Article II.—ON A SECOND COLLECTION[1] OF MAMMALS FROM THE ISLAND OF TRINIDAD, WITH DESCRIPTIONS OF NEW SPECIES, AND A NOTE ON SOME MAMMALS FROM THE ISLAND OF DOMINICA, W. I.

By J. A. ALLEN and FRANK M. CHAPMAN.

In 1894 the junior author made a second trip to the Island of Trinidad, for the purpose of investigating further the birds[2] and mammals of this interesting island. On the second trip, more especial attention was given to mammals, with the result of obtaining not only all but seven of the species collected on the first visit, but 13 additional species, including five here described as new, and three others not before recorded from the island. This raises the total number of species attributed to the mammalian fauna of the island to 70. One of these is now reduced to a synonym, and four should probably be deducted as based on unsatisfactory evidence, namely, *Cercoleptes caudivolvulus*, *Dicotyles labiatus*, *Cholœpus didactylus*, and *Myrmecophaga jubata*, respecting which no information could be obtained of their occurrence on the island. This leaves 65 as the number of thoroughly authenticated species.

The collection of 1894 numbers 323 specimens, which with the 200 specimens collected in 1893, forms a very satisfactory basis for a review of the mammals of Trinidad. Doubtless some others are still to be added, especially among the Bats.

About six weeks (March 12 to April 27) were spent in field work, about equally divided between Caparo, in the west-central part of the island, and Caura, at the head of the Caura Valley, in the mountains forming the northern coast-line of the Island.[3] The junior author desires to express his deep obligations to

[1] On a Collection of Mammals from the Island of Trinidad, with Descriptions of New Species. By J. A. Allen and Frank M. Chapman, Bull. Am. Mus. Nat. Hist., Vol. V, 1893, pp. 203–234. Published Sept. 21, 1893.

[2] Further Notes on Trinidad Birds, with a Description of a New Species of *Synallaxis*. By Frank M. Chapman. *Ibid.*, Vol. VII, 1895, pp. 321–326.

[3] For a further account of the localities visited, see this Bulletin, Vol. VII, 1895, pp. 321, 322.

Messrs. Albert B. Carr and J. E. Lickfold for the generous hospitality and assistance that rendered his sojourn at these localities so agreeable and his labors so successful. He is also greatly indebted to Mr. F. W. Urich for many favors.

An asterisk is prefixed to the species not taken in 1893.

1. **Mycetes seniculus** (*Linn.*).—Two specimens, adult male and female, were taken and presented by Mr. Arthur Carr. Not uncommon at Caparo.

2. **Saccopteryx bilineata** (*Temm.*).—Four specimens—Caparo, 1 ; Caura, 3.

3. **Saccopteryx leptura** (*Schreber*).—Eleven specimens—2 from Port-of-Spain, 2 from Caura, 4 from Caparo, and 3 from Caroni River, the latter collected and presented by Mr. F. W. Urich.

*4. **Saccopteryx canina** (*Wied*).—Six specimens, all from Port-of-Spain.

The species observed of the genus *Saccopteryx* are low-flying bats that course rapidly to and fro for insects through the openings in the forest or over tree-bordered roads. As at Princestown, they were sometimes seen feeding in the shade of the forest during the day.

5. **Molossus rufus** *Geoffr.*—Eleven specimens—5 from Caparo, 6 from Port-of-Spain.

This is one of the most common and by far the most frequently observed bats in Trinidad. Both at Caparo and Caura it appeared in large numbers just after sunset, flying rapidly to and fro and, as a rule, at such a height as to be out of gun-shot.

6. **Molossus obscurus** *Geoffr.*—This species was not observed at either Caparo or Caura, but it is apparently very common at Port-of-Spain, where one specimen was collected.

*7. **Pteronotus davyi** *Gray.*—One specimen, Port-of-Spain, presented by Mr. J. H. Hart.

*8. **Vampyrus spectrum** (*Linn.*).—Two specimens, from Cedros; presented by Mr. F. W. Urich. First record for the Island.

*9. **Phyllostoma hastatum** (*Pall.*).—Three specimens—2 from Caura and one from Caparo, the latter collected and presented by Mr. William Brewster.

*10. **Hemiderma brevicaudum** (*Wied*).—Represented by 21 specimens—9 from Caparo, 8 from Caura, and 4 from Port-of-Spain, the latter collected and presented by Mr. F. W. Urich. Common at both Caura and Caparo.

