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Micronycteris brachyotis.

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Micronycteris Gray, 1866

Micronycteris Gray, 1866:113. Type species *Phyllophora megalotis* Gray, 1842, by original designation. Type locality São Paulo, Perequé, Brazil.

CONTEXT AND CONTENT. Order Chiroptera, Suborder Microchiroptera, Family Phyllostomidae, Subfamily Phyllostominae, Genus *Micronycteris*. The genus *Micronycteris* contains 10 species in six subgenera. A key to the species follows.

1 Ears connected by a high, notched band; P3 about same size as P4 ..... Subgenus *Micronycteris* 2
Ears not connected by a band; P3 and P4 unequal in size 5
2 (1) Forearm greater than 40 mm; skull length greater than 21 mm ..... *M. hirsuta*
Forearm less than 40 mm; skull length less than 21 mm 3
3 (2) Interauricular band with slight notch; venter brown ..... *M. megalotis*
Interauricular band with deep notch; venter white 4
4 (3) Calcar shorter than foot ..... *M. minuta*
Calcar longer than foot ..... *M. schmidtorum*
5 (1) Fifth metacarpal shortest; I2 bifid; P4 straight ..... Subgenus *Lampronycteris*, *M. brachyotis*
Fourth metacarpal shortest; I2 unicuspid; P4 recurved or reduced 6
6 (5) Third metacarpal longest 7
Fifth metacarpal longest 8
7 (6) Ears rounded; noseleaf blunt; P3 and P4 reduced ..... Subgenus *Neonycteris*, *M. pusilla*
Ears pointed, noseleaf pointed; P3 smaller than P4 ..... Subgenus *Trinycteris*, *M. nicefori*
8 (6) Single pair of upper incisors ..... Subgenus *Barticonycteris*, *M. daviesi*
Two pairs of upper incisors ..... Subgenus *Glyphonycteris*, 9
9 (8) Forearm less than 42.5 mm ..... *M. sylvestris*
Forearm greater than 42.5 mm ..... *M. behni*

Micronycteris brachyotis (Dobson, 1878)

Yellow-throated Bat

Schizostoma brachyote Dobson, 1878:880. Type locality Cayenne, French Guiana.

Micronycteris brachyotis, Goodwin and Greenhall, 1961:230; first use of current name combination.

Micronycteris (*Lampronycteris*) *platyceps* Sanborn, 1949:224. Type locality Guanapo, Trinidad, British West Indies.

CONTEXT AND CONTENT. Context as above. Sanborn (1949) erected the subgenus *Lampronycteris* for *M. platyceps*, which was subsequently shown to be conspecific with *M. brachyotis* (Goodwin and Greenhall, 1961). The subgenus *Lampronycteris* thus contains only *M. brachyotis*, treated here as a monotypic species.

DIAGNOSIS. Ears not connected by an interauricular band, relatively smaller and more pointed than in any other species of *Micronycteris*, and with an anterointernal projection on the medial margin. Fifth metacarpal shortest, and third longest. Braincase lower than in other subgenera, which results in a more gradual rise from rostrum to braincase. Rostrum and interorbital region broad and swollen; sides of rostrum visibly projecting beyond toothrow in occlusal view. Upper inner incisors chisel-shaped; outer incisors bifid with elongated medial cusp in contact with inner incisors. Upper premolars straight, P4 long and narrow.

From *Micronycteris* sensu stricto, the subgenus *Lampronycteris* differs in having a narrower and more pointed noseleaf and a lower braincase. P4 is longer and narrower than in *Micronycteris*, with a straighter lingual border and more horizontal lingual ledge.

From *Neonycteris*, *Lampronycteris* differs in having a lower braincase and larger premolars. The upper border of the coronoid process is pointed rather than almost horizontal as in *Neonycteris*.

From *Trinycteris*, *Lampronycteris* differs in having a relatively larger P3, and a straighter, less curved P4. There is no middorsal stripe as in *Trinycteris*.

From *Glyphonycteris*, *Lampronycteris* differs in having a lower braincase and more pointed upper border of the coronoid process. The outer upper incisors are bifid and large rather than unicuspid and minute as in *Glyphonycteris*.

