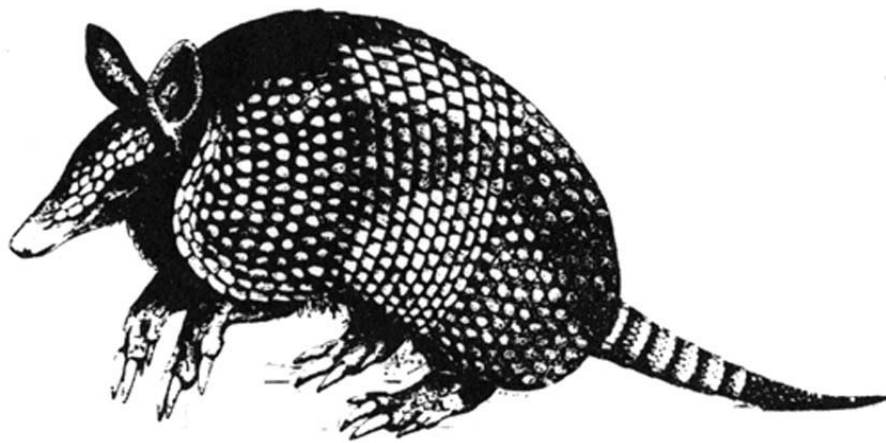


TEXAS SOCIETY OF MAMMALOGISTS



NEWSLETTER

2003

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ANNOUNCEMENTS and BUSINESS

Notes and Acknowledgments from Newsletter Editor, David Ribble

As Newsletter Editor, I continue to benefit from the generous help of Sharon Smith and Sandra Miller of the Biology Department, Trinity University, in compiling the information for this newsletter. And thanks go to Rollin Baker for his generous and interesting contributions.

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. And as always, please contact me should you have any information you would like included in future newsletters (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 20th Annual Business Meeting, 16 February 2002

The meeting was called to order at 3:20 pm by TSM President Phil Sudman.

The minutes from the 2001 meeting were approved

Reports:

Secretary-Treasurer, Ann Maxwell gave the treasurer's report, summarizing the report printed in the 2002 program.

Permanent Secretary, Tom Lee asked for any archival materials (or copies) from past meetings. The rest of the archives are currently being stored at ACU.

Newsletter Editor, David Ribble discussed the success of the newsletter in the electronic form. He offered hard copies of the newsletter to those who needed them.

For the Committee on Honorary Members, Tom Lee reported that none were nominated for the 2002 meeting, but that there had been names submitted for the 2003 meeting.

Conservation Committee representative, Paul Robertson was absent. In lieu, John Young (TPW) requested help with locations of sensitivity (rare mammals, in particular) and wants TPW to host a broad overview session on mammals of Texas. He also stated that the list of Texas mammals needs to be updated with regard to taxonomy and classification and discussed a possible joint meeting with TSM and TPW.

Committee on Student Honoraria: President Sudman reminded the members that the award winners would not be announced until the Saturday evening banquet. Certificates and checks were presented to the winners during the banquet as follows: Brian R. Amman (Texas Tech University) received the Robert L. Packard Award of \$150 for best overall presentation; Scott E. Chirhart (Texas A&M University) received the TSM Award of \$100 for the best presentation pertaining to cytology, evolution, and systematics of mammals; Joel G. Brant (Texas Tech University) received the William B. Davis Award of \$100 for best presentation on research of an ecological nature; and Amy M. Bickham (Texas Tech University) received the Rollin H. Baker Award for the best undergraduate presentation.

In a discussion of recent state government issues, it was reported that nongame research benefits from sale of horned lizard TX license plate. Robert Dowler asked about the final outcome of CARA and John Young said that the legislation had passed in Washington and that the money has not become available yet, but is expected.

Officer Nominations/Elections: Ann Maxwell was re-elected as Secretary-Treasurer and Ron Van Den Bussche was elected President-Elect.

2003 TSM Meeting: Phil Sudman made a motion for the 2003 meeting to be held at TTU Center in Junction (21-23 February). The motion passed unanimously.

New Business: There was some discussion about the use of both Macs and PCs for the 2003 PowerPoint presentations, using only one projector with a special cord and switch.

Robert Baker suggested that TSM historical materials be archived in the Southwest Collection at TTU in Lubbock. The issue was not voted on, but was to be worked out between Tom Lee and Robert Baker.

Closing Remarks: Phil asked everyone to sign cards laid out for absent and wayward members.

The meeting adjourned at 3:47 pm.

COMMENTS and ARTICLES by ROLLIN H. BAKER

DOES FIELD MAMMALOLOGY NEED A BOOST?

In recent years a cadre of researchers study our mammals either alive while under constraints or by having their innards scrutinized in laboratories. This is all well and good, and their findings are adding greatly to our knowledge. At the same time, however, your scribe has the uneasy feeling that these programs, while certainly important, may be taking some of the starch out of the glamour and excitement of basic field investigations. The one exception is a flurry of outdoor-oriented behavioral studies. Even so, at many academic institutions these days, the established mammalogists may be more lab- and less field-prone. So what happens when in-coming, outdoor-oriented beginners wish guidance? Do lab-focused professors refer these novitiates to their colleagues, if they have any, in wildlife management? The loopholes in this arrangement are worrisome since there is always the chance that a potential field man of the caliber of a Walt Dalquest might just slip through the cracks and get lost! So how does our leadership in field-oriented mammalogical studies plan to re-constitute more of our old-time outdoor traditions. And I mean the routine that involved three-way allegiance – with one's time apportioned for (a) field data gathering, (b) museum/lab evaluations, and (c) teaching like-minded students.

Gee! Maybe a rebirth of this régime might be cause to hold a contest to see which student can prepare a voucher specimen of a pocket mouse including the taking of measurements, the writing and attaching of the label, and the pinning out of the study skin – all in less than ten minutes a la a Ray Alcorn or a Ward Russell? For one suggestion shall we look back a century at the doings of wily old C. Hart Merriam? He acquired Fed money to field an exceptional crew of reconnaissance mammalogists, by using economics as his thrust! He assured Congress that worthy, tax-paying citizens who were then entering agribusiness endeavors in newly-developing western lands required (a) annotated inventories of the resident denizens, and (b) methods to deal with those that might squabble with these invading entrepreneurs over natural and introduced biotic production. And Merriam and his colleagues also published systematic, distributional, and ecological facts about both alleged mammalian villains and victims of this encroachment – all with a slight economic twist!

The upshot is that we might use Merriam's gimmick to rejuvenate fieldwork programs. Consider, if you would, each of our mammals as a community resource with an economic worth and go on from there. We might, for example, sell this concept in order to join beckoning Latin American colleagues in long-postponed studies in that vast semi-known mammalian 'wasteland' in South America?