This is the only one of the fruit-eating bats which was commonly observed at Caparo. It frequented the vicinity of the house in numbers, and could be easily trapped by using a bit of ripe banana as bait. At Caura they were equally common, and large numbers nightly visited a small tree growing in the door-yard to feed on a small, green fruit with which it was laden. So quickly did they pick this fruit and fly away with it, that even with the luminous western sky as a background it was so difficult to shoot them that only one bat was killed during three weeks' stay at Caura, although the attempt was made every evening.

*11. **Glossophaga soricina** (*Pall.*).—Three specimens, from Port-of-Spain.

*12. **Artibeus planirostris** (*Spix*).—Twelve specimens, found hanging in a cluster in a large tree in the Botanic Gardens, Port-of-Spain, were collected with the assistance of Mr. W. E. Broadway, April 27, 1894.

*13. **Artibeus hartii** *Thomas*.—Two specimens, collected by Mr. A. B. Carr, at Caparo.

*14. **Artibeus bilobatus** (*Peters*).—Six specimens, from Caparo. Two females contained each a single embryo. These bats were found hanging in groups of four to seven individuals beneath the leaf of a palm or banana.

15. Artibeus palmarum, sp. nov.

Artibeus, sp. nov. ? ALLEN & CHAPMAN, Bull. Am. Mus. Nat. Hist. V, 1893, p. 208.
Phyllostoma perspicillatum GEOFFROY, Ann. du Mus. XV, 1810, pp. 176, 185 (La Guyane). Not *Vespertilio perspicillatus* Linn. *Cf. anteà*, pp. 3–5.
Artibeus perspicillatus, in part, of recent authors, but not of Linnæus.

Color, both above and below, Prout's brown, the basal two-thirds of the fur lighter; on each side of the face a broad conspicuous white stripe runs from the outer posterior base of the nose leaf to a point opposite the middle of the ear; a short, narrower, but very distinct white stripe occupies the middle half of the distance between the angle of the mouth and the lower edge of the ear. Membranes dark brown, the metacarpals, phalanges and the wing tips lighter, the outer phalanx of the second digit nearly white. Short fur, colored like that of the adjoining parts extends to the middle of the fore arm, varying in amount in different specimens.

The color varies in different specimens from hair brown to light Prout's brown, rather duller below. In one specimen the head and body anterior to the shoulders is pale cinnamon brown, in rather sharp contrast with the rest of the body.

Measurements.—Adult male (type, No. 7481), head and body, 91; head, 33; nose leaf, 15x9.5; ear, from inner base, 21, from crown, 13.5; fore arm, 68; thumb (with claw), 13; 3d digit, metacarp. 64, 1st phal. 23, 2d phal. 38, 3d phal. 18; calcaneum, 9; foot, 14; width of interfemoral membrane, 17.

An adult female (No. 7480) is slightly larger, measuring as follows: Head and body, 90; head, 33; nose leaf, 13x8.5; ear from inner base, 21, from crown, 13; fore arm, 69; thumb (with claw), 13; 3d digit, metacarp. 68, 1st phal. 24, 2d phal. 39, 3d phal. 19; tibia, 30; calcaneum, 9; foot, 15; width of interfemoral membrane, 18.

Five females average: fore arm, 68; thumb, 12; 3d digit, metacarp. 67, 1st phal. 24, 2d phal. 38; tibia, 26.

Skull (♀ ad., No. 7478), total length, 31; basal length, 24; zygomatic breadth, 19; mastoid breadth, 16.

Type, No. 7481, ♂ ad., Port-of-Spain, Trinidad, April 27, 1894; Frank M. Chapman.

This species is represented by a skin, without skull, taken in 1893, and six specimens (1 male and five females) taken, with the assistance of Mr. W. E. Broadway, in the Botanic Gardens, at Port-of-Spain, April 27, 1894.

