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New Distributional Records of Mammals in Texas

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Abstract

Recent biological surveys resulted in new county records of mammalian species in Texas. Efforts resulted in 16 county records of 12 species of mammals in 10 counties (Archer, Childress, Erath, Foard, Gregg, Kimble, Lubbock, Panola, Rockwall, and Smith). These records supplement information regarding occurrence and distribution of mammalian species in Texas, and substantially expand the range of the North American Beaver (*Castor canadensis*) into the central region of the Llano Estacado in Texas.

Key words: Archer County, Childress County, county record, Erath County, Foard County, Gregg County, Kimble County, Lubbock County, Panola County, Rockwall County, Smith County

Introduction

The documentation and understanding of the distribution and abundance of many species is lacking. Even intensively studied areas such as Texas still possess gaps in distribution records of many taxa, making contemporary biological surveys critical for contributing to the understanding of natural history. Herein, we report new county records for species of mammals obtained throughout north and central Texas, in both natural and urban areas, as well as records of volant species obtained from surveys of highway culverts in east Texas.

Materials and Methods

New county records were identified as such based on distribution records presented in Schmidly and Bradley (2016). Collecting and survey sites are shown in Figure 1. Four rodent records were obtained using Sherman live-traps placed along unpaved county roads. Other specimens opportunistically were collected as road-killed animals. All bats were collected during an ongoing study evaluating the effectiveness of roost sites (i.e., culverts and bridges). Havahart live-traps were used to capture medium-sized mammals. Specimens were collected following standard field procedures set forth by the guidelines of the American Society of Mammalogists (Sikes et al. 2016) and animal handling methods followed Texas Tech University Institutional Animal Care and Use Protocols (#13093-10 and T14083). Standard field measurements and repro-

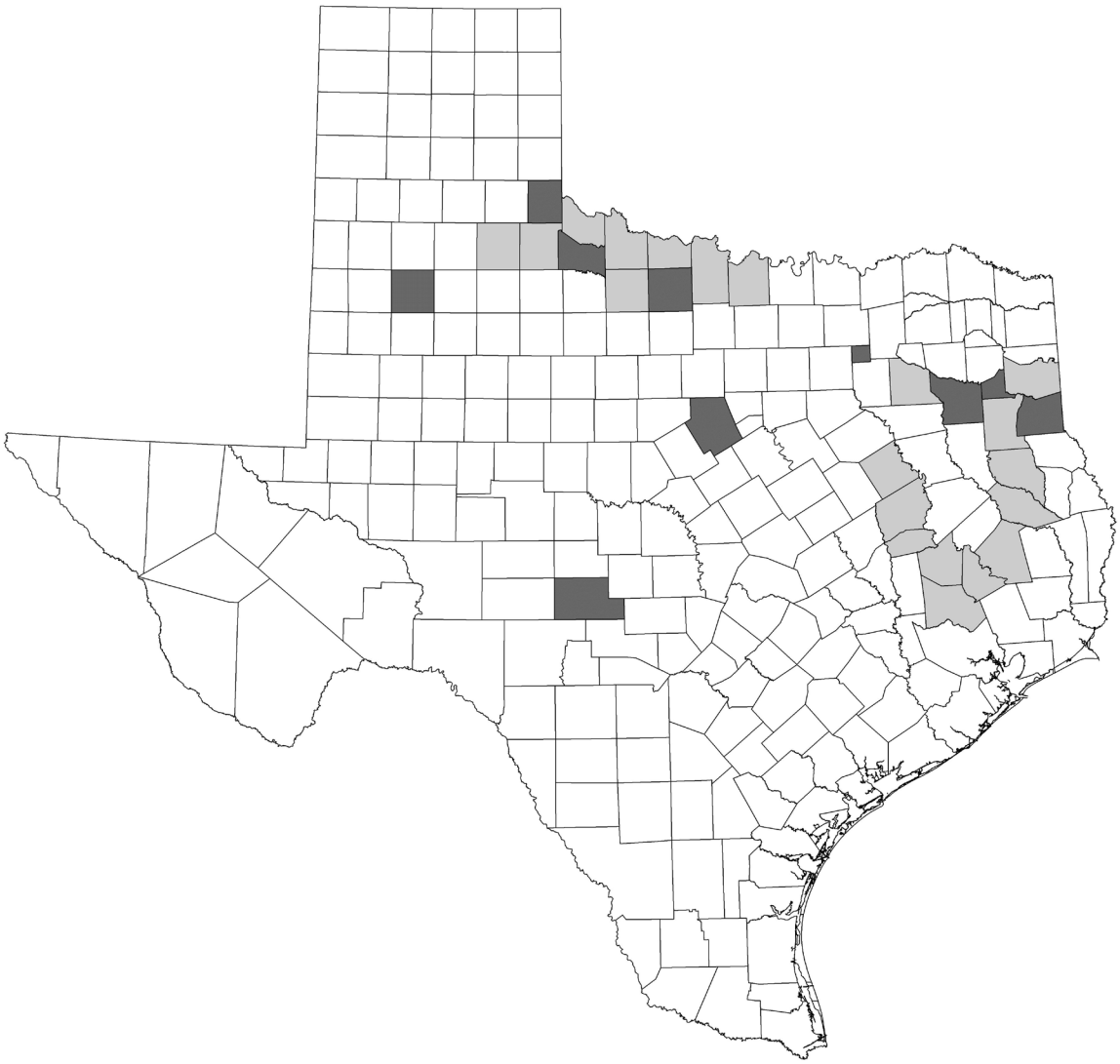

Figure 1. Map depicting Texas counties that were visited during the roosting site surveys and other collecting activities. Counties with new species records are indicated by darker shading.

