

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Animal Abstract

Element Code: AMACC01140

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Myotis ciliolabrum*

COMMON NAME: Western Small-footed Bat; Small-footed Bat; Least Brown Bat; Small-footed Myotis

SYNONYMS: *Myotis subulatus subulatus*, *Myotis subulatus melanorhinus*

FAMILY: Vespertilionidae

AUTHOR, PLACE OF PUBLICATION: Merriam 1886.

TYPE LOCALITY:

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: One of 27 North American species in genus (Hall, 1981); one of 9 *Myotis* species found in Arizona. According to NatureServe, "Formerly included in *M. leibii*, but recognized as a distinct species by van Zyll de Jong (1984); electrophoretic data support separation (Herd 1987); Jones et al, (1992) listed *leibii* and *ciliolabrum* as distinct species. Two subspecies are recognized based on color of pelage: *M. c. ciliolabrum* and *M. c. melanorhinus*. Koopman (in Wilson and Reeder 1993) did not recognize *ciliolabrum* as a distinct species."

DESCRIPTION: Small bat with tiny foot 6.0 mm (0.24 in), short forearm 30.0-36.0 mm (1.2-1.44 in), wingspan of 21-25 cm, and a weight of 4-6 grams. This bat has a keeled calcar, black ears and a black facial mask. Its' fur is usually brown but ranges from pale yellow or tan to dark brown dorsally, too nearly white ventrally. Individual hairs blackish basally, succeeded by pale intermediate section and flaxen tips. Fur relatively long and silky and frequently glossy.

AIDS TO IDENTIFICATION: Keeled calcar distinguishes *M. ciliolabrum* from all myotis but *M. californicus* and *M. volans*. Distinguished from *Myotis californicus* by slope of forehead (flattened in *M. ciliolabrum* and rises more abruptly in *M. californicus*). Fur of *M. ciliolabrum* glossy in contrast to the dull fur of *M. californicus*. Also, thumb is longer (4.3 mm [0.17 in.] or more) in *M. ciliolabrum* than in *M. californicus* (4.2 mm [0.17 in.] or less). *M. ciliolabrum* distinguished from *M. volans* by being smaller overall, but especially by forearm length (31.0-36.0 mm [1.24-1.44]) in *M. ciliolabrum* and 37.0-42.0 mm [1.48-1.68 in.] in *M. volans*). *M. ciliolabrum* does not have fur to the elbow on underside of the wing as does *M. volans*. *M. ciliolabrum* is distinguished from the similar sized *M. yumanensis* by

having a keeled calcar, darker ears and a smaller foot (6.0-9.0 mm [0.24-0.36 in.] in contrast to 8.0-10.0 mm [0.32-0.4 in.]).

ILLUSTRATIONS: B&W photos (Barbour and Davis 1969:102)
Color photos (Barbour and Davis 1969: plate X)
B&W photo (Ingles 1954:74)
Color photos (Whitaker 1980: plate 167)
Color photo (Altenbach *in*
<http://sevilleta.unm.edu/data/species/mammal/sevilleta/profile/wester-small-footed-myotis-photo.html>)
Color photo (Wilson 1999)
Color photo (Harvey 1999)
Color photo (BCI *in* <http://www.batcon.org/discover/species/mycilio.html>)

TOTAL RANGE: In western North America, from southwestern Canada south to northern Baja California and throughout most of the United States west of the 100th Meridian and then to Coahuila and Zacatecas in central Mexico.

RANGE WITHIN ARIZONA: According to the AGFD HDMS unpublished records (accessed 3-28-03), it has been located in Coconino, Pinal, Mohave, and Cochise Counties. In winter, found in central Mohave County and south of the Gila River in southeastern Arizona.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: One of the last bats to hibernate. *Myotis ciliolabrum* and *Myotis californicus* co-exist by spatially partitioning of the available food resource. Known maximum lifespan is 12 years, with an average life span of around 5-7 years. Adults molt in June or July; males molt before reproductively active females.

REPRODUCTION: They mate in the fall; store sperm over the winter and fertilization follows ovulation in the spring. Females produce one, sometimes two young. The young are born between May and July and begin to fly about one month later. Small maternity colonies (up to 20 individual females with young) occur in buildings and tree cavities. Survival rates are significantly lower for females (42%) than for males (76%).

FOOD HABITS: Feeds on flying insects. Flies and other insects, including fragments of ants, have been found in stomachs. A study of 8 *M. ciliolabrum* from near Flagstaff showed them to have been feeding primarily on lepidopterans, coleopterans and dipterans. Neuropterans, hymenopterans and hemipterans were also present, though to a lesser extent. Prefers to hunt over rocks instead of water. During the warmer months, it leaves the daytime roost shortly after sunset. Foraging activity peaks between 10 –11 pm and 1-2 am.

HABITAT: Generally inhabits desert, chaparral, western coniferous forest, badland and semiarid habitats, more mesic habitats in southern part of range. In Arizona, it is known from deserts, chaparral, riparian areas and oak-juniper forests. Microhabitat - Hibernates in caves and old mines; summers in crevices, cracks, holes, snags, hollow trees, under rocks and in buildings. Generally tolerates colder and dryer hibernacula than other small bats. According to Tuttle and Taylor (1994 in NatureServe). They rely heavily on mines for hibernation, even though a large proportion of their populations are normally not found in any one mine.

ELEVATION: 2120-8670 feet (646- 2644 m), based off of unpublished data in the Heritage Data Management System (AGFD, accessed 2003).

PLANT COMMUNITY: Deserts, chaparral, riparian areas and oak-juniper forests.

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[C2 USDI, FWS 1994]

STATE STATUS: None

OTHER STATUS: Bureau of Land Management Sensitive
(USDI, BLM AZ 2000, 2005)

MANAGEMENT FACTORS: Threats to this species include wanton killing, human disturbance of hibernacula, recreational caving, pesticides, and disturbance of breeding colonies.

PROTECTIVE MEASURES TAKEN: The Arizona Game and Fish Department and Arizona Bat Resource Group are in the process of preparing a Bat Management Plan for the State that will address concerns for this species. The Virgin River-Pakoon Basin and the Paria-Kanab Creek Habitat Management Plans provide general objectives for bat management, though neither specifically addresses this species. (Herder, date unknown).

SUGGESTED PROJECTS: Extremely little is known of the specific habitat requirements and basic biology of the Western Small-footed Myotis. The use of wildlife trees and roost sites needs to be identified. Further inventory and survey work should be undertaken to accurately document its range and attempt to assess population trends.

LAND MANAGEMENT/OWNERSHIP: BLM - Arizona Strip and Kingman Field Offices; DOD - Fort Huachuca Military Reservation; USFS – Coronado, Tonto, Apache-Sitgreaves and Kaibab National Forests; State Land Department; Hualapai Mountain County Park; Private.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:**

Revised: 1991-08-13 (RBS)
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2003-03-28 (AMS)

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