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MAMMALS FROM THE COAST AND ISLANDS OF NORTHERN SOUTH AMERICA.

BY WILFRED H. OSGOOD.

While collecting birds for the Field Museum during 1908 and 1909, Dr. N. Dearborn and the late Mr. John F. Ferry secured a few specimens of mammals in northern Venezuela and on several of the nearby islands. Most of these are such as chanced to fall to their guns, since they carried no traps and made no special effort to obtain a representative collection of mammals. The collection, therefore, is a small one, but so little mammal collecting has been done in this region that many of the specimens are of considerable interest and several prove to belong to undescribed forms. The principal localities represented are in the districts of Aragua and Zulia, Venezuela, and on the islands of Aruba, Curaçao, Testigos, and Margarita.

In reporting on the specimens collected by Messrs. Dearborn and Ferry, it has seemed desirable to include descriptions of two new species from other sources, but from the same general region. One of these is a squirrel from Tobago acquired by the Museum with the Cory collection of birds and the other is a deer from Margarita Island, presented by Mr. C. Freeman of Puerto Viejo.

Didelphis marsupialis Linnæus.

One specimen, Lake Valencia, Venezuela; collected by N. Dearborn. This is in very pale, somewhat worn pelage, chiefly whitish, but agrees with specimens in similar condition from Guiana representing typical *marsupialis*.

Tamandua tetradactyla instabilis Allen.

One specimen, Oropé, Zulia, Venezuela; collected by N. Dearborn. This is too young to show any subspecific characters, but it seems reasonable to refer it to the Colombian form *instabilis* rather than to typical *tetradactyla* of Brazil. If it were assumed, as has been done,* that Guiana is the type locality of *tetradactyla*, it might be safer on geographic grounds to refer our specimen to that form.

* Allen, The Tamandua Anteaters, Bull. Am. Mus. Nat. Hist., N. Y., XX, p. 391, Oct. 1904.

But examination of the principal literature concerned is convincing that Brazil and not Guiana should be regarded as the type locality of *tetradactyla*. Linnæus based the name entirely on Marcgrave and Ray, these being the only authors cited in the sixth edition of the *Systema*, and only one, Seba, being added in the tenth edition. Marcgrave referred exclusively to Brazil, and apparently Ray also, since he uses the words, "Tamandua I Brasiliensibus."¹ Subsequent authors, so far as consulted, almost invariably give Brazil or Brazil and Paraguay as the habitat of *tetradactyla*. In one case,² Brazil is definitely stated to be the type locality. The fact that the name *tamandua* is of Brazilian origin also is worthy of consideration. If, therefore, it is necessary to consider *tetradactyla* as Brazilian, the status of *Tamandua t. chapadensis* becomes involved, for with *tetradactyla* Linnæus, *bivittata* Desmarest, *opisthomelas* Gray, and *straminea* Cope, all from Brazil, it is difficult to see how room can be found for still another.

Odocoileus margaritæ sp. nov.

Type from vicinity of Puerto Viejo, Margarita Island, Venezuela. No. 18,137 Field Museum of Natural History. Adult male. May, 1910. Presented by C. Freeman.

Characters. Size small; metatarsal gland absent; color practically as in *O. gymnotis*; hairy part of ears about base and at side considerably darker, more grizzled; white area on upper throat slightly more restricted; median line of chest darker. General color of upperparts tawny ochraceous to clay color, the hairs pale fawn at base and tipped with bright creamy ochraceous; lower sides and flanks becoming paler, almost cream buff, with little or none of the finely punctulated appearance of the median dorsal region; a line from the top of the head to the interscapular region distinctly darker than remaining upperparts; upper throat rather narrowly white; lower throat and sides of neck pale grayish fawn, finely punctulated; cheeks same as sides of neck; a well-defined creamy white eye-ring, interrupted on the upper side posteriorly by an extension of buffy from the top of the head; top of head with long coarse hairs tipped with buffy and separated from the grizzled short hairs of the rostrum and antorbital region by an indistinct V-shaped blackish marking; rhinarium narrowly bordered by white above and broadly on the sides; a buffy white marking from the top of the rostrum to the angle of the mouth

¹ Fide Erxleben, *Syst. Regn. Anim.*, p. 95, 1777. Rey's work not accessible.