ductive data were recorded when possible. Voucher specimens were prepared as standard skin-skeleton museum specimens and tissues (i.e., heart, kidney, muscle, spleen, lung, blood, and liver) were taken and frozen in liquid nitrogen. Road-killed specimens were decapitated and skulls were preserved when possible (e.g., only a foot was salvageable for one of the *Dasypus novemcinctus* specimens). All materials were deposited into the Natural Science Research Laboratory of the Museum of Texas Tech University, and each specimen was assigned both a museum catalogue number (TTU-M) and a Tissue and Karyotype number (TK). Specific localities were documented for all the specimens deposited. Species accounts and descriptions follow the taxonomic organization in Schmidly and Bradley (2016). Taxonomy and order of authority follow the format in *The Mammals of North America* (Hall 1981), *Mammal Species of the World* (Wilson and Reeder 2005), and *Revised Checklist of North American Mammals North of Mexico, 2014* (Bradley et al. 2014).

RESULTS

Sixteen new mammal records are reported for 10 Texas counties: Archer, Childress, Erath, Foard, Gregg, Kimble, Lubbock, Panola, Rockwall, and Smith (Fig. 1). These records include the armadillo, two species of carnivores, two species of bats, and seven species of rodents. Collection of a North American Beaver (*Castor canadensis*) in Lubbock County expands the known distribution of this species onto the Llano Estacado.

ORDER CINGULATA
Family Dasypodidae
***Dasypus novemcinctus* Linnaeus, 1758**
Nine-banded Armadillo

On 18 March 2016, one male (TTU-M 128468) was collected along a roadside in a suburban area of Dublin, Erath County. An additional specimen (sex unknown) was salvaged on 10 October 2015 (TTU-M 122343) in Foard County on FM 2003 (33°56.021'N, 99°49.887'W). The Nine-banded Armadillo is found throughout Texas, except in the western-most part of the state around the Trans-Pecos region (Schmidly and Bradley 2016). It is particularly well-adapted to open fields surrounded by wooded areas, and also is frequently observed in suburban areas. This species is very common in this region of the state and Erath and Foard Counties are within the expected geographic range in Texas.

ORDER CHIROPTERA
Family Vespertilionidae
***Perimyotis subflavus* (F. Cuvier, 1832)**
American Perimyotis

Perimyotis subflavus is distributed across the eastern half of Texas. Recent records in Presidio and Lubbock counties suggest that this species might be expanding its geographic range in the state (Schmidly and Bradley 2016). A male American Perimyotis (TTU-M 122351) was collected 5 August 2015 on US Interstate 20 (32°26.077'N, 94°57.320'W) in Gregg County in Pineywoods habitat. Three males (TTU-M 122352, TTU-M 122353, and TTU-M 122354) were collected on 5 August 2015 on US Interstate 20 (32°25.948'N, 94°54.899'W), also in Gregg County. A female (TTU-M 122356) was collected 4 August 2015 (32°26.707'N, 95°08.822'W), and two females (TTU-M 122357 and TTU-M 122358) were collected on 4 August 2015 in Smith County on US Interstate 20 (32°27.281'N, 95°17.845'W).

***Eptesicus fuscus* (Palisot de Beauvois, 1796)**
Big Brown Bat

There are two subspecies of Big Brown Bat found in Texas. *Eptesicus fuscus fuscus* is distributed in east Texas, whereas *E. f. pallidus* occurs in west Texas. No records have been recorded in central Texas (Schmidly and Bradley 2016). A male *E. f. fuscus* (TTU-M 122344) was collected 6 August 2015 in Panola County on US Highway 59 (32°02.210'N, 94°14.846'W), within the expected range of this species.

ORDER CARNIVORA
Family Mephitidae
***Spilogale gracilis* Merriam, 1890**
Western Spotted Skunk

In May 2004, one female *Spilogale gracilis* (TTU-M 107868) was collected at the Texas Tech University Center at Junction, 1 km south of Junction (30º29.364'N, 99º46.326'W), Kimble County, in a Havahart live-trap placed near a burrow under a cabin on the property. The Western Spotted Skunk occupies habitats that often contain rocky bluffs, cliffs, and brush-bordered streams (Schmidly and Bradley 2016). Its range in Texas extends from the southern portion of the Llano Estacado into southern Texas and west into the Trans-Pecos. Kimble County is in the eastern portion of the species known range and this specimen represents the first record of *Spilogale gracilis* from this county.

