MAMMALIAN SPECIES No. 633, pp. 1–3, 3 figs.

Rhogeessa tumida.

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Published 12 May 2000 by the American Society of Mammalogists

Rhogeessa tumida (Allen, 1866)

Central American Yellow Bat

Rhogeessa tumida Allen, 1866:286. Type locality "Mirador, [Veracruz,] Mexico."

CONTEXT AND CONTENT. Order Chiroptera, suborder Microchiroptera, family Vespertilionidae, subfamily Vespertilioninae, tribe Nycticeini, genus *Rhogeessa*. *Rhogeessa tumida* is a member of the nominate subgenus. Until recently, this species was considered to include up to five cytotypes (Audet et al., 1993; Baker, 1984; Baker et al., 1985; Baker and Patton, 1967; Bickham and Baker, 1977; Honeycutt et al., 1980), but Genoways and Baker (1996) only consider the 2n = 34 cytotype to be *R. tumida*. No subspecies are recognized.

DIAGNOSIS. A small to medium-size *Rhogeessa* (Fig. 1) with relatively dark two-banded hairs in dorsal pelage and a largely naked uropatagium, furred only at the base. Ears are <15 mm long. Lingual cingulum of C1 always has at least some indication of cusps; i3 is relatively larger in relation to i2 than for other species, and third metacarpal is relatively short compared with the forearm.

GENERAL CHARACTERS. Distal portion of two-banded dorsal hairs Fuscous-Black to Pinkish Cinnamon in color, and bases Buffy Gray to Buffy Yellow, not always contrasting with tips (LaVal, 1973; Ridgway, 1912). Ventral fur has Buffy Brown to Light Ochraceous-Buff tips, concolor to somewhat paler at bases. Fur is 3–4 mm long but may rarely grow to 5 mm. Sparse hairs on dorsum of uropatagium rarely extend to level of knees, and in general, flight membranes are naked. Flight membranes are relatively thick for a bat of this size. Ears are short (11–14 mm), triangular in outline, and have rounded tips. Tragus is long with a rounded tip. Foot is less than one-half as long as tibia. Calcar is distinct, slightly longer than free border of the uropatagium, and has a well-developed keel.

Skull of *R. tumida* slopes slowly from anterior border of nasals to occiput, without any clear horizontal portion (Fig. 2). Braincase is low and not elevated posteriorly. Sagittal crest may or may not be present. Sagittal and occipital crests form a "helmet" above occiput (LaVal, 1973). Third lower incisor is same size as i2 or slightly smaller, but cusps are smaller than on i2. Lingual cingulum of canine has two often very small cusps. Ranges of measurements (in mm) of adults for selected morphological characters are as follows (Baker, 1984; Jones et al., 1971; LaVal, 1973): total length, 63–79; length of forearm, 27.5–31.6; length of ear, 11–14; greatest length of skull, 11.8–13.8; condylobasal length, 11.9–12.6; interorbital breadth, 3.0–3.4; mastoid breadth, 6.6–7.6; zygomatic breadth, 7.7–9.1; length of maxillary toothrow, 4.2–4.8; length of mandible, 8.8–9.3; and breadth of braincase, 5.3–6.1. Dental formula is i 1/3, c 1/1, p 1/2, m 3/3, total 30.

Rhogeessa tumida is not sexually dimorphic (Baker, 1984; Ruedas and Bickham, 1992). Males have a prominent glandular area on lower half of dorsal side of pinna that is lacking in females. These glands are associated with a strong odor.

DISTRIBUTION. *Rhogeessa tumida* ranges from southern Tamaulipas, Mexico, south along the Atlantic side of Mexico, to the Pacific coast in Chiapas, southward between the Pacific and Atlantic to northwestern Costa Rica and northern Nicaragua, respectively (Fig. 3; Genoways and Baker, 1996). It occurs from sea level to 1,500 m, with the higher elevations from Chiapas through Costa Rica (LaVal, 1973). Because of recent systematic revisions of the genus *Rhogeessa* (Genoways and Baker, 1996), exact distributional limits of *R. tumida* are poorly understood. *R. tumida* does not have a fossil record.

FORM AND FUNCTION. Central rib of baculum of *R. tumida* is a rounded rod that is bowed ventrally and slightly compressed laterally (Brown et al., 1971). Width of baculum is generally greater than one-half length, and distal end is shorter than portion from which proximal knobs extend. Proximal knobs are round tipped, and base is irregularly concave in dorsal aspect. Baculum tends to be Y-shaped because of deeper indentation between ends of proximal knobs. Some bacula may have a widened shaft, resulting in a rough triangular shape (LaVal, 1973). Ranges in measurements (in mm) for 29 bacula (LaVal, 1973) are as follows: length, 0.5–0.8; depth, 0.12–0.28; width, 0.36–0.84.

Molting males and females of *R. tumida* were captured in late May, June, and July (LaVal, 1973), but the location was not stated.