² Miller and Rehn, *Proc. Bost. Soc. Nat. Hist.*, XXX, p. 10, Dec. 1901.



Upper figure — Type of *Otocolobus margarita*. No. 18137 Field Museum of Natural History.
Lower figure — *Otocolobus gymnotis* from La Guaira, Venezuela. No. 36317 U. S. National Museum.
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Upper figure Type of *Orangia nasuta*. National Field Museum of Natural History.
Lower figure No. 1000000, from La Guana, Venezuela. National U. S. National Museum.
Reduced 2/5

and thence to the white of the chin; a prominent blackish spot on each side of the chin with an irregular line of buffy between; outside of ears naked medially, grizzled buffy at the base and more blackish along the anterior edge, inside broadly white at the base and rather heavily clothed with white toward the tip; underparts broadly brownish buff on the breast and for a short distance posteriorly on middle of abdomen, the middle part forming a distinct dark line; abdomen, inguinal region, and inner sides of hind legs nearly to hock, white; inner sides of forelegs white to the elbow joint, this white being unconnected with that of the abdomen; front side and lower half of legs nearly clear buffy ochraceous, somewhat paler posteriorly; tail ochraceous above, white below.

Skull and teeth decidedly smaller than in *O. gymnotis*; audital bullæ smaller and more rounded; frontals very abruptly elevated and strongly ridged medially; occipital condyle lower than the palatal plane; antorbital vacuities relatively small; frontals deeply indented between the base of the horn pedicel and the orbit; upper molariform teeth slightly smaller than in *O. gymnotis*; lower molar teeth also somewhat smaller, but first and second lower premolars actually and relatively larger; posterior lobe of last lower molar reduced to a slender column. Antlers small and rugose except at points, consisting of a single branch with a slight fork at the tip and a stout upright subbasal snag.

Measurements. Type (dressed skin, measured dry): Total length 1,415; head and body 1,310; tail vertebrae 105; hind foot 293; ear from notch 110. Skull of type and of an adult male *O. gymnotis*, respectively: Greatest length 218, 261; basilar length 191, 230; tip of premaxillæ to end of palate 136, 162; zygomatic width 90, 107; mastoid width 70.8, 83.7; interorbital width 52, 63; median length of nasals 59.5, 79; greatest width of nasals 27.4, 30; width between outer sides of second upper molars 62.9, 73.5; length of upper molariform series (crowns) 64.5, 71.2; length of first and second lower premolars 20, 18.4.

Remarks. Externally there is little except its smaller size to distinguish this insular species from its mainland relative *O. gymnotis*. Its skull, however, differs markedly from that of *gymnotis* not only in size but also in many detailed characters, while in its abruptly elevated braincase it differs from any deer known to me. The type and only specimen was secured and presented by Mr. C. Freeman of Puerto Viejo in generous response to the suggestion of Mr. Ferry, who was greatly assisted by Mr. Freeman during his work on Margarita

Island. The deer was kept alive by Mr. Freeman for nearly a year, and according to his statement was about a year and a half old at the time of shipment. It was received alive at New York, May 16, 1910, and there killed and prepared as a museum specimen. For comparison with it, two specimens from the mainland of South America have been available, representing *Odocoileus gymnotis* or an allied form. One of these is an adult male (skin and skull) from La Guaira, Venezuela, courteously loaned by the U. S. National Museum through Mr. N. Hollister, Assistant Curator of Mammals; the other, a young male (skull only) from San Mateo de Caicara, Orinoco River, Venezuela, for the loan of which the Museum is indebted to Mr. F. A. Lucas, Curator-in-Chief of the Museum of the Brooklyn Institute of Arts and Sciences.

Sciurus nesæus G. M. Allen.

Two specimens of this well-marked species are in the collection taken by Mr. Ferry on Margarita Island.

Sciurus griseogena Gray.

Two specimens, Mountains near Maracay, Aragua, Venezuela; collected by N. Dearborn. These agree very closely with Gray's type, with which they were compared in the British Museum. They show much resemblance in general appearance to *S. hoffmanni* and doubtless are closely related to that species, though readily distinguishable by their more rufescent tails. Two specimens from Caracas collected by Mr. Ferry may be referable to *griseogena* also, but their general color is much paler, being scarcely brighter than in *S. quebradensis*.