***Mephitis mephitis* (Schreber, 1776)**
Striped Skunk

Mephitis mephitis is distributed statewide (Schmidly and Bradley 2016). Two Striped Skunk carcasses were salvaged in Foard County. One skull (TTU-M 122346) was collected 9 October 2015 on State Highway 6 (34°03.079'N, 99°43.499'W). The second specimen (TTU-M 122345) was collected 10 October

2015 on TX-FM 2003 (33°56.432'N, 94°46.952'W). The Striped Skunk is found throughout the state and Foard County is within the expected geographic range of this species.

ORDER RODENTIA
Family Sciuridae
***Sciurus niger* Linnaeus, 1758**
Eastern Fox Squirrel

On 29 November 2014, one female Eastern Fox Squirrel (TTU-M 131447) was collected in Rockwall County along a roadside in a creek bottom densely packed with scrub brush (32°55.401'N, 96°30.540'W). *Sciurus niger* has thrived in both natural and highly-dense urban areas throughout the state, and gradually has expanded westward (Schmidly and Bradley 2016). This specimen represents the first record of *S. niger* for the county, an area of the state within the expected range of this species.

Family Heteromyidae
***Perognathus merriami* Allen, 1892**
Merriam's Pocket Mouse

This species is known throughout the state of Texas, except for the northern Panhandle, western Trans-Pecos extremities, and the eastern third of the state (Schmidly and Bradley 2016). A female (TTU-M 122361) was collected 10 October 2015 on County Road 375 (33°52.594'N, 99°55.620'W) in Foard County. This specimen was collected near mesquite brush habitat. This county is within the expected range of *Perognathus merriami* in Texas.

***Chaetodipus hispidus* Baird, 1858**
Hispid Pocket Mouse

The Hispid Pocket Mouse is widely distributed throughout Texas, except for the southeastern portion of the state (Schmidly and Bradley 2016). A female (TTU-M 122364) was collected 10 October 2015 on County Road 16 (34°22.382'N, 100°09.735'W) in rangeland with mesquite and tall grasses in Childress County. This area is within the expected range of *Chaetodipus hispidus* in Texas.

Family Castoridae
***Castor canadensis* Kuhl, 1820**
North American Beaver

Castor canadensis is the largest native rodent found in North America. In Texas, the North American Beaver's distribution is mostly limited to the eastern part of the state. It is largely absent in the western portion of the state; existing populations are sparse and low in density (Schmidly and Bradley 2016). It is noted to be absent from the Llano Estacado and most of the Trans-Pecos regions, and in the western part of the state county records are present for eight northern counties in the Texas Panhandle (Schmidly and Bradley 2016). On 4 November 2015, a skull was taken from a carcass of an adult specimen (sex undetermined, TTU-M 128469) found on the bank of a pond that is part of a stream ecosystem located in a municipal park (Mckenzie Park, 33º35.405'N, 101º49.832'W), in Lubbock, Texas. This specimen represents the first record of *C. canadensis* for Lubbock County and extends the range of this species onto the Llano Estacado. This species appears to have a discontinuous range in the Texas Panhandle based on current distribution records. The collection of the specimen may result from heavy summer rains of 2015, which brought all local water ways to their highest point in many years, likely permitting entry from the east.

Family Cricetidae
***Reithrodontomys fulvescens* J.A. Allen, 1894**
Fulvous Harvest Mouse

The Fulvous Harvest Mouse is distributed in eastern and central Texas, and parts of the Trans-Pecos region (Schmidly and Bradley 2016). A male (TTU-M 122780) was collected 10 October 2015 along County Road 327 (33°57.777'N, 99°46.089'W) in Foard County. This specimen was collected alongside farmland with tall grasses along the fence line and is within the expected range of this species.

***Sigmodon hispidus* Say and Ord, 1825**
Hispid Cotton Rat

The Hispid Cotton Rat is one of the most widely distributed mammalian species in Texas (Schmidly and

Bradley 2016). A male (TTU-M 122365) was collected 10 October 2015 on County Road 17 (34°23.872'N, 100°08.621'W) alongside farmland covered in tall grasses in Childress County. A female (TK195311) was collected 10 October 2015 along a section of County Road 327 (33°57.777'N, 99°46.089'W) in proximity to cultivated agricultural fields in Foard County, an area of the state within the expected range of this species.

***Neotoma leucodon* Merriam, 1894**
Eastern White-throated Woodrat

This species is distributed south of the Red River throughout the Panhandle, Edward's Plateau, and Trans-Pecos regions of Texas (Schmidly and Bradley 2016). A male (TTU-M 122348) was collected 10 October 2015 on County Road Y (34°24.502'N, 100°07.521'W) in Childress County near a mesquite shrub wooded area. A female (TTU-M 122347) was collected 21 August 2015 on River Road (33°41.922'N, 98°41.183'W) in Archer County.

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