



lifelines

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Research Model Shows Growth of Lone Star Tick In Kansas

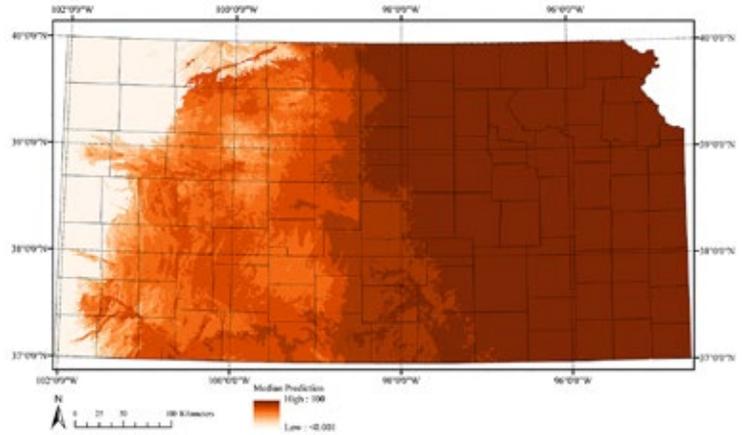
Climate Change cited as a significant factor

Climate change may have a new way of getting under your skin. Researchers in the CVM have validated a model showing growth in Kansas for the habitat for the troublesome Lone Star tick. Previously thought only to live in the eastern third of the state, computational modeling and live specimens have revealed the existence of these ticks as far west as Colby, which is only 55 miles from the Colorado state line.

Dr. Ram Raghavan, assistant professor in the Kansas State Veterinary Diagnostic Laboratory (KSVDL), published these findings in the March 2016 issue of *Vector-Borne and Zoonotic Diseases*. He collaborated on the article, “Maximum Entropy-Based Ecological Niche Model and Bio-Climatic Determinants of Lone Star Tick (*Amblyomma americanum*) Niche,” with faculty from Kansas State University’s entomology and geography department as well as other experts in the CVM.

Dr. Raghavan said the best-known diseases resulting from pathogens transmitted by this tick species include human monocytic ehrlichiosis and human ewingii ehrlichiosis, tularemia, southern tick-associated rash illness and feline cytauxzoonosis.

“The number of cases of feline tularemia and cytauxzoonosis in the region diagnosed at the KSVDL have increased steadily over the years, at least partly owing to the wider geographic distribution of *A. americanum*,” Dr. Raghavan said. “The model also suggests ongoing warming of global temperatures will likely influence the ecology and distribution of such medically important ticks, favoring more tick-borne diseases among people and pets. Climate conditions in Kansas have already been noted to have changed in noticeable ways, and many such conditions are known to favorably affect tick phenology and spatial distribution.”



Abiotically suitable regions for A. americanum ticks in Kansas as modeled with maximum entropy (MaxEnt) approaches based on museum and field-collected species occurrence data.

Dr. Raghavan listed specific examples of climate factors, “For instance, diurnal temperature range, a climate-change index that influenced the model, has been decreasing steadily since the 1950s. Similarly, increased atmospheric humidity during spring and summer months over the Northern Plains was noted for roughly the same time period. Other ixodid ticks occurring in northern latitudes have already shown shifts in their distribution and abundance that have been linked to warming climate.”

While the spread of pathogens and diseases are worrisome, Dr. Raghavan emphasizes that more research is needed. In the meantime, he recommends that people take precautions to help protect themselves and their pets.

Read more at Lifelines online: www.vet.k-state.edu/lifelines/1603.html

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First-year student Emily Cary races to second place in K-State Rodeo



Rodeo has been a barrel o'fun for first-year student Emily Cary, but it has also been a major balancing act. She recently placed second in the barrel racing event at the annual K-State Intercollegiate Rodeo held Feb. 19-21.

"It was nice to kick off the spring rodeo season with our home rodeo," Emily said. "College rodeo is all about consistency, and my goal is to be in the top three individuals in your event at the end of the year, in order to qualify for the Collegiate National Finals Rodeo that take place in Casper, Wyoming, in June."

Emily explained things have changed since she was an undergraduate student.

"Sometimes it is a challenge keeping up with the veterinary school curriculum and keeping my horses and myself tuned up for competition," Emily said. "I have three horses here at school and I ride them each daily. This usually cuts in to

study time quite a bit, but also keeps me from going crazy! I rodeoed pretty hard all of undergrad so I have gotten good at managing my time. I am, however, well known as the nerd who sits in her pickup at the rodeos and studies."

Emily grew up on the outskirts of Alpine, California, where she said her family always had horses and livestock.

"My mom, aunts, and cousins all ran barrels so you can say it runs in the family," Emily said. "In high school I started competing seriously, and began pro-rodeoing when I started undergrad."

Since college rodeo is not an NCAA sport participants can, and are encouraged to, participate in pro rodeo while we also participating in college rodeo.

"We get eligibility for four years plus an additional year if we are accepted into a graduate degree program (such as in the veterinary college)," Emily explained.

"This is my final year of eligibility and I am hoping to make the most of it!"

While Emily is excited to finish her last year of eligibility, she's also excited to work toward her career goal of becoming an equine veterinarian.

"I plan on tuning down my involvement with rodeo, and possibly selling some horses in the next couple of years as the coursework amps up, however I would like to keep some connection to the rodeo community because they will be my future clients," Emily said. "Here, I have a huge advantage because walking out of school, I will already have a client base that trusts me because I know their sport."

As of press time, Emily finished in fourth place at the Fort Scott rodeo held March 4-6. She is currently leading the standings for the Central Plains region.

