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# Bats from Guerrero, Jalisco and Oaxaca, Mexico

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This paper is based on a small collection of bats made by the author in Guerrero and Oaxaca from July 22 to August 5, 1952, and in Jalisco from December 7 to 11, 1954. The primary objective of this collecting was to obtain additional specimens of *Sturnira* to be used for a systematic review of that genus. In sampling caves and other likely habitats, representatives of fourteen species of bats were collected, including the first series to be taken of *Enchisthenes harti*.

I am indebted to Miss Barbara Lawrence, Museum of Comparative Zoology, and to Dr. E. Raymond Hall, Museum of Natural History, University of Kansas, for the loan of specimens in their care; to Mr. R. W. Hayman, British Museum (Natural History), for comparing specimens of *Chilonycteris* with the types of *C. psilotis*; and to Mr. and Mrs. Loren P. Woods, Chicago Natural History Museum, for their kindness in making possible my visit to the interesting Jalisco region. The patient and enthusiastic help given by my wife, June, in many capacities is also gratefully acknowledged.

## LIST OF SPECIES

With the exceptions noted, the specimens from Guerrero and Oaxaca were taken in caves. Those from Ciudad Guzmán, Jalisco, were netted at night in a grove of native, small-fruit *Ficus* trees.

The measurements given are in millimeters and, unless otherwise indicated, apply to the entire series. The average measurement, when given, is followed by the extremes in parentheses.

### **Balantiopteryx plicata plicata** Peters

*Balantiopteryx plicata* Peters, 1867, Monatsb. Preuss. Akad. Wiss. Berlin, 1867: 476.

*Type locality*.—Puntarenas, Puntarenas, Costa Rica.

*Specimens collected*.—Total 32 (2 skins with skulls, 30 in alcohol). GUERRERO: 5 mi. NW. of Acapulco (12 males, 14 females); 12 mi. S. of Mexcala (1 female). OAXACA: Tehuantepec (5 young females).

*Measurements*.—Forearm of males from Acapulco 41.3 (40.0–43.0), females 42.6 (40.0–46.0); female from Mexcala 41.8.

### *Chilonycteris rubiginosa mexicana* Miller

*Chilonycteris mexicana* Miller, 1902, Proc. Acad. Nat. Sci. Philadelphia, **54**: 401.

[*Chilonycteris*] *p[arnellii] mexicana*, Koopman, 1955, Jour. Mamm., **36**: 112.

*Type locality*.—San Blas, Nayarít, Mexico.

*Specimens collected*.—Total 8 (2 skins with skulls, 6 in alcohol). GUERRERO: 5 mi. NW. of Acapulco (7 males, 1 female).

*Measurements*.—Forearm of males 57.3 (55.7–58.8), female 59.5.

*Remarks*.—It cannot be established that *parnelli* Gray 1843 has priority over *rubiginosa* Wagner 1843. The issue of the Proceedings of the Zoological Society of London where the name *parnelli* first appears is dated April 11, 1843, as shown by Koopman (Jour. Mamm., 1955, **36**: 111), but the actual date of publication is October of that year (Duncan, Proc. Zool. Soc. London, **1937**: 79). The name *rubiginosa* appears in the Archiv für Naturgeschichte after a paper read in August, but the exact date of publication is not known. In the absence of conclusive evidence, the better known and more widely used name *rubiginosa* should be retained.

### *Chilonycteris psilotis* Dobson

*Chilonycteris psilotis* Dobson, 1878, Cat. Chirop. Brit. Mus., p. 451. Miller, 1902, Proc. Biol. Soc. Washington, **15**: 249—Isthmus of Tehuantepec, Mexico.

*Chilonycteris personata*, J. A. Allen (not Wagner), 1911, Bull. Amer. Mus. Nat. Hist., **30**: 263. G. M. Allen, 1935, Jour. Mamm., **16**: 227. Dalquest and Hall, 1949, Jour. Mamm., **30**: 425. Davis and Russell, 1952, Jour. Mamm., **33**: 234; 1954, op. cit., **35**: 67.

