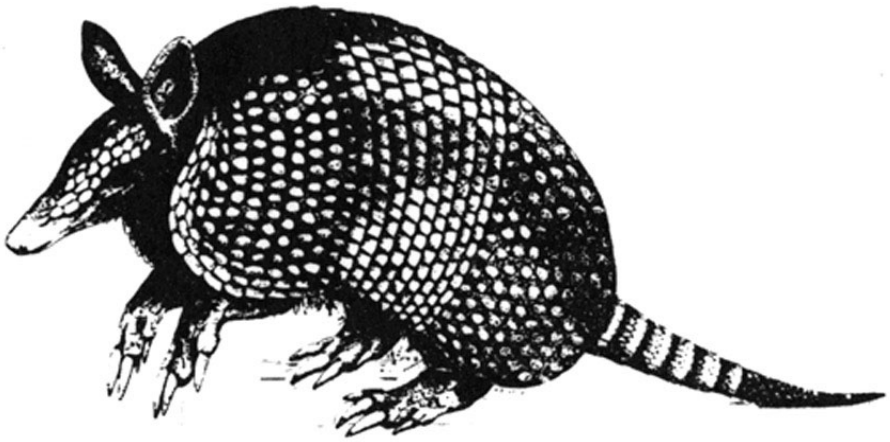
TEXAS SOCIETY OF MAMMALOGISTS



NEWSLETTER

2004

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ANNOUNCEMENTS and BUSINESS

Notes and Acknowledgments from Newsletter Editor, David Ribble

This is my 6th and final Newsletter to assemble for the Texas Society of Mammalogy. I have been privileged to have the help of Sharon Smith and Sandra Miller of the Biology Department, Trinity University, in compiling the information for these newsletters. Thanks especially to Sharon who put this edition together. And thanks go to Rollin Baker for his generous and interesting contributions. I look forward to working with the next newsletter editor to make it a smooth transition to next year's newsletter.

This newsletter is offered in PDF format via the internet in order to save paper and money (see address below). If you would like a hard copy or know of someone that should have a hard copy, please contact me (dribble@trinity.edu).

Web Page for Newsletter: http://www.trinity.edu/dribble/tsm/newsletter.htm.

Patronage of the Texas Society of Mammalogists

Please consider becoming a member of the first class of Patrons of our society. Cost is $100. Contact the Secretary/Treasurer (Ann Maxwell) for details.

Minutes of the 21st Annual Business Meeting, 22 February 2003

The meeting was called to order at 4:35 pm by President Robert Bradley.

The minutes from the 2002 meeting were approved.

Officers' Reports

The Secretary-Treasurer, Ann Maxwell, summarized the treasurer's report as it was printed in the 2003 program. She reported that 2002 was not a profitable year for the society, due in part to: 1) a lack of donations during the 2002 meeting, 2) an increase in expenses associated with the TTU Center at Junction, and 3) a dramatic decline in the interest rate on the society's certificate of deposit.

Tom Lee, Permanent Secretary, asked that any available historical documents, photos, etc. be sent to him.

David Ribble, Newsletter-Editor, asked for submissions to the newsletter and thanked Rollin Baker for his contributions.

Standing Committees' Reports

Honorary Members Committee Chair, Tom Lee, reported that Art Cleveland was nominated to be given Honorary Membership during the 2004 TSM meeting. President Bradley asked that members make recommendations for honorary members to Tom Lee.

Conservation Committee Chair, Ken Wilkins, reported that the committee has been slow in forming. He reminded the members present that the committee needs to hear about conservation issues of interest. He also said that if members are interested in serving on this committee, they need to contact him.

Student Honoraria Committee Chair, Ron Van Den Bussche, reported that the student awards would be announced after the Saturday evening banquet. After the banquet, student winners were announced and presented certificates and checks as follows: Robert Trujillo (Texas A&M University) won the TSM Award of $100; Amanda Matthews

(Angelo State University) won the William B. Davis Award of $100; Anica Debelica (Angelo State University) won the Rollin H. Baker Award of $100; and Carl Dick (Texas Tech University) won the Robert L. Packard Award of $150.

Government Liaison Committee Chair, Robert Dowler, asked for information that might be relevant to this committee. He asked Phil Sudman, TSM's representative to the TPW Wildlife Diversity Advisory Board, to speak about the meetings he had attended. Phil discussed how some of the funds from the sale of the Texas horned lizard license paltes were to be allocated. He said that the funds to be used for research are specifically for nongame wildlife, including plants. Phil asked that someone (who lives closer to Austin the himself) please become a member of this advisory committee, saying that they meet about three or four times a year. Paul Robertson joined Phil to say that about 30 applications for the funds from the horned lizard license plate will be funded. He said this is the third most popular license plate in Texas.

Robert asked Paul about how the state economy is affecting Texas Parks and Wildlife. Paul reported that the state is under a hiring freeze which will prevent most positions from being filled. He said that the does not anticipate TPW laying off any current employees, but that depends a lot on what happens nationally. Paul went to discuss the idea of a *conservation of Texas mammals meeting* as was mentioned during the 2002 TSM meeting. It is presently on hold, he said, but TPW is wanting it to be a two-day meeting involving invited speaker (experts) to talk about the conservation status of groups or individual species of mammals in Texas. They would also like to include some U.S. Fish & Wildlife people. TPW may try to resurrect this meeting before February 2004.

President Bradley encouraged students to volunteer for work on this committee. Volunteers should speak with Robert Dowler.

Twenty-fifth Anniversary Committee's Report

Twenty-fifth Anniversary Meeting Committee Chair, Robert Baker, reported that the committee aims to publish a history of TSM which will be compiled from statement written by all living past presidents. It would be published as a volume of the *Occasional Papers*. For fundraising, the committee is considering the formation of a club that members join by paying a set fee – the fees would help to build up the society's fund base for student honoraria. A third goal is to get a speaker of high stature for the 25th anniversary meeting – someone like E. O. Wilson. They would also like to bring in some other conservation people, not just mammalogists. Robert requested input from others members.

Robert also talked about the annual meeting of the American Society of Mammalogists on the 21st of June 2003 to be held at Texas Tech. He suggested we all register early. He concluded his report by asking for volunteers to serve on the committee. President Bradley asked for members, especially old-timers, to help contribute to the history of TSM.

Election of Officers

During the election of officers, Tom Lee agreed to serve another term as Permanent Secretary and Ann Maxwell agreed to serve another term as Secretary-Treasurer. President Bradley reported that the Executive Committee, during their meeting on Friday evening, made three nominations for the 2003 President-Elect: Tom Lee (Abilene Christian University), David Ribble (Trinity University), and Loren Ammerman (Angelo State University). There were no more nominations from the floor. Counting of private ballots determined that Loren Ammerman was the 2003 President-Elect.

New Business

On the order of new business, TTU Center at Junction was selected as the site for the 2004 meeting to be held on 20-22 February.

President Bradley announced that he had appointed a Financial Advisory Committee consisting of Robert Baker, Phil Sudman, and Ann Maxwell. The committee will work toward increasing the society's funds.

President Bradley asked members to become patron members at a price of $100, stating that several of the current patron members gave another $100 during the executive meeting on Friday evening. (During the course of the 2003 meeting, we gained five new patron members: Robert Dowler, Tom Lee, Robert Martin, Brenda Rodgers, and Ron Chesser.)

President Bradley discussed the raffle of the original illustration from the 2003 program cover. Tickets were sold at $1 each (or 6 for $5), which generated over $250. He thanked Terry Maxwell for dontaing the illustration for this purpose.

President Bradley initiated an annual fundraising auction (which was held after the banquet on Saturday evening) and asked that members contribute items for the 2004 auction. He suggested the formation of an ad hoc auction committee to organize the auction.

President Bradley suggested that since the number of presentations during the annual meeting is increasing beyond the time available to us, we begin a poster session for the 2004 meeting. Robert Baker donated $200 to fund one award for the 2004 and 2005 meetings. Earl Zimmerman donated $100 for a second award to be given in 2004. The names of these awards will be announced at a later date.

Michelle Haynie and Robert Baker made some announcements about the June 2003 ASM Meeting to be held in Lubbock.

Carl Dick thanked John Bickham and Phil Sudman for providing the computer equipment for the student presentations.

President Bradley thanked the secretary-treasurer.

Meeting adjourned at 5:17 pm.

COMMENTS and ARTICLES by ROLLIN H. BAKER

MAMMALOGY ON THE BANDWAGON

Give the following some thought! The study of mammals, like most other human endeavors, has a definite faddist aspect. An example was the turn of the 19th-20th century concentration on descriptive mammalian anatomy, led mostly by German workers. Article after article presented detailed accounts of the innards and outtards of critters from the likes of the echnida (*Tachyglossus*) on up. Finally, this fascination became passé, as the vanguards of this movement died out and new generations of scientists chose other arenas of focus. Anyway, since those 'glory' days of anatomical endeavors, Americans, at least, have contributed little to this discipline, with such notable exceptions as monographs on wood rats (genus *Neotoma*) by Brasier Howell in 1926, pocket gophers (genus *Thomomys*) by Eric Hill in 1937, and on the giant panda (*Ailuropoda*) by Dwight Davis in 1964. In short, the mammalian band wagon featuring anatomical studies flowered and then wilted when the interest of fickle mammalogists moved on to other pursuits - leaving so very much undone.

