BATS OF THE GENUS MICRONYCTERIS AND ITS SUBGENERA

COLIN CAMPBELL SANBORN
CURATOR, DIVISION OF MAMMALS

The bats of the genera Micronycteris, Glyphonycteris, and Xenocetes were originally placed in the genus Schizostoma Gervais 1856. This name was preoccupied by Schizostoma Bronn 1835, a genus of Mollusca. Micronycteris Gray 1866 is the next available name. The genus Glyphonycteris was erected by Thomas in 1893 for three of the species and Xenocetes by Miller in 1907 for one of the species.

The genera Micronycteris and Glyphonycteris were revised in 1906 by Dr. Knud Andersen (1906, pp. 50–65). His material totaled 59 specimens, and he examined all but three species (M. microtis, M. hypoleuca, and G. brachyotis). The genus Glyphonycteris is not represented in collections in the United States. A photograph of the type skull of G. sylvestris is reproduced here (fig. 49).

Specimens of bats closely related to these genera have recently been received from the Trinidad Zoological Expedition, 1947, of Chicago Natural History Museum; from Brother Nicéforo María of Bogotá, Colombia; and by loan from the American Museum of Natural History, New York.

When the characters of the three described genera and the characters of the three series of bats from Trinidad, Colombia, and Brazil are tabulated it may be seen that the differences consist of various combinations of characters rather than diagnostic characters that might be regarded as of generic importance. The relationship of these bats may be more clearly indicated by placing them all as subgenera of Micronycteris. This will combine the bats of the Subfamily Phyllostominae, in which the tail extends to the middle of the interfemoral membrane and the middle lower premolar (pm₃) is not reduced.

I wish to thank Dr. H. E. Anthony of the American Museum of Natural History, New York, for the loan of very helpful material and for permission to describe a new subgenus and species from the
American Museum specimens. Thanks are due also to Brother Nicéforo María of the Instituto de La Salle, Bogotá, Colombia, for the gift of five specimens representing another new subgenus and species.

KEY TO SUBGENERA OF MICRONYCTERIS

EXTERNAL CHARACTERS

Ears connected by a high notched band.
Third metacarpal shortest, fifth longest.
Forearm 31–37.5 mm. ................................................ Micronycteris

Ears connected by a low un-notched band.
Third metacarpal shortest, fifth longest.
Forearm 42.7–45 mm. ................................................ Xenoclines

Ears not connected by a band.
Fifth metacarpal shortest, third longest ...................... Lampronycteris
Fourth metacarpal shortest, fifth longest ..................... Glyphonycteris
Fourth metacarpal shortest, third longest .....................
Ears rounded, nose leaf blunt, forearm 34.3 mm. .......... Neonycteris
Ears concave, nose leaf pointed, forearm 35.8–38.6 mm. Trinycteris

CRANIAL CHARACTERS

Pm\(^a\) large, about equal to Pm\(^a\).
Total length of skull 17–20 mm. ............................ Micronycteris
Total length of skull 22.6–24 mm. ......................... Xenoclines
Pm\(^a\) and Pm\(^a\) reduced, low ............................... Neonycteris
Pm\(^a\) and Pm\(^a\) normal, outer upper incisors large, bifid .... Lampronycteris
Pm\(^a\) slightly recurved.
Pm\(^a\) larger than Pm\(^a\). .................................. Glyphonycteris
Pm\(^a\) smaller than Pm\(^a\). ................................ Trinycteris

Genus Micronycteris Gray


Dental formula: \begin{align*}
1 2 3.1 & - - 3 4 5 6 7 \\
2 2 & c 1 - 1 \\
2 2 & m 3 - 3 \\
2 2 & m 3 - 3 \\
& = 34
\end{align*}

Subgenus Micronycteris Gray

Characters.—Wing formula: third metacarpal shortest, fifth longest; second phalanx of third metacarpal about equal to first phalanx; second phalanx of fourth metacarpal equal to or shorter than first phalanx. Ears large, rounded in outline, connected by band across forehead. Skull with high brain case. Upper border of ascending ramus sloping. Teeth as described by Andersen (1906, p. 51) and Miller (1907, pp. 123–124).
Fig. 41. *Micronycteris* (*Micronycteris*) megalotis megalotis; Arara, Brazil. About × 43/4.
Fig. 42. *Micronycteris* (*Micronycteris*) *minuta*; Livramento, Brazil. About × 43/4.
Micronycteris (Micronycteris) megalotis megalotis Gray.

