

1986

Bat Fauna of Southeast Arkansas

Tim W. Steward
Arkansas State University

V. Rick McDaniel
Arkansas State University

David A. Saugey
US Forest Service, dasnightwing@gmail.com

Daniel R. England
Southern Arkansas University

Follow this and additional works at: <https://scholarworks.uark.edu/jaas>



Part of the [Zoology Commons](#)

Recommended Citation

Steward, Tim W.; McDaniel, V. Rick; Saugey, David A.; and England, Daniel R. (1986) "Bat Fauna of Southeast Arkansas," *Journal of the Arkansas Academy of Science*: Vol. 40, Article 23.

Available at: <https://scholarworks.uark.edu/jaas/vol40/iss1/23>

This article is available for use under the Creative Commons license: Attribution-NoDerivatives 4.0 International (CC BY-ND 4.0). Users are able to read, download, copy, print, distribute, search, link to the full texts of these articles, or use them for any other lawful purpose, without asking prior permission from the publisher or the author.

This Article is brought to you for free and open access by ScholarWorks@UARK. It has been accepted for inclusion in *Journal of the Arkansas Academy of Science* by an authorized editor of ScholarWorks@UARK. For more information, please contact scholar@uark.edu, uarepos@uark.edu.

THE BAT FAUNA OF SOUTHWEST ARKANSAS

T. W. STEWARD, V. RICK McDANIEL,
D. A. SAUGEY* and DAN R. ENGLAND**

Department of Biological Sciences
Arkansas State University
State University, AR 72467

*USFS, Ouachita National Forest
Hot Springs, AR 72902

**Department of Biology
Southern Arkansas University
Magnolia, AR 71753

ABSTRACT

A systematic survey of the mammalian fauna of Southwest Arkansas has resulted in the accumulation of more than 200 records of bats from the 21 counties comprising the study area. The records reveal distributional patterns for 12 species of bats and represent a total of 68 new county records for this area of Arkansas.

INTRODUCTION

During the spring of 1981, a systematic survey of the mammalian fauna of Southwest Arkansas was begun. The composition of Arkansas' mammal population is relatively well known for some areas of the state; however, Southwest Arkansas is not one of these areas. Few collections have been made, and no systematic approach has been employed. Our study area comprised twenty-one counties, including all counties located south and/or west of, and including, Pulaski County. In this area of the state the habitat varies greatly as it ranges from the rolling hills and rocky out-croppings of the Ouachitas to the sandy flood plane found along the Arkansas-Louisiana border. The vegetation of the area is primarily an oak-hickory climax forest with pine lumber forests and large tracts of cultivated land. This area is also noted for its many lakes, ponds, and water-ways.

METHODS

To date, more than two hundred bat specimens have been collected from the various counties. The primary method of collection was with Japanese mist nets of varied lengths. Collections of this type usually occurred during the hours of darkness with the nets in place over creeks or ponds where bats might be expected to drink. On a few occasions, the nets were placed across suspected flyways or near known roosts. Numerous additional specimens were collected by hand from roosts. A few specimens were collected by shooting with .22 caliber rat shot or similar small gauge shot. Specimens, upon capture, were placed in convenient holding containers and tagged according to date, location and collector. The specimens were taken to the laboratory as soon as possible. Due to the limited amount of data previously available from this area, specimens caught in the wild were not released; however, only very small voucher samples were taken from roosts.

In addition to the collection of new data, we have incorporated the few published records and information supplied by the Arkansas Department of Health.

DISTRIBUTION OF NATURAL HISTORY NOTES OF THE BATS OF SOUTHWEST ARKANSAS

Nycticeius humeralis (Rafinesque). The evening bat is a small dark colored bat usually found in buildings and tree cavities (Barbour and Davis, 1969). Heath et al. (1983) previously reported this species from six counties in the study area: Pulaski, Garland, Montgomery, Polk, Clark and Hempstead. To these, we add ten additional counties: Saline, Hot Springs, Howard, Sevier, Little River, Miller, Nevada, Ouachita, Columbia, and Union. The evening bat is very common in the study

area, and is probably the bat most often associated with human activities.