*Chilonycteris torrei continentis* Sanborn, 1938, Occ. Pap. Mus. Zool., Univ. Michigan, no. 373: 1—Laguna de Zotz, Petén, Guatemala (*type locality*).

*Type locality*.—Here designated as Tehuantepec, Oaxaca, Mexico.

*Specimens collected*.—Total 3 (2 skins with skulls, 1 in alcohol). GUERRERO: 5 mi. NW. of Acapulco (3 males).

*Measurements*.—Forearm 42.5, 43.2, 44.0.



*Remarks.*—These specimens agree with the type of *C. torrei continentis* Sanborn, and with Guatemala specimens that are identical with the types of *psilotis*. Additional representatives of *psilotis* have been examined from Mexico, Central America, and Venezuela. Inasmuch as it has not been demonstrated that *C. psilotis* and the Brazilian *C. personata* are conspecific, the name *psilotis*, rather than *personata*, should be used for the small, mainland *Chilonycteris*.

### **Pteronotus davyi fulvus** Thomas

*Chilonycteris davyi fulvus* Thomas, 1892, Ann. Mag. Nat. Hist., (6), 10: 410.

*Type locality.*—Las Peñas, Jalisco, Mexico.

*Specimens collected.*—Total 11 (in alcohol). GUERRERO: 5 mi. NW. of Acapulco (9 males, 2 females).

*Measurements.*—Forearm, males 44.1 (43.2–45.5), females 44.0, 45.0.

### **Mormoops megalophylla megalophylla** Peters

*Mormoops megalophylla* Peters. 1864, Monatsb. Preuss. Akad. Wiss. Berlin, 1864: 381.

*Type locality.*—Southern Mexico.

*Specimens collected.*—Total 27 (in alcohol). GUERRERO: 5 mi. NW. of Acapulco (27 males, no females found).

*Measurements.*—Forearm 54.9 (53.0–59.0).

### **Micronycteris megalotis mexicana** Miller

*Micronycteris megalotis mexicana* Miller, 1898, Proc. Acad. Nat. Sci. Philadelphia, 50: 329.

*Type locality.*—15 mi. S. of Ciudad Guzmán, Platanar, Jalisco, Mexico.

*Specimens collected.*—1 (in alcohol). JALISCO: 2 mi. N. of Ciudad Guzmán (1 female).

*Measurements.*—Forearm 36.3.

### **Glossophaga soricina leachi** Gray

*Monophyllus leachii* Gray, 1844, Voyage of the Sulphur, Zool., 1: 18.

*Type locality.*—Realejo, Nicaragua.

*Specimens collected.*—Total 9 (in alcohol). GUERRERO: 5 mi. NW. of Acapulco (6 males, 3 females).

*Measurements.*—Forearm 36.3 (35.0–37.5).

*Remarks.*—One specimen was taken in a mouse trap baited with ripe banana.

### **Leptoncyteris nivalis nivalis** Saussure

*M*[=*Ichnoglossa*] *nivalis* Saussure, 1860, Rev. Mag. Zool., Paris (2), 12: 492.

*Leptoncyteris nivalis yerbabuena* Martinez and Villa, 1940, An. Inst. Biol. Univ. Nac. México, 11: 313—Yerbabuena, Guerrero, Mexico (type locality).

*Type locality.*—Near snow line on Mount Orizaba, Veracruz, Mexico.

*Specimens collected.*—1 (in alcohol). GUERRERO: 12 mi. S. of Mexcala (1 male).

*Measurements.*—Forearm 54.0.

*Remarks.*—This specimen, a topotype of *yerbabuena*, is indistinguishable from a topotype of true *nivalis* from Orizaba. In size, it also agrees with specimens from Colima, but is smaller than those from Nuevo León, Texas, and Arizona. A size cline from North to South is indicated.

### **Artibeus jamaicensis jamaicensis** Leach

*Artibeus jamaicensis* Leach, 1821, Trans. Linn. Soc. London, 13: 75.

*Type locality.*—Jamaica.

*Specimens collected.*—Total 5 (in alcohol). JALISCO: 2 mi. N. of Ciudad Guzmán (3 males, 2 females).

