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## NEW DISTRIBUTIONAL RECORDS OF MAMMALS IN TEXAS: ORDERS CHIROPTERA, CARNIVORA, AND RODENTIA

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### ABSTRACT

Biological surveys conducted throughout Texas since 2015 resulted in 13 records of 8 mammal species in 12 counties. These counties are Concho, Fisher, Foard, Garza, Harrison, Mitchell, Nolan, Pecos, Shackelford, Taylor, Van Zandt, and Ward. These records enhance our understanding of the distribution of mammals and highlight regions of Texas that warrant further biological surveys.

Key words: *Baiomys*, bridges, *Conepatus*, county records, culverts, distribution, *Eptesicus*, *Erethizon*, *Myotis*, *Perimyotis*, *Procyon*

### INTRODUCTION

Information and reliable documentation on species distribution, occurrence, and abundance remains deficient, even in well-studied areas such as Texas. Within Texas, there are conspicuous gaps in the distribution data for many taxa. Surveying regions with noticeable gaps in these distributions is critical for a more comprehensive understanding of the natural history and basic biology of different taxa. Moreover, collection and deposition of voucher specimens, tissues, and their affiliated specimen data into natural history collections serve a myriad of functions in biological

research. These include, but are not limited to, fine-scale improvements of species distribution models, examination of vouchers to facilitate specimen-based research in the areas of bioinformatics, systematics, morphometrics and ecotoxicology, and as resources for documenting zoonoses, genetic variation, and biodiversity (Bradley et al. 2014a). Periodic updates to these collections are invaluable (*sensu* Mares 2009). Here, we report new Texas county records from the orders Chiroptera, Carnivora, and Rodentia in portions of west, central, and east Texas.

## METHODS AND MATERIALS

County records identified herein were based on distribution records presented in Schmidly and Bradley (2016) and further supplemented by Garcia et al. (2016) and Demere et al. (2017). Counties where collections occurred are shown in Figure 1. Two carnivore species were opportunistically collected as roadkill. Bats were collected during continuing efforts to evaluate roost site effectiveness of culverts and bridges. Sherman traps were used to capture species of rodents on unpaved county roads during surveys for *Dipodomys elator*. Furthermore, rodents were captured on 500-meter

transects during habitat assessments of small mammal communities.

Standard field procedures set by the guidelines of the American Society of Mammalogists (Sikes et al. 2016) were followed. Voucher specimens were prepared as standard skin, skull, and post-cranial skeleton museum preparations with tissues (i.e. heart, kidney, liver, lung, muscle and spleen) when possible. All materials were deposited into the Natural Science Research Laboratory of the Museum of Texas Tech