Eptesicus fuscus (Palisot de Beavois). The big brown bat, as its name implies, is a large brown colored bat. It prefers to roost in protected structures. This species is sensitive to disturbance and will abandon a roost if repeatedly disturbed. (Barbour and Davis, 1969)

Prior to our study, *E. fuscus* had been reported only from Saline and Pike counties (Sealander, 1956). We have recorded this species from ten additional counties of Southwest Arkansas: Clark, Columbia, Howard, Lafayette, Little River, Montgomery, Nevada, Polk, Pulaski, and Sevier.

Lasiurus borealis (Muller). The red bat is slightly smaller than *E. fuscus* and appears dark red to reddish orange in color. This species is sexually dimorphic as the male is usually much brighter in color and smaller than the female. This bat prefers the dense foliage of trees as roosting sites, and, when at rest, it closely resembles a hanging dead leaf. The red bat has been reported by Sealander (1956) from Columbia, Garland, Ouachita, Pike, Pulaski, and Union counties in our study area. We have records of this species from fourteen counties, twelve of which represent new records: Calhoun, Clark, Dallas, Hempstead, Hot Springs, Howard, Lafayette, Little River, Miller, Nevada, Saline, and Sevier.

Lasiurus seminolus (Rhoads). The Seminole bat is similar to the red bat in size but can be distinguished by pelage having a rich cinnamon to mahogany color. Solitary by nature, this bat can be found roosting in large clumps of Spanish moss or similar material. Two previous records of this species exist for Southwest Arkansas. Heath et al. (1983) reported collection of this species in Polk County and Sealander and Hoiberg (1954) reported it from Ouachita County. We have collected Seminole bats from three additional counties of the study area: Grant, Little River, and Nevada.

Lasiurus cinereus (Palisot de Beauvois). The hoary bat is the largest bat occurring in Arkansas. Its color ranges from yellowish brown to mahogany with silver tipped hairs giving it the hoary appearance. This species also roosts in trees. It is a noted migrator, being the only species of bat to have been reported from the Hawaiian Islands (Barbour and Davis, 1969). We have accumulated no new records of this species. It has been previously reported by Heath et al. (1983) from Polk, Montgomery and Saline counties. Gregg (1937) reported a specimen from Garland County and Dillinger and Black (1940) reported the species from Pulaski County. The Dept. of Health has received specimens from Pulaski and Saline counties.

Pipistrellus subflavus (F. Cuvier). The eastern pipistrelle is a small bat pale yellow to nearly black in color. It is normally found in caves although it occasionally has been found in buildings and foliage (Barbour and Davis, 1969). Previous to this study, the eastern pipistrelle had been only reported from two counties of southwestern Arkansas: from a mine in Garland County (Sealander and Young, 1955) and from Ouachita County (Sealander, 1956). We have collected this species from

T. W. Steward, V. Rick McDaniel, D. A. Saugey, and Dan R. England

ten counties in the study area, eight of which represent new records: Calhoun, Howard, Miller, Nevada, Ouachita, Pike, Pulaski, and Saline.

Lasionycteris noctivagans (Le Conte). The silver-haired bat, is a medium to large bat and is named for its fur which is normally dark with many silver tipped hairs. This is a solitary bat which prefers to roost in tree cavities, buildings, and rock crevices. Heath et al. (1983) reported the previous records of this species from Southwestern Arkansas: Polk and Pulaski counties. We have collected silver-haired bat from five additional counties of Southwestern Arkansas: Columbia, Howard, Little River, Saline and Sevier.

Myotis keenii (Merriam). Keen's myotis is one of the smaller bats found in Arkansas. It is brown in color and has relatively large ears. It normally roosts in tree cavities or rock crevices. This species was reported from Garland County by Sealander and Young (1955) and from Pike County by Miller and Allen (1928). We have collected additional specimens from Garland and Polk counties.

Myotis austroriparius (Rhoads). The southeastern myotis is larger than *M. keenii* and is russet to gray in color. This colonial bat can be found in small groups in caves, tunnels, buildings, and hollow trees. This bat resists entering deep hibernation and usually remains semi-active year-round (Barbour and Davis, 1969). Previously, Davis et al. (1955) had recorded this bat from Garland County only in Southwestern Arkansas. We have recorded this species from Columbia, Little River, and Pike counties as well.

