

Article VIII.—LIST OF BATS COLLECTED BY MR. H. H. SMITH IN THE SANTA MARTA REGION OF COLOMBIA, WITH DESCRIPTIONS OF NEW SPECIES.

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This second paper on the collection of mammals made by Mr. Herbert H. Smith in the Santa Marta region of Colombia,¹ presented to the Museum by Mr. Morris K. Jesup, relates exclusively to the Bats, which number about 175 specimens, and are referable to 22 species, of which 3 appear to be hitherto undescribed. Of the species here recorded only 7 are included in the collection made by Mr. W. W. Brown, Jr., for Mr. Outram Bangs, in the same general region.² Mr. Bangs's list numbers 10 species, the 3 not yet sent by Mr. Smith being *Vampyrops lineatus* (E. Geoffroy), *Dermanura quadrivittata* Peters, and *Uroderma planirostris* (Spix). In all probability this total of 25 species will be considerably extended by the results of Mr. Smith's further work in this region.

1. *Diphylla ecaudata* Spix.—One specimen, Cacagualito (altitude 1500 feet), May 26.

2. *Desmodus rufus* Wied.—Sixteen specimens, Bonda, January, March, June, and July—13 adult and 3 juv.

These specimens represent two sharply defined color phases, 9 being in the rufous phase, like the type of *D. rufus* Wied, and 7 in the gray phase, like the type of *D. murinus* Wagner. As there are no appreciable differences between the two series except in color, the natural inference is that the species is dichromatic.

In the rufous phase the color above is dark rufous brown, the hairs basally light yellow; below pale yellowish brown, the hairs uniform from base to tip, the tips slightly silvery. In the gray phase the color above is blackish brown, the basal half of the hairs grayish white; below lustrous silvery gray at the surface, the hairs darker (pale brown) basally.

¹ For the first paper, 'New Rodents from Colombia,' etc., see this Bulletin, Vol. XII, 1899, pp. 195-218.

² See Proc. New England Zoölogical Club, Vol. I, 1899, pp. 100-102.

There are males and females in both series ; the males are considerably smaller than the females, the length of the forearm averaging in the males 55 mm. and in the females 60 mm. ; metacarpal II in the males, 49 mm., in the females, 53.5 mm.

3. *Chiroderma jesupi*, sp. nov.

Type, and only specimen, No. 14574, ♂ ad., skin and skull, Cacagualito, Colombia, May, 1898 ; coll. H. H. Smith.

Similar in skull and teeth to *Chiroderma salvini*, but smaller and with no head stripes.

Above uniform dark brown, the hairs dark brown at base, with a broad median band of ashy white, and tipped broadly with dusky brown ; sides and front of neck and upper part of chest grayish brown, the hairs basally and for the greater part of their length grayish white ; rest of lower surface pale brown to base of pelage, the tips of the hairs slightly grayish. No head stripes and no dorsal line. Ears small, brown. Interfemoral membrane above well haired to near the posterior border, naked below ; wing membrane heavily furred to a line drawn from elbow to knee, as is also the humerus and muscular part of the forearm. Wing membrane from the foot.

The skull is in general similar to that of *C. salvini*, but smaller, with weaker dentition ; the middle upper incisors, however, are slender, terete, perfectly erect and parallel, thus differing markedly from the same teeth in *C. salvini* and *C. villosum*.

Measurements.—"Extent, 350" ; forearm, 40 ; thumb, 10 ; metacarpal II, 36 ; 3d finger—metacarpal, 39, 1st phalanx, 15, 2d phalanx, 23, 3d phalanx, 19 ; 4th finger—metacarpal, 33, 1st phalanx, 14, 2d phalanx, 15.5 ; 5th finger—metacarpal, 38, 1st phalanx, 10, 2d phalanx, 13 ; tibia, 17 ; foot, 12 ; calcaneum, 7. (All the measurements, except the first, are from the dry skin.)

Skull.—Greatest length, 24 ; breadth of rostrum at canines, 5.2 ; interorbital breadth, 5.8 ; breadth behind supraorbital processes, 5.8 ; zygomatic breadth, 15 ; mastoid breadth, 11.6 ; median length of bony palate, 9.6 ; width of same between last molars, 5.6 ; length of upper toothrow (exclusive of incisors), 6.7 ; mandible, 15 ; lower toothrow, 7.5.