Sciurus versicolor zuliæ subsp. nov.

Type from Orope, Zulia, Venezuela. No. 16,584 Field Museum of Natural History. Adult male. Collected March 1, 1908, by Ned Dearborn.

Characters. Similar to *Sciurus versicolor* of Ecuador but with black instead of ferruginous predominating on the nape and interscapular region; feet and upper side of forelegs scarcely grizzled but nearly clear ferruginous; tail more broadly black terminally; black of back continuous with that of proximal part of tail; pelage rather short and harsh. Upperparts chiefly black to roots of hairs, only the lower sides, the shoulders, hips, and thighs being mixed black and ferruginous; interscapular region, nape and top of head mainly

black with a light punctulate mixture of tawny ochraceous; feet, toes, and upper side of forelegs clear, rich ferruginous; underparts clear ferruginous with or without irregular white markings on the throat and chest; chin and sides of throat finely mixed dusky and clay color, only slightly paler than cheeks; upper side of tail black proximally and terminally, the intervening part clear ferruginous (the hairs of this part very narrowly or quite broadly black basally); terminal black occupying nearly or quite one-third of length; under side of tail black with a broad ferruginous edging in middle or black proximally and terminally with clear ferruginous or mixed black and ferruginous in middle.

Measurements. Type: Total length 440; head and body 235; tail vertebræ 205; hind foot (s. u.) 57; ear 26. Skull of type: Greatest length 68.3; basilar length 45.5; zygomatic breadth 33.6; inter-orbital breadth 17.7; median length of nasals 18.8; diastema, 15.5; crowns of upper toothrow 9.4.

Remarks. This form, like typical *versicolor*, is doubtless highly variable, but the three specimens examined differ constantly from any of a considerable series of typical *versicolor* in at least three characters, increased black across the shoulders and nape, increased black on the end of the tail, and decrease or entire absence of black on the feet and forelegs. In *versicolor*, there is only an inch of terminal black in the tail at the most and many specimens have the tail ferruginous to the very tip; while in *zuliæ* the terminal black amounts to as much as three inches. The only other form likely to be related is *Sciurus variabilis morulus* of Panama, which is said to have "most of the hairs above, . . . ringed-blackish at base, then ferruginous, and blackish again at tip"; whereas, in *zuliæ* the hairs of the back are pure black to the roots.

***Sciurus tobagensis* sp. nov.**

Type from Tobago Island, Caribbean Sea. No. 14,954 Field Museum of Natural History. Adult female. Collected May 12, 1892, by W. W. Brown, Jr.

Characters. Similar to *Sciurus chapmani*, with which it agrees in size and general coloration, but terminal color of hairs of tail paler and subterminal black more extensive; sides of face slightly more richly colored. Color of tail much as in *S. hoffmanni*, but size decidedly smaller. The subterminal black in the hairs of the tail forms a well-defined lateral stripe about 5 mm. in width extending the length of the tail to a broad black tip 25 to 50 mm. in width. In *chapmani*, the black lateral stripe and subapical black is much reduced

and in specimens in slightly worn pelage is scarcely distinguishable from the grizzled central part of the tail, especially when viewed from the under side. General color of upperparts mixed "peppery," clay color and blackish; orbital ring and sides of nose clay color to ochraceous; chest and belly clear ochraceous rufous; upper side of tail from a point about 50 mm. from its base to the black of the tip mostly clear ochraceous instead of hazel or ferruginous as in *chapmani*; tip of tail black with few ochraceous hairs intermixed and a few of the black hairs faintly tipped with ochraceous. Skull practically as in *chapmani*.

Measurements. Type (dry skin): Total length 330; head and body 165; tail vertebræ 165; hind foot (c. u.) 45.

Remarks. The heavy black tip of the tail is the principal character distinguishing this form from *S. chapmani*. A complete revision of this group of squirrels with ample material is necessary before it will be possible to decide how many of the various described forms should be regarded as species and how many as subspecies.

Dasyprocta variegata colombiana Bangs.

One specimen, Orope, Zulia, Venezuela; collected by N. Dearborn. Comparison of this and other specimens of the same form with those belonging to allied forms from Panama to Peru shows sufficiently complete intergradation to convince that at least *colombiana* and *isthmica* should be regarded as subspecies of *variegata*.

