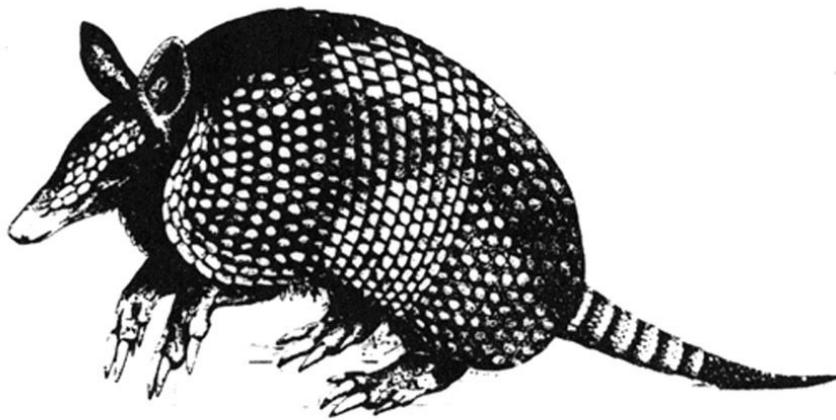


Texas Society of Mammalogists



Newsletter

2008

The 26th Annual Meeting

Note from the editor

I don't recall exactly when I attended my first TSM meeting, though it was sometime in the mid '90s. One thing I remember from that first meeting was the essays of Rollin Baker in the TSM newsletter. As a budding mammalogist, I was 'raised' on Rollin's essays. He always had a unique perspective on the natural world, and I know his writings helped to shape my own view of biology. After I accepted the role of editor of this newsletter a few years ago, the essays started rolling in from Rollin. He usually submitted at least half a dozen each year and I published most of them in each subsequent newsletter. I learned of Rollin's battle with cancer when I received a brief email message from him on September 11, 2007 with the subject line "some news": "I've been sparring of late with cancer. So far, I'm holding my own. In fact, I may get back to some degree of normalcy". Rollin passed away a month and a day later. The following essays are the last that I received from him. He'll be missed. -RP

Essays by Rollin H. Baker

WHO DID WHAT, HOW, AND WHEN?

Comment by Rollin H. Baker
March 2007

No mammalogist wishes to either repeat unnecessarily what others have done or compete knowingly with a colleague engaged a similar research project. And it's tough with a multitude of outlets [=scientific journals] and of researchers to determine exactly what has been already done or now being done by whom.

Thus mammalogists have considerable spadework to do in conducting research. Professionals in other fields may be more fortunate. For example, as demonstrated by TV dramas, well-heeled attorneys can afford to pay private investigators to gather critical evidence and locate key witnesses. They also hire law clerks to search for precedent-containing cases and write briefs. This will help win settlements or free clients accused of wrong-doing. This may also be somewhat true among biomedical researchers. When the Navy once stationed me at the Rockefeller Institution for Medical Research, I became impressed with the array of talented technicians (culture mixers, blood-letters, microscope viewers, test tube cleaners, animal tenders, etc.) that each prominent scientist had in his laboratory in order to help him carry out his investigations.

Less well off mammalogists have to personally delve as aforementioned in literature search, acquire field data by camping in unsanitary and remote mammalian habitats, bathe irregularly, combat mosquitoes, neglect scouring the coffee pot regularly, set out traps and nets, collect and assay specimens and their innards. Often they must do computations, write speeches, and do first drafts of their papers. But maybe it's not always desirable to sit in easy chairs and think up projects and coach others to do the necessary data gathering. I once published on the mammals of the Alcan Highway with friend Ray Alcorn doing the fieldwork. I was involved in a few other such projects, but I never felt comfortable about those tasks, since I didn't do most or all of the data-gathering work myself.

Then as noted above there are instances in which more than two workers unknowingly conduct basally the same study. I was caught in such a bind a time or two. In 1949, I studied Oklahoma pocket gophers only to find out later that another mammalogist was doing a similar investigation as a doctoral research project. Likewise in 1955, both myself (with a graduate student) and two other co-authoring workers with similar interests, unbeknownst to one another, published descriptions of new *Myotis* bats. After subsequent revisions, these two named bats became judged as belonging to the same species, with my name having priority owing to an earlier publication date [only 18 days]. Such unfortunate circumstances may cause

bruised feelings. So it is important that we strive to keep up with the literature and to maintain up-to-date communications with others.

STRUGGLING TO COPE WITH LAND-USE CHANGES

Comment by Rollin H. Baker
September 2007

When I was a wildlife manager it was my aim to determine what environmental factor was limiting game population growth. Gad! If I could only find it, and could eliminate it, I might end up with a tree entirely full of gray squirrels in no time.

I helped work this scheme well in the case of bobwhite quail on the Texas Coastal Prairie. In summer quail raised just about everywhere but departed in winter from areas lacking woodlot cover. So we created suitable winter covey territories by hauling brush out on this coverless prairie and constructing artificial shelters. We also half-cut scattered huisache trees so that they would live in a prone position and make ideal winter quarters. And it worked! In this case winter cover was the limiting factor. We provided it, than thus expanded our quail per acre population.

For added proof, go take a look at those mature habitats for quail, pheasant, cottontail, small mammals, etc. established when the SCS (Soil Conservation Service) built miles of shelterbelts in the formerly rather bleak Great Plains in the 1930s. Those manipulations enhanced the environment's carrying capacity for organisms that needed only a minimum amount of woody cover in order to survive.

Today, small mammals that are adapted to live in such patchy woody cover find it wanting owing to clearing along fencerows of pastures and cultivated fields. Are some of these mammals losing out when this preferred living space is at a bare minimum or gone?

