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COUNTY RECORDS FOR 20 MAMMAL SPECIES ACROSS TEXAS FROM THE ORDERS CINGULATA, LAGOMORPHA, SORICOMORPHA, CHIROPTERA, CARNIVORA, AND RODENTIA

MACY A. KRISHNAMOORTHY, CARLOS J. GARCIA, EMMA E. GUEST, MICHAELA K. HALSEY, JULIE A. PARLOS, TAYLOR J. SONIAT, JOHN D. STUHLER, ERIN E. STUKENHOLTZ, SARAH C. VRLA, BRETT ANDERSEN, JENNA R. GRIMSHAW, LARAMIE L. LINDSEY, RUSSELL MARTIN, RICHARD M. PITTS, CARL F. RICKERT, CRISTINA RIOS-BLANCO, HOLLY G. WILSON, ROBERT D. BRADLEY, AND RICHARD D. STEVENS

ABSTRACT

Herein, 62 county records are reported for 20 species of mammals from 57 Texas counties and include records from six different mammalian orders: Cingulata, Lagomorpha, Soricomorpha, Chiroptera, Carnivora, and Rodentia. Although many of these records serve to fill gaps in expected distributions, others represent range extensions, as in *Peromyscus gossypinus*, *Neotoma floridana*, *Myotis yumanensis*, and *Ursus americanus*.

Key words: Carnivora, Chiroptera, Cingulata, county records, Lagomorpha, Rodentia, Soricomorpha, Texas

INTRODUCTION

Distributional records are important for recognizing the extent of the geographic ranges of species, which is lacking for many mammals in Texas. Some disjunct distributional records in Texas can be attributed to a lack of fieldwork or research bias for certain species, as with volant species (i.e., chiropterans) that are able to travel over larger distances (Cryan 2003). In addition to bolstering distribution records, the acquisi-

tion of specimens contributes to growing natural history collections that are needed for numerous research purposes including characterizing population dynamics, genomics research, analyses of dispersal, morphological studies, and conservation efforts (Bradley et al. 2014a; Ferguson 2020). Herein, 62 county records for 20 species across 57 counties in Texas are reported.

METHODS

Specimens constituting county records were deposited in either the Natural Science Research Laboratory (NSRL) at the Museum of Texas Tech University, or the Fort Hays Sternberg Museum of Natural History (FHSM). When specimen quality allowed, skin, skull, skeleton, and tissues (i.e., heart, kidney, liver, lung, muscle, and spleen) were collected from voucher specimens. In some instances (e.g., roadkill specimens), only particular parts such as quills and/or skulls were collected. Additionally, sex, reproductive condition, standard voucher measurements, and age class (i.e., juvenile, subadult, or adult) were recorded for each specimen when possible. The cricetid rodents were collected in Sherman traps, unless otherwise stated. Plains Pocket Gophers (*Geomys bursarius*) were collected using Victor and Macabee gopher traps. Bat specimens, excluding most *Tadarida brasiliensis* records, were collected from culverts and bridges using long forceps or hand-nets. One *T. brasiliensis* record was collected in a mist-net from Collingsworth County and two others were collected by hand from

bridges in Frio and Menard counties. The remaining 33 *T. brasiliensis* records were obtained from the Texas Department of State Health Services (DSHS), which received bats for rabies testing and no locality information other than county-level is recorded. The DSHS bats were measured, had muscle samples collected, and were preserved in alcohol. Each specimen received a collection number (i.e., TTU-M or FHSM). Specimens were collected following the guidelines of the American Society of Mammalogists (Sikes 2016).

County records were identified using distribution maps provided by Schmidly and Bradley (2016), as well as recent data from García et al. (2016), Demere et al. (2017), Halsey et al. (2018), and Krejsa et al. (2020). Taxonomy, order, and authority follow *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

Sixty-two new county records are described from 57 counties across the State of Texas (Fig. 1). These records include 20 species from the following six orders: Cingulata, Lagomorpha, Soricomorpha, Chiroptera, Carnivora, and Rodentia.

ORDER CINGULATA

Family Dasypodidae

***Dasyopus novemcinctus* Linnaeus, 1758**

Nine-banded Armadillo

The Nine-banded Armadillo is distributed throughout Texas (Schmidly and Bradley 2016) and is represented by a single subspecies (*D. novemcinctus mexicanus*). Three new records were obtained from Ellis, Lubbock, and Rockwall counties. Ellis and Rockwall counties are part of the Blackland Prairie ecoregion, whereas Lubbock is part of the High Plains ecoregion. All records occur within the expected range of the species in Texas.

Specimens examined (5).—Ellis County (1): one adult male, 7.2 km northwest of Waxahachie, 2 September 2017 (32°25.49584'N, 96°54.717'W; TTU-M 150300). Lubbock County (1): one adult of unknown sex, Lubbock, 9 August 2017 (TTU-M 150301). Rockwall County (3): one male, 3.2 km east of Rockwall, 2 December 1999 (32°55.551'N, 96°28.504'W; FHSM 35103); one adult male, Royce City, 1 June 2015 (32°97.426'N, 96°33.283'W; TTU-M 134910); one adult female, 8 km east of Rowlett, 3 September 2017 (32°53.9916'N, 96°28.0914'W; TTU-M 150299).