Each of us has been exposed to this pattern of investigational change. Some of us have been highly successful in jumping off one bandwagon and on to another. And it can leave others of us, more stick-in-the-mud traditionalist types, lagging behind. In my case now that I don't have departments heads or deans to buffalo, I can confess my ignorance in understanding the contents of almost all papers about mammals in *Evolution*, almost two-thirds of those in *Ecology*, and, I regret to say, almost half of those appearing in the *Journal of Mammalogy*.

Here in North America our mammalian band wagons have, regretfully, trended from outdoor to indoor studies. We have correctly moved beyond the need for basic distributional studies although we are yet to understand the whims of mammalian range patterns like those of a couple of closely-related pipistrelles. One (*Pipistrellus hesperus*) enjoys flying mostly west of the Pecos while the other (*Pipestrellus subflavus*) mostly likes volant maneuverings east of the Pecos.

The use of skin/skull examinations have served us well to setting up a useful classification. Now molecular studies further define or re-define our mammalian nomenclature. Unsophisticated ecological studies have given way to those incorporating physiological and behavioral dimensions. I could go on.

One problem in biology is the often disdain for the work of those operating in one discipline for the work of those in another. I'm reminded of a complaint by my dear old friend Bill Burt. At that time the leadership in his department was lab-oriented. Thus, published contributions to knowledge by members of the department's museum contingent might be considered as old fashion. As a result, such publications were given little academic worth and, as mouse-catching Bill put it, were tossed summarily into the circular file.

So field studies, even with their glamorous appeals to beginners, are likely to be discouraged in some academic quarters. We have no data on this turn of events but have watched it develop. We have seen positions held by prominent field workers with an active student program abolished when the professor involved retired and was replaced by a specialist in some laboratory area.

Nowadays, there also seems to be more grant money available for molecular biology than for such field investigations as the interspecific interactions at junctions of overlap between, for example, *Sylvilagus floridanus* and *Sylvilagus auduboni*, *Peromyscus leucopus* and *Peromyscus gossipinus, Conepatus leuconotus* and *Conepatus mesoleucus* or even *Odocoileus virginianus* and *Odocoileus hemionus*.

To many of us, these turnovers in professorial positions in field mammalogy and the resultant loss of trained hands-on productive scholars seem closely correlated with the wishes of those doing the hiring - academic administrators and their selection committees. We have to convince these folks that field mammalogy is fascinating and a popular area of study, has economic value, produces employable individuals, is loaded with unanswered questions, and should never be tossed unceremoniously off the bandwagon.

It is right, natural, and eminently human for us to focus, as a group, predominately on one area of inquiry at a giving point in time. This is a good thing of course, since it fosters comprehensive analysis. We should also try to

remember, especially those of us in positions to affect the direction of research, to encourage the continuum of effort in areas which may not be in vogue, but are interrelated to our broadest objective.

TEXAS COTTON RAT – ITS CLAIM TO FAME!

The hispid cotton rat (*Sigmodon hispidus*) has been a prominent member of the array of small rodents that inhabit grassy situations in Texas and elsewhere in temperate parts of our Midwest, the Deep South, and the Southwest. It seems to thrive as the only substantial graminivore among other rodents, mostly granivores/omnivores (see Baker, *Jour. Mamm*., 52, 1970). Its importance as an agricultural pest or in epidemiology has either been little understood or of a mild sort at best.

Nevertheless, it has had its 15-minutes of fame on several occasions. I'd like to update you about these in hopes that you'll give this bright-eyed and dramatic creature a little more of your attention. There are seven highlights in our current understanding of the status of this species:

Systematics – Hall (*The Mammals of North America*, vol. II, John Wiley & Sons, New York, 1981) relied on the conclusions of Bailey (*Biol. Soc. Wash*., 15, 1902) and those of more recent workers to map the supposed distribution of *Sigmodon hispidus* and define the ranges of twenty-five subspecies distributed from Nebraska south at least to Panamá. Since Hall himself and others were never truly comfortable with this arrangement, it is good news that Robert Bradley and his associates at Texas Tech have in press their revision that helps to clarify speciation in this elongated continuum of like-appearing cotton rats. They show that the Latin American contingent of this alleged species is actually separable into two distinct specific entities. Happily this soon-to-be-published arrangement allows our 'north-of-the-border' cotton rats to retain the classic 1825 Say and Ord name.

Northward Migration – Suddenly about the time of WWI, mammalogists were astonished to discover that the ubiquitous hispid cotton rat was on a northward move, most conspicuously in the Great Plains (Cockrum, *Trans. Kans. Acad. Sci*., 51, 1948 *et al.*) and, despite winter-chill problems, now into Nebraska and Iowa - a newsworthy action. *Quo Vadis?*

Game Bird Nemesis? – Stoddard (*The Bobwhite Quail, Its Habits, Preservation and Increase*, Charles Scribner Sons, 1931) became suddenly aware that the hispid cotton rat, previously regarded as a mild-mannered graminivore, can be an 'evil-doer' to an important game bird – a menace to nesting bobwhites – and a notable concern of game managers.

Major Eruption in the 1920s – Hispid cotton rats, as a result of some kind of stimulus as yet unknown to mammalogists, suddenly went berserk and on a multi-year rampage, apparently beginning in the Southeast in 1925, as attested in Georgia by Stoddard (*op. cit.*), and being documented a few months later in Texas in 1927 (Strecker, *Jour. Mamm.,* 10, 1929) and also by yours truly. As a precocious nature-loving youngster I found this same impressive cotton rat eruption in thick stands of Bermuda grass in vacant lots in a Houston suburban subdivision (Southampton). In fact, I filled my red wagon with dozens of these rodents, lethargic, huddling, and easily handled, and paraded them around, much to my mother's dismay. This sudden population bulge was a notable achievement in public relations for a non-boreal/arctic and a non-microtine rodent.

Cotton Rats in the Laboratory – The hispid cotton rat was introduced into the laboratory in the 1940s when Meyer and Meyer (*Jour. Mamm.*, 25, 1944) initiated studies of its physiological features. Your scribe kept and bred colonies of all Mexican cotton rat species in the 1960s at the MSU Museum and described more of their live attributes (*Occas. Publ. No. 51, Univ. Kans., Mus. Nat. Hist.,* 1969). Cotton rats have not achieved the fame of laboratory rats (genus *Rattus*), but are gaining a few plaudits from behavioral and biomedical specialists.

Cotton Rat/Microtine Interactions – Once the north-spreading cotton rat invaded Oklahoma it entered the realm of a well-ensconced graminivous microtine, the meadow vole (*Microtus ochrogaster*); and in Kansas, the southern bog lemming (*Synaptomys cooperi*); and in Nebraska and Iowa, the meadow vole (*Microtus pennsylvanicus*). Generally, rodents in a grassland community include several granivorous/omnivorous species and only one graminivorous species. It is suspected that if two of the latter are in a community, although there may be plenty of food for both that they space themselves apart at least to a degree – otherwise they are liable to scuffle. Kansas-based mammalogists (Fleharty, Gaines, Slade, Terman, etc.) have done the most to examine this intrusion and interaction business.

Anyhow, our cotton rat is taking publicity-worthy bows as a result of its aggressive tendencies as an invader of microtine territory.

Encroachments in Hispid Cotton Rat Territory in Texas – Texas mammalogists have recently been surprised to learn that the hispid cotton rat may not always be the bully - the aggressive graminivore - and may very well have met its match and is perhaps stewing in its own juice on two occasions. In one instance, what may be a cocky and land-hungry population of the meadow vole has squatted on hispid cotton rat real estate with little fanfare in the Panhandle. In another situation, an old competitor from México/New Mexico, the tawny-bellied cotton rat (*Sigmodon fulviventer*), has usurped hispid cotton rat living space in Jeff Davis County and undoubtedly elsewhere in the Trans-Pecos (Stangl, *Occas. Papers Mus., Texas Tech Univ.,* 145, 1992). Here's a couple of monitoring jobs worth doing, beginning now because territorial skirmishes may already be underway, hot and heavy!

HOW NOMADIC ARE TEXAS MAMMALS?

Probably most post-Bering human intruders in the New World would have stayed home had their living conditions been rosy. The ones that came, and are still coming, may have found home-life unbearable and futureless - being either second or third sons and not inheriting parental resources or agriculturists needing land or perhaps social misfits, business failures, law-evaders, etc. Of course, I'll assume that the immigrating ancestors of the readers of this message were physically, mentally, and monetarily well-endowed and possessed inquisitive, Darwin-like minds, and were seeking to access previously-unknown global environments. In either case, these voyagers must have had mustard in their veins in order to undertake such uncertain endeavors, since most humans are inclined to be semi-sessile.