Hydrochærus capybara Linnæus.

One specimen (skull only), Lake Valencia, Venezuela; collected by N. Dearborn.

Sylvilagus cumanicus Thomas.

One specimen, Maracay, Venezuela; collected by J. F. Ferry. This is by no means typical, being considerably larger and more rufescent than the type of *cumanicus*. It is also decidedly larger than *S. orinoci* but agrees closely with that species in color. Its external resemblance to the insular form *margaritæ* also is marked. Without a series of typical *cumanicus*, however, it does not seem safe to separate it from that species. Possibly it should be regarded as intermediate between *orinoci* and *superciliaris*, since it agrees in color with one and in size with the other.

Sylvilagus nigronuchalis (Hartert).

Three specimens, Aruba Island, collected by J. F. Ferry; one specimen, Curaçao, collected by N. Dearborn. The single adult

from Aruba, the type locality of this species, is in rather worn bleached coat much paler than that of the one from Curaçao, which is quite fresh and new. The skull of the Curaçao specimen also differs in narrower nasals and interorbital region and in slightly weaker dentition. Without additional material it is impossible to judge of the importance of these differences.

***Sylvilagus margaritæ* (Miller).**

Thirteen specimens, Puerto Viejo (5), Porlamar (1), and Macanao (7), Margarita Island, Venezuela; collected by J. F. Ferry. A few of this series have the under side of the tail nearly pure white and the sides lighter and more grayish than the back, thus approaching the coloration of *S. cumanicus*. The sides of the head and face are in nearly all cases uniform grayish with slight buffy or more heavily grizzled areas below the eye and between the eye and the ear.

***Sylvilagus avius* sp. nov.**

Type from Testigos Islands (Testigo Grande), Venezuela. No. 16,593 Field Museum of Natural History. Adult female. Collected February 14, 1909, by John F. Ferry.

Characters. Similar to *Sylvilagus margaritæ* but smaller and darker; skull smaller and relatively broader; audital bullæ smaller. Upperparts pale cinnamon rufous and black, the hairs rufous subterminally and broadly black terminally; shoulders and rump slightly lighter than back but not grayish as in *S. cumanicus* and *S. superciliaris*; top of head rich cinnamon rufous finely mixed with black, darker than in allied forms; upper side of tail, hind legs and sides of hind feet nearly clear cinnamon rufous; a buffy white line over the eye and a rufous spot below it; remainder of sides of face pale whitish clay color mixed with black, the black more intense posteriorly where it forms a rather distinct blackish area between and below the eye and the ear; underparts dull whitish, strongly tinged with buff on the chest and along the sides of the belly where the transition to the color of the sides is rather gradual; under side of tail dull dark buff. Skull rather short and broad; incisor teeth relatively heavy, cheek teeth weaker than in *margaritæ*; audital bullæ smaller.

Measurements. Type: Total length 420; tail vertebræ 20; hind foot 85; ear 53. Skull of type: Greatest length 74.5; basilar length 57.7; zygomatic breadth 36; interorbital breadth 19.2; combined width of nasals 15.6; diastema 21.2; width between outer sides of maxillary tooththrows 23.2; alveolar length of maxillary tooththrow 15.3.

Remarks. This form and also *S. margaritæ* and the mainland forms *cumanicus*, *orinoci* and *superciliaris* are doubtless allied to *S. brasiliensis* and *S. minensis* and quite probably some, if not all, will eventually be reduced to subspecific rank.

Felis pardalis subsp.

One specimen, a fine adult male from Orope, Zulia, Venezuela; collected by N. Dearborn. This differs from typical *pardalis* to some extent in color and quite markedly in cranial and dental characters. The form which it represents is possibly undescribed but the confused state of nomenclature caused by the large number of worse than useless names given by early authors to members of this group makes it impossible to identify specimens without extended studies and reference to material in museums in various parts of the world.

Mormoops megalophylla intermedia Miller.

Eighty specimens, Curaçao, Dutch West Indies; collected by N. Dearborn.

Phodotes tumidirostris (Miller).

Two specimens, Curaçao, Dutch West Indies; collected by N. Dearborn.

Noctilio minor sp. nov.