ORDER LAGOMORPHA

Family Leporidae

***Lepus californicus* Gray, 1837**

Black-tailed Jackrabbit

The Black-tailed Jackrabbit occurs throughout the state (Schmidly and Bradley 2016) and is represented by three subspecies: *Lepus californicus texianus* in the

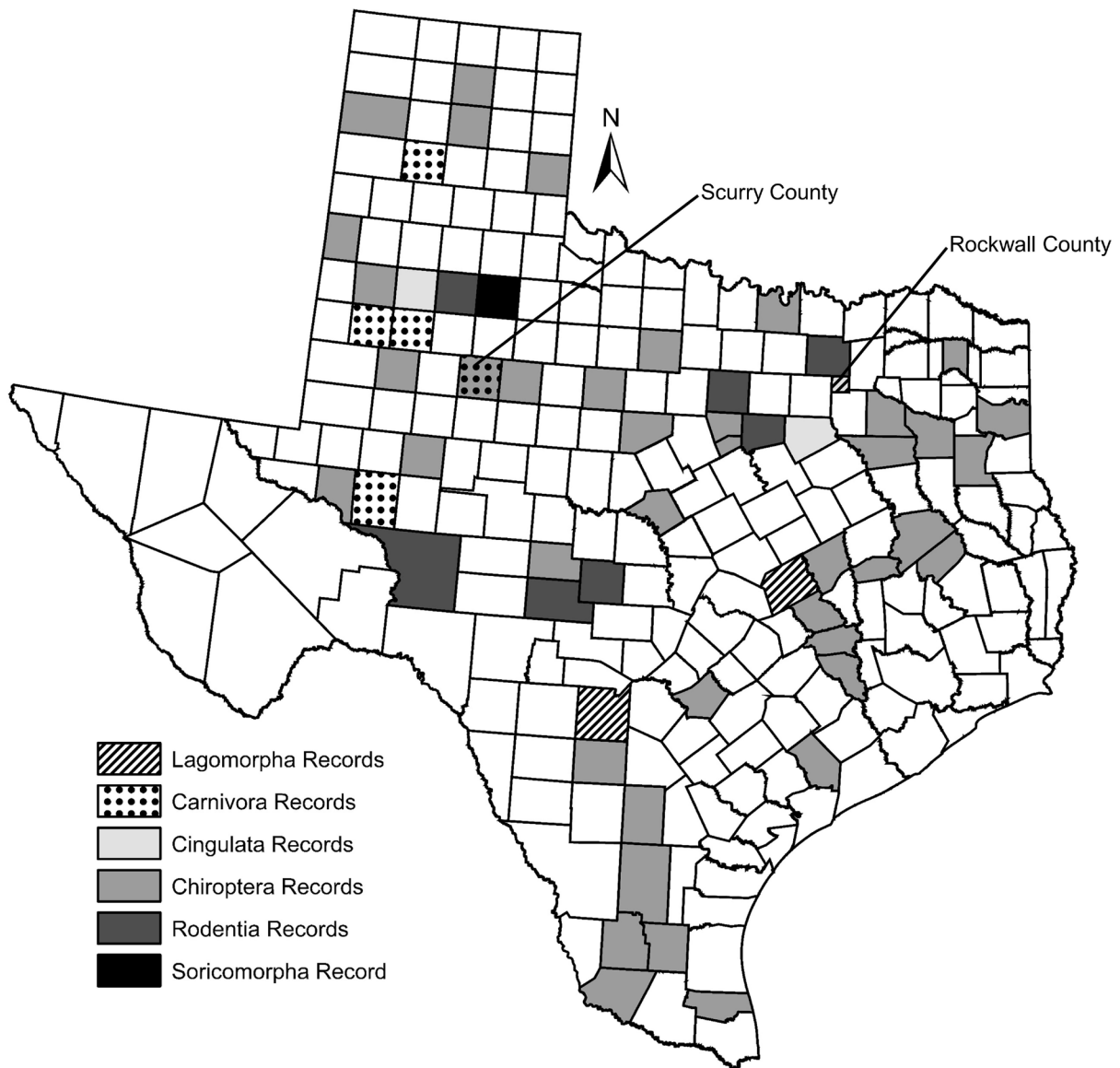


Figure 1. Location of county records by order across 57 counties. There are two instances of counties having two records from multiple mammalian orders: Rockwall and Scurry.

Trans-Pecos, western portion of the Edwards Plateau, and southern edge of the High Plains: *L. c. melanotis* in northern Texas; and *L. c. merriami* in southeastern Texas. This record occurs within the expected range of *L. c. merriami*. This specimen was collected from Medina County that includes the northern part of the South Texas Plains ecoregion.

