

# American Museum Novitates

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PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY  
CENTRAL PARK WEST AT 79TH STREET, NEW YORK 24, N.Y.

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NUMBER 2080

APRIL 24, 1962

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## Two New Bats from Trinidad, with Comments on the Status of the Genus *Mesophylla*

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Since the publication of "A review of the bats of Trinidad and Tobago" (Goodwin and Greenhall, 1961), another genus of stenodermine bat and a species of molossid bat have been obtained that not only are new records for Trinidad Island, but also represent unnamed subspecies.

All measurements in the text and tables are given in millimeters; the brain-case depth is a dorsoventral measurement taken from the highest point of the brain case to the plane that passes through the tips of the incisors and the ventral border of the audital bullae. The weights are in grams. Capitalized color terms are from Ridgway (1912).

Abbreviations representing the names of museums from which specimens are recorded or listed in the tables are:

A.M.N.H., the American Museum of Natural History  
B.M., British Museum (Natural History)  
T.D.A., Trinidad Department of Agriculture  
U.S.N.M., United States National Museum

Acknowledgment is due to Mr. R. W. Hayman for the photographs and measurements of a skull of *Ectophylla alba* in the British Museum (Natural History). The type of *E. alba* is a skin without skull, preserved in spirits in the United States National Museum. The photographs of the other skulls in this paper were made by Mr. Robert E. Logan, Chief

Photographer, the American Museum of Natural History. The line drawings were made by Mr. Gaetano Di Palma, Scientific Illustrator, Graphic Arts Department, the American Museum of Natural History.

***Ectophylla macconnelli flavescens*, new subspecies**

LITTLE YELLOW-FACED BAT

Figures 1-6

TYPE: A.M.N.H. No. 186433, skin and skull, adult female; from Talparo, Trinidad, the West Indies; collectors: Charles Austin and Cito Fermin, Anti-Rabies Assistants, Anti-Rabies Inspectorate, Trinidad, original no. T.D.A. 61-1102, collected May 5, 1961. The type skin,

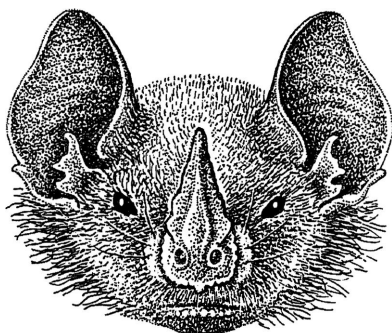


FIG. 1. Front view of head of *Ectophylla macconnelli flavescens*, showing crenulated edges of nose leaf.  $\times 2$ .

originally preserved in spirits, is in fair condition; the skull is complete, with the teeth showing little wear.

DIAGNOSIS: Size large for the genus; color pale grayish buff; ears, nose leaf, thumb, and second and third metacarpals bright yellow in life; interfemoral membrane narrow; external tail absent; calcar short; wings when extended reaching to distal end of metatarsus; ears moderately large, rounded; tragus pointed at tip, with two projecting lobes on outer border; nose leaf higher than wide, finely haired, with edges slightly crenulated and median rib well defined; short, vertical, supplementary leaflet present immediately behind nose leaf (not present in type of *alba*); similar in general character to typical *Ectophylla macconnelli* (Thomas) from Kanuku Mountains, southern British Guiana, but generally larger and grayer in color, with skull larger, rostrum longer, teeth larger, especially second upper molar and second lower premolar, brain case flatter;

ratio of length of skull to depth of brain case 2.2 (2.0 to 2.1 in *E. m. macconnelli* from Georgetown, British Guiana).

DENTAL FORMULA FOR GENUS: Incisors,  $\begin{smallmatrix} 2-2 \\ 2-2 \end{smallmatrix}$ ; canines,  $\begin{smallmatrix} 1-1 \\ 2-2 \end{smallmatrix}$ ; premolars,  $\begin{smallmatrix} 2-2 \\ 2-2 \end{smallmatrix}$ ; molars,  $\begin{smallmatrix} 2-2 \\ 2-2 \end{smallmatrix}$  or  $\begin{smallmatrix} 2-2 \\ 3-3 \end{smallmatrix}$  = 28 or 30.

DESCRIPTION OF TYPE: Externally much like *Vampyrops* but smaller; upper parts Light Buff washed with Tawny-Olive, darkest posteriorly; under parts uniform buffy gray; ears, nose leaf, thumb, and third metacarpals and enclosed membrane Light Buff; rest of flying membrane Mummy Brown. Skull not especially modified, but dental characters conspicuously differing from those of all other stenodermine bats; upper incisors strongly contrasted in size, inner larger than outer, converging

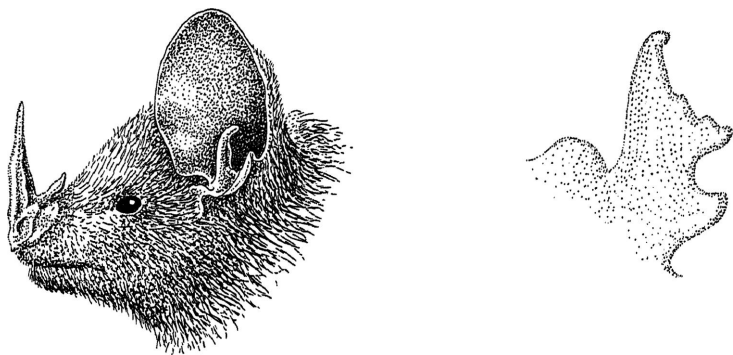


FIG. 2. Left lateral view of head of *Ectophylla macconnelli flavescens*, showing the small leaflet behind nose leaf.  $\times 2$ . Right tragus showing projecting lobes on outer border.  $\times 6$ .