Figure 41.


Micronycteris megalotis Gray, 1866, Proc. Zool. Soc. Lond., 1866, p. 113;

Type locality.—Brazil.

Range.—West Indies (Trinidad and Tobago), Colombia, Venezuela, the Guianas, south to southern Peru and Brazil.

Characters.—Forearm 31.8-36.2 mm. Calcar longer than foot with claws. Upper parts brown, with bases of hairs white, under parts brown, with hairs unicolored to base. Connecting band between ears low on sides, rising to a triangle in center. Notch at apex of triangle. Lower premolar three not reduced.

Micronycteris (Micronycteris) megalotis mexicana Miller


Type locality.—Plantinar, Jalisco, Mexico.

Range.—Southern Mexico and Central America.

Characters.—Like megalotis but larger. Forearm 35.2-38 mm.

Micronycteris (Micronycteris) megalotis microtis Miller


Type locality.—Greytown, Nicaragua.

Range.—Recorded from Nicaragua and Panama.

Characters.—Smaller than megalotis (forearm 31-32), with much smaller ears.

Remarks.—Andersen (1906, p. 55) questioned the validity of this race, as he felt that the ears were shrivelled by the preservative. In recording specimens from Panama and the Canal Zone other authors have given no measurements of the ears.

Micronycteris (Micronycteris) minuta Gervais. Figure 42.


Type locality.—Capella Nova, Brazil.

Range.—Brazil and Colombia (hypoleuca).

Characters.—About the size of megalotis (forearm 36–37.5 mm.). Color lighter than in megalotis, Prout’s Brown above, bases of hairs white; below grayish white, slightly buffy on sides. In another phase the upper parts are near Hazel, the under parts lighter. Ears connected as in megalotis but center notch deep, dividing band into two triangles. Calcar shorter than foot. Lower premolar three reduced.

Remarks.—A specimen of M. minuta received in alcohol from Brother Nicéforo María, collected at Cúcuta, Colombia, agrees in color with material from Brazil. It is in the brown phase. The forearm measures 35.2 mm., and the condylo-basal length of the skull is 15.6 compared with 16.4 in Brazilian specimens. The teeth are smaller (upper tooth row 6.2, in Brazilian specimen 6.7), especially the lower premolars, the middle one being very low and crushed between the others. More specimens might make it possible to recognize hypoleuca as a subspecies of minuta.

Micronycteris (Micronycteris) schmidtorum Sanborn. Figure 43.


Type locality.—Bobos, Izabal, Guatemala.

Range.—Known only from type locality and from Copan, Honduras.

Characters.—Size about as in megalotis (forearm 35.1–35.3 mm.). Band between ears intermediate in shape between megalotis and minuta. Upper parts Snuff Brown, or between Prout’s Brown and Mummy Brown, the hairs with white bases. Below grayish white. Lower premolars large, pm₃ about three-quarters the size of pm₁, and pm₄ about equal to pm₃.

Subgenus Xenoctenes Miller


Characters.—Wing formula as in Micronycteris. Ears connected but band very low, not notched. Skull shaped about like that of Micronycteris, and teeth as in that genus except the incisors. Upper inner incisors widely apart at base, in contact near tip, with in-
Fig. 43. *Micronycteris* (*Micronycteris*) *schmidlorum*, type; Bobos, Guatemala. About $\times 4\frac{1}{2}$.
Fig. 44. *Micronycteris* (Xenoctenes) *hirsuta*; Trinidad, British West Indies. About $\times 4$. 

222
distinct cingulum. Front face of tooth facing to the side instead of forward as in *Micronycteris*. Outer incisor small, wedged between inner and canine, its tip below cingulum of canine. Canines in contact posteriorly. Lower incisors long from base to crown, and wedged so tightly between canines that anterior-posterior length of crown of inner pair is greater than lateral length.

