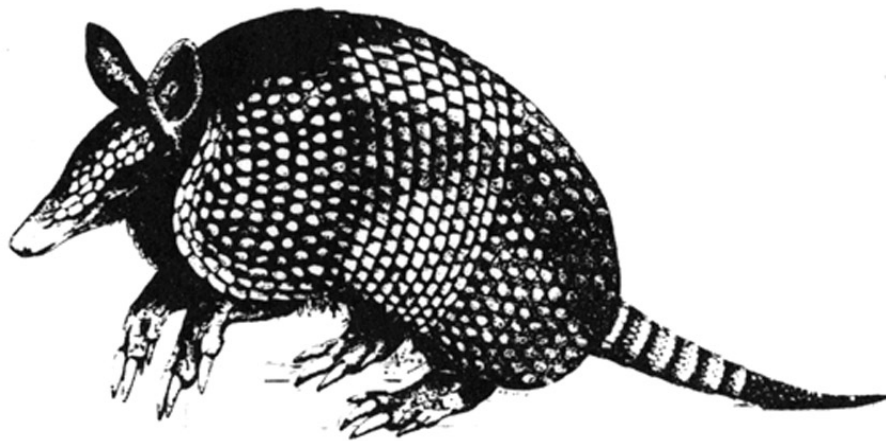


TEXAS SOCIETY OF MAMMALOGISTS



NEWSLETTER

2002

CELEBRATING THE 20th ANNUAL MEETING

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ANNOUNCEMENTS and BUSINESS

Notes and Acknowledgments from Newsletter Editor, David Ribble

Welcome to the 2002 Newsletter, celebrating the 20th Annual Meeting of the Texas Society of Mammalogists! Given that this is the 20th anniversary of our annual meetings, I have included historical information about past officers, student awardees, and banquet speakers. Hopefully this will provide a perspective on how far this society has come in a short time period. Thanks go to Ann Maxwell, Secretary-Treasurer, for providing this information. And once again Rollin Baker has graciously supplied us with a few thoughts and comments, including an essay on the late Walter W. Dalquest.

I continue to benefit from the generous help of Sharon Smith and Sandra Hernandez of the Biology Department, Trinity University, in compiling the information for this newsletter. The Texas Society of Mammalogists owes them thanks for putting up with every imaginable format! 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 usual, please feel free to 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 19th Annual Business Meeting, 17 February 2001

The meeting was called to order by President Robert Dowler at ca. 3:30 pm. Minutes of the 2000 business meeting were approved by the members. Secretary-Treasurer Ann Maxwell summarized the Treasurer's Report for January-December 2001, which was published in the 2001 TSM Program. Permanent Secretary Tom Lee reported that he is still getting archival material from Robert E. Martin (Permanent Secretary, 1983-1998). President Dowler reminded attendees of the need for photos from past TSM meetings (to be given to Tom Lee for the archives), stating that they would be useful for the upcoming 20th annual meeting (in February 2002).

Newsletter Editor David Ribble expressed his thanks to George Baumgardner for taking over on newsletter preparations in his (Ribble's) absence. 2001 was the first year to have the newsletter on a website, which lowered TSM expenses considerably. The address for the website was given as www.trinity.edu/dribble/tsm/newsletter.htm. Ribble also offered hard copies upon request. Ken Wilkins thanked Rollin Baker for his many contributions to the newsletter.

Tom Lee gave the report for the Committee on Honorary Members. There were no nominations for the 2001 meeting. He commented that we are looking for people who are nearing the end of a career in mammalogy and who have contributed much to the society.

Before giving the floor to the Conservation Committee Chair, Terry Maxwell, President Robert Dowler commented on the history of the committee, stating that it had not been very active in the past. He expressed his hope that this committee could make an impact in 2001. He asked that more interest be shown—that anyone interested in serving on the committee speak with incoming president, Phil Sudman. Terry Maxwell then summarized the committee's activities during 2000. During the first few weeks after the 2000 TSM meeting, letters were sent from TSM to every Texas Congressman and both Senators stating our position in favor of CARA (Conservation Aid and Reinvestment Act). Responses were received from a few congressmen and both senators. Most responses were circumspect and wandered around the fact that they were opposed to it (CARA), but thanked us for our input and let us know that they were all

deeply committed to conservation issues and anxious to support private property rights. Maxwell then turned the floor over to Paul Robertson (TPW) for an update on important conservation issues. Robertson reported that CARA passed in the House unanimously and just passed in Congress before it was cut up by the Appropriations Committee. Primary opposition was from western and Texas legislators over the issue of acquisition of new land. Though there was a great deal of pressure against it, that portion of CARA did pass, fully funded—at \$450 million per year.

Robertson explained that \$1.5 billion per year had been coming in for more than 15 years for the Land and Water Conservation Act. However, these funds were never allocated and therefore never spent on what they were meant to be spent on. That was what CARA was intended to do—allocate that money to be spent on land acquisition. That part of the bill had a great deal of support from national-level conservation organizations—i.e. Wilderness Society, Audubon Society, etc. There was also a coalition of groups that included those just mentioned along with state wildlife societies, wildlife agencies, etc. which broke apart at the last minute because the national conservation organizations saw that they were going to get what they wanted anyway—funding for land acquisitions. The rest would go to state agencies. That break up of the coalition was what really hurt CARA. Robertson said that there would be another big push for CARA in 2001 because of President Bush's support of conservation at the state level. He stated that as Governor of Texas, Bush supported CARA, though not strongly. He said that support from academia and conservation organizations was not strong, and that of course, did not help CARA in 2000. He said that once again, TSM would be asked to show support for the bill in 2001.

Robertson went on to say that a one-time-only allocation of \$50 million would be coming through an appropriations committee. It was to be divided among the states, with Texas receiving \$2.3 million (probably) in June. Another \$50 million had been appropriated through the Department of the Interior for state wildlife projects. Applications for the funds would be competitive. Robertson said that in 2001 those funds earmarked principally for non-game activities in Texas might be around \$4 million. Some of that would be available to academic researchers by application through Texas Parks and Wildlife.

Robertson asked for e-mail addresses from the various faculty at the meeting, stating that he would keep all apprised of the latest information on proposal formats and other news, such as the National Wildlife Federation's newly available \$10,000 grants (ten of them) for doing conservation work as well as any other such funds that might become available. Because of his position in TPW, he would hear about some programs that we may not be aware of in academia. He said that he would also keep faculty informed on the types of projects that TPW is interested in—those that we might apply for—and the deadlines for applications.

Robertson next discussed the federal listing status of the prairie dog and swift fox. He reminded us that the prairie dog was on the candidate list in February 2000 and must be reviewed annually. He also said there was a major interstate as well as intrastate effort to keep the prairie dog from being listed as threatened and that this could be affected by our new Head of the Department of the Interior. Regardless, Robertson said there was some probability that the prairie dog would be listed as a threatened species. He also discussed a new caveat to the Endangered Species Act called a "candidate conservation agreement with assurances", which should help relieve some of the paranoia. It is an incentive for landowners to provide "safe harbor" for listed species. The swift fox, Robertson said, was being de-listed, primarily because they exist in greater numbers than was realized. It seems they were simply not being seen in their favored habitat these days—that is, the agricultural areas. According to work being done at Texas Tech, the primary threat to swift foxes is coyotes. Since coyotes tend to avoid agricultural areas, it seems to be a safe habitat for swift fox.

David Schmidly added to the report on conservation by discussing the Governor's Conservation Task Force on which he served in 2000. The focus of the task force was to deal with issues of land fragmentation. The group developed a series of recommendations to present to Gov. Bush just before he ran for president. The report was well-received in most camps. At the time of the meeting, the report was being circulated around Austin, awaiting Governor Perry's decision on the issues. Schmidly said that anyone interested in the report could get it by writing to the governor's office or from the website. He said that the report includes some good examples of different conservation issues being practiced all around the country.

President Dowler reported next that later in the evening, the chair of the committee on Student Honoraria, Phil Sudman, would inform the group of the 2001 Student Award winners and of a new student award to be enacted at the 2002 meeting. The 2001 winners were announced during the banquet as follows: Serena A. Reeder (Oklahoma State

University) received the Robert L. Packard Award of \$150 for best overall presentation; Dave P. Onorato (Oklahoma State University) received the TSM Award of \$100 for best presentation pertaining to cytology, evolution, and systematics of mammals; and Christine L. Hice (Texas Tech University) received the William B. Davis Award of \$100 for best presentation on research of an ecological nature.