terminally, cutting edges faintly notched; all four teeth separated by spaces; lower incisors small, subequal, forming a continuous row between canines; upper and lower canines long and very slender; upper canines without a small posterior cusp near tip (in most specimens of *E. m. macconnelli* examined the upper canines have a small but distinct posterior secondary cusp near tip); upper premolars acutely pointed; lower premolars similar to upper but smaller; first upper molar triangular in outline and much smaller than second; second upper molar with crown basin-shaped, its surface smooth, a well-developed single cusp placed antero-externally; first lower molar resembling last premolar; second lower molar larger than first, its surface basin-shaped and smooth, its width greater than that of mandibular ramus, two distinct cups on lingual edge and one at middle of anterior edge; very small third lower molar present;

TABLE 1

EXTERNAL AND CRANIAL MEASUREMENTS OF *Ectophylla*

Specimen and Number	Locality	Sex and Age	Forearm	Skull, Greatest Length	Zygomatic Breadth	Interorbital Breadth	Palatal Breadth, M <sub>2</sub> -M <sub>2</sub>	Mastoid Breadth	Brain Case Breadth	Brain Case Depth	Maxillary Tooth Row, C-M <sub>2</sub>
<i>E. alba</i>											
NICARAGUA											
U.S.N.M. No. 15950*	Camarca de El Cabo	♂ ad	25	—	—	—	—	—	—	—	—
B.M. No. 974.7.6	Lake Nicaragua	♂ ad	26	16.8	10.0	4.2	7.5	8.4	8.0	—	6.3
<i>E. m. macconnelli</i>											
BRITISH GUIANA											
B.M.*	Kanuka Mts.	♀ ad	30.0	17.6	10.0	4.5	—	9.0	—	—	6.1
A.M.N.H. No. 48269	Georgetown	♂ ad	30.0	17.5	9.9	4.3	6.9	8.8	7.8	8.5	5.7
A.M.N.H. No. 48270	Georgetown	♀ ad	29.5	17.5	10.0	4.3	7.2	8.8	7.6	8.5	6.0
PERU											
A.M.N.H. No. 76095	Alto Ucayali, St. Rosa	♀ ad	—	18.0	9.5	4.2	7.2	9.1	7.7	—	6.2
A.M.N.H. No. 76254	Rio Ucayali, Sarayacu	♀ ad	—	17.0	9.7	4.1	7.0	8.7	7.5	—	5.7
A.M.N.H. No. 76565	Alto Ucayali, Lagarto	♀ ad	—	17.7	10.0	4.5	7.3	9.0	7.8	—	6.2
A.M.N.H. No. 76569	Alto Ucayali, Lagarto	♂ ad	—	17.8	10.5	4.3	7.3	9.0	7.5	8.5	6.2
A.M.N.H. No. 74100	Orosa	♂ ad	—	16.8	9.4	4.0	6.6	8.4	6.8	—	5.7

TABLE 1—(Continued)

Specimen and Number	Locality	Sex and Age	Forearm	Skull, Greatest Length	Zygomatic Breadth	Interorbital Breadth	Palatal Breadth, M <sub>2</sub> -M <sub>2</sub>	Mastoid Breadth	Brain Case Breadth	Brain Case Depth	Maxillary Tooth Row, C-M <sub>2</sub>
BRAZIL											
A.M.N.H. No. 78856	Santo Isadoro	♂ ad	—	18.0	10.0	4.4	7.4	9.0	7.9	—	6.2
ECUADOR											
A.M.N.H. No. 71495	Boca Lagarto, Cocha	♀ ad	—	17.1	9.5	4.3					6.0
A.M.N.H. No. 71665	Boca Curary	♀ ad	—	17.0	9.2	4.3	6.7	8.7	7.6	—	5.5
A.M.N.H. No. 71674	Boca Curary	♂ ad	—	17.8	9.9	4.5	7.1	8.9	7.7	—	6.1
<i>E. m. flavescens</i>											
WEST INDIES											
A.M.N.H. No. 186433 <sup>a</sup>	Trinidad, Talparo	♀ ad	33.4	18.7	11.0	4.7	7.9	9.5	8.4	8.4	6.5

<sup>a</sup> Types.