*Measurements.*—Forearm 58.0 (55.5–60.0).

*Remarks.*—All specimens in the series have the third upper molar.

### **Artibeus cinereus toltecus** Saussure

*Stenoderma tolteca* Saussure, 1860, Rev. Mag. Zool., Paris, (2), 12: 427.

*Type locality.*—Mirador, Veracruz, Mexico.

*Specimens collected.*—Total 8 (in alcohol). JALISCO: 2 mi. N. of Ciudad Guzmán (5 males, 3 females).

*Measurements.*—Forearm 40.0 (37.0–42.0).

*Remarks.*—The palate in two individuals appeared abnormally wide, and the arrangement of the upper teeth (pl. 30, fig. 1) differed significantly from the normal condition in *Artibeus cinereus* (pl. 30, figs. 4, 5, 6). Study of the skulls revealed that they were of extreme age, and the labial edge of the maxillary bone had been eroded (pl. 30, fig. 2) leaving a good part of the roots unprotected. It is probable that if this weakened condition develops early in life, the



FIG. 146. *a*, View from the Ciudad Guzmán basin to the southwest. Volcán de Colima in the distance. *b*, View of basin showing scattered fig trees frequented by fruit-eating bats. *c*, Eastern edge of basin showing feeding habitat of *Enchisthenes harti*, *Artibeus j. jamaicensis*, *A. cinereus toltecus*, *Sturnira lilium parvidens*, and *Micronycteris megalotis mexicana*.

lateral mastication movements very likely would alter the alignment of the teeth and cause them to flare out as in this case (pl. 30, fig. 3).

### **Enchisthenes harti** Thomas. Plate 31.

*Artibeus harti* Thomas, 1892, Ann. Mag. Nat. Hist., (6), 10: 408.

*Enchisthenes harti*, Sanborn, 1932, Ann. Carnegie Mus., 21: 179—Venezuela (skin and skull); Goodwin, 1940, Amer. Mus. Nov., no. 1075: 2—Honduras (skin and skull); Ecuador (incomplete skulls from owl pellets); Goodwin, 1954, Amer. Mus. Nov., no. 1689: 5—Tamaulipas, Mexico (incomplete skull).

*Type locality*.—Trinidad, British West Indies.

*Specimens collected*.—Total 12 (1 skin with skull, 11 in alcohol). JALISCO: 2 mi. N. of Ciudad Guzmán (8 males, 4 females).

*Measurements*.—Forearm 39.8 (38.2–43.1); greatest length of skull, of a male and two females 20.4, 20.9, 20.9; condylobasal length 18.8, 19.0, 19.0; zygomatic breadth 12.1, 12.2, 12.1; mastoid breadth 10.8, 10.7, 10.6; palatal length 9.0, 9.8, 9.1; postorbital constriction 5.4, 5.6, 5.3; maxillary tooth row 6.8, 7.0, 6.9; greatest width across molars 8.4, 8.6, 8.3; length of mandible 13.1, 13.4, 13.9; lower canine to condyle 12.9, 13.2, 13.5; mandibular tooth row 7.3, 7.5, 7.3.

*Remarks*.—*E. harti*, previously known from only three complete specimens, was common in the *Ficus* groves (fig. 146, c) near Ciudad Guzmán. This village lies in a basin rimmed by the Sierra Nevada de Colima on the west (fig. 146, b), and by lower, pine covered hills on the east (fig. 146, c).

The feeding habits of *Enchisthenes*, judging from the individuals observed, probably make it a rather easy prey of owls. The fruit eaten in this area is small, about a centimeter in diameter. It is quickly snipped from the tree in flight, and carried to a convenient branch where it is eaten. The forearms are used to handle and turn the fruit as parts of it are consumed, and it is in these movements that the exposed bat probably is seen by its predators.

It is interesting to note that *E. harti* and *Sturnira lilium parvidens*, both tropical species, were taken on one occasion when the temperature was only 36° F.

### **Desmodus rotundus murinus** Wagner

[*Desmodus*] *murinus* Wagner, 1840, Schreber's Saugth., Suppl., 1: 377.

