

PROCEEDINGS
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THE MAMMALS OF MARGARITA ISLAND,
VENEZUELA.

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During the summer of 1901, my friend Mr. Austin H. Clark, with two companions, visited Margarita Island, Venezuela, for the purpose of briefly investigating its fauna and flora. The only other scientific worker who has visited this island in recent years is Capt. Wirt Robinson, U. S. A., the results of whose observations on the birds in 1895, have already appeared.* As there stated by Capt. Robinson, the island "lies about midway between LaGuaira and Trinidad, and only some 17 miles distant from the nearest point of the Venezuelan coast. Its greatest length from east to west is 42 miles, and its greatest breadth from north to south $20\frac{1}{2}$ miles. It consists of two portions connected by a narrow isthmus 12 miles in length; the western being an irregular quadrilateral 12 miles long by 9 miles broad, and the eastern a pentagon some 20 miles across. In the western portion some almost barren peaks rise to a height of 2300 feet". Of 10 species of mammals noted by Capt. Robinson as occurring on the island, specimens of 6 were preserved, and 3 of these have since been described as new. Mr. Clark's collections contained 15 specimens of mammals, representing 8

*Proc. U. S. Nat. Mus., XVIII, p. 649-685, pl. xxxiii, 1896.

species, of which 4 had not previously been recorded from the island, and one, a squirrel, proves to be new. As might be expected, the native mammalian fauna appears to have been derived almost wholly from South America. It is interesting to note that the influence of the insular environment has been to fade out, to a greater or less degree, the colors of several of the species as compared with the colors of their nearest representatives of the continent and of Trinidad. The greater area of the island of Trinidad and the heavier growth of vegetation, with the consequent increase in humidity seem to have afforded conditions more like those of the mainland, and hence there is not so pronounced a tendency to paling out of the deeper colors such as is seen notably in the Murine opossum and the squirrel of Margarita Island, and also in several of the birds from the island, which have been described as new. From its comparatively small area, partial sterility, and greater isolation, Margarita is more open to the bleaching effects of sun and sea-wind. Whether the bleaching of colors in the case of certain pale insular forms is due to the direct action of exposure to the elements, or is acquired as an adaptation to a more or less barren environment, is an interesting question in this connection, and it is possible that both causes often interplay to produce a combined result.

A list of the mammals at present known from Margarita follows:

1. **Marmosa robinsoni** Bangs. Robinson Murine Opossum.

Didelphys murina Robinson, Proc. U. S. Nat. Mus., XVIII, p. 651, 1896.

Marmosa robinsoni Bangs, Proc. Biol. Soc. Washington, XII, p. 95-96, 1898.

Five specimens of this opossum were collected in 1895, by Capt. Robinson, and are characterized as forming a pallid insular species.

2. **Caluromys philander** (Linnaeus). Woolly Opossum.

A single specimen was brought in to Mr. Clark at El Valle, on July 12, 1901. This was an adult female within whose pouch were three young clinging to the mammae, and as yet hardly more than 3 cm. in total length. I have been unable to compare the adult specimen with

others from the adjacent mainland, but in measurements, the skull agrees closely with the dimensions of an adult female skull from San Julián, given by Messrs. Robinson and Lyon (Proc. U. S. Nat. Mus., XXIV, p. 138, 1901); I have compared the skull also with that of *Caluromys trinitatis* (Thomas) from Caura, Trinidad, and find but little appreciable difference, although the nasal bones and the palate are a trifle broader in the Margarita specimen, and the jaw is a trifle heavier. In color, the skins of the Margarita and Trinidad animals are nearly identical, though Mr. Clark's specimen is perhaps a little paler, lacking the faint chestnut tint dorsally and being a shade paler below than the Trinidad species, as might perhaps be anticipated. The material at hand, however, would not at all warrant a separation.

3. *Sciurus nesæus** sp. nov. Margarita Squirrel.

Sciurus æstuans hoffmanni Robinson, Proc. U. S. Nat. Mus., XVIII, p. 651, 1896.

Type from El Valle, Margarita Island, Venezuela, No. 619, collection of Glover M. Allen, ♀ adult. Collected July 8, 1901, by Austin H. Clark.

General characters.—Dorsal surface of body light ochraceous, sprinkled with black; terminal three-fourths of tail uniform ochraceous. Ventral surface of body bright orange-rufous.