**Micronycteris (Xenoctenes) hirsuta** Peters. Figure 44.


**Type locality.**—Unknown.

**Range.**—Recorded from Costa Rica, Colombia, and Trinidad.

**Characters.**—Externally like *Micronycteris* but larger (forearm 42.7–45.4; greatest length of skull 22.6–24).

**Subgenus Lampronycteris** subgen. nov.

**Characters.**—Size medium, forearm 39.6–40 mm.; greatest length of skull 21.2–21.6 mm. Fifth metacarpal shortest, third longest. Second phalanx of third finger about one and one-quarter times the length of first phalanx. Second phalanx of fourth finger longer than first phalanx. Calcar shorter than foot with claws. Tail about half the length of membrane. Ears moderate, separate, outer margin of ear conch concave in upper half. Tragus almost straight on inner edge, thickened in upper half. Outer edge convex, serrated in lower half. Tip bluntly pointed. Nose leaf and lancet as in *Micronycteris* but lancet narrower and more pointed. Naked pad on lower lip with Y-shaped groove.

**Skull characters.**—Brain case low compared with that of *Micronycteris* or *Xenoctenes*. Rostrum and interorbital region swollen. Top of rostrum flattened, slightly concave. Basisphenoid pits shallow. End of presphenoid swollen, overhanging basisphenoid pits and hiding the foramen. Upper border of ascending ramus sloping. Teeth in general as in *Glyphonycteris* and *Micronycteris*. Upper inner incisors chisel-shaped; outer incisors bifid with elongated point (similar to *Lonchorhina*) in contact with inner tooth and sharply grooved by wear of lower canines. Canines widely spaced so upper incisors are not compressed. Lower premolar three reduced as in *Micronycteris minuta*. Upper premolars straight, not recurved as
in *Glyphonycteris*. Pm₄ longer and narrower than in *Micronycteris*, its inner border straighter and internal ledge more horizontal, not raised in center. A small cusp at postero-internal corner. Orbital foramen over last premolar and first molar, while in the related subgenus it is over center of first molar.

**Micronycteris** (*Lampronycteris*) *platyceps* sp. nov. Figures 45, 46.


*Characters.*—Those of the subgenus.

*Color.*—Back and sides close to Olive Brown the hairs with white bases. Darker on head, back of and between ears, where hair is thick and plush-like. Long hairs on throat close to Mars Yellow and face in front of ears suffused with same color. Chest and belly near Tawny-Olive.

*Measurements.*—Type (2 topotypes in parentheses): Total length 68 (70–70); tail 14 (13–14); hind foot 10 (11–11); ear 17 (15–16). Forearm 39.8 (39.6–40). Skull: greatest length 21.2 (21.3–21.6); condylo-basal length 18.6 (18.8–18.8); palatal length 9.6 (9.5–9.5); interorbital width 4.9 (5.2–5.2); zygomatic width 10.3 (10.4–10.6); mastoid width 9.6 (9.4–9.6); width of brain case 8.8 (8.7–8.8); upper tooth row 8 (8.2–8.2); width across canines 6.6 (6.7–6.8); width across molars 3.8 (3.9–4).


*Specimens examined.*—TRINIDAD: Guanapo, type and six topotypes, 1 male, 6 females (4 alc.) (C.N.H.M.). VENEZUELA: Neveri Valley, southwest of Cumanacaa, 1 male (A.M.N.H.). NICARAGUA: Volcan de Chinandega, 1 skull only (A.M.N.H.), an adult skull, associated with a very immature skin that is not definitely identifiable.

*Remarks.*—*Lampronycteris* has more distinguishing characters than the other subgenera. The wing formula, the length of second
Fig. 45. *Micronycteris (Lampronycteris) platyceps*, type; Guanapo, Trinidad. About $\times 4\frac{1}{2}$. 

225
phalanx of third finger, the more developed upper outer incisors, the shape of Pm^4, the flattened brain case, the swollen basisphenoid, and the position of the infraorbital foramen are not found in related subgenera. The elongated second phalanx of the fourth finger is shared by *Neonycteris* and *Glyphonycteris* as are the separate ears.