Luckily, there is some of this environment being preserved in fenced esplanades on either side and in between lanes of Interstate Highways. Preserved grassy areas also provide living spaces for cotton rats and harvest mice.

Nevertheless, human land use practices continue to alter more and more of our small mammal habitat. Who knows but some day we may have to look at ways to manage habitat for non-game species just to keep them around.

MINIMUM REQUIREMENTS

Comment by Rollin H. Baker
September 2007

When Justin Liebig established his "Law of the Minimum," he was gazing out into the real world – totally disregarding the human factor that may or may not been considered as troublesome in his time.

I agree that for every Texas mammal there are naturally-selected and environmentally-restricting limits to its population growth and distribution. Each of our mammal's existence is controlled not by an array of necessary environmental life factors but just those that exist in nature in minimal amounts. And finding out what these are is difficult.

And the characteristics of these so-called minimal habitat factors may be changing. Why? This is simply because of the widespread manipulations by humans of our natural environments. What may have been a limiting factor for a small mammal at the time of Berlandier about 1850 or Vernon Bailey about 1900 may not be one today.

For example, in the old days roosting cavities from Brazilian free-tailed bats in eastern Texas were mostly in rather scarce tree holes. Today, I would guess that these bats are much more abundant since openings in assorted buildings and human habitations have added immensely to roosting sites, presumably upping minimal factors.

Also, population growth of the white-tailed deer in years past was limited in the extensive old growth forests in eastern Texas. After being clear-cut, subsequent ground-level second growth, stimulated by frequent fires, produced abundant deer forage. Thus, the herd size could greatly increase once the hunter kill was regulated.

Okay, we can say that the environmental changes being wrought by the human intrusion in the past 150 years have probably upset the naturally-derived “minimums” of many of our mammals.

Have, for example, populations of gray squirrels, eastern spotted skunks, thirteen-lined ground squirrels, long-tailed weasels, and eastern harvest mice had their minimum survival factors minimized even more by the human encroachment? Perhaps some human influence minimized survival factors of the prairie vole now extinct in the southeast in Hardin County but has tended to maximize them where this vole is now suddenly appearing in Panhandle counties.

We don't know.

Abilene Christian University

Department of Biology, Box 27868, Abilene Christian University,
Abilene, Texas 79699

Tom Lee

Phone: 325-674-2574

Fax: 325-674-2009

Email: leet@acu.edu

Research Interests, Projects, and Grants:

I am working on the mammals of Ecuador. This past summer we studied mammals of the temperate forests of Volcan Sumaco. This project was funded by ACU math/Science grants and CraRuth Energy Corp.

Graduate Students and Their Research: I am working with Robert Baker's student Raquel Marchan and she is helping with the Mammals of Volcan Sumaco (see paper at TSM). I am working with Brandi Coyner of OSU on *Perognathus*.

Undergraduate Students and Their Research: Steven Roussos--Mammals of Volcan Sumaco.

Additional Information: I have a project with Joel Brant on the mammals of Taylor, Callahan and Jones Counties. Joel and I are also studying the systematics of *Chaetodipus nelsoni*.

Angelo State University

Department of Biology, Angelo State University, San Angelo, TX 76909

Loren K. Ammerman

Phone: 325-942-2175 ext. 243

Email: loren.ammerman@angelo.edu

Web page URL: <http://www.angelo.edu/dept/biology/faculty/lorenkammerman.html>

Research Interests, Projects, and Grants:

I am interested in using molecular data to reconstruct evolutionary relationships of organisms and to investigate species boundaries. Projects on bonneted bats (*Eumops*) and *Myotis* species are currently underway. I am also interested in community structure and the ecology of bats, especially in Big Bend National Park and the Lower Canyons of the Rio Grande.

Funding recently has been obtained for phylogenetic study of the family Molossidae.

Graduate Students and Their Research:

Carson Brown - Genetic population structure of a migratory bat, *Leptonycteris nivalis*: Implications for the conservation of an endangered species. MS student and Carr Research Scholar.

Richard Dolman – Molecular systematics of *Nyctinomops*. MS student

Adam Ferguson – Molecular assessment of a community of African shrews (Soricimorpha: Crocidurinae) from west-central Africa. Carr Research Scholar

Gema Guerra - Genetic variability in the western spotted skunk, *Spilogale gracilis*. MS student and Carr Research Student, co-advised with Robert Dowler.

Dana Lee – Taxonomic status of the Davis Mountain's cottontail, *Sylvilagus robustus*, revealed by amplified fragment length polymorphism.

Molly McDonough – Nuclear and mitochondrial genetic structure within *Eumops glaucinus* and *Eumops floridanus*. MS student, recently graduated.

Undergraduate Students and Their Research:

Beverly Clark – Phylogenetic position of *Eumops bonariensis* within the genus *Eumops* based on cytochrome b sequences.

Cody Webb – Echolocation call library for Texas bats

Robert C. Dowler

Phone: 325-942-2175 x239

Fax: 325-942-2184

Email: robert.dowler@angelo.edu

Web page address: <http://www.angelo.edu/dept/biology/faculty/robertdowler.html>

Research Interests, Projects, and Grants:

My current research in Texas includes a Survey of the Mammals, Amphibians, and Reptiles of Camp Bowie with Dr. Mike Dixon. This project is funded through the Texas Army National Guard. I am also working with Adam Ferguson on a project to assess the status of spotted skunks (*Spilogale*), hooded skunks (*Mephitis macroura*) hog-nosed skunks, long-tailed weasels (*Mustela frenata*), and badgers (*Taxidea taxus*) in Texas. We are requesting help in salvaging specimens of these species throughout Texas and plan to use GIS approaches for identifying habitat associations and ecological niche modeling to establish likely patterns of distribution for these species in Texas. We have begun driving a 100-mile route twice a month to monitor roadkill mortality of skunks as a measure of relative abundance and seasonal patterns. My international research continues in the Galapagos Islands, with plans to establish captive breeding groups of selected native rodents as a safeguard against extinction, in collaboration with the Brookfield Zoo in Chicago.