*Type locality*.—Mexico.

*Specimens collected.*—Total 2 (in alcohol). GUERRERO: 5 mi. NW. of Acapulco (1 male, 1 female).

*Measurements.*—Forearm, male 58.2, female 60.6.

### **Molossus sinaloae** Allen

*Molossus sinaloae* Allen, 1906, Bull. Amer. Mus. Nat. Hist., 22: 236.

*Type locality.*—Esquinapa, Sinaloa, Mexico.

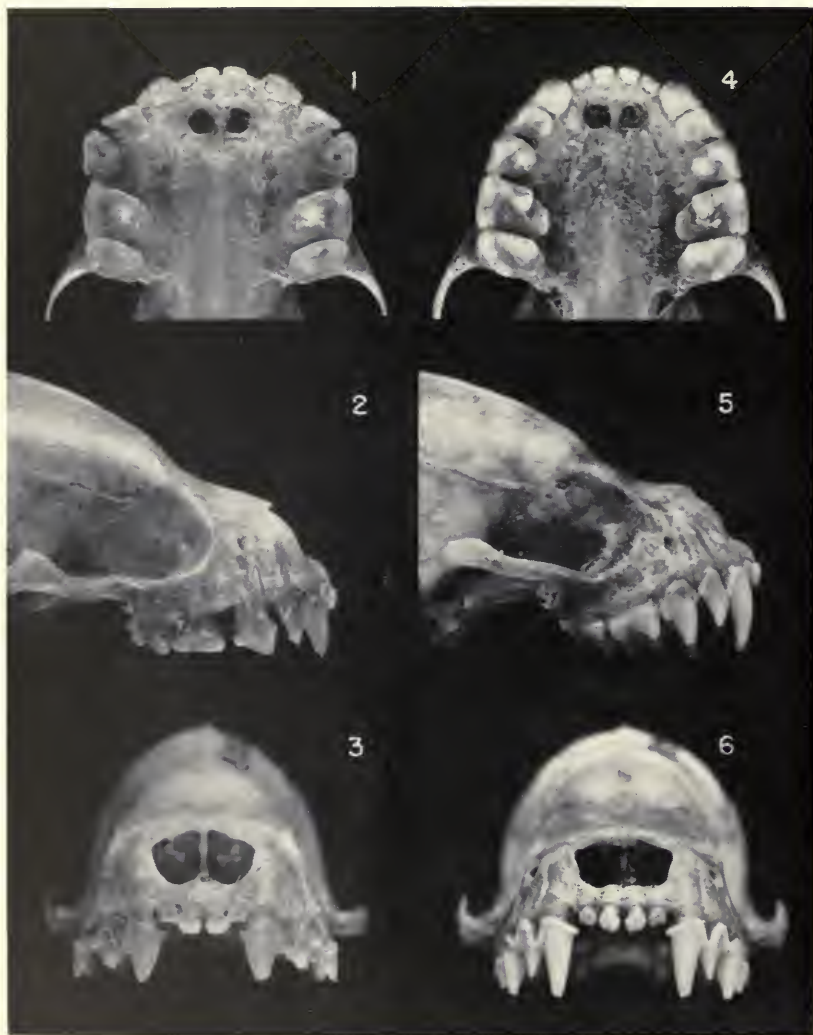
*Specimens collected.*—Total 9 females (in alcohol). GUERRERO: 15 mi. NW. of Acapulco.

*Measurements.*—Forearm 47.9 (46.5–49.8).

*Remarks.*—These specimens were taken under the dry fronds of a coconut palm.

Miller and Kellogg (1955, U. S. Nat. Mus. Bull. 205: 119) follow G. M. Allen in regarding *sinaloae* a race of *rufus* Geoffroy. *M. sinaloae*, however, is a medium size species and is distinct from the larger *M. rufus* of which *nigricans* Miller is the northern race. *M. r. nigricans* and *M. r. rufus* differ only in average size, while *M. sinaloae* can always be separated from *M. rufus* on absolute characters.





Palate, maxilla and rostrum of *Artibeus cinereus toltecus*: 1-3, distorted condition in female of extreme age; 4-6, normal condition in adult female.  $\times 4$ .