President Dowler took a moment to explain to the new members how the Executive Committee brings forward names for nominations to the offices up for re-election. In 2001, the only office to be filled was President-Elect. The committee put forth two names—Robert Bradley (Texas Tech University) and Ron Van Den Bussche (Oklahoma State University). The discussion was opened for further nominations from the floor. There were none and the motion was made to cease nominations. Dowler asked Tracy Carter, Cathy Early, and Scott Chirhart to act as ballot counters. The members present voted to the position of President-Elect, Robert Bradley.

On the order of new business, there was none.

In closing, President Dowler mentioned that 2002 would be the 20th anniversary of the Texas Society of Mammalogists. He made note that when the society was formed, many of those involved in the initial process were not convinced that it would survive as an organized society beyond the first few years. He also pointed out that the success of TSM is that we are financially sound and that we have a sizable membership (almost 110 participants at the 2001 meeting). He expressed an interest in having a ceremony to commemorate the 20th year, adding that we would have T-shirts for sale at the 2002 meeting and that there should be a formal presentation (written or oral) on the history of the society. He asked for contributions of memories, photos, or other memorabilia from past meetings. He concluded the 2001 meeting saying it would be appropriate in the 2002 Newsletter to include lists of all past officers, speakers, and award winners, which has not been included for several years. Dowler also suggested that TSM's success has been due partially to the fact that the society has always been geared toward the students. Besides being one of the few places where one can find a high concentration of mammalogists, the TSM meetings are fun!

President Dowler expressed thanks to Ann Maxwell before adjournment.

Table 1. A 20-year history of the Texas Society of Mammalogy meetings. The organizational meeting was held November 20, 1981, led by *ad hoc* presiding officers John Patton and Art Cleveland.

Meeting	Date	PRESIDING OFFICER (PRESIDENT)	HONORARY MEMBER ¹	PACKARD AWARD ²	TSM AWARD ³	W.B. DAVIS AWARD ⁴	ROLLIN BAKER AWARD ⁷
1st	Feb. 19-21, 1983	Robert J. Baker (Ad. Hoc.)					
2nd	Feb. 17-19, 1984	Guy N. Cameron					
3rd	Feb. 15-17, 1985	Rollin H. Baker	W. F. Blair, W. Dalquest, W. B. Davis, R. L. Packard	Craig Hood Kathleen Davis			
4th	Feb. 21-23, 1986	J. Knox Jones, Jr.	Rollin H. Baker	Meredith Hamilton			
5th	Feb. 13-15, 1987	David J. Schmidly	No recommendation	Tim Houseal			
6th	Feb. 19-21, 1988	Clyde Jones	No recommendation	Philip D. Sudman Susan Nobles ⁶			
7th	Feb. 17-19, 1989	Brian R. Chapman	No recommendation	Bruce D. Eschelman			
8th	Feb. 16-18, 1990	Earl G. Zimmerman	No recommendation	None Awarded	John V. Planz		
9th	Feb. 15-17, 1991	Robert J. Baker	W. Howard McCarley	Kathleen Huckabee	Darrell L. Ellsworth		
10th	Feb. 21-23, 1992	Herschel W. Garner	J. Knox Jones, Jr.	Mark A. Kainer	Loren K. Ammerman		
11th	Feb. 19-21, 1993	Art Cleveland	No recommendation	Maria Kerbeshian	Jeremy L. Hudgeons		
12th	Feb. 18-20, 1994	Ira F. Greenbaum	No recommendation	Katherine A. Lechner	James C. Cathey		
13th	Feb. 17-19, 1995	Meredith Hamilton	Clyde Jones	Heather R. Welty	M. Scott Burt		
14th	Feb. 16-18, 1996	Michael Haiduk	No recommendation	Jody Sandel	J. A. DeWoody Christopher W. Walker		
15th	Feb. 21-23, 1997	Stephen Smith	Robert J. Baker	Jana Higginbotham	John A. Peppers		
16th	Feb. 20-22, 1998	Rodney Honeycutt	Herschel W. Garner James F. Scudday	Kateryna D. Makova	Lottie L. Peppers	Jeffrey C. Roberts	
17th	Feb. 19-21, 1999	Kenneth T. Wilkins	David J. Schmidly	Michelle L. Haynie	Darin S. Carroll	Annika T. H. Keeley	
18th	Feb. 18-20, 2000	Robert E. Martin	No recommendation	Cody W. Edwards	Steven R. Hooper	Kelly E. Allen	
19th	Feb. 16-18, 2001	Robert C. Dowler	No recommendation	Serena A. Reeder	Dave P. Onorato	Christine L. Hice	
20th	Feb. 15-17, 2002	Philip D. Sudman					

1) Concept approved February 18, 1984; first awarded in 1985

2) Award approved February 18, 1984; first awarded in 1985; scope changed to best overall paper in February 1998

3) Award approved February 18, 1989; first awarded in 1990; best molecular/genetics paper

4) Award approved February 21, 1998; first awarded in 1998; best paper in natural history (old Packard Award), in February 1998

5) Armadillo Award, Texas Tech University mammalogy group (1985 only)

6) Honorable mention; 7) Award approved February 16, 2001; first awarded in 2002; best undergraduate presentation.

Table 2. A history of the guest speakers for the Texas Society of Mammalogy meetings, 1983-2001.

Meeting (YR)	GUEST SPEAKER(S)	TITLE OF TALK
1 st (83)	Dr. Rollin H. Baker, Prof. Emeritus Michigan State University	Chasing Mammals 1937-1983
2 nd (84)	Dr. Bruce Thompson, Texas Parks & Wildlife	An Overview of the Texas Non-game Program: Mammalian Perspectives
	Dr. David J. Schmidly, Texas A&M University	A Panorama of Texas Mammals or An Aggie's View of Hair and Mammae in the Lone Star State
3 rd (85)	Dr. Walter W. Dalquest, Midwestern State University	Bat Hunting Over the World
4 th (86)	Dr. Merlin D. Tuttle, Bat Conservation International	The World of Bats
5 th (87)	Dr. J. Knox Jones, Jr., Texas Tech University	Genealogy of Twentieth Century Systematic Mammalogists in North America: The Descendants of Joseph Grinnell
6 th (88)	Dr. Howard J. McCarley, Austin College	Mammals and Ecosystems of Kenya
7 th (89)	Dr. Brian R. Chapman, Corpus Christi State University	Mammals and Birds of Texas Barrier Islands
8 th (90)	Dr. Denise A. Shaw, University of North Texas	Applications of Remote Sensing and Geographic Information Systems to the Conservation of Endangered Species
9 th (91)	Dr. Elizabeth Verba, Yale University	Ecology, Ontogeny and Human Evolution
10 th (92)	Dr. Terry L. Yates, National Science Foundation	Reorganization and New Initiatives at the National Science Foundation
11 th (93)	Dr. Karl F. Koopman, American Museum of Natural History	Biogeographical Patterns in Bats
12 th (94)	Dr. Terry Robinson, University of Pretoria	Conservation Genetics: Implications of Translocations and Bovid Hybridization
13 th (95)	Dr. David M. Hillis, University of Texas at Austin	To Tree the Truth
14 th (96)	Dr. James W. Westgate, Lamar University	Coastal Forest-mangrove Mammals from Laredo, Texas
15 th (97)	Dr. Frank Bronson, University of Texas at Austin	To Breed or Not: An Interesting Question
16 th (98)	Dr. Louis L. Jacobs, Southern Methodist University	Lone Star Dinosaurs
17 th (99)	Dr. David J. Schmidly, Texas Tech University	Texas Natural History: A Century of Change
18 th (00)	Dr. Peter L. Meserve, Northern Illinois University	Thirty Years of Trials and Tribulations of an Errant Mammalogist in Chile, South America
19 th (01)	Dr. Larry Martin, University of Kansas	Sabercats of the American Ice Age

COMMENTS and ARTICLES by ROLLIN H. BAKER

WALT DALQUEST, A NONPAREIL FIELD MAMMALOGIST

I am certain that Walter W. Dalquest, one of the last of the truly great hands-on American mammalogists of the twentieth century, is now resting comfortably in the finest accommodations available amid the "Happy Mouse-Hunting Grounds." And he deserves the best since he was one of our greatest. And the Texas Society of Mammalogists recognized his sterling capabilities by naming him an Honorary Member in 1985.