Graduate Students and Their Research:

I currently have three graduate students. Gema Guerra, whose thesis committee I am co-chairing with Loren Ammerman, will be finishing her phylogenetic analysis of cytochrome b variation in the western spotted skunk, *Spilogale gracilis*. Ben Frogge has begun work on denning ecology of ringtails (*Bassariscus astutus*). Andrew Tiedt will also be working on ringtails, conducting research on habitat associations and competition with other medium-sized carnivores.

Undergraduate Students and Their Research:

I have several undergraduate students beginning research studies. Nick Kincaid is assessing morphometric variation across the Texas populations of the eastern and western spotted skunks, *Spilogale putorius* and *S. gracilis*. Robbie Heischman will be looking at seasonal variation in food habits of ringtails, and Jason Strickland has been conducting a survey of the mammals of Gaines Co. in western Texas. Cody Webb will also be working with Loren Ammerman and me in the coming year to establish an Anabat call library for bats of Texas.

Baylor University

Dept. of Biology, One Bear Place #97388, Waco, TX 76798-7388

Kenneth T. Wilkins

Phone: office: 254 710-2126; lab 254 710-2151

Fax: 254 710-3870

Email: ken_wilkins@baylor.edu

Research Interests, Projects, and Grants:

Our projects generally relate to ecology and distribution of small mammals at the population and community levels. Recent funding is from the Nature Conservancy of Texas, Texas Parks & Wildlife Department, American Museum of Natural History (Theodore Roosevelt Fund), and assorted private foundations.

Graduate Students and Their Research:

Anne Merchant graduated with the M.A. degree in Biology in May 2007! Several graduate students are continuing their studies: Brianna Kirchner is in the midst of field studies in her project examining impact of fire on small mammals in a native tallgrass prairie. She expects to graduate with the M.S. degree in Environmental Biology in August 2008. Doctoral student Tommy Pettit is looking forward to another

summer field season in the Rocky Mountains of Utah where he is studying the use of edge habitat by the forest-dwelling bat community. Nick Green is in his second year of doctoral studies and is settling on a dissertation topic related to small-mammal landscape ecology. Anica Debelica (from Belgrade, Yugoslavia, and a graduate of Angelo State University and Sam Houston State University) and Han Li (from Beijing, PRC) began their doctoral studies with us last fall semester. They are in the process of identifying dissertation topics. Anica likely will study ecology of forest-dwelling bats. Han is interested in urban ecology of small mammals.

Undergraduate Students and Their Research:

David Sergeant, a student in the undergraduate Honors Program, is assisting Brianna Kirchner in her project examining impact of fire on small mammals in a native tallgrass prairie. David's contribution is monitoring of vegetative cover and woody biomass and assessing the effects of prescribed burning on the plant community. David expects to graduate with the B.S. degree in Biology in May. His plans are to go to pharmacy school.

Additional Information:

Publications from the lab this year include:

K.T. Wilkins & Heather R. Roberts. 2007. Comparative analysis of burrow systems of seven species of pocket gophers (Rodentia: Geomyidae). *The Southwestern Naturalist*, 52(1):83-88.

J.A. Scales & K.T. Wilkins. 2007. Seasonality and roost fidelity in the Mexican free-tailed bat, *Tadarida brasiliensis*, in an urban setting. *Western North American Naturalist*, 67(3):402-408.

California Baptist University

8432 Magnolia Avenue, Riverside, CA 92504

Art Cleveland

Dean of Research

Phone: 951-343-4492

Email: acleland@calbaptist.edu

Research Interests, Projects, and Grants:

Graduate Students and Their Research: Jennifer Jackson, who is completing her thesis on a Georgia DOT project on environmental factors influencing numbers and distribution of bats under bridges across Georgia

Additional Information:

Most of my time is spent in mentoring faculty in proposal preparation, liaison with granting agencies and federal funding of projects. Recently obtained a sizable appropriation from Congress for science and engineering equipment for the University.

Vicki and I are having a great time in California. I plan to initiate some effort to establish a state chapter of mammalogists in this diverse area this year. I miss my ability to exchange messages with my old friend Rollin Baker. Best wishes for a great meeting at Junction.

Centers for Disease Control and Prevention

Poxvirus Rabies Branch, Centers for Disease Control and Prevention, 1600 Clifton Rd, Bldg 18, MS-G6, Atlanta GA 30333

Darin S. Carroll

Phone: 404-639-1719

Email: dc Carroll@cdc.gov

Research Interests, Projects, and Grants: The Ecology and Evolution of mammal-borne Zoonoses

Serena A. Reeder

Special Pathogens Branch, Centers for Disease Control and Prevention, 1600 Clifton Road MS G-14, Atlanta, GA 30333

Phone: 404-639-1061

Fax: 404-639-1118

Email: sreeder@cdc.gov

Web page URL: www.cdc.gov/ncidod/dvrd/spb/index.htm

Research Interests, Projects, and Grants:

Research interests focus on examining the origin and evolution of viral pathogens as well as their associated mammalian hosts, how historical evolutionary processes have shaped current distributions of hosts and viruses, whether those processes overlap, and whether certain viral lineages are more virulent than others. Current projects include molecular ecology/epidemiology of Rift Valley Fever virus associated with a recent outbreak in Kenya; comparative genomics of viral hemorrhagic fever viruses; molecular evolution of hantaviruses; and an ecological investigation of potential reservoir species of Marburg hemorrhagic fever.

