Quindio Andes, Cauca, Colombia, Sept. 10, 1912; coll. Leo E. Miller and A. A. Allen.

Much darker than *N. olivacea*, the prevailing color of the posterior half of the dorsal surface being nearly uniform black; tail rings nearly obsolete, not sharply defined black and white as in *olivacea*; hair tips "ochraceous buff" (Ridgway, 1912), not fulvous gray as in *olivacea*; basal half of dorsal pelage pale fulvous, not blackish as in *olivacea*.

Type, top of head gray with a broad median blackish stripe extending from the occiput to the bare portion of the nose; sides of head anterior to eyes blackish, with an indistinct broad dusky superciliary stripe; cheeks fulvous gray; anterior two thirds of dorsal surface grizzled dusky and ochraceous, the hairs being fulvous gray for the basal half followed by a narrow band of black and a subapical band of ochraceous buff, the extreme tips of the hairs black; posterior third of back black without ochraceous-tipped hairs; throat and fore breast buff; mid-pectoral region and most of ventral area black, the hairs being buff basally and broadly tipped with black; inguinal region rusty buff; feet externally like the flanks, internally like the ventral surface; tail above black, the rings obsolete and confined to the basal half of the hairs; tail below lighter, the hairs being wholly buffy gray to the base along the median line, with faint indications of rings laterally.

Measurements. Type (measured in the flesh), total length, 676; head and body, 478; tail vertebrae, 258; hind foot, 81. Six adults (the type and 5 topotypes, all males but one) measure: total length, 691 (656–719); head and body, 443 (409–478); tail, 249 (228–270); hind foot, 80 (75–83).

Skull, greatest length, 110; condylobasal length, 110; palatal length, 63; zygomatic breadth, 54; interorbital breadth, 19.5; least postorbital breadth, 18.5; breadth of braincase, 37; mastoid breadth, 38.5; rostral breadth at base of canines, 14.5; maxillary tooththrow, 26; diastema, 5; lower jaw, length, 73; height, angle to condyle, 8.5; height, angle to coronoid, 18; lower tooththrow, 27.5.

Represented by 8 specimens, 6 of which are topotypes. They are all very similar in coloration, the lower back in most of them being black, as in the type, with few or no ochraceous-tipped hairs; in one the whole dorsal surface is profusely grizzled with ochraceous, and more or less so in two others. The upper surface of the tail shows no trace of rings when the hair lies smoothly, when disturbed traces of rings are visible; on the lower surface more or less well-defined rings are visible on the proximal third.

The type locality of *Nasua olivacea* Gray (P. Z. S., 1864, p. 703) is given as "Santa Fé de Bogota." A flat skin (Am. Mus. No. 34561) from the same locality, now before me, may therefore be taken as a topotype, and is found to agree perfectly with Gray's description. The upper surface is uniform grizzled pale buff and black from the head to the base of the tail, which is

black ringed with pale yellowish gray (paler than "light buff" of Ridgway, 1912), the light and dark rings being of about equal extent. The pelage of the dorsal surface at base is dusky; in *lagunetæ*, fulvous gray. The Bogota form (*N. olivacea olivacea*) is thus strikingly different from the above described *N. o. lagunetæ*.

The present collection also contains 8 topotypes of *N. o. meridensis* Thomas. These much more closely resemble the typical (Bogota) form than does the West Andes form here described.

***Tayra barbara senilis* subsp. nov.**

Type, No. 34269, ♀ ad., Manavi, Rio de Oro, Ecuador, Jan. 10, 1913; coll. Wm. B. Richardson.

General coloration as in *T. b. senex* (Thomas) of southern Mexico, the head and neck, as far back as the posterior part of the shoulders, being yellowish white; throat spot yellow; rest of body and the limbs and tail dark brownish black, a little paler than in *senex*, with a slight mixture of whitish-tipped hairs.

Measurements of type, in the flesh: total length 1100 mm.; head and body, 630; tail, 470; hind foot, 90.

Skull, occipito-nasal length, 113; condylo-basal length, 109; palatal length, 56; zygomatic breadth, 70; least postorbital breadth, 23; interorbital breadth, 24; breadth across postorbital processes, 35; mastoid breadth, 54; maxillary tooththrow, 22; lower jaw, front border to condyle, 72; height at condyle, 14; height at coronoid, 33; tooththrow, 24.5. The skull is not appreciably different in size or other features from a comparable old female skull of *senex* from Pasa Nueva, Vera Cruz, Mexico.

Tayra barbara senilis is separated geographically from *senex* by two very different Central American forms, *T. b. biologiæ* and *T. b. incertus*, both very dark colored, with the head nearly (or quite in *incertus*) concolor with the deep black body.