The slender, erect, parallel middle upper incisors serve at once to distinguish this species from any of its described allies.

Named in honor of Morris K. Jesup, President of the American Museum of Natural History, to whom the Museum is indebted for the very large collection of Colombian mammals of which the present fine series of bats forms a part.

4. *Vampyrops vittatus* (*Peters*).—Two specimens, Valparaiso (altitude 4500 feet), April 29 and June 10. Sex not indicated.

The collector's measurements are : Extent, 480 and 484 ; length, 95 and 100 ; length of wing (from carpal joint), 134 and 137.

5. ***Uroderma bilobatum* Peters.**—Fourteen specimens, as follows : Bonda, 11, May 24–June 4 ; Cacagualito, 2, May 14 and 25 ; Minca, 1, July 9.

6. ***Artibeus palmarum* Allen & Chapman.**

Artibeus femurvillosus BANGS, Proc. New Engl. Zool. Club, I, 73, Nov. 24, 1899. La Concepcion, Colombia.

Three specimens, Bonda, May 24 and August 29. "Extent, 506 ; length, 115 ; wing (from carpal joint), 155 mm." (collector's measurements).

These specimens and two from Cali, western Colombia (J. H. Batty), do not appear to differ from Trinidad examples, to which *A. femurvillosus* Bangs is also referable.

7. ***Glossophaga soricina* (Pallas).**—Six specimens, Bonda, February, June, and July.

8. ***Glossophaga longirostris* Miller.**—Thirty-four specimens, of which 28 are from Taguaga, from "a cave on the seashore," June 22 and 23, and 3 from Bonda, March, June, and November. One of the specimens from Taguaga is labelled, "contained a full-grown foetus."

This species was described by Mr. Miller (Proc. Acad. Nat. Sci. Phila., 1898, p. 330) from a single specimen in the Bangs collection, taken in the "Santa Marta Mountains (near Santa Marta), Colombia, February 10, 1898." It is well distinguished by its large size and dark coloration, and is perfectly distinct from *G. soricina* from near-by localities. Mr. Miller's specimen lacked all of the incisors. He says : "Distinct traces of the alveoli can still be seen in the mandible, but these are nearly obliterated in the upper jaw. Whether this condition is normal, as in the genus *Lichonycteris*, it is, of course, impossible to say." In nearly one-half of the present series of 34 specimens the incisors are all present in both jaws ; in about one-third of the series they are entirely absent in both jaws ; in the remainder some of the incisors are present and the alveoli of those lacking

are clearly indicated. Apparently they are absent, as a rule, only in old specimens.

As noted above, all of the specimens except three were taken from caves at Taguaga, on the seashore. As this series contained no specimens of *G. soricina*, apparently the two species are not intimately associated in life, though examples of both were taken at Bonda, near Taguaga.

9. **Hemiderma brevicauda** (*Wied.*).—Fourteen specimens, Bonda, April 27 and June 14.

10. **Phyllostoma hastatum** (*Pallas.*).—One specimen, in alcohol, from Bonda, May, 1898. This is a very large and very old individual, the teeth being greatly worn.

11. **Trachops cirrhosus** (*Spix.*).—One specimen, Bonda, June 12.

12. **Micronycteris megalotis** (*Gray.*).—Thirteen specimens, Bonda, May 26, June 13–20, August 8, and November 20.

13. **Micronycteris hypoleuca**, sp. nov.

Type, No. 15131, ♀ ad. (skin without skull), Bonda, July 9, 1899; coll. H. H. Smith.

About the size of *M. minuta*, but white below instead of ashy, and the basal portion of the pelage above white instead of ashy white.

General color above dark reddish brown, the basal half of the pelage white with a faint tinge of yellowish; below white to the base of the pelage, with a faint yellowish tinge, the hairs posteriorly on the sides faintly ashy brown subterminally; colors of dorsal and ventral surfaces sharply defined. Ears brown, furred about as in *M. megalotis*; proximal fourth of forearm above covered with short fur. Forearm long in proportion to the rest of the wing, the forearm about equalling the length of the forearm in *M. megalotis*, while the third finger is much shorter than in that species. Foot long and narrow, much longer than in *M. megalotis*, although the latter is a much larger species.