Coloration.—Dorsal surfaces of head, body, and proximal fifth of tail, grizzled ochraceous, or ochraceous-buff, and black; the separate hairs are plumbeous at the base for a space of about 4 mm., then comes a band of about the same width of ochraceous-buff, followed by a band of black about one-half as wide, then a second band of ochraceous-buff about 2 mm. in width, and a fine black tip. The general effect is nearly the same as that seen in a bright skin of the red squirrel (*Sciurus hudsonicus loquax*) of southern New England in summer pelage. Sides of the body similar, but with less black; cheeks, and an indistinct eye ring, nearly pure ochraceous; dorsal surface of forearms and feet slightly brighter than the back. Ventral surface of body bright orange-rufous, less intense on the lower sides of the limbs. The terminal three-fourths of the tail is uniform ochraceous above, due to the entire concealment of the two small black rings, one at the base and one about half-way up on each hair; ventrally the tail shows a distinct border of orange-rufous, with the median area grizzled black and ochraceous. The whiskers of the type are nearly all pale ochraceous.

Remarks.—The type is unaccompanied by measurements, but the dry skin gives the following: length, 374 mm.; tail, 159 mm.; hind foot, 56.2 mm.; ear, 16 mm. Unfortunately the skull was completely shattered.

**νησάιος*—belonging to an island, insular.

This very distinctly characterized species appears to be nearly related to *Sciurus griseogenæ* (Gray) of the neighboring coast region, rather than to the *S. astuans* group. Specimens of *S. griseogenæ* collected by Capt. Robinson at San Julián, Venezuela, in July, 1900, match it closely in the bright orange-rufous of the underparts, but differ very greatly in the color of the dorsal surface, in which black is the predominating color, due to the partial reduction of the ochraceous bands on the body hairs, whereas in the Margarita squirrel the opposite change has taken place, and the black has given place to the ochraceous. Moreover, the entire tip of the tail is black in *S. griseogenæ*, and bright ochraceous in *S. nesæus*.

Mr. Clark obtained several of these squirrels in the woods on the mountain, which is just back of El Valle, but unfortunately was able to preserve only the single specimen collected near the town. This specimen will be deposited with the Bangs collection in the Museum of Comparative Zoology at Cambridge.

4. *Mus alexandrinus* Geoffroy. Roof Rat.

A single specimen of this rat was preserved by Mr. Clark, who states that it was trapped in one of the houses at El Valle. Capt. Robinson mentions "a rat (*Mus*)" as occurring on the island, but the species is not recorded.

5. *Mus musculus* Linnæus. House Mouse.

Both Capt. Robinson and Mr. Clark found the house mouse common in the open dwellings on the island. Four specimens preserved by Mr. Clark, appear to be considerably smaller than the species as found in New England. Two of these, in formalin, measure about 134 mm. and 138 mm. in length, with tails 68 mm. and 72 mm. respectively; both seem to be adult, and average 25 mm. smaller in total length than six specimens from eastern Massachusetts, while the tails are also slightly shorter.

6. *Loncheres* sp. Spiny Rat.

Loncheres Robinson, Proc. U. S. Nat. Mus., XVIII, p. 651, 1896.

A male specimen of a spiny rat was taken by Capt. Robinson on the island, July 9, 1895. It was much injured, and in its present condition, lacks the tail and part of the skin of the head. Mr. Oldfield Thomas has pronounced it as being near *L. punctatus*.

7. *Lepus margaritæ* Miller. Margarita Rabbit.

Lepus brasiliensis Robinson, Proc. U. S. Nat. Mus., XVIII, p. 651, 1896.

Lepus margaritæ Miller, Proc. Biol. Soc. Washington, XII, p. 97, April 30, 1898.

Capt. Robinson found these rabbits plentiful on the island in 1895 and mentions (Proc. U. S. Nat. Mus., XXIX, p. 162, 1901) that they were "split and dried like cod fish and brought by the boat load to La Guaira for sale". But two individuals were noted near El Valle by Mr. Clark, who states that the natives were in constant pursuit of them.

8. *Rhogeessa minutilla* Miller.

Vesperugo parvulus Robinson, Proc. U. S. Nat. Mus., XVIII, p. 651, 1896 (not *Rhogeessa parvula* H. Allen).

Rhogeessa minutilla Miller, Proc. Biol. Soc. Washington, XI, p. 139, May 13, 1897.

Rhogeessa minutilla Miller, N. Amer. Fauna, No. 13, p. 125, Oct. 16, 1897.

The single specimen from which this species was described was collected on the island by Capt. Robinson, July 8, 1895. The second known specimen was captured at El Valle, late in July, 1901, by Mr. J. R. Johnston, of Mr. Clark's party. He swept it into an insect net, thinking it was a large moth, as it flew past in the early morning twilight. Mr. Gerrit S. Miller, Jr., who has examined this specimen, writes that it fully bears out the characters of the type as given in the original description. The measurements taken from the specimen before skinning and after an immersion of several months in formalin, are: length, 66.5 mm.; tail, 31 mm.; ear, 11.5 mm.; forearm, 25 mm.; tibia, 11.4 mm. The specimen is now in the collection of the United States National Museum.

