A YEAR OF GIFTS

The Angelo State Natural History Collections has received three separate gifts of remarkable specimens from various donors. These gifts include new additions to our Herbarium and our Mammalogy and Herpetology collections.

The Herbarium was proud to receive a set of specimens from the University of Missouri (UMO) Dunn-Palmer Herbarium’s collections. The majority of this collection was moved to the Missouri Botanical Garden in St. Louis, Mo., but a portion was sent to the ASNHC. These specimens were collected through the efforts of Dr. David Baxter Dunn, former curator at UMO. His work for the UCLA Atomic Energy Project on test sites in New Mexico made him one of the leading experts on the effects of radioactive fallout on plant succession and community structure. A noted expert on the genus Lupinus (lupines and bluebonnets), he collected widely in Mexico, Central America, and the western and southwestern U.S. The Dunn-Palmer Herbarium was partly named in his honor in 1985. This new collection represents 29 families, 53 genera and 62 species.

These specimens were mounted by our teen volunteer, Alexandria Kemp, a junior from San Angelo Christian Academy. Former Collections Manager Marcy Revelez worked closely with Kemp on this project.

"She did a fantastic job!" Revelez said. "It isn’t common to have someone so young handling specimens, but she was very meticulous and patient."

"It was exciting to work with plants and learn how to mount specimens," Kemp said. "I am interested in botany, and this helped me understand the importance of collections."

The Mammalogy Collection was honored to receive a collection from Dr. Arthur G. Cleveland. Cleveland was an active mammalogist in Texas for many years and also was responsible for helping found the Texas Society of Mammalogists. The collection, comprising nearly 200 specimens, contains material from Cleveland’s expeditions to China, where he studied both rodent and bat distributions.

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ROBERT C. DOWLER

Bob Dowler arrived at ASU as our new curator of mammals in 1988. He replaced Mark Engstrom and has held the position now for 28 years.

A native of Ashtabula, Ohio, Dowler grew up as a young naturalist in the eastern deciduous forest. He received a B.S. from The Ohio State University in 1974 and then began his extensive travels across the U.S. and the world. After earning his M.S. in museum science from Texas Tech University in 1976, he took a position as associate curator of mammals at Fort Hays State University in Kansas from 1976-78. He then moved on to Texas A&M University, where he received his Ph.D. in wildlife science in 1982.

Dowler's first faculty position was at Fordham University in New York. While at Fordham, he was also an associate of the Bronx Zoo, and two of his Ph.D. students did their research at the zoo.

Angelo State University was his next stop as a faculty member. At ASU, Dowler’s research interests have been broad,

DISTINGUISHED ALUMNUS: DARIN CARROLL

ASU alumnus Darin Carroll’s career with the U.S. Centers for Disease Control and Prevention (CDC) has taken him around the globe investigating outbreaks of some of the world’s deadliest diseases.

Now, though, he spends much more time indoors as director of the CDC’s Environment, Safety and Health Compliance Office. In that capacity, he is responsible for insuring the health and safety of employees and visitors at all U.S. and international CDC facilities, as well as for preparing CDC staff to work in hazardous locations.

Carroll credits his time at ASU earning bachelor’s and master’s degrees in biology for setting him on the right path.

During his 13 years in the field, Carroll investigated outbreaks of various deadly diseases in Africa, Central Asia, and North and South America. He has spoken at numerous scientific conferences and authored or co-authored more than 70 publications. He was even a consultant for the Hollywood movie I Am Legend.

In recognition of his career achievements, the ASU Alumni Association named Carroll a 2016 Distinguished Alumnus.

Carroll’s wife, Serena, also works at the CDC in the National Center for Emerging Zoonotic Diseases.

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Last summer, 11 ASU biology students experienced the tropics first hand. Drs. Mike Dixon and Robert Dowler, accompanied by Dr. Loren Ammerman, led the group through a diversity of ecosystems, spending about 20 days in Costa Rica and 10 in Nicaragua. Students shivered in cloud forest and got rained on in wet forest, waded through forest streams and walked barefoot on Caribbean and Pacific beaches.