![Figure 46](image)

Fig. 46. *Micronycteris (Lampronycteris) platyceps*, type; Guanapo, Trinidad.

In the brighter color and reduced pm^3, it shows a relationship to *M. minuta* and *schmidtorum*.

The specimens were collected from a hollow tree by local people, who brought them to Mr. Wonder while he was on the Trinidad Zoological Expedition of Chicago Natural History Museum.

*Parasites.*—Bat flies (Streblidae) *Trichobius dugesii* Townsend (not *dugesii* Jobling) = *blandus* Curran, and *Speiseria ambigua* Kessel. Mites: Spinturnicidae.

Subgenus *Neonycteris* subgen. nov.

*Characters.*—Size small, forearm 33.4–34.3 mm., greatest length of skull 17.9 mm. Ears rounded, separate. Fourth metacarpal
Fig. 47. *Micronycteris* (*Neonycteris*) *pusilla*, type; Tahuapunta, Brazil. About $\times 4\frac{1}{2}$. 227
shortest, third longest. Second phalanx of third finger one and one-third times the length of the first phalanx. Second phalanx of fourth finger about equal to first phalanx. Calcar shorter than foot with claws. The skull with the brain case less domed than in *Micronycteris* but more than in *Lampronycteris*. The upper border of ascending ramus is almost horizontal. Pm\(^4\) reduced, low, its tip much lower than tip of Pm\(^3\); pm\(^5\) not reduced. Incisors and other teeth as in *Micronycteris*.

*Micronycteris* (Neonycteris) *pusilla* sp. nov. Figure 47.

**Type.**—No. 78830 American Museum of Natural History, from Tahuapunta, Rio Vaupes, at the Colombian border, Amazonas, Brazil. Adult male, skin in alcohol, skull removed and cleaned. Collected July 14, 1929, by the Olalla Brothers.

**Characters.**—Those of subgenus.

**Color.**—Specimen dried from alcohol. General color dark brown. Hairs of back long, light brown with dark tips. Under parts brown.

**Measurements.**—Forearm 34.3, tibia 13.7, calcar 7. Third metacarpal 31.3, first phalanx 10.8, second phalanx 14.9; fourth metacarpal 28.9, first phalanx 8.7, second phalanx 9.8; fifth metacarpal 29.9, first phalanx 8, second phalanx 8.2; width of nose leaf 3.9, height of lancet 7.5. Skull: greatest length 17.9; condylo-basal length 15.7; interorbital width 4.3; zygomatic width 8.9; mastoid width 7.9; width of brain case 7.6; upper tooth row 6.7; width across canines 3.1; width across molars 5.4.

**Specimens examined.**—Two, the type and one topotype.

**Remarks.**—The individual characters of this subgenus are its small size, wing formula, and very low Pm\(^4\). In the unconnected ears, length of second phalanx of third finger, horizontal upper border of ascending ramus, and shape of brain case it approaches *Glyphonycteris*. In other characters it is like *Micronycteris*.

Subgenus *Trinycteris* subgen. nov.

**Characters.**—Size medium (forearm 35.8–38.6); greatest length of skull 20.5. Fourth metacarpal shortest, third longest. Second phalanx of third metacarpal a little longer than first phalanx. Second phalanx of fourth metacarpal slightly longer than first phalanx. Calcar less than half the length of foot with claws. Nose leaf with narrow pointed tip. Ears separate, pointed, slightly concave on both margins below tip.
Fig. 48. Micronycteris (Trinysiteris) nicefori, type; Cúcuta, Colombia. About × 4½.
Skull with rostrum elongated as in *Glyphonycteris sylvestris*. Pm$^3$ and pm$^3$ low, reduced in size, almost flat, with small anterior cusp. Pm$^4$ recurved as in *Glyphonycteris*. Upper outer incisors small, not filling space between canines and inner incisors. Lower incisors small, not crowded, faintly trifid.

**Micronycteris** (Trinycteris) *nicefori* sp. nov.  Figure 48.


*Characters.*—Those of the subgenus.