But for those who want to stay closer to home, there is a world of poorly-understood hairy and beady-eyed creatures living in our own backyards or on back forties that need ecological attention a la a Bill Hamilton and his successors. And these interesting creatures are resources in important economic ways, and well-conceived projects to gather facts about them should generate field funds. This would be one method to get budding mammalogists into the field and excite their inquisitive minds. Why? Because out there is where important mammals make their livings. And believe it or not, but my best guess is that they are just anxiously waiting for us to pay attention to them and examine the ways that they help make this planet tick.

IS THE PRAIRIE HABITAT OF TEXAS MAMMALS IN TROUBLE?

In an article entitled *As Forests Reclaim Eastern States, Man and Animals Clash*, James P. Sterba in *The Wall Street Journal* dated 21 May 2002, claims that the shroud of forests covering the northeastern landscape is as thick as it was in pre-settlement times. And with it, an animal-tolerant suburban and exurban citizenry has allowed silvan/riparian-adapted critters ranging in size from as small as opossums, raccoons and striped skunks to as large as coyotes, white-tailed deer, and black bears to infest their neighborhoods. And the star performer in this menagerie is the rather slow and methodical beaver. This poor soul, a forerunner of our Corps of Army Engineers, is being singled out as the worst infringer of the bunch. Why? Because its engineering atrocities are conspicuous – felling fruit/ornamental trees, flooding roadways by its backed-up dammed waters, etc.

And guess what? The forested habitats of eastern Texas are slowly facing this same dilemma. Woody diversity with monocultured pine and exotics like Chinese tallow trees intermingling may not reflect the diverse aboriginal floral mix, but to indiscriminating residents it's still an ever-thickening leafy cover. And its aggressive and often overly-protected animals including this very same beaver are progressively encroaching. Consequently, this floral/faunal combo is producing a worrisome condition.

Likewise, at the western edge of Texas the desert shrub, like the eastern forest, is ever expanding – perhaps with more of its primeval species mix retained. Even so, its dispersal along with characteristic fauna is, in so far as resident humans are concerned, also producing an environmental condition of worrisome proportions.

To our sorrow as naturalists, this continual land grab by two “ambitious” floral/faunal associations is inward - toward central Texas where they are infringing on the domain of our grassland prairie. In terms of the Texas biotic “peck-order,” this gorgeous vista of non-woody, colorfully-flowered, and breeze-tantalized vegetation rates lowest in this tri-hierarchy – two dominants versus one seemingly subordinate.

And this open non-woody habitat is slowly losing its ability to survive since the intruding human, for very practical personal reasons, has not only abused it dreadfully but has declared war to eliminate its greatest natural sustainer - fire. Putting it simply, recurring fire encourages the growth of grasses and forbs and discourages the growth of woody vegetation. In short, Texas is gradually running out of grasslands and progressively gaining more bush/shrub/treelands.

Are Texas mammals and their biotic associates - especially the less ubiquitous types that have ages-old adaptations to our grasslands - on the wane? Think about it! Should we set up long-term programs to monitor these likely happenings? And should we forego the public's anti-burning propensities and establish several sizeable patches of prairies and sustain them by controlled burning regimes?

ARE ADMINISTRATIVE POSTS THE BANE OF PROMISING MAMMALOGISTS?

All of us have known bright, inquisitive, scholarly, field-oriented, and ambitious students of mammalogy who started out with a bang only to end up as "dropouts." Maybe the glamour (or higher pay?) of other career areas overshadowed the lure of studying the antics of rice rats for 20 years in a mosquito-infested coastal marsh. Of course, these "strayed" individuals might indirectly help after they have accumulated wealth in medicine, law, used cat sales, banking, computer software, etc. How? By being project-financing patrons with avocational interests in mammals! So stay friendly with them!

Thus a filtering-out process is to be expected, and those of you passing through contribute noteworthy additions to our knowledge of mammals - but perhaps not to your bank accounts. Congratulations to you and just remember that a slightly hungry dog hunts better!

However, beware of that dangerous pitfall in this business - that of being offered higher-paying and ego-enhancing administrative positions. I refer, of course, to office-bound posts as department heads, directors, or deans in universities and as in the case of state/fed agencies the chiefs of wildlife programs.

Why are such moves bad for our profession? Because hands-on mammalogists lured to these jobs in the prime of their research life either divorce themselves "entirely" from our business or possibly hang in by writing anthologies and hiring their data gathering done by assistants. They may continue to advise students but forsake their roles as active, practicing mammalogists and leave greenhorns to take over.

Take, for example, E. Raymond Hall. In 1944, he accepted the KU positions as Director, Museum of Natural History, and Chairman, Department of Zoology. Because of overwhelming administrative commitments, E. R. at the vigorous age of 42 regretfully conducted his final student-involved field trip - to Wyoming in 1946. As an "armchair" mammalogist for at least another 20 years, he directed scores of graduate student programs and added greatly, as all of us recognize, to the mammalogical literature. Nevertheless, one can wonder to what extra levels he might have gone had he been able to continue the field/museum routine that he had developed at MVZ?

So why do we tolerate a system that rewards administrators more than it does an institution's most valued personnel - its student-attracting, student-inspiring, brilliant, inquisitive, scholarly, question-asking, data-gathering, fact-finding, publication-prolific teaching/research staff?

E. R. Hall used to exclaim to me, "If we could just figure out a way to get the salary of at least one KU professor higher than those of the deans, the system of rewards would change and struggling professors would not have to take posts as department heads and deans in order to meet their financial needs." Then I would counter that this was unlikely since the deans control the purse strings and, like greedy Congressman, deal themselves substantial salary adjustments before offering the "lowly" professorial help whatever is left over.

Before I get shot down, I must be quick to report that nowadays professors are getting higher salaries - well, almost as high as those of assistant football coaches in intercollegiate athletics.

The alternative is to marry a wealthy spouse who, knowing in advance that you are hooked on the insatiable "habit" of wanting to explore the fascinating world of mammals, will be willing to finance your ventures! Gee, with an arrangement like this you might even give the "finger" to those who offer you a dean's job - and get away with it!

BE NOCTURNAL OR DIURNAL OR BOTH: MAVERICK MAMMALS TAKE YOUR PICK

It would be mostly wishful thinking to believe that the lifestyles of mammalian species can be pigeonholed with reliability. There are always assorted "pesky" exceptions - providing more reasons why studying our "maverick mammals" is so fascinating. One of these uncertainties is the mammalian activity response to the two basic photoperiods - night and day - when these creatures need to fend food, to sex seek, to property protect, to lair repair, to runway renovate, etc.

Insatiable curiosity has energized your scribe to examine Texas mammals (see list in Jones and Jones, *Texas Journal of Science*, 44(1):5374, 1992) and attempt to categorize each of the 98 extant, native, non-volant, and non-marine species as to its major activity period. I conclude that 59 (60.2%) are basically nocturnal, 9 (9.2%) are diurnal, and 30 (30.6%) are fairly active in both photoperiods.