Walt's never-ending urge to disclose "the mysteries about our mammals that only they themselves truly know" can be separated into five interludes. These are his sojourns in UW-Seattle (until 1941), UC-Berkeley (1941-1945), KU-Lawrence (1945-1949), LSU-Baton Rouge (1949-1952), and finally in 1952 at his final workplace in MSU-Wichita Falls. It is a damn shame that his old buddies, Vic Sheffer and Seth Benson, aren't still around to give us the lowdown about Walt's assorted adventures on the West Coast, including his wartime tenure in the shipyards. .

For more details I remind you to refer again to that readable digest about his interesting life as depicted by Rose Carpenter [later Mrs. R. C. Dalquest] and Bill Riddle on pages 1-6 in *Festschrift for Walter W. Dalquest in Honor of his Sixty-fourth Birthday* (published by the Dept. of Biology, Midwestern University, Wichita Falls, Texas, 1984, pp. xx+163). This congratulatory opus also lists his numerous publications- including monographs about the mammals of Washington and San Luis Potosi plus a favorite of mine, his 1942 paper, co-authored with Vic Sheffer, about those fascinating and controversial mima mounds in western Washington. This latter paper summarizes his adventure into geology, perhaps paving the way for his later extensive work in paleomammalogy. But don't forget that this versatile guy also did his thing in ichthyology, herpetology, and ornithology. Nevertheless to me he will always be simply Walt Dalquest, mammalogist.

Walt and I kept in close touch beginning in 1946. In September of that year I had just coming under E. Raymond Hall's spell at KU with a high stack of naval service-derived data on Micronesian birds to summarize and publish. This slowed my mammalogical output a bit. Likewise, Walt was slowed and in the same boat by having become employed in a non-degree program and strictly as a field collector in the Mexican state of Veracruz for E. Raymond Hall and the KU Museum of Natural History. I personally think that Walt took that job on the rebound from an UC-Berkeley experience that may have soured a bit.

Anyhow, when Walt appeared in Lawrence at irregular intervals with boxes of study skins and piles of field notes, Mary and I helped him celebrate. On hand to join in the fun were Mexican mammalogist Bernardo Villa, Brazilian mammalogist João Moojen, herpetologist Ed Taylor, and sometimes paleomammalogist Claude Hibbard, then at UMich. But Walt put on a better party when he unpacked his Mexican "goodies." And they were wonderful; in fact our eyes bulged at seeing the diversity of his collections.

And what a break for the KU mammal collection to have this superb field person involved. Not only did he catch'em where they weren't supposed to be, but he brought back field notes in which he appraised their ecological and interspecific relationships in various Veracruzian ecosystems. And he didn't just go after the small stuff but also hauled in specimens of the top consumers - jaguars, Baird's tapir, white-lipped peccaries, etc. Scan that Veracruz report that he co-authored with Hall and note Walt's flare for detail.

My time finally came for a field one-on-one with Walt in January 1951. I had garnered funds from the Topeka Outdoor Sportsman's Club to finance a trip to the Isthmus to gather materials for a tropical habitat group for the KU Museum. And it's still on exhibit in the Big Hall if you wish to inspect it. Sure I was well acquainted with Plateau states like Coahuila but needed guidance for this excursion into the Tehuanatepec jungle in company with KU Museum exhibits expert George Young and Topeka benefactor and movie photographer Alford J. Robinson.

So I got in touch with Walt and George Lowery, his LSU graduate advisor at Baton Rouge. Walt was restless and ready to go after fidgeting during the cold chill of a Louisiana winter. And all I needed to do was to con "good-old-George" into keeping Walt on the payroll but freeing him from campus chores for a few weeks. And of course, we'd

collect a few birds for Lowery, without letting Hall know about this nefarious scheme of giving LSU a part of the toot. So the deal was sealed!

On the 2nd day of January, I commandeered and loaded the Museum's best 1950 model Chevy station wagon with George and Al on board and drove to Baton Rouge for Walt. Since ornithologists like to party at the drop of a feather, George threw a whing-ding before literally pouring us out of town in the direction of Houston. We drove all the way south to the end of the road at the city of Veracruz where we stored the Chevy and took the aggravatingly slow train, stopping at every village like a NY subway local, on south to the Isthmus. We got off at Jesus Carranza where Walt was back in his element. He immediately rounded up some of his favorite and former collecting assistants (see Walt's *The Tehuantepec Jungle 4 Memoir*. Midwestern University Press, Wichita Falls, TX, 1996, 175 pp.).

We engaged these stout and compatible fellows primarily to pole our two elongated cedar dugouts up and down stream on the headwaters of the mighty Rio Coatzacoalcos, then accessible only by river travel. Here Walt was moving at top speed, and I tried to keep up - more like a student than as a colleague. We selected campsites that possessed biotic features that might be depicted in the KU Museum exhibit. At each of these I set George and Al to the task of gathering plant materials and associated debris. These were preserved to take back to duplicate at KU and "decorate" the proposed exhibit.

Meanwhile Walt and I collected assorted wildlife. Let this be the first announcement that in January 1951, Walt and I strung the very first Japanese mist nets across Mexican terrain. We had taken along a few nets that George Lowery had obtained for less than \$1.00 each. These were purchased through ornithologist Elliot McClure, who was then stationed in Japan and was just beginning to arrange for mist net sales to Yankees. And we both were amazed at our catch of theretofore seldom-collected sub-canopy jungle bats.

As for grub, our party of four gringos and four of the localities's finest residents lived mostly off the land. We took along from Jesus Carranza a huge sack of rice, cooking oil, and a half boatload of oranges to dilute such rations as grilled-over-the-fire-on-sticks macaw, guan, and pigeon bodies; brocket deer steaks; peccary tongues; and even a freshly-caught fish. Walt saw it lying on a creek bank, rushed up, and scared away its catcher, an otter, and seized the entree for our next meal. No, we didn't eat the flesh of either howler or spider monkeys that we collected. Like a dunce, I failed to ask why not?

Happily Al Robinson had brought along a portable fishing outfit with one of those newly-marketed Zebco reels. Al and our boat polers, who were fascinated by this non-snarling reel and the array of artificial lures, supplied cichlids for dinner on several occasions. In short, Walt demonstrated to me effectively how to conduct highly-efficient collecting trips without all of the accouterments of a pricey African safari. It was an eye-opener for me how he performed field tasks on a shoestring.

After Mary and I returned to Texas in 1982, we had opportunity to visit with Walt only a few times. He was not about to venture very far from the blustery Panhandle, so we finally had to motor up there for his retirement banquet and to swap a few stories - mostly about E. Raymond Hall of course.

And now that Walt's gone, what I have left are memories of a wonderfully-experienced, efficient, and compatible field person whom I was privileged to have as a sometime outdoor companion and as a close friend - and he was indeed persnickety about picking friends - plus a thick file of his noteworthy letters. We need more like him - blessed with a love for field work and an uncanny skill at being able to inventory a mammalian community and at the same time gain insight on the performance of each of its resident occupants.

WHAT ABOUT MAMMALIAN NURSERY PRACTICES?

Offspring-rearing has long been a troublesome activity for the human species. Consider, if you will, that humans normally allow their offspring to be reared by adolescents having little training or previous experience in this endeavor. In addition these "greenhorns" are often obstinate, unlettered, native, and economically- fettered. And who raised these hit-or-miss child-rearers? Their parents! If any reader of this message is about to become a grandparent, get ready for a shock and even drop your load of mousetraps! Why? Because the incompetents who are about to guide the childhood welfare of your precious grandchildren are those good- news/bad-news, rag-tag kids whom you personally loved and nurtured. Even so, some (but not all) of these children actually grow up to be good citizens and contribute to their societies.

If this is indeed a matter of concern, humans, as often is the case, will stumble around gathering data from childcare experts and from politicians questioning changes in family values and will ultimately figure out a way to counteract or change this system. Among non-human mammals this juvenile guidance business may be an equally serious problem. However, the only "do-gooder" that they have to assist in mending sticky parts of these upbringing matters is that hard and impersonal taskmaster - survival of the fittest through natural selection.

