

CURRICULUM VITAE

James Q. Francis

jfrancis@rangercollege.edu

Vertebrate conservation, ecology, genetics, and population dynamics. Understanding impacts of natural and anthropomorphic activities on wild populations and biodiversity loss.

EDUCATION:

M.S., Zoology, Department of Biological Sciences- Texas Tech University (August 2018)

B.S., Biology: Ecology and Environmental Biology, Department of Biological Sciences-Texas Tech University (August 2015)

PROFESSIONAL EXPERIENCE:

Associate Professor of Biology – Ranger College: Provided instruction of undergraduate courses to students in the classroom and laboratory. Performed leadership duties with students and faculty, including community involvement. Updated curricula and lesson plans for primary instructors, researched developments in relevant fields, and updated materials to reflect the most recent data. Courses Taught: Biology I and II, Microbiology, and Environmental Biology. (Current Position).

Instructor and Research Associate- Tarleton State University: Responsible for the instruction of undergraduate students in the Department of Biological Sciences. Increase student interaction by developing engaging activities while following safety protocols. Worked in maintaining the department's amphibian, fish, and botanical specimens. Oversaw undergraduate research work in both the lab and field. Assigned additional courses based on performance review. (2020-2021)

Educator and Naturalist Guide- Fossil Rim Wildlife Center: Promoted education on ecology, natural resources, wildlife biology, and environmental concerns to visitors of all ages through captivating presentations, elaborate exhibits, and hands-on workshops. Maintained and cared for the ambassador animals. Planned activities like nature hikes to educate children and adults about issues facing local habitats. Coordinated volunteer activities, schedules, and citizen science projects. Worked to create educational material to ensure up-to-date science was discussed. Assisted in fundraising events and public outreach. Earned a merit raise based on performance review. (2018-2020)

Graduate Research Assistant-Department of Biological Science- Texas Tech University: Gained experience in a Vertebrate Molecular Systematics Research Laboratory. Performed DNA

and RNA extractions, DNA isolation, PCR amplification, gel electrophoresis, and next-generation sequencing analyses.

Extensive time spent in the field, collecting and handling vertebrates, preparing specimens, recording data, identifying local flora and fauna, setting up and reviewing camera traps, and overseeing and educating undergraduate students in the field. Includes work surveying populations of endangered species for Texas Parks and Wildlife. (2015-2018)

Teaching Assistant-Department of Biological Sciences-Texas Tech University: Responsible for instruction and teaching of undergraduate and graduate students. Courses Taught:

- Biology of Animals Laboratory Section (Fall 2015 and Summer 2016)
- Field Mammalogy (Summer 2016 and Summer 2017)
- Mammalogy Laboratory Section (Summer I 2016, Fall 2016, and Fall 2017)
- Natural History of Vertebrates Laboratory Section (Spring 2016, Spring 2017, and Spring 2018)
- Non-Majors Biology Laboratory Section (Fall 2015, Spring 2016, and Summer 2016)
- Undergraduate Research in Biology: (Fall 2015, Spring 2016, Fall 2016, Spring 2017, Fall 2017, and Spring 2018)

Natural Science Research Laboratory Student Employee- I worked on collecting, preparing, cataloging, and cleaning vertebrate museum specimens. Additional duties include collecting and recording data of museum specimens, ethanol preservation, and handling, frozen tissue preservation, presentations to the public regarding Natural History collections, relocation of fluid-preserved vertebrate specimens, and relocation of mounted exhibit specimens. (2014-2015, Summer 2016-2017)

Undergraduate Research Assistant-Department of Biological Sciences-Texas Tech University: Gained experience in DNA isolation, PCR amplification, DNA sequencing, data analysis, and exposure to MrBayes and Mrmodeltest software. (2013-2015)

PUBLICATIONS:

2015

Roberts, Emma K., Howard Crenshaw, Christopher D. Dunn, James Q. Francis, William L. Hood II, Megan S. Keith, Laramie L. Lindsey, Sarah F. Mangum, Nicté Ordóñez-Garza, Roy N. Platt II, and Robert D. Bradley. 2015. A Record of *Microtus ochrogaster* from the Llano Estacado and Other Distributional Records of Mammals from Texas. Occasional Papers, Museum of Texas Tech University, 329:1-7.