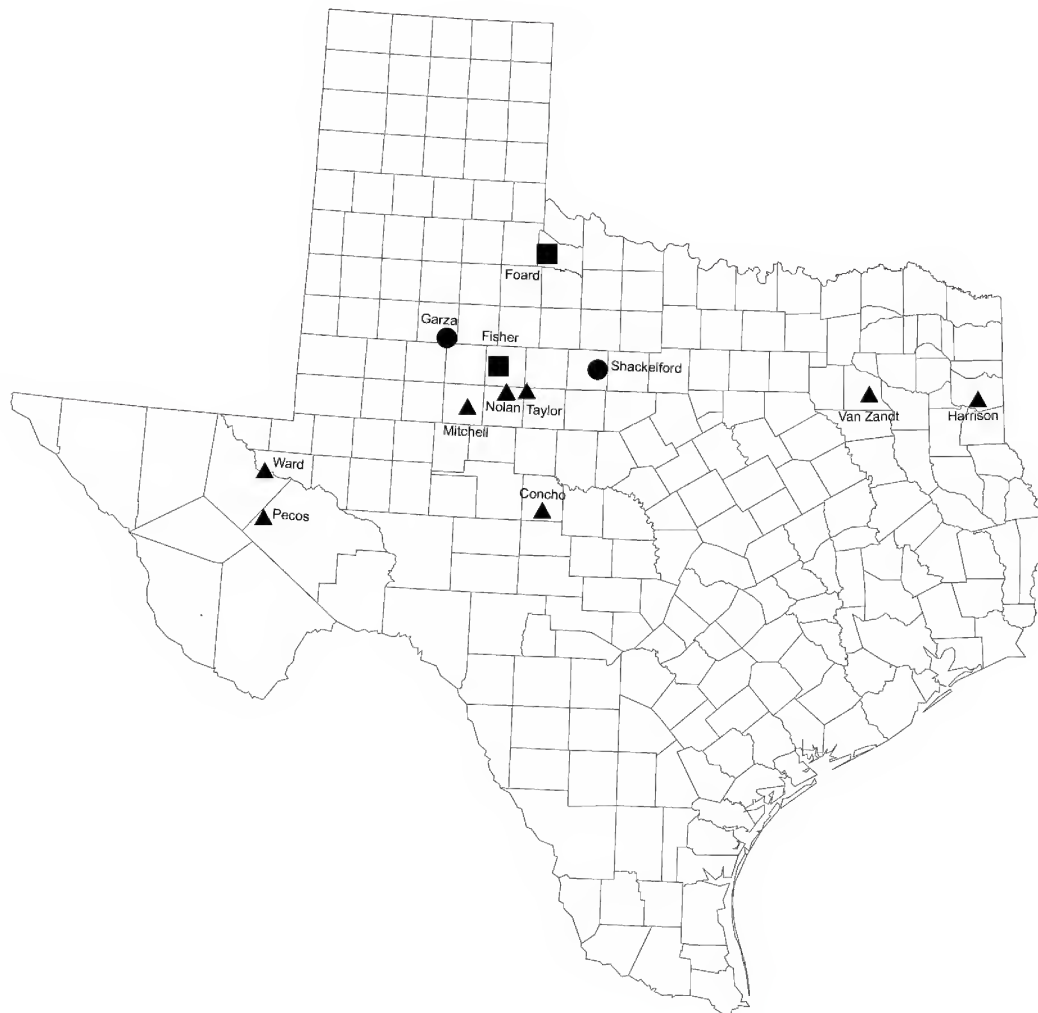


Figure 1. Map illustrating the 12 counties in Texas where new records were documented. Triangles indicate records from Chiroptera, circles indicate records from Carnivora, and squares indicate records from Rodentia.

University and assigned a Mammal Collection catalog number (TTU-M). Species descriptions and accounts follow the taxonomic organization of Schmidly and Bradley (2016). Taxonomy and order of authority fol-

low formats set forth 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. 2014b).

## RESULTS AND DISCUSSION

Thirteen new records follow for 12 counties in Texas: Concho, Fisher, Foard, Garza, Harrison, Mitchell, Nolan, Pecos, Shackelford, Taylor, Van Zandt, and Ward (Fig. 1). Among these are the Hog-nosed Skunk and Northern Raccoon, four species of bats, and two species of rodents.

### ORDER CHIROPTERA

#### Family Vespertilionidae

#### *Eptesicus fuscus* (Palisot de Beauvois, 1796)

#### Big Brown Bat

Two subspecies of Big Brown Bat occur in Texas: *E. f. fuscus* in the Panhandle and to the east, and *E. f. pallidus* in the Trans-Pecos region (Schmidly and Bradley 2016). A non-scrotal adult male (TTU-M 136205) was collected under a culvert on US Interstate 20 (32°28.337'N, 100°22.479'W) on 17 March 2017 in Nolan County. This site was surrounded by agricultural fields and rangelands. This record represents one of the few voucher specimens from central Texas and extends the distribution of the *E. f. fuscus* subspecies southward.

#### *Myotis austroriparius* (Rhoads, 1897)

#### Southeastern Myotis

The Southeastern Myotis is distributed throughout eastern Texas. A non-scrotal male (TTU-M 136199) was collected along US Highway 59, south of Gill (32°28.495'N, 94°21.496'W) in Harrison County on 6 January 2016. This specimen was collected from a culvert near a car lot and a pond with little surrounding vegetation. This record is within the expected range of this species.

#### *Myotis velifer* (J. A. Allen, 1890)

#### Cave Myotis

Distribution of the Cave Myotis extends from southern Texas through the middle of the state and into most of the Panhandle (Schmidly and Bradley 2016).

Our efforts found the Cave Myotis in six new counties: Concho, Mitchell, Nolan, Taylor, Pecos and Ward. The Nolan and Taylor records are from counties bisected by the proposed border of the two Cave Myotis subspecies: *M. v. magnamolaris* and *M. v. incautus* (Schmidly and Bradley 2016).

*Concho County.*—A non-scrotal adult male (TTU-M 136206) was collected on 4 June 2017 from a bridge spanning Hardin Creek just south of Eden (31°12.543'N, 99°51.248'W). This record is within the expected range of the Cave Myotis.