This is, in part, the *Artibeus perspicillatus* of most authors, but, as already shown (*anteà*, p. 3), it is not the *Vespertilio perspicillatus*

of Linnæus, which was based practically on Sloane and Edwards (the other references given by Linnæus are valueless, because not identifiable), and is the tailless leaf-nosed bat of Jamaica, to which the name *perspicillatus* should be restricted. From true *Artibeus perspicillatus* the present species differs notably in color, particularly in the presence of two prominent broad white head stripes, and two narrower and shorter whitish cheek stripes. It is also very much larger, the fore arm measuring 68 mm. against 56 in true *perspicillatus*, with all the other dimensions proportionately larger. The skull is much more massive, at least one-third larger in general bulk, and about one-sixth larger in linear measurements.

As a specimen from Yungas, Bolivia, is practically of the same size as Trinidad specimens, and resembles it in the possession of head stripes, though much darker in general coloration, it is probable that the bat here described as *A. palmarum* has a wide range on the mainland of South America, subject doubtless to much local differentiation.

***16. Felis tigrina** *Erxl.*—A two-thirds grown male, taken by Mr. Arthur Carr at Caparo, is provisionally referred to this species. (This is probably the species recorded in Mr. Thomas's List [Journ. Trinidad Field Naturalists' Club, No. 7, 1893, p. 7] as "*Felis*, sp.")

17. Galictis barbara (*Linn.*).—One specimen, adult female, Caparo, March 28. Shot by Mr. Arthur Carr, from a tree, in which were five or six others.

18. Procyon (Euprocyon) cancrivorus (*Cuv.*). — One specimen, young adult female, Caura, April 2.

19. Sciurus æstuans hoffmanni *Peters.*—One specimen, Caparo.

20. Nectomys palmipes *Allen & Chapman.*—Twenty-six specimens, of which 22 are from Caparo and 4 from Caura.

21. Rhipidomys couesi *Allen & Chapman.*

Tylomys couesi ALLEN & CHAPMAN, Bull. Am. Mus. Nat. Hist. V, 1893, p. 211.

Five specimens, Caura, three of which are young adults, and two are two-thirds grown young. The adults closely resemble the type in coloration, but are very much smaller. The young examples differ from the adults in being above dull hair brown, with a slight yellowish wash, most developed on the sides.

With only a single bad skin of *Tylomys*, with no skull, and no example whatever of the genus *Rhipidomys*, we were misled by external resemblances into referring this species to the genus *Tylomys*, as Mr. Oldfield Thomas has kindly pointed out to us (*in litt.*) on our sending a specimen to him for examination.

Three adults measure as follows:

	Total Length.	Tail Vertebræ.	Hind Foot.	Ear.
No. 5956 ♂	460	252	35	24
" 7320 ♀	378	196.5	30	21
" 7503[1] ♀	350	185	31	21

This is a tree-inhabiting rat, and is said to do considerable damage to cacao pods, which it gnaws in order to procure the seeds.

22. Oryzomys speciosus *Allen & Chapman.*—One specimen, not quite adult, Caparo. Differs from the adult type in being brown washed with yellowish, instead of being strong yellowish rufous, as in the adult.

23. Oryzomys trinitatis *Allen & Chapman.*—Thirty-four specimens—13 from Caparo and 21 from Caura.

24. Oryzomys velutinus *Allen & Chapman.*—Eight specimens—2 from Caparo, 6 from Caura.

25. Oryzomys brevicauda *Allen & Chapman.*—Thirty specimens—9 from Caparo, 21 from Caura.

[1] Alcoholic.

*26. Oryzomys delicatus, sp. nov.

Size small. Above yellowish brown, darker and more rufous brown medially, mixed sparingly with blackish-tipped hairs; rump clear yellowish rufous; sides paler, yellowish buff; beneath clear buff; legs like the adjoining parts of the body; feet yellowish white. Hind foot, 21.

Skull, total length, 23; basal length, 21; palatal length, 9.7; zygomatic breadth, 6.5; width of brain-case, 15; length of nasals, 8; length of upper tooth row, 3.

Type, and only specimen, No. $\frac{7\,8\,1\,7}{6\,9\,2\,6}$, ♂ ad., Caparo, Trinidad, March 20, 1894; Frank M. Chapman.

This species is based on a single specimen, which was unfortunately mutilated in the trap by some predaceous animal before it was secured, the tail, ears, and the skin of the nose and feet being defective. In general coloration it closely resembles *Oryzomys costaricensis* Allen, but is paler and grayer, especially on the sides, the hind foot is longer, and it was apparently a somewhat larger animal. The skull is larger, somewhat differently shaped, and differs throughout in minor details. The longer and much narrower nose, the narrower and much more delicate teeth are among the more striking differences. It is entirely unlike any other species known from Trinidad.