Myotis lucifugus (LeConte). The little brown bat is medium sized with sleek glossy fur. It ranges from pale tan to dark brown in color. Like *M. austroriparius*, this species is colonial and is usually found in caves, buildings, and other sheltered locations (Barbour and Davis, 1969). The little brown bat has been reported from Garland County only in Southwestern Arkansas (Sealander, 1956).

Plecotus rafinesquii Lesson. The Eastern big-eared bat, named because of its noticeable large ears, is a medium sized bat usually grayish in color. Its nose is adorned by two large lumps on the dorsolateral surface. Big-eared bats can be found roosting singularly or in small groups in caves, buildings, and occasionally in hollow trees. The species is extremely alert to disturbance and is usually aware of an intruder well before the bat is within reach (Barbour and Davis, 1969).

Sealander (1979) reported records of big-eared bats from Miller and Sevier counties in Southwestern Arkansas. We have specimens from nine additional counties: Calhoun, Columbia, Dallas, Grant, Lafayette, Little River, Nevada, Ouachita, and Union.

Tadarida brasiliensis (I. Geof. St-Hilaire). The Brazilian free-tailed bat is the only species of the family Molossidae found in Arkansas. As the name implies, the tail of this species is not enclosed within the uropatagium. *T. brasiliensis* is a medium sized bat and is dark brown to gray in color. This species is highly colonial and is found in large clusters in buildings and caves. It has been found occasionally within the foliage of trees. Barbour and Davis (1969).

Sealander and Price (1964) reported this species from Pulaski County. Saugey et al. (1983) provided an additional record of free-tailed bats

from Garland County. We have records of this species from eight counties of Southwest Arkansas, of which seven are new county records. The eight counties include Clark, Garland, Howard, Lafayette, Little River, Miller, Ouachita, and Sevier.

LITERATURE CITED

- BARBOUR, R. W., and W. H. DAVIS. 1969. Bats of America. University Press of Kentucky, Lexington. 268 pp.
- DAVIS, W. H., W. Z. LIDICKER, and J. A. SEALANDER. 1955. *Myotis austroriparius* in Arkansas. J. Mamm. 36(2):288.
- DILLINGER, S. C., and J. D. BLACK. 1940. Notes on Arkansas Mammals. J. Mamm. 21:187-191.
- GREGG, H. R. 1937. Occurrence of the hoary bat in Hot Springs National Park, Arkansas. J. Mamm. 18:98.
- HEATH, D. R., G. A. HEIDT, D. A. SAUGEY, and V. R. MCDANIEL. 1983. Arkansas range extensions of the seminole bat (*Lasiurus seminolus*) and the eastern big-eared bat (*Plecotus rafinesquii*) and additional county records for the hoary bat (*Lasiurus cinereus*), Silver-haired bat (*Lasionycteris noctivagans*), and evening bat (*Nycticeius humeralis*). Proc. Ark. Acad. Sci. 37:90-91.
- MILLER, G. S., JR., and G. M. ALLEN. 1928. The American bats of the genera *Myotis* and *Pizonyx*. Bull. U.S. Nat. Museum. 144:1-28.
- SAUGEY, D. A., D. HEATH, C. EFAW, G. HEIDT, and T. E. BEGGS. 1983. First report of the Brazilian Free-tailed bat maternity colonies in Arkansas. Proc. Ark. Acad. Sci. 37:98.
- SEALANDER, J. A., JR. 1956. A provisional checklist and key to the mammals of Arkansas (with Annotations). Amer. Midl. Nat. 56(2):257-296.
- SEALANDER, J. A., JR. 1979. A guide to Arkansas mammals. River Road Press, Conway, Arkansas. 313 pp.
- SEALANDER, J. A., JR., and A. J. HOIBERG. 1954. Occurrence of the Seminole bat in Arkansas. J. Mamm. 38:54.
- SEALANDER, J. A., JR., and J. F. PRICE. 1964. The free-tailed bat in Arkansas. J. Mamm. 45:152.
- SEALANDER, J. A., JR., and H. YOUNG. 1955. Preliminary observations on the cave bats of Arkansas. Proc. Ark. Acad. Sci. 7:21-31.