Being more specific - and very apt to have my selection criticized by associates - I designate as nocturnal or generally so: 1 opossum, 4 shrews, 1 sciurid, 12 heteromyids, 1 beaver, 4 harvest mice, 9 deer mice, 1 golden mouse, 1 pygmy mouse, 2 grasshopper mice, 4 woodrats, 1 muskrat, 3 canids, 1 bear, 3 procyonids, 8 mustelids, and 4 felids; as diurnal: 9 sciurids; as apt to be active both night and day: 1 mole, 1 armadillo, 4 leporids, 9 geomyids, 2 rice rats, 3 cotton rats, 3 voles, 1 porcupine, 2 mustelids (badger, otter), 4 ungulates.

In short, mammal watchers may expect to find as many as 89 of our 98 species active at night and perhaps only 39 by day. Gee! If it were the other way around, mammals might rival birds as showoffs for oodles of Audubon enthusiasts who can't afford night-vision binoculars and insect repellent. Were mammals to be mostly day-timers, just

think of the spin off possibilities! By publishing attractive mammal-watching field guides we might all become as rich as was Roger T.

Anyhow, mammals like to prowl at night - with at least 11 of the 21 kinds of night-frequenting carnivores being specialists as rodent/ungulate pursuers. These 4 canids, at least 3 mustelids, and 4 felids could be in danger of developing advanced cases of obesity, if prey-catching is no problem for them. Why? Because the available larder is a veritable nocturnal smorgasbord consisting of 4 leporids, 54 rodents, and 4 ungulates. If hunger persists, the coyote, for example, can also forage by daylight and dine on meaty terrestrial sciurids as well as on plump cotton rats and voles.

Home almost free in this prey-predator mix are the tree squirrels. Sure, the diurnal ones must contend with buteos and accipters and the nocturnal one with strigids and tytonids, but when above ground at least all of them are safe from mammalian adversaries with no climbers of the marten/fisher caliber occurring in Texas. In fact hungry meat eaters have slim-pickings, both night and day, forest-foraging for small mammals and had better head for rodent-rich prairies and deserts for filling meals.

After looking elsewhere around the planet your scribe notes that night instead of day activity has been selected for in the case of most mammals - especially the smallish ones. Many have specially adapted eyes, often large and beady, to better see after dusk. But more than that and unlike their avian associates/competitors, they have a finely tuned sense of olfaction to make night-prowling even more of an exact science for them. This ability makes it tough on inquisitive mammalogists who are stymied by possessing both poor night vision and poor smellers.

WHY SO FEW MAMMALS IN TEXAS WOODLANDS?

Texas is ecotone-rich! Why? Because it is situated at the southern end of the Great Plains, at the northeastern limits of the Chihuahuan Desert, at the southeastern terminal of the Rocky Mountains, at the extreme northwestern limit of Mexico's Sierra Madre Oriental, at the northernmost tail end of the eastern Mexican tropical lowland, and at the western extension of the Southeast's pineywoods. In short, it does not sit squarely in the middle of any major biotic region. But before I am condemned, I had better hurriedly mention that our much-abused Edwards Plateau is at least a lukewarm "hotbed" of vertebrate speciation, sponsoring semi-endemic Texas mouse (*Peromyscus attwateri*) plus golden-cheeked warbler, possibly black-capped vireo, and some cold-bloods.

This mixture of "edge" habitats allows Texas to support a remarkable array of terrestrial, non-volant mammals. At the same time, the variety from any one source can be less than luxurious. Why? Because a peripheral habitat often has tailing-off resources that may exclude some players that only thrive well within its confines.

And it is the murids and other smaller types that are most specifically identified with each of these areas! The exception is white-footed mouse (*Peromyscus leucopus*) that seems to enjoy living almost everywhere in Texas. On the other hand, larger mammals get around more. Micro-mammal-catching canids, procyonids, mustelids, mephitids, felids seem less persnickety - being perhaps more interested in the quantity of prey rather than in its quality or that of its woody habitation.

With these ground rules in place shall we examine the status of mammals in Texas forested areas? According to some environmental assessments the major forested resources include (1) pineywoods, (2) post oak savannah, (3) cross timbers, (4) glade-like woodlands on the Edwards Plateau, (5) coniferous highlands in northern Trans-Pecos, (6) coniferous highlands in southern Trans-Pecos, and (7) thorn shrub on South Texas lowlands. The first four of these areas have affinities with Southeast woodlands; the fifth contains Rocky Mountain components; the sixth relates to the Sierra Madre Oriental; and the seventh has elements derived from the Gulf Coastal Tamaulipan biota.

Woodland Mammals with Eastern Affinities - Peripheral pineywoods habitats in East Texas support most kinds of small mammals adapted for life in the forested Southeast. Common, for example, to both eastern Texas and Alabama are short-tailed shrew (*genus Marina*), swamp rabbit (*Sylvilagus aquaticus*), eastern gray squirrel (*Sciurus carolinensis*), eastern fox squirrel (*Sciurus niger*), southern flying squirrel (*Glaucomys volans*),

cotton mouse (*Peromyscus gossypinus*), golden mouse (*Ochrotomys nuttalli*), eastern woodrat (*Neotoma floridanus*), and woodland vole (*Microtus pinetorum*). Those failing to extend their ranges into Texas include southeastern shrew (*Sorex longirostris*) and eastern chipmunk (*Tamias striatus*). Westward of the pineywoods in central Texas, the dropout rate of this Southeast mammalian assemblage is impressive with small woodland mammals in post oak savannah, in cross timbers, and on the Edwards Plateau strikingly species-impooverished. Only eastern woodrat and eastern fox squirrel find all of these central Texas environments livable. These small forest mammals, however, have one predator that does not harass their Alabama relatives. It is the southwestern-based ringtail (*Bassariscus astutus*). But those Alabama mice better take care, because the ringtail is on its way east!

Woodland Mammals with Rocky Mountain Affinities - Northern Trans-Pecos highland, centered in Culberson County, is crowned with coniferous-dominated cover having a Rocky Mountain affiliation. But unfortunately the mammalian representation is real skimpy, with only one certified "Rocky Mountain" denizen, gray-footed chipmunk (*Tamias canipes*), present plus a boreal but meadow-prone Mexican vole (*Microtus mexicanus*). If you insist, we can augment this list by adding highland but generally petrophilic brush mouse (*Peromyscus boylii*), pinon mouse (*Peromyscus truei*), northern rock mouse (*Peromyscus nasutus*), and Mexican woodrat (*Neotoma mexicana*). Other sylvan-adapted Rocky Mountain mammals are, however, not far away. From the Guadalupe, for example, vagrant shrew (*Sorex vagrans*), cliff chipmunk (*Tamias dorsalis*), and red squirrel (*Tamiasciurus hudsonicus*) occur in the Sacramento Mountains only a mere 80 kilometers to the north northwest. The trouble is that arid and alien lowlands separate these highland-adapted species and deter their intermontane travel.