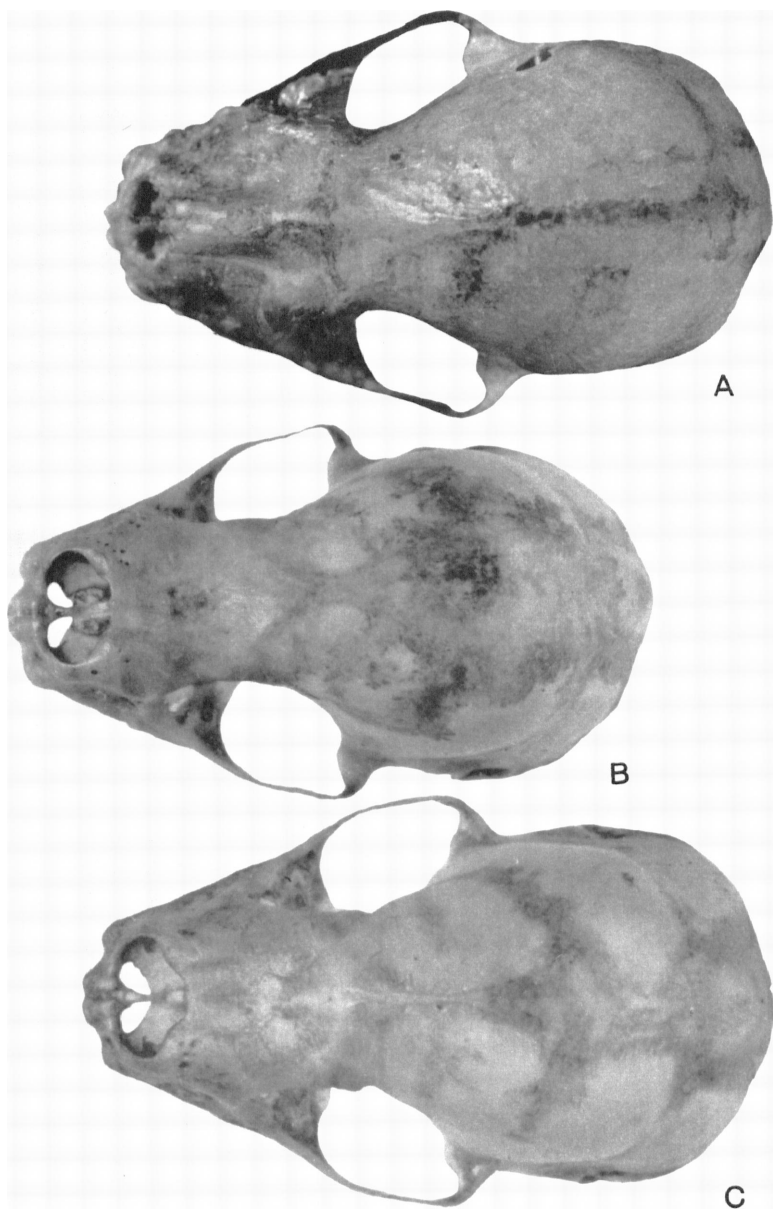


FIG. 3. Dorsal view of cranium. A. *Ectophylla alba*, adult male, B.M. No. 97.4.7.6. B. *E. m. maconnelli*, adult male, A.M.N.H. No. 48269. C. *E. m. flavescens*, adult female, A.M.N.H. No. 186433, type. All  $\times 5$ .

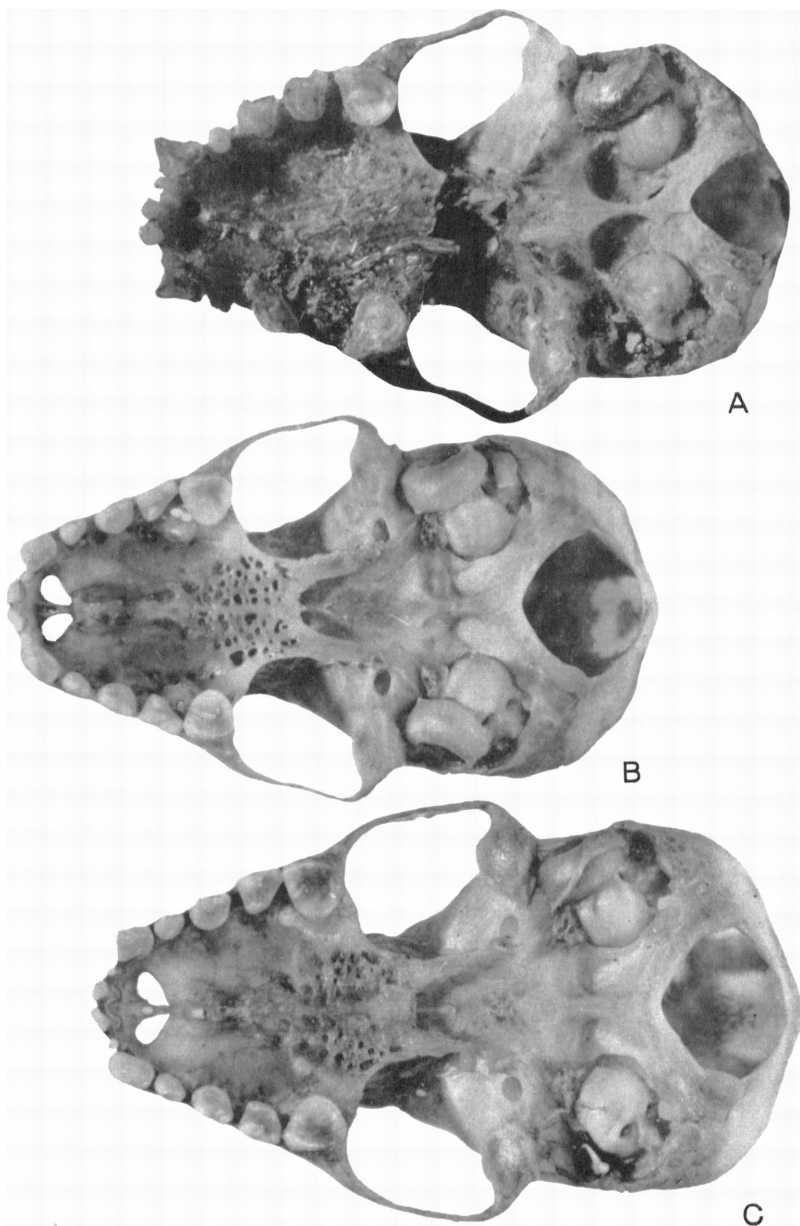


FIG. 4. Ventral view of cranium. A. *Ectophylla alba*, adult male, B.M. No. 97.4.7.6. B. *E. m. macconnelli*, adult male, A.M.N.H. No. 48269. C. *E. m. flavescens*, adult female, A.M.N.H. No. 186433, type. All  $\times 5$ .

