

Western Bat Working Group

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Species Accounts

Developed For the 1998 Reno Biennial Meeting

Updated at the 2005 Portland Biennial Meeting

Myotis occultus

ARIZONA MYOTIS

Prepared by: Susan Murdock

I. DISTRIBUTION: *Myotis occultus*, a member of the Family Vespertilionidae, has been found from southeastern California through Arizona, New Mexico, and south into Chihuahua, Mexico. There is a single record from western Texas. It occurs south into Chihuahua, Mexico. The Western Bat Species Global and State Ranks also lists this species as occurring in Nevada.

II. STATUS: Global Rank - G5T3T4. State Ranks: AZ - S3; CA - S?; NM - S3; NV - S1; TX - SA. It is considered a Species of Special Concern in California, and was formerly a category 2 candidate (as a subspecies of *Myotis lucifugus*).

III. IDENTIFYING CHARACTERISTICS AND LIFE HISTORY: *M. occultus* is a medium sized *Myotis* (forearm 36-41 mm) that lacks a keeled calcar, and could most easily be confused with *M. yumanensis* (forearm 33-36 mm) or *M. lucifugus* with which it overlaps in size. Although originally described as a separate species, it was for many years considered a subspecies of *M. lucifugus*. While some investigators still treat it as a subspecies of *M. lucifugus*, Hoffmeister (1986) argued, based on a principal components analysis of 25 cranial measurements, that *M. occultus* should be considered a separate species. *M. occultus* is most commonly found in conifer forests in the 6,000 - 9,000 foot elevation range, although nursery colonies were known from much lower elevations (e.g., along the Colorado River in California). In the 1960's, it was reported to be one of the most common *Myotis* species at higher elevations in New Mexico. This species has been found using bridges and attics as maternity roosts, with colony size up to 800. A recent radiotracking study in Arizona identified three maternity roosts, one in a building and two in large ponderosa pine snags. Limited information suggests that females give birth to a single young, generally in June, at lower elevations they are known to forage in association with orchards, permanent water, and riparian vegetation, and at higher elevations over ponds in in forest clearings. No information is available on its diet. No information is available on winter habits.

IV. THREATS: The main threat to these animals appears to be lack of enough knowledge about them to develop any kind of conservation strategy. Recent discovery of tree roosting suggests timber harvest practices could affect status.

V. GAPS IN KNOWLEDGE: More systematic investigations, including molecular comparisons, are needed to evaluate the status of this species. More information is needed on roosting requirements (particularly in natural roosts), seasonal patterns, foraging requirements, and status of populations.

VI. RELEVANT LITERATURE:

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Cockrum, E. L., B. Musgrove, and Y. Petryszyn. 1996. Bats of Mohave County, Arizona: Populations and Movements. Occasional Papers, the Museum, Texas Tech University, 157:1-71.

Findley, J. S., and C. Jones. 1967. Taxonomic relationships of the bats of the species *Myotis fortidens*, *M. lucifugus*, and *M. occultus*. Journal of Mammalogy, 48:429-444.

Hoffmeister, D. F. 1986. The mammals of Arizona. University of Arizona Press, Tucson, AZ, 602 pp.

Lutch, D., and W. H. Miller. 1996. [ABS]. Roost site characteristics for *Antrozous pallidus*, *Eptesicus fuscus*, and *Myotis occultus* in a central Arizona ponderosa pine forest. Abstracts. Four Corners Regional Bat Conference. Durango, CO.

Schmidly, D. J. 1991. The Bats of Texas. Texas A&M University Press, College Station, TX. 188 pp.

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