In considering, at least superficially, the array of lifestyles of non-human mammals, litter care has been selected for in numerous ways. Specific offspring rearing methods might differ: (a) if the parents survive only long enough to produce a single litter or long enough to produce two or more litters, (b) if only mothers or if both parents participate in rearing (c) if offspring are altricial or are precocial, (d) if parents produce uniparous or multiparous litters, (e) if parents belong to "solitary" or "gregarious" species.

Despite assorted offspring rearing methods, mammals having one or another of these nursery-oriented procedures must be able to dispatch at least some of their weaned young out into the "cold, cruel" world. And out there, these heirs to the family fortune must prevail in sufficient numbers and in "know how" in order to attend to that all-important reproductive process required for species maintenance. Is it possible that some of these rearing schemes offer neonates "training courses" in enemy avoidance, habitat preferences, important edibles, sexual relations, nest building, etc? Or is such indoctrination "instinctively inborn" - whatever that means? At any rate, since the systems seem to be working, please don't fix them!

Without much to go on, let us assume, as listed in (a), that a female white- footed mouse (*Peromyscus leucopus*) might have only one opportunity to bear, rear, and wean one litter whereas a related female rock mouse (*Peromyscus difficilis* = *P. nasutus*?) might survive long enough to bear, rear, and wean two litters. Since both species appear to be "enjoying" good health these days, one may presume that one- litter production in the white-footed mouse is no more risky for species survival than two-litter production in the rock mouse? Even so, it would seem likely that members of the latter's second litter just might obtain a better survival rate than those in the first litter. Is this because the second littermates during their upbringing might gain 64 survival cues" only available from a mother that had prior experience with maternal duties? Who knows?

In small, short-lived mammals, litter, guidance by a single parent seems normal (b), as is the case in the meadow vole (*Microtus pennsylvanicus*). However, in the related prairie vole (*Microtus ochrogaster*) both parents may possibly participate in this important activity to one degree or another. One might then ask if offspring reared from a "two parent ' prairie vole nest are better equipped for individual post-weaning survival than those from a single-parent meadow vole nest? If it is so, is it because both a female and a mate prairie vole have "input" in their offspring's upbringing? Who knows?

The production of altricial young presumably allowing mothers to have a relatively shorter pregnancy and a relatively longer rearing period is inherent in most mammals. The production of precocial young, however, allowing mothers to have a relatively longer pregnancy period and a relatively shorter rearing period seems mostly characteristic of ungulates (c). In the case of leporids, however, it is a mixed bag. In hares (genus *Lepus*) the young are precocial while in cottontail rabbits (genus *Sylvilagus*) the young are altricial. While major juvenile mortality may be concentrated at different stages in the early growth period, both hares and cottontails seem to be surviving comfortably. Even so, why,

inquisitive mammalogists may wonder, don't these close relatives handle this all-important mission in the same way? Who knows?

Then there are those species that regularly produce either one or two or more offspring per litter (d). Most mammals except, for example, bats, primates and some hefty types, are multiparous. It would seem logical that for natural selection to function and the most fit to survive that mammals should have litters crowded with offspring with the smaller and shorter-lived species having the larger litters. Yet there are exceptions. For example, the pint-sized paca (*Agouti paca*) has one (rarely two) per litter while its husky cousin, the gallon-sized capybara (*Hydrochaeris hydrochaeris*), has as many as eight offspring per litter. Is the obvious need for a higher survival rate among paca pups gained by some special "parental guidance and/or instinctive ability" not shared with the young of its more prolific relative? Who knows?

Finally (e), there are those young that are born to hermit-like parents that discourage nosy relatives from approaching their nests and offspring. In contrast, others are born to more socially-minded parents, such as into the midst of a pack of gray wolves (*Canis lupus*) or in a colony of black-tailed prairie dogs (*Cynomys ludivicianus*). In the case of the latter, does togetherness enhance juvenile survival when compared, for example, with "infant mortality" characteristic of a related but more territorial sciurid, the fox squirrel (*Sciurus niger*)? Who knows?

Oodles of unanswered questions come to mind when attempting to correlate mammalian methods of upbringing with survival rates of their weaned offspring. Even so, one may speculate, out loud if it doesn't start an argument, that non human mammals may very well have this phase of their life cycles better programmed in some ways than does that alleged super species, the human.

WILL THE TEXAS LOVE AFFAIR WITH EXOTIC MAMMALS NEVER CEASE?

Texans, for one strange reason or another, just love to decorate their surroundings with exotic wildlife - much to the "dismay" of the native biota. And this "melting pot" concept continues. Texas mammals, for example, got themselves into a miserable fix when that exotic, *Homo sapiens*, arrived. No sooner had the native and puzzled locals begun to passively allow the human to dominate their "lives, liberties and pursuits of happiness" than this intruder began to bring in other outsiders.

Some were pestiferous camp-following types, like rats (*Rattus*) and mice (*Mus*), that were unintentionally introduced while others were purposely imported to monopolize the verdant vistas of Texas. These latter types were designed to be "help-mates for survival" - the dog with the earlier arrivees and other domestic mammals with the later ones. And this assortment started grabbing a share of the environmental resources that for eons had been adjusted to sustain existing, finely-tuned, plant/animal communities.

Two carnivores (dog and cat) and an omnivore (pig + *Rattus* and *Mus*) promoted havoc but perhaps not nearly so much as did the more widely- distributed herbivores (horse, burro, cow, sheep, goat). As a result and before many decades past, every facet of the Texas ecosystems was impacted. Even wetlands were not spared when the nutria became "captain of the marsh." Unfortunately there were no ecologists around to observe these past rip-roaring competitive reactions that must have transpired. And guess who lost out? Naturally it was the natives!

Texans rarely become weary of bringing in exotics, even in spite of growing opposition to this practice. Although mammalian introductions are far down the list in terms of numbers when compared to those for plants and fishes, the rate has increased since WWII. Of late, some of the sporting public has begun demanding more hooved game to pursue. So to augment our two cervids, one antilocaprid, and one bovid, obliging importers and game farm specialists have introduced assorted Asiatic and African ungulates. These often-spectacular species are becoming common enough to attract on-looking motorists along ranch roads in both South Texas and the Hill Country. Is our beloved white-tailed deer becoming a loser? Are foraging practices by black buck et al. further disrupting the already disturbed plant associations on range land?

To keep updated on these exotics and their impact, some energetic and statistics-oriented mammalogist should revise Henderson and Craig (Economic Mammalogy, Charles C. Thomas, Publishers, Springfield, IL, 1932). A compilation of the environmental and economic impact of these immigrants would surely shock the surviving first (including your scribe) and the second and third generation Walter P. Taylorites, who were taught to love the native biota in all of its glory and to discourage the sinful folly of screwing it up with introductions.

WHO/WHAT CONTROLS THE WELFARE OF TEXAS MAMMALS?

It has been our popular "axiom" that the human intrusion now masterminds most of the ups-and-downs of our wildlife populations - hence the notion emerges that the Texas Parks & Wildlife Department ought to be people managers instead of wildlife managers. Yet, that is simplification of a much more complicated problem. In short, what are the precise limiting factors controlling the population of a mammalian species and other individual members of ecosystems whether human-molested or not? The answer is, of course, that we don't really know!

And why don't we know? Because we have never addressed the task of completely inventorying an ecosystem's biota! And we never will until we can classify the whole caboodle from bacteria, free-living algae, and soil amoebae on up to the oak trees and white-tailed deer. With a complete checklist, perhaps we can interrelate how these organisms live together. Then we might make sense out of why desert shrews and woodland voles live as they do.

Actually years ago, Professor A. S. Pearse at Duke attempted to set a pace. He had, for example, each of his students in ecology mark off a meter square of habitat and attempt to collect and identify (at some reasonable taxonomic level) every kind of living organism therein. Using Berlese funnels and other such "primitive" extracting devices, these students gained some idea of just how diverse nature can be. So did this kind of investigation become vogue? Not too much! Maybe WWII helped squelch such "old-fashioned" inventory fieldwork. Possibly the new surge for knowledge about biodiversity will again foster this line of investigation?