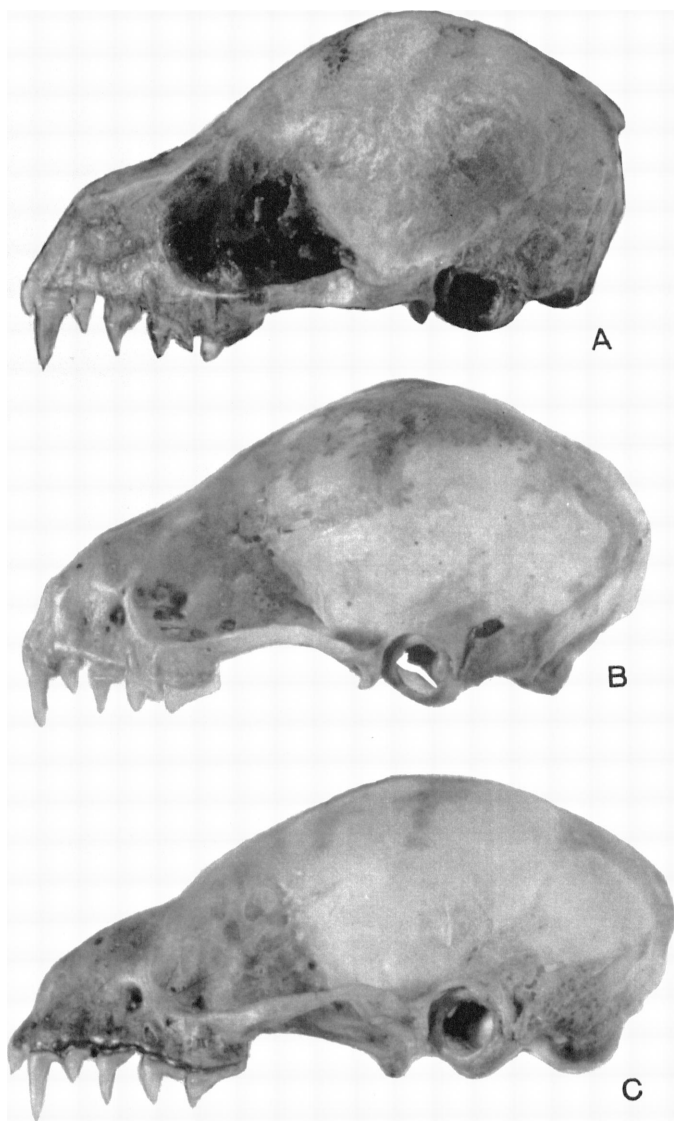


FIG. 5. Lateral view of cranium. A. *Ectophylla alba*, adult male, B.M. No. 97.4.7.6. B. *E. m. macconnelli*, adult male, A.M.N.H. No. 48269. C. *E. m. flavescens*, adult female, A.M.N.H. No. 186433, type. All  $\times 5$ .



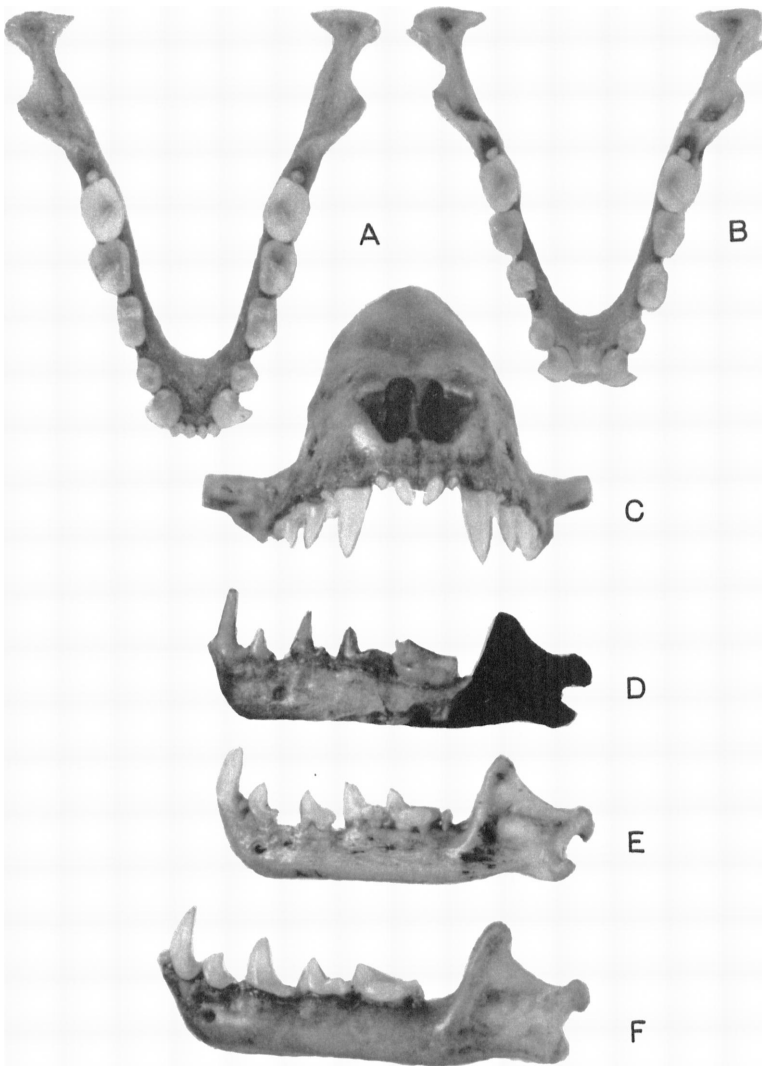


FIG. 6. Dorsal view of mandible. A. *Ectophylla macconnelli flavescens*, A.M.N.H. No. 186433. B. *E. m. macconnelli*, A.M.N.H. No. 48269. Front view of cranium. C. *E. m. flavescens*, A.M.N.H. No. 186433. Lateral view of ramus. D. *E. m. alba*, B.M. No. 97.4.7.6. E. *E. m. macconnelli*, A.M.N.H. No. 48269. F. *E. m. flavescens*, A.M.N.H. No. 186433. All  $\times 5$ .

nasal region depressed; basisphenoid pits shallow but well defined; palate pitted with numerous small vacuities; brain case elevated above rostrum but not so sharply as in *E. m. macconnelli*.

MEASUREMENTS AND WEIGHT OF TYPE: Head and body, 49.0; hind foot, 9.5; ear from meatus, 13.5; calcar, 3.7; thumb, 8.5; tibia, 13.5; forearm, 33.4. Third finger: metacarpal, 30.8; first phalanx, 13.7; second phalanx, 16.9; third phalanx, 10.5. Fourth finger: metacarpal, 30.8; first phalanx, 11.0; second phalanx, 10.1. Skull: greatest length, 18.7; zygomatic breadth, 11.0; interorbital breadth, 4.7; breadth of palate across  $M^2$ - $M^2$ , 7.9; breadth of brain case, 8.2; mastoid breadth, 9.5; brain-case depth, 8.4; maxillary tooth row,  $C$ - $M^2$ , 6.5; weight, 6.6 grams. Comparative measurements are given in table 1.