27. Akodon urichi, sp. nov.

Abrothrix caliginosus ALLEN & CHAPMAN, Bull. Am. Mus. Nat. Hist. V, 1893, p. 217. (Provisional reference.)

Adult.—Above dark rusty chestnut finely punctated with black; below paler, more yellowish, with often a slight grayish cast. Ears large, black, naked externally, clothed on the outer margin within with short, dark rusty brown hairs, often quite thickly. Tail about one-third the total length, black, apparently naked, but with a lens short black hairs can be seen, which do not at all obscure the annulations. Feet entirely naked below; above clothed thinly with blackish hairs.

Young.—Darker, pelage softer and thinner, but in coloration not very different from adults.

Measurements (of type, ♀ ad.).—Total length, 200; tail, 68; hind foot, 24; ear (from notch), 15. Six adults, total length, 192 (188–196); head and body, 123 (121–125); tail, 69 (65–70); hind foot, 24.6 (23–27); ear, 13 (12–15).

Skull.—A slight raised line in old skulls over the posterior half of the orbits, continuing faintly posteriorly; anterior palatine foramina terminating opposite anterior third of m^1; interparietal very narrow antero-posteriorly. Total length (of type), 30; basal length (front border of premaxillaries to posterior border of occipital condyles), 27.5; from end of pterygoids to inner base of incisors, 17.5; palatal floor, 13; zygomatic breadth, 15; mastoid breadth, 12.5; length of nasals, 11.5; upper tooth row, 5; lower jaw (inner base of incisors to end of coronoid), 16; height of coronoid, 6.5; length of tooth row, 5.

Type, No. $\frac{7785}{4110}$, ♀ ad., Caparo, Trinidad, March 15, 1894; Frank M. Chapman.

Represented by 14 specimens, 11 of which are from Princestown, 2 from Caparo, and 1 from Caura. There is very little variation in coloration among the adults; some are a little darker and more ruddy than others. The young are darker—very dark yellowish brown with less chestnut.

With the accession of much additional material, including good skins with skulls, from Costa Rica, this species proves to have no real relationship with what we have heretofore identified as "*Abrothrix caliginosus.*" The Costa Rican species proves to be not even congeneric with the *Akodon* (=*Abrothrix*) here described from Trinidad, although the external resemblances are so close, especially in color, that the two forms are separable only after comparison. What the nearest relative of *A. urichi* may be among the thirty or more species of *Akodon* described from western and southern South America we are unable to say. Judging by descriptions it is not closely related to any of the forms recently described from Ecuador, the nearest locality to Trinidad from which the genus has been reported; but it presents a rather close resemblance, apparently, in coloration to Tomes's *Hesperomys caliginosus;* but the latter has a longer tail, and seems not likely to prove the same.

This species is named in honor of Mr. F. W. Urich, Secretary of the Trinidad Field Naturalists' Club.

*28. Akodon frustrator, sp. nov.

In general coloration quite similar to *Mus musculus*. Above dark brown, slightly washed with yellowish brown, slightly darker along the median line,

lighter and grayer on the sides; sides of nose yellowish buff; lower surface plumbeous, the hairs slightly tipped with yellowish gray; no distinct line of demarcation between upper and lower surfaces; upper surface of feet dark brown, thinly haired; lower surface of feet naked, blackish in the hind feet, light brown in the fore feet; ears rather small, blackish externally, rusty brown internally, quite well haired, particularly on the inner surface; tail about half the length of head and body, naked, black above, brown below.

Length, 233; tail, 65; hind foot, 26; ear (in dried skin), 10.

Skull.—Total length, 26; basal length, 20.5; zygomatic breadth, 13; least interorbital breadth, 5; width of brain-case, 11; length of nasals, 9; length of palatal surface, 10.4; length of upper tooth row, 4.5; length of lower jaw, 13; height at condyle, 4.5; lower tooth row, 4.8.

Type (and only specimen), No. $\frac{7559}{61125}$, young adult, Caura, Trinidad, April 21, 1894; Frank M. Chapman.