Specimens examined (1).—Medina County (1): one adult female, D'Hanis, 1 November 2018 (TTU-M 148586).

***Sylvilagus aquaticus* (Bachman, 1837)**
Swamp Rabbit

Although both *Sylvilagus aquaticus* and *S. floridanus* occur within the county of record, this individual was identified as *S. aquaticus* based on the presence of a characteristic cinnamon eye ring (Schmidly and Bradley 2016). This individual was salvaged from a swimming pool in an suburban area. Rockwall County occurs within the Blackland Prairie ecoregion.

Specimens examined (1).—Rockwall County (1): one juvenile male, suburban neighborhood of Rowlett, 28 July 2018 (32°54.0564'N, 96°30.8082'W; TTU-M 148972).

***Sylvilagus floridanus* (J. A. Allen, 1890)**
Eastern Cottontail

The Eastern Cottontail occurs throughout most of Texas. Three subspecies are distributed throughout the state: *Sylvilagus floridanus alacer* in eastern Texas; *S. f. llanensis* in north Texas; and *S. f. chapmani* in western and southern Texas. The specimens reported herein are both *S. f. alacer* based on their localities. The records from Milam and Rockwall counties are within the Blackland Prairie ecoregion.

Specimens examined (2).—Milam County (1): one adult female, Cameron, 10 October 2018 (TTU-M 150033). Rockwall County (1): one adult male, Rockwall, 14 February 2015 (32°55.552'N, 96°27.303'W; TTU-M 135925).

ORDER SORICOMORPHA
Family Soricidae
***Notiosorex crawfordi* (Coues, 1877)**
Crawford's Desert Shrew

Crawford's Desert Shrew is distributed throughout the western two-thirds of Texas (Schmidly and Bradley 2016). Dickens County, where the record was obtained from inside an interior wall of a house, is within the Rolling Plains ecoregion of Texas. This record occurs within the expected distribution for this species.

Specimens examined (1).—Dickens County (1): unknown sex, 1.6 km east of Afton, 13 January 2018 (TTU-M 148972).

ORDER CHIROPTERA
Family Molossidae
***Tadarida brasiliensis* (I. Geof. St.-Hilaire, 1824)**
Brazilian Free-tailed Bat

The Brazilian Free-tailed Bat is ubiquitous throughout Texas (Schmidly and Bradley 2016), though many counties lack vouchered records. Herein, 35 county records for this species are presented that collectively fill gaps in the expected distribution. Specimens

examined at the NSRL were obtained from DSHS when submitted for rabies testing and lack specific localities other than county information. Records from Frio and Menard counties are the only of the following specimens not obtained via DSHS. All records are from within the expected range of the Brazilian Free-tailed Bat in the state.

Specimens examined (111).—Austin County (3): two females, 21 December 2012 (TTU-M 140716, TTU-M 140718); one male, 21 December 2012 (TTU-M 140717). Bailey County (1): one female, 11 May 2011 (TTU-M 140719). Brooks County (1): one male, 22 March 2010 (TTU-M 140973). Burleson County (1): one male, 18 March 2011 (TTU-M 140976). Carson County (1): one female, 10 June 2011 (TTU-M 141040). Cooke County (1): one male, 7 September 2012 (TTU-M 141061). Crane County (1): one female, 3 March 2011 (TTU-M 141071). Dawson County (3): three females, 12 November 2009 (TTU-M 141073, TTU-M 141074, TTU-M 141075). Eastland County (2): one male, 3 November 2011 (TTU-M 141078); one male, 28 March 2013 (TTU-M 141079). Frio County (5): one male, 12 April 2011 (TTU-M 141091); one male and one female, 21 December 2012 (TTU-M 141092); one female, 21 December 2012 (TTU-M 141093); one female, 30 December 2009 (TTU-M 141094); one female, beneath bridge over Black Creek on I-35 near Moore, 24 July 2017 (29°4.615'N, 98°58.445'W; TTU-M 150308). Glasscock County (1): one female, 17 April 2012 (TTU-M 141103). Guadalupe County (18): one male, 26 September 1994 (TTU-M 69880); one female, 27 August 1993 (TTU-M 71901); unknown sex, 19 April 2010 (TTU-M 141131); one male, 15 July 2011 (TTU-M 141132); one female, 28 September 2011 (TTU-M 141133); one female, 19 February 2010 (TTU-M 141134); one male, 12 October 2011 (TTU-M 141135); one male, 28 April 2010 (TTU-M 141136); one female, 23 January 2011 (TTU-M 141137); one male, 27 October 2011 (TTU-M 141138); one male, 9 April 2010 (TTU-M 141139); one female, 6 April 2011 (TTU-M 141140); one female, 11 October 2011 (TTU-M 141141); one male, 29 February 2012 (TTU-M 141142); one male, 23 June 2011 (TTU-M 141143); one female, 7 February 2011 (TTU-M 141144); one male, 8 February 2011 (TTU-M 141145); one male, 26 March 2012 (TTU-M 141146). Harrison County (2): one female, 2 December 2010 (TTU-M 141150); one female, 11 December 2009 (TTU-M 141151).