*Color.*—This series of five specimens preserved in alcohol shows a gray and a red phase. The type is near Olive Brown above with the hairs on the back almost uniform to the base. The hairs on the sides of the neck are lighter at the base. The under parts are lighter in color than the upper parts. The darkest specimen is near Walnut Brown above and is lighter below. The individual hairs on the back have dark tips, followed by a broad light band, and narrow dark bases. All specimens have a faint light gray line on the lower back.

*Measurements.*—Type (extremes of 4 paratypes in parentheses): Forearm 37.9 (35–38.6); third metacarpal 35.7 (33.9–34.8), first phalanx 13.5 (11.8–13.3), second phalanx 16.1 (15.3–16.4), third phalanx 8.1 (8.5–9.4); fourth metacarpal 34.3 (31.3–33), first phalanx 9.8 (8.7–9.6), second phalanx 11 (10.8–11.7); fifth metacarpal 34.6 (32.6–33.9), first phalanx 9.9 (8.9–9.6), second phalanx 8.6 (8.1–10). Tibia 17.6 (16.5–17.6); foot with claws 12 (12–12); calcar 4.7 (4.7–5.6); tail 9.6 (10.5–12). Ear from meatus 16 (16–17); nose leaf height 7.8 (7.5–9), width at base 4.5 (4.5–5). Skull (type): Greatest length 20.5; condylo-basal length 18.5; palatal length 8.2; interorbital width 4.3; width of rostrum 5.2; zygomatic width 9.6; mastoid width 8.9; width of brain case 8.2; upper tooth row 7.3; width across canines 3.3; width across last molars 6.2; lower tooth row 7.6.

*Remarks.*—*Trinycteris* approaches *Glyphonycteris* in the shape of the skull, especially the elongated rostrum, and in the recurving of Pm$^4$. It differs from all other subgenera in the great reduction of the Pm$^3$ and pm$^3$. Brother Nicéforo María writes concerning the habitat: "These bats were found in a tunnel, at some 50 meters from the entrance. The specimens of *Lonchorhina aurita* and *Micronycteris*
minuta also were captured in the same tunnel, that has been opened through the rock; a big waterpipe is now being placed in the same tunnel and will connect the waters of the Rio Zulia with an electric light plant.”

Subgenus Glyphonycteris Thomas


Characters.—Ears unconnected, margin concave in upper half. Fourth metacarpal the shortest, fifth the longest. Second phalanx of third finger one and one-third to one and one-half times the length of the first phalanx. Second phalanx of fourth finger longer than first phalanx. Skull with brain case domed, less than that of Micronycteris but more than that of Lampronycteris. Upper border of ascending ramus almost horizontal. Upper inner incisors chisel-shaped. Pm with point slightly recurved. Lower incisors trifid.

Micronycteris (Glyphonycteris) sylvestris Thomas. Figure 49.


Type.—Adult male, skin and skull (Brit. Mus.).

Type locality.—Miravalles, Costa Rica.

Characters.—Forearm 40.5 mm. Calcar shorter than foot with claws. Greatest length of skull about 20 mm.

Color.—“Hairs of upper side with four alternating rings of dark brown and whitish; the extreme base, next to the skin, white; a broad ring of blackish brown; a broad ring of white or yellowish white; narrow tips of hairs approaching clove-brown. Fur of under side dark brown at base, greyish drab at tip.” (From Andersen.)

Micronycteris (Glyphonycteris) behni Peters


Type.—Adult female in alcohol (Berlin Mus.).

Type locality.—Cuyabá, Matto Grosso, Brazil.

Range.—Recorded from type locality and Rio Cosnipata, Puno, Peru.
Fig. 49. *Micronycteris* (Glyphonycteris) *sylvestris*, type; Miravalles, Costa Rica. About $\times 4\frac{1}{2}$.
Characters.—Size large, forearm 45–47 mm. Calcar shorter than foot. In general like *G. sylvestris* but larger.

**Micronycteris (Glyphonycteris) brachyotis** Dobson


*Type.*—Paris Museum.  
*Type locality.*—Cayenne, French Guiana.  
*Range.*—Known from one specimen from type locality.  
*Characters.*—Apparently like *sylvestris* but calcar longer than foot. No redescription of this species has been published.

**REFERENCES**

**ANDERSEN, KNUD**  

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