So what to do about it? First, we must decide how best to conduct such appraisals and perhaps develop standardized methods of extracting biotic data. Second, we should perhaps select a single ecosystem for a pilot study, preferably close to some research-oriented institution where its resources will be handy. Third, we must latch on to a huge pile of money. Fourth, we must canvass institutions near and far in order to locate specialists in the collecting and identifying of all manner of ecosystem inhabitants - both plant and animal. Fifth, we must hire this cadre of specialists and put them to work under the direction of preferably an ex-marine drill sergeant turned field biologist. Finally, we can then take the gathered data and try to figure out how to make meaningful together interrelationships out of a jumble of oodles of organisms. Then go on from there and help make Planet Earth a better place on which all of us can live!

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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Thomas E. Lee, Jr.

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Research Interests, Projects and Grants: Systematics and conservation of bats.

Undergraduate Students and Their Research:

Michelle Haynes: Natural history of *Artibeus obscurus*

Chad Campbell: Mammal of the Southern Rolling Plains

Additional Information: I am working with Bob Dowler on *Rattus* distribution in the Galapagos Islands

ANGELO STATE UNIVERSITY

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Loren K. Ammerman

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Research Interests, Projects and Grants: My interests are in vertebrate molecular systematics, ecology of desert bat communities, and bat conservation issues.

Graduate Students and Their Research:

Rogelio Rodriguez - Geographic variation and genetic substructuring of *Myotis californicus* and *M. ciliolabrum*.

Amanda Matthews - Trophic partitioning between *Tadarida brasiliensis* and *Nyctinomops femorosaccus* in Big Bend National Park.

Undergraduate Students and their research:

Jennifer Apodaca - Molecular systematics of New World molossid bats using both nuclear and mitochondrial gene sequences.

Robert Dowler

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Research Interests, Projects and Grants: My research interests in west Texas currently focus on two areas: the ecology of skunks and behavior in pocket gophers. I have students working on home range and denning ecology of three species of skunks, *Mephitis mephitis*, *Conepatus mesoleucus*, and *Spilogale gracilis*, using radiotelemetry. 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*. An undergraduate student, Brandy Martin, has received funding to observe pocket gophers (*Geomys texensis*) in a simulated underground burrow system. We hope to address questions regarding activity periods, foraging, and possibly interactions between individual. I also have recently received an Angelo State University Research Enhancement Grant to survey bats on the Indonesian island of Sulawesi during the summer of 2002.

Graduate Students and Their Research:

Scott A. Clement – Scott began graduate work at ASU this past fall and is planning to do thesis research on molecular systematics of Galápagos rodents.

Jeffrey B. Doty – Jeff also began graduate work at ASU during fall 2001 and will be doing thesis research on ecology of skunks, primarily the western spotted skunk, *Spilogale gracilis*.

Eddie K. Lyons – Eddie is finishing his thesis (co-chaired by Dr. Dale Rollins, Texas A&M University) on the effects of short term predator control on nesting success and survival of Northern Bobwhite.

Spencer M. Stewart – Spencer is in his second year in the M.S. program at ASU and is also working on the feeding ecology of skunks, focusing on hog-nosed skunks, *Conepatus mesoleucus*.

Undergraduate Students and their Research:

Josh Coffey – Morphometric analysis of pocket gophers, *Orthogeomys hispidus*, from the Yucatan Peninsula

Brandy Martin – Behavior of captive pocket gophers, *Geomys texensis*, in a simulated burrow environment.

Sean Neiswenter – Behavioral ecology of skunks in west Texas using radiotelemetry

Recent Publications from the Angelo State Natural History Collections:

Brant, J. G. and R. C. Dowler. 2001. The mammals of Devils River State Natural Area, Texas. Occas. Pap. Mus. Texas Tech Univ., 211:1-31.

Revelez, M. A. and R. C. Dowler. 2001. Records of Texas mammals housed in the Angelo State Natural History Collections, Angelo State University. Texas Journal of Science 53(3):273-284.

Slater, Stacey C., D. Rollins, R. C. Dowler, and C. B. Scott. 2001. Opuntia: a “prickly paradigm” for quail management in west-central Texas. Wildlife Society Bulletin: 29(2):713-719.

BAYLOR UNIVERSITY
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Research Interests, Projects and Grants: My research interests (and generally those of my graduate students) pertain to natural history, ecology, and biogeography of modern and fossil small mammals (primarily rodents and bats). We are currently conducting a survey of terrestrial vertebrates (mammals and herps) at Colorado Bend State Park; the project is funded by Texas Parks & Wildlife Department. I have a continuing interest in morphological features as adaptations to particular lifestyles (e.g., our recent work in functional morphology of hearing in subterranean rodents). And, I am always eager to visit with prospective graduate students! Please visit my web site (above) and that of the Baylor Biology Department [http://www.baylor.edu/Biology/Home_Page.html].

Graduate Students and Their Research:

Cathy Early, a graduate of Howard Payne University, is developing a dissertation project related to effects of imported fire ants on recruitment in cotton rats (*Sigmodon hispidus*). In the meanwhile, she is coauthoring with Dr. Wendy Sera a Mammalian Species manuscript and a paper on behavioral ecology of voles.

Jeff Scales is in the middle of the field segment of his thesis research on the urban ecology of Mexican free-tailed bats. More specifically, Jeff is investigating roost fidelity of bats in downtown Waco. He expects to complete degree requirements by the end of this summer so that he can move on to a doctoral program in the fall. Jeff also serves as graduate research assistant for our faunal inventory project at Colorado Bend State Park (funded by Texas Parks & Wildlife).

Michael Mellon joined the graduate mammalogy group in Fall 2001. He earned his bachelor's degree in Biology here at Baylor and is looking forward to beginning field and lab research, probably related to ontogeny of middle-ear structures in pocket gophers, as a follow-up on our earlier work on functional morphology of hearing in subterranean rodents.

Undergraduate Students and Their Research: During Summer 2001, Baylor sponsored one of the NSF Research Experiences for Undergraduates program (web site: <http://www.baylor.edu/reunsf/>). The principal investigators are Drs. Wendy Sera and Ann Rushing, both members of the Department of Biology faculty. One of the undergraduates (Shannon Taylor, from Oregon) worked with me and my graduate students on a bat-roosting project. Some of the field work was conducted in Mexico, at Chapala Ecology Station. Funding for this program runs for at least one more summer . . . so, please encourage your undergraduates to consider this as a possible summer activity.

Additional Information: Chapala Ecology Station is in full swing again this summer! Since 1993, we have offered course work and research opportunities each summer at this field station on the shores of Lake Chapala (just south of Guadalajara, Jalisco). The station is cooperated by Baylor University and Universidad Autonoma de Guadalajara. For more information, please consult the CES web site: <http://www.baylor.edu/ces/>

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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Art Cleveland

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Research Interests, Projects and Grants: Pesticide levels in bats comparing specimens from urban and rural areas; Armadillo blood composition, intestinal parasites; Bioremediation of industrial and municipal wastes; Callaway Grant for Mammalogical Survey; State Dept of Natural Resources for Endangered Bat Survey.

Graduate Students and Their Research:

Michelle Smith (MS in Environmental Science) Thesis: Pesticide levels in *Tadarida* in rural vs. urban roosts

Undergraduate Students and Their Research:

Toney Griffin - Armadillo blood components

Mary Hill -Local variation in *Tadarida*

Other Information: This past year (2001) I was involved in "Dean work" in Singapore, Manila and Hanoi. In Hanoi I had the good fortune of seeing the city on the back of a motorbike driven by a local young woman. Vicki and I spent time in Glacier after the ASM meeting with some cold water white-water rafting and hiking. A late fall trip to Aspen finished the year. Hope to be in Junction for the TSM meeting.

Humboldt State University
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Research Interests, Projects and Grants: Natural history, evolution, and conservation of vertebrates

Graduate Students and Their Research:

Keith Krakauer: Effects of roller-chopping on vegetation, herps and small mammals in South Central Texas

McMURRY UNIVERSITY

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

Additional Information: Department in search for a new Botanist to replace a professor retiring in May 2002; also possible position in physiology if funding received. Both are tenure-track and would start in mid-August 2002. Refer to the employment section of McMurry's web page (<http://www.mcm.edu>) for more details.

MIDWESTERN STATE UNIVERSITY

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

Graduate Students and Their Research:

Neal Robertson (MS topic)-Morphometric differentiation of *Peromyscus pectoralis* from seven Trans-Pecos mountain ranges.

