Issue n. 6 | Fall 2016

DEPARTMENT OF WILDLIFE & FISHERIES SCIENCES

Former Student Newsletter

From the Desk of the Department Head

Dr. Michael Masser

Well, the fall semester is half way completed and most everything is good in Aggieland and in the department. The football team is 6-1 as I write this, and my obvious hope is the coming games we will be victorious! Go Ags! WFSC has two new faculty members, Drs. Jessica Yorzinski and Jacquelyn Grace, the new building is ahead of schedule and we hope to move in next May-June, and several faculty received prestigious awards this fall. You will read more about all that further in the newsletter. But basically life in WFSC is good. TAMU College Station enrollment continues to grow. This fall we had 60,979 students on campus which makes us the largest single campus in Texas and in the top five nationally. WFSC enrollment is down slightly with 374 undergraduates and 126 graduate students of which more than half are Ph.D. students. Some of this downturn, especially in graduate students, reflects the loss of six faculty members since 2013 and should rebound as new faculty are appointed. All this suggests that we need to improve our recruitment efforts especially for undergraduates and we are looking at methods to promote WFSC and attract new students. If anyone has suggestions, please contact me. Our students continue to excel as you will see in further newsletter articles. We are also still very diverse student body with approximately 50% female and over 20% minorities, mostly Hispanic.

On a more personal note, my four-year appointment as Department Head ended in June. I requested to be reappointed and was evaluated by the faculty and outside peer-reviewers on my activities over the previous four years. The evaluations were assessed by the Dean and he has informed me that he will support my reappointment to the Provost. The Provost approves all appointments. I truly appreciate all the support I receive from my faculty, staff, students, and alumni and look forward to continuing as Department Head. As always, please contact me if you have any questions or suggestions for WFSC or if you would just like to visit. My phone number is 979-845-6295 or email at m-masser@tamu.edu. I sincerely hope to hear from you and wish you a safe and enjoyable holiday season.

New Wildlife & Fisheries Building as of Oct 13, 2016

Legacy Committee Members 2016

Paul Dorsett (Chair)
President, Fisheries Management, Inc.

Carter Smith
Executive Director, Texas Parks & Wildlife

Neal Wilkins
President & CEO, East Foundation

Greg Simons
Owner, Wildlife Systems, Inc., President, Texas Wildlife Assoc.

Tamara Trail
Secretary, Take Care of Texas

Mac McCune
President, Lake Management Services, L.P.

Bruce Beard
Assoc. Director, Institute of Renewable Natural Resources, TAMU

Nova Silvy
Regents Professor & Assoc. Dept. Head for Undergraduate Programs, Wildlife & Fisheries Sciences, TAMU

Delbert Gatlin
Regents Professor & Assoc. Dept. Head for Graduate Programs, Wildlife & Fisheries Sciences, TAMU

Daniel Roelke
Professor, Wildlife & Fisheries Sciences, TAMU

Jim Cathey
Professor & Assoc. Dept. Head for Extension, Wildlife & Fisheries Sciences, TAMU

Masami Fujiwara
Assoc. zzzzProfessor, Wildlife & Fisheries Sciences, TAMU

A Legacy

Gratitude and Perspective,

Sometimes we just need to take time to do what is good for us. Little did I know a couple of days ago how "good for me" it would be to participate in helicopter deer surveys here in the Rolling Plains region of Texas. It's amazing what a little elevation will do for perspective. Just seeing the how vegetative responses to abundant rains, the tanks full and creeks running, and consistent covey rises evoke such a sense of gratitude. What a joy to see the last flutterings of monarchs passing through on their journey south and to feel the crispness in the air and hear the bird dogs barking in the distance. As I was recording data and studying the landscape, I happened to look at my nearly worn-smooth Aggie ring. Yet another surge of gratitude struck as I contemplated the merits of habitat below, evaluated the responses to management practices, and simply relished the opportunity to be afield. I am so thankful for the training and for the people who nurtured my desire to be a "student of the land." I am thankful for the experiences in Nagle Hall and "Old Heep" and the impact my tenure in the department has had on my life. (Come to think of it, Nagle Hall is even the place where I met my husband, Justin. Dr. Wallace Klussmann likes to remind us that we can credit his Wildlife Law class for fledging our relationship.) I am forever grateful for the faculty and fellow students who have had -- and continue to have -- a profound impact on my life and on the future of conservation.