Type from Encontrados, Zulia, Venezuela. No. 18,044 Field Museum of Natural History. Female adult (in alcohol). Collected February 15, 1908, by N. Dearborn.

Characters. Allied to *Noctilio albiventer*, but smaller throughout; foot, tibia, and forearm shorter; skull and teeth decidedly smaller; braincase shorter and more nearly spherical, but with rather marked depression of the parietals on each side of and near the base of the well-developed sagittal crest; supraorbital crests more abruptly divergent; m^1 and m^2 separated by a slight space and with the commissure less obvious between the hypocone and the commissure between the protocone and the metacone. Ear laid forward, reaching slightly beyond muzzle; forearm with wings folded extending 4-6 mm. beyond the muzzle; chin with various small plications, nowhere smooth; a lunate lappet below the central prominence of the lower lip and from the lower side of this an undulate cutaneous ridge extending roughly parallel with each side of the lower lips; below this lappet two additional but smaller and scarcely differentiated median promi-

nences from which slender ridges extend backward about 6 mm.; six small papillæ on each side of the face, two pairs behind each nostril and one pair behind each upper lip; ear slightly lobulate terminally. Color of upperparts a little lighter than mummy brown; a narrow, whitish median streak from the interscapular region backward; underparts tawny olive, somewhat brighter on the sides near the base of the volar membrane.

Measurements. Head and body 67; tail 12; ear conch, inner margin 17.5, outer margin 20.5, breadth 8.7; tragus 4; forearm 58.4; pollex 10; 3rd metacarpal 51.5; 4th metacarpal 52.5; 5th metacarpal 50.4; foot with claws 15.6; tibia 21.5; calcar 30.5. Skull: Condylion to front of canine 17.2; zygomatic width 14.6; mastoid width 12.6; width of braincase 11.2; inion to anterior division of sagittal crest 12.5; upper teeth, c-m³ 7.5; width of m² 2.7.

Remarks. The differences between the above-described species and *Noctilio albiventer* are quite convincing of their distinctness although only one specimen of each has been available for comparison. Of these, one (the type) is in alcohol and the other is a dry skin from Brazil, kindly loaned by the authorities of the U. S. National Museum through Mr. N. Hollister, Assistant Curator of Mammals. No comparison has been possible with *Noctilio zaparo* Cabrera but since that species is even larger than *Noctilio albiventer* it need not be considered. Careful comparison of *N. albiventer* and *N. minor* with a specimen of *N. leporinus mastivus* shows so much detailed similarity throughout even to minor external features and color, that it is difficult to subscribe to their generic separation. The genus *Dirias*, with *Noctilio albiventer* as type, has been separated from *Noctilio* (type *N. leporinus*) on the basis of a proportionately shorter tibia and foot, slight spaces between upper molar teeth, and the development of a well-defined commissure from the hypocone of m¹ and m² to the commissure extending from the protocone to the metacone.* The commissure is not absent in *N. mastivus* but merely not so well developed as in *N. albiventer*. But in *N. minor*, the commissure is scarcely more prominent than in *N. mastivus*, while the spacing of the upper molars is practically the same as in that species, due allowance being made for the disparity in size. In dental characters, therefore, *N. minor* is intermediate between "*Dirias*" and *Noctilio* and even nearer to the latter; while in the relative shortness of its foot and tibia it differs from typical *Noctilio* even more widely than does *albiventer*, the

* See Miller, The Families and Genera of Bats, Bull. 57, U. S. Nat. Mus., p. 99, 1907.

