

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

TWO UNDESCRIBED WEST INDIAN BATS.

BY GLOVER M. ALLEN.

Zoological explorations undertaken by the Museum of Comparative Zoölogy in recent years have greatly enriched its collection of West Indian bats and provided adequate material for a comparative study of sundry species which are represented in several of the islands by slightly differentiated races. Two of these latter are here described and named. The first is an *Erophylla*, one of the subfamily Phyllonycterinae, from the island of Jamaica, where it had not been previously reported; the second is a race of the large *Chilonycteris parnelli* from Santo Domingo, an island whence the species was likewise previously unrecorded. These two records now establish the presence of both *Erophylla* and the large *Chilonycteris* on all four of the Greater Antillean islands. The former is also represented in the Bahama group. The chief point of interest is that the Jamaican and Cuban forms of each species are closely similar to each other, and the Porto Rican and Santo Domingan representatives likewise are very similar to each other, but the races from the first two islands differ much less from each other than they do from their congeners on the other two islands.

The genus *Erophylla* is apparently confined to the Greater Antilles, where it has hitherto been known from Cuba (*E. seze-korni*), the Bahamas (*E. planifrons*), Santo Domingo (*E. santacristobalensis*), and Porto Rico (*E. bombifrons*). Its presence in Jamaica, though to be expected, had not been confirmed until 1912, when Dr. Joseph A. Cushman captured a small series at Montego Bay. These specimens, which are now for the first time recorded, I have compared carefully with the other known

forms of the genus, including the type and only known specimen of *E. santa-cristobalensis*, kindly loaned by the Field Museum of Natural History.

Gundlach, in 1861, was the first to describe a bat of this genus, which he discovered in Cuba, and named *Phyllonycteris sezekorni*. This has proved to be a rather rare or local species of which few specimens have been available for study. It is small wonder therefore that some confusion has existed as to its characters. Two additional species were described in 1899, by Miller: *planifrons* from New Providence, Bahamas, and *bombifrons* from Bayamon, Porto Rico. In 1905, a single specimen from Santo Domingo, previously recorded by Elliot as *Phyllonycteris poeyi* was named by him *P. santa-cristobalensis* (later, 1907, p. 534, emended to *sancta-cristobalensis*). Miller, in 1906, erected the genus *Erophylla* to include these four forms, leaving *Phyllonycteris* with the single species *poeyi*, of Cuba.

In external characters, apart from color, all the described species of *Erophylla* are remarkably alike. They show slight individual variation in the length of tail, form of nose pad and tragus, but nothing that may be used to distinguish geographical races with certainty. Unfortunately a sufficient series of skins is not available to determine what color characters are present, though it seems probable that there are marked color differences separating some of the forms.

An examination of the skulls, however, shows that they fall into two readily distinguishable groups: the one has a high rounded brain case with a relatively short tapering rostrum; the other has a low profile with longer and less narrowed rostrum. To the former belong *bombifrons* and *santa-cristobalensis*; to the latter *sezekorni*, *planifrons*, and the Jamaican representative described below. Although all four described forms have been accredited with specific rank, this hardly represents their true status. Each of the two groups just defined has perhaps nearly the value of a species, but the differences separating the island forms within each group are hardly sufficient to accord them more than subspecific rank. The distribution of the two groups is of probable significance; the *sezekorni* forms at the western end of the Antillean chain, the *bombifrons* group farther to the eastward in Santo Domingo and Porto Rico.

The Jamaican race may be known as

Erophylla sezekorni syops, subsp. nov.

Type, an adult male (alcoholic with dry skull), 13,713 M. C. Z., collected at Montego Bay, Jamaica, March 14, 1912, by Joseph A. Cushman.

General characters.—Structurally similar to *E. sezekorni* and *E. s. planifrons*, but the skull differing conspicuously in its wider rostrum with molar rows nearly parallel instead of converging anteriorly; profile very little less elevated than in *sezekorni*, but lachrymal region more swollen; the palate narrower; teeth slightly broader throughout.

Measurements.—The type measures: forearm, 48 mm.; tibia, 23; foot, 14.6; tail from anus, 14.5; ear from meatus, 17. Skull: greatest length, 24.7; basal length, 20; palatal length, 11; zygomatic width, 11.6; width outside m^2 , 6.5; upper tooth row (front of canine to back of m^3), 8; lower tooth row (front of canine to back of m_3), 9.

Specimens examined.—Eight, all from the type locality.

Remarks.—The Jamaican *Erophylla* is only slightly different from that of Cuba and the Bahamas, but more closely resembles the former. The Bahaman race has an even flatter profile and a more pointed rostrum. Dry skins are not available to show if there are color differences. The specimen of *E. sezekorni* from which Miller in 1899 made his diagnosis must have been somewhat abnormal, for he says the "crown of the first lower molar is only slightly longer than that of the first premolar," whereas in normal specimens it is as in other forms, about twice the length of the first premolar.

The interesting genus *Chilonycteris* is found in tropical America from Brazil to Mexico on the mainland, but in the West Indies is as yet known from the Greater Antillean islands only. Three distinct species occur here, a smaller, an intermediate, and a larger, distinguished not only by size but by various slight structural peculiarities. While representatives of all three species have been found only in Cuba so far, it is likely that future exploration will discover the three species on the other large islands of the group as well. At the present time, *Chilonycteris macleayi*, the first of the West Indian forms to be named, is known from the typical form in Cuba, and a closely allied subspecies, *C. m. grisea*, in Jamaica. Possibly the Porto Rican *inflata* of Rehn is a representative of this species, but I have as yet seen no specimens of it.

The next Antillean species to be described is *C. fuliginosa* of Haiti and Santo Domingo. This is the smallest of the three, and apart from its small size is readily distinguished from the *macleayi* group by the small tubercles rimming the nose pad, which in *macleayi* is surmounted by a plain-edged angular projection.