This species is unfortunately represented by only a single specimen, a 'young adult,' apparently of mature size. At first sight it bears a striking external resemblance to a large *Mus musculus*, but closer inspection reveals many differences. It is widely different from *A. urichi* in coloration, from which it differs also in its much smaller ears and in the form of the skull, which is much more convex than in *A. urichi*. In coloration *A. frustrator* appears to resemble the usual style in this genus.

29. Mus rattus *Linn.*—Several specimens, more or less mixed with *M. alexandrinus*, were taken at Caura, where these two species appear to freely hybridize.

30. Mus alexandrinus *Geoffr.*—Three quite typical examples were taken at Caura; also two showing an evident *mésalliance* with *M. rattus*, and three other examples exhibiting about equally the characters of *M. rattus* and *M. alexandrinus*. Also a very young example from Caparo showing about the same mixture with *M. rattus*.

31. Heteromys anomalus (*Thompson*).—Forty specimens, of which 33 are from Caura and 7 from Caparo.

32. Echimys trinitatis *Allen & Chapman.*—Represented by 32 specimens, of which 14 are from Caparo and 18 from Caura.

33. Loncheres guianæ *Thomas.*

Loncheres castaneus ALLEN & CHAPMAN, Bull. Am. Mus. Nat. Hist. V, 1893, p. 232.

Seven specimens—5 from Caura and 2 from Caparo. Also 4 specimens from the Caroni River have been received from Messrs. Urich and Mole.

The reception of this additional material shows that our type of *Loncheres castaneus* was an exceptionally strongly colored example of the *Loncheres* found in the interior of Trinidad, and that the coast specimens, which we in the same connection identified with *L. guianæ*, represent the other extreme in coloration, being very pale, with almost none of the deep chestnut color that characterized the example of *L. castaneus*. The present series of 13 specimens completely bridges the former wide gap in coloration. The skull of the type of *L. castaneus* proves also to be exceptional in most of the features alleged as distinctive.

We have now also available for comparison a topotype of *L. guianæ*, which agrees with average Trinidad specimens in coloration and cranial characters.

***34. Dicotyles tajacu** (*Linn.*).—One specimen, collected at Caparo, and presented by Mr. Carr.

35. Mazama[1] rufa (*F. Cuvier*).

Cariacus (*Coassus*) *nemorivagus* ALLEN & CHAPMAN, Bull. Am. Mus. Nat. Hist. V, 1893, p. 228. Not *Cervus nemorivagus* F. Cuv., Dict. Sci. Nat., VII, 1817, p. 485.

Represented by an adult female, skin and skull, taken at Caparo, March 13, and by an adult male skull obtained at Princestown in 1893.

The material now at hand renders it evident that the Trinidad Deer, as thus represented, is not *Mazama nemorivaga* but a form

[1] *Mazama* RAF. Am. Month. Mag. II, 1817, p. 44. Type, *M. tema* RAF. *Cf.* Merriam, Science, N. S., I, p. 19, Jan. 4, 1895.
Mazama antedates *Coassus* Gray, 1843 (=*Passalites* Gloger, 1841). *M. tema* Raf.=*Cervus rufinus* Bourcier and Pucheran, 1851.

closely allied to, but probably subspecifically separable from, *M. rufa* of the adjoining mainland. More material representing each form is necessary for examination before the separation can be satisfactorily made. As a slight contribution to the subject we present herewith a description of the adult female from Trinidad.

Adult female (Trinidad, as above).—Pelage thin, hairs short and rather harsh, the neck and much of the ventral surface very sparsely clothed. General color above, viewed at the distance of a few feet, liver brown; on closer inspection it is rufous brown, darker along the median line, paler on the flanks, and fading on the ventral surface to pale brown with very little rufous; top of head, ears and face dusky brown, without rufous; throat and posterior part of ventral surface (inguinal region) whitish; tail rufous above, pure white below; legs dull brown externally, somewhat lighter internally.

Measurements.—Total length to end of tail vertebræ, 1118; tail vertebræ, 127; height at shoulder, 645; girth, 711; fore leg, 396; ear, 89; tip of nose to base of ear, 205.5. Weight, 80½ pounds, including a fœtus which weighed 6 pounds.

Skull of female: Total length (from front border of premaxillaries to posterior border of occipital condyles), 202; basal length, 190; breadth across lower edge of orbits, 92; width of brain-case, 53; greatest interorbital breadth, 62; length of nasals, 65; length of molar-premolar series, 62; length of lower jaw, 167; height (angle to top of coronoid process), 82; length of tooth row (crown surface), 67.