Henderson County (1): unknown sex, 31 March 2010 (TTU-M 141344). Hockley County (2): one female, 6 April 2010 (TTU-M 141404); one male, 14 May 2010 (TTU-M 141405). Hood County (1): one male, 3 April 2013 (TTU-M 141406). Houston County (3): one male, 10 January 2013 (TTU-M 141407); two males, 16 April 2010 (TTU-M 141408, TTU-M 141409). Hutchinson County (1): one male, 10 October 2011 (TTU-M 141415). Jackson County (4): one male, 19 February 2011 (TTU-M 141416); one female, 21 April 2011 (TTU-M 141417); one male, 8 February 2011 (TTU-M 141418); one male, 24 April 2012 (TTU-M 141419). Madison County (2): one male, 15 May 2010 (TTU-M 141447); one male, 8 February 2011 (TTU-M 141448). Menard County (9): nine males, beneath bridge over the San Saba River in Menard, 4 June 2017 (30°55.1633'N, 99°47.105'W; TTU-M 147695, TTU-M 147696, TTU-M 147697, TTU-M 147698, TTU-M 147699, TTU-M 147700, TTU-M 147701, TTU-M 147702, TTU-M 147703). Mills County (1): one female, 25 April 2011 (TTU-M 141503). Oldham County (1): one female, 18 January 2011 (TTU-M 141596). Robertson County (1): one female, 4 March 2011 (TTU-M 141623). Rusk County (2): one male, 12 February 2011 (TTU-M 141624); one male, 1 February 2010 (TTU-M 141625). Scurry County (4): one female, 3 June 2011 (TTU-M 141657); two males, 28 February 2013 (TTU-M 141658, TTU-M 141659); one male, 14 March 2013 (TTU-M 141660). Shackelford County (1): one male, 18 May 2011 (TTU-M 141661). Smith County (29): two males, 7 November 2009 (TTU-M 141647, TTU-M 141654); one male, 14 November 2009 (TTU-M 141628); one male, 25 November 2009 (TTU-M 141638); one female, 1 January 2010 (TTU-M 141634); one male, 1 January 2010 (TTU-M 141639); one male, 7 January 2010 (TTU-M 141636); one male, 16 January 2010 (TTU-M 141645); one female, 27 January 2010 (TTU-M 141627); one male, 2 February 2010 (TTU-M 141633); one female, 12 February 2010 (TTU-M 141643); one female, 26 March 2010 (TTU-M 141626); two females, 31 March 2010 (TTU-M 141637, TTU-M 141650); two males, 13 April 2010 (TTU-M 141646, TTU-M 141648); one female (TTU-M 141652); one female, 12 October 2010 (TTU-M 141653); one male, 8 November 2010 (TTU-M 141632); one male, 14 January 2011 (TTU-M 141630); one male, 22 January 2011 (TTU-M 141649); one female, 26 January 2011 (TTU-M 141635); one

male, 9 February 2011 (TTU-M 141631); four males, 16 February 2011 (TTU-M 141629, TTU-M 141640, TTU-M 141642, TTU-M 141651); one female, 17 February 2011 (TTU-M 141644); one female, 22 February 2011 (TTU-M 141641). Somervell County (2): one female, 17 June 2011 (TTU-M 141662); one male, 22 January 2013 (TTU-M 141663). Titus County (1): one female, 3 April 2011 (TTU-M 141706). Trinity County (1): one female, 6 March 2012 (TTU-M 142139). Van Zandt County (1): one male, 23 March 2011 (TTU-M 142147). Washington County (1): one female, 14 January 2010 (TTU-M 142151). Willacy County (2): one male, 5 March 2013 (TTU-M 142233); one male, 11 February 2011 (TTU-M 142234). Young County (1): one male, 6 April 2011 (TTU-M 142431).

Family Vespertilionidae

Eptesicus fuscus (Palisot de Beauvois, 1796)

Big Brown Bat

Largely absent from the Edwards Plateau and the South Texas Plain, there are two subspecies of Big Brown Bat in Texas, *E. f. pallidus* in the Trans-Pecos and *E. f. fuscus* in the Texas Panhandle and eastern portions of the state (Schmidly and Bradley 2016). The specimen collected was *E. f. fuscus* based on collection location. The site of collection was surrounded by rangeland and agricultural fields, and this record corroborates southward extensions of this species (Halsey et al. 2018).

Specimens examined (1).—Fisher County (1): one male, culvert ceiling of U.S. 180, east of Roby, 5 April 2017 (32°44.8632'N, 100°21.8946'W; TTU-M 150302).