This time of changing seasons and feelings of thankfulness remind me of a dawn of a new season for WFSC. In 2017, a brand new set of hallways will be the home of the Department's cutting-edge research, programming, teaching and outreach. I know our future leaders in conservation will remember these new hallways with a similar fondness I have for Nagle Hall. No matter where the Department calls home, a tradition of excellence remains constant. The talented team of faculty, students, and alumni are committed to creating a lasting legacy as leaders, not only in Texas, but throughout the world.

It is a humbling privilege to serve on the Department's Legacy Committee alongside some of the nation's leading professors, consultants, biologists, business managers, and educators.

This committee is led by Dr. Michael Masser and is tasked with helping further the department in areas of development, curriculum, and other strategic priorities identified by the faculty and staff. Our prosperity and our way of life is inextricably tied to the health of our natural world. I am so thankful we have a team in the Department of Wildlife and Fisheries at Texas A&M who work tirelessly to ensure the health and conservation of our natural resources for future generations.

If you haven't done so lately, I urge you to visit the WFSC website and see the latest in research, programs, awards, and opportunities to engage. You can also easily find the link to "lead by example" and join your fellow alumni and conservationists across the world in making a difference for WFSC. I hope you will consider showing your gratitude for the Department by joining us in investing in the next generation of wildlife professionals, the internationally-recognized faculty, the excellence in teaching and research, and the far-reaching Extension education programs.

With sincere gratitude,
Tamara S. Trail - WFSC Class of '94

Vision

The Department of Wildlife and Fisheries Sciences aspires to preeminence among academic programs dealing with ecology, management, and conservation biology. Our faculty is dedicated to the discovery and dissemination of knowledge in conservation of biodiversity, natural resource management, and the sustainable use of natural resources. An overarching goal of the department is to facilitate the sustainability of the earth's biota and the ecosystems on which they depend while accommodating for human health and welfare.

Awards

Undergraduate Undergraduate Research Program at Ecological Systems Laboratory: 2015-16 Undergraduate Research Scholars, Rebecca Aden, Aminta Arevilca, Anna Cole, Kaitlyn Forks, Thanchira Suriyamongkol; 2016-17 Undergraduate Research Scholars, Jennifer Borski, Paola Camposeco, Lela Culpepper, Jasmin Diaz-Lopez, Hannah Gerke, Marissa Ortega, Andrew Richardson; 2015-16 ABS Conservation Scholars, Kelsea Anthony, Aminta Arevilca, Anna Cole, Kaitlyn Forks, Hannah Gerke, Brittany Stamps, Thanchira Suriyamongkol; 2016-17 ABS Conservation Scholars, 2015-16 Texas Sea Grant Undergraduate Research Scholar Award, Aminta Arevilca; 2016 NSF REU Recipient, Lela Culpepper; 2016 2nd place in Undergraduate Poster Sections at Student Research Week and Ecological Intergration Symposium, Kaitlyn Forks.

