

**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 seventeen in the genus *Lasiurus* (Subgenus *Dasypterys*), and one of three *Lasiurus* species in Arizona. In the past, specimens from southern Arizona and northern Mexico were 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, sexually dimorphic in size, were females larger than male. Forearm 4.15 – 4.9 cm (1.6 - 1.9 in., n = 224); wings long, with wingspan 33.5-35.5 cm (13.4-14.2 in.); weight 9.2-22.5 g (0.32-0.79 oz). Their fur is yellowish-buff/light brownish, tipped with gray or white (color slightly darker than *Antrozous pallidus*). Ears short, longer than wide 17.0 mm (0.68 in) long. The 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* (Silver-haired Bat), by their short, round ears and their long tail membrane with at least the anterior portion well furred. Their hair color 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. *L. xanthinus* is smaller than *L. cinereus* (forearm 5.0-5.7 cm [2.0-2.24 in.]). The ears of *L. xanthinus* is not edged in black as in *L. cinereus*, and the pelage of *L. cinereus* is mahogany brown with hairs distinctively silver tipped. They are larger than *L. blossevillii* (forearm 3.8-4.3 cm [1.5-1.69 in]), 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)

TOTAL RANGE: Southern California, Arizona, and New Mexico south to Baja California, W and C 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: Current range includes lower reach of Cave Creek in the Chiricahua Mtns; Sabino Canyon in the Santa Catalina Mtns; Glendale in Maricopa County; Palm Lake along Hassayampa River; Burro Canyon in the Kofa Mtns; Oak Grove Canyon in the Galiuro Mtns; and along the Lower Colorado River including Cibola and Parker Valleys and Mittry Lake. Unknown if still extant along the Bill Williams River; Lake Alex N of Red Bluff (Castle Dome Plain); along Silver Creek in the Chiricahua Mtns; and in Guadalupe Canyon in the Peloncillo Mtns. Historically found in Casa Grande, Tempe, Tucson, east of Sasabe, near the SW Research Station & Herb Martyr Dam along Cave Creek in Chiricahua Mtns; and along Hay Hollow Creek in Peloncillo Mtns.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: *Lasiurus xanthinus* is presumably a year-round resident in Arizona. They are solitary roosters. It has been suggested that in Tucson they hibernate among dead palm fronds (Barbour and Davis 1969); however E.L. Cockrum (personal communication 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 in their tail membrane for added thermal regulation while roosting. May be migratory in at least part of its range. Williams (2001, pers. comm.) 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 most always males. Moderate trimming of palm trees in the study area in November 2001, uncovered only a few individuals. None of these 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.

They emerge at dusk. Mumford and Zimmerman (1963) report *L. xanthinus* flies steadily, in a straight line with slow wing beats.

REPRODUCTION: One litter of one to two (generally two) young, 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 trapped in Arizona, no pregnant or lactating females have yet been reported from the state; although one juvenile male was netted in 1994. No females have been captured in the summer according to E.L. Cockrum (pers. comm., 1992). Gravid females were captured June 4-7, 1962, in Guadalupe Canyon in the Peloncillo Mountains of New Mexico. In southern Nevada, sex ratios are typically 2:1 favoring males, and reproductive females are not uncommon (n = 224) (Williams 2001, pers. comm.).

FOOD HABITS: Their feeding habits and diet, are poorly known. They probably feed 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: Their preferred habitat not clearly understood. They 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 observed roosting about 15 feet above the ground in a hackberry (*Celtis reticulata*) and sycamores (*Platanus wrightii*). They were netted over a water hole in Guadalupe Canyon, New Mexico, and over a swimming pool in oak woodland habitat in the Chiricahua Mountains.

In the upper Moapa Valley of 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 from Texas, reported a male roosting in a yucca (Higgenbotham et al., 2000).

ELEVATION: In Arizona, their distribution ranges in elevation from 550 - 6,000 feet (168 - 1,830 m).

PLANT COMMUNITY: Low-to-mid elevation riparian communities with broad-leaved deciduous trees. In urban situations, they will associate with palm trees.

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

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	None
STATE STATUS:	WSC (AGFD, WSCA in prep) [State Candidate AGFD, TNW 1988]
OTHER STATUS:	Bureau of Land Management Sensitive (USDI, BLM 2008)

Forest Service Sensitive (USDA, FS Region 3 2007)
[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. For example, *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. In addition, modification or possible destruction of riparian forest and woodland habitats, may be harmful by elimination of roosting habitat and habitat for their prey species.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Develop good survey methods, conduct status survey, 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:

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.

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 off the coast of Argentina.

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

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