Robert Smith (MS topic)-Individual variation and natural history of a population of east Texas *Blarina carolinensis*

Clay Davis (MS topic)-Mammal survey of Fort Leavenworth, Kansas: follow-up to a 50-year-old inventory.

David Wallace (MS topic)-Mammal inventory of Quartz Mountains and surrounding Jackson County, Oklahoma.

OKLAHOMA STATE UNIVERSITY

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Research Interests: Molecular Systematics, Phylogeography, and Conservation Genetics

Graduate Students and Their Research:

Ph.D. Students:

Steven R. Hooper –Dissertation Title: Higher Taxonomic Relationships of Vespertilionidae Based on 12S rRNA, tRNA^{Val}, and 16S rRNA sequence variation.

MS Students:

Sarah B. Moore – Thesis Title: "Multiple Paternity, Inbreeding, and Reproductive Success in a Population of Gunnison's Prairie Dogs."

Derrick E. Chappell – Thesis Title: "Genetic Structure of Wolverine (*Gulo gulo*) Populations from Canada Based on Microsatellite Loci and mtDNA: Conservation Implications."

Raymond B. Ary – Thesis Title: "Effect of Urbanization on the Genetic Structure of Raccoons (*Procyon lotor*)".

Sarah Weyandt – Thesis Title: "Genetic Variation, Population Structure, and Gene Flow in the Endangered Ozark Big-Eared Bat (*Corynorhinus townsendii ingens*)".

SOUTHWEST TEXAS STATE UNIVERSITY

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Research Interests, Projects and Grants: mammals and herps

Graduate Students and Their Research:

Melissa McCulley—radio-telemetry of nutria (and beaver) in Spring Lake, Hays Co., Texas

Sue Riley—project “undecided” at this time

Sara Moren—Ecology of eastern pipistrelle in Central Texas cave - using PIT technology (with J. Baccus, and R. Simpson)

Amy Winter—food habits of gemsbok at Mason Mt. WMA (with R. Simpson and J. Baccus)

Shawn Gray—food habits of greater kuku at Mason Mt. WMA (with R. Simpson and J. Baccus)

Kathy Townes—food habits of nutria at Spring Lake, Hays County, Texas (with R. Simpson and J. Baccus)

TARLETON STATE UNIVERSITY

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Research Interests, Projects and Grants: We are in the last year of a grant to investigate genetic variability within the endangered Attwater's prairie chicken and have just received a small grant to look at microsatellite variability within

a small group of black rhinos. Working with personnel from Fossil Rim Wildlife Center, we hope to work this into a project to look at variability within the entire captive black rhino population. My research interests have become skewed towards genetics of endangered species. Other upcoming projects include looking at genetic variability in the Guam rail and Marianna crow.

Graduate Students and Their Research:

Rex McAiley: "Genetic differentiation of pocket gophers (*Geomys*) within the Edwards Plateau of Texas."

Michelle Stoley: "Historical analyses of microsatellite variability in Attwater's prairie chickens."

Ray Willis: "Effects of burn frequency on reptile utilization of upland habitats in Edwards County, TX."

Jennifer Journey: "Microsatellite variation among recent additions to the black rhinoceros breeding program in North America."

Russell S. Pfau

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WEB PAGE ADDRESS: www.tarleton.edu/~biology/pfau/

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 the evolutionary genetics of immune response genes—Major Histocompatibility Complex (MHC)—in rodents, particularly *Peromyscus*.

Tarleton State University Organized Research Grant - 2000: Understanding Patterns of Genetic Variation of Immune Response Genes Using the Rodent Genus *Peromyscus* as a Model System - \$13,925

Tarleton State University Organized Research Grant - 2001: Are Patterns of Genetic Diversity of Immune Response Genes Influenced by Adaptation or Demography? - \$13,252

Graduate Students & Their Research:

Kristin Denton - Kristin is researching *Peromyscus* as a model system for understanding patterns of genetic diversity of immune response (MHC) genes.

Undergraduate Students & Their Research:

Josh Combs - Josh has been involved in specimen collection, DNA extraction, and optimization of PCR primers for microsatellite analysis of *Peromyscus*.

TEXAS A & M UNIVERSITY
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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 in two areas: the evolutionary relevance of chromosomal fragile sites and resolving the systematics of the *P. maniculatus* species group. Our research on fragile

sites involves analyses of the genomic distribution of aphidoclin-induced chromosomal breakage and the development of a statistical paradigm for appropriate for assessing non-randomness in chromosomal breakage data. Using *Peromyscus* as the model organism, we have been assessing chromosomal fragile sites as genetic characters and attempting to document the variability and evolution rate and pattern of chromosomal fragile sites within and among species. Our current studies of systematics of the *P. maniculatus* species group include analyses of: the rate and pattern of evolution of our previously described microsatellite markers among the species in the group, microsatellite and the 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 deer mice in the Pacific Northwest.

Graduate Students and Their Research:

- Jeshu Weerasinghe, Doctoral Candidate, Zoology. Evolution of fragile sites in the *Peromyscus maniculatus* species group.
- Scott Chirhart. Doctoral Candidate, Zoology. Microsatellite evolution in the *Peromyscus maniculatus* species group.
- Tamara Gilbert. Masters Student, Zoology. Microsatellite variation in *Peromyscus maniculatus* from the northeastern United States and eastern Canada.

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*.

TEXAS A&M UNIVERSITY-CORPUS CHRISTI

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

Major Grant: Wintering Biology of Burrowing Owls in S. Texas and Mexico

Graduate Students and Their Research: Graduated in past year: Distribution of Seagrass Meadows & Wintering Redheads; Digestive Rates of South Texas Venomous and Non-venomous Snakes; In Progress: Burrowing Owl Use of Artificial Burrows

Undergraduate Students and Their Research: Distribution and Diet of Wintering Burrowing Owls

Additional Information: Just released (shrink-wrapped with Smith and Smith, Ecology and Field Biology):

Hickman, Graham and Susan Hickman. 2002. The Ecology Action Guide. Action for a Sustainable Future.

Benjamin/Cummings, San Francisco. Moved office into the new Science & Technology Building. Planning underway for the new Harte Research Center which will be headed by Sylvia Earle, National Geographic Explorer in Residence; the center is being funded by a \$46 million dollar endowment.

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

Graduate Students and Their Research:

Ph.D.

Lon Grassman - Spatial ecology of sympatric clouded leopard, golden cat, marbled cat, and leopard cat in Phu Khieo Wildlife Sanctuary, Thailand.

Sean Austin - Leopard cat spatial patterns and relationship to roads in Khao Yai National Park, Thailand.

Terry Blankenship - Long-term study of foraging ecology of bobcats in southern Texas.

M.S.

Jennifer Mock - Home range and habitat use of an unexploited bobcat population along the central coast of Texas. Rob Hughes - Ocelot and bobcat spatial patterns near roads in the Rio Grande Valley.

Iliana Pena - Public survey of Texan attitudes, perspectives, and beliefs about mountain lions.

Mei-Ting Chen - Use of remote cameras to monitor leopard cats and civets in Taiwan.

Nate Cook - Use of aerial digital infrared videography to identify ocelot habitat.

Additional Information: Other recent or continuing projects: Jaguarundi ecology in Mexico; Use of remote sensing and satellite imagery to quantify habitats of wild cats.

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Research Interests, Projects and Grants: Geographic distribution of rodents, bats, amphibians, and reptiles in the ARK-LA-TEX; Coccidial parasites (Protista: Apicomplexa) of small mammals and amphibians and reptiles; Millipeds and centipedes of the ARK-LA-TEX

Grants: Northeast Texas Education Partnership Professional Development Grant and TAMU-T Faculty Senate Grant, both for Amphibian Monitoring in ARK-LA-TEX (\$5,500) Dr. McAllister will also be a participating parasitologist in an Inventory of the Vertebrate Parasites of Área de Conservación Guanacaste, Costa Rica (NSF grant submitted) with Dr. Dan Brooks (University of Toronto) and Doug Causey (Harvard). The purpose of the study is to undertake, for the first time, an integrated inventory of the diversity of the parasite biota of tropical vertebrates. The project period will be June 2002-March 2005.