SPECIMENS RECORDED: Trinidad: Talparo, one (A.M.N.H.), the type; one juvenile (T.D.A.).

GENERAL HABITS: These two specimens, a female carrying a two-thirds-grown young, were taken under a leaf of the lily *Antharium huegelli*, where about five bats were in each of two clusters.

REMARKS: Most previous authors have followed Thomas in aligning *macconnelli* with the genus *Mesophylla* Thomas (1901, p. 143) rather than *Ectophylla* H. Allen (1892, p. 442), because in *macconnelli* a small third lower molar is present, the inner upper incisor converges terminally instead of having a terete-conical crown, and the surface of the second upper and second lower molars are smooth and not crossed by a longitudinal ridge as in *Ectophylla alba*. *Macconnelli* and *alba* are essentially the same in all other dental characters and in cranial and external characters. The presence or absence of a small posterior lower molar and the direction of the upper incisors are not specific differences in stenodermine bats. It seems more reasonable to stress the distinction of the longitudinal ridges on the molars in *alba*, as 20 specimens of *macconnelli* from British Guiana, Brazil, Peru, and Ecuador show no indication of such a ridge. However, the strong similarities linking these two species and separating them from all other stenodermine bats indicate a classification of not more than subgeneric rank for *Mesophylla*.

### **Promops nasutus downsi**,<sup>1</sup> new subspecies

TRINIDADIAN LITTLE RIDGE-NOSED BAT

Figures 7-9

TYPE: A.M.N.H. No. 186947, skin and skull; adult female from Memorial Park, Port-of-Spain, Trinidad, the West Indies; collector: Harvey

<sup>1</sup> Named for Dr. Wilbur G. Downs, Director of the Trinidad Regional Virus Laboratory.

Cassell, Anti-Rabies Assistant, Anti-Rabies Inspectorate, Trinidad, original no. T.D.A. 61-1779, collected July 13, 1961. The type skin, originally preserved in spirits, is in good condition; the skull is complete, with some teeth showing considerable wear.

**DIAGNOSIS:** Size small for the genus; color dark reddish brown, darkest on head, paler below, base of hairs narrowly whitish; forearm short, about equal to length of metacarpal of third finger; skull small; rostrum relatively long; palate broad; brain case small.

**COMPARISONS:** *Promops n. downsi* needs comparison only with the small forms of *Promops* in the *nasutus* group. It is nearest in size and cranial characters to typical *P. nasutus* (Spix) from Rio São Francisco, Department of Bahia, Brazil, but has a shorter wing, larger skull, longer rostrum, and relatively smaller brain case. *Promops ancilla* Thomas from Cachi, Department of Salta, northern Argentina, is similar in size and cranial characters to *P. nasutus*. The only difference seems to be the paler color and a broader band of whitish at the base of the hairs in *ancilla*. *Promops fosteri* Thomas from Villa Rica, Paraguay, is larger than *downsi* and has a more swollen brain case. The type of *P. pamana* Miller from Hyutana-ham, Amazonas, in the upper Purus River region, western Brazil (skin without skull), is a very small specimen with a very short forearm, 43.0, and a long tibia, 16.5 (45.9, 15.2, respectively, in *downsi*). *Downsi* also differs from all the forms in the *nasutus* group in having the metacarpal of the third finger about equal to the length of the forearm; in *nasutus*, *ancilla*, *fosteri*, and *pamana* the metacarpal of the third finger is considerably longer than the length of the forearm. *Promops downsi* needs no close comparisons with the much larger species: *Promops centralis* Thomas from Middle America and Trinidad, and *P. occultus* Thomas from Sapucay, Paraguay, and *P. davisoni* Thomas from Chosica, Department of Lima, Peru.

**DENTAL FORMULA:** Incisors,  $\frac{1-1}{2-2}$ ; canines,  $\frac{1-1}{1-1}$ ; premolars,  $\frac{2-2}{2-2}$ ; molars,  $\frac{3-3}{3-3} = 30$ .

**DESCRIPTION OF TYPE:** Upper parts Prout's Brown; extreme base of hairs Light Buff; head above and below Mummy Brown; under parts to base of hairs Cinnamon-Brown; interfemoral membrane Chaetura Drab; wing membranes Chaetura Black; ears Blackish Brown; upper side of interfemoral membrane narrowly haired at base. Ears short, rounded, meeting at the same point on forehead; tragus minute, antitragus well developed, constricted at base; a keel-like ridge extending from behind muzzle to point of junction of ears; small pad of stiff, spoon-like hairs on upper lip below nostrils. Skull short and broad; interorbital region narrowly constricted; sagittal crest well developed, upper incisors projecting forward, tips diverging; outer lower incisor very small; anterior upper

TABLE 2  
EXTERNAL AND CRANIAL MEASUREMENTS OF *Promops*

Specimen and Number	Locality	Sex and Age	Metacarpal of Third Finger	Forearm	Skull, Greatest Length	Condyles to Front of Canines	Zygomatic Breadth	Interorbital Breadth	Palatal Breadth, M <sub>2</sub> -M <sub>2</sub>	M <sub>1</sub> -M <sub>2</sub> , Outer Edge	Maxillary Tooth Row, C-M <sub>3</sub>
<i>P. centralis</i>											
B.M. No. 94.2.5.4 <sup>a</sup>	Mexico, Yucatan	♀ ad	56.0	54.0	20.2	19.3	—	—	—	4.5	8.3
A.M.N.H. No. 126828	Honduras, La Paz	♀ ad	55.0	52.4	20.8	18.7	12.2	4.3	9.4	4.2	7.9
A.M.N.H. No. 175697	Trinidad, George Village	♀ ad	56.0	54.2	20.5	18.9	12.2	4.2	9.3	4.2	8.0
<i>P. occultus</i>											
B.M. No. 2.4.11.24 <sup>a</sup>	Paraguay, Sapucay	♀ ad	54.5	51.0	20.0	18.8	—	—	—	4.0	7.9
<i>P. davisoni</i>											
B.M. No. 21.5.21.1 <sup>a</sup>	Peru, Lima, Chosica	♂ ad	55.0	51.0	19.2	17.6	—	—	—	3.8	7.4
A.M.N.H. No. 34300	Ecuador, Manavi	♀ ad	52.0	48.5	18.5	16.5	11.3	4.0	8.5	3.5	7.1
A.M.N.H. No. 34382	Ecuador, Manavi	♂ ad	51.0	50.0	19.0	17.0	11.1	3.8	8.5	3.8	7.2
<i>P. n. nasutus</i>											
B.M.	Brazil, Bahia, Lamarão	? ad	50	48.5	17.6	16.2	—	—	—	3.5	6.7
<i>P. n. panama</i>											
U.S.N.M. No. 105528 <sup>a</sup>	Brazil, Hyutanaham	♂ ad	44.5	43.0	—	—	—	—	—	—	—

