

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

Animal Abstract

Element Code: AMACC05070

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Lasiurus xanthinus*

COMMON NAME: Western Yellow Bat

SYNONYMS: *Nycteris ega*; *Dasypterus ega*; *Lasiurus ega xanthinus*; *Lasiurus ega ega*
(*L. ega* now recognized as a distinct species)

FAMILY: Vespertilionidae

AUTHOR, PLACE OF PUBLICATION: Thomas, Ann. Mag. Nat. Hist. Ser. 6, 20:544, 1897.

TYPE LOCALITY: Mexico, Baja California, Sierra Laguna.

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: One of 7 species in the genus *Lasiurus*, and 1 of 3 *Lasiurus* species in Arizona (Hall 1981). Specimens from southern Arizona and northern Mexico have been assigned to *L. e. xanthinus*, a smaller and lighter colored subspecies than *L. e. panamensis* from southern Mexico and according to Baker et al. (1971), southern Texas. Genetic studies by Baker et al. (1988) resulted in elevating *L. e. xanthinus* to species level and applying to it the name *Lasiurus xanthinus*.

DESCRIPTION: Medium-large sized bat, forearm 41.5 - 49.0 mm (1.6 - 1.9 in., n = 224), weight 9.2-22.5 g; fur yellowish-buff/light brownish tipped with gray or white (color slightly darker than *Antrozous pallidus*); wings long, wingspan 335.0-355.0 mm (13.4-14.2 in.); ears short, longer than wide (17.0 mm [0.68 in.] long); anterior half of dorsal surface of interfemoral tail membrane (uropatagium) well furred, while posterior half is bare or with scattered hairs.

AIDS TO IDENTIFICATION: Lasiurine bats are distinguished from other bats in Arizona, except *Lasionycteris noctivagans*, by their short, round ears and their long tail membrane with at least the anterior portion well furred. Distinguished from *Lasionycteris* by hair color, which is never black although some hairs may be silver-tipped. In *Lasionycteris*, hair is black with silver tips. Uropatagium completely furred in other species of *Lasiurus* found in Arizona. Smaller than *L. cinereus* (forearm 50.0-57.0 mm [2.0-2.24 in.]); which has mahogany brown pelage with hairs distinctively silver tipped; ears of *L. xanthinus* not edged in black as in *L. cinereus*. Larger than *L. blossevillii* (forearm 38-43 mm), which has a red pelage.

ILLUSTRATIONS: Color photo (Barbour and Davis 1969: plate XVI)
Black and white photo (Hoffmeister 1986:101)
Color photo (Whitaker 1980: plate 156)

Color photo (Harvey et al., 1999)

Color photo (*In* <http://www.batcon.org/discover/species/lxanth.html>)

TOTAL RANGE: Southern California to Baja, southern half of Arizona, extreme southwestern New Mexico, extreme southern Nevada, west and central Mexico. Recently recorded in Clark County, Nevada (NatureServe 2001). Woodland habitats, primarily palm tree groves, likely play a substantial factor in determining the range of this species (J.A. Williams, 2001).

RANGE WITHIN ARIZONA: Known primarily from Tucson and Phoenix. Also taken in Yuma (including the Yuma Proving Ground), Sasabe, along the Bill Williams River and in the Chiricahua Mountains. Found in Guadalupe Canyon, Peloncillo Mountains, Hidalgo County, New Mexico, extremely close to Arizona.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Presumably a year-round resident in Arizona. Solitary roosting. It has been suggested that in Tucson they hibernate among dead palm fronds (Barbour and Davis 1969); however E.L. Cockrum (pers comm 1992) considers this questionable although they may roost on the trunk or at the base of a frond during the day. Like their cousins, the red bat (*L. blossevillii*) and the hoary bat (*L. cinereus*), yellow bats wrap themselves into their tail membrane for added thermal regulation while roosting. May be migratory in at least part of its range. Williams (2001, personal communication) suggests that this species is migratory in southern Nevada, as populations drastically decline during the winter months in the upper Moapa Valley, southern Nevada. Of these reduced populations, individuals captured during winter months are almost always males. Moderate trimming of palm trees in the study area in November 2001 uncovered only a few individuals, none of which were hibernating, further suggesting partial migratory status. In 1992, Dr. E.L. Cockrum (pers comm) tallied records and found that there were only 18 records for Arizona: males in spring and summer and females from midwinter to mid spring.

Emerges at dusk. Mumford and Zimmerman (1963) report *L. xanthinus* flies steadily, in a straight line with slow wing beats. Sexually dimorphic in size, females larger.