Woodland Mammals with Sierra Madre Affinities - Montane forested habitats in the southern Trans-Pecos counties of Brewster, Jeff Davis, and Presidio exhibit characteristics in common with those in the disjunct northwestern extensions of the Sierra Madre Oriental in Coahuila. Such boreal forest dwellers in the Sierra del Carmen as Miller's shrew (*Sorex milleri*) and cliff chipmunk (*Tamias dorsalis*) are apparently barred from the Chisos et al. by a combo of arid lowlands and an entrenched Rio Grande. Nevertheless highland-adapted but not necessarily woodland-prone yellow-nosed cotton rat (*Sigmodon ochrognathus*) apparently made the cut and crossed this alien border gap - as might here northern rock mouse, brush mouse, and possibly Mexican woodrat.

Woodland Mammals with Southern Affinities - Just to be fair and perhaps stretching our point, we should take a brief look at subtropical thorn shrub, in part probably usurped mesquite-grassland, as a featured Texas "woodlands." This skimpy and much disarranged woody cover in the Rio Grande Valley harbors such hardy stragglers from more torrid climes as Mexican spiny pocket mouse (*Liomys irroratus*), Coues' rice rat (*Oryzomys couesi*) plus a couple of Neotropical felids, ocelot (*Leopardus pardalis*), jaguarundi (*Herpailurus yagouaroundi*). South-of-the-border Mexican gray squirrel (*Sciurus aureogaster*) comes close - approaching northward to within only about 135 kilometers of Cameron County. Our two outstanding ambassadors from Neotropica are, of course, long-time resident Virginia opossum (*Didelphis virginiana*) and newcomer nine-banded armadillo (*Dasyus novemcinctus*). Both have done well. The latter, for example, ventured into Texas sometime during in the last half of the 19th century, "liked" what it saw, and spread everywhere save for parts of Trans-Pecos, perhaps aided and abetted by environmental changes wrought by the human experience.

Do the less than complete packages of forest-dwelling micro-mammals "enjoy" more modest interspecific competition in their "peripheral" situations in Texas than might be the case in more species-crowded central sectors of their home lands? Are human land-use practices reducing habitat quality in these "edge" environments to the extent that adapted species are on the wane? Is, for example, the rapid conversion of mixed natural forests to pine monocultures subduing mammalian life in the pineywoods? Did forested Trans-Pecos highlands ever support a wealth of small boreal mammals that are not now present? If they were once present, why did their numbers evaporate? Shall we now check ancient barn owl roosts or woodrat dens for evidence of former montane residents?

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: Texas Parks and Wildlife funds were used to survey of the roost sites of *Eumops perotis*. This past summer we visited most of the known Texas roost sites of *Eumops* and discovered two new sites. Continued work with systematics of *Tonatia*. This project is in collaboration with Texas Tech University and Oklahoma State University.

Undergraduate Students and Their Research:

Jay Packer: Survey of *Eumops perotis* roost sites.

Andrew Belcher: Survey of *Eumops perotis* roost sites.

Additional Information: The Abilene Christian University Natural History Collection was accredited in 2002 with the American Society of Mammalogists.

ANGELO STATE UNIVERSITY

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Loren K. Ammerman

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Research Interests, Projects and Grants:

- Grant: A multi-gene approach to the phylogeny reconstruction of free-tailed bat genera
- Molecular systematics of bat species in the genera *Eumops* and *Nyctinomops*
- 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:

Amanda Matthews (MS in December 2002) - Trophic ecology of the free-tailed bats *Nyctinomops femorosaccus* and *Tadarida brasiliensis* (Chiroptera: Molossidae) from Big Bend National Park, Texas

Rogelio Rodriguez (MS in December 2002) - Phylogenetic relationships and phylogeography of *Myotis californicus* and *Myotis ciliolabrum* (Chiroptera: Vespertilionidae) in the southwestern United States

Undergraduate Students and their Research:

Jennifer Apodaca - Molecular systematics of bat species in the genus *Eumops* using B-fibrinogen intron 7
Anica Debelica - The diet of *Nyctinomops macrotis* from Big Bend National Park
Sandy Bradstreet and Melanie Book - Molecular systematics of *Nyctinomops* species using DNA sequence data

Additional Information: I am currently recruiting undergraduate students to work in my lab toward the MS degree. Also, Angelo State University recently purchased an automated DNA sequencing system that is housed in my lab.

Robert Dowler

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Research Interests, Projects and Grants: My research interests in west central Texas currently focus on two areas: the ecology of skunks and a survey of mammals, reptiles and amphibians of Camp Bowie, Brownwood, Texas. 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*. My students and I are also doing 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. He has also been doing karyotypic work on hog-nosed skunks.

Jeffrey B. Doty - Jeff is actively radio-tracking western spotted skunks, *Spilogale gracilis*, in Tom Green County for his thesis research. In addition, he received a Carr Research Scholarship to assess den selection by medium-sized mammals in areas with high and low density prickly pear cactus.

Sean Neiswenter - Sean is beginning his M.S. thesis work on behavioral ecology of hog-nosed skunks using radiotelemetry. In addition, he will be conducting an independent study of ecto- and endoparasites of *Conepatus mesoleucus*.

Spencer M. Stewart - Spencer is completing thesis research working on a comparison of food habits and foraging between hog-nosed skunks, *Conepatus mesoleucus*, and striped skunks, *Mephitis mephitis*.

Amy Vestal - Amy has just begun graduate work in January, 2003 and her research topic has yet to be determined.

Undergraduate Students and their Research:

Carla Ebeling - Carla has received a Carr Research Scholarship to conduct a study of the mammals of Brown County, Texas.

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.

BAT CONSERVATION INTERNATIONAL

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Research Interests, Projects and Grants: Currently working on the greater long-nosed bat *Leptonycteris nivalis* in west Texas and northeastern Mexico.

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Research Interests, Projects and Grants:

--Interests: ecology, natural history, biogeography of small mammals (especially bats, pocket gophers, other rodents)

--Group projects and grants/contracts:

-inventory of mammals, reptiles and amphibians at Cobb Creek Preserve, Hill County, Texas;

-inventory of mammals, reptiles and amphibians at Colorado Bend State Park, San Saba and Lampasas counties, Texas.

Graduate Students and Their Research:

Cathy Early, doctoral dissertation topic: impact of red imported fire ants on rodent community in native tallgrass prairie; funded through the Nature Conservancy of Texas.

Michael Mellon and Sarah Epperson, continuing non-thesis master's students.

Jeff Scales completed his thesis (on roost fidelity in an urban population of Mexican free-tailed bats) and graduated with the MS degree in December 2002 . . . congratulations!!

Newly arrived master's students for Spring 2003 semester:

Amy Wilhelm, from Northern Colorado University, and Ryan Burgard, from Texas A&M-Kingsville. Both will conduct thesis research in small-mammal ecology.

Undergraduate Students and Their Research:

Scott Landua, University Scholars program, will conduct a landscape-ecology project to examine highway mortality in relation to proximity of stream corridors.