Students identified over 200 bird species, including several parrot species and many hummingbirds. Bat netting resulted in over 30 species, including fishing bats, vampire bats and carnivorous greater spear-nosed bats. With the help of the non-governmental organization La Fundación Amigos del Río San Juan in Nicaragua, we were able to collect a few mammal specimens from the area around Laguna Apoyo. In addition to the museum skins and skeletons, we also were able to collect tissues and blood samples for ongoing disease studies with the Centers for Disease Control and Prevention in Atlanta.

Study abroad experience has helped many former students to decide on a career in biology, and we anticipate several new graduate students to emerge from this year’s participants.
SPOTTED SKUNK RESEARCH CONTINUES

Graduate research assistants Clint Perkins and Alexandra Shaffer have been busy, along with Dr. Robert Dowler and volunteers, doing a field survey for plains spotted skunks (Spilogale putorius interrupta) in eastern Texas. Over the past year and a half they have surveyed 10 counties for populations of this species. They are interested in any sightings of spotted skunks, including road-killed animals. Please contact them with photos or information at skunk.project@angelo.edu. Observations can also be recorded using iNaturalist groups: Eastern Spotted Skunks (www.inaturalist.org/projects/eastern-spotted-skunk). If a specimen is salvageable for genetic samples, please call Dowler at 325-486-6639 or Perkins at 318-623-1678.

enshrining systematics, ecology, biogeography, behavior and natural history. Over the course of 28 years at ASU, his dominant research interests have been mammalogical surveys of Mexico, studies of the endemic rodents of the Galapagos Islands, and the natural history and behavior of skunk species in Texas.

Since his arrival, his teaching and research have been recognized with multiple awards, including the Packard Outstanding Educator Award from the Southwestern Association of Naturalists in 2003, the Texas Tech University System Chancellor’s Council Distinguished Research Award in 2011, and the Joseph Grinnell Award for Excellence in Education from the American Society of Mammalogists in 2015.

As our curator of mammals, he has built the Collection of Mammals from approximately 5,000 specimens in 1988 to almost 18,000 today and has shepherded it through two National Science Foundation grant awards. While most of the specimens come from Texas and elsewhere in the U.S., there are important contributions from Mexico, Guyana and the Galapagos Islands.

The Angelo State Natural History Collections program in mammalogy is firmly established and will continue to be the legacy of Robert C. Dowler.

AROUND THE COLLECTIONS: OPEN HOUSE

In November 2015, the ASNHC hosted its annual Open House event where members of the public are invited to tour our collections and attend a brief lecture by a member of the curatorial staff. This time, nearly 200 individuals were on hand to hear Dr. Mike Dixon, curator of the Herpetological Collection, deliver an informative lecture on aspects of frog and toad reproduction. Focusing on reproductive patterns and behaviors not presented in typical elementary school textbooks, Dixon’s presentation set the stage for ASU undergraduate and graduate students to introduce visitors to other oddities of plant and animal reproduction.

At a series of interpretative tables, ASU undergraduate and graduate students answered questions while visitors examined specimens and learned about aspects of bird, mammal, plant and reptile reproduction. Following the interpretative session, visitors were invited to tour the collections, and curators and student assistants stayed late into the night to discuss the purpose and value of natural history collections, explain interesting aspects of natural history, and answer questions from children and adults alike.
Marcia (Marcy) Revelez is on her way up. Her ASU history began as first an undergraduate and then a master’s graduate student when she was initially trained in collections work by Robert Dowler. She returned to the ASNHC as collection manager in May 2013, and now she has moved to Atlanta, Georgia, where she has assumed the position of manager of the biorepository collection of the Centers for Disease Control and Prevention. This high-profile position is gaining a consummate professional in Marcy. In her position at ASU, Marcy managed the collections of frozen tissues, plants, amphibians and reptiles, birds and mammals. Among her additional responsibilities was coordination of both the Science Days program for elementary children across the 11-county Concho Valley and the large NSF grant for collections modernization. Everything she touched benefited from her attention to professionalism. Her bright smile and dedication to the ASNHC will be missed. Bon voyage, Marcy.