TABLE 2—(Continued)

Specimen and Number	Locality	Sex and Age	Metacarpal of Third Finger	Forearm	Skull, Greatest Length	Condyles to Front of Canines	Zygomatic Breadth	Interorbital Breadth	Palatal Breadth, M <sub>2</sub> —M <sub>2</sub>	M <sub>1</sub> —M <sub>2</sub> , Outer Edge	Maxillary Tooth Row, C—M <sub>2</sub>
<i>P. n. fosteri</i>											
B.M. No. 1.8.1.17 <sup>a</sup>	Paraguay, Villa Rica	♂ ad	50	48.5	18.5	17.0	—	—	—	3.7	6.8
<i>P. n. ancilla</i>											
B.M. No. 6.5.8.4 <sup>a</sup>	Argentina, Salta, Cachi	♂ ad	53.7	50	17.5	16.4	—	—	—	3.4	6.8
A.M.N.H. No. 184647	Argentina, Jujuy, Yuto	♀ ad	51.0	48.7	17.9	16.3	10.5	4.0	8.0	4.2	6.5
A.M.N.H. No. 184648	Argentina, Jujuy, Yuto	♀ ad	49.5	48.5	17.4	15.5	10.5	4.1	7.8	3.8	6.5
A.M.N.H. No. 184649	Argentina, Jujuy, Yuto	♀ ad	49.5	48.0	17.3	15.7	10.5	3.7	7.7	3.5	6.5
<i>P. n. downsi</i>											
A.M.N.H. No. 186947 <sup>a</sup>	Trinidad, Port-of-Spain	♀ ad	45.7	45.9	18.4	16.5	10.9	3.8	9.0	3.8	6.6

<sup>a</sup> Types.

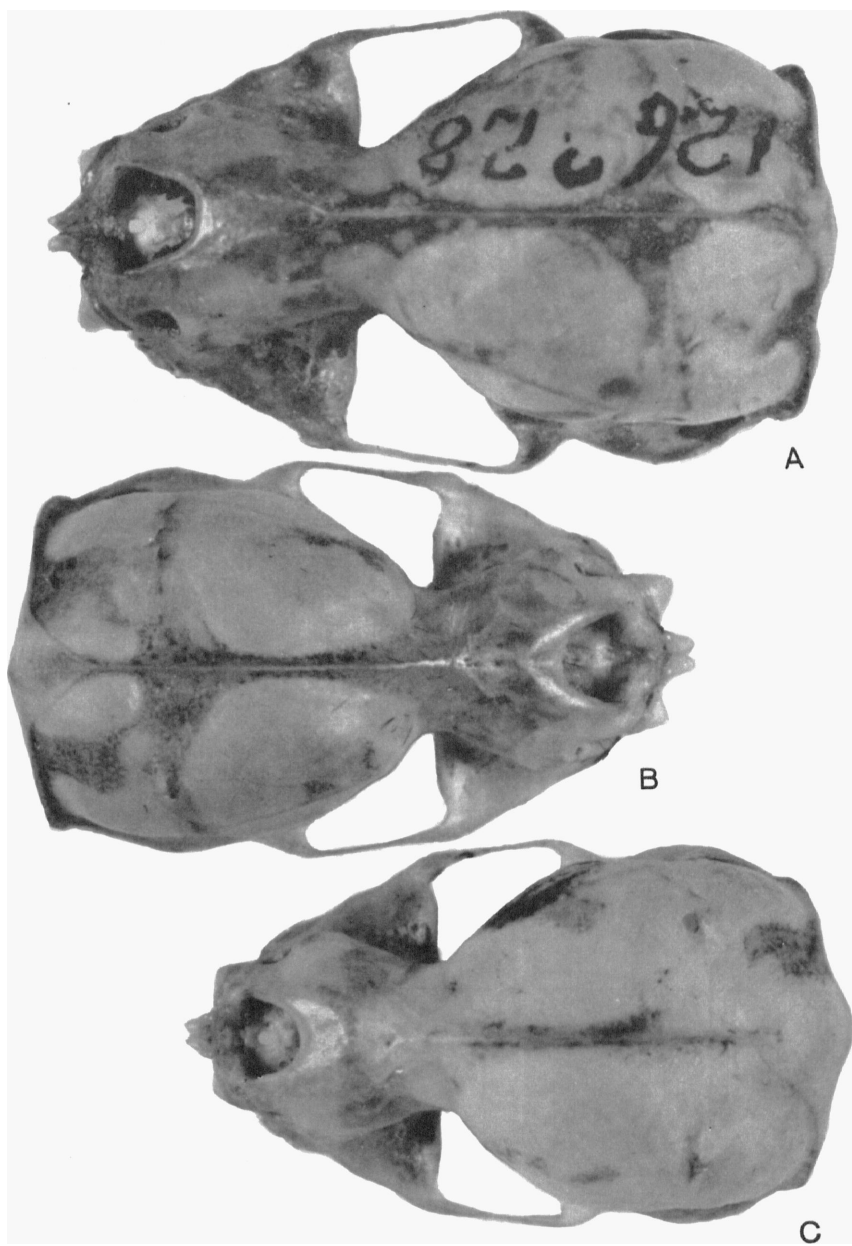


FIG. 7. Dorsal view. A. *Promops centralis*, adult female, A.M.N.H. No. 126828, Honduras. B. *P. downsi*, adult female, A.M.N.H. No. 186947, type; C. *P. ancilla*, adult female, A.M.N.H. No. 184648, Argentina.  $\times 5$ .