Myotis velifer (J. A. Allen, 1890)

Cave Myotis

The distribution of the Cave Myotis in Texas extends to the Rolling Plains and High Plains in the panhandle, the Trans-Pecos, the South Texas Plains, and much of the Edwards Plateau. There are two subspecies of Cave Myotis that occur in the state, *M. v. magnamolaris* in the northern portion of the distribution in Texas and *M. v. incautus* in the southern portion (Schmidly and Bradley 2016). Herein, this species was reported from five new counties in South Texas: Brooks, Duval, Jim Hogg, McMullen, and Starr. All records occur within the expected range of the Cave

Myotis and all individuals are considered *M. v. incautus*. New counties are all part of the South Texas Plains ecoregion and these five records occurred in mesquite shrubland. Most individuals collected from these sites were found in swallow nests constructed on culvert walls or underneath bridges.

Specimens examined (5).—Brooks County (1): one adult male, TX FM 285, 26 July 2017 (27°15.7998'N, 98°20.9466'W; TTU-M 145922). Duval County (1): one male, TX HWY 16, 26 July 2017 (27°28.6626'N, 98°40.113'W; TTU-M 145942). Jim Hogg County (1): one adult male, TX FM 649, 26 July 2017 (26°49.4604'N, 98°51.6198'W; TTU-M 150304). McMullen County (1): one adult male, TX HWY 72, east of Tilden, 26 July 2017 (28°27.5634'N, 98°31.9776'W; TTU-M 146057). Starr County (1): one adult male, TX FM 649, 25 July 2017 (26°38.745'N, 98°52.1802'W; TTU-M 150305).

***Myotis yumanensis* (H. Allen, 1864)**

Yuma Myotis

The Yuma Myotis in Texas occurs throughout the Trans-Pecos with a disjunct record in Tarrant County (Schmidly and Bradley 2016). The collection site of this new record was riparian habitat surrounded by shrubland, and this is the first record of the species from the Texas Panhandle. The adult male was collected from the Canadian River valley where it was roosting in a drain hole under a bridge on I-40. The record occurs within the Rolling Plains ecoregion.

This species has been recorded from nearby counties of New Mexico, including Union (Findley et al. 1975) and Harding (Geluso 2002). The Yuma Myotis is known to be migratory, but its migratory patterns are generally unknown. Summer roosts generally include caves, mines, buildings, and bridges, but it is not known where bats roost during winter (Braun et al. 2015). Braun et al. (2015) predict that the species should occur in the western portion of the Texas Panhandle as documented by this record.

Specimens examined (1).—Oldham County (1): one male, I-40, 19 June 2019 (35°12.541'N, 102°55.466'W; TTU-M 150306).

ORDER CARNIVORA

Family Canidae

***Urocyon cinereoargenteus* (Schreber, 1775)**

Common Gray Fox

The Common Gray Fox is found throughout Texas (Schmidly and Bradley 2016). This record occurs within the known distribution of the species in the state. The specimen was a road-killed specimen salvaged from a surrounding area of scrubland. Upton County is part of the Edwards Plateau ecoregion.

Specimens examined (1).—Upton County (1): unknown sex, U.S. Highway 67, 22 June 2019 (31°14.0052'N, 101°52.215'W; TTU-M 150309).

***Vulpes vulpes* (Linnaeus, 1758)**

Red Fox

The Red Fox was introduced to eastern and central Texas in the late nineteenth century and is now distributed across most of the state, except for far western and southern regions (Schmidly and Bradley 2016). This salvaged individual was within the western edge of the expected range of the species. The location is within the High Plains ecoregion of Texas.

Specimens examined (1).—Randall County (1): unknown sex, 9.5 km NNW of courthouse in Canyon, Texas, 6 April 2020 (TTU-M 151418).

Family Mephitidae

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

Striped Skunk

The Striped Skunk is distributed across nearly all of Texas. *Mephitis m. mesomelus* occurs in eastern Texas and *M. m. varians* occurs in the western portion of the state (Schmidly and Bradley 2016). This record is within the expected range of the species. A skull was salvaged from an individual of unknown sex from an area surrounded by rural buildings and agricultural fields. Lynn County is part of the High Plains ecoregion and the specimen is considered *M. m. varians*.

Specimens examined (1).—Lynn County (1): unknown sex, southbound U.S. 87 near O'Donnell, 22 March 2018 (32°58.4941'N, 101°50.0102'W; TTU-M 150303).

Family Mustelidae
Taxidea taxus (Schreber, 1777)
 American Badger

The American Badger is distributed throughout western Texas and eastward to Cherokee and Lamar counties (Schmidly and Bradley 2016). The surrounding area primarily was an agricultural field and the locality of collection is within the expected range of the species. Terry County is part of the High Plains ecoregion.

Specimens examined (1).—Terry County (1): skull of adult female, U.S. Highway 82, 26 October 2019 (33°20.9616'N, 102°11.9664'W; TTU-M 151416).