Additional Information: The Department of Biology has a faculty opening (rank open) for an ecologist who uses molecular techniques. The position involves research, teaching and service and is available beginning summer 2003. Please contact Ken Wilkins (chair of search committee) for further information.

COLUMBUS STATE UNIVERSITY

College of Science
4225 University Avenue
Columbus, GA 31907

Art Cleveland

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WEB PAGE ADDRESS: cos.colstate.edu

Research Interests, Projects and Grants: Finishing four Mammalian Species Accounts on some Asian species. Continued interest in Chima and Panama. Continued consulting in environmental remediation using microbial augmentation in Florida, Georgia and Texas sites.

Graduate Students and Their Research:

Michelle Smith - M.S. Graduated this past summer Thesis Topic: "Availability of organochlorides and accumulation in populations of *Tadarida brasiliensis* and *Eptesicus fuscus*"

Jenny Jackson - started in August 2002 and beginning research on a bat project as of yet unidentified

Undergraduate Students and Their Research:

Toney Griffin - completed his work on armadillo stomach analysis in Georgia compared with similar studies in the literature from Texas. Manuscript in prep for Southeastern Biologist (January 2003)

Jhumki Chowdhuri completed her study of local skeletal variation in a population of *Tadarida*

Other Information: I will be in Texas in February (unfortunately during the TSM weekend) to receive an award from my alma mater (UT Arlington). Recently returned from Malaysia October/November...

HUMBOLDT STATE UNIVERSITY

College of Natural Resources and Sciences

1 Harpst St.
Arcata, California, 95521

Steven A. Smith

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WEB PAGE ADDRESS: <http://www.humboldt.edu/~cnrs/>

Research Interests, Projects and Grants: Vertebrate systematics, ecology, and conservation.

Graduate Students and Their Research:

Keith Krakauer: Effects of roller-chopping on vegetation, mammifauna, and herpetofauna"

McMURRY UNIVERSITY

**Department of Biology
Abilene, TX 79697**

Robert E. Martin

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FAX: (915) 691-0937

EMAIL: martinr@mcmurryadm.mcm.edu

WEB PAGE ADDRESS: <http://www.mcm.edu/academic/depts/bioldept/martin2.htm>

Research Interests, Projects and Grants: Completion of study on Texas kangaroo rat.

MIDWESTERN STATE UNIVERSITY

**Department of Biology
Wichita Falls, TX 76308**

Frederick B. Stangl, Jr.

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EMAIL: stangl@nexus.mwsu.edu

WEB PAGE ADDRESS: www.mwsu.edu

Research Interests, Projects and Grants: Continuing interests in various aspects of Texas mammals.

OKLAHOMA STATE UNIVERSITY

**Department of Zoology
Stillwater, OK 74078**

Karen McBee

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EMAIL: mcbee@okstate.edu

WEB PAGE ADDRESS: http://zoology.okstate.edu/zoo_fclt/mcbee.htm

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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Fax: 405-744-7824

EMAIL: ravdb@okstate.edu

WEB PAGE ADDRESS: www.okstate.edu/arts/zoology/ravdb/

Research Interests: While my primary research interests continue to focus on higher-level phylogenetic relationships within bats, we have recently begun several phylogeography and population genetic studies on Ozark big-eared bats, Clear Creek *Gambusia*, and catfish.

Graduate Students and Their Research:

Steven R. Hooper: Steve is in the process of completing his doctoral research on higher-level relationships within Vespertilionidae. Although Steve will officially graduate in May, 2003, he has accepted a post-doc position at Texas Tech University to work with Robert Baker. Steve will begin this post-doc position in February of 2003.

Sarah Weyandt (M.S.): Is continuing her masters research on conservation genetics of Ozark big-eared bats. Additionally, Sarah is working on genetic projects regarding the systematic relationships of some South American akodont rodents (along with Dr. Janet Braun, University of Oklahoma), phylogeography of *Antrozous pallidus*, and genetic analysis of black bears in eastern Oklahoma.

Raymond Ary (M.S.): Raymond is finishing his MS research on genetic analysis of population structure of raccoons and the influence of urbanization. Raymond anticipates graduating in May, 2003.

Stacey Davis (M.S.): Stacey is a new MS student in my program (co-advised with Dr. Anthony Echelle) and her primary research will deal with the genetic analysis of Clear Creek *Gambusia* through microsatellite analyses.

Sherri McClure (M.S.): Sherri is a new MS student in my program (co-advised with Dr. Anthony Echelle) and her primary research will deal with molecular genetic analysis of southwestern species of catfish.

Joe Hackler (M.S.): Joe is a new MS student in my program (co-advised with Dr. Stanley Fox) and his primary responsibility will be a molecular phylogeographic analysis of alligator snapping turtles.

Undergraduate Students and Their Research:

Stephanie Blahowiak is conducting a microsatellite analysis of black bears from the Ouachita mountains in southeastern Oklahoma for her undergraduate honors thesis.

Steve Griffin is performing a mtDNA sequence analysis of black bears from the Ouachita mountains in southeastern Oklahoma for his undergraduate honors thesis.

Philip Morton, in collaboration with Drs. Janet Braun and Michael Mares of the University of Oklahoma will be examining intra- and interspecific phylogenetic relationships of molossid bats from Argentina based on DNA sequence analysis of the mitochondrial cytochrome b gene.

Jay Roop, in collaboration with Drs. Janet Braun and Michael Mares of the University of Oklahoma will be examining intraspecific phylogenetic relationships within the genus *Thylamys* based on DNA sequence variation of the mitochondrial cytochrome b gene.

SAM HOUSTON STATE UNIVERSITY
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Monte L. Thies

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Research Interests, Projects and Grants: Pesticide contamination in bats (primarily *Tadarida brasiliensis*); natural history, habitat requirements, and foraging ecology of *Tadarida brasiliensis*; natural history of terrestrial vertebrates with primary emphasis on population and community structure studies of small mammals; endo- and ectoparasites of mammals; fire ecology and effects of prescribed fire on plant community structure and vertebrate species compositions. Current grants (approximately \$32,000) include mammal survey work at two Texas Army National Guard facilities, Camp Swift (Bastrop Co.) and Fort Wolters (Palo Pinto Co.).

Graduate Students and Their Research:

Jennifer Wier (MS in Agriculture) Thesis: Seasonal changes in spermatogenesis in the Brazilian free-tailed bat

Undergraduate Students and Their Research:

Aimee Stark (BS in Biology): Microbial flora in the mouth of the Brazilian free-tailed bat

Additional Information: I am director of the SHSU Center for Biological Field Studies (formerly TPWD's Huntsville Fish Hatchery). Located 5 miles NE of Huntsville, the 250-acre property is dedicated to biological and environmental field studies. Habitats consist of secondary regrowth of loblolly pine, mixed hardwood forest, bottomland hardwood along Harmon Creek (a tributary of the Trinity River), and two small grayland prairie inclusions. Current research on the field station include populational studies of songbird (Carolina Wren, Yellow-breasted Chats, Cardinal), a long-term study of the cottonmouth by a student from the University of Oklahoma, and long-term monitoring of the effects of prescribed fire and controlled burning on east Texas forest communities.