Chadron State College

Chris T. McAllister

Dept. of Physical and Life Sciences, Chadron, NE 69337

Phone: 308-432-6219

Fax: 308-432-6434

Email: cmcallister@csc.edu

Web page URL: www.csc.edu/biology/chris.htm

Research Interests, Projects, and Grants:

Herpetoparasitology; Helminth and coccidial parasites of small mammals, especially bats; Geographic distribution and ecology of millipeds and centipedes; Thermal physiology of cave/spring salamanders; Distribution and ecology of fishes in Arkansas.

Graduate Students and Their Research:

CSC does not have a graduate program in biology.

Undergraduate Students and Their Research:

Alex Villeda (lead student), Chris Lecher, and Kyle Charron-all working on the P3 project entitled, "*Sustainability of Natural Resources in the Chadron Creek Watershed.*" They are investigating, for the first time, the fishes of Chadron Creek, Dawes County, Nebraska.

Additional Information:

I continue to enjoy collaboration with others (including two other members of TSM) on projects, including Arkansas fish projects with Drs. Henry Robison (Southern Ark. Univ.) and Renn Tumblison (Henderson St. Univ.), milliped and centipede projects with Rowland Shelley (NC State Mus. Nat. Sci., Raleigh), bat projects with Robert Dowler and Loren Ammerman (ASU), amphibian and reptile projects with Stan Trauth (Ark. St. Univ.), and parasitology projects with Chuck Bursey (Penn. St.). A recent paper from my lab that may be of interest to TSM members: McAllister, C. T., C. R. Bursey, and R. C. Dowler. 2007. *Acanthatrium alicatai* Macy, 1940 (Trematoda: Lecithodendriidae) from two species of bats (Chiroptera: Vespertilionidae), in southwestern Texas, U.S.A. *Southwestern Naturalist* 52:597-600. Also of interest to members is that one of my future plans is to describe two new species of coccidia (Apicomplexa) from red bats in Arkansas, including a species named in honor of Robert Dowler and his numerous contributions to mammalogy. Other web page URL's that include my research or personal information include:

CNAH webpage bio: <http://www.naherpetology.org/detailDir.asp?PersonID=-965390566>

Ozark Hellbender researcher: <http://www.ozarkhellbender.com/personnel.htm>

Living myriapodologists: <http://www.nadiplochilo.com/myrialive.html>

Arkansas Academy of Science site: <http://www.arkansasacademyofscience.org/>

George Mason University

Department of Environmental Science and Policy, 4400 University Dr., MSN 5F2, Fairfax, VA 22030

Cody W. Edwards

Phone: (703) 993-1508

Fax: (703) 993-1066

Email: cedward7@gmu.edu

Research Interests, Projects, and Grants:

Research interests include systematics, molecular phylogenetics, conservation genetics, and evolution in vertebrates with special interests given to mammalian systems. Specifically: Ecology, evolution, and conservation of native rodents in the Galapagos Islands with special interest on the role of introduced species (e.g. *Rattus rattus*, *Rattus norvegicus*, and *Mus musculus*) in the decline and extinction of native rodents (collaboration with Dr. Robert C. Dowler, Angelo State University). Examination of hybrid zones between genetically distinct taxa; including isolating mechanisms and the dynamics of genetic introgression.

Applications of geometric morphometrics to studies of phylogeny and ontogeny of mammals. Growth and utilization of natural history collections, especially those pertaining to mammals. Natural history (surveys, etc.) and distributions of mammalian species. Currently, I am on sabbatical (August 2007 – August 2008) at The University of Texas, Austin working with Drs. David Hillis and David Cannatella.

Current Funding (2007):

“Population structure of carnivores at Quantico Marine Corps Base, Virginia”. Department of Defense.

“Carnivores of Prince William Forest Park: community structure, movement patterns, and conservation concerns”. National Park Service (U. S. Department of Interior).

Graduate Students and their Research:

Sonya Graves (M.S. student) --- Project TBD (will begin work in January 2008).

Tammy Henry (Ph.D. student) --- Molecular phylogenetics of the genus *Rattus*.

Sarah Johnson (Ph.D. student) --- Conservations Genetics, Evolution, and Conservation Strategies Involving Endemic Galapagos Rodents.

Laura Lakeman (Ph.D. student) --- Carnivores of Prince William Forest Park: community structure, movement patterns, and conservation concerns.

Katherine Bryant (M.S. student) --- Population genetics of Fox squirrels (*S. niger*) in Virginia. Kat defended her thesis in December (2007). Currently, she is a research associate at the Brookfield Zoo (Chicago).

Jeff Streicher (M.S. student) --- Genetic variation among members of the *Craugastor (Eleutherodactylus) podiciferus* species complex (Cerro Utyum robber frog). Jeff defended his thesis in May (2007). Currently, he is enrolled in a Ph.D. program at The University of Texas, Arlington.

McMurry University

Department of Biology, 1400 Sayles Blvd., Abilene, TX 79697

Joel G. Brant

Phone: (325) 793-3875

Fax: (325) 793-4770

Email: brant.joel@mcm.edu

Research Interests, Projects, and Grants:

My research interests are primarily concerned with the natural history of mammals, particularly in Texas and the Chihuahuan Desert. I am currently setting up a research program for myself and selected undergraduates that will focus on the natural history and ecology of mammals in the southern Rolling Plains, northern Edwards Plateau, and northeastern Chihuahuan Desert.