9. *Peropteryx* sp. Sac-winged Bat.

A single, much shattered specimen was obtained by Mr. Clark. It was a female and was shot in a large cave on the hill southwest of El Valle, July 13, 1901. It is quite possible that it represents an undescribed species, but more and better material is necessary to decide this point. It is intermediate in size between *P. canina* and *P. trinitatis*, the tibia, in the dried specimen skinned out from formalin, measuring 17 mm., and the forearm 40 mm. The skull is slightly smaller than that of *P. canina* though slightly heavier than that of *P. trinitatis*. The muzzle is short and broad as compared with that of *P. trinitatis* and slightly

narrower than that of *P. canina*. It differs notably from both in having the first premolar in contact with the second premolar on the one side and the canine on the other, instead of separate from both, as in the two other species. There are also other minor differences, and the dentition throughout is rather heavier than in the other two forms mentioned.

10. *Molossus obscurus* E. Geoffroy. Dusky Molossus.

Three specimens were obtained by Mr. Clark, one of which, a young one and nearly naked, was found scrambling about on the roof of a house at El Valle, July 14th. The two adult examples were shot July 11, 1901, as they were hanging in a cave under a large rock. They show some slight individual variation, the male being the larger, and the fur a dark sooty color, with the bases of the hairs nearly white. The female is brighter, with a brownish cast, and the bases of the hairs a light fawn. Mr. Gerrit S. Miller, Jr., who also examined these specimens, writes that they are not referable to *M. pygmaeus* of Curaçao, but appear to be *obscurus* as now understood.

11. *Micronycteris megalotis* (Gray). Common Long-eared Bat.

This species is probably common on the island. Capt. Robinson mentions taking a pair on July 12, 1895, at El Valle, from a slight hollow under a boulder. Two were secured in the large cave already mentioned, on July 13, 1901, by Mr. Clark.

12. *Glossophaga soricina* (Pallas). Shrew-like Glossophaga.

Two specimens of a *Glossophaga* obtained by Mr. Clark are referable to this species as at present understood. One is an adult male, and the other a young individual, still possessing its milk teeth. Both were shot July 13, 1901, in the large cave on one of the hills back of El Valle. A third specimen of *Glossophaga*, an adult female, was obtained in this cave on the same date, and though somewhat battered, seems rather distinct from the specimens of *G. soricina*, and may represent an undescribed species. Further material is necessary, however, to determine this point. It differs from *G. soricina* most notably, in the possession of a larger nose-leaf, a slightly longer, higher and broader skull, and in having the 1st and 2nd upper incisors separate from each other and the canines instead of touching, as in *G. soricina*. There are also a few other minor differences. The specimen is of a dull chestnut or tawny-brown, a color which I have not observed in the specimens of *G. soricina* examined.

13. *Cebus fatuellus* (Linnæus). Brown Capuchin.

Cebus apella Robinson, Proc. U. S. Nat. Mus., XVIII, p. 651, 1896.

A single monkey obtained on the island, July 13, 1895, seems referable to this species. It appears to be not uncommon, but is rather shy. Mr. Clark saw a single one in the thick growth on the mountain which rises back of El Valle, but he was unable to procure it. One or two were also seen, kept as pets by the natives.

[In addition to the foregoing, both Capt. Robinson and Mr. Clark mention a deer as occurring on the island, but no specimens were obtained. In this connection, it is of interest to recall Humboldt's statement, with regard to the small islet of Cubagua, lying between Margarita and the mainland. He says, "At Maniquarez [=Manicuaro on the mainland] we met with some creoles, who had been hunting at Cubagua. Deer of the small breed are so common in this uninhabited islet, that a single person may kill three or four in a day. I know not by what accident these animals have got thither, for Laet and other chroniclers of these countries, speaking of the foundation of New Cadiz [a small town on Cubagua], mention only the great abundance of rabbits. The *venado* of Cubagua belongs to one of those numerous species of small American deer, which zoologists have long confounded under the vague name of *cervus mexicanus*. . . . Its color is a brownish red on the back, and white under the belly; and it is spotted like the axis". (Humboldt: Personal narrative of Travels to the Equinoctial Regions of the New Continent, during the years of 1799-1804, p. 424 of 1815 English translation). I am informed that Cubagua at the present time would hardly support as much game as this passage implies, but doubtless a hundred years have wrought a change, or the writer's remarks may possibly have referred in part to Margarita itself.]



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