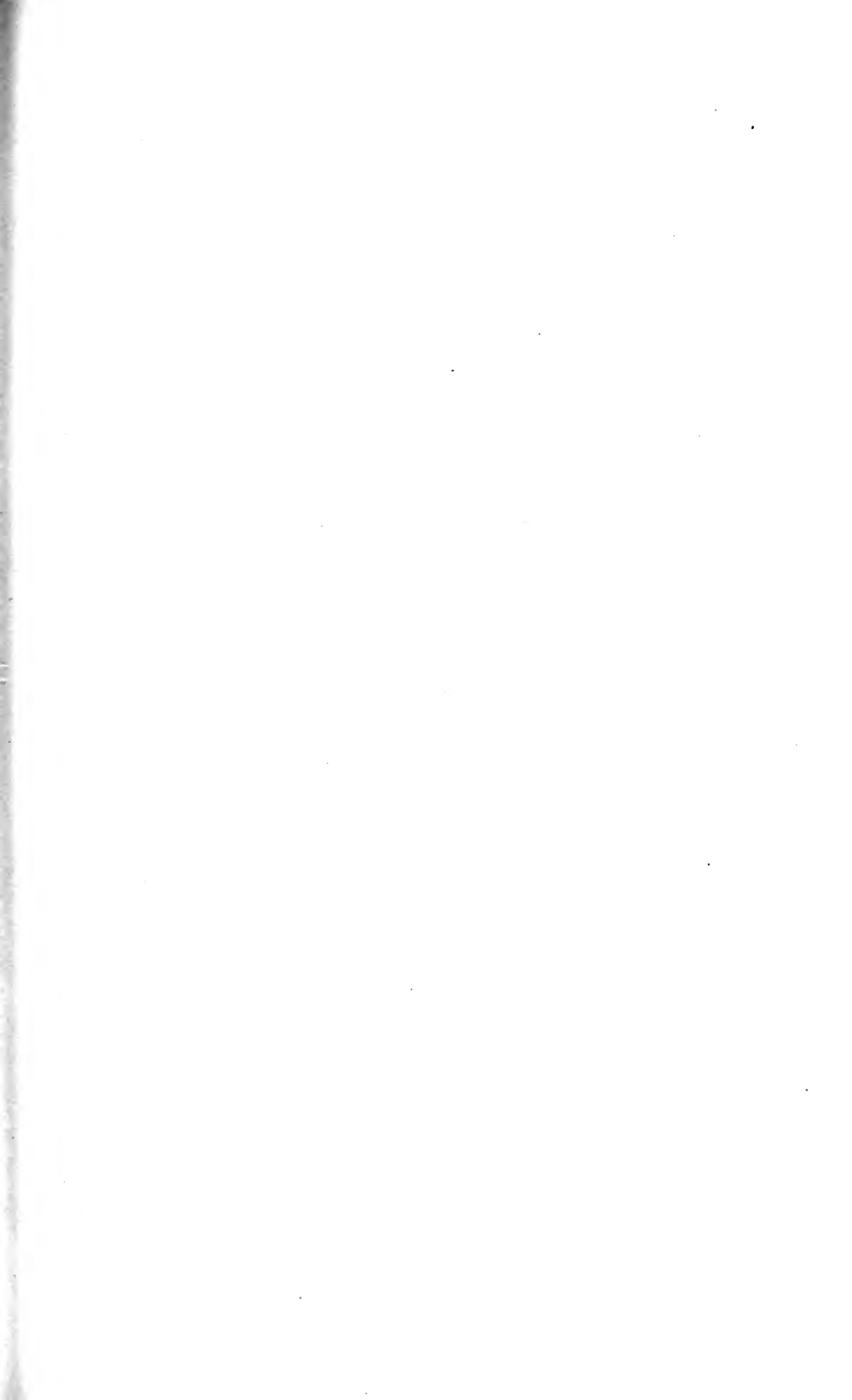
genotype of *Dirias*. Evidently the dental characters are not correlated with the length of the tibia and foot in any natural association of species, and since it is difficult to see generic significance in the relative shortness of the tibia and foot, the recognition of *Dirias* as a distinct genus is open to serious question.