36. Tatusia novemcincta (*Linn.*).—One specimen, adult male, Caparo, March 20, and 4 embryos from a female taken March 31, by Mr. Carr.

37. Didelphis karkinophaga *Zimmermann.*

Didelphis karkinophaga ZIMMERMANN, Geograph. Geschichte, II, 1780, p. 226. Based exclusively on *Le Crabier*, BUFFON, Hist. Nat. Suppl. III, 1776, p. 272, pl. liv, from Cayenne.

Didelphis cancrivora GMEL. Syst. Nat. I, 1788, p. 108. Based exclusively on Buffon, as above. Also *D. cancrivora* of TEMMINCK, WATERHOUSE, and probably of authors generally who have used the name.

The two collections from Trinidad include 8 specimens of this large Opossum, collected as follows: Princestown, collection of 1893, 3 specimens (2 males, 1 female); Caparo and Caura, collec-

tion of 1894, 5 specimens (3 males, 2 females), making a total of 8 specimens, all old adults.

Three specimens from the Island of Dominica, W. I., prove to be identical with the Trinidad form, which is presumably the same as the Cayenne animal, on which the names *karkinophaga* Zimmermann and *cancrivora* Gmelin were based.

As shown by the measurements given below, the tail averages nearly as long as the head and body, and the total length exceeds that of the very largest specimens in a large series of *D. virginiana* from various localities in the United States (as New York, Ohio and Florida). Yet the skull, in actual bulk, is found to be one-fourth to one-third smaller than in strictly comparable specimens of the northern animal. There are also other cranial differences besides size that are sufficiently constant to merit consideration. These are, notably, the position of the infraorbital foramina, which in *D. karkinophaga* are placed considerably nearer the anterior base of the zygoma than in *D. virginiana*—over the pm.[4] instead of over pm.[3]; the inner angle of the molars is shorter and blunter in *D. karkinophaga* than in *D. virginiana*, in the latter the width of the tooth being equal to the length, while in the former the width is much less than the length. The whole structure of the skull in *D. karkinophaga* is lighter and much more delicate, at all ages, which is strikingly noticeable in the slenderness of the zygoma.

There are also color differences that are noteworthy when Trinidad specimens are compared with northern (New York and Ohio) examples of *D. virginiana*, as the entire absence of white on the ears and feet, and the blackness of the general coloration; but these features in a measure disappear in the comparison of Trinidad and Texas examples. Yet the cranial differences already pointed out, in conjunction with the difference in size and proportions, render it desirable to treat these forms as species till material can be brought together in sufficient quantity from many different points in the wide range of the so-called '*marsupialis* group' to show clearly the character of the various forms of late combined under this name, and their interrelationships.

EXTERNAL MEASUREMENTS OF *Didelphis karkinophaga*, FROM TRINIDAD.

Mus. No.	Sex.	Total Length.	Head and Body.	Tail.	Hind Foot.	Ear.
6061	♂	810	385	425	55	—
6063	♂	920	455	465	66	—
7734	♂	955	500	455	64	55
7740	♂	910	470	440	57	65
6062	♀	740	350	390	55	—
7732	♀	830	400	430	57	52
7733	♀	850	468	382	58	53
Average of 4 males		874	452	446	60.5	—
" 3 females		807	406	401	57	—

EXTERNAL MEASUREMENTS OF *Didelphis virginiana*, FROM NEW YORK AND NEW JERSEY.

Total Length.	Head and Body.	Tail.	Hind Foot.
777	498	279	—
770	497	273	—
789	445	344	74
670	383	287	64
678	384	294	64
655	388	267	—
Average..... 723	433	294	67

One of the largest male skulls (No. $\frac{7734}{6116}$) from Trinidad gives the following measurements: Total length, 111; basal length, 105; zygomatic breadth, 64; breadth at postorbital processes, 24.5; breadth of postorbital constriction, 10.5; breadth across m^3, 30. A skull of an old male (No. 316) from Long Island, N. Y., gives the following: Total length, 128; basal length, 118; zygomatic breadth, 71; breadth of postorbital processes, 28; breadth of interorbital constriction, 12; breadth across m^3, 35.