From *Barticonycteris*, *Lampronycteris* differs in having two pairs of upper incisors rather than one. The pelage is shorter and more brightly colored than in the larger, darker-colored *Barticonycteris*.

GENERAL CHARACTERS. *Micronycteris brachyotis* is of medium size for the genus, and is usually more brightly colored than most individuals of the other species. The most striking external feature is the yellow-orange coloration, unlike that in any other *Micronycteris*. Museum specimens are usually brown or olive brown dorsally. Live animals may range from fuscous black through brown and sepia to cinnamon rufous. Immature individuals are frequently brownish olive on the dorsum and sides.

The venter is paler and more brightly colored than the dorsum. A band of long, stiff hairs extends around the throat, and in some individuals forms a ruff of darker color extending around to the dorsum where it blends into thicker and plusher hair on top of the head. In the drabbest of individuals, this throat patch is deep reddish orange, and the color extends posteriorly along the ventral midline in a stripe of varying width. In more brightly colored individuals, the color may be closer to orange rufous. In faded specimens, this color frequently is closer to tawny olive. The hair on the dorsum is short for the genus.

The noseleaf is small (about 3 mm long on dried specimens), with a narrow, sharply pointed lancet (Fig. 1). The pad on the lower lip is essentially naked, with grooves forming a Y-shape. The ears are of medium size, well separated, and appear rounded, although the pinna culminates in a small point that is normally folded forward and laterally, enhancing the rounded appearance. The tragus is long (6 mm) and pointed. The hindfeet are long and slender, about the same length as the calcar. The uropatagium is sparsely haired proximally, and naked distally. The base of the thumb is hairy—evident even without magnification.

Ranges of external measurements (in mm) of adults of both sexes are: total length, 57 to 75; tail length, 7 to 14; length of hindfoot, 10 to 18; ear length, 12 to 19; length of forearm, 39.0 to 43.0; length of tibia, 15.6 to 18.5; length of calcar, 8.6 to 12.0 (Andersen, 1906; Carter et al., 1981; Davis et al., 1964; Dobson, 1878; Goodwin, 1969; Goodwin and Greenhall, 1961; Hall, 1981; Jones, 1966; Marinkelle and Cadena, 1972; Miller, 1900; Rick, 1968; Sanborn, 1949; Starrett, 1976; Swanepoel and Genoways, 1979; Villa-R., 1967). Body mass ranges from 9 to 15 g.

Illustrations of the skull (Fig. 2) are available both as photographs (Goodwin, 1969; Sanborn, 1949) and drawings (Hall, 1981). The skull is stout and slightly elongated in comparison to other *Micronycteris* (Fig. 2). A weak saggital crest often is present. The rostrum and interorbital region are swollen, and the top of the rostrum is flattened or slightly concave. The presphenoid is enlarged and overhangs the shallow basiphenoid pits. Pterygoid wings are well developed. The sides of the palate are notched at the level of the posterior cingulum of M3. Ranges of selected skull measure-

FIG. 1. *Micronycteris brachyotis* photographed in Costa Rica by Richard K. LaVal.

ments (in mm) are as follows: greatest length, 20.8 to 22.8; condylobasal length, 18.3 to 19.9; palatal length, 9.5 to 9.6; interorbital width, 4.8 to 5.9; zygomatic breadth, 9.9 to 11.4; mastoid breadth, 9.4 to 10.0; breadth of braincase, 8.4 to 9.0; length of maxillary toothrow, 7.8 to 8.7; width across canines, 6.6 to 6.8; width across molars (M2-M2), 6.7 to 7.3; breadth of rostrum 6.2 to 6.3 (Davis et al., 1964; Goodwin, 1969; Goodwin and Greenhall, 1961; Hall, 1981; Jones, 1966; Marinkelle and Cadena, 1972; Rick, 1968; Sanborn, 1949; Swanepoel and Genoways, 1979).

The dental formula is i 2/2, c 1/1, p 2/3, m 3/3, total 34. The inner upper incisors are large and chisel-shaped; the outer upper incisors are bifid, with the inner cusp elongated and in contact with the inner incisors. The canines are spaced so that the upper incisors are not compressed. The upper premolars are relatively straight in profile, rather than curved. The molars show the well-developed W-shaped ectoloph characteristic of the subfamily.