Graduate 2016-17 College of Agriculture and Life Sciences Excellence Fellowship, Katrina Keith, Jude Magaro, Amanda Pinion; 2016-17 Lechner Scholars Fellowship, Jaileen Rivera; 2016-17 Tom Slick Graduate Research Fellowship, Caroline Arantes, Johanna Harvey; 2016-17 Willie Mae Harris Fellowship for Outstanding Graduate Teaching Assistant, Jerry Huntley; 2016-17 Office of Graduate and Professional Studies Diversity Fellowship, Jaileen Rivera; Best Student Poster Presentation, Texas Chapter of American Fisheries Society, Amanda Pinion; LSAMP Bridge to the Doctorate Award, Jaileen Rivera; Best Abstract Award to Ph.D. Student, Aquaculture, Las Vegas 2016, "Dietary valine requirement of juvenile red drum Sciaenops ocellatus and effects of excess branched chain amino acids on growth performance" by Sergio Castillo and Dr. Delbert Gatlin III; John Hopkins B.Sc., U. Maryland, M.Sc., NSF-IGERT, TAMU Merit, Smithsonian Institution Pre-Doctoral Fellow, Society for the Study of Reptiles and Amphibians, Henri Siebert Award for Best Student Talk in Conservation, Texas A&M University Dissertation Writing Fellowship, Smithsonian Institution Global Genome Institute, Nicole Angeli; Princeton U. B.Sc., Ecoexist Fellow, NSF-IGERT Fellow Global Opportunities and EEB Research Award, Erin Buchholtz; Cornell, Fulbright US Student Fellow, Taiwan Research Fellow, International Herpetological Society Research Grant, Charles H and Frances Fleming Scholarship, East Texas Herpetological Society Research Grant, EEB Research Award, Kristina Chyn, 2016 College of Agriculture and Life Sciences Dean's Outstanding Achievement Award, Graduate Research, Daniel Fitzgerald.

Faculty 2016 College of Agriculture and Life Sciences Dean's Outstanding Achievement Award, Diversity, Dr. Miguel Mora; 2016 College of Agriculture and Life Sciences Dean's Outstanding Achievement Award, International Impact, Dr. Kirk Winemiller; Texas A&M Association of Former Students Distinguished Achievement Award for Teaching at the College Level, Outstanding Contributions to the Field of Ecological Modeling and Environmental Education in Wthe International Society for Ecological Modeling Global Conference, Townson, MD., Dr. William Grant; Appointed Associate Editor for Biological Invasions by Dr. Daniel Simberloff, Dr. Hsiao-Hsuan Rose Wang.

Extension Texas Master Naturalist Program, 2016 Outstanding Educational Materials Award from Alliance of Natural Resource Organization and Service Programs.

UNDERGRADUATE RESEARCH

Back row; Rebecca Aden, Brittany Stamps, Hannah Gerke, Kaitlyn Forks, Anna Cole, Kelsea Anthony; Front row; Aminta Arevilca, Lela Culpepper, Thanchira Suriyamongkol, Dr. Hsiao-Hsuan Wang

2016 COLLEGE OF AGRICULTURE AND LIFE SCIENCES DEAN'S OUTSTANDING ACHIEVEMENT

Awards Top to Bottom: Dr. William Grant and Mr. Nic Taunton; Dr. Miguel Mora and Dr. Mark Hussey; Dr. Kirk Winemiller and Dr. Mark Hussey; Mr. Daniel Fitzgerald and Dr. Mark Hussey

Mission

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Construction of Brazil's Belo Monte hydropower complex.

Dr. Winemiller Leads Scientists in Groundswell Effort to Save World's Mightiest Rivers from Dam Impacts

By Dr. Kirk Winemiller | kwinemiller@tamu.edu

A group of 40 international scientists led by Dr. Kirk Winemiller, Regents Professor in the Department of Wildlife and Fisheries Sciences, claim that three of the earth's mightiest rivers are being ravaged in the name of progress. The scientists published an article "Hydropower Expansion in the Amazon, Congo and Mekong – a looming threat to global biodiversity" earlier this year in the prestigious scientific journal Science (http://www.sciencemag.org/lookup/doi/10.1126/science.aac7082).

The article summarizes the negative impacts of hydroelectric development on the incredible fish diversity and important ecosystems of tropical rivers. The article calls for innovative approaches for hydropower development and improved environmental assessments that account for the true costs and benefits of cumulative impacts. More than 450 new dams are planned for the Amazon, Congo and Mekong rivers, with some already under construction. These three rivers account for over one third of all freshwater fish species. Aside from the environmental impact and the potential loss of hundreds of aquatic species as the dams are built, the authors warn of widespread human displacement and negative economic impacts including loss of fisheries resources that provide food security for rural populations.