SAN ANTONIO ZOO
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Robert Evans, Curator of Mammals

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EMAIL: MAMMALS@SAZOO-AQ.ORG

WEB PAGE ADDRESS: <http://www.sazoo-aq.org/flashstart.html>

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

SOUTHWEST TEXAS STATE UNIVERSITY

**Department of Biology
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Richard W. Manning

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Research Interests, Projects and Grants: mammals and herps

TARLETON STATE UNIVERSITY

**Department of Biological Sciences
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Russell S. Pfau

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Research Interests, Projects and Grants: My research interests include population genetics and evolutionary genetics at the population-species interface. My current research efforts are focused on the evolutionary genetics of immune response genes--Major Histocompatibility Complex (MHC)--in rodents, including *Peromyscus* and *Sigmodon*. Comparisons of MHC diversity with genome-wide genetic diversity provide insight into the tempo and mode of MHC evolution and the evolutionary history of the populations themselves. Research in my lab includes screening for genetic variation using Single Strand Conformation Polymorphism (SSCP) analysis, DNA sequencing, and microsatellite analysis. Students in my lab are currently developing and implementing Amplified Fragment Length Polymorphism (AFLP) markers for use in measuring levels of genome-wide population diversity and for inferring population history and species relationships in rodents.

Graduate Students and Their Research:

Kristin Denton - Patterns of MHC diversity and evolution within and between two closely-related species of *Peromyscus*: *P. boylii* and *P. attwateri*.

Undergraduate Students and Their Research:

Caleb Phillips - Genome-wide genetic diversity in an isolated population of *Sigmodon hispidus* from southwestern Arizona based on AFLP markers.

Lauren Adams - Patterns of genetic diversity in island and mainland populations of *Peromyscus maniculatus* from Baja California based on AFLP markers.

Lin Winton - Characterization of MHC diversity and evolution in a population of *Peromyscus maniculatus* from Oklahoma.

Kyle Jordan - Patterns of genetic diversity in *Peromyscus attwateri* based on AFLP markers.

Philip D. Sudman

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Research Interests, Projects and Grants: Conservation genetics, mammalian systematics (especially geomyid rodents), and general mammalian biology.

Graduate Students and Their Research:

Lauri Heintz - Effects of habitat restoration of native mammals of Somervell County, TX.

Jana Caldwell - Microsatellite analyses of black rhinos.

TEXAS A & M UNIVERSITY

Department of Biology

College Station, TX 77843-3258

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.

TEXAS A&M UNIVERSITY-CORPUS CHRISTI
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Graham Hickman

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

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Caesar Kleberg Wildlife Research Institute
Campus Box 218 Kingsville, TX 78363

Michael Tewes

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

TEXAS A&M UNIVERSITY-TEXARKANA
Department of Biology
Texarkana, TX 75505

Chris McAllister

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Research Interests, Projects and Grants: Continuing research activities on coccidial parasites of small mammals, amphibians, and reptiles; Helminth parasites of amphibians and reptiles; Ecology and natural history of Ark-La-Tex fauna; Distribution of millipeds of the southcentral and southwestern U.S.

Projects: Collaborating with Rick McKown, DVM, Great Plains Vet Educational Center-Clay, Nebraska, on histopathology and DNA isolation/PCR of *Sarcocystis* species of *Dasypus novemcinctus*; Continuing ecological and taxonomic research with a world-renown expert, Dr. Rowland Shelley, NC St. Museum of Natural Sciences-Raleigh, on millipeds and centipedes of the southwestern U.S.; Collaborations on amphibian and reptile helminth parasites with Drs. Stan Trauth (Ark. St. Univ.), Charles Burse (Penn. St.-Shenango), and Jim Cordes (LSU-Eunice).

Grants: Two TAMU-T Faculty Senate Research Enhancement Grants (2002-2003) to study distribution of millipeds in the southwestern U.S. (\$6,000)

Undergraduate Students and Their Research: Texas A&M University-Texarkana is an undergraduate institution.

Dawn I. Moore: A study on the distribution of myriapods, with an emphasis on millipeds of the Ark-La-Tex.

Joshua Kessler, B.S. Coccidia of rodents of the Ark-La-Tex (graduated 2002)-coauthored paper with McAllister to appear in J. Ark. Acad. Sci. 56, 2003.

Chris S. Harris, BAAS. Millipeds of the Ark-La-Tex, primarily Arkansas (graduated 2002)-coauthored paper with McAllister and Shelley to appear in J. Ark. Acad. Sci. 56, 2003.

Jennifer L. Hollis, Presidential Scholar, Univ. Northern Iowa. A distributional study of amphibians and reptiles of the Ark-La-Tex (Independent Research Project, Summer 2002). Currently a student at UNI, Biology Dept.

Zachary D. Ramsey, Bat studies in the Ark-La-Tex. Coauthored paper with McAllister to appear in Texas J. Sci. 54, 2003.

Kelly Richey, B.S. Distribution of frogs and toads of northeastern Texas using the frog-logger (graduated 2002).

Additional Information: Our Biology program has shown continued growth since our inception in Fall of 2000. We are recruiting additional students from the Ark-La-Tex region. I serve as the TAMU-T Pre-Medical Advisor, Chairman of the TAMU-T Curriculum Committee, and Managing Editor of the Journal of the Arkansas Academy of Science (term to begin April 2003). I will teach BSC 405 (Vertebrate Field Biology, 6 hrs credit) in Summer I 2003. The course concerns basic field methods involved in the study of vertebrates and their populations, especially those of the

Ark-La-Tex region. We welcome transfer students.

Please see: http://www.tamut.edu/~allard/Biology/labs/student_activities.htm

TEXAS PARKS & WILDLIFE

Wildlife Diversity Program

3000 IH-35 South, Suite 100

Austin, Texas 78704

Paul B. Robertson

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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
Department of Biological Sciences
Lubbock, Texas 79409

Robert J. Baker

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email: rjbaker@ttu.edu

WEB PAGE ADDRESS: www.biology.ttu.edu and www.nsrl.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, organization, etc. Major projects in the lab include understanding the biological consequences of the meltdown of the nuclear reactor at Chernobyl, 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 published a gene tree for the Phyllostomidae based on the nuclear gene *RAG2*, for on representatives of over 50 genera. In collaboration with Ron Van Den Bussche, Steve Hooper, and Calvin Porter, we expect to publish the mitochondrial ribosomal gene sequences for these same taxa and use this as the basis for a revised classification for this bat family. This manuscript is finished but has not yet been submitted. We expect to submit it to the Journal of Mammalogy. The Chernobyl 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 Chernobyl environment. Brenda Rodgers is the PI for this grant and Ron and I are co-PIs. Steve Hooper (Ph.D. with Ron Van Den Bussche at Oklahoma State) will be our post-doc on this project.