*Enchisthenes harti*: 1, mandible; 2, ventral surface of skull; 3, dorsal surface of skull.  $\times 4$ .





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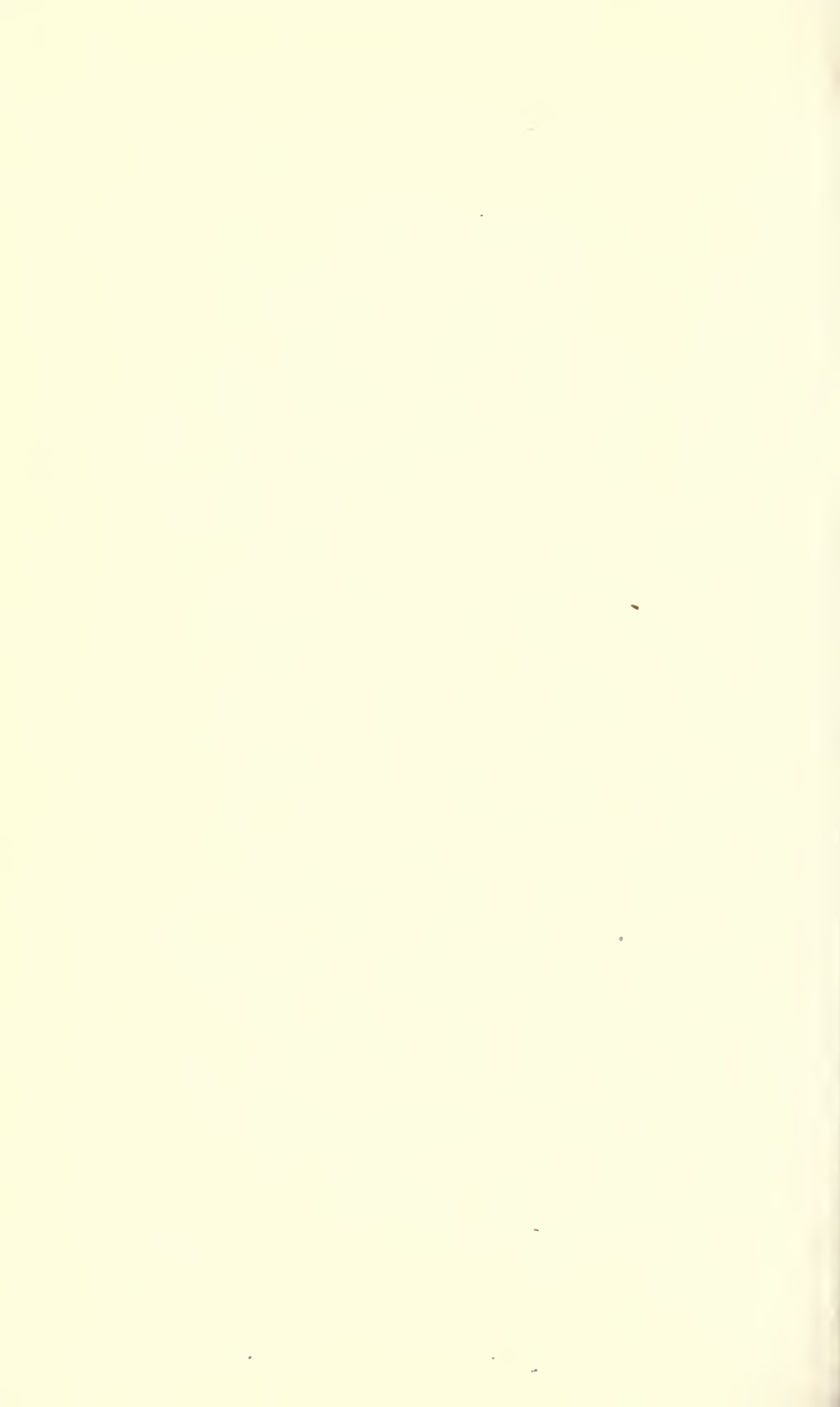
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