Hypancistrus zebra, one of several fish species threatened with extinction from habitat loss resulting from the Belo Monte hydropower complex.

Values

The faculty, staff, and students of the Department of Wildlife and Fisheries Sciences value scholarship in all its forms – discovery, integration, application, and teaching. We value understanding for its own sake, for the betterment of people, and for the conservation of the natural world. The department encourages, appreciates and rewards various forms of scholarly activity in teaching, research, extension, and public service, including integration of these activities. Diverse viewpoints, ethical consideration, and approaches to pursuing and manifesting scholarship, including constructive criticism, are accepted and nurtured.

Dr. Hsiao-Hsuan "Rose" Wang

By Dr. William E. Rogers | Editor-in-Chief, Plant Ecology, Professor, Department of Ecosystem Sciences and Management,

Dr. Hsiao-Hsuan "Rose" Wang received her BS and MS at National Taiwan University. After receiving her MS she stayed on at NTU to work as a research assistant for two years. She arrived at TAMU in 2006 to begin working on her doctoral degree in the Department of Ecosystem Science and Management under the mentorship of Dr. Jianbang Gan, where she received her Ph.D. in 2009 after successfully defending her dissertation entitled, "Occupation, dispersal, and economic impact of major invasive plant species in southern US forests."

She joined the Department of Wildlife and Fisheries Sciences as a Postdoctoral Research Associate in 2010 as a close collaborator of Dr. Bill Grant and currently holds the title of Research Scientist. She also serves as an Undergraduate Research Program Advisor in the Ecological Systems Laboratory. Currently, there are fifteen undergraduate students from four departments (CVEN, ESSM, INTS, WFSC) doing research projects in the program. Five of these students have completed undergraduate theses (2015 – 2016 Undergraduate Research Scholars) while seven others are currently pursuing work on their undergraduate theses (2016 – 2017 Undergraduate Research Scholars).

Rose was awarded the 2013 Biennial Outstanding Reviewer Award by the International Society for Ecological Modelling at their meeting in France. She then served on the Editorial Advisory Board for the international journal "Ecological Modelling" from 2013 to 2015. In 2015 she was appointed as a Subject Editor for "Ecological Modelling" (theoretical and mathematical modeling) and continues to serve in that capacity. In 2016 she accepted the invitation from Dr. Daniel Simberloff to serve as an Associate Editor for the scientific journal "Biological Invasions" published by Springer.

Rose Wang has eight years of experience developing species distribution models and spatially-explicit, agent-based simulation models with particular emphasis on the roles of dispersal and habitat selection in producing the spatial distributions of populations across landscapes. She just organized a symposium and served as Symposium Chair at the biennial meeting of The International Society for Ecological Modelling in Baltimore last May. The symposium was composed of 16 papers from 10 different countries and was focused on integrated modeling approaches of species distribution models and agent-based simulation models.

Her primary research is on developing and testing probability-based theories of species distribution and dispersal and developing analytical techniques for characterizing the resulting patterns over a range of spatial and temporal scales as a means of identifying critical, pattern-forming ecological processes. Her recent research has focused on application of these techniques to topics ranging from endangered species management to management of invasive species to management of vectors of emerging diseases. In the past 7 years, she has published 28 papers in peer-reviewed journals (14 as senior author and 4 with undergraduate students) and I have had the distinct pleasure of collaborating with her on a number of these projects. Rose brings a level of enthusiasm for exploring new ideas, tireless dedication toward pursuing scientific excellence, and a sincere desire to promote inclusivity and diversity among colleagues and the students she mentors in ways that make interactions with her undeniably pleasurable.

In addition to her own professional accomplishments, at home she and her husband, TAMU-ESSM post-doctoral research associate Dr. Tomasz Koralewski, are balancing dual-academic careers and they are parents to two beautiful young children who keep them plenty busy. In closing, I would simply add that Rose is a very motivated young female scientist with a thoroughly professional attitude toward her work and a genuine concern for others. Dr. Bill Grant always describes her by stating that "she embodies a good old-fashioned American work ethic - made in Taiwan." I wholeheartedly agree that Rose Wang is a truly valued colleague and a tremendous asset to Texas A&M University.