The type of *fuliginosa* is still in the British Museum and I am indebted to Mr. Oldfield Thomas of that institution for notes and a figure of the nose pad, which prove its relationship is not with *macleayii*. A representative of this small species is found in Cuba, and was lately described by the writer (1916) as *torrei*; it should best be considered as a subspecies of *fuliginosa*. No corresponding form has as yet been discovered in Jamaica, nor in Porto Rico unless *C. inflata* eventually proves to be of this group rather than a form of *macleayii*.

The third species is the largest of the three, and was first described from Jamaica as *Phyllodia* [= *C.*] *parnellii* by Gray in 1843. Gundlach, in 1861, found a very similar form in Cuba, to which he gave the name *boothi*, very properly made by Rehn (1904) a subspecies of the Jamaican animal, *C. parnellii boothi*. A third form, smaller than either of the others, was described by Miller, in 1902, from Porto Rico, as *portoricensis*. This author gives a key to the forms of *parnellii*, based on the relations of the small second lower premolar, which he states in the typical subspecies does not appear in profile view from the external side, since the first and second premolars meet and crowd it inward from the tooth row. This condition I did not find in the two Jamaican specimens I examined. In both there was a small space between the first and third premolars, in which the small second tooth was visible.

It is of much interest to record the discovery of a form of *C. parnellii* from Santo Domingo, where in his expedition of 1916, Mr. J. L. Peters captured three in a cave. These prove to be very different from the forms of the other islands. They are much less in size, with smaller ears, in these respects resembling more the Porto Rican form, but are even smaller. It seems therefore of particular significance that, as in case of the *Erophyllas*, the Porto Rican and Santo Domingan races more nearly resemble each other than they do those of Cuba and Jamaica, which latter again are closely similar.

A description of the Santo Domingan bat follows:

***Chilonycteris parnellii pusillus*, subsp. nov.**

Type, female, skin and skull, 16,468 M. C. Z., collected at Arroyo Salado, Santo Domingo, March 7, 1916, by James L. Peters.

General characters.—Smallest of the *parnellii* group, even smaller than

portoricensis. Color of upperparts slightly darker than in the latter, the bases of the hairs almost without the silvery appearance seen in the Jamaican and Cuban races. Skull very small in proportion compared to that of *portoricensis*.

Description.—Color above, uniform dark hair brown, the hairs at the nape with silvery bases; below drab, becoming much darkened on the abdomen where the hairs are dark brown basally.

Compared with other races of *parnellii*, all the proportions are much reduced so that it is markedly smaller even than *portoricensis*, with noticeably slender narrowed ears and weak thumbs.

The skull is small, with rather more abruptly elevated forehead as compared with the other races, the end of the muzzle is less upturned, and the postpalatal notch is less narrowed anteriorly. The teeth are quite as in *portoricensis* except for their smaller size; the small second lower premolar stands more nearly in the tooth row than it does in the Jamaican and Cuban races, in which the first and third lower premolars tend to meet exteriorly so as to crowd the second tooth inward.

Measurements.—The forearm of the type measures 50.5 mm.; the collector's measurements are: total length, 80 mm.; tail, 22; hind foot, 12.

The skull of the type shows the following dimensions (with those of a specimen of *portoricensis* in parentheses): greatest length, 19 mm. (20.5); basal length, 16.5 (18.2); palatal length 9 (10.4); width outside m^3 , 6.5 (7.5); interorbital constriction, 3.7 (4); zygomatic width, 10.1 (11.5); mastoid width, 9 (10); upper tooth row (front of canine to back of m^3), 8 (9); lower tooth row (front of canine to back of m^3), 8.5 (9.5).

An alcoholic specimen (16,600 M. C. Z.) measures as follows (with, in parentheses, the measurements of a specimen of *portoricensis*): forearm, 49 (50); tibia and foot, 26 (28); ear from meatus, 17 (19); third finger, metacarpal, 41 (42.5); first phalanx, 9 (9.3); second phalanx, 14 (14.5).

Specimens examined.—Three, all from the type locality.

Acknowledgments are due the United States National Museum and the Field Museum of Natural History for the loan of important specimens.

REFERENCES TO LITERATURE.

Allen, G. M.

1916. A third species of *Chilonycteris* from Cuba. Proc. New England Zool. Club, vol. 6, pp. 1-7, plate 1. (*C. torrei* described.)

Elliot, D. G.

1905. Descriptions of apparently new species and subspecies of mammals from Mexico and San Domingo. Proc. Biol. Soc. Washington, vol. 18, pp. 233-236. (*Phyllonycteris* [= *Erophylla*] *santa-cristobalensis* described.)

1907. A catalogue of the collection of mammals in the Field Columbian Museum. Field Col. Mus., Zool. Ser., vol. 8, viii+694 pp. (Corrects spelling of *santa-cristobalensis* to *sancta-cristobalensis*.)

Miller, G. S., Jr.

1899. Two new Glossophagine bats from the West Indies. Proc. Biol. Soc. Washington, vol. 13, pp. 33-37. (Describes *Phyllonycteris* [=*Erophylla*] *planifrons* and *bombifrons*.)

1902. Twenty new American bats. Proc. Acad. Nat. Sci. Phila., pp. 389-412. (Describes *Chilonycteris portoricensis*, p. 400.)

1906. Twelve new genera of bats. Proc. Biol. Soc. Washington, vol. 19, pp. 83-86. (Genus *Erophylla* erected, p. 84.)

Rehn, J. A. G.

1904. A study of the mammalian genus *Chilonycteris*. Proc. Acad. Nat. Sci. Phila., pp. 181-207.