New Mexico State University

Department of Fishery and Wildlife Sciences, Department of Biology, P.O. Box 30003, Campus Box 4901,
Las Cruces, New Mexico 88003-8003

Jennifer K. Frey

Phone: 505-646-3395
Fax: 505-646-1281
Email: jfrey@nmsu.edu

Research Interests, Projects, and Grants:

Mammals of Padre Island National Seashore: funded by National Park Service, morphologic variation in the gray-footed chipmunk (*Tamias canipes*), changes in small mammal communities in Chihuahuan Desert grasslands, banner-tailed kangaroo rat (*Dipodomys spectabilis*) spatially-explicit metapopulation model: funded by International Arid Lands Consortium and T&E Inc., and sky island biogeography in American Southwest

Graduate Students and Their Research:

Gerrad Jones: Mammals of Padre Island National Seashore, community structure of small mammals in coastal prairie, and small-island biogeography in the Laguna Madre

Alfred Montoya: Morphologic variation in the gray-footed chipmunk (*Tamias canipes*)

Martin Moses (co-advised with Dr. Gary Roemer): Banner-tailed kangaroo rat (*Dipodomys spectabilis*) spatially-explicit metapopulation model

Purdue University

Center for the Environment and the Department of Forestry and Natural Resources, 503 Northwestern
Avenue, West Lafayette, IN 47907-2966

John W. Bickham

Phone: 765-494-5146
Fax: 765-496-1369
Email: bickham@purdue.edu
Web page URL: www.purdue.edu/dp/environment/

Research Interests, Projects, and Grants:

Phylogeography, population genetics, systematics, ecotoxicology. Currently my lab is involved in genetic analysis of Steller's sea lion. We are utilizing multiple mitochondrial gene sequences and microsatellites to survey rookeries throughout their range. We are conducting a range-wide morphometric analysis of Steller's sea lion skulls to determine if there is morphological differences that correlate with previously described genetic differences in their range.

Another project in my lab is conducting genetic analysis of bowhead whales, *Balaena mysticetus*. This project involves examining stock structure within populations of bowheads to provide management advice

for the International Whaling Commission. In addition, we are examining the genetic relationship of extant bowhead whale populations using microsatellites and multiple mitochondrial genes. For both the Steller's sea lion and bowhead whales, we are developing primers to utilize high-throughput genomic technologies to characterize sex chromosomes throughout the range of each species.

Graduate Students and Their Research:

Caleb Phillips (phillip6@purdue.edu): Population genetics, systematics, molecular evolution, phylogeography, and conservation of Steller's Sea Lion, *Eumetopias jubatus*.

Geof Laban (glaban@purdue.edu): Ecotoxicological effects of nanoparticles in fish

Brian Rinner (rinner@purdue.edu): Population genetic analysis of mosquito fish in relation to ecotoxicological contaminants in Azerbaijan

Undergraduate Students and Their Research:

Kendra Duhon: Evolution of autosomal loci in *Artibeus* as shown by allele specific sequencing of CHD and MPI loci.

Post-docs and Research Scientists:

John Patton (jcpatton@purdue.edu): Evolutionary processes using mtDNA, X- and Y-chromosome loci as contrasted to autosomal loci. This design allows the determination of the contribution of males and females, respectively, in the evolutionary history of a species. Autosomal loci involved include those under selection (MHC and likely Toll genes) as well as loci thought to primarily evolve in a near neutral manner. Current primary emphasis is description of patterns of reticulate evolution in mammals utilizing these genetic tools.

Ryan Huebinger (rhuebing@purdue.edu): Bowhead whale population genetic analysis and development of high throughput genomic technologies for characterization of sex chromosomes in bowhead whales.

Tarleton State University

Department of Biological Sciences, Tarleton State University, Stephenville, TX 76402

Russell S. Pfau

Phone: 254-968-9761

Email: pfau@tarleton.edu

Web page URL: www.tarleton.edu/~biology/pfau/

Research Interests, Projects, and Grants:

My research interests are population and evolutionary genetics and my research questions usually ask in what ways do populations differ genetically and why. One of my more specific interests is how the landscape affects gene flow across a species' geographical distribution. My students and I go on several field trips throughout the year to collect our study specimens and then analyze their DNA in the lab using techniques such as DNA sequencing, microsatellites, and AFLP. While most of my work is with mammals, I am also investigating the population genetics of an estuarine crab that has recently invaded Texas freshwater reservoirs.

Graduate Students and Their Research:

Terry Johnson is using AFLP analysis to determine the population structure of the Texas mouse, *Peromyscus attwateri* across its geographic distribution.

Sam Kieschnick (co-advised with Dr. Phil Sudman) is assessing patterns of population structure across the distribution of Baird's pocket gopher, *Geomys breviceps* using AFLP analysis.

Undergraduate Students and Their Research:

Rece Laney and Rachel Seay are sequencing Y-chromosome and mitochondrial DNA respectively in the hispid cotton rat, *Sigmodon hispidus*, to better understand the levels of introgression across the hybrid zone between eastern and western lineages of this species.

Leith Collier is developing microsatellite markers for *Sigmodon hispidus*.

Beth Watson is examining levels of genetic diversity and population divergence of the state threatened Texas kangaroo rat, *Dipodomys elator*, using microsatellite analysis and DNA sequencing.