Latest Publications

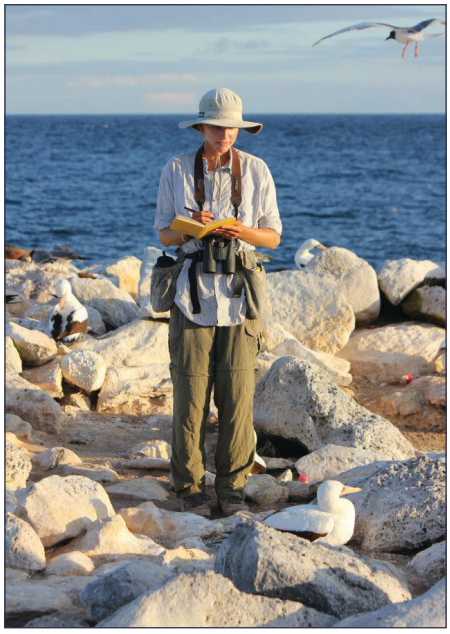
Maldonado, A.R., Mora, M.A. & Sericano, Seasonal Differences in Contaminant Accumulation in Neotropical Migrant and Resident Songbirds. J.L. Arch Environ Contam Toxicol (2016). doi:10.1007/s00244-016-0323-3

Fitzgerald, D. B.*, Winemiller, K.O., Sabaj Pérez, M. H. and Sousa, L. M. (2016), Seasonal changes in the assembly mechanisms structuring tropical fish communities. Ecology. Accepted Author Manuscript. doi:10.1002/ecy.1616 *Graduate student

Hurtado, L.A., Mateos, M., Mattos, G., Liu, S., Haye, P. A. and Paiva, P. C. (2016), Multiple transisthmian divergences, extensive cryptic diversity, occasional long-distance dispersal, and biogeographic patterns in a marine coastal isopod with an amphi-American distribution. Ecol Evol. doi:10.1002/ece3.2397

New WFSC Faculty

Dr. Jacquelyn Grace



I am an avian behavioral ecophysiologist and work at the intersection of animal behavior, ecology, physiology, and life history to address the broad question of how individual animals adjust to environmental changes within their lifetimes. The big questions of my research are: (1) How do animals perceive potentially informative cues? (2) What are the physiological mechanisms that mediate between these cues and phenotypic change? (3) What are the long-term fitness consequences of these changes? I utilize avian systems to answer these questions, with recent study species including house sparrows, Nazca boobies, and Caspian terns. Most recently, my research has focused on the role of early-life traumatic events -- and associated upregulation of stress hormones -- in permanently modifying the physiology and behavior of seabirds and passerines.

As a new transplant to Texas, I have spent my first couple of months at TAMU familiarizing myself with the variety of unique ecological zones here, and the wildlife research needs and priorities of Texans. My life and research have taken me from tropical Hawai'i, to the rocky Oregon coast, desert islands of the Galápagos, and agricultural fields and forests of Deux-Sèvres, France, but few of these places have had the diversity of natural areas offered by Texas. As a new member of the WFS faculty, I am excited to be expanding my research program to include wetland systems where habitat conversion, changing farming practices and pollution may be cues that induce modification of physiology and behavior in resident and migratory birds.

Dr. Jessica Yorzinski

Dr. Jessica Yorzinski is an Assistant Professor in the Department of Wildlife and Fisheries Sciences. She earned her B.S. in Neurobiology and Behavior at Cornell University and her M.S. and Ph.D. in Animal Behavior at the University of California Davis. She completed postdoctoral positions at Duke University in the Center for Cognitive Neuroscience and Purdue University in the Department of Biological Sciences.

Dr. Yorzinski is teaching an undergraduate course in Animal Behavior and a graduate course in Animal Communication with Wildlife and Fisheries Sciences.