Dean Beckham testifies about Food Supply Security in Washington DC

Dean Tammy Beckham testified in Washington, D.C., on Feb. 26 at a hearing for the House Homeland Security Subcommittee on Emergency Preparedness, Response, and Communications. The hearing was titled, "Food for Thought: Efforts to Defend the Nation's Agriculture and Food" and was shown on C-SPAN.

The video can be seen at Lifelines online or at: <http://www.c-span.org/video/?405397-1/hearing-agriculture-food-security>



Two Weeks in Tanzania



Veterinary students Erin Strathe, Maggie Belshaw, Danielle Hollenbeck, Laura Nelson and Tori Diciccio have fun with their guide George MBwambo while touring Tanzania. Left, Dr. Rose McMurphy oversees Laura who vaccinates a dog for rabies.

Two weeks away from home turned out to be an eye-opening experience for a group of five veterinary students: Maggie Belshaw, Tori Diciccio, Danielle Hollenbeck, Laura Nelson, and Erin Strathe; and their instructor, Dr. Rose McMurphy, professor and section head of anesthesiology. They recently returned from a two-week trip to Tanzania taken as part of the International Veterinary Studies elective.

“We took this trip to learn about wildlife, conservation efforts, local veterinary practices, and the East Coast Fever vaccine,” Maggie said. “We spent the first portion of the trip doing game drives through Serengeti National Park, the Ndotu region of the Ngorongoro Conservation Area and Tarangire National Park. We were able to observe a huge variety of wildlife – including elephants, zebras, giraffes, lions, cheetahs, hyenas and many wildebeests.”

This is the second trip for Kansas State veterinary students to the country of Tanzania, the previous trip in 2012.

“This was my eighth trip to Tanzania, but my second time to go with a group of students,” Dr. McMurphy explained. “The experience of seeing those animals in the wild is something you can’t describe. The people of Tanzania are incredibly welcoming, and I love going there and sharing that experience with the students.”

The group traveled to the city of Arusha and met with local veterinary professionals for lectures on livestock

disease prevalence and unique features of veterinary practice in Tanzania. Subsequently students made a full-day field trip to the remote northern area near Longido to vaccinate cattle owned by the Maasai communities for East Coast Fever and their dogs for rabies.

“We were given the opportunity to assist a local veterinarian in vaccinating the Maasai cattle for East Coast Fever,” Laura said. “Not only was it encouraging to see how thankful and excited these people were to have a veterinarian who cared about their animals and livelihood, but it gave me the confidence to know I am taking a career path that can truly make a difference in the world.”

“For me, one of the most memorable experiences on our study tour to Tanzania was the day we spent helping a local veterinarian vaccinate cattle in the tribal villages,” Erin added. “The experience opened my eyes to the global impact that a career in veterinary medicine can have and to the challenges that many veterinarians face around the globe.”

The final days were spent in the town of Moshi in the region of Kilimanjaro with the purpose of setting up a computer lab at Pasua Primay School which was done in partnership with the social development company, Affordable Computers and Technology for Tanzania (ACTT). Money for computers was donated by the generous

staff and faculty of the CVM and the professionals at Coastal Carolina Veterinary Specialty Services. In addition to the day spent with the teachers and students of Pasua Primary School, the students were able to hike to one of the local coffee plantations in the mountainous region surrounding Moshi and were “schooled” in the traditional methods of coffee roasting and grinding.

“I’ve done a variety of charitable things while in Africa, some worthwhile and some not as much, and this was the first time we funded a computer lab,” Dr. McMurphy said. “The Tanzanian students have very little opportunity to get technological instruction. Their government requires schools to teach about computers, but most schools do not own even a single computer, so they use pictures. It’s an extraordinary opportunity for both the students and the teachers to have actual computers and the teachers prepared for this by taking IT classes offered by ACTT.”



Second-year student Laura Nelson shows a student at Pasua Primay School how to search for files on a computer donated by CVM faculty and staff.

Dr. Blevins lassos KHC's Newell Award



Dr. Chris Blevins receives the 2016 Bud Newell Award for outstanding service to the Kansas Horse Council and the Kansas Equine Industry, presented by KHC President and KSUCVM alum, Dr. Justin Janssen '72.

Shelter Medicine takes over Facebook



The shelter medicine crew participated in a "takeover" of the Veterinary Health Center Facebook page on March 9. They shared several pictures online of the crew's trip to the Salina Animal Shelter. Visit: <https://www.facebook.com/VeterinaryHealthCenter/>

CVM News Ticker



Dr. Jim Carpenter (in the circle above) attended the St. George's University School of Veterinary Medicine's Annual Veterinary Clinical Meeting in Grenada. The meeting provided insight into the veterinary program at SGU and provided an opportunity for their students to meet with faculty of the various CVM's that offer clinical training for their fourth year veterinary students. Representatives from 33 veterinary colleges (nationally and internationally) attended.

Dr. Ken Harkin was featured in the *herald-dispatch.com* of Huntington, West Virginia, for conducting a study on animals with neuro distemper. The owner credits the treatment received at KSU for her small dog, Coal. "Kansas treatment has dog celebrating second New Year."

Mofazzal Hossain, a postdoc in Dr. Bob Rowland's lab, received the Best Award for the best presentation at the KU Postdoctoral Association Research Day 2016 at the University of Kansas on "Discovery of Non Species Specific Antibody Capturing Reagents in Fluorescent Microsphere Immunoassay (FMIA): A Powerful Tool for Veterinary Diagnostic Virology."

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