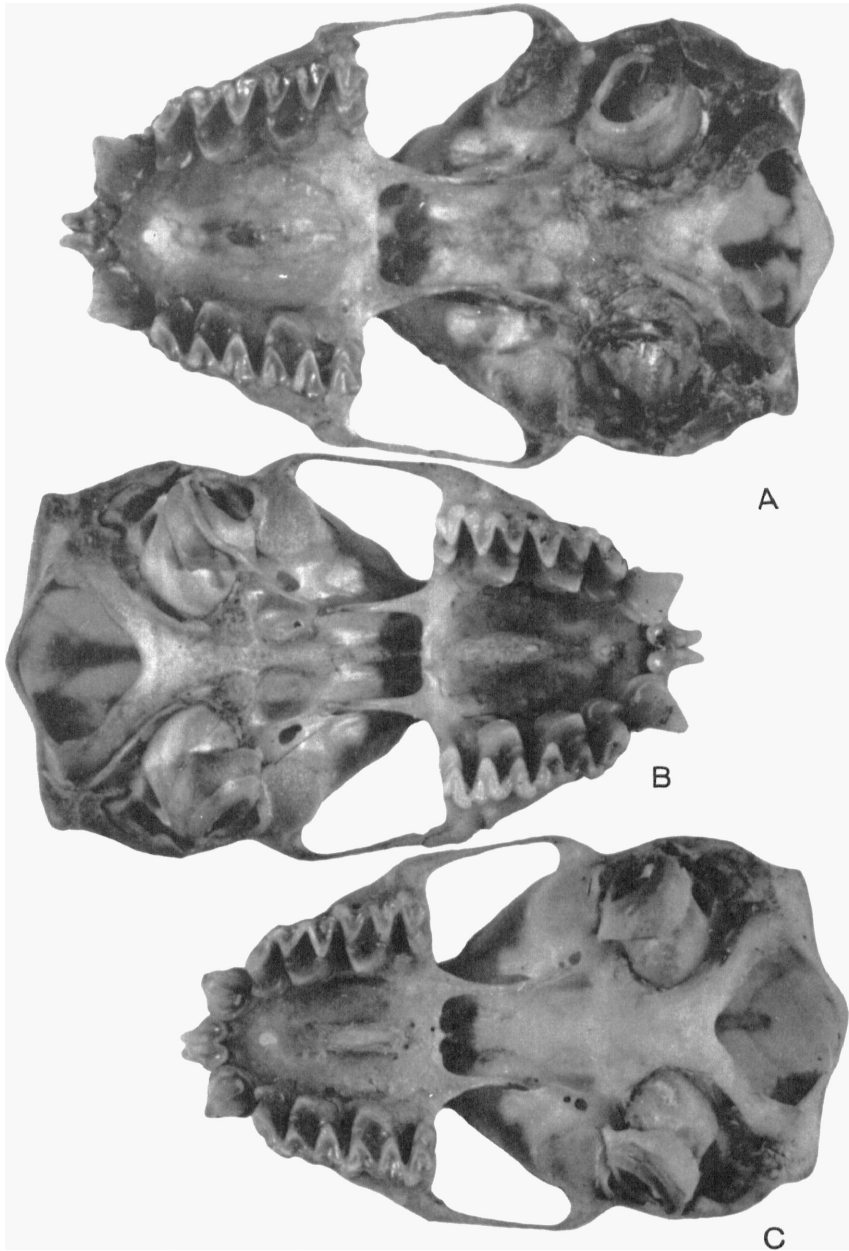


FIG. 8. Ventral view. A. *Promops centralis*, adult female, A.M.N.H. No. 126828, Honduras. B. *P. downsi*, adult female, A.M.N.H. No. 186947, type. C. *P. ancilla*, adult female, A.M.N.H. No. 184648, Argentina.  $\times 5$ .