Her research focuses on animal behavior, with an emphasis on sensory ecology and animal communication. Her approach is integrative, combining observations of natural behaviors in the field with innovative new technology and experimentation to study behavior in a wide variety of species. She and her students conduct basic and applied research on birds and primates in the wild and captivity.

Vision

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Student workers Amanda Pinion, Anyssa Martinez and Erin McGrew, inventorying WTAMU specimens for addition to collection.

West Texas A&M University Collections Move to the Biodiversity Research and Teaching Collections

With support from the National Science Foundation, important collections of amphibians, reptiles and fishes are being moved to the Biodiversity Research and Teaching Collections (formerly the Texas Cooperative Wildlife Collection) in collaboration with West Texas A&M University (Canyon, TX). The National Science Foundation Program, Collections in Support of Biological Research, awarded a $200,000 grant to our team. The team includes Dr. Lee Fitzgerald, Faculty Curator of Amphibians and Reptiles, Dr. Kevin Conway, Faculty Curator of Fishes, Dr. Toby Hibbitts, Staff Curator of Amphibians and Reptiles, Ms. Heather Prestridge Staff Curator of Fishes, and Dr. Rich Kazmaier, Professor and Curator from WTAMU. The project involves multiple undergraduates and graduate students who have been instrumental in the project implementation.

The West Texas A&M University collections consists of more than 15,100 amphibian and reptile specimens and nearly 30,000 fishes. These specimens were at risk and in urgent need of rehabilitation, and the geographical and ecological data associated with the specimens was not widely available. With the help of WTAMU faculty and students, most of the material has been moved to the BRTC facility in College Station, where these specimens are now being properly curated into the collections.

Undergraduate students from the Department of Wildlife and Fisheries Sciences spent almost a year and a half entering data, rehydrating desiccated specimens, sorting and organizing the specimens. Once the digital catalog data entry is complete, the specimen data will be made accessible to the public via the VertNET and iDigBio portals. A portion of the funds from NSF have been used to improve specimen storage, including new drums for larger specimens and shelving. We are working collaboratively with Dr. Kazmaier to ensure WTAMU maintains an important regional collection of specimens for teaching purposes.

The Collection of Amphibians and Reptiles at the BRTC is the 6th largest university-based collection in the U.S. (12th including the Smithsonian and other large museums). The BRTC Collection of Fishes contain over 785,000 specimens of fishes from around the world, organized in almost 53,000 lots. This collection is ranked 10th among universities in the U.S. (20th overall). The vast majority of our specimens are 'georeferenced', meaning each specimen record includes geospatial data, making them useful for a variety of research uses beyond basic time and space distribution for individuals of a particular species. Specimens typically enter the collections with associated tissue samples valuable for studies of genetics, disease, toxicology, and isotopes. With the addition of the WTAMU material, both institutions will see great improvements in the quality and value of our collections.

These important collections serve to document biodiversity across geographical regions that were underrepresented in our collections (specifically North and West Texas). These specimens will be immediately available for myriad studies now and into the future. Dr. Kevin Conway is already using these collections in research on several rare minnow species occurring in western Texas.

For more information about our collections and current projects, contact Heather L. Prestridge, Curator Biodiversity Research and Teaching Collections, Department of Wildlife and Fisheries Sciences, College Station, TX, brtc.tamu.edu, brtc@tamu.edu.

Mission

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Johanna Harvey in Italian Alps.

Awards

2016-17 Tom Slick Graduate Research Fellowship, Texas A&M University
2015 American Ornithologists' Union Research Award
2015 Marc Dresden Student Travel Grant, American Society of Parasitologists
2015 Frank M. Chapman Research Grant, American Museum of Natural History
2015 Aggies Commit Research Fellowship, Texas A&M University
2015 Graduate Students of Wildlife & Fisheries Sciences Seed