Family Ursidae
Ursus americanus Pallas, 1790
 American Black Bear

On 7 August 2020, a road-killed American Black Bear was salvaged by Texas Parks and Wildlife Department (TPWD) personnel in Scurry County. It is possible that this individual was not part of the natural black bear population in Texas. It may have been an escaped pet, a captured and released individual, or a “dumped” individual. Given the small size of the individual (~13 kg), it likely was not yet weaned though stomach contents could not be examined. TPWD personnel noted that it recently had been hit by an automobile.

Another, more likely possibility is that this is a legitimate record of the natural distribution of American Black Bears in Texas. There are three possible extant populations from which this individual could have dispersed: 1) Crockett, Schleicher, or Menard Counties some 200 km to the south; 2) Dallam County approximately 450 km to the northwest (Schmidly and Bradley 2016); or 3) Cloudcroft, New Mexico approximately 400 km to the west. Although the closest breeding population occurs in Terrell County (400 km to the south), confirmed bear sightings have been reported to TPWD personnel recently from Glasscock, Reagan, and Sterling Counties between 2009 and 2019 (145 km, 190 km, and 120 km from Scurry County, respectively). When combined with an unofficial bear sighting from a game camera in Menard County (250 km from Scurry County), this suggests that the bear population in the Southeast Permian Basin is increasing due to dispersal

events from the Trans-Pecos and western Edwards Plateau. Additionally, American Black Bears reportedly have dispersed large distances into West Texas (200 km from Raton, NM to Dalhart, TX) and the Trans-Pecos (at least 130 km from southern NM to Kent, TX).

Specimens examined (1).—Scurry County (1): one juvenile male, 24 km north of Snyder, 12.8 km east of Fluvana, westbound U.S. Highway 84, 7 August 2020 (32°5.575'N, 101°1.4233'W; TTU-M 151419).

ORDER RODENTIA
 Family Cricetidae
Baiomys taylori (Thomas, 1887)
 Northern Pygmy Mouse

Distribution of the Northern Pygmy Mouse extends across much of Texas, excluding the Trans-Pecos and the extreme northeastern parts of the state (Schmidly and Bradley 2016). Specimens of the Northern Pygmy Mouse herein are reported from two new counties: Crockett and Kimble. Both records are within the expected range of the species and both counties are part of the Edwards Plateau ecoregion. The record from Crockett County was collected from a culvert in rangeland habitat, whereas the Kimble County record comes from mesquite-wooded area near the South Llano River. The Kimble County record is of interest as trapping efforts have been continuously conducted at the site since the 1970s without a capture. This indicates a recent invasion to Kimble County.

Specimens examined (2).—Crockett County (1): adult of unknown sex, U.S. Highway 349, 5 August 2019 (31°03.3552'N, 102°00.4374'W; TTU-M 150298). Kimble County (1): one adult female, Texas Tech University Center near Junction, 24 May 2018 (TTU-M 143079).

Neotoma micropus (Baird 1855)
 Southern Plains Woodrat

The Southern Plains Woodrat is found across the western two-thirds of Texas (Schmidly and Bradley 2016). This specimen was collected from the Edwards Plateau ecoregion on the Mason Mountain Wildlife Management Area (WMA). The new county record falls within the expected distribution of the species.

Specimens examined (1).—Mason County (1): one female, Mason Mountain WMA, 25 May 2015 (30°79.592'N, 99°13.056'W; TTU-M 143632).

***Peromyscus gossypinus* (Le Conte, 1853)**

Cotton Deermouse

The Cotton Deermouse is found in the eastern one-fourth of the state (Schmidly and Bradley 2016). These specimens represent a westward extension of the geographic range in Texas. This could be indicative of the species expanding westward where habitat is favorable. Both individuals were collected from the edge of agricultural fields. Collection sites occur within the Blackland Prairie ecoregion.

Specimens examined (2).—Collin County (2): one adult male, 5.17 km north of Celina on Texas Highway 289, 20 January 2018 (33°22.224'N, 96°46.719'W; TTU-M 143779); one adult female, 5.42 km north of Celina on Texas Highway 289, 12 April 2017 (33°22.271'N, 96°46.084'W; TTU-M 143780).

***Peromyscus leucopus* (Rafinesque, 1818)**

White-footed Deermouse

The White-footed Deermouse is distributed across the entire state, except for the northeastern coastal bend (Schmidly and Bradley 2016). This record is within the expected range of the species.

Specimens examined (2).—Parker County (2): adult male, Fort Wolters, 21 September 2018 (32°50.8308'N, 98°02.2014'W; TTU-M 150307); adult female, Fort Wolters, 21 September 2018 (32°51.2472'N, 98°02.9232'W; TTU-M 150310).

Family Erethizontidae

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

North American Porcupine

Two subspecies of the North American Porcupine are found in the Texas Panhandle. *Erethizon dorsatum epixanthum* occupies the northwestern edge of the Texas Panhandle, whereas *E. d. bruneri* occupies the rest of the Texas Panhandle (Schmidly and Bradley 2016). A third subspecies, *E. d. couesi*, is distributed throughout the Trans-Pecos region through much of central and southern Texas to Van Zandt County (Schmidly and Bradley 2016). The salvaged individual is within the expected range of the species. As this record is within

Crosby County, the individual is expected to be *E. d. couesi*. This site was surrounded by native mesquite grasslands.