Phil Sudman

Phone: 254-968-9154

Fax: 254-968-9157

Email: sudman@tarleton.edu

Web page URL: www.tarleton.edu/~sudman

Research Interests, Projects, and Grants:

Current projects include systematic studies of pocket gophers working with graduate students both here at Tarleton as well as the University of North Texas and Fort Hays State University. I have also recently been funded for contract work associated with the effects of wind turbines on black-capped vireo productivity - a bit of a stretch for me!

Graduate Students and Their Research:

Sam Kieschnick - Population genetics of *Geomys breviceps*.

Additional Information:

We are always looking for eager graduate students to work with Dr. Pfau and myself in our genetic analysis lab.

Texas A&M University-Kingsville

Feline Research Center, Caesar Kleberg Wildlife Research Institute, MSC 218, 700 University Blvd.
Texas A&M University-Kingsville, Kingsville, TX 78363

Michael Tewes

Regents Professor

Phone: 361-593-3972
Fax: 361-593-3922
Email: michael.tewes@tamuk.edu
Web page URL: Feline Research Center - ckwri.tamuk.edu

Texas Tech University

Department of Biological Sciences, Texas Tech University, Lubbock, Texas 79409

Robert J. Baker

Phone: 806-742-2702
Fax: 806-742-2963
Email: rjbaker@ttu.edu
Web page URL: www.biology.ttu.edu; <http://www.nsrll.ttu.edu>

Research Interests, Projects and Grants:

Robert J. Baker's interests encompass the ability to dissect the genome in an effective way to provide resolution to problems concerned with systematics, conservation, biodiversity, genotoxicology, agriculture, etc. Last summer Heather Meeks, Peter Larsen, Juan Pablo Carrera, and RJB took a trip to Kurdistan which is a fascinating country. We hope to return soon. Ron Chesser, Jeff Wickliffe, Brenda Rodgers, Heather Meeks, and RJB submitted a NIH proposal to establish laboratory colonies of *Myodes glareolus* and *Apodemus sylvaticus* at Texas Tech to study multigenerational exposure and genome functionality resulting from the Chernobyl environment.

Graduate Students and their Research:

Faisal Ali Bin Anwarali Khan is a second year Masters student who joined the lab in the Spring of 2006. His education before coming to Texas Tech University was in Universiti Malaysia Sarawak. He is interested in the systematic and phylogeography studies of South East Asian mammals. His Masters work focuses on Malaysian bat species diversity. His thesis defend is schedule on March 2008.
faisal.anwarali@ttu.edu

Peter Larsen is a third year PhD student with Dr. Baker. His research interests include speciation, phylogeography, and systematics of Neotropical and Palearctic mammals. Current projects include systematics and taxonomy of Caribbean, Central American, and South American bats of the genera *Artibeus*, *Micronycteris*, *Myotis*, and *Pteronotus*, as well as taxonomy of Central Asian rodents of the genera *Apodemus*, *Microtus*, and *Rattus*. His dissertation will focus on speciation and hybridization in Central American and Caribbean Stenodermatine and Vespertilionid bats. peter.larsen@ttu.edu

Hugo Mantilla-Meluk joined our program for a PhD degree in August 2002. Hugo is a native of Colombia and received his degree under the direction of Alberto Cadena and Thomas R. Defler, at the Universidad Nacional de Colombia. Hugo's research interests are focused on modeling the phylogeographic and evolutionary patterns of Neotropical mammalian species through the search of general patterns and principles. His work includes the integration of ecological and evolutionary novel ideas through data synthesis and cutting edge analytical approaches (e.g, computation, modeling, data management) such as the implementation of Geographic Information Systems to perform systematic analyses in order to elucidate modes of mammalian speciation and to investigate the role of ecological and geographic features and processes on mammalian evolution. Hugo is especially interested in those mammalian species

that exhibit wide ranges of distribution in complex ecosystems such as bats within the genera: *Anoura*, *Desmodus*, *Uroderma*, and *Phyllostomus*, as well as the Neotropical primates within the genus *Cebus*, and *Lagothrix*. He is also in charge of the cooperative programs between Texas Tech University and Colombian Institutions. These cooperative programs have as a main goal to document and model biodiversity patterns of Colombian mammalian species of the Biogeographic Chocó Region and the Andean mountainous system two of the most threatened ecosystems on the planet and considered centers of megadiversity. Hugo is part of the group of specialist on Colombian mammals of COLCIENCIAS, and member of the group of experts on Andean mammals of the UICN.

M. Raquel Marchán is working on a Master's degree since August 2006. She is from Ecuador with a degree from Pontificia Universidad Católica del Ecuador (PUCE). Her Master's work at Tech is focused on analyzing the cranial morphometrics of the Caribbean populations of three taxa of *Artibeus*. Using phenotypic data the morphological variability will be evaluated to provide an interpretation and understanding of the basis for delineation of species limits as compared with the molecular information. Alternatively, the continental populations of *A. lituratus* in Central America will be analyzed to obtain insights into the subtle morphological differences between these species. Her study focuses on morphological differentiation within and among populations of these neotropical bats, using a size-adjusted multivariate statistical approach, and a qualitative characters analysis. In addition, the software for niche modeling and Geographic Information Systems (GIS) will be selected to predict geographic distribution of species such as *Artibeus lituratus* in Central America. This information will be used to test the hypothesis that the differences in size between the two subspecies of *lituratus* in Central America is a response of geographic variation influenced by environmental factors. Additionally, she has a research assistantship at the Museum where her research involves the curation, data management and organization of the mammal collection at the NSRL. raquel.marchan@ttu.edu

Molly McDonough joined the lab in January as a research technician. In December 2007, she graduated with a Master's degree from Angelo State University where she examined the genetic and morphological variation in *Eumops glaucinus*.