Graduate Student Spotlight

Johanna Harvey

Understanding the distribution and limitations of parasites and pathogens is becoming exceedingly important as increases in habitat and climate alterations are seen as well as the effects of introduced species. Malaria parasites infecting avian hosts can affect fitness, from physical condition and reproductive success to reduced survival rates, as well as being a source of emerging disease in non-endemic ranges. My research applies a molecular approach to examine and identify malaria in birds (including Plasmodium, Haemoproteus, Parahaemoproteus and Leucocytozoon) which, are transmitted by various dipteran species across the African continent. Samples of blood and or tissue were collected from the Benin, Burkina Faso, Democratic Republic of the Congo, and South Africa. 2,500 birds have been sampled across these diverse countries and geographic regions (bioregions). Research studies have shown that avian malaria, like other pathogens, display heterogeneous distributions across the landscape. The objective of my research is to examine the influence of avian life history characteristics (i.e., social structure, flocking behavior, group size, feeding behavior, and habitat type), climatic data (rainfall, temperature, etc.), and the diverse suite of vectors transmitting parasites to better understand the distributional patterns of avian malaria parasites across contrasting bioregions.

I am also using model testing to determine predictor traits for host-parasite relationships given the broad array of life history strategies seen across birds. The biogeography of avian malaria parasites is not well understood, particularly with respect to avian migratory connectivity and the effects of avian life history characteristics on the host-parasite relationships. Avian life history traits, such as social structure, group size, feeding behavior, and habitat type, that may influence host switching and speciation of malaria parasites will be assessed to determine the effect of host ecology on malaria presence, transmission, and migratory connectivity. The expected result is to determine the avian life history characteristics that are predictors for malaria host switching in non-endemic regions across diverse bioregions and in the light of possible range expansions. This is critical to understanding the evolutionary processes underpinning avian malaria ecology.

Values

The faculty, staff, and students of the Department of Wildlife and Fisheries Sciences value scholarship in all its forms – discovery, integration, application, and teaching. We value understanding for its own sake, for the betterment of people, and for the conservation of the natural world. The department encourages, appreciates and rewards various forms of scholarly activity in teaching, research, extension, and public service, including integration of these activities. Diverse viewpoints, ethical consideration, and approaches to pursuing and manifesting scholarship, including constructive criticism, are accepted and nurtured.

Livestock Guardian Dogs Come to Area Ranches

By Steve Byrns | s-byrns@tamu.edu

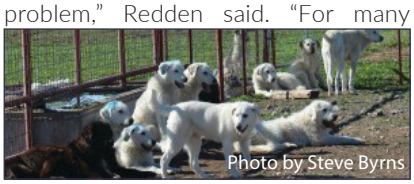
The West Texas sheep and goat industry will soon be "going to the dogs" if a team of Texas A&M AgriLife experts has their way.

Dr. Reid Redden and Dr. John Tomecek, Texas A&M AgriLife Extension Service state sheep and goat specialist and wildlife specialist, respectively, and Dr. John Walker, Texas A&M AgriLife Research resident director, all of San Angelo, are heading a new year-long research project called "Understanding and Expanding the Use of Livestock Guardian Dogs in West Texas."

"The goal is to place livestock guardian dogs on large West Texas ranches with ranchers who have never used them as a predator management tool," Redden said.

Redden said 22 dogs, including two backups, arrived shortly afterJan. 1 from a professional livestock guardian dog breeder based in Montana. The dogs, specifically bred and raised to live with and guard sheep and goats, are composite crossbred animals comprised of five large breeds of dogs used for thousands of years for this purpose.

"Predation on sheep and goats on large West Texas operations is arguably that industry's biggest problem," Redden said. "For many ranchers, controlling predators has gotten to the point where it's almost impossible to effectively conduct predator management by traditional lethal means. So we are looking at new tools for our area, and livestock guardian dogs are a tool that's been used in other countries and elsewhere in the U.S., but it has not been used very much in West Texas. The main difference is management style, and this management style affects how the dogs work."



Livestock guardian dogs await assignment to area ranches as part of a year-long study.

Redden said the research project aims to investigate and work with cooperating ranchers, located from San Angelo west to Iraan and down to Del Rio, to better understand how livestock guardian dogs work in large expansive pastures.