The ASNHC is proud to unveil its new logo. This new branding positions the ASNHC for the future. It is modern and features the ASU blue theme while utilizing color and vibrancy seen in our natural world. The new logo also reflects the diversity of the collections and pays tribute to the artwork done by Curator Emeritus Dr. Terry Maxwell in our original logo. The ASNHC has worked closely with ASU’s Office of Communications and Marketing to create the logo, and we would like to thank Leonor Constancio and Gabrielle Miller for all of their hard work.

The ASNHC is proud to announce a new internship program targeted toward ASU undergraduate students who are interested in learning more about the collections. This course-credited program allows students to learn about collections management, digitization and best practices, as well as current challenges facing natural history collections. In the fall of 2015, the program’s first internships focused on best practices with ornithology collections and integrated pest management. Interns traveled to Albuquerque, N.M., to tour the Museum of Southwestern Biology and Maxwell Museum of Anthropology at the University of New Mexico, as well as the Albuquerque Museum of Natural History and Science and the Albuquerque BioPark. The goal was to expose the interns to a diversity of natural history and cultural collections.
PUBLICATIONS AND ARTICLES


PRESENTATIONS


Shaffer, Alex A. and Loren K. Ammerman. 2016. A molecular diet analysis of the western bonneted bat (*Eumops perotis*) from southwest Texas. *American Society of Mammalogists, Minneapolis, MN (poster).*

Tipton, Craig D. and Loren K. Ammerman. 2016. Occurrence of Eptesipox virus in Big Brown bats (*Eptesicus fuscus*). *Texas Society of Mammalogists, Junction, TX, and Southwestern Association of Naturalists, México City, México (posters).*


FACULTY GRANTS


STUDENT GRANTS

Sydney Decker. First Year Research Experience (FYRE) Grant — Phylogeography of Northern Yellow Bats using mitochondrial DNA sequence. Faculty mentor — Loren K. Ammerman

Trilby King — Undergraduate Faculty Mentored Research Grant — Pollination and Reproductive Biology of the Irion County Buckwheat (*Eriogonum nealleyi*). Faculty mentor — Bonnie Amos

Craig Tipton — Undergraduate Faculty Mentored Research Grant — Screening for Prevalence of DNA Viruses in Texas Bats. Faculty mentor — Loren K. Ammerman

Jeromhia Aly — Undergraduate Faculty Mentored Research Grant — Seasonal prevalence of house sparrow (*Passer domesticus*) haemoparasites. Faculty mentor — Ben R. Skipper

GRADUATE STUDENT FELLOWSHIPS

Griffin Chodacki — Graduate Student Research Fellowship — Foraging habitat partitioning of three sympatric kingfishers along the South Llano River, Texas. Faculty mentor — Ben R. Skipper
The following students received Department of Biology Head of the River Ranch (HORB) Student Research Grants ($1,000 each) or Student Travel Grants ($1,500 each) in 2015—2016:

Katie Kuzdak — Molecular approach to predator-prey relationships of Pocketed Free-tailed (Nyctinomops femorosaccus) and Mexican Free-tailed (Tadarida brasiliensis) bats in the Chihuahuan Desert.

Cítlally Jiménez — Identifying and characterizing roosts of southern and northern yellow bats (Lasius ega and Lasius intermedius).

AWARDS


Krysta Demere — William B. Davis Award for her oral presentation at Texas Society of Mammalogists in Junction, Texas. 2016. (A molecular diet analysis of Parastrellus hesperus).

