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A NEW SUBSPECIES OF THE FREE-TAILED BAT,
MOLOSSOPS GREENHALLI, FROM WESTERN
MEXICO (MAMMALIA; CHIROPTERA)

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In June of 1964, field parties from the Museum of Natural History, The University of Kansas, collected two specimens of a unique free-tailed bat in Mexico, one in the state of Guerrero and the other in Oaxaca. These proved to be the first specimens of *Molossops greenhalli* (Goodwin, 1958) taken outside of Trinidad and the first bats of the genus to be reported from north of Panama (Jones and Dunnigan, 1965: 462). Subsequently, Percy L. Clifton obtained, in the state of Jalisco, three more individuals of *M. greenhalli*, including the first male from the North American mainland.

Comparison with material from Trinidad indicates that the Mexican bats represent a distinctive subspecies, which is named and described below.

***Molossops greenhalli mexicanus* new subspecies**

Holotype: Adult male, skin and skull, no. 108,609 Museum of Natural History, The University of Kansas; from 7.5 mi. SE Tecamate, 1500 ft, Jalisco; obtained on 7 December 1966 by Percy L. Clifton, original no. 11,998.

Geographic distribution: Known only from western Mexico (states of Guerrero, Jalisco, and Oaxaca); known altitudinal range, 1500 ft in Jalisco up to 4800 ft in Oaxaca.

Description: Size large, both externally and cranially (see measurements and Table 1); braincase high and well inflated; rostrum slightly deflected downward in lateral view; teeth robust; relatively large space between upper incisor and canine, smaller (but clearly evident) space between canine and upper premolar; dorsal color varying from dark brown to reddish brown, contrasting little with ears and membranes; venter paler than dorsum.

TABLE 1. Measurements (mm) of forearms and crania of two subspecies of *Molossops greenhalli*. Catalog numbers are associated with geographic place-names in the list of specimens examined.

	<i>Molossops greenhalli greenhalli</i> , Trinidad				<i>Molossops greenhalli mexicanus</i> , Mexico				
	AMNH 175326 ¹ ♂ holotype	AMNH 176285 ♀	AMNH 176286 ♀	AMNH 207071 ♀	KU 108609 ♂ holotype	KU 108608 ♀	KU 108610 ♀	KU 99741 ♀	KU 99747 ♀
Length of forearm	36.8	33.5	33.7	33.9	36.8	35.7	34.6	36.0	36.3
Greatest length of skull	18.5	17.6	17.4	17.0	20.4	18.0	17.8	18.3	18.2
Condylbasal length	-	15.9	15.8	15.4	18.3	16.7	16.4	16.7	16.5
Zygomatic breadth	12.4	11.6	-	11.2	13.1	11.5	11.8	11.9	12.0
Mastoid breadth	11.9	11.2	10.6	10.6	13.1	11.2	11.0	11.3	11.4
Interorbital constriction	4.5	4.4	4.2	4.2	4.6	4.3	4.4	4.6	4.4
Breadth of rostrum	7.9	7.3	7.1	7.2	8.6	7.2	7.2	7.4	7.4
Breadth across upper molars	8.2	7.9	7.6	7.8	8.8	8.3	8.2	8.5	8.2
Length of maxillary tooth-row	6.8	6.5	6.5	6.2	7.6	6.9	6.9	6.9	6.8

¹ Measurements after Goodwin (1958: 4).

Measurements: Some external measurements (mm) of the holotype, followed by those of four females from Jalisco (2), Guerrero, and Oaxaca, respectively, are: total length 107, 93, 92, 90, 96; length of tail 33, 28, 29, 29, 30; length of hind foot 12, 10, 10.5, 9, 11; length of ear from notch 17.5, 16, 16.5, 14, 16; weight 16.2 and 16.5 g in the females from Guerrero and Oaxaca. Some cranial measurements of the holotype and an adult female from the same locality in addition to those listed in Table 1 are, respectively: greatest length of skull exclusive of incisors 19.0 and 17.1; breadth across upper canines 5.8 and 4.7; palatal length 8.6 and 7.6; alveolar length of mandibular tooth-row (c-m3) 8.1 and 7.3.

Comparisons: From *Molossops greenhalli greenhalli* of Trinidad, the only other subspecies of the species, *M. g. mexicanus* differs in: size larger, both externally and cranially; weight more (10.8 and 12.8 g in two females of *greenhalli*—see Goodwin and Greenhall, 1961:283); skull heavier, not so flattened dorsally in lateral view (rostrum of *mexicanus* angles slightly downward); braincase higher and more inflated; pre-sphenoid ridge more pronounced; evident space between canine and upper premolar (the two teeth abut in *greenhalli*); space between upper incisor and canine noticeably larger; teeth generally somewhat more robust; dorsum less richly colored than in specimens of *greenhalli* examined, but all the latter are preserved in spirits.

Remarks: Little is known of the biology of *Molossops greenhalli*. Goodwin and Greenhall (*loc. cit.*) reported a colony living in a hollow tree in the Royal Botanic Gardens in Port-of-Spain, Trinidad. Four of six females taken there on 6 June 1955 were pregnant, each with a single embryo. All of our Mexican specimens were captured in mist nets. Those from Jalisco were netted over a small stream in "dense, tall tropical deciduous forest" (P. L. Clifton, field notes) on the nights of 6 and 7 December 1966. Seven other species of bats, including *Molossus aztecus*, were taken in the same net.

Of the other two Mexican specimens, both captured in June, the one from Guerrero was trapped in a net stretched over a small pond situated just below the lower limits of the pine-oak zone. The Oaxacan specimen was one of 28 bats caught in three adjacent nets in dense forest, one net over a small pond and the other two over a swift-flowing stream. None of our four females evidenced reproductive activity.

Molossops greenhalli probably will be found to occur in Central America as well as on the South American mainland. According to Goodwin (1958:3-5), none of the nominal species assigned to the subgenus *Cynomops* in South America appears to be closely related to *greenhalli*.

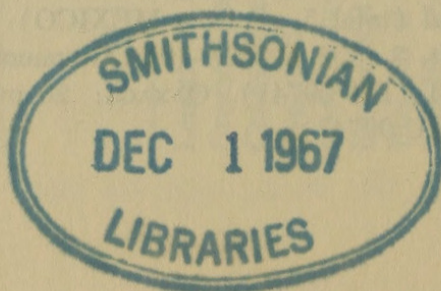
Specimens examined (total 5, all from MEXICO): JALISCO: 7.5 mi. SE Tecamate, 1500 ft, 3 (KU 108608-10). GUERRERO: 3 km N Agua del Obispo, 3180 ft, 1 (KU 99741). OAXACA: 20 mi. S, 5 mi. E Sola de Vega, 4800 ft, 1 (KU 99747).

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Three specimens of *M. g. greenhalli* (AMNH 176285-86, 207071) from Port-of-Spain, Trinidad, were examined through the courtesy of Karl F. Koopman, American Museum of Natural History. Rodolfo Hernandez Corzo kindly issued scientific collecting permits for field work in Mexico, the cost of which was defrayed by the Kansas University Endowment Association.

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