2016

James Q. Francis and Richard M. Pitts. 2016. Tunnel Co-Habitation by Plains Pocket Gophers (*Geomys bursarius*) and Eastern Moles (*Scalopus aquaticus*). Texas Journal of Science. 68:75-77.

Carlos J. Garcia, James Q. Francis, Cristina Rios-Blanco, John D. Stuhler, Garret D. Langlois, Erin E. Bohlender, Macy A. Madden, Christopher D. Dunn, Robert D. Bradley, and Richard D. Stevens. 2016. New Distributional Records of Mammals in Texas. Occasional Papers, Museum of Texas Tech, 343: 1-8.

Emily A. Wright, Emma K. Brookover, Brandon A. Gross, James Q. Francis, and Robert D. Bradley. 2016. Noteworthy Records of Shrews from the Panhandle of Texas. Occasional Papers, Museum of Texas Tech, 342: 1-3.

2018

Robert D. Bradley, James Q. Francis, Roy N. Platt II, Taylor J. Soniat, Daysi Alvarez, and Laramie L. Lindsey. 2018. Mitochondrial DNA Sequence Data Indicate Evidence for Multiple Species Within *Peromyscus maniculatus*. Special Publications Museum of Texas Tech University 70: 1-68.

In addition to published manuscripts, I have been asked to edit and review documents for the Special Publications and Occasional Papers, Museum of Texas Tech University Series. I was asked to contribute and edit/review the Seventh Edition of The Mammals of Texas, with chapters on Artiodactyla, Carnivora, Cingulata, Domestic Animals, Rodentia, and Glossary.

PRESENTATIONS:

James Q. Francis The Wolves of Yellowstone: A review of the ecological effects of the return of the wolf (*Canis lupus*) to Yellowstone National Park and surrounding areas. Texas Tech University Undergraduate Research Conference. 2014. (Oral Presentation, Regional Meeting).

James Q. Francis, Emma K. Roberts, Erica Gomez, Sheri Ayers, and Robert D. Bradley. Molecular Systematics of *Geomys* based on two nuclear and two mitochondrial genes. 33rd Annual Meeting of the Texas Society of Mammalogists. 2015. (Poster Presentation, Regional Meeting).

James Q. Francis, Emma K. Roberts, Erica Gomez, Sheri Ayers, and Robert D. Bradley. Molecular Systematics of *Geomys* based on two nuclear and two mitochondrial genes. 6th Texas Tech Annual Biological Science Symposium Meeting. 2015. (Oral Presentation, Regional Meeting).

James Q. Francis, Emma K. Roberts, Erica Gomez, Sheri Ayers, and Robert D. Bradley. Molecular Systematics of *Geomys* based on two nuclear and two mitochondrial genes. 95th Annual American Society of Mammologist Meeting. 2015. (Poster Presentation, International Meeting).

James Q. Francis. Proposal to resolve the Phylogeographic and Phylogenetic variation present in *Peromyscus maniculatus* using molecular systematics and next-generation sequencing. 34th Annual Meeting of the Texas Society of Mammalogists. 2016. (Poster Presentation, Regional Meeting).

James Q. Francis, Marilyn Mathew, Dayana P. Bolzan, Julie A. Parlos, and Robert J. Baker. Genetics of Bats of the Genus *Monophyllus*. 34th Annual Meeting of the Texas Society of Mammalogists. 2016. (Poster Presentation, Regional Meeting).

James Q. Francis. Conservation Genomics and the State of Endangered Species Research. Texas Tech Genomics Workshop. 2016. (Oral Presentation, Regional Meeting)

James Q. Francis. Proposal to resolve the Phylogeographic and Phylogenetic variation present in *Peromyscus maniculatus* using molecular systematics and next-generation sequencing. 7th Texas Tech Annual Biological Science Symposium Meeting. 2016. (Oral Presentation, Regional Meeting).

James Q. Francis, Marilyn Mathew, Dayana P. Bolzan, Julie A. Parlos, and Robert J. Baker. Genetics of Bats of the Genus *Monophyllus*. 7th Texas Tech Annual Biological Science Symposium Meeting. 2016. (Poster Presentation, Regional Meeting).

James Q. Francis. Proposal to resolve the Phylogeographic and Phylogenetic variation present in *Peromyscus maniculatus* using molecular systematics and next-generation sequencing. Evolution 2016. (Oral Presentation, International Meeting)

James Q. Francis. Improving methods for the capture and study of mesocarnivores in an urban setting. 35th Annual Meeting of the Texas Society of Mammalogists. 2017. (Oral Presentation, Regional Meeting).

James Q. Francis Phylogenetics can conflict with traditional classifications: A case study in Crocodylia. 8th Texas Tech Annual Biological Science Symposium Meeting. 2017. (Oral Presentation, Regional Meeting).

James Q. Francis. Genetic evidence for multiple cryptic species within *Peromyscus maniculatus*. 36th Annual Meeting of the Texas Society of Mammalogists. 2018. (Oral Presentation, Regional Meeting).

James Q. Francis. Understanding the ecology of endangered passerines on a wildlife preserve. Fossil Rim Education and Research Meeting. 2019.

AWARDS AND HONORS:

3rd Place Oral Presentation in the Category of Evolution - 8th Texas Tech Annual Biological Sciences Symposium. 2017.

Recipient of the 2017 Texas Tech University Association of Biologists Grants in Aids Award. 2017. \$700 for one year.

1st Place Mammal Identification Competition – 35th Annual Meeting of the Texas Society of Mammalogists. 2017.

Poster judge at the 35th Annual Texas Society of Mammalogists meetings in 2017.

Finalist for the Ernst Mayr Award for Oral Presentation-Evolution. 2016.

Travel Award – Graduate Level. Texas Tech University Association of Biologists. 2016.

1st Place Oral Presentation in the Category of Graduate Proposals- 7th Texas Tech Annual Biological Sciences Symposium. 2016. (Regional Meeting)

2nd Place Poster Presentation in the Category of Graduate Proposals – 34th Annual Meeting of the Texas Society of Mammalogists. 2016. (Regional Meeting)

Recipient of the "J. Knox Jones, Jr. Memorial Endowed Scholarship" for excellence in graduate research. 2016. \$1,000 for one year.

2nd Place Oral Presentation in the Category of Undergraduate - 6th Texas Tech Annual Biological Sciences Symposium.

Dean's List Texas Tech University.

PROFESSIONAL MEMBERSHIPS:

American Society of Ornithologists (2018-2019)

American Society of Mammalogists (2014-2018) (Student Member)

Museum Heritage Student Association – Texas Tech Chapter (2015-2018)

National Society of Collegiate Scholars (2010-Present)

Society for the Study of Evolution (2016-2019)

Texas Academy of Sciences (2016-2018)

Texas Society of Mammalogists (2014-2018)

Texas Tech Association of Biologists (2014-2018)

VOLUNTEER EXPERIENCE

Safe Havens Mapping project for animals and children of domestic violence survivors

International Rhino Foundation

Citizen Science Birdwatching – Audubon Texas

Earth Day Austin

Fort Worth Zoo – High School Careers Camp, Keeper Shadowing, Outreach Animal and Education Volunteer

Representative and Volunteer – Erath County Economic Development Council

Yellowstone Wolf Project – Postgraduate field volunteer