DISTRIBUTION. *Micronycteris brachyotis* occurs from southern Veracruz and Oaxaca, México (Medellin et al., 1983), southward through Central America well into the Amazonian Basin of South America (Fig. 3). The southernmost records appear to be at Igarapé Brabo, Rio Tapajóz, Pará, Brazil (Koopman, 1976), and at Belem, near the mouth of the Amazon, Pará, Brazil (USNM no. 361501). Elevational records include localities from sea level to 525 m (Davis et al., 1964; Villa-R., 1967). Although nowhere common, this species seems to be widespread throughout lowland tropical humid forest. There is no known fossil record.

REPRODUCTION AND ONTOGENY. Goodwin and Greenhall (1961) reported "breeding" males in May and June from Trinidad. Medellin et al. (1983) reported lactating females from México in August. Rick (1968) found one pregnant and six lactating females in July in Guatemala. In Panamá, Bonaccorso (1979) found evidence of a bimodal reproductive pattern. The first pulse of parturition coincides with the onset of the wet season (Wilson, 1979).

Juveniles tend to be much darker than the brightly colored adults. Medellin et al. (1983) found flying young-of-the-year that still had not fully acquired their permanent dentition, and retained some deciduous teeth.

ECOLOGY. Although *M. brachyotis* is widely distributed throughout the tropical parts of the Western Hemisphere, the species seems to occur at low population levels in most areas. These bats inhabit primary tropical forest, and Bonaccorso (1979) found them

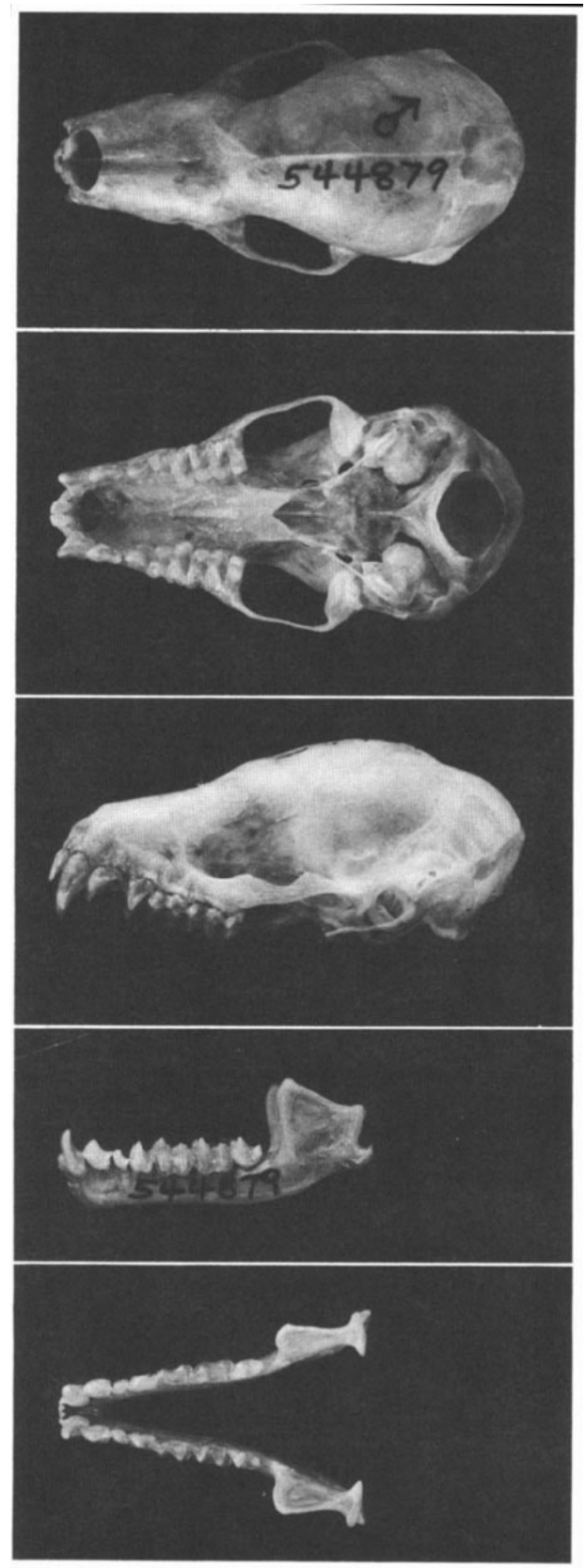

FIG. 2. Dorsal, ventral, and lateral views of cranium and lateral and occlusal views of mandible of male *Micronycteris brachyotis* from Barro Colorado Island, Panamá (USNM no. 544879). Greatest length of skull is 21.8 mm.