GRADUATE STUDENTS & THESES TOPICS

Erin R. Adams
Advisor, Dr. Loren Ammerman
Nightly and seasonal activity of Mexican long-nosed bats in Big Bend National Park, TX. (Graduated, Fall 2015)

Lindsay Anglin
Advisor, Dr. Ben Skipper
Comparative nest-site selection of Western Kingbirds and Scissor-tailed flycatchers in west-central Texas.

Griffin Chodacki
Advisor, Dr. Ben Skipper
Partitioning of foraging habitat by three kingfisher species (Family Ceryllidae) along the South Llano River, Texas.

Krysta D. Demere
Advisor, Dr. Loren Ammerman
Molecular diet analysis of reproductive female American parastrelles, Parastrellus hesperus (Vespertilionidae). (Graduated, May 2016)

Megan Dory
Advisor, Dr. Robert Dowler
Analysis of pesticide impact on spotted skunk populations from historical museum specimens.

Zachary Ellsworth
Advisor, Dr. Robert Dowler
Evaluating the reproductive habits and breeding season of the hog-nosed skunk (Conepatus leuconotus). (Graduated, May 2016)

Larry Gilbert
Advisor, Dr. Nicholas Negovetich
Parasites of Gambusia affinis (Cyprinodontiformes: Poeciliidae) from the Red Arroyo in west-central Texas.

Bryce Hubbell
Advisor, Dr. Nicholas Negovetich
Ectoparasites of Fish from two rivers in the Ikowraka and Surama forests of Guyana, South America.

Malorri Hughes
Advisor, Dr. Robert Dowler
Prevalence and intensity of the sinus roundworms, genus Skrjabingylus, in rabies-negative skunks. (Graduated, May 2016)

P. Cítlally Jiménez
Advisor, Dr. Loren Ammerman
Identifying and characterizing roosts of Southern and Northern Yellow Bats (Lasius ega and Lasius intermedius). (Graduated, May 2016)

Mary Jones
Advisor, Dr. Ned Strenth
A dietary analysis of the microwhip scorpion (Arachnida: Palpigradi) from Val Verde County, Texas.

Katie Kuzdak
Advisor, Dr. Loren Ammerman
Effect of drought conditions on the diets of insectivorous bat species: a molecular diet study.

Lauren Langley
Advisor, Dr. Bonnie Amos
Pollination ecology of the endangered Tobusch Fishhook Cactus (Sclerocactus brevihamatus spp. tobuschii) in the Edwards Plateau Region of West-Central Texas. (Graduated, December 2015).

Kaitlynn Lebrasseur
Advisor, Dr. Robert Dowler
Endoparasite comparisons among Texas pocket gopher species (genus Geomys).

Michael Lucero
Advisor, Dr. Ned Strenth
Life history of the Southern Plains Crayfish, Procambarus simulans, (Crustacea: Decapoda) in west central Texas.

Tim Maddox
Advisor, Dr. Ned Strenth
Analysis of Chrysina woodii (Coleoptera: Scarabaeeidae) populations in the Davis Mountains of West Texas.

Stephanie Martinez
Advisors, Dr. Loren Ammerman and Dr. Robert Dowler
Urban roost use by Tadarida brasiliensis in a highway overpass. (Graduated, Fall 2015)

J. Clint Perkins
Advisor, Dr. Robert Dowler
Distribution and status of eastern spotted skunks in Texas.

Kelly Persinger
Advisor, Dr. Ben Skipper
Winter movements of urban Great-tailed Grackles.

Alexandra Shaffer
Advisors, Dr. Robert Dowler and Dr. Loren Ammerman
Using microsatellite markers to assess gene flow of the eastern spotted skunk (Spilogale putorius) in Texas.

Kalin Skinner
Advisor, Dr. Nicholas Negovetich
Survey of Chagas Disease among mammalian reservoir hosts in west-central Texas.

Dustin Tarrant
Advisors, Dr. Bonnie Amos and Dr. Ben Skipper
Population estimation and development of a survey protocol for Tobusch Fishhook Cactus (Sclerocactus brevihamatus spp. tobuschii).

