



Cracking the Code on Deer Drