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Plectus mexicanus.  By Renn Tumlison

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Plectus mexicanus (Allen, 1916)
Mexican Big-eared Bat

Corynorhinus megabols mexicanus Allen, 1916:347. Type locality near Fábeceo, Chihuahua, Mexico, restricted by Handley (1959) to Sierra de Beña, 8,000 ft.

Plectus mexicanus Handley, 1959:141.


DIAGNOSIS. Compared with geographically adjacent subspecies of P. townsendii, coloration of P. mexicanus is darker and with less contrast between bases and tips of dorsal hairs. Lengths of the tragus (<15 mm), skull (<15.9 mm), and auditory bullae (<4.0 mm) are less, the braincase is deeper (>5.4 mm), and the maxillary toothrow is relatively and actually shorter (<5.0 mm) as compared to P. townsendii. The rostrum is shorter (palatal length <5.2 mm), weaker, and more depressed, and II is more consistently kilohed (Handley, 1959; Tumlison, 1991). Plectus rafnesquis, which is more similar to P. mexicanus, has ventral hairs with black or blackish bases and white or whitish tips resulting in considerable contrast, whereas ventral hairs of P. mexicanus have brownish bases and pale cinnamon tips. The median postpalatal process is typically triangular in shape whereas the process is variable but tends to be styliiform in P. mexicanus (Handley, 1959).

GENERAL CHARACTERS. In common with other Corynorhinus, two large glandular lumps are present on the dorsal surface of the rostrum (Fig. 1). The pinnae are large and joined basally across the forehead. General coloration of adults is brown, with hairs at the posterior base of the large pinnae paler than on the rest of the dorsum. Dorsal color of immature individuals is smoky brown. The wide and deep braincase slopes upward abruptly above the short depressed rostrum (Fig. 2). External nares, viewed from above, are relatively small and angular in posterior outline. The median postpalatal process ranges from styliiform to triangular, and the auditory bullae are relatively small in comparison to bullae of other Corynorhinus (usually <4.0 mm). II bears a prominent accessory cusp, I2 is simple, C1 is reduced in size, and P4 usually possesses a small anteroexternal singular cusp. The dental formula is i 2/3, c 1/1, p 2/3, m 3/3, total 36. Lobes of the pre sternum are slightly expanded. Cross ribs on the interfemoral membrane average eight and the calcars is not keeled (Allen, 1916; Handley, 1959).

Average cranial measurements and range (in mm) for females and males, respectively, from throughout the range of the species are (Handley, 1959; Tumlison, 1991): greatest length, 15.3 (14.7–15.9), 15.1 (14.7–15.4); zygomatic breadth, 8.2 (7.8–8.6), 8.1

Fig. 1. Photograph of Plectus mexicanus from Temascalcingo, state of México, México by O. Sánchez-Herrera.

Fig. 2. Dorsal, ventral, and lateral view of the cranium, and lateral view of the mandible of Plectus mexicanus (Texas Cooperative Wildlife Collection 27722, female, Piñal del Ámole, Querétaro, México). Greatest length of skull is 15.1 mm.
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ONTOGYNE AND REPRODUCTION. Four nonpregnant females were collected in a mine in Jalisco on 1 September 1966, but three pregnant females were collected on 14 April 1967, each carrying one embryo with crown-rump lengths of 15.17, and 16 mm (Watkins et al., 1972). Lactating females were taken in San Luis Potosí in May (Wilson et al., 1985) and in Jalisco in May (data from KU 98740). Testicular length of two males collected with the pregnant females in Jalisco was 5 mm (Watkins et al., 1972). Testes of three males collected in June from the states of Mexico (AMNH 203934, 203935) and Puebla (AMNH 203933) averaged 7.7 mm in length (range 7–8) and testes of three males collected in July from Queretaro (Texas Cooperative Wildlife Collection 28626) and Chihuahua (KU 73591, 73593) averaged 10.7 mm (range 9–12) in length. Subadult specimens with epididymis unossified were accompanied by adult females in late August and solitary immature specimens were taken in mid-July (Handley, 1959).

ECOLOGY. Mexican big-eared bats are typically found in high (above 1,830 m), humid mountainous areas dominated by pine-oak forests (Handley, 1959), but specimens from transition zone habitats below such forests are known (Anderson, 1972; Matson and Patten, 1975). Specimens may be found in caves or mine shafts, sometimes with strong currents of air passing through (Anderson, 1972; Handley, 1959; Watkins et al., 1972), and have been taken in the summer flying about a rain pool in a forest opening (Davis, 1944). Larger series (n = 74) also have been taken in Veracruz from basaltic lava tubes 7.5–150 m from cave entrances (Hall and Dalquest, 1965). Populations are present throughout the year in some locations although numbers present may vary from a few during summer to over 500 during late winter (Morales-Malacara and López-W., 1990).

Bats associated with P. mexicanus at roost sites include Desmodus rotundus (Watkins et al., 1972), Pipistrellus subflavus (Hall and Dalquest, 1963), and Myotis velifer (Hall and Dalquest, 1963; Morales-Malacara and López-W., 1990). Ectoparasites of P. mexicanus from a cave in Tlaxcala, Mexico (Morales-Malacara and López-W., 1990) included the bat fly Trichochus corynorhini (Stribeihaid) and a flea (Mydopsylla collinsi). The single flea specimen was considered an accidental record because its normal host (Myotis velifer) was common in the cave. Several species of mites also were recorded: Macronyssus longissimus, M. undinis, Spinuris sp., Pteracarus elegans, Acanthophthirius (Myotymyobia) sp., and Whartonia glenni.

BEHAVIOR. Plectus mexicanus has been found singly or in pairs hanging away from light 10.5–15.0 m from the entrances to caves in Tamaulipas (Mollhagen, 1971) and Veracruz (Hall and Dalquest, 1963). Adult males and females have been taken in the same cave in Veracruz in January and in Guanajuato in November (Handley, 1959).

At rest the long ears of P. mexicanus are bent spirally back and downward against the sides of the head like recurved horns, but on awakening the ears are extended (Handley, 1959; Villar-R., 1966). Eight hibernating specimens observed by E. A. Goldman hung by their feet from the roof of a cave and were separated by a distance of 2–4 m. Their eyes were closed, their bodies cold and stiff, and the wings hung close to the sides of the body (Handley, 1959). Plectus mexicanus clings by the feet and thumbs with the back bowed, the head held against the chest, and the tail pressed under the body, covering the abdomen (Hall and Dalquest, 1963). Certain caves appear to be favored over others and daily movement occurs between caves, but migration is not known. Caves in Veracruz in which hibernation occurred were larger, deeper, colder, and damper than caves not used for hibernation and the hibernating bats were damp or wet (Hall and Dalquest, 1963).

REMARKS. The karyotype of P. mexicanus has not been reported, but karyotypes of P. rafnesquii and P. townsendii are identical (Baker and Mascarello, 1969; Williams et al., 1970). It is likely that the karyotype of P. mexicanus is identical to other Corynorhynchus, and the acrocentric X chromosome may be a synapomorphic feature for Corynorhynchus (Volleth, 1985).
Vernacular names include Allen's big-eared bat (after G. M. Allen who described the species) and Mexican big-eared bat (because the specific epithet refers to the type specimen collected in Mexico). *Idionycteris phyllostis* (Allen, 1916) is also referred to by these same common name (Czaplewski, 1983), likely because the synonymy of *I. phyllostis* includes the name *Idionycteris mexicanus* Anthony. Because both species were named by the same person, perhaps the vernacular Allen's big-eared bat should be discarded when referring to *P. mexicanus* and the name Mexican big-eared bat used. A logical vernacular for *Idionycteris phyllostis* is leaf-eared bat, to reflect the species name, or lappet-eared bat to indicate the diagnostic lappets located between the bases of the pinnae.

**LITERATURE CITED**


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