Gizelle Vasquez
Advisor, Dr. Nicholas Negovetich
Monogenean identification in Gambusia affinis. (Graduated, May 2016)
continued from page 1 “A Year of Gifts”

The collection includes four orders, 19 families and approximately 100 species. Two exciting additions are specimens of spotted bat, a rare species of western North America, and bamboo rat, a rodent from Southeast Asia.

Our Herpetology Collection received a donation made by ASU alumnus Jason Strickland. As an undergraduate, Strickland was active in the Beta Beta Beta biological honor society and the Honors Program. He continued his ASU education as a graduate student, completing his thesis research on genetic variation in cottonmouth water moccasins. Today, he is a Ph.D. candidate at the University of Central Florida. His research on venom evolution has taken him all over the southern U.S. and Mexico, and the ASNHC is pleased that he has chosen to deposit his vouchers here. His donation, comprising nearly 100 specimens, represents 24 species of reptiles and amphibians, including six species of rattlesnake known to occur in the Trans-Pecos Region of Texas.

Continuous donations are made to the Herpetology Collection by local herpetologist Richard Brown from the Edwards Plateau and southern regions of Texas. He also made a special trip to Arizona and worked with the Arizona Game & Fish Department to bring back salvaged specimens of the Gila monster, a venomous lizard native to the southwestern U.S. and northern Mexico.

NSF GRANT WRAPS UP

With the support of the National Science Foundation over the past three years, the ASNHC has transformed from a collection with no public access to a highly visible collection where scientists and the general public may access our holdings via online data portals, such as VertNet, GBIF and iDigBio. This project has increased opportunities for the ASNHC to interact with the scientific community, especially diversity-based botanists and zoologists.

A total of 36 students (25 undergraduate and 11 graduate students) were trained and worked on grant activities over the course of the project. They received valuable training on Responsible Conduct of Research and then were trained for specific tasks, such as installation of new cases, integrated pest management, data entry, georeferencing, specimen preparation and digital imaging. This project supported the important effort of training future biodiversity scientists and having them actively participate in developing global biodiversity resources.

Another outcome of this project is that over 57,000 Herbarium sheets were digitized and many are linked to Herbarium records that can be retrieved from the online database. Numerous queries are already coming in to the online databases. In the last year, our collections experienced 2,502 searches via VertNet, resulting in 106,636 mammal, 34,695 reptile and amphibian, and 3,435 bird records downloaded.

Lastly, we have modernized storage and updated integrated pest management systems. These improvements to the collections make the specimens safe for long-term storage, ensuring the availability of these valuable resources for both educational and scientific purposes.

THANK YOU

The ASNHC staff would especially like to thank the many individuals who donated to the ASNHC over the last year. Their contributions to the endowment have helped us get closer to our goal.

Mr. and Mrs. Maurice A. Archer
Mackenzie D. Darling
Michael T. Dixon
Robert and Paula Dowler
Louis J. Fohn
Mr. and Mrs. Steve Mayer
Joseph A. Veech
Mr. and Mrs. Walter Willis

WE ARE CLOSE

HELP US REACH $100,000 IN THE ASU NATURAL HISTORY ENDOWMENT

For over 17 years, the ASU Natural History Endowment has been growing with the help of many donors to reach its current level of just over $77,000. All interest on the endowment funds has been put back into the principal since its beginning in 1998. Our strategy has been to grow the endowment to $100,000 before beginning to use interest generated to fund special projects for the ASNHC, student and faculty research, and expansion of our museum program. Please help push us to our goal of $100,000, or if you know of potential donors who we could contact, please let us know. You can give online at angelo.edu/giving by specifying the ASU Natural History Endowment, or you can contact the ASU Office of Development directly at 325-942-2116.

BY THE NUMBERS

Herbarium.....................58,800
Tissues.......................23,000
Mammalogy..................17,962
Herpetology.................15,015
Ornithology..................2,553