Native Texas mammals also have a tendency to be 'stick-tights' rather than 'nomads.' So we can suppose that except in the case of catastrophic happenings and normally-slow environmental changes in pre-settlement times most Texas mammals were comfortably and placidly 'crowded' into the habitats for which Mother Nature had naturally selected them. Then suddenly comes the holocaustic human intrusion, upsetting these local Edens. So what has happened to our native Texas mammals in the past 150 years because of these dramatic habitat upheavals? Some have responded so negatively that they have gone completely out of business – gray and red wolves, grizzly, black-footed ferret, jaguar, and bison. Others have sustained themselves admirably in some sectors and dismally in others – thirteen-lined ground squirrel, gray squirrel, long-tailed weasel, spotted skunks, and badger. A few fought the new order ineffectively at first but, thanks to caring human wildlife-welfare support agencies, are now faring better – black-tailed prairie dog, beaver, black bear, river otter, mountain lion, pronghorn, and bighorn.

Finally there are those ubiquitous mammals that welcomed with vigor the human land-use changes. Some have even expanded, like nomads, their supposed pre-settlement distributions – Virginia opossum, several house bats, nine-banded armadillo, eastern fox squirrel, northern pygmy mouse, hispid cotton rat, porcupine, coyote, white-tailed deer (the latter with protection from overkill).

However, aside for economically-important game/fur mammals, there is little monitoring of the distributional status of these species. The exception and classic role model and 'poster rodent' among the 'nomads' is the hispid cotton rat. An accurate time table of its 20th century northward expansion in the Great Plains has been obtained from date/place data on the labels of museum study specimens of this species obtained and preserved in the past 50-100 years by thoughtful field mammalogists from Texas, Oklahoma, Kansas, and now from Nebraska.

In addition the northwestward spread of the northern pygmy mouse is being eyed by such mammalogists as J. G. Brant & C. Jones (see Program and Abstracts, 21st Annual Meeting of the Texas Society of Mammalogist, 2003). Also attracting attention is the evident southward spread of the prairie vole in the Panhandle and the status of the recently discovered tawny-bellied cotton rat in Trans-Pecos.

Mere watch-dogging and recording of these distributional changes are a must, but the hows and whys these expansions that are taking place also need major attention? Do, for example, the outwardly-pushy and frontier-living

members of species with range-expanding tendencies have 'dissatisfied attitudes' or are more tolerant of ecological diversities, perhaps like our own chance-taking, immigrating forebears had?

Could this have to do not only with human-wrought environmental changes but also with internal controls like DNA? Might someone – perhaps an eager graduate student – wish to compare vital characteristics of 'adventuresome' and 'nomadic' Panhandle-based prairie voles with similar innard features of 'stick-tight' and 'mainstream' relatives that live in perhaps less environmentally-stressful central Kansas? Might be worth doing?

COMPETITION - THE LIFE OF THE PARTY?

Mother Nature, bless her heart, seems to dislike both habitat vacuums and competition in Her global domain. In the case of the former, She tends to discourage the eruption of new life. Apparently this is because such newly-formed vitals are said to contain only "disorganized" protoplasm. Without any adequate housing available, these novices have little chance of outsnookering the already well-established "organized" protoplasm.

Using mammals as examples of our "organized" components of global life, competition is usually curtailed when two adversaries strive for the same resources by either (1) one of them giving up and departing or (2) through time by the two being naturally selected to divvy the resource so that each can claim a share without overly interfering with the other. Often such complicated apportionments of habitat attributes are fixed by means of natural selection amid environmental changes. Consequently, it would seem logical that would-be invasive types might have difficulty gaining footholds and resident status.

Even so, in Texas and its midwestern environs we find notable exceptions to this dog-in-the-manger attitude among mammals. In fact, some have made successful habitat acquisitions perceivable even within the lifetimes of present-day mammalogists. These include:

Opportunists filling habitat situations not otherwise occupied. As far as most observers can discern, mammals with these attributes are not replacing existing species. Instead, somehow or other the environments they are invading have become conducive to their entry. The well-documented northward move of the nine-banded armadillo (*Dasypus novemcinctus*) in the southern Great Plains is apparently a prime example. It seemingly interferes little with the livelihood of resident mammals but must, as a Neotropical type, adjust to an array of North Temperate environmental peculiarities. Undoubtedly, its burrow-digging abilities have been an assist and also welcomed, incidentally, by those species anxious to "rent" bedrooms in underground accommodations. The common porcupine (*Erethizon dorsatum*) is also conducting similar habitat expansions without upsetting local mammalian apple carts. The human-introduced and semi-aquatic nutria (*Myocastor coypus*) also fits nicely – although habitat destructive to the habitat – into a currently rodent-free slot; that is, except for southeastern Texas coastal marsh where it plays hob with muskrats (*Ondatra zibethicus*). Of course, a nutria/beaver (*Castor canadensis*) mix might make waves were the latter, long extirpated, ever to regain, by means of introduced stock, its former wetland range.

Aggressors usurping habitats of others. The hispid cotton rat (*Sigmodon hispidus*) is the most celebrated immigrant in our area in recent time. Before WW-1, this aggressive graminivore started north like Genghis Kahn did across Asiatic steppes to make the Great Plains a colony in its domain - currently as far as the North Platt. It appears to have annexed this chunk of real estate by pirating habitat of the long-established graminivous voles (*Microtus ochrogaster* and to a lesser extent *M. pennsylvanicus*). Strangely, however, the hispid cotton rat is now getting a taste of its own medicine since the prairie vole (*M. ochrogaster*) has recently "invaded" the Texas Panhandle. Perhaps with a "vengeance" the upstart may be jousting successfully with an "astonished" population of the hispid cotton rat. On another front, the latter may also be having nester trouble by the sudden entry of an age-old Mexican adversary, the feisty tawny-bellied cotton rat (*S. fulviventer*), on TransPecos grasslands. Others on the move include the pygmy mouse (*Baiomys musculus*), but the dark horse in this "Great Plains Sweepstakes" may very well be the least weasel (*Mustela nivalis*). Your scribe watched this agile mouse-catcher take over parts of southern Michigan, and now in the Upper Great Plains it has spread southward into Oklahoma. Is Texas its next objective? Perhaps the least weasel has drawn straws with its more sizeable kin, the resident long-tailed weasel (*M. frenata),* and has obtained its own personal ration of the bountiful rodent cuisine. It has elsewhere!

Why do we seem to diagnose easier the causes for mammalian ranges to contract than for mammalian ranges to

expand? Do "eurytopic" species find human land-use practices conducive to their thirst for new ground? Have genetic constitutions of certain individuals within normally "stenotopic" species triggered their adventuresome natures? Do these far-afield nine-banded armadillos, common porcupines, hispid cotton rats, and least weasels, for example, differ genetically from ancestors back at "home?"

ARE RATS AND MICE NOISY?

How do our Texas mammals communicate with each other? Most would agree that they probably do so chiefly by visual and olfactory means and perhaps less so by sounds. As for the latter, certainly we've identified and often interpreted the significance of such sounds as produced by such organisms as insects, birds, and other animals.

Among mammals, we've long been acquainted with the utterances produced by cetaceans, carnivores, hoofed mammals, leporids, and even sciurids. In many cases, we use sensitive receiving devices to reveal sounds produced in frequencies either below or above the range normally detected by our ears. Your author, for example, will never forget hearing the remarkable noises when Don Griffin, years ago, aimed his musket-like, sound-amplifying instrument at a flying *Myotis* in a auditorium during an ASM Meeting at Middlebury College.

However, we have neglected sticking super sensitive microphones down into pocket gopher burrows, into entrances of kangaroo rat mounds, into woodrat dens, into muskrat beds, into nests of golden mice, or along cotton rat runways. It's true that my former colleague Jack King and others have identified both audible and ultrasonic sounds uttered by deer mice pups (*Peromyscus maniculatus*) and adult Norway rats (*Rattus norvegicus*) under confined conditions, and most of us have heard stress-initiated squeaks by geomyids, heteromyids, or murids. Otherwise, have we missed out by not examining what may be a noisy world characteristic of the life styles of these small rodents? Can we persuade mammalogists with technical know-how and a little curiosity to give a listen?

INFORMATION ON PROGRAMS OF TSM MEMBERS

EDITOR'S NOTES: The following accounts are alphabetized by institution, department, and researcher. Any errors or inaccuracies are unintentional.

ABILENE CHRISTIAN UNIVERSITY

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Research Interests, Projects and Grants: Abilene Christian University Math/Science Grant was used to survey the Tandayapa Valley of Ecuador, 2003. This project was conducted this past summer. The mammal fauna of the Tandayapa Valley proved to be very rich. The results will be given at TSM. Mammalian Population dynamics (8 year) study of relic prairie in Taylor County, Texas. We have been tracking the rodent populations of a relic prairie site for eight years and there are many interesting correlations that can be made with other sites in the southwest. AusSable Institue Funded study of a Mammal survey and Mammalian Population Dynamics of old growth white pine forest patch and bog in northern Michigan. These forests once dominated northern Michigan and are almost gone today. The patch of old growth gives us a rare opportunity to study the mammals, herps, and birds of this vanishing habitat.

Undergraduate Students and Their Research:

Jay Packer: Working in the Tandayapa survey.
Amisha Patel: Working on the population dynamics of relic prairie, and the dragonflies of Taylor County.
Leesa Peterson will work on the old growth pine forest and population dynamics of relic prairie habitat.
Shannon Wallis is working on population dynamics of relic prairie.

Additional Information: The Abilene Christian University Natural History Collection continues to grow and is becoming a valuable research tool.