REPRODUCTION: Litter of one or usually two born in early June. Like other species of *Lasiurus*, females of this species have two pair of mammae instead of the single pair found in most other kinds of bats. Although both males and females have been taken in Arizona, no pregnant, or lactating females have yet been reported from the state, although 1 juvenile male was netted in 1994. No females have been taken in summer according to E.L. Cockrum (pers comm 1992). Gravid females were captured June 4-7, 1962, in Guadalupe Canyon in the Peloncillo Mountains, New Mexico. In southern Nevada, sex ratios are typically 2:1 favoring males, and reproductive females are not uncommon (n = 224) (Williams 2001, personal communication).

FOOD HABITS: Poorly known; feeds on small to medium sized night-flying insects. A variety of insects including Hymenoptera, Diptera, Lepidoptera, and Coleoptera were found in the feces of a single specimen (Higgenbotham et al., 1999).

HABITAT: Not clearly understood; may be associated with Washington fan palm trees, other palms or other leafy vegetation such as sycamores, hackberries and cottonwoods which provide roost sites. Individuals have been found roosting about 15 feet above the ground in a hackberry (*Celtis reticulata*) and sycamores (*Platanus wrightii*). They have also been netted over a water hole in a Guadalupe Canyon in New Mexico and over a swimming pool in oak woodland in the Chiricahua Mountains.

In the upper Moapa Valley, southern Nevada, *L. xanthinus* is clearly associated with exotic California fan palms (*Washingtonia filifera*). Of four habitats (riparian marsh, mesquite bosque, California palm groves, and riparian shrubland) investigated acoustically in the study area, *L. xanthinus* was detected in exotic California palm groves 80% (n = 2,972 minutes of activity) of the time (Williams, 2001). Several observations have been made of *L. xanthinus* roosting in the dead leaf skirts of palm trees. One record of a male roosting in a yucca was reported for Texas (Higgenbotham et al., 2000).

ELEVATION: 550 - 6,000 feet (168 - 1,830 m) in Arizona.

PLANT COMMUNITY: Urban situations with palm trees. Low-to-mid elevation riparian communities with broad-leaved deciduous trees.

POPULATION TRENDS: Apparently expanding its range into southwestern United States.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:

STATE STATUS:

WSC (AGFD, WSCA in prep)
[State Candidate AGFD, TNW 1988]

OTHER STATUS:

None (USDA, FS Region 3, 1999)
[Forest Service Sensitive USDA, FS Region 3 1988]

MANAGEMENT FACTORS: The most obvious threat to this species is the loss of roosting habitat. *L. xanthinus* roost in the dead leaf skirts of palm trees. Trimming of palm trees for aesthetic or fire management purposes in most cases completely removes viable roosting habitat. Also, possibly destruction of riparian forest and woodland habitats.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Conduct status survey, develop survey methods, and determine life history, range and ecological relationships.

LAND MANAGEMENT/OWNERSHIP: BLM - Safford Field Office; DOD - Yuma Proving Ground; FWS - Buenos Aires, Havasu and San Bernardino National Wildlife Refuges; USFS - Coronado National Forest; State Land Department; TNC - Hassayampa River and Muleshoe Ranch Preserves; AMNH Southwestern Research Station; Private.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

- E.L. Cockrum - University of Arizona, Tucson.
- J.A. Williams – Las Vegas, Nevada

ADDITIONAL INFORMATION:

Not reported from Arizona until 1960. Barbour and Davis (1969) suggest that *L. xanthinus* seems to be extending its range northward into the United States from Mexico. Spencer et al. (1988) attributes the northward expansion of *L. xanthinus* into southern Texas to the introduction of ornamental palms. Apparently most often found in Arizona within the metropolitan Tucson and Phoenix areas.

The first Nevada state record of this species was in April 2000. Williams (2001) has identified a substantial breeding population in the upper Moapa Valley of southern Nevada. Although this population is active throughout the year, activity substantially decreases during winter months, suggesting that many of the animals migrate south for winter. Migration route into southern Nevada is presumed to follow the Colorado River drainage, but has not yet been verified.

In late summer one of these bats landed on a ship 208 miles of the coast of Argentina.

The genus is derived from the Greek *lasio* meaning shaggy and *oura* meaning having a tail. The specific epithet *xanthinus* refers to the overall yellow appearance.

Revised: 1991-08-14 (RBS)
1992-05-02 (BKP)
1992-05-23 (RBS)
1994-03-25 (DCN)
2002-04-01 (JAW)
2002-11-15 (AMS)
2003-01-19 (AMS)

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Arizona Game and Fish Department. 20XX (= **year of last revision as indicated at end of abstract**). X...X (= **taxon of animal or plant**). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 6 pp.