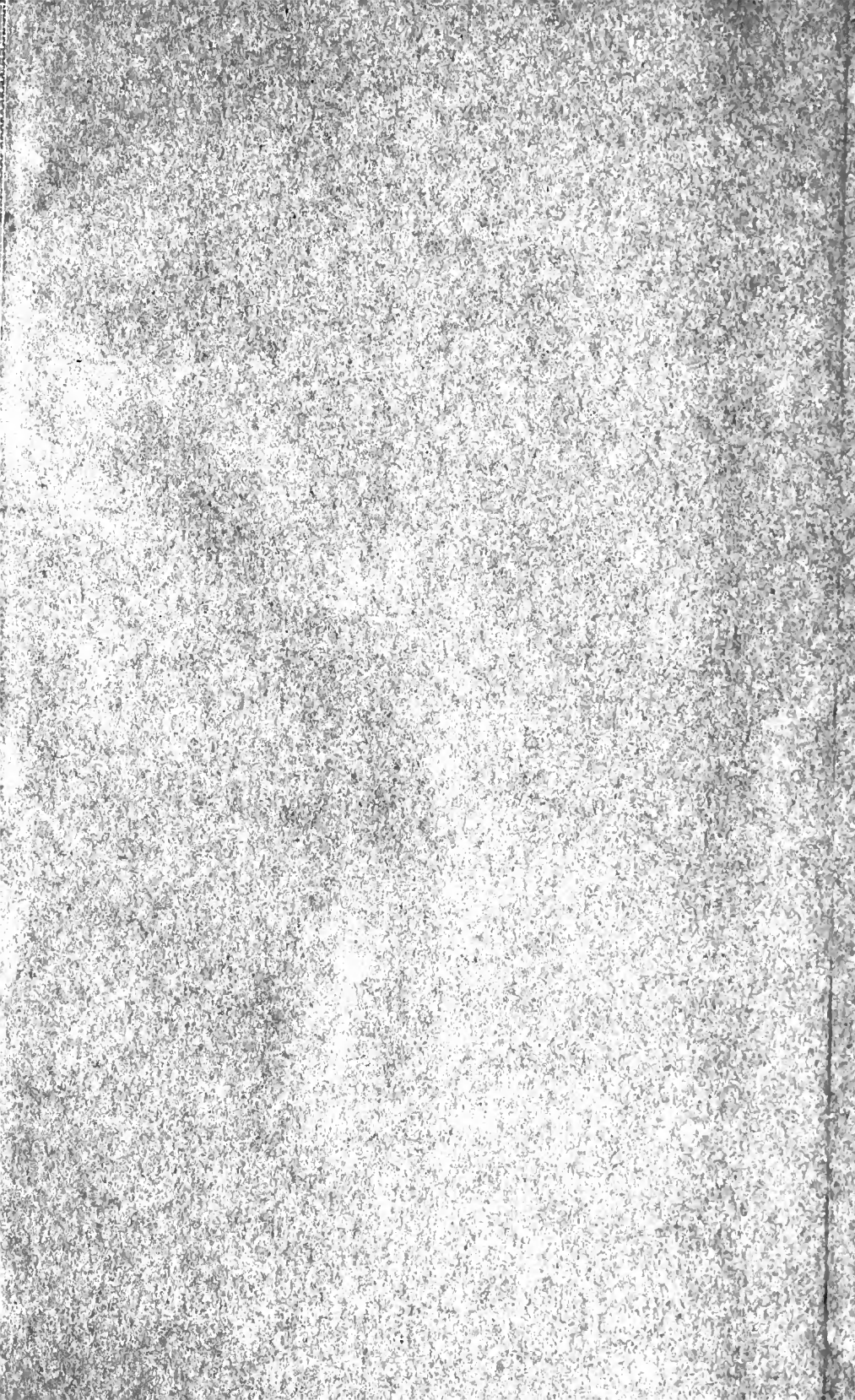
***Cebus apella leucocephalus* Gray.**

Seven specimens, Orope, Zulia, Venezuela; collected by N. Dearborn. One of these (No. 16,567) has been compared with the type of *Cebus leucocephalus* in the British Museum. The type is somewhat larger and its pelage slightly fuller and longer than in our specimen, but the color is practically identical, the only difference being in the color of the under side of the tail which is slightly darker in the type. Comparison has not been made with *Cebus albifrons* and it is therefore somewhat of an assumption to use the name *leucocephalus* as that may possibly prove to be a synonym of *albifrons*. However, the belief that *leucocephalus* differs from *albifrons* is encouraged by the original description* of *albifrons*, which states that the forehead is black, whereas in our specimens it is brown. Moreover, the face in our specimens is scarcely white, but pale brown. The locality assigned to *leucocephalus* by Gray is simply "Columbia"†—but its agreement with our specimens makes it probable that the exact locality was at least in northeastern Colombia and probably in western Venezuela near the coast. This is the more probable since a well-distinguished form (*malitiosus*) inhabits the Santa Marta region.

* As follows: "*Simia albifrons*, ex albo cinerascens, vertice nigro, facie caerulea, fronte et orbitis niveis, cruribus et brachiis fuscentibus."

† P.Z.S., 1865, p. 827.





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