ONTOGENY AND REPRODUCTION. In Nicaragua, females with swollen uteri and possibly in early stages of pregnancy were captured on 5 March, whereas nonreproductive females were taken on 13 July, 9 August, and 15 August (Jones et al., 1971). Pregnant females have been taken between 14 February and 28 April in Guatemala, El Salvador, Honduras, and Nicaragua (LaVal, 1973). Seven of 10 pregnant females examined by LaVal (1973) contained two embryos. In Mexico, lactating females have been captured 24 May–20 June in Tamaulipas, 30 April–12 June in Veracruz, 12 June in Oaxaca, and in May in Tabasco (LaVal, 1973).

FIG. 1. Male *Rhogeessa tumida*. Photograph by M. J. Vonhof.

FIG. 2. Dorsal, ventral, and lateral views of cranium and lateral view of mandible of *Rhogeessa tumida* (Royal Ontario Museum 101321). Greatest length of skull is 12.4 mm. Photographs by M. B. Fenton.

A lactating female also was captured in Nicaragua on 18 July (LaVal, 1973). Males with enlarged testes (6–7 mm, compared with 2–5 mm at other times of the year) have been captured in September, November, December, and January, suggesting that sperm production peaks in autumn and early winter (LaVal, 1973).

ECOLOGY AND BEHAVIOR. Within limits imposed by its elevational distribution, this species is known from almost every major vegetation association in tropical North America (LaVal, 1973). The single specimen reported by Carter and Jones (1978) in the state of Hidalgo, Mexico, was captured over a stream. At Diriamba, Nicaragua, *R. tumida* was captured over small streams, along a trail in a small ravine, and along trees bordering a hacienda (Jones et al., 1971). Roosting habits of *R. tumida* are unknown.

The only described ectoparasites of *R. tumida* are the nycteribiid fly *Basilia anomala* from Mexico (Guimarães and d'Andretta, 1956) and Guatemala (Theodor, 1967) and the myobiid mite *Acanthophthirius longus* from Guatemala (Uchikawa and Baker, 1993). Cifuentes-Cortés (1966) reported that the rabies virus has been transmitted to humans by *R. tumida* in Mexico. The only recorded instance of predation on *R. tumida* is by a male *Vampyrum spectrum* in northern Guatemala (McCarthy, 1987).

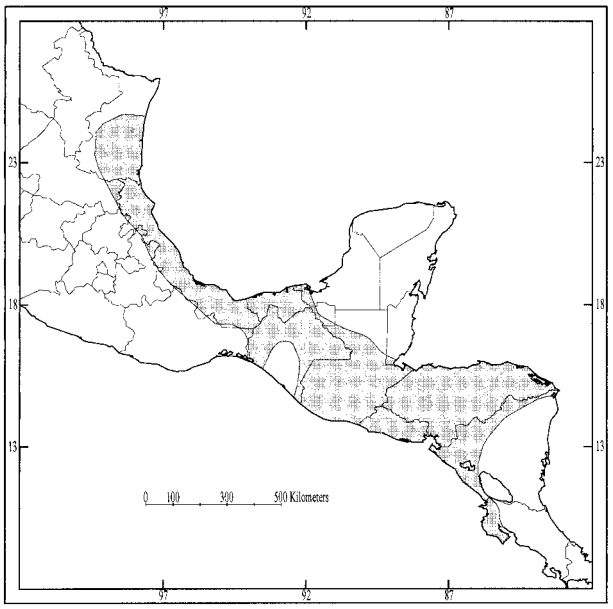

FIG. 3. Distribution of *Rhogeessa tumida*. (Modified from Genoways and Baker, 1996.)

GENETICS. *Rhogeessa tumida* has a diploid number of 2n = 34 chromosomes, with FN = 50 (Genoways and Baker, 1996). Karyotype comprises nine pairs of biarmed and seven pairs of acrocentric autosomes. The X chromosome is subtelocentric, and the Y chromosome is metacentric (Bickham and Baker, 1977).

REMARKS. The location, status, and identity of the various parts of the holotype of this species (Hall, 1952; LaVal, 1973) are confused. All members of the genus *Rhogeessa* commonly are referred to as little yellow bats (Hall, 1981). The specific name, *tumida,* means swollen or inflated and refers to the relatively thick membranes characteristic of this species.

I thank J. Eger and M. Engstrom at the Royal Ontario Museum for allowing me access to their collections of bats and reference materials. I thank J. W. Bickham, M. B. Fenton, T. J. McCarthy, and L. Ruedas for commenting on earlier versions of this manuscript. Special thanks also go to M. B. Fenton for producing the skull photographs and to T. C. Martin for help with the map.

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Editors of this account were KARL KOOPMAN, LESLIE N. CARRAWAY, and DUKE S. ROGERS. Managing Editor was VIRGINIA HAYSSEN.

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