Heather Meeks is a fourth-year PhD student in Dr. Baker's lab. She is assessing the effects of chronic environmental exposure to radiation on mammal systems in Chernobyl, Ukraine. Her primary focus is evaluating patterns of genetic diversity in exposed rodent populations, using a number of different DNA motifs, to elucidate potential genotoxicity resulting from radiation exposure. hnmeeks@yahoo.com

Michael Panasci is a Master's student and joined the lab in September 2006. He is from Millinocket, ME and received his B.S. in Ecology & Evolutionary Biology from the University of Connecticut, Storrs, CT. His research entails an assessment of various preservation techniques for preserving canid nuclear DNA obtained from scat, using microsatellite markers and the coyote (*Canis lupus*) as the model species, in addition to determining the effect of sample age prior to collection on the reliability of microsatellite genotyping. michael.panasci@ttu.edu

Richard Phillips is a Ph.D. candidate (fourth year student) in Wildlife Science, originally from Batesville, Mississippi. His doctoral work is focused on dispersal in wild turkeys. He will compare dispersal estimates obtained via radio telemetry with those obtained using genetic markers. Both nuclear and mitochondrial genetic estimates of gene flow will be obtained for a subset of birds that were tracked using radio telemetry. For both radio telemetry and genetics estimates, models will be used to compare linkages among subpopulations. Discrepancies among models will be used to make inferences on the relative power of radio telemetry and genetics to answer questions about dispersal.

Miguel Pinto is from Ecuador, and joined Baker's lab in August 2005. He is finishing a Masters degree conducting a population genetics study of the common vampire bat *Desmodus rotundus*. Miguel has wide research interests in mammalogy ranging from the study of zoonotic diseases to the morphological and molecular variation of mammalian populations. miguel.pinto@ttu.edu

Vicki Swier is a Ph.D. candidate studying the role of LINES in the mammalian genome, particularly in the South American Sigmodontine rodents where LINES may be extinct. She is utilizing chromosomal banding and whole chromosome probes isolated from *Sigmodon hispidus* to describe the ancestral karyotype of the Sigmodontines. On the side, she collaborated with projects involving Gabon bats, Malaysian *Kerivoula*, and transposable elements from *Myotis*. At Tech, she is describing the karyotypic diversity of the mammals collected in the 2007 Sowell expedition to Kurdistan. vicki.swier@ttu.edu

Undergraduate Students and their Research:

Robert Bull is a junior Biochemistry undergraduate. He has been working in Baker's lab for 3 years, and has facilitated research on *Dermanura* bats. jungleballistic@hotmail.com

Will Flanary is a senior undergraduate and is sequencing some introns of Phyllostomid bats to increase the database from the resolution of the deep branching patterns in these bats.

Former Students:

Juan Pablo Carrera graduated with a masters of science degree in museum science. His thesis topic involved creating a relational database for voucher specimens from Ecuador in old world and new world museums. He has finished a draft of the bats of the western side of the Andes in Ecuador and is evaluating PhD programs in the U.S.

Tamara Enríquez graduate with a masters degree in museum science. Her specialty was the invertebrate collection and her favorite bug was dung beetles. She has returned to Ecuador and is currently considering PhD programs either in the U.S. or Europe.

Genevieve Kendall finished her undergraduate degree in the honor thesis program at Texas Tech and is pursuing a PhD at UCLA in a human genetics program.

Sergio Solari finished his PhD and has accepted a job at Universidad de Antioquia, in Colombia. His address is the following: Sergio Solari, Ph.D., Profesor Auxiliar, TC, Instituto de Biología, Universidad de Antioquia, Medellín – Colombia. Sergio is teaching mammalogy in March and is looking forward to netting bats and trapping rats for the growing mammal collection at Medellín, and establishing a graduate program in Colombia. He will continue his collaboration on a number of projects started at Tech, including systematic and taxonomic revisions of Neotropical bats (*Dermanura*, *Carollia*) and opossums (*Marmosa*, *Monodelphis*). sergio.solari@ttu.edu.

Robert D. Bradley

Phone: 806-742-2725

Fax: 806-742-2963

Email: robert.bradley@ttu.edu

Webpage: Biology Dept. - www.biol.ttu.edu/; Museum - www.nsrl.ttu.edu/

Research Interests, Projects, And Grants:

My research interests include systematic relationships, molecular evolution, and natural history of mammals, particularly in geomyoid and cricetid rodents. Examination of hybrid zones between genetically distinct

taxa; including isolating mechanisms and the dynamics of genetic introgression. Examination of the origin and evolution of rodent-borne viruses; especially in the use of rodent phylogenies and genetic structure to predict the transmission and evolution of viruses. Modeling and predictions associated with epidemiology. Growth and utilization of natural history collections, especially those pertaining to mammals. Natural history and distribution of mammalian species.

Current Projects:

- Systematics of the genus *Peromyscus*.
- Systematics and phylogenetic studies of *Peromyscus boylii*.
- Phylogenetic relationships of Neotomine and Reithrodontine rodents.
- Study of hybridization between chromosomal races of *Geomys*.
- Study of hybridization between two species of *Neotoma*.
- Systematics and phylogenetic studies of the genus *Sigmodon*.
- Systematics and phylogenetic studies of the genus *Neotoma*.
- Systematics and phylogenetic studies of the genus *Geomys*.
- Systematics and phylogenetic studies of the genus *Oryzomys*.
- Ecology of emerging hanta- and arenaviruses in the southwestern US.