Measurements.—"Total length to end of tail, 60"¹; ear, 14; nose leaf, 3.5 x 5.5; forearm, 33; thumb, 8; third finger—metacarpal, 27, 1st phalanx, 11, 2d phalanx, 12, 3d phalanx, 9; fourth finger—metacarpal, 28, 1st phalanx, 9, 2d phalanx, 9; fifth finger—metacarpal, 28.5, 1st phalanx, 10, 2d phalanx, 8; tibia, 20; foot, 11; calcaneum, 8.

This species resembles *Schizostoma minuta* Gervais (*Expéd. du Compte de Castelnau, Zool., I, 1855, Mamm., p. 50, pl. vii, fig.*

¹ Collector's measurement from the fresh specimen; rest of measurements from the dry skin.

1, and pl. x, fig. 5), apparently agreeing with it in size, but differing from it in coloration. The type of *M. minuta* was from "Capella-Nova, dans le Brésil," on the upper Amazon, but a second specimen, still darker in color, from the Province of Bahia, was also referred to it by Gervais.

The single specimen on which *M. hypoleuca* is based unfortunately lacks the skull. It differs from descriptions of *M. minuta* by Gervais and Dobson in the yellowish white instead of grayish white underfur above, and in the clear white instead of ashy underparts.

14. *Chrotopterus auritus* Peters.—One specimen, ♀, Bonda, June 5. "Extent, 392; length, 95; wing (from carpal joint), 110."

15. *Dolichophyllum macrophyllum* (Wied).—One specimen, ♂, Bonda, July 9. "Extent, 335; length, 90; wing (from carpal joint), 85."

16. *Promops affinis*, sp. nov.

Type, No. 15109, ♀ ad., skin without skull, Taguaga, June 23, 1899; coll. H. H. Smith.

Size and general appearance of *Promops depressus* (Ward) from northern Mexico, but membranes and general coloration much darker, with heavier dentition and differently shaped ears.

Adult.—Above dark rufous brown, with the basal portion of the fur clear fulvous white; below similar but somewhat paler. Ears and membranes blackish brown.

Juv.—Above blackish brown, extreme base of hairs ashy; below sooty brown, the hairs ashy at extreme base and with the tips faintly ashy; ears and membranes black.

Measurements.—"Expanse, 423; total length, 136; wing from carpus, 111"; tail, 68, free portion of tail, 34; forearm, 60; thumb, 10; metacarpal II, 56; 3d finger—metacarpal, 59, 1st phalanx, 23, 2d phalanx, 21; 4th finger—metacarpal, 57, 1st phalanx, 20, 2d phalanx, 3; 5th finger—metacarpal, 27, 1st phalanx, 19, 2d phalanx, 5; tibia, 18; foot, 11.

This species is based on six specimens, only one of which (taken as the type) is adult, and this unfortunately lacks the skull. Although the immature examples almost equal the adults in size (the forearm ranging from 54 to 56 against 60 in the adult), four out of the five still retain the upper milk incisors.

These are slender, curved teeth, two on either side, obliquely inserted, with the tip strongly curved laterad. As the permanent incisors are already well developed, there are thus six upper incisors, arranged in two rows, an outer row of four milk incisors and an inner row of two permanent incisors.

The skull of *Promops affinis*, allowing for the immaturity of the specimens, closely resembles, in general form and character of the teeth, that of *P. depressus* (Ward) from Mexico. The two species are also practically of the same size and proportions, but in color *P. affinis* is much darker than *P. depressus*, and has the lower outer lobe of the ear much narrower, and the inflated upper internal border wider. They are obviously closely related forms, but their exact relationship can be determined only on comparison of a larger amount of more strictly comparable material.

A note by the collector attached to one of the specimens states: "This species congregates in narrow fissures of the coast rocks, just above the surf. When disturbed it crawls deeper into the crevices, but does not take flight (in the daytime) even when a gun is fired into its retreat."

I take the present opportunity to record what seems to be another undescribed species of *Promops*, from Peru, received a few years since from Mr. O. T. Baron, and hitherto wrongly identified.