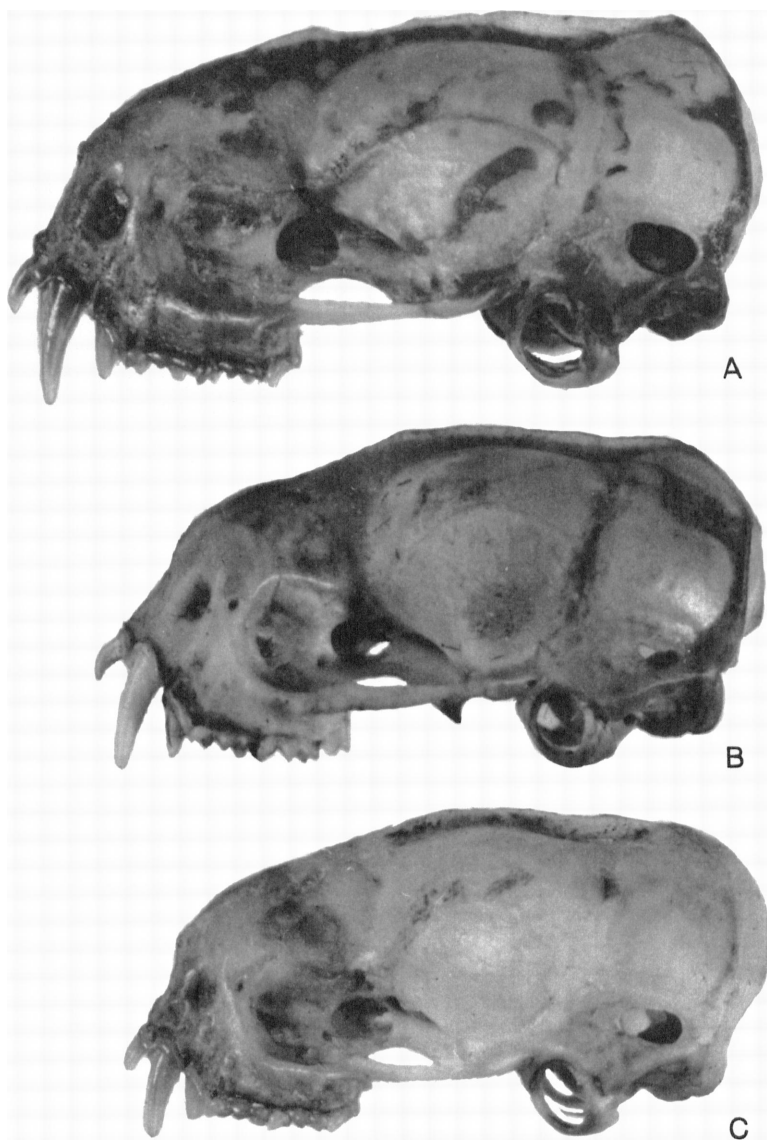


FIG. 9. Lateral view. A. *Promops centralis*, adult female, A.M.N.H. No. 126828, Honduras. B. *P. downsi*, adult female, A.M.N.H. No. 186947, type. C. *P. ancilla*, adult female, A.M.N.H. No. 184648, Argentina.  $\times 5$ .



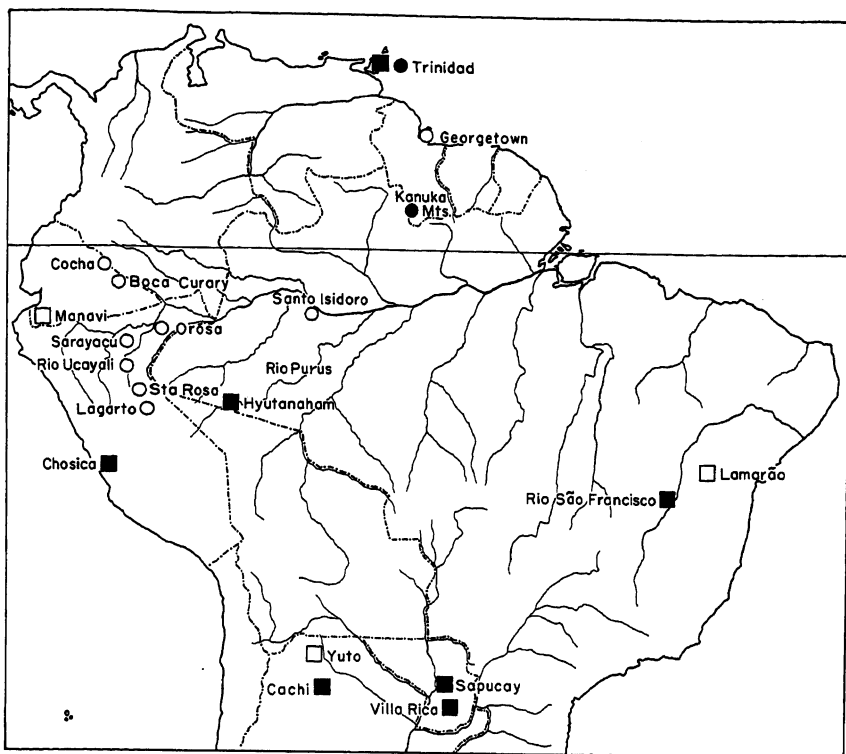


FIG. 10. Map of the northern part of South America, showing the localities referred to in the text and in tables 1 and 2. ●, type localities of species of *Ectophylla*. ○, recorded specimens of *Ectophylla*. ■, type localities of species of *Promops*. □, recorded specimens of *Promops*.

premolar reduced to a minute structureless spicule (often deciduous); lower premolars crowded, their width exceeding their length.

**MEASUREMENTS AND WEIGHT OF TYPE:** Total length, 116.5; length of tail, 50.5; hind foot, 10.0; tibia, 15.2; forearm, 45.9; metacarpal of third finger, 45.7. Skull: greatest length, 18.4; condyle to front of canine, 16.5; zygomatic breadth, 10.9; interorbital breadth, 3.8; palate, breadth across  $M^2$ - $M^2$ , 9.0; brain-case breadth, 9.3; mastoid breadth, 10.5;  $M^1$ - $M^2$ , outer edge, 3.8; maxillary tooth row, C- $M^3$ , 6.6; weight, 10.2 grams. Comparative measurements are given in table 2.

**SPECIMENS RECORDED:** Trinidad: Port-of-Spain, one (A.M.N.H.), the type.

**REMARKS:** The present specimen was found dead in Memorial Park.

No attempt has been made to revise the species of the genus *Promops* since Thomas named three new forms in 1915. All previous specimens of the small *Promops* in the *nasutus* group have been recorded from south of the Amazon River basin and more than 2000 miles from Trinidad. These smaller forms are all closely related and apparently represent geographical forms of one species.

### LITERATURE CITED

ALLEN, HARRISON

1892. Description of a new genus of phyllostome bats. Proc. U. S. Natl. Mus., vol. 15, pp. 441-442.

GOODWIN, GEORGE G., AND ARTHUR M. GREENHALL

1961. A review of the bats of Trinidad and Tobago, descriptions, rabies infection, and ecology. Bull. Amer. Mus. Nat. Hist., vol. 122, art. 3, pp. 190-301, pls. 7-46.

RIDGWAY, ROBERT

1912. Color standards and color nomenclature. Washington, D. C., pp. 1-43, pls. 1-53.

THOMAS, OLDFIELD

1901. On a collection of mammals from the Kanuku Mountains, British Guiana. Ann. Mag. Nat. Hist., ser. 7, vol. 8, pp. 139-154.  
1915. On bats of the genus *Promops*. *Ibid.*, ser. 8, vol. 16, pp. 61-64.