Graduate Students And Their Research:

J. Delton Hanson (PhD student) is in his sixth year. Dissertation topic involves - Molecular systematics of *Oryzomyines*.

Ryan R. Chambers (MS student) is in his third year. Thesis topic - Nuclear genes and molecular systematics of *Geomys*.

Dallas D. Henson (MS student) is in his third year. Thesis topic - Nuclear genes and molecular systematics of *Sigmodon*.

R. Neal Platt (MS student) is in his second year. Thesis topic - Multigene approach in examining phylogenetic relationships of Neotomine-Reithrodontine rodents.

Sheri B. Westerman (MS student) is in her first year. Research topic to be decided.

Cody W. Thompson (PhD student) is in his first year. Research topic to be decided.

Additional Information: I teach Mammalogy at the Texas Tech University Center at Junction during May (referred to as the Intersession Semester). This is an excellent opportunity to get credit at the Graduate or Undergraduate level.

Jorge Salazar-Bravo

Phone: 806-742-1051

Fax: 806-742-2963

Email: j.salazar-bravo@ttu.edu

Web page URL: Under construction

Research Interests, Projects, and Grants:

My research interests focus on two basic themes, (i) the evolutionary diversification of mammalian taxa at various hierarchical levels, and (ii) using first principles in ecology and systematics to understand what makes a species a good reservoir for disease. Research topics that I have pursued include: Systematics,

biogeography, evolution, and conservation of Neotropical mammals, the Ecology and Evolution of virus/host co-evolution, and the interplay between ecology and disease.

Grants:

1) Biogeography and Evolution of American Cottontails, Lagomorpha:

Sylvilagus, From Morphology and Molecules, Emphasizing South and Mesoamerican Taxa (National Science Foundation, 9/2006 to 11/2008) is to study the diversification, species limits and phylogenetic relationships of cottontail rabbits with special emphasis on South and MesoAmerican forms. In this grant we are -- in collaboration with Luis Ruedas (Portland State U.) -- using a comprehensive approach (morphology, chromosomes, and gene sequences) to clarify species limits in Neotropical cottontails.

2) International Collaboration in Infectious Diseases Research:

Hantavirus Ecology and Disease in Chile and Panama (NIH-ICIDR, 08/01/05-07/31/10). The objective of this grant is to conduct research on the systematics and ecology of rodent reservoirs of Hantavirus Disease in south western Panama. With funds from this grant we are collecting population biology and genetic information on rodent communities in the Peninsula de Azuero.

3) Modeling of Hantavirus Reservoirs in Brazil (FIRCA, 3/2007 to 3/2010). The objective of this grant is to conduct collaborative research on the systematics and ecology of rodent reservoirs of Hantavirus Disease in southeastern Brazil. With funds this grant we will collect population biology and genetic information on rodent communities in the northeastern corner of the State of Sao Paulo.

Graduate Students and Their Research:

Jon Dunnum (PhD candidate), Evolution of Caviids rodents, with special emphasis on Cavia and Galea Noe de la Sancha (PhD candidate), Effects of fragmentation of the Atlantic rainforest of Paraguay on the diversity of mammalian communities Courtney Thomason (PhD student, just started), TBA Tyla Holsomback (MSc in transition to PhD), Ecology of the reservoirs of Bayou Hantavirus Nicté Ordonez-Garza (MSc -- in progress), Systematics of *Peromyscus grandis*

Undergraduate Students and Their Research:

Britton Plemson, Systematics of *Neacomys* Shawn Thomson, Systematics of Costa Rican cottontails Lynette Wagner, Systematics of Venezuelan cottontails Marzie Nasrollahzadeh, Systematics of Venezuelan cottontails

Texas Tech University Health Sciences Center

Dept of Cell Physiology and Molecular Biophysics, 3601 4th St., Lubbock, Texas 79430

Raymond Willis

Phone: (806) 743-4056

Fax: 806 743-1512

Email: raymond.willis@ttuhsc.edu

Research Interests, Projects, and Grants:

I use Sodium potassium pump isoforms to study deeper level vertebrate relationships. The aim of my study is to expand the knowledge of the vertebrate representatives of the Na, K alpha subunits. Species of crocodylians, snakes, lizards, turtles and mammals that have different environmental niches are the main target of this study. The overall hypothesis is that structural variability within the alpha isoforms will reflect the different environmental stressors in their diverse habitats.

Trinity University

Department of Biology, One Trinity Place, Trinity University, San Antonio, TX 78212

David O. Ribble

Phone: 210-999-8363

Fax: 210-999-7229

Email: dribble@trinity.edu

Web page URL: www.trinity.edu/dribble

Research Interests, Projects, and Grants:

I am interested in the ecology and evolution of mating systems, primarily in monogamous small mammals such as *Peromyscus* and sengis or elephant-shrews. We are currently finishing up a grant work from the National Geographic Society studying the mating system of *Macroscelides proboscideus*, the round-eared elephant-shrew.

Undergraduate Students and Their Research:

Laney Redus and Madeline Griffin – The genetic mating system of *Macroscelides proboscideus* using microsatellites. Yesenia Martinez – Basking behavior of *Elephantulus myurus* during winter torpor.

University of Mary Hardin-Baylor

Department of Biology, UMHB Box 8432, 900 College St., Belton, TX 76513

Cathleen N. Early

Phone: 254-295-5041

Fax: 254-295-4237

Email: cearly@umhb.edu

Research Interests, Projects, and Grants:

Small mammal ecology. I plan to begin a vertebrate survey in Bell County this spring with a pending faculty grant.