***Promops milleri*, sp. nov.**

Molossus nasutus ALLEN, Bull. Am. Mus. Nat. Hist. IX, 1897, 115. (Not *M. nasutus* of Spix.)

Type, No. 111111, ♀ ad., Guayabamba, Peru (altitude 6000 feet), September 24, 1894; O. T. Baron.

Pelage very soft and thick, moderately long. Above dark sooty brown, hairs pale fulvous at extreme base; below similar but rather paler; ears and membranes black. Distribution of fur on the wing membrane, on the forearm, and between the fingers, much more restricted than in *Molossus rufus* or *P. abrasus*, and the naked margin of the outer surface of the ears is much broader. Ears moderate for a *Promops*, nearly meeting in front but not joined; tragus small, pointed, broadest at base. Tail extending about half its length beyond the membrane.

Measurements.—Collector's measurements from four fresh specimens: Head and body, 81; tail, 46; hind foot, 15-16. Measurements of type, from skin:

Forearm, 57; thumb, 11; metacarpal II, 55; third finger—metacarpal, 59, 1st phalanx, 25, 2d phalanx, 20; fourth finger—metacarpal, 57, 1st phalanx, 21, 2d phalanx, 19; fifth finger—metacarpal, 31, 1st phalanx, 18, 2d phalanx, 5; tibia, 18; foot, 13; breadth across ears, 27.5.

Skull.—The skull is massive, and the teeth are broad and heavy; rostral portion of the skull much broader than the interorbital. The upper canine is in strong contact with pm.² so that the very small pm.¹ stands on the outer edge of the toothrow. The upper incisors are strongly curved and arch forward, projecting much beyond the canines.

Total length, 23.5; basal length, 20; breadth of rostrum at base of canines, 6; greatest breadth of rostrum, 7.5; least interorbital breadth, 5; zygomatic breadth, 14; mastoid breadth, 12.5; palatal length, 10; distance between last molars, 5; upper toothrow (exclusive of incisors), 9.5; mandible, 18; lower toothrow (exclusive of incisors), 10.

Promops milleri is based on four adult females, all remarkably uniform in size and coloration, from Guayabamba, Peru, collected September 24, 1894, by Mr. O. T. Baron. They were at first referred to *Promops nasutus* (Spix), and I am indebted to Mr. Gerrit S. Miller, Jr., after whom the species is named, for calling my attention to its probable distinctness from this, apparently its nearest ally. It differs from this species in its much larger size, in the much lesser development of the furred areas on the forearm and wing membranes, in the form of the tragus, in the greater length of the exposed portion of the tail, and in the form of pm.³, which is not higher than pm. 1. *P. milleri* is of about the size of *P. abrasus* (auct.), but differs from it greatly through the less extension of the fur upon the proximal border of the wing membrane, in coloration, character of the tail, etc.

17. *Peropteryx canina* (Wied).—Five skins and three specimens in alcohol, Bonda, June and August.

18. *Saccopteryx bilineata* (Temm.).—Thirty-six specimens, 28 skins with skulls and 8 in alcohol: Bonda, 33, February, April, May, June, July, August, and September; Minca, 3, July and August.

This series represents two well-marked color phases, a black and a brown. In the black phase the color above is often black, more commonly deep brown black; below blackish brown, washed with ash gray. In the brown phase the color above is dark rusty brown; below pale brown, the tips of the hairs lighter.

A few specimens are practically intermediate and to some extent connect the two phases.

The white markings on the back vary much in distinctness in different specimens, being sometimes almost clear white and strongly defined, in other specimens brownish white, and sometimes obsolete.

There are seven young, two of which are very young and the others about two-thirds grown. These are nearly uniform blackish plumbeous above, somewhat lighter below, with the hairs slightly ashy-tipped.