FIG. 3. Geographic distribution of *Micronycteris brachyotis*.

only in such habitats on Barro Colorado Island. Roosts have been found in hollow trees, caves, mines, and a variety of dark hollows in ruins. They are known to inhabit cave roosts that also contain *Glossophaga soricina, Carollia perspicillata, C. subrufa, Mimon cozumelae, Trachops cirrhosus,* and *Desmodus rotundus* (Goodwin and Greenhall, 1961; Marinkelle and Cadena, 1972; Medellin et al., 1983; Rick, 1968; Sanborn, 1949).

Bonaccorso (1979) considered *M. brachyotis* a member of the "gleaning carnivore guild." In addition to feeding on insects presumably plucked from the vegetation, according to Bonaccorso (1979), this species switches to fruit, nectar, and pollen in the dry season when insect populations are lower, much in the manner suggested by Wilson (1971) for *M. hirsuta*. In December in Panamá, Bonaccorso found a bat covered with balsa tree pollen (*Ochroma lagopus*). Howell and Burch (1974) reported Hymenoptera and Coleoptera in the diet in May in Costa Rica. Medellin et al. (1983) added arachnids taken in August to the known list of food items. An analysis of fecal pellets collected at various times throughout the year from nine individuals in Panamá indicated that more than half of the diet consists of fruit, with Coleoptera, Homoptera, and Diptera occurring in lesser amounts (Humphrey et al., 1983).

Micronycteris brachyotis disappeared from a cave in Veracruz over a 2-year span during which progressive destruction of the habitat near the cave occurred (Medellin et al., 1983). Although nothing is known concerning predators of the species, they may include snakes, birds of prey, and the usual assortment of small carnivores that are known to visit caves on occasion.

Sanborn (1949) reported bat flies (Streblidae) from this species as follows: *Trichobius dugesii* Townsend (not *dugesii* Jobling =*blandus* Curran), and *Speiseria ambigua* Kessel. *Trichobius joblingi* has been reported from *M. brachyotis* on Trinidad (Webb and Loomis, 1977). Parasitic mites of the families Spinturnicidae (Sanborn, 1949), Myobiidae (Dusbabek and Lukoschus, 1975), and Rosensteiniidae (Fain and Lukoschus, 1977) also have been reported from *M. brachyotis*.

BEHAVIOR. Bonaccorso (1979) captured more *M. brachyotis* in subcanopy nets (3 to 12 m above the ground) than in ground level nets (1 to 3 m). Perhaps this tendency to use higher layers of the forest accounts for the low frequency of captures of this species throughout its range. He also noted a greater frequency of captures in dense forest than over streams. Starrett (1976) reported that this species was caught over a stream bed in Costa Rica.

The colony found by Rick (1968) in Guatemala consisted of a single adult male, nine adult females, and five nursing young. This is suggestive of a harem social structure, a characteristic of many other species of phyllostomids (Fenton, 1983).

GENETICS. Baker (1979), Baker et al. (1982), and Patton and Baker (1978) reported chromosomal data as follows: the diploid number is 32, the fundamental number is 60, and the X-chromosome is submetacentric. A karyogram is pictured in Plate 3 of Baker (1979).

REMARKS. Recent workers have followed Goodwin and Greenhall (1961) in considering *M. platyceps* Sanborn conspecific with *M. brachyotis* Dobson. Sanborn (1949) considered *M. hirsuta* to represent a separate subgenus *Xenoctenes* Miller, but Davis (1976) argued cogently for placing that species in the nominate subgenus. The name *Micronycteris* is derived from two Greek roots meaning small bat, and *brachyotis* refers to small ears.

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