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

Josh Kessler-A survey of ARK-LA-TEX rodents: with emphasis on *Reithrodontomys humulis*

Kelly Richey-Texas frog watch monitoring project

Randy Jackson-Helminths of snakes *Graduated. Now attending medical school at University of Texas Health Science Center at Houston

Jenny Hollis-(student at U. Northern Iowa, Cedar Falls)-undecided, plans to attend TAMU-T in summer to do herpetology research directed by Dr. McAllister

Additional Information: Texas A&M University-Texarkana's Biology Department is now in it's second year of existence. We continue to add new curricula to our growing science program (please see: <http://www.tamut.edu/~allard/Biology/biology.html>). Next summer, Dr. McAllister will offer Vertebrate Field Biology (BSC 405) for the second time. The course is 5-6 weeks long, meets M-W, and is 6 hours credit. Please see last year's photographs for more information(http://www.tamut.edu/~allard/Biology/labs/student_activities.htm). The Biology Department also sponsored a presentation on Bats of the ARK-LA-TEX by Mr. David Saugey, U.S. Forest Service, as part of our Texarkana Biology Partnership Science Speaker Series on November 8, 2001. You may view photographs at: (<http://www.tc.cc.tx.us/~mstorey/BSC/bats/bats.html>).

TEXAS PARKS & WILDLIFE

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Research Interests, Projects and Grants: Competition and facilitation between black-tailed prairie dogs and cattle on Texas rangelands; Black-tailed prairie dog mediated control of brush on Texas rangelands; a state-wide inventory of black-tailed prairie dogs; developing and implementing a population monitoring program for mountain lions in the Trans Pecos and south Texas brushlands; developing and implementing a statewide monitoring system for carnivores.

Additional Information: Our "research" is done in-house by agency personnel or via contract

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Research Interests, Projects and Grants: Area of responsibility: Mammals of Texas

Current projects: Ocelot Habitat Restoration; State mountain lion monitoring protocol

Additional Information:

Graduated West Virginia University 1988 - BS Wildlife Management

Graduated Texas A&I University - Caesar Kleberg Wildlife Research Institute

1992 - MS Range and Wildlife Management

TEXAS TECH UNIVERSITY

Two separate groups from Texas Tech University were involved in expeditions this past summer resulting from the support of Mr. James E. Sowell. One Sowell Expedition was to Honduras under the direction of Robert Bradley. This trip involved a total of 12 people, including 7 graduate students and 2 undergraduates. Ron Van Den Bussche and Meredith Hamilton provided leadership and assistance to the success of the Honduran trip. The second Sowell Expedition was to Ecuador under the direction of Carl Phillips, Clyde Jones, and Robert Baker. This trip consisted of 18 individuals including 3 Ecuadorians, an undergraduate, 8 graduate students, a journalist and a photographer. We expect to make two trips in the summer 2002; however, the locations have not yet been determined.

We have upgraded the publication series of the Texas Tech Museum. The format is 8 1/2 X 11 page size; individual covers can be customized for a specific article; and color is an option. This series is open not only to Tech faculty and students, but also to faculty and students at other institutions. For example, the most recent issue (203), "Two new genera and species of halphtic desert mammals from isolated salt flats in Argentina," by Michael A. Mares, Janet K. Braun, Ruben M. Barquez, and M. Monica Diaz, is by authors not affiliated with TTU. The series is peer reviewed and the publication time can be expedited. There are page charges, but these are restricted to the real costs of production and of desired reprints.

For further information, visit our website at www.biology.ttu.edu and www.nsrl.ttu.edu.

(Submitted by Robert J. Baker)

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Research Interests, Projects and Grants: Robert J. Baker's interests encompass the ability to dissect the genome in an efficient way to provide resolution to problems concerned with systematics, conservation, biodiversity, genotoxicology, agriculture, 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, based on sequence from representatives of over 50 genera. In collaboration with Ron Van Den Bussche, Steve Hoofer, 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. The Chernobyl project is part of a larger project headed by Dr. Ron Chesser.

Postdoctoral Research Associates:

Calvin A. Porter is currently serving as Visiting Assistant Professor, and is working on the molecular systematics of phyllostomid bats with Robert Baker. Calvin has recently accepted a tenure-track faculty position at Xavier University of Louisiana, and will begin there in the fall.

Brenda Rodgers is jointly appointed as a postdoctoral research associate with Robert Baker and Laura K. Baker, M.D., and continues to study the effects of low-dose radiation exposure in humans and in animal model systems. Current field projects include an investigation into the effects of chronic doses of radiation on the demographic characters of exposed populations of small mammals (fertility, growth, survival, migration) relative to their total body dose of radiation, and using remote sensor cameras to document the mammalian megafauna of the Chernobyl exclusion zone. In

addition to the field studies, the micronucleus assay and chromosome painting are being employed to assess chromosomal damage in transgenic mice chronically exposed to the radioactive contamination at Chernobyl. Brenda has also proposed to the National Cancer Institute, a collaborative project with Dr. Laura Baker and a member of the Ukrainian Academy of Sciences for continued monitoring of the health effects of long-term exposures of humans to radioactive fallout from the Chernobyl accident. The proposed project will expand their previous study of scientists and liquidators occupationally exposed to Chernobyl. brodgers@ttacs.ttu.edu

Graduate Students and their research:

Jeffrey K. Wickliffe is on schedule to defend his dissertation in May 2002. His PhD research centers on characterizing and quantifying molecular genetic mutations in rodents exposed to chronic, environmental ionizing radiation at Chernobyl. He has investigated mitochondrial DNA heteroplasmy in native bank voles (*C. glareolus*, manuscript accepted-ET&C) and experimentally enclosed *M. musculus domesticus* (manuscript in prep). He is also analyzing mutation frequencies (somatic) and the nature of the specific mutations in the *lacI* repressor transgene in Big Blue laboratory mice exposed to the Chernobyl environment. In collaboration with Dr. Carl Phillips, he is investigating speciation in Old World field mice, *Apodemus agrarius*, *A. sylvaticus*, and *A. flavicollis* from Ukraine, using molecular analyses of an androgen binding protein expressed in saliva. This gene's product appears to be under substantial positive natural selection. He is also preparing to submit two manuscripts, 1) investigating the systematics biogeography of *Thomomys bottae* in Texas, and 2) evaluating a portion of the *cyt b* gene as a molecular tool for identifying species which are morphologically problematic and cannot be handled in the classical museological manner. Finally, he is analyzing the molecular characteristics of a potential avian hybrid, the systematic affinities of the subspecies of *Geomys personatus*, and the evolution of an intron in a sex-linked avian gene, CHD (chromo-helicase domain binding protein). Jeff.Wickliffe@ttu.edu

Deidre Parish is planning to defend her dissertation in 2002. 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 with L1 elements isolated by Holly Wichman's lab at the University of Idaho, she is investigating the relationship between the accumulation of LINEs and X inactivation using *Carollia brevicauda* as the model system (manuscript submitted, Cytogenet. Cell Genet., which is changing its name to Cytogenetics and Genomics). 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. dparish@ttacs.ttu.edu

Federico G. Hoffmann is from Uruguay where he was a student of Enrique Lesse's. Federico is a third year Ph.D. student in systematics at Texas Tech. As part of the program's studies on systematics of phyllostomid bats, Federico has sequenced the cytochrome-b gene from *Uroderma*, *Glossophaga*, and *Carollia*. His studies on *Uroderma* involve a definition of the chromosomal contact zone based on the distribution of sequence variation. He was in Chile collecting mammals this January. fhoffman@ttacs.ttu.edu

Michelle L. Haynie is a second year Ph.D. student. Michelle completed her Master's degree, thesis entitled "Parentage, multiple paternity, and reproductive success: using microsatellites to study social interactions in two species of prairie dogs", at Oklahoma State University under the direction of Dr. Ron Van Den Bussche. Her current research at Tech involves the application of Representational Differential Analysis (RDA) to questions pertaining to the presence of unique sequences among a species and subspecies of prairie chicken (*Tympanuchus*). This project is in collaboration with Dr. Phil Sudman at Tarleton State University. She also is involved in a study of *Clethrionomys* from Chernobyl using microsatellites to detect the presence of mutations and the possibility of multiple paternity using known mother-embryo sets. Michelle is also assisting on a microsatellite study of wolves (*Canis*). Michelle's dissertation research will focus on using molecular markers, such as cytochrome-b and microsatellites to study population genetic aspects of several Ecuadorian rodent species. mhaynie@ttacs.ttu.edu

Rex McAliley is a second 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), as well as identification of rodents collected this summer in our trip to Ecuador. mcaliley1@home.com.