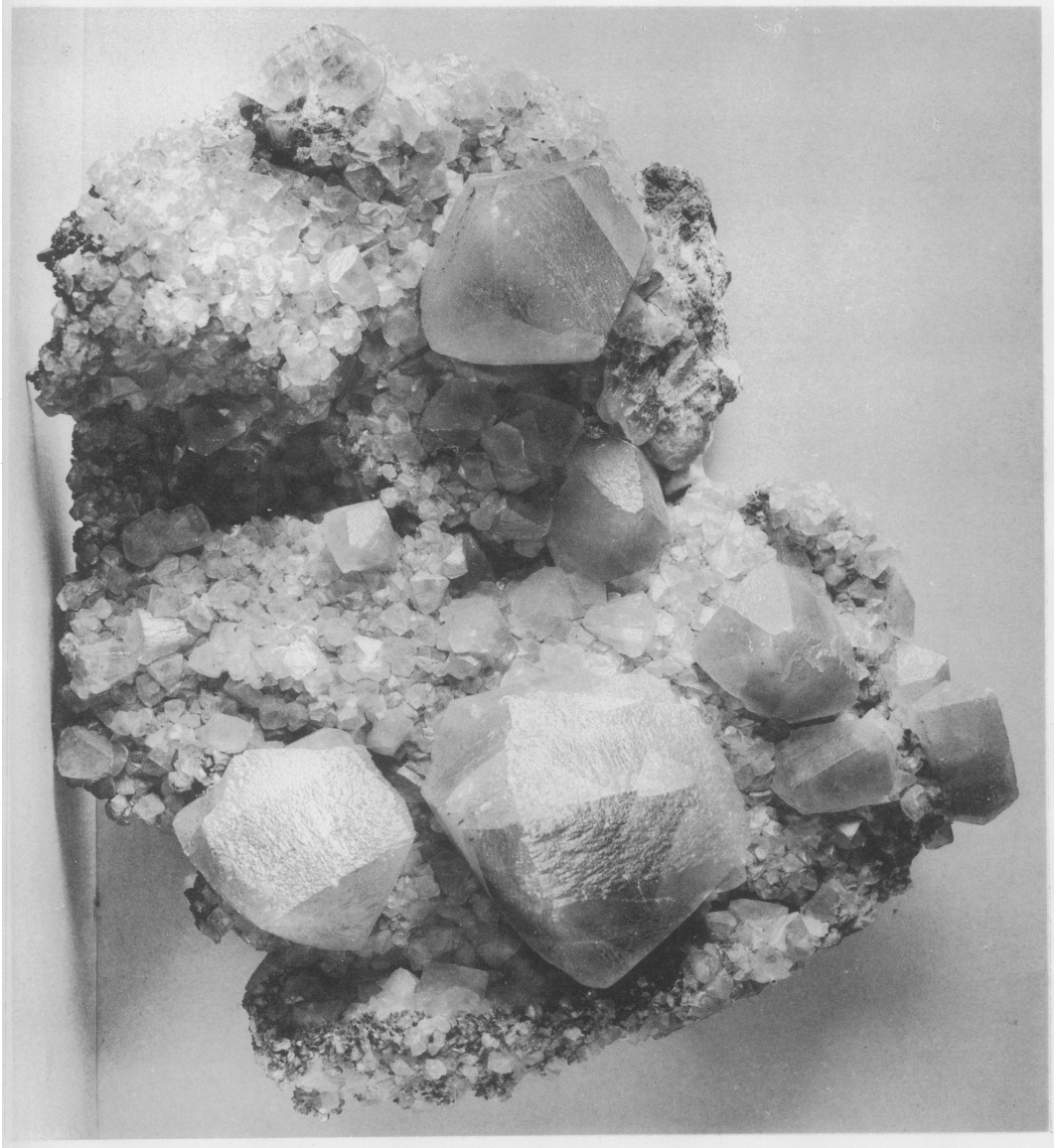
19. *Saccopteryx leptura* (Schreber).—Two skins and three specimens in alcohol, Bonda, March, April, and June.

20. *Thyroptera tricolor* Spix.—One skin, without skull, Cacagualito, May 24.

21. *Myotis nigricans* (Wied).—Nine specimens, Bonda, June 14, July 24, August 14, and September 5. Three of the specimens are paler and browner than the others, but they apparently represent only a brownish phase of *M. nigricans*, as they do not differ appreciably from the others except in color.

22. *Lasiurus pallescens* (Peters).—One specimen, Bonda, July 6.

This is slightly smaller than Dr. Peters's type, from the "Andes de Merida" of western Venezuela, but apparently not otherwise different.



CALCITE CRYSTALS.

From Joplin, Missouri.