Robert Baker is President-elect of the Texas Genetics Society and the significance of this is that he chose the plenary speakers for that conference which meets on 27-29 March in Austin. The plenary speakers and their topics are Kim Nelson (To Win or Lose by a Hair – The Science and Art of Forensic Mitochondrial DNA Analysis), Holly Wichman (Genomes: One Man's Junk is Another Man's Treasure), David Hillis (Sex and the Single Rotifer (and other tales of sexual intrigue) and Jim Lupski (Genomic Disorders: Recombination based Disease Resulting from Genome Architecture). We encourage those interested in genetics to attend.

Graduate Students and their research:

Adam Brown graduated from Texas Tech in December 2002 and is staying at Tech to obtain a Master's Degree with Robert Baker. He is using a portion of the cytochrome-*b* gene to investigate the systematics of Ecuadorian bats. Currently he is focusing on the genus *Dermanura*. He is collaborating on this project with Federico Hoffmann. Adam also has been working on isolating the ZFX/ZFY gene from small mammals to identify banding patterns for a sex determining mechanism. This study will be applied to one of Deidre Parish's projects. His Master's degree will focus on the biological consequences resulting from the Chernobyl nuclear power plant meltdown.
adambrown55@yahoo.com

Yelena Dunina-Barkovskaya is a second 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 that project, she has been working with Chernobyl samples, sequencing both the cytochrome-*b* gene and the beta fibrinogen gene. She has worked with *Sorex*, *Apodemus sylvaticus*, and *Apodemus flavicollis*. Manuscripts are in various stages of preparation for publication. A paper on the shrews at Chernobyl has been tentatively accepted by the Journal of Mammalogy. A paper on the genetic subdivisions of *Apodemus sylvaticus* and a paper entitled "Is genetic compatibility recognized through a Salivary Protein – MHC-1 Interaction?" is in a final draft form and being reviewed by the co-authors.
ydunina@ttacs.ttu.edu

Rene Fonseca joined the lab in August 2002 and is a first year Master's student from Ecuador. During his participation as a research associate of the Museum of Zoology (QCAZ) of the Catholic University of Ecuador his interest was focused on the taxonomy, ecology and conservation of Ecuadorian mammals, with emphasis on bats and rodents of the highlands and eastern lowlands. He was the principal mammalogist in a project to design a biological corridor between two National Parks in the eastern slopes of the Andes, carried out in 2001 by Natura Foundation in Ecuador. Additionally, Rene was coordinating a vampire bat control program with other researchers of the Catholic University in several localities of Ecuadorian Amazonia for the last two years. From July to August 2001, Rene was part of the team from Catholic University in a Sowell Expedition coordinated by Robert Baker, Carl Phillips and Clyde Jones. His current research deals with the description of a new species of *Tonatia* from northwest Ecuador and the reevaluation of the *Tonatia silvicola* complex using morphological characters. He is starting a study on the Systematics and Phylogeography of the Neotropical genus *Myotis*, using both molecular and morphological data. rene.fonseca@ttu.edu

Adam Fuller has finished his leave of absence from the Fish and Wildlife Service fish hatchery at Mora, New Mexico. Adam continues his research on the genetics of species of fish, such as the Apache Trout, to better conserve the species using fish hatcheries as a medium. Adam_Fuller@fws.gov

Michelle L. Haynie is a third year Ph.D. student. She has shifted to Robert Bradley's lab and Dr. Bradley is playing the primary role as her dissertation advisor. See his report for further information. mhaynie@ttacs.ttu.edu

Hugo Mantilla joined our program for a Master's degree in August 2002. He is working on phylogeography in *Desmodus*. Hugo is a native of Colombia and received his degree under the direction of Alberto Cadena. mantillameluk@hotmail.com

Rex McAliley is a third year Ph.D. student. Rex completed his thesis work with Phil Sudman at Tarleton State comparing molecular variability and biogeographical history among populations of *Geomys texensis* and investigating the occurrence of *G. texensis* mtDNA in a *G. bursarius* population. Current research includes development of microsatellites for *Geomys* and *Notiosorex*, examination of the species group *Notiosorex* in the southwest (using cytochrome-*b* and a nuclear marker β -fibrinogen), identification of rodents collected in Ecuador and genetic characteristics of *Baiomys* populations at the northern end of the range of the species. mcaliley1@home.com

Deidre Parish is planning to defend her dissertation in Spring 2003. Her Ph.D. work focuses on genome organization, mobile DNA and chromosomal evolution in mammals. A large portion of her research employs the accumulation of Long Interspersed Nuclear Elements (LINEs, L1s) in a variety of mammalian genomes. Using fluorescent *in situ* hybridization (FISH) techniques, experiments are designed to examine the genome of specimens collected on previous field trips to Mexico and Ecuador. Quantification of intensity of the signal from FISH to eliminate subjectivity is a major effort. Probing chromosomes with L1 elements isolated by Holly Wichman's lab at the University of Idaho, she continues to investigate the relationship between the accumulation of LINEs and X inactivation using *Carollia brevicauda* as the model system (*Cytogenetics and Genome Research*, 2002, 96:191-197). Deidre is also studying the cytogenetics of the *Vampyressa pusilla/Mesophylla* complex. The ultimate goal of her research is to understand the forces that contain parasitic DNA in the genome. deidre.parish@ttu.edu

Norma Salcedo is a native of Peru and is primarily interested in the biology of fishes. 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*.

Sergio Solari is a first year Ph.D. student from Peru. He received his Magister (Masters) degree in 2002 from San Marcos University under the direction of Dr. Victor Pacheco. The title of his thesis was "Systematics of *Thylamys* (Didelphidae), with emphasis on species of the western side of the Andes." Because most of his previous experience comes from morphological revisions of Neotropical small mammals, he hopes to combine this with molecular systematics. His current research involves the systematics of the short-tailed opossums of the genus *Monodelphis*, using both morphological and molecular approaches. He would also like to try similar approaches to other groups such as bats and other opossums. ssolari@ttu.edu

Undergraduate Students and Their Research:

Elizabeth Phillips is an undergraduate research fellow in the Howard Hughes Medical Institute program. She joined the lab in June 2002 and is a senior Zoology major graduating in May 2003. Following graduation, she will continue on to a Masters in Biotechnology. Her current project is determining the phylogenetic relationships between South American Leaf-Nosed Bats under the guidance of Federico Hoffmann and Robert Baker.
elphilli@ttacs.ttu.edu

Ryan Forseman is a junior undergraduate research fellow in the Howard Hughes Medical Institute program. Ryan is using the cytochrome-*b* gene to work out some of the phylogeography of *Artibeus*. ryan.n.forseman@ttu.edu

News on Past Students

Federico Hoffmann finished his Ph.D. in December 2002 and is now a post-doc at the University of Nebraska in Dr. Guillermo Orti's lab.