Specimens examined (1).—Crosby County (1): salvaged quills and skull from individual of unknown sex, 7.2 km east of Crosbyton, 16 July 2020 (TTU-M 151417).

Family Geomyidae

***Geomys bursarius* (Shaw, 1800)**

Plains Pocket Gopher

The Plains Pocket Gopher is distributed across northwestern and north-central Texas (Schmidly and Bradley 2016). All individuals were collected from Johnson County near Joshua, Texas which is in the Cross Timbers ecoregion. These records are within the expected range of the species.

Specimens examined (23).—Johnson County (23): eight females, 3.7 km southeast of Alvarado on west I-35, 2 January 2009 (32°22.616'N, 97°12.249'W; FHSM 40515, FHSM 40516, FHSM 40517, FHSM 40518, FHSM 40519, FHSM 40520, FHSM 40521, FHSM 40522); unknown sex, 3.7 km southeast of Alvarado on west I-35, 2 January 2009 (FHSM 40535); two females, Joshua High School in Joshua, 31 January 2009 (32°27.025'N, 97°23.025'W; FHSM 40528, FHSM 40529); unknown sex, Joshua High School in Joshua, 31 January 2009 (32°27.025'N, 97°23.025'W; FHSM 40527); four adult males, Joshua High School in Joshua, 3 August 2010 (32°27.033'N, 97°23.025'W; TTU-M 119976, TTU-M 119977, TTU-M 119978, TTU-M 119980); one subadult female, Joshua High School in Joshua, 3 August 2010 (32°27.033'N, 97°23.025'W; TTU-M 119979); one adult male, Henderson Street in Joshua, 3 August 2010 (32°27.032'N, 97°22.770'W; TTU-M 119981); one subadult male, Joshua High School in Joshua, 28 June 2015 (32°26.948'N, 97°22.992'W; TTU-M 135131); one adult male, Joshua High School in Joshua, 28 June 2015 (32°26.948'N, 97°22.992'W; TTU-M 135132); two adult females, 1.05 km southeast of Joshua on Texas Highway 175, 4 August 2017 (32°27.218'N, 97°22.978'W; TTU-M 143461, TTU-M 143463); one adult male, 1.05 km southeast of Joshua on Texas Highway 175, 4 August 2017 (32°27.218'N, 97°22.978'W; TTU-M 143462).

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LITERATURE CITED

- Bradley, R. D., L. K. Ammerman, R. J. Baker, L. C. Bradley, J. A. Cook, R. C. Dowler, C. Jones, D. J. Schmidly, F. B. Stangl Jr., R. A. Van Den Bussche, and B. Würsig. 2014a. Revised checklist of North American mammals north of Mexico, 2014. Occasional Papers, Museum of Texas Tech University 327:1–27.
- Bradley, R. D., L. C. Bradley, H. J. Garner, and R. J. Baker. 2014b. Assessing the value of natural history collections and addressing issues regarding long-term growth and care. *BioScience* 64:1150–1158.
- Braun, J. K., B. Yang, S. B. González-Pérez, and M. A. Mares. 2015. *Myotis yumanensis* (Chiroptera: Vespertilionidae). *Mammalian Species* 47:1–14.
- Cryan, P. M. 2003. Seasonal distribution of migratory tree bats (*Lasiurus* and *Lasionycteris*) in North America. *Journal of Mammalogy* 84:579–593.
- Demere, K. D., M. B. Meierhofer, M. L. Morrison, B. L. Pierce, J. M. Szewczak, J. W. Evans, and L. K. Ammerman. 2017. Noteworthy records for six species of bats from 13 Texas counties and the first voucher specimens from sites with *Pseudogymnoascus destructans*. Occasional Papers, Museum of Texas Tech University 351:1–10.
- Ferguson, A. W. 2020. On the role of (and threat to) natural history museums in mammal conservation: an African small mammal perspective. *Journal of Vertebrate Biology* 69:1–23.
- Findley, J. S., A. H. Harris, D. E. Wilson, and C. Jones. 1975. *Mammals of New Mexico*. University of New Mexico Press, Albuquerque. 360 pp.
- Garcia, C. J., J. Q. Francis, C. Rios-Blanco, J. D. Stuhler, G. D. Langlois, E. R. Bohlender, M. A. Madden, C. D. Dunn, R. D. Bradley, R. D. Stevens. 2016. New distributional records of mammals in Texas. Occasional Papers, Museum of Texas Tech University. 343:1–6.
- Geluso, K. 2002. Records of mammals from Harding County, New Mexico. *The Southwestern Naturalist* 47:325–329.
- Hall, R. E. 1981. *The Mammals of North America*, 2nd ed., John Wiley & Sons, New York.
- Halsey, M. K., J. D. Stuhler, M. A. Madden, E. R. Bohlender, S. C. Brothers, A. N. Kildow, S. C. de la Piedra, C. J. Garcia, D. S. Camp, C. Ros-Blanco, and R. D. Stevens. 2018. New distributional records of mammals in Texas: Orders Chiroptera, Carnivora, and Rodentia. Occasional Papers, Museum of Texas Tech University 354:1–6.
- Krejsa, D. M., S. K. Decker, and L. K. Ammerman. 2020. Noteworthy Records of 14 Bat Species in Texas including the first records of *Leptonycteris yerbabuena* and the second record of *Myotis occultus*. Occasional Papers, Museum of Texas Tech University 368:1–10.
- Schmidly, D. J. and R. D. Bradley. 2016. *The mammals of Texas*, 7th ed. University of Texas Press, Austin.
- Sikes, R. S., and the Animal Care and Use Committee of the American Society of Mammalogists. 2016. Guidelines of the American Society of Mammalogists for the use of wild mammals in research and education. *Journal of Mammalogy* 97:663–688.
- Wilson, D. E., and D. M. Reeder (eds.). 2005. *Mammal species of the world. A taxonomic and geographic reference*, 3rd ed. John Hopkins University Press, Baltimore, Maryland. 2,142 pp.