As noted above, the size of the body in *D. karkinophaga* is nearly one-third less in absolute bulk than in *D. virginiana*, while the tail is actually more than one-third longer. The ratio of tail length to total length is respectively as 51 to 100 and 41 to 100, the tail in *D. karkinophaga* being about equal to the length of the head and body, while in *D. virginiana* it is one-third shorter than the head and body, the tail averaging in the latter .68 of the length of the head and body.

38. Philander trinitatis *Thomas.*

Didelphis (*Philander*) *philander* ALLEN & CHAPMAN, Bull. Am. Mus. Nat. Hist. V, 1893, p. 230.
Didelphys (*Philander*) *trinitatis* THOMAS, Ann. & Mag. Nat. Hist. (6), XIII, May, 1894, p. 438.

A single specimen in the 1893 collection was provisionally referred to *P. philander*, with the suggestion that the "Trinidad animal.... may prove separable from *D. philander* of the mainland—a point further material must decide." Some months later the Trinidad form was described as *Didelphys* (*Philander*) *trinitatis* by Mr. Oldfield Thomas (*l. c.*). As the present collection contains a series of 16 specimens, we are able to add some further particulars to his description, based on two specimens from Port-of-Spain. There is practically no sexual difference in size, as shown by the following measurements, taken from the fresh specimens.

Mus. No.	Sex.	Total Length.	Tail.	Hind Foot.	Ear from Notch.
7551	♂	475	282	30	31
7550	♂	483	290	31	33
7557	♂	490	290	31	34
7558	♂	500	305	32	34
7561	♂	503	303	29	31
7555	♂	525	308	30	35
7560	♀	480	285	30	33.5
7552	♀	480	286	30	30
7553	♀	485	292	30	31
7558	♀	495	294	30	32
7559	♀	504	302	31	34
7554	♀	520	310	32	35
Average of 6 males		496	296	30.5	33
" 6 females		494	295	30.3	32.7

Not only is the tail not light colored for the apical half, as in *P. philander*, but the general color of the upper surface of the body is also much darker, and the pelage less crinkled and woolly.

This species appears to be common only in the mountainous parts of the island. Only one specimen was secured at Princestown during the month's collecting, and none were secured at Caparo.

Five of the fifteen specimens taken at Caura had from five to seven young attached to their nipples. These young are large in

proportion to the size of the parent, and measure 90 to 120 mm. in total length. Their eyes were as yet unopened.

The development of the pouch in this species varies greatly in different individuals. In a female having six young, which average 110 mm. in length, the opening of the pouch measures 55 mm. in the median line, and one side of the cavity is capacious enough to enfold two of the young.

39. Marmosa murina (*Linn.*).—Represented by a series of 25 specimens, from Caura and Caparo. It proved to be exceedingly abundant at both localities. Respecting size and coloration there is little to add to the account previously given, based on a series of 20 specimens from Princestown.

A female (No. 7428, Caparo, March 23) has six mammæ functionally developed; to each was attached a young one about 30 mm. long. A second female (No. 7429, March 31) has eleven functional mammæ, to each of which, when captured, a young one was attached, the average length of the young being about 20 mm.

It is surprising that such an arboreal animal, as this Opossum proves to be, can climb about in trees and bushes without injury to the large cluster of young attached to the nipples of its pouchless abdomen.

Young specimens show that the postorbital processes are well developed at an early age.

40. Thylamys[1] carri, sp. nov.

Above uniform drab brown, the hairs dark plumbeous for the basal four-fifths and tipped with brown; beneath grayish white, the hairs plumbeous basally and narrowly tipped with whitish, the basal plumbeous tinging the general surface; a blackish eye ring, extending forward as a broad dusky spot to the nose, and sometimes distinctly developed also behind the eye as a broad stripe running to the base of the ear. Front of fore limbs and outside of hind limbs like adjoining parts of body; feet whitish. Ears large, naked, dark

[1] Thylamy's *Gray.*

Thylamys Gray, List Mamm. Br. Mus. 1843, p. 101. No description. Type, *Didelphis elegans* Waterhouse.

Without postorbital processes, and nasals not expanded posteriorly, but of nearly the same width throughout.

brown, antero-interior basal projection moderate, much longer than high ; tail naked, pale brown, lighter below than above, rather longer than head and body.