"We have pastures in the project from between 500 and 5,000 acres," Redden said. "These are large pastures where sheep can get scattered, making it easier for predators to do damage to the flock. It's also difficult to spot a problem quickly in a large pasture, especially if it's rough, brushy country as many West Texas pastures are."

Redden said the dogs were placed with seven cooperators and on AgriLife property Walker directs. Some ranchers got two dogs and some got four. The dogs, all between six and ten months old and previously bonded with sheep, were placed on the ranches shortly after Jan. 1. Once the dogs were placed on an operation, they were put in a small pen to bond with the sheep on that operation. Then within a few days to a few weeks, they were put out into large pastures.

Throughout the year the dogs are being fitted with GPS collars to track their movements throughout the day and night to see how they are working as a predator management tool.

"The observations thus far on the project have been fairly positive," Redden said. "Most of the cooperators we've talked to have had good luck with the guard dogs. There have been a few issues that needed to be addressed, which is common with guardian dogs. It requires effort and perseverance to make the program work. But we have not had any reported sheep losses from coyotes, the No. 1 predator in Texas.

"One rancher even commented since getting the dogs that he's seeing 'repeat appearances' among his sheep. Before, when his ewes would leave with a lamb, many of those lambs were never seen again, but now he is seeing them again…thus they are making repeat appearances.

"Based on cooperator reports, the guardian dogs have changed the movement patterns among the predators. Overall, we think they are starting to show some real positive effects on all the ranches that we've put them on."

The other part of the project Tomecek oversees centers around the use of game cameras left running throughout the year to measure the traffic of predators such as coyotes, foxes and feral hogs.

Tomecek noted the predator populations were camera-surveyed prior to the livestock guardian dogs being added and will continue to be surveyed throughout the year to understand how the dogs change the predator movement and patterns as the dogs move in and around the ranches.

"Primarily, these livestock guardian dogs are a tool that dissuade predators from getting in the livestock," Redden said. "One of the things people think is that the dogs are aggressive and go out and kill predators, and that is very rare. Actually the dogs are bonded to

Latest Publications

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Guardian Dogs cont.

the sheep, they stay with them. They are part of the flock, while at the same time they provide protection for the sheep.

"They bark throughout the night to warn predators to avoid the area. They dissuade them from harming the livestock, and the predators go back to their normal prey of mostly rabbits and other small rodents."

Redden said from a personal standpoint that livestock guardian dogs have kept his family-owned sheep and goat operation going since the 1990s.

"They're a fantastic tool," he said. "They do take effort and work to get them implemented and bonded and working on the ranch. But I think it's a fantastic return on the investment of time and money once guardian dogs are put into place and you understand how to use them and understand how they work. The peace of mind that predation is no longer a problem is the best benefit of all."

The AgriLife team would like to see the program build industry knowledge and widespread acceptance of livestock guardian dogs. They hope the group of ranchers will evolve into livestock guardian dog ambassadors, willing to help others wanting to use the dogs to remain economically viable in the sheep and goat industry.

"The whole West Texas belief that loose dogs among sheep as always being a bad thing must change, because these dogs don't behave as most dogs do and must be handled in a totally unique manner," he said. "It will be a learning experience, not only for the producers involved with this work, but for the whole West Texas ranching community as well."

Annual Texas A&M Wildlife & Fisheries Tailgate

11 19 16

Join Us! The Texas A&M Wildlife & Fisheries Tailgate for the Aggies vs. UTSA game is scheduled for November 16, 2016 on the lawn next to the new Wildlife and Fisheries Sciences on West Campus (game time to be announced).. We are asking for a $1000 contribution from you for the event. Since we are a state university and tax-exempt organization. We look forward to the event and hope to attract new students while creating awareness of the importance of ecosystems management. We are really excited for the opportunity to work with Prosperity Bank and we'll be happy to display any signage you have at the tailgate and/or have your logo included on any signage we produce. Hope to see you there!

Fund for Excellence Donation Card

If you are interested in giving to the Department of Wildlife and Fisheries Sciences, complete the pledge card below and mail to the Texas A&M Foundation. Contact: Dawn Miles | dmiles@tamu.edu | 979.845.6295

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