*Mitchell County.*—On 13 March 2017 a non-pregnant, non-lactating adult female (TTU-M 136204) was collected from a bridge spanning Lone Wolf Creek (32°23.296'N, 100°51.643'W) in Colorado City. This record is within the expected range of this species.

*Nolan County.*—On 17 March 2017, a non-pregnant, non-lactating adult female (TTU-M 136202) was collected from a culvert on I-20 in Sweetwater (32°27.536'N, 100°23.183'W). This specimen was collected from an area surrounded by residential and commercial buildings as well as agricultural fields. This record lies within the expected range of this species.

*Taylor County.*—A scrotal male (TTU-M 136201) was collected on 13 March 2017 from a culvert along I-20 in Trent (32°29.478'N, 100°07.056'W). Trent is a small residential area surrounded predominately by agricultural fields. Taylor County lies within the expected range of this species.

*Pecos County.*—A non-scrotal adult male (TTU-M 136200) was collected 17 May 2016 from a culvert along US I-10 (30°56.537'N, 103°20.102'W). This record is within the current distribution of this species.

*Ward County.*—A non-pregnant, non-lactating adult female (TTU-M 136198) was collected 10 Au-

gust 2016 from a culvert along US I-20 (31°26.869'N, 103°22.014'W). This record is within the current distribution of this species.

***Perimyotis subflavus* (F. Cuvier, 1832)**

American Perimyotis

The American Perimyotis is distributed across the majority of Texas, except the westernmost and northernmost borders (Schmidly and Bradley 2016). On 5 January 2016, a non-scrotal adult male (TTU-M 136196) was collected from Interstate 20 (32°32.274'N, 95°44.757'W) in Van Zandt County. This specimen was collected from a culvert ceiling under a major highway bordered with fragmented forest patches of the Piney Woods ecoregion. Van Zandt County lies within the expected range of the American Perimyotis.

ORDER CARNIVORA

Family Mephitidae

***Conepatus leuconotus* (Lichtenstein, 1832)**

Hog-nosed Skunk

The Hog-nosed Skunk is distributed throughout southern and central Texas (Schmidly and Bradley 2016). The skull of an individual (TTU-M 136207) was salvaged along US Highway 84 (33°0.827'N, 101°10.531'W) on 8 June 2017, south of Post in Garza County. The specimen was discovered within a mesquite rangeland with thick grass cover and is within the expected range of this species.

Family Procyonidae

***Procyon lotor* (Linnaeus, 1758)**

Northern Raccoon

The Northern Raccoon has a statewide distribution in Texas. *Procyon lotor* occur in many ecoregions and are rarely found far from water (Schmidly and

Bradley 2016). A front paw (TTU-M 136209) from an animal of unknown sex was salvaged on US Highway 180 (32°44.895'N, 99°13.388'W) in Shackelford County on 15 September 2017. The specimen was collected in an area surrounded by rangeland and is within the expected range of this species.

ORDER RODENTIA

Family Cricetidae

***Baiomys taylori* (Thomas, 1887)**

Northern Pygmy Mouse

The Northern Pygmy Mouse is distributed throughout most of Texas, except the Trans-Pecos region and extreme northeastern portion of the state (Schmidly and Bradley 2016). A non-pregnant, non-lactating female (TTU-M 136197) was collected 6 August 2016, 19.6 km west of Crowell (33°58.807'N, 99°56.221'W) in Foard County. The specimen was collected in rangeland habitat with thick grass cover. This record is within the current distribution of this species.

Family Erethizontidae

***Erethizon dorsatum* (Linnaeus, 1758)**

North American Porcupine

Three subspecies of the North American Porcupine occupy Texas. *Erethizon dorsatum epixanthum* is found on the western edge of the Panhandle; *E. d. bruneri* is found in the remaining portions of the Panhandle, and into north-central Texas; and *E. d. couesi* is distributed from the Trans-Pecos eastward to Travis and Van Zandt counties (Schmidly and Bradley 2016). Porcupine quills (TTU-M 136208) were collected along US Highway 180 (32°44.426'N, 100°29.506'W) in Fisher County on 15 September 2017. This site was near agricultural fields. This record lies within the expected range of the species.

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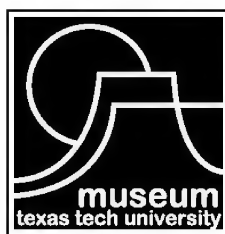


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