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Research Interests, Projects and Grants:
- Molecular systematics of Molossidae using both nuclear and mitochondrial markers
- Long-term changes in community structure and relative abundance of bat species in Big Bend National Park
- Roosting/feeding ecology of bats in Big Bend National Park

Graduate Students and Their Research:

Amy Vestal – Genetic variation among populations of the Davis Mountains cottontail rabbit, *Sylvilagus floridanus robustus,* in the mountains of Trans-Pecos, Texas. Carr Research Scholar, co-advised with Robert Dowler.
Scott Clement-Phylogeographic relationships of endemic rodent species of the Galapagos.
Suzanne Tomlinson—Enterotoxin A production by an atypical Staphylococcal isolate. Co-advised with Crosby Jones.

Undergraduate Students and their Research:

Lisa Smith-Investigation of DNA amplification/sequence errors among multiple cloned PCR products and estimating phylogeny of the Molossidae based on beta fibrinogen into 7 DNA sequence data.
Shirley Hammond-Phylogenetic relationships among cockatoo genera using beta-fibrinogen intron 7 DNA Sequence data.
Sandy Bradstreet –Cytochrome b DNA sequence variation in African shrew species (in collaboration with Robert J. Baker)
Sontee Dastidar-Genetic variations in the endangered *Echinocereus chisoensis* cactus.
Soveida Velazquez-Relationships and genetic divergence among *Eumops* species based on cytochrome b DNA sequence date.

Additional Information: Currently, I am looking for motivated students that would like to earn their Master of Science degree in mammalogy/systematics using either field or laboratory techniques (or a combination of both). I will be offering a 2-week field class called "Natural History of Bats" during May intersession that will include work in Big Bend National Park (see http://www.angelo.edu/faculty/lammerma/NatHistBats.html).

Robert Dowler

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Research Interests, Projects and Grants: My research interests in west central Texas currently focus on the ecology of skunks. I have students working on home range and denning ecology of three species of skunks, *Mephitis mephitis, Conepatus mesoleucus, and Spilogale gracilis*, using radiotelemetry through a grant with Texas Parks and Wildlife. We also are planning to conduct analysis of digestive tracts of these species to compare diets and, working with Dr. Dan Pence at Texas Tech University, we will be surveying endoparasites of the hog-nosed skunk, *Conepatus mesoleucus* and the striped skunk, *Mephitis mephitis*. My students and I have recently completed a survey of mammals, reptiles and amphibians of Camp Bowie, Brownwood, Texas and a short term study of the mammals of Lake Brownwood State Park in Brown County, Texas. I continue to be involved with rodent systematics and conservation in the Galápagos Islands.

Graduate Students and Their Research:

Scott A. Clement - Scott is continuing thesis research on molecular systematics of Galápagos rodents. His committee is being co-chaired with Dr. Loren Ammerman. Scott worked in the Galapagos Islands this past summer with me and Dr. Cody Edwards.
Jeffrey B. Doty - Jeff recently defended his thesis entitled "Denning Ecology and Home Ranges of two Sympatrick Skunk Species (Mephitis mephitis and Spilogale gracilis) in West-central Texas" and has begun a position at Colorado State University working with hantavirus surveillance in Colorado.

Sean Neiswenter – Sean continues thesis work on behavioral ecology of striped and spotted skunks using radiotelemetry. He has been examining activity times for both species during the past year. In addition, he has completed necropsy of almost 50 striped and hog-nosed skunks for an endoparasite study in collaboration with Dr. Danny Pence at Texas Tech University.

Amy Vestal – Amy has begun graduate work on the phylogeography of *Sylvilagus robustus* and is accumulating rabbit tissues from the Chisos, Davis, and Guadalupe Mountains for molecular analysis.

Joshua B. Coffey-Josh has completed a semester of graduate work and will be examing den site selection and home range of hog-nosed skunks for his thesis research.

Carla E. Ebeling-Carla just began M.S. studies in January and plans to examine the possibility of hybridization between eastern and western spotted skunks in Texas. As an undergraduate, Carla also completed research on the mammals of Brown County, Texas.

Sharon Y. Ziadeh-Sharon began graduate work in the fall semester and is interested in pursuing thesis research in some area of ethology.

Undergraduate Students and their Research:

Amy C. Bishop-Amy is currently working in the Collection of Mammals of the Angelo State Natural History Collections. She worked on the Camp Bowie mammal survey project this past year. Amy also assists with distribution of back issues of the Southwestern Naturalist.

Gema Guerra-Gema is managing our skeletal preparation work in the collection of Mammals and maintaining the dermestid colony.

Recent Publications from the Angelo State Natural History Collections:

Brant, J. G. and R. C. Dowler. 2002. Reexamination of the range for the northern pygmy mouse, *Baiomys taylori* (Rodentia: Muridae), in northeastern Texas. Texas Journal of Science 54(2):189-192.

STEPHEN F. AUSTIN STATE UNIVERSITY

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Research Interests, Projects and Grants: My research interests include utilizing molecular techniques and ecomorphological approaches to address questions of evolution, systematics, ecology, and conservation biology of mammals. This year funding was received to conduct research involving the use of molecular markers to retrace the historical introduction and spread of three introduced rodent species in the Galapagos Islands, Ecuador. Questions to be addressed include: 1) the origins of the introduced rodent species on the Galapagos Islands, and 2) reason(s) for decline of native Galapagos rodents.

Current Funding (2003):

"Mammal Survey at a Texas Army National Guard (TXARNG) facility (Camp Maxey, Lamar County, Texas)". Director, Co-Principal Investigator (w/ Dr. W. B. Godwin, Stephen F. Austin State University).

"Retracing the historical introduction and spread of three introduced rodent species in the Galapagos Islands,

Ecuador". Faculty Research Mini-grant, Stephen F. Austin State University.

"Survey of Insects at a Texas Army National Guard (TXARNG) facility (Camp Maxey, Lamar County, Texas)". Co-Principal Investigator (w/ Drs. W. B. Godwin and W. Gibson, Stephen F. Austin State University).

Graduate Students and Their Research:

Andy Bradstreet -- Nesting ecology of golden mice (*Ochrotomys nuttalli*) and cotton mice (*Peromyscus gossypinus*) in eastern Texas.

Sarah Johnson -- Radio-telemetry as a tool for establishing the effects of habitat fragmentation on river otter (*Lontra canadensis*) populations in East Texas.

Theresa Jordan -- Geographical variation in cranial morphology in *Neotoma albigula*.

Undergraduate Students and Their Research:

Josh Lowe -- Foraging site preference of golden mice (*Ochrotomys nuttalli*) and cotton mice (*Peromyscus gossypinus*) in eastern Texas.

Steve Williams -- A survey of the mammals of a Texas Army National Guard (TXARNG) facility (Camp Maxey, Lamar County, Texas).

BAYLOR UNIVERSITY

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Research Interests, Projects and Grants:
Our projects generally relate to ecology and distribution of small mammals at the species and community levels. Recent and current 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:

Cathy Early, Ph.D. candidate. Effects of an invasive species (red imported fire ants, *Solenopsis invicta)* on demographics of small mammals in a native tallgrass prairie. Anticipated graduation, August 2004.

Michael Mellon , M.A. (non-thesis), graduated August 2003.

Jeff Scales , M.S., graduated December 2002. Roost fidelity of the Mexican free-tailed bat (*Tadarida brasiliensis*) in an urban setting.

Amy Wilhelm, M.S. candidate. Feeding enrichment in captive African elephants. Anticipated graduation, May 2004.

Sarah Epperson, M.A. (non-thesis) candidate. Anticipated graduation, May 2004.

Ryan Brugard, M.S. student. Small-mammal ecology project TBA.

Undergraduate Students and Their Research:

None

Additional Information: Opportunities are available for graduate study in the Department of Biology, Baylor University. Graduate assistantships are available beginning Fall 2004 in our doctoral program. Faculty expertise in our department ranges from aquatic ecology to genetics to molecular biology… and, of course, includes mammalogy. The institutional financial package is generous and includes support as a graduate teaching assistant (12-month support @ approximately $1,300 monthly), tuition remission, and University-subsidized health insurance. I am particularly interested in attracting applications from individuals interested in mammalian biology, especially field-oriented ecological studies focusing on small mammals (rodents, bats). Lab instruction duties for this graduate TA would be primarily in Comparative Chordate Anatomy, Mammalogy, and Vertebrate Natural History under my supervision.

CENTERS FOR DISEASE CONTROL AND PREVENTION

Viral Special Pathogens Branch
1600 Clifton Road (MS A-26)
Atlanta, Georgia 30333

Darin S. Carroll

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Research Interests, Projects and Grants:

The focus of research in our unit is the ecology of viral hemorrhagic fevers with emphasis on the development of human exposure risk reduction techniques. National Science Foundation Grant# DEB-0326757 "Ecological Drivers of Rodent-Borne Disease Outbreaks: Trophic Cascades and Dispersal Waves." PI's Terry L Yates, University of New Mexico; Bob Parmenter, U.S. Dept. Interior; James N. Mills, Centers for Disease Control and Prevention; Darin S. Carroll, Centers for Disease Control and Prevention; Michael Kosoy, Centers for Disease Control and Prevention; and Kenneth L. Gage, Centers for Disease Control and Prevention.
US Navy Global Emerging Infection Surveillance, "Analysis of emerging and re-emerging viruses in Bolivia",PI's Patrick Blair, US Naval Medical Research Center Detachment Lima Peru; James Olson, US Naval Medical Research Center Detachment Lima Peru; James N. Mills, Centers for Disease Control and Prevention, Darin S. Carroll, Centers for Disease Control and Prevention and Joel M. Montgomery, Centers for Disease Control and Prevention.