Emma Dawson finished her masters in Museum Science and is currently in a Ph.D. program in Landscape Architecture/Biology.

Adam Fuller is a first year Ph.D. student. Adam received his M.S. with Dr. Paul Turner at New Mexico State University where he investigated factors contributing to the reproductive development in Rio Grande chub, *Gila pandora*, an imperiled southwestern cyprinid, using reproductive hormones. Adam is currently a Research Biologist for the U.S. Fish and Wildlife Service where his main research focus is in conservation genetics and developing cryopreservation techniques to aid in the recovery of the 17 endangered southwestern fishes being raised in this region. His current research involves using microsatellites to determine genetic diversity in hatchery stocks compared to wild populations in six endangered species of fish (Apache trout, Gila trout, razorback sucker, Colorado pike minnow, Rio Grande silvery minnow, and woundfin), assessing systematics of the genus *Hybognathus* (Cyprinidae) using cytochrome-b, and determining the heritability of microsatellite markers in several species of fish. Adam's dissertation research will focus on using genetic markers, such as microsatellites, to assess genetic damage to developing embryos of Gila trout (Salmonida), bonytail (Cyprinidae), and razorback sucker (Catostomidae) caused by fertilizing with cryopreserved sperm. Adam_Fuller@fws.gov

Undergraduate Students and Their Research:

Amy Bickham is a senior at Texas Tech. Her research project is studying the somatic mutation frequencies in transgenic Big Blue mice exposed to Chernobyl radiation. She is comparing mutation frequencies between highly exposed and unexposed reference animals. She is collaborating with Jeff Wickliffe on this project.

Adam Brown is a senior at Texas Tech. He is using a portion of the cytochrome-b gene to investigate the systematics of Ecuadorian bats. Currently he is focusing on two species of *Artibeus*, *A. glaucus* and *A. phaeotis*. He is collaborating on this project with Federico G. Hoffmann.

News on Former Students:

Marcy Revelez accepted a position as a curatorial specialist in the mammal collection at the Sam Noble Natural Museum of the University of Oklahoma.

Amy Halter graduated from the Museum Science Program and is teaching in public schools.

Mark O'Neill finished his masters degree in Biology and is a research associate with Lexicon Genetics in the Woodlands, Texas.

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 Chernobyl region of Ukraine. I have worked in the Chernobyl 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.

Graduate Students and their research: I have no graduate students at this time but am interested in recruiting students with excellent mathematical and computer skills.

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 México.

Systematics, biogeography, ecology and conservation of Paraguayan mammals.

Evolution, systematics, and ecology of hanta and other mammalian-borne viruses.

Current Projects and Grants:

During 2001, Dr. Owen was in Paraguay on a Fulbright Fellowship, working in the Universidad Nacional de Asunción to establish a Master's degree program in Biology. This new Master's program is scheduled to begin in March, 2002.

"Landscape epidemiology of a Texas hantavirus: habitat structure and potential role of parasites". Advanced Research Program grant, 2002-2003.

Graduate Students and Their Research:

Carl W. Dick is in the third year of his Ph.D. program. His research is centered on the systematics of New World streblid bat flies and coevolution with their chiropteran hosts. He is also investigating the evolutionary ecology of the coexistence of multiple parasite species. In 2001, Carl spent two weeks in Honduras, and 2 ½ months at the Manu Reserve in Perú, collecting ectoparasites of mammals and birds.

Tyla Holsomback is in the first year of her graduate work. Her interests are in carnivore biology and conservation biology.

H. George Wang completed his M.S. degree. His thesis was entitled "Ecological characterization of bat species distributions in Michoacán, México, using a Geographic Information System." George has begun a Ph.D. program at the University of Louisiana at Lafayette.

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WEB PAGE: Biology - <http://www.biol.ttu.edu/>; Museum - <http://www.nsrll.ttu.edu/>

RESEARCH INTERESTS, PROJECTS, AND GRANTS: My research interests include systematics and molecular evolution in mammals, particularly in geomyoid and sigmodontine rodents. Examination of hybrid zones between genetically distinct taxa; including isolating mechanisms and the dynamics of genetic introgression. Determining the origin of hybridzymes generated from hybridization events. 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. Development of bioinformatics and how this field can be interact with natural history collections. Natural history and distributions of mammalian species.

CURRENT PROJECTS:

- Systematics and phylogenetic studies of *Peromyscus boylii*.
- Phylogenetic relationships of Neotomine and Peromyscine rodents.
- Systematics and phylogenetic studies of the genus *Sigmodon*.
- Systematics and phylogenetic studies of the genus *Neotoma*.
- Ecology of emerging arenaviruses in the southwestern US.
- Emerging and re-emerging rickettsioses in Latin America - flying squirrels as a host.

GRADUATE STUDENTS AND THEIR RESEARCH:

Darin Carroll (PhD student), is in his fourth year.....Mitochondrial and Nuclear DNA variation in *Sigmodon*. He plans on graduating this spring and working with CDC.

Francisca Mendez-Harclerode (PhD student), is in her second year.....Populations genetics of *Neotoma micropus* and how geneology predicts suseptability/resistance to arenavirus.

Brian R. Amman (PhD student), is in his second year.....Systematics of the *Peromyscus boylii* species group.

Serena A. Reeder (Masters student), is in her first year....Undecided but will examine molecular systematics/evolution in Neotomine/Peromyscine rodents.

John R. Suchecki (Masters student), is in his first year....Natural History and Population Biology of *Neotoma micropus* middens.

UNDERGRADUATE STUDENTS AND THEIR RESEARCH:

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

Amy Vestal (Senior), first year in the program....Molecular systematics of *Neotoma micropus* populations in South Texas.

ADDITIONAL INFORMATION:

Cody W. Edwards (PhD 2000) has accepted a position with Stephen F. Austin University. I imagine that he will be looking for graduate students.

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. In the upcoming year, we will be filling two new positions (Virologist and Mammalogist) in the Department of Biological Sciences. Please contact us if you are interested in pursuing graduate research in these areas.

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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.

Graduate Students and Their Research:

Advisory committees of all graduate students are co-chaired with Dr. Carleton J. Phillips.
Joel Brant—mammals of the sandhills regions of Texas and adjacent New Mexico.
Robert DeBaca—mammals of the Davis Mountains, Texas.
Jana Higginbotham—comparative studies of bat communities in the Big Bend and Trans-Pecos areas of Texas.

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David Schmidly

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Research Interests, Projects and Grants: Mammals of Texas, Natural Resource Management, Conservation

Graduate Students and Their Research:

Chris Hice, “Small Mammal Communities of Northeastern Peru: the Impact of Habitat and Disturbance on Community Structure and Population Dynamics

TEXAS WESLEYAN 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:

Stephanie Coster. Honors student. Population genetics of Kenyan elephants.
Frank Puga. Survey of mammals at the San Antonio Missions National Historic Park.
Dan GonzalezCarrero. Mammals of Government Canyon State Natural Area.
Lauren Hamilton. Mammalian Species Account – *Elephantulus myurus*.

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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: Applications of remote sensing and GIS to studies of biodiversity, biogeography, and conservation; mammalian biogeography of the Colorado Plateau; molecular applications to biodiversity.

Graduate Students and Their Research:

Carla Carr (PhD) Biogeography of montane mammals of the Colorado Plateau

Vicki Jackson (PhD) Applications of remote sensing and GIS to habitat modeling of ocelots in Texas

Bethany Bolling (MS) Ecological relationships of mammalian zoonotics in northcentral Texas

Chris Miller (MS) Applications of remote sensing and GIS to modeling of habitat for Rio Grande turkeys

Tanya Hardison (MS) Use of remote sensing to model effectiveness of fire as a restoration tool in pinon-juniper habitat on the Colorado Plateau

Jennifer Barrow (MS) Use of GIS to model deer habitat in the western cross timbers region of northcentral Texas

Robin Aiken - BS - Biogeographic relationships of mammals of the cross timbers region of Oklahoma and Texas