Calvin Porter is an Assistant Professor at Xavier University in New Orleans.

Brenda Rodgers is an Assistant Professor at West Texas A&M University. Brenda is the PI of a grant entitled "Transcriptional and Radio-Adaptive Responses to Low Dose Rate Environmental Exposures to the Radioactive Fallout at Chornobyl" and will work closely with us in the lab; primarily in the summer months.

Jeff Wickliffe has a post-doc position in the Department of Preventive Medicine and Community Health at the University of Texas Medical Branch in Galveston under the supervision of Jonathan Ward, Sherif Abdel-Rahman and Mary Treinen-Moslen

Ronald K. Chesser

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Research Interests, Projects, and Grants: I am involved in the assessment of radioactive contamination and resultant dose in the Chornobyl region of Ukraine. I have worked in the Chornobyl area since 1992 and am applying data to the generation of GIS layers for use in biological science, remediation, and environmental management. My research interests also include modeling genetic variation in social systems and in structured populations.

Robert D. Owen

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Email: robert.owen@ttu.edu

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, 2002-2003.

“Hantavirus in Honduras: the role of natural and anthropogenic disturbance.” New Mexico State University, 2002-2003.

Graduate Students and Their Research:

Carl W. Dick is in his fourth year of his Ph.D. program. His research involves methodological issues in host-parasite collection, bat roosting ecology as it relates to parasitism, competition and coexistence of multiple parasite species, and co-speciation between bat flies and their host bats. During the summer of 2002, Carl spent one month in Iquitos, Peru, doing experiments with bat flies of *Carollia perspicillata*. Moreover, Carl has been working on a book, co-edited by Bruce Patterson, entitled “Ectoparasites of Manu Biosphere Reserve, Peru.”

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

Alisa Abuzeineh is in her first year of graduate work. Her research project involves mark and recapture data from small mammals (especially *Oryzomys palustris*) at Peach Point Wildlife Management Area, Brazoria County, TX.

Amanda Nix just joined our lab in January of 2003. Her research project is as yet undecided.

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WEB PAGE: Biology - <http://www.biol.ttu.edu/>; Museum - <http://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 sigmodontine rodents. Examination of hybrid zones between genetically distinct taxa; including isolating mechanisms and the dynamics of genetic introgression. Chromosomal evolution and how changes in chromosome structure relate to models and mechanisms of speciation. 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. Growth and utilization of natural history collections, especially those pertaining to mammals. Natural history and distributions 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 *Geomys*.
- Ecology of emerging arenaviruses in the southwestern US.
- Emerging and re-emerging rickettsioses in Latin America - flying squirrels as a host.

CURRENT GRADUATE STUDENTS AND THEIR RESEARCH:

- Francisca Mendez-Harclerode (PhD student), is in her third 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 first year....dissertation topic is undecided at this time.
- Serena A. Reeder (Masters student), is in her second year.... She is examining molecular systematics/evolution in Neotomine/Peromyscine rodents using two nuclear genes. Serena plans on graduating this Spring and going to Emory for her PhD.
- John R. Suchecki (Masters student), is in his second year....Natural History and Population Biology of *Neotoma micropus* middens. John plans on graduating this Spring.
- Denate Cabbiness (Masters student), is in her first year....thesis topic is undecided at this time. Denate began this summer as an undergraduate and worked on a *Geomys* hybrid zone project.

CURRENT UNDERGRADUATE STUDENTS AND THEIR RESEARCH:

- Nevin Durish (Sophomore), second year in the program....Molecular systematics of the *Peromyscus truei* group.
- Lisa Longhofer (Senior), began working in the lab this summer....Systematics of *Sylvilagus* using a nuclear gene.

ADDITIONAL INFORMATION:

- Darin Carroll (PhD 2002) graduated this summer and accepted a position with the Center for Disease Control in Atlanta.
- Amy Vestal (Senior), graduated in December and will be beginning a Master Program with Dr. Robert Dowler at San Angelo State University.

Recently, we formed the Center for Zoonoses and Epidemiology. This Center is designed to foster research in the area of mammalian-borne viruses and other diseases. We hired Jorge Salazar-Bravo to fill the mammalogist position (Jorge will be starting in February). In the upcoming year, we will be filling the Virologist position in the Department of Biological Sciences. Please contact us if you are interested in pursuing graduate research in these areas.

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.

TRINITY UNIVERSITY

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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:

Tomas Atencio-Pacheco. Population genetics of Kenyan elephants.

Frank Puga. Survey of mammals at the San Antonio Missions National Historic Park.

Andrew Tuccillo. Presence of transposable elements in *Cnemidophorus*

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.

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Doug Elrod

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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 rehabilitation 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*)

Earl G. Zimmerman, Chair

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Research Interests, Projects and Grants: Biodiversity of mammals on the Colorado Plateau; use of remote sensing and GIS to assess biodiversity; applications of GIS to restoration ecology.

Graduate Students and Their Research:

Carla Carr, PhD student - Biogeography of small mammals on island mountaintops on the Colorado Plateau
Bethany Bolling, MS student - Applications of GIS to studies of mosquito habitat and its potential for modeling vectors of human disease.
Tanya Hardison, MS student - Modeling controlled burning for restoration of natural grasslands on the Kaibab Paiute Reservation in northern Arizona - Supported by US Dept. of the Interior
Robin Aiken, MS student - Applications of remote sensing and GIS to determine rangeland use for modeling habitat for pronghorn - funding from TPWD pending.

Additional Information: I am currently involved in writing a book on mammalian biodiversity of the Colorado Plateau

THE UNIVERSITY OF TEXAS AT AUSTIN

Vertebrate Paleontology Laboratory

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WEB PAGE ADDRESS: Vertebrate Paleontology Laboratory: <http://www.tmm.utexas.edu/vpl/index.htm>

Texas Memorial Museum: <http://www.tmm.utexas.edu/>

Digital Morphology: <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 for morphological studies

Late Cenozoic mammalian faunas

Additional Information: I am the Collections Manager at the Vertebrate Paleontology Laboratory (VPL), which is part of the Texas Memorial Museum. My dissertation research at UT Austin included the description of a new taxidiine badger, utilizing high-resolution X-ray computed tomography. I have also been involved in the Digital Morphology library, which is an archive of CT data sets and computer animations of biological specimens -- many of them mammals. Some of the morphological detail is fabulous! Please check out the DigiMorph web site at: <http://www.digimorph.org/>

Spring semester 2003 I will be teaching an undergraduate course in mammalogy at UT Austin. Mammalogy has not been taught at UT for decades, and I am very excited to be instructing students with academic interests that range from physical anthropology and vertebrate paleontology, to integrative biology. I have coordinated the assembly of a small mammalogy skin/skull teaching collection, created primarily from specimens provided by the Museum of Texas Tech University (as part of a collections-transfer agreement with the Texas Memorial Museum). In the laboratory I will also be providing mammal specimens from the vertebrate fossil and Recent osteological collections housed at VPL.