Graduate Students and Their Research:

Rebecca Levine- Develop, assess, and apply a predictive mathematical model of hantavirus risk through the application of ecological niche modeling.
Patricia Yu- Assist in the maintenance and analysis of databases collected during outbreaks during ecological studies of reservoirs of hantaviruses, arenaviruses, paramyxoviruses, and filoviruses.

COLUMBUS STATE UNIVERSITY

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Art Cleveland

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Graduate Students and Their Research:

Jennifer Jackson-"Status and Management of Bats in Georgia Bridges"
Karl Studenroth-"Status and Management of Bats in Florida Bridges"

Undergraduate Students and Their Research:

Kelly Hernandez-"Bacteria in the oral cavity of several species of bats"
David Brooks-"Ectoparasites of several species of bats in Georgia"
Limor Raz-"Effects of certain environmental stresses upon Tardigrades"
Tabitha White-"Effects of certain indigenous bacteria upon industrial waste, especially BOD"

Other Information: I am in the midst of a year-long sabbatical, also looking for new opportunities of service. Vicki and I recently returned from a great trip up the Columbia and Snake Rivers from Portland to Lewiston, Idaho. We both plan to be at the TSM meeting in February.

HOWARD COLLEGE

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Research Interests, Projects and Grants: Mammal Ecology

Undergraduate Students and Their Research:

Candice Cerda-Mammals of Howard County, Texas

HUMBOLDT STATE UNIVERSITY

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Research Interests, Projects and Grants: Vertebrate natural history and conservation.

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Research Interests, Projects and Grants: Current projects involve: inventory of mammals of Guadalupe Mountains, New Mexico; and Pleistocene/Holocene cave fauna from northern Nevada.

Graduate Students and Their Research:

Ngan Nguyen-Discrimination of *Perognathus flavus/merriami* "complex".
Karrie Knight-Morphometric assessment of Trans-Pecos *Peromyscus boylii*
Heather Foster-Qualitative/quantitative assessment of rodent incisor pigment
Denna Watson-Small mammals of Wichita Mountains, Oklahoma
Shane Spinks-Status of montane mammals of NM Guadalupe Mountains

Undergraduate Students and Their Research:

Desiree Early & Jennifer Hayes-Discrimination of three species of *Mustela*, based on characters of the lower jaw and dentition

Additional Information: Recent faculty addition Michael Shipley and his students are investigating differences in milk lipid composition among rodents and lagomorphs.

OKLAHOMA STATE UNIVERSITY

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Research Interests, Projects and Grants: My lab uses several techniques to investigate relationships between exposure to environmental pollutants and detrimental effects in wildlife species and to explore how induced genetic damage may translate into long-term population demographic effects. I also am interested in mammalian systematics, evolution, and ecology and am Curator of Mammals for the Oklahoma State University Collection of Vertebrates.

Graduate Students and Their Research:

Emily Ackland (M.S.): Emily is investigating the relationship between microhabitat selection and predator avoidance in *Chaetodipus hispidus*. Emily also is working as the Collections Manager for the OSU Collection of Vertebrates.

Kimberly Hays (M.S.): Kim is using flow cytometry to determine levels of genetic damage in sliders inhabiting spoil pits at the Tar Creek Superfund Site.

Undergraduate Students and Their Research:

Ashley Butler and Maria Harrington: Ashley and Maria are determining frequencies of chromosomal aberrations in *Sigmodon hispidus* from four strip mines and matched unmined sites in eastern Oklahoma.

Ronald A. Van Den Bussche

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Research Interests: My primary research interests are in elucidating mammalian phylogenetic relationships using molecular tools with a major emphasis on higher level relationships of bats and relationships within Vespertilionidae. However, my laboratory also works of phylogeographic and population genetic questions relating to a variety of taxa.

Graduate Students and Their Research:

Sarah Weyandt (M.S.)- "Using genetic techniques to infer evolutionary processes affecting North American bats: population genetics of an endangered subspecies and phylogeography of a continentally distributed species".

Lynne Gardner (M.S.)-"Genetic estimates of population density of black bears (*Ursus americanus*) in the Ouachita Mountains of southeastern Oklahoma".

Stacey Davis (M.S.)-(co-advised with Dr. Anthony Echelle) "Genetic structure of the contact area of two species of *Gambusia*, *G. heterochir* and *G. affinis*".

Sherri McClure (M.S.)- (co-advised with Dr. Anthony Echelle) "Genetic structure of the channel catfish complex (genus *lctalurus)* in New Mexico and Texas".
Joe Hackler (M.S.)- (co-advised with Dr. Stanley Fox) "Genetic variation within and among natural and captive populations of alligator snapping turtles in Oklahoma".
Sarah Donelson (Ph.D.)-"Molecular systematics of Costa Rican weevils".

Undergraduate Students and Their Research:
Phillip Morton-"Phylogenetic and biogeographic relationships of the mouse opossum *Thylamys* (Didelphimorphia, Didelphidae) in southern South America"
Jay Roop-"Systematic comments of Big-eared bats, genus Histiotus, (Chiroptera, Vespertilionidae) in Argentina, with special emphasis on *Histiotus macrotus* (Poeppig)".

SAM HOUSTON STATE UNIVERSITY

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Research Interests, Projects and Grants: Small mammal ecological studies, including surveys of Camp Swift and Fort Wolters for the Texas Army National Guard; ecological and toxicology studies of the Brazilian free-tailed bat, currently focusing on an east Texas maternity colony in Huntsville, Walker County; disease vectors/hosts associated with Leishmaniasis and West Nile Virus, with special interest in southern plains woodrats (*Neotoma micropus*).

Graduate Students and Their Research:

Anica Debelica-GIS mapping of the SHSU Biological Sciences field station and food habits of the Brazilian free-tailed bat.
Aimee Stark-Identification of the external flora of the Brazilian free-tailed bat in an east Texas Colony.

Undergraduate Students and Their Research:

Amanda Ripple-small mammal museum curation methods.
Lauren Grawey-GIS databasing of mammal surveys for the Texas Army National Guard

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Brian R. Chapman, Dean

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Research Interests, Projects and Grants: Most of my recent research work has involved studies of the effects of

various forest management practices on the activities of bats in the southeastern United States and in the Appalachian Mountains. I am working with several graduate former students and faculty colleagues from the University of Georgia to complete manuscripts.

SAN ANTONIO ZOO

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Research Interests, Projects and Grants:

- Captive management of wild mammals
- Physical and psychological effects of environmental stress on captive wild mammals
- Environmental and behavioral enrichment of captive mammals

TARLETON STATE UNIVERSITY

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Research Interests, Projects and Grants: I'm interested in population genetics and evolutionary genetics at the population-species interface. My current research efforts are focused on two projects: comparing levels of genetic diversity in island and mainland populations of Peromyscus from Baja California (in collaboration with Dr. Adam Richman at Montana State University) and phylogeography of the Texas mouse (Peromyscus attwateri) using mitochondrial DNA and AFLP (in collaboration with Dr. Greg Wilson at the University of Central Oklahoma). Both of these projects are available for students wanting to pursue a Master's degree.

Graduate Students and Their Research:

Kristin Denton: Studying the molecular evolution of an immune response gene (MHC-DQA) in two species of Peromyscus.

Caleb Phillips: Examining patterns of genome-wide genetic diversity in the hispid cotton rat (Sigmodon hispidus) using AFLP analysis.

Undergraduate Students and Their Research:

Christie Brown: Using microsatellite and AFLP analysis to compare levels of genetic diversity in island and mainland populations of Peromyscus from Baja California.

Philip D. Sudman

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Research Interests, Projects and Grants: I continue to work with the Attwater's Prairie Chicken recovery program, conducting genetic tests, DNA sexing chicks, maternity/paternity determination, and investigating microsatellite differentiation between Attwater's and Greater Priarie chickens. Mammal-wise, I have two major projects: one involving DNA sequence variation within various species/subspecies of pocket gophers in the genus *Geomys*; the second assisting Dr. Jerry Choate and his students with a project investigating genetic and morphological differentiation between shrews in the genus *Sorex* within the northern great plains.

Graduate Students and Their Research:

Laurie Heintz – Response of small mammals to habitat restoration with the Chalk Mountain Ecoregion, Somervell Co., TX.
Jana Caldwell –Research to be determined.
Chad Stasey-Research to be determined.

TEXAS A & M UNIVERSITY
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Ira F. Greenbaum

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Research Interests, Projects and Grants: The research in this laboratory addresses questions concerning mammalian evolution, cytogenetics and systematics, and is currently focused on resolving the systematics and processes of evolution of the *P. maniculatus* species group. Our current studies include analyses of: the rate and pattern of evolution of our previously developed microsatellite markers among the species in the group, microsatellite and mtDNA variation in relation to the specific status of the eastern forest and central grassland forms of *P. maniculatus*, and mtDNA variation in relation to the phylogeography of the western coastal deer mice including *P. keeni*, *P. sejugis*, and *P. maniculatus*.

Graduate Students and Their Research:

Jeshu Weerasinghe. Evolution of fragile sites in the *Peromyscus maniculatus* species group. Ph.D. awarded August, 2002.
Scott Chirhart. Doctoral Candidate, Zoology. Microsatellite evolution in the *Peromyscus maniculatus* species group.
Mindy Walker. Doctoral Student. Phylogeography of *Peromyscus maniculatus* from the western United States.

Undergraduate Students and Their Research:

Kathryn A. Connell. The post-pleistocene phylogeography of the Pacific Northwest: implications of mtDNA variation within and among insular and mainland *Peromyscus keeni*.
Ashli Moore. Systematic and phylogenetic implications of mtDNA sequence variation in *Peromyscus sejugis* and the *P. maniculatus* from Baja California.

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Research Interests, Projects and Grants: Vertebrate ecology, behavior and biogeography.

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Research Interests, Projects and Grants: Effects of introduced species on native fauna, predator-prey relationships, wildlife disease

Graduate Students and Their Research:

Amy Kresta ; *Baylisascaris procyonis* : Habitat characteristics, food habits, and potential routes of transmission in infected raccoons (Ph.D. Thesis)
Aaron Haines ; Is road baiting an ecological trap for northern bobwhites? (M.S. Thesis)
Deana Moore ; Effects of acute aflatoxin consumption on songbirds (M.S. Thesis)
Marc Hall ; Coordination of the Continental Brown Tree Snake Rapid Response Team (M.S. Thesis)
Cynthia Massengale ; Longevity of *Baylisascaris procyonis* eggs in selected solutions and environments (M.S. Thesis)
Denise Ruffino ; Ecology of skunks in Texas (Ph.D. Thesis)
David Long ; Comparison of the rodent and insect communities between native and exotic grasslands (M.S. Thesis)
Antonio Cantu ; White-tailed deer and nilgai as reservoirs for Texas tick fever (Ph.D. Thesis).

Undergraduate Students and Their Research:

John Wilcox , Use of passive integrated transponders in hatchling Texas horned lizards.
Charles Reed , Frequency of deposition of *Baylisascaris procyonis* eggs in raccoon feces .

TEXAS A&M UNIVERSITY-KINGSVILLE

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Research Interests, Projects and Grants: Wild cat biology—ecology, behavior, genetics, management, and conservation.

Lon Grassman, Jr.

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Research Interests, Projects and Grants: I am interested in the ecology and conservation of wild cats and other carnivores. I recently completed a four-year field study in Thailand studying the carnivore community as part of my PhD research. My project was supported by the IUCN Cat Action Treasury, Columbus Zoo, and by other small grants.

TEXAS A&M UNIVERSITY-TEXARKANA

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Research Interests, Projects and Grants
Projects: Continuing research projects on coccidian and helminth parasites of mammals (particularly bats and rodents), and amphibians and reptiles (with Chuck Bursey, Penn State-Shenango Valley Campus, Sharon, Pa; Stan Trauth, Arkansas State University, Jonesboro, AR; and Steve Upton, Kansas State University, Manhattan, KS); geographic distribution of millipeds and centipedes of Arkansas, Louisiana, Oklahoma, and Texas (with Rowland Shelley, North Carolina State Museum of Natural Sciences-Raleigh, NC); distribution of fishes of the Ark-La-Tex (with Henry Robison, Southern Arkansas University, Magnolia, AR).
Grants: Received third TAMU-T Faculty Senate Research Enhancement Grant for continuing research on millipeds of the Ark-LA-Tex. A total of $10,000 has been awarded toward this endeavor and no less than eight publications have appeared in refereed journals.

Undergraduate Students and Their Research: Texas A&M University-Texarkana is an undergraduate institution.
Stephanie Barclay, Junior: Fishes of Miller County, AR.
Michelle Cameron, Junior: Centipedes of the Ark-La-Tex, with emphasis on the Scolopendromorpha.
Angie Burns, Senior: Helminth parasites of Rafinesque's big-eared bat, Corynorhinus rafinesquii in Arkansas.

Dawn I. Moore B.S.: Graduated 2003. Millipeds of the Ark-La-Tex, with emphasis on eastern Texas; she presented paper at 2003 Texas Academy of Science Annual Meeting and won second place in undergraduate paper competition; currently teaching science in Ardmore, OK.
Zachary D. Ramsey, Junior: Myriapods of the Ark-La-Tex; Bats of the Ark-La-Tex.

Additional Information: In August, Ramsey and McAllister took part in the 2003 Quachita Mountains "Bat-blitz" in at Lake Clearfork in central Arkansas with numerous bat biologists from nine states, the U. S. Forest Service, Arkansas Game and Fish commission, and Southeastern Bat Diversity Network. Two-hundred nine bats were collected for various scientific research projects; most were tagged and released. As a result of this collaborative effort, McAllister et al. will be describing two new species of coccidian from the eastern red bat, Lasiurus borealis, the first coccidians ever reported from this host. Another "Bat-blitz" is scheduled for summer 2005 in central Arkansas. If interested, you may contact David Saugey for more information at: dsaugey@fs.fed.us. The Department of Biology at TAMU-T will again be offering BSC 405, Vertebrate Field Biology, during Summer I 2004, June 1-July6, a 5 week, six-hour course, taught by McAllister. For more information, contact Dr. McAllister. McAllister recently took over the position of Managing Editor of the Journal of the Arkansas Academy of Science (JAAS). Another member of TSM, Rocky Ward of TP&W-Palacios, TX, is an Associate Editor of the journal. McAllister invites all interested parties to consider attending the annual meeting April 1-3, 2004 at Arkansas State University in Jonesboro, AR. Only papers presented at the annual meeting are eligible for publication in the journal and are due at the time of presentation. The JAAS was mentioned as one of the best among state academies by personnel affiliated with the State Academies of Science Abstracts (SASA). For more information about the Academy, please see: http://cotton.uamont.edu/~aas/
Ark-La-Tex region. We welcome transfer students.
Please see: http://www.tamut.edu/~allard/Biology/labs/student_activities.htm

TEXAS PARKS & WILDLIFE

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Research Interests, Projects and Grants: Developing and implementing statewide conservation and management plans for black-tailed prairie dogs, mountain lions, and bats.

John H. Young

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Research Interests, Projects and Grants: Ocelot, mountain lion, black bear, and habitat restoration.

TEXAS TECH UNIVERSITY

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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, organization, etc. Major projects in the lab include understanding the biological consequences of the meltdown of the nuclear reactor at Chornobyl, understanding chromosomal evolution (especially using fluorescent *in situ* hybridization), providing genetic markers for cultivars of cotton, and my first love, determining the systematics of the New World leaf-nosed bats (Family Phyllostomidae). We finally published the trees based on DNA sequence data and provide a new classification that recognizes 11 subfamilies (2003. Occasional Papers of the Museum of Texas Tech. i+1-32). We will gladly give you a hard copy if you want one or you can access it online at http://www.nsrl.ttu.edu/pubs/opapers/ops/OP230pdf. The Chornobyl project is part of a larger project headed by Dr. Ron Chesser. We have received a DOE grant over $1.2 million for three years to study gene regulation responses in laboratory mice in the Chornobyl environment. Brenda Rodgers is the PI for this grant and Ron and I are co-PIs. Steve Hoofer (Ph.D. with Ron Van Den Bussche at Oklahoma State) is our post-doc on this project.

Robert Baker is President of the Texas Genetics Society and the significance of this is that he chose the plenary speakers for that conference which will meet on 15-18 April in South Padre Island. The plenary speakers and their topics are Randy Allen "Functions of SEVEN IN ABSENTIA genes in signal transduction pathways of plants," Pamela Larsen "C.elegans insulin receptor-like DAF-2 controls temperature-dependent metabolic rate and dauer larva lo," Mark Westhusin "Clining Mammals: Current and future applications" and David Ledbetter Topic to be announced: Dedicated to T.C. Hsu. Robb Moses will be the keynote speaker and will speak on "Crosstalk in Genome Stability Syndromes" and Masatoshi Nei, the 2002-2003 Barbara Bowman Distinguished Texas Geneticist Award winner will present a talk titled "Genomic evolution of olfactory genes in vertebrates." We encourage those interested in genetics to attend.

Graduate Students and their research:

Adam Brown is a graduate student earning his Master of Science Degree from Dr. Baker. He is a member of the team of researchers focusing on the biological consequences resulting from the Chornobyl Nuclear Power Plant meltdown. Specifically, Adam is looking for differential gene expression due to acute low dose radiation exposure. The primary tool used for his project is Microarray technology. Adam.d.brown@ttu.edu

Yelena Dunina-Barkovskaya is a third year graduate student. She received her Master's degree in Moscow State University, and worked in the Physiology Department in the Medical School in Russia. She came to the lab in 1999 as a technician and started the study on the genetic consequences of the Exxon Valdez incident and was a co-author on the publication of the results. Since the completion of htat project, she has been working with Chornobyl samples, sequencing both the cytochrome-*b* gene and the beta fibrinogen gene. She has worked with *Sorex*, *Apodemus sylvaticus*, and *Apodemus flavicollis*. She successfully defended her thesis in December and will graduate in May 2004. Manuscripts are in various stages of preparation for publication. A paper on the shrews at Chornobyl has been published in the Journal of Mammalogy. *ydunina@ttacs.ttu.edu*

Rene Fonseca is a research assistant of the Department of Biological Sciences at Texas Tech University (TTU), and a research associate of the Museum of Zoology (QCAZ) of the Catholic University of Ecuador (PUCE). At present,

he has completed his first year being part of the Master program at Tech. His main interests are focused on the conservation of some species of Ecuadorian mammals and on the taxonomy of some genera of Neotropical bats. From the material collected during the Sowell Expedition 2001 to Ecuador, René and other members of the lab are describing several new species of bats from northwestern Ecuador, a region extremely threatened by human activities. A new species of genus *Lophostoma* (Phyllostomidae) from this area is close to being published. René is also describing a new species of bat of the *Lophostoma carrikeri* complex from the Ecuadorian Amazonia. In his current research, René is analyzing the morphological differentiation of several species of Phyllostomid bats widely distributed in the Neotropics. He is testing the hypothesis that the patterns of differentiation in these species are the consequence of historical and ecological factors associated with regions considered as center of speciation for other vertebrates. René is also comparing the congruence of the morphological data with previous molecular studies on these species. Among the taxa that René is using in his research are *Diaemus youngi*, *Lophostoma silvicolum*, *Phylloderma stenops*, *Phyllostomus discolor*, *P. hastatus*, and *Uroderma bilobatum*. René is actively collaborating in the development of research projects between TTU and PUCE. *rene.fonseca@ttu.edu*

Hugo Mantilla Meluk joined our program for a PhD degree in August 2002. He has been working on mammal diversity and ecology in different countries of the Neotropics including Colombia, Peru, Costa Rica, and Panama. Hugo is a native of Colombia and received his degree under the direction of Alberto Cadena at the Universidad Nacional de Colombia.. His interests enclose a variety of aspects of ecology, systematics, and patterns of diversity of mammals of the Neotropics. His research has focused on two groups: Primates of the Colombian Amazon Region, working under the direction of Thomas R. Defler, and Neotropical bats. He has worked for the Organization for Tropical Studies at Duke University campus as a visiting scholar. His goal is to combine the macro and micro evolutionary approaches to contribute to the knowledge of patterns of biodiversity in the Neotropics. He is especially interested on widespread distributed species and is working on phylogeography in *Desmodus*. Besides this work, he is interested in modeling patterns of biodiversity in Colombia, using GIS based methods, and he is in charge of the Colombian data set for the MaNIS project. *hmantill@ttacs.ttu.edu*.

Norma Salcedo is a second year Ph.D. student native of Peru and is primarily interested in species differentiation by isolation oriented to the study of geographical patterns. Her master thesis involved a highland fish genus (Siluriformes: Loricariidae: *Chaetostoma*) and was directed by Dr. Victor Pacheco at San Marcos University. She has worked with morphological information and she is looking forward to gathering molecular data that can be used to generate hypotheses of phylogenetic relationships between species and to contrast these with morphology based hypotheses. Her dissertation is co-directed by Richard Strauss and Robert Baker. This semester, Norma has been sequencing the cytochrome-*b* gene of bats of the genus *Platyrrhinus* on a project with Paul Velazco (Field Museum). *norma.salcedo@ttu.edu*

Sergio Solari is a second year Ph.D. student from Peru. He received his Magister (Master) degree in 2002 from San Marcos University under the direction of Dr. Victor Pacheco; his thesis on the systematics of *Thylamys* (Didelphidae) was published as a chapter in the book "Predators with pouches: the biology of Carnivorous Marsupials" (CSIRO Publishing). Most of his previous experience comes from morphological studies of Neotropical small mammals; he wants to assess the congruence between those and molecular analyses of the same groups by other students in the lab. He is working on this approach with bats of the genera *Dermanura*, *Carollia*, and *Thyroptera*, and also with opossums of the genus *Marmosa*. His current research involves (a) the phylogeography of a species-group of short-tailed opossums (*Monodelphis*), using the cytochrome b gene, and (b) the morphological diagnoses of the resulting clades, some of which may represent new species. *sergio.solari@ttu.edu*

Matt Bozeman is a first year graduate student from Idalou, Texas. He graduated from Abilene Christian University with honors in biology in May 2003 and joined the lab in August 2003. He is currently working on the systematics of *Artibeus* in Ecuador by genetic comparisons using the cytochrome-b gene as well as the beta-fibrinogen gene. He will hopefully be attending medical school in the fall of 2004 while attempting to become an oncologist. *matt.bozeman@ttu.edu*

Juan Pablo Carrera joined the team in January 2004 and his interest is Museum Science and systematics and biodiversity of the Neotropical fauna. His degree will be in Museum Science. *Juan.p.carrera@ttu.edu*

Steven R. Hoofer joined the lab in February 2003 as a research associate after receiving the Ph.D. in Zoology at Oklahoma State University (advised by Ron Van Den Bussche). His research interests include gene expression and genomic responses to radiation exposure, systematics, taxonomy, biogeography, phylogeography, and population genetics of mammals. Steve's primary role in the lab is to supervise the laboratory portion of our DOE funded study. He is developing and emplementing the methods and materials necessary for DNA microarray analysis and profiling of gene expression patterns in mice exposed to low-dose radiation. *steven.hoofer@ttu.edu*

Peter Larsen is a first year Masters student who joined the lab in August 2003. He is from Beresford, South Dakota and graduated from South Dakota State University with a major in Biology. After several field trips to the Lesser Antilles, Peter has developed interests in biogeography, phylogeography and systematics of bats within the Caribbean. He is currently researching the systematics of *Artibeus jamaicensis* throughout the Caribbean using both the Cytochrome-B gene and the Beta-fibrinogen gene. *Peter.larsen@ttu.edu*

Heather Meeks graduated summa cum laude from Texas Tech in December, 2003, where she received a degree in biology. She has worked in Dr. Baker's lab since
June, 2003, as a Howard Hughes Fellow and is staying on as a graduate student to pursue her Masters degree. Her research is designed to evaluate the consequences of living and reproducing in the radioactive environment created by the Chernobyl incident. *Heather.n.meeks@ttu.edu*

Vicki Swier joined the lab in June 2003 and is a first year Ph.D. student. She received her Masters degree in 2003 from South Dakota State University under the direction of Dr. Scott Pedersen. The title of her thesis was "Distribution, roost site selection, and food habits of bats in eastern South Dakota". Currently, she is working with Dr. Holly Wichman with a project involving L1 elements in *Oryzomys* and *Sigmodon* of South America. Vicki now is the primary contact for the hardware and software used to prepare karyotypes. *Vicki.Swier@ttu.edu*

Robert D. Owen

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Research Interests:
Mammalian systematics, zoogeography, and evolution with emphasis on Neotropical fauna.
Multivariate statistical methods in systematics and evolution.
Philosophy and methodology of vertebrate phylogenetics.
Systematics and biogeography of small mammals in the western Transverse Volcanic Belt region of Mexico.
Systematics, biogeography, ecology, and conservation of Paraguayan mammals.
Evolution, systematics, and ecology of Hanta and other mammalian-borne viruses.

Current Projects and Grants:
"Landscape epidemiology of a Texas Hantavirus: habitat structure and potential role of parasites." Advanced Research Program grant, 2003-2004.
"Hantavirus in the Americas: the role of natural and anthropogenic disturbance." New Mexico State University, 2003-2004.

Graduate Students and Their Research:

Carl W. Dick is in the fifth year of his Ph.D. program. His research involves methodological issues in host-parasite collection, and competition and coexistence of multiple parasite species on host individuals and populations. During August of 2003, Carl conducted field work on Antillean bats and ectoparasites, and recently has worked at the Smithsonian Tropical Research Institute on Barro Colorado Island, Panama. Carl is currently is considering options for post-doctoral research.

Tyla Holsomback is in the third year of her graduate work. Her research focuses on mammal-borne viruses and their interaction with unicellular organisms.

Alisa Abuzeineh is in her second year of her Master's program. Her thesis project includes a geometric morphometric examination of character displacement within the genus *Baiomys*. She is collecting adult specimens of each species from regions of allopatry, as well as from sympatric regions in Central mexico. She will examine size and shape variations of skeletal characters across sexes and geographic range. With this information, she will determine if morphological character displacement occurs within the genus.

Amanda Nix is in the second year of her Master's program. Her thesis work regards prey preference of medium sized carnivores in the interior Atlantic region of Paraguay. This past summer she spent time in the Mbaracayu Reserve in Paraguay, trapping small rodents and marsupials for her synoptic collection and toward the objectives of the Epidemiology of Hantavirus in the Americas project.

Noe de la Sancha is in the first year of his Master's program. He plans to investigate the effects of habitat fragmentation on small marsupial communities in Paraguay.

TEXAS TECH UNIVERSITY

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Robert D. Bradley

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RESEARCH INTERESTS, PROJECTS, AND GRANTS: My research interests include systematic relationships, molecular evolution, and natural history of mammals, particularly in geomyoid and sigmodontine 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 preidictions 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 and phylogenetic studies of *Peromyscus boylii*.
- Phylogenetic relationships of Neotomine and Peromyscine 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*.
- Ecology of emerging hanta-and arenaviruses in the southwestern US.

CURRENT GRADUATE STUDENTS AND THEIR RESEARCH:

- Francisca Mendez-Harclerode (PhD student), is in her fourth year...Populations genetics of *Neotoma micropus* and how geneology predicts susceptibility/resistance to arenavirus.
- Brian R. Amman (PhD student), is in his third year....Systematics of the *Peromyscus boylii* species group.
- Michelle Haynie (PhD) student, is in her third year....Population genetics of four species of *Neotoma* using microsatellite data.
- John Hanson (PhD student), is in his second year....dissertation topic is undecided at this time perhaps molecular systematics of Oryzomyines.
-Denate Baxter (Masters student), is in her second year…Populations genetics of *Neotoma micropus* collected from middens.

Lisa Longhofer (Senior), began working in the lab this summer…Molecular systematics of *Neotoma.*

CURRENT UNDERGRADUATE STUDENTS AND THEIR RESEARCH:

- Nevin Durish (Sophomore), third year in the program…Molecular systematics of the *Peromyscus truei* group.

ADDITIONAL INFORMATION:

-Serena A. Reeder (Masters student) graduate and is working on her PhD Emory University.
-John R. Suchecki (Masters student) graduated and is working in Houston.

THE MUSEUM OF TEXAS TECH UNIVERSITY

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Research Interests, Projects and Grants: Biogeography, geographic distribution, systematics, and ecology of mammals of the Chihuahuan Desert of Texas and adjacent areas. Projects are supported by the Natural Resources Division, Texas Parks and Wildlife Department and the Nature Conservancy of Texas.

THE MUSEUM OF TEXAS TECH UNIVERSITY
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Mariko Kageyama

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Research Interests, Projects and Grants: Mammal collection management, Systematics, biogeography, and evolution of palaearctic mammals.

Additional Information: I am currently in a transitional stage following graduation.

TRINITY UNIVERSITY
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David O. Ribble

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Research Interests, Projects and Grants: I am interested in the behavioral ecology of mammals, and work primarily with *Peromyscus* and most recently elephant-shrews (Macroscelidea). I also work with Trinity University undergraduates on the ecology, natural history, distribution, and conservation of mammals in Bexar County (Government Canyon State Natural Area and San Antonio Missions National Historic Park).

Undergraduate Students and Their Research:

Frank Puga. Survey of mammals at the San Antonio Missions National Historic Park.
Samantha Hammer. Paternity in Eastern Rock Sengis (*Elephantulus myurus*).

UNIVERSITY OF CENTRAL OKLAHOMA

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Gregory M. Wilson

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Research interests, projects, and grants: My research interests include the incorporation of molecular techniques to address questions pertaining to how past climatic events (i.e., Pleistocene glaciations) influenced contemporary population genetic structure of small mammals. I recently received a grant through the Jackson College of Graduate Studies and Research at the University of Central Oklahoma to conduct a project on yellow-bellied marmots. The objectives of the project are to investigate aspects of phylogeography of *Marmota flaviventris* in the central Rocky Mountain region. There are 3 undergraduates (Kevin Pargetter, Rebekah Stroope, and Jill Dawson) working on the project.

UNIVERSITY OF NORTH TEXAS

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Research Interests, Projects and Grants: Vertebrate Biogeography, Conservation Biology, Mammalian Ecology, Wildlife Biology

Graduate Students and Their Research:

Troy Bruce - White-tailed deer utilization of the Lake Ray Roberts Greenbelt Corridor
Audrey Allbach - Conservation status and habitat requirements for the Ozark Pocket Gopher
Jennifer Johnston - Assessing raptor rehabilition success rates through radio-telemetry

Undergraduate Students and Their Research:

Michael Kavanaugh - (McNair Scholar) - Raccoon utilization of the Lake Ray Roberts Greenbelt Corridor
Andrea McAuley - Assessment of raccoon parasite loads in Denton County, TX
Deanna Martinez (McNair Scholar) - Assessing genetic divergence in isolated populations of Baird's pocket gophers (*Geomys breviceps*)

UNIVERSITY OF NORTH TEXAS
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Research Interests, Projects and Grants: Applications of remote sensing and geographic information systems to studies of biodiversity and biogeography; mitochondrial DNA analysis applied to populations and systematics; investigations of genetic variation in fish and mammal populations, including the relationship of genic variation to environmental, demographic and physiological parameters; population genetics and multivariate statistical treatment of genetic data; applications of genetics to the conservation and management.

Graduate Students and Their Research:

Robin Aiken-MS student: GIS analysis on pronghorn habitat utilization in the southern Rolling Plains
Cindy Biggs-Ph.D. Student; Genetic parameters associated with reintroductions of prairie dogs
Carla Carr-Ph.D. Student, recently defended dissertation; Biogeography of Insular Mountaintops on the Colorado Plateau and Phylogeography of the long-tailed vole, Microtus longicaudus.

Additional Information:

I am currently writing a book on Mammalian Biodiversity and Biogeography on the Colorado Plateau to be published early next year.

THE UNIVERSITY OF TEXAS AT AUSTIN
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Digital Morphology Group: http://www.digimorph.org/about/pamelaowen.phtml

Research Interests, Projects and Grants:

Evolutionary history of American badgers (Taxidiinae)
Morphology, evolution, and systematics of the Carnivora
Utilization of high-resolution X-ray computed tomography in morphology studies
Late Cenozoic mammalian faunas

WEST TEXAS A & M UNIVERSITY
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Raymond S. Matlack

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Research Interests, Projects and Grants: I have only been at WTAMU since fall of 2002 but have several research projects underway. My background and current research interests focus on the ecology of small mammals. Our main research site is Cañoncita Ranch, a newly acquired portion of Palo Duro Canyon State Park. Our research at Cañoncita has a number of foci. First, we have initiated a long-term study to determine the composition of the small mammal community, examine temporal and spatial variation in the small mammal community, and examine the influence of topography on small mammals. We are especially interested in the ecology of the Palo Duro mouse, a state threatened species that occurs only in the canyons of the Panhandle of Texas. Second, we have initiated and continue to develop a study to examine the effects of fire on small mammals using experimental plots and large experimental areas that are either unburned or subjected to frequent fires. Finally, we are working with Brenda Rodgers (below) to develop a method of correctly identifying the Palo Duro mouse and the very similar Texas mouse in the field to facilitate our live-trapping studies. We are using karyotypes to verify our identifications.

Other projects include a survey and examination of habitat associations of small mammals at Wildcat Bluff Nature Center, Amarillo, and a study of urban deer including a survey of landowner attitudes towards urban deer.

Graduate Students and Their Research:

Greg Lewellen – Influence of topography on the composition and distribution of the plant and small mammal communities of Palo Duro Canyon
Karah Gallagher – Ecology of the small mammal community of the canyons and grasslands of Palo Duro Canyon

Undergraduate Students and Their Research:

Rachel Spruance and Dan Walker – Attitude of residents towards urban deer and the relationship between attitudes and abundance of deer
Matt Poole – Distribution of prairie voles in the Texas Panhandle based on remains found in owl pellets

Brenda E. Rodgers

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Research Interests, Projects and Grants: My research Program is currently funded by the U.S. Department of Energy's Low Dose Radiation Research Program (http://lowdose.tricity.wsu.edu/). In collaboration with the laboratories of Drs. Ron Chesser and Robert Baker (Texas Tech) and Dr. David Chen (Lawrence Berkeley Nation Laboratory) we are examining the effects of exposure to low doses of ionizing radiation at the cellular and molecular level. In addition to the Chernobyl project, our laboratory is collaborating with Dr. Ray Matlack's small mammal

research in Palo Duro Canyon. Our role in this project is karyotyping and tissue archival of the specimens collected.

Graduate Students and Their Research:

William Osorio – Determination of Hprt Mutation frequencies in BALB/c mice exposed to low doses of ionizing radiation

Kristen Holmes – Application of the micronucleus assay as a biomarker in environmental health and risk assessment of low dose radiation exposures

Undergraduate Students and Their Research:

Alicia Aranda – in collaboration with Dr. Ray Matlack – karyotyping of small mammals from Palo Duro Canyon (Kristen & William have also been working on this project).

Melissa Culwell – genotoxicity of bleomycin and cyclophosphamide in small mammals from Chernobyl

Adrian DeLeon – radiation-induced leukemia

Michael Abassov & Johnnie Faircloth – chromosomal evolution in viperids

XAVIER UNIVERSITY OF LOUISIANA

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Calvin A. Porter

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Research Interests, Projects and Grants: My major research interest is in addressing evolutionary and systematic questions using molecular and chromosomal techniques. My recent interest has been the molecular systematics of phyllostomid bats. I am currently working on karyotypes of bats, rodents, and shrews collected on a recent field trip to Gabon, in west central Africa. I am also beginning work on a study of concerted evolution and genome organization in unisexual lizards. This work is funded by a grant from Xavier University's Center for Undergraduate Research.

Undergraduate Students and Their Research:

Jessica Harvey and Ashley Primus: Currently working with me on the chromosomes of Gabonese mammals