Length (of type, ♂ ad.), 315 mm.; tail, 175 ; hind foot, 22 ; ear from notch, 27.5. The corresponding measurements of a second specimen (♂ ad.) are 310, 170, 20, and 29.

Skull.—No postorbital processes, nor supraorbital ridges ; nasals not expanded posteriorly. Greatest length, 37.5 ; basal length (anterior border of foramen magnum to front border of premaxillaries), 34 ; greatest (zygomatic) width, 19 ; least interorbital width, 6 ; width of brain-case, 13 ; length of nasals, 17.5 ; greatest width of nasals, 2.5 ; least width of nasals, 2 ; length of palate (posterior border to gnathion), 20.5 ; breadth at m^3, 11 ; length of crown surface of molars, 7 ; length of upper tooth row (canine to m^4), 15.

Type, No. $\frac{7}{5}\frac{3}{9}\frac{1}{2}\frac{4}{2}$, ♂ ad., Caparo, Trinidad, March 20, 1894 ; Frank M. Chapman.

This species is based on two adult males and a half-grown female, taken at Caparo, March 19 and 20 and April 17. They present no variation in coloration, except in respect to the prolongation posteriorly of the dusky eye spot, which is somewhat more developed in one of the specimens than in the others.

The only species with which this needs comparison is the Chilian *Thylamys elegans* (Waterhouse) and *T. marmota* (Oken= *griseus* Desm.) with which it agrees in the character of the nasals, but from which it differs decidedly in coloration.

This species is named in honor of Mr. Albert B. Carr, of Trinidad.

In our former paper on Trinidad mammals we gave at the close (*l. c.*, pp. 231–234) a nominal list of the mammals of Trinidad, based on Mr. Oldfield Thomas's ' Preliminary List,' then recently published, and on our own material. This list numbered 65 species, one of which (*Loncheres castaneus*), as shown above, proves untenable, and four others there is good reason to believe were included on insufficient evidence. In the present paper five species are either renamed or described as new. The list as now amended contains 65 species, the same number as before. The changes may be summarized as follows :

Eliminated, or Doubtful.

Cercoleptes caudivolvulus.
Loncheres castaneus (=L. guianæ).
Dicotyles labiatus.
Cholœpus didactylus.
Myrmecophaga jubata.

Changes in Nomenclature.

Mycetes, sp.=Mycetes seniculus.
Artibeus perspicillatus=Artibeus palmarum, sp. nov.
Felis, sp.=Felis tigrina.
Tylomys couesi=Rhipidomys couesi.
Abrothrix caliginosus=Akodon urichi, sp. nov.
Cariacus (Coassus) nemorivagus=Mazama rufa.
Didelphis marsupialis=Didelphis karkinophaga.
Didelphis (Philander) philander=Philander trinitatis.

Species Added.

Vampyrus spectrum.
Artibeus bilobatus.
Oryzomys delicatus, sp. nov.
Akodon frustrator, sp. nov.
Thylamys carri, sp. nov.

Note on the Mammals of the Island of Dominica, W. I.

While *en route* to Trinidad, the junior author spent three weeks (Feb. 1–21) at this island for the purpose of learning whether it possessed any indigenous small mammals. Traps were set daily at and about the head of the Roseau Valley, but beyond numerous specimens of *Mus* no mammals were caught.

This result, therefore, while negative, is nevertheless of value, for it seems to indicate that, with the exception of *Dasyprocta cristata*, which is distributed throughout the Lesser Antilles, Dominica has no indigenous terrestrial mammals, and this opinion is held by the residents of the island.

Mus rattus *Linn.*—Four typical examples, as regards coloration, but with longer tails than are usually seen in the United States specimens.

Mus alexandrinus *Geoffr.*—Two typical examples of this species.

Mus decumanus *Linn.*—Two specimens.

Dasyprocta cristata (*Desm.*).—A single specimen was purchased of a native. Said to be common in the interior of the island.

Didelphis karkinophaga *Zimmerm.*—Three specimens, bought of a native collector. They appear not to differ in any appreciable respect from Trinidad examples of this species, which would seem to render it certain that the animal was introduced from South America, as suggested by Colonel H. W. Fielden (Trans. Norfolk and Norwich Naturalists' Society, Vol. V, 1889, p. 39), rather than from Virginia, as some have supposed it might have been.