Addresses of authors:

MACY A. KRISHNAMOORTHY

*Department of Biological Sciences and Department of
Natural Resources Management
Texas Tech University
Lubbock, TX 79409-3131 USA
macy.krishnamoorthy@ttu.edu*

CARLOS J. GARCIA

*Department of Natural Resources Management
Texas Tech University
Lubbock, TX 79409-2125 USA
carlos.j.garcia@ttu.edu*

EMMA E. GUEST

*Department of Biology
Texas State University
San Marcos, TX 78666 USA
eeg89@txstate.edu*

MICHAELA K. HALSEY

*Department of Biological Sciences and Department of
Natural Resources Management
Texas Tech University
Lubbock, TX 79409-3131 USA
michaela.halsey@ttu.edu*

JULIE A. PARLOS

*Department of Biological Sciences
Texas Tech University at Waco, a Higher Education Site
Waco, TX 76708 USA
julie.parlos@ttu.edu*

TAYLOR J. SONIAT

*Department of Biological Sciences
Texas Tech University
Lubbock, TX 79409-2125 USA
taylor.soniata@ttu.edu*

JOHN D. STUHLER

*Department of Natural Resources Management
Texas Tech University
Lubbock, TX 79409-2125 USA
john.stuhler@ttu.edu*

ERIN E. STUKENHOLTZ

*Department of Natural Resources Management
Texas Tech University
Lubbock, TX 79409-2125 USA
erin.stukenholtz@ttu.edu*

SARAH C. VRLA

*Department of Biological Sciences and Department of
Natural Resources Management
Texas Tech University
Lubbock, TX 79409-3131 USA
sarah.vrla@ttu.edu*

BRETT ANDERSEN

*Department of Natural Resources Management
Texas Tech University
Lubbock, TX 79409-3131 USA
brett.andersen@ttu.edu*

JENNA R. GRIMSHAW

*Department of Biological Sciences
Texas Tech University
Lubbock, TX 79409-3131 USA
jenna.grimshaw@ttu.edu*

LARAMIE L. LINDSEY

*Department of Veterinary and Biomedical Sciences
University of Minnesota
Saint Paul, MN 55108 USA
linds758@umn.edu*

RUSSELL MARTIN

*Texas Parks and Wildlife Department
Canyon, TX 79015 USA
russell.martin@tpwd.texas.gov*

LTC RICHARD M. PITTS

*Department of Biological Sciences
Texas Tech University
Lubbock, TX 79409-2125 USA
richard.pitts@sbcglobal.net*

CRISTINA RIOS-BLANCO

*Department of Natural Resources Management
Texas Tech University
Lubbock, TX 79409-2125 USA
cristina.rios-blanco@ttu.edu*

CARL F. RICKERT

*Department of Natural Resources Management
Texas Tech University
Lubbock, TX 79409-2125 USA
RickertRanchWMC@gmail.com*

HOLLY G. WILSON

*Department of Natural Resources Management
Texas Tech University
Lubbock, TX 79409-2125 USA
holly.wilson@ttu.edu*

ROBERT D. BRADLEY

*Department of Biological Sciences and Natural Science
Research Laboratory
Museum of Texas Tech University
Lubbock, TX 79409-3131 USA
robert.bradley@ttu.edu*

RICHARD D. STEVENS

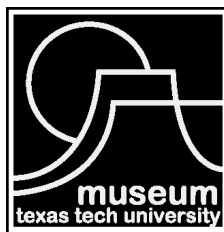
*Department of Natural Resources Management and
Natural Science Research Laboratory, Museum of
Texas Tech University
Lubbock, TX 79409-3131 USA
richard.stevens@ttu.edu*

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