



# OCCASIONAL PAPERS

Museum of Texas Tech University

Number 342

18 October 2016

## NOTEWORTHY RECORDS OF SHREWS FROM THE PANHANDLE OF TEXAS

EMILY A. WRIGHT, EMMA K. BROOKOVER, BRANDON A. GROSS, JAMES Q. FRANCIS, AND ROBERT D. BRADLEY

### ABSTRACT

A small mammal survey was conducted from 18 to 20 July 2016 in Dallam County, Texas. During the survey, several owl pellets were obtained from a Barn Owl (*Tyto alba*) roosting site. Dental characteristics revealed that the owl pellets contained multiple individuals of small mammals represented by two species of Soricomorpha (*Notiosorex crawfordi* and *Cryptotis parva*) and four species of Rodentia (*Dipodomys ordii*, *Perognathus merrami*, *Peromyscus leucopus*, and *Sigmodon hispidus*). The specimens of *Notiosorex* and *Cryptotis* represent the first records of these species in Dallam County and extend the distribution of both species to the extreme northwestern portion of the state.

Key words: *Cryptotis*, Dallam County, *Notiosorex*, shrew, small mammals, Soricomorpha

### INTRODUCTION

During a small mammal survey conducted from 18 to 20 July 2016 at the Rita Blanca National Grassland, Dallam County, Texas, seven Barn Owls (*Tyto alba*) were observed roosting in a grove of Elm trees (*Ulmus americana*). Twelve regurgitated owl pellets were collected and examined for the presence of small mammal skulls and lower jaw fragments. Examination of the pellets revealed the presence of two species of Soricomorpha (*Notiosorex crawfordi* and *Cryptotis parva*) and four species of Rodentia (*Dipodomys ordii*, *Perognathus merrami*, *Peromyscus leucopus*, and *Sigmodon hispidus*). Based on distributional records presented in Schmidly and Bradley (2016), the specimens of *N. crawfordi* and *C. parva* represent the first records of these species for Dallam County.

The use of owl pellets to document the presence or absence of small mammal species can be controversial. When owl pellets are examined, it is often dif-

ficult to ascertain whether the material recovered was captured in situ by the Barn Owls or if the material was captured by a Barn Owl at a more distant site and then regurgitated at the sampled site. Although this cannot be directly determined for the specimens reported on in this study, anecdotal data would support that the shrew specimens discussed herein are representative of resident fauna. First, the owl population discussed herein was present each of the three nights that the field crew was present at the Thompson Grove Campground. Second, based on the high number of owl pellets present at the sample site, the Barn Owl population appears to be representative of a permanent population. Third, given the large number of Barn Owls roosting in such a small area, it is possible this was a local family unit which would indicate a permanent resident population. Therefore, we are confident that the owl pellets examined in this study were the product of the Barn Owl population collecting small mammals at the sample site.

## MATERIALS AND METHODS

The study site included portions of the Rita Blanca National Grassland (specifically the Thompson Grove Campground) located in the extreme northwestern portion of Texas. This region is part of the Southern High Plains and is characterized by short to mid-height grasses in the rolling prairie (United States Forest Service 2006). Twelve Barn Owl pellets were dissected and nine shrew skulls, 11 shrew lower jaws, and numerous rodent skulls and lower jaws were col-

lected. Skulls were identified to species following keys presented in Schmidly and Bradley (2016). Voucher specimens were prepared as standard skull preparations and deposited in the Natural Science Research Laboratory at the Museum of Texas Tech University. Specimens were assigned a museum catalogue number (TTU). Specific localities for all specimens collected were recorded as Universal Transverse Mercator (UTM: 13S-693049-4032082) coordinates.

## RESULTS AND DISCUSSION

ORDER SORICOMORPHA  
Family Soricidae  
*Cryptotis parva* (Say 1823)  
Least Shrew

Six Least Shrew skulls were collected on 19 July 2016 (TTU 128473–128478) from the Rita Blanca National Grassland (Thompson Grove Campground) in Dallam County (UTM: 13S-693049-4032082). Surrounding habitat included short grass prairies and occasional groves of elm trees near former homestead and windmill sites. In Texas, this species is relatively widespread throughout the eastern, southern and northwestern portions of the state, but is rare in the central and west-central parts (Schmidly and Bradley 2016). These specimens represent the first record of *C. parva* in Dallam County and extend the range of this species to the extreme northwestern portion of the state.

*Notiosorex crawfordi* (Coues 1877)  
Desert Shrew

Three Desert Shrew skulls were collected on 19 July 2016 (TTU 128470–128472) from the Rita Blanca National Grassland (Thompson Grove Campground) in Dallam County (UTM: 13S-693049-4032082). Sample site and surrounding habitat is similar to the description mentioned above. The Desert Shrew occurs in the western two-thirds of the state, including portions of north-central and southern Texas (Schmidly and Bradley 2016). Dallam County is within the expected range of *N. crawfordi* and this record represents an extension of the species in the northwestern region of the state.

## ACKNOWLEDGMENTS

We would like to thank Kristen Linner of the Rita Blanca National Grassland for permission to collect on their properties. Thanks to Dr. Ron Chesser and the Department of Biological Sciences at Texas Tech

University for use of vehicles to travel to field sites. Thanks also to Heath Garner at the Natural Science Research Laboratory, Museum of Texas Tech University, for assistance with cataloguing specimens.

LITERATURE CITED

Schmidly, D. J., and R. D. Bradley. 2016. The Mammals of Texas. University of Texas Press, Austin, Texas.

Texas, Oklahoma, and New Mexico. United States Department of Agriculture.

United States Forest Service. 2006. Kiowa and Rita Blanca National Grasslands: America's Great Outdoors.

*Addresses of authors:*

**EMILY A. WRIGHT**

*Department of Biological Sciences  
Texas Tech University  
Lubbock, TX 79409-3131 USA  
emily.a.wright@ttu.edu*

**JAMES Q. FRANCIS**

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

**EMMA K. BROOKOVER**

*Department of Biological Sciences  
Texas Tech University  
Lubbock, TX 79409-3131 USA  
emma.k.roberts@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*

**BRANDON A. GROSS**

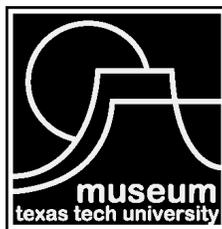
*Department of Biological Sciences  
Texas Tech University  
Lubbock, TX 79409-3131 USA  
IUCN/SSC/Crocodile Specialist Group  
brandon.gross@ttu.edu*

## **PUBLICATIONS OF THE MUSEUM OF TEXAS TECH UNIVERSITY**

This publication is available free of charge in PDF format from the website of the Natural Science Research Laboratory, Museum of Texas Tech University ([nsrl.ttu.edu](http://nsrl.ttu.edu)). The authors and the Museum of Texas Tech University hereby grant permission to interested parties to download or print this publication for personal or educational (not for profit) use. Re-publication of any part of this paper in other works is not permitted without prior written permission of the Museum of Texas Tech University.

Institutional subscriptions to Occasional Papers are available through the Museum of Texas Tech University, attn: NSRL Publications Secretary, Box 43191, Lubbock, TX 79409-3191. Individuals may also purchase separate numbers of the Occasional Papers directly from the Museum of Texas Tech University.

Series Editor: Robert D. Bradley  
Production Editor: Lisa Bradley



**ISSN 0149-175X**

*Museum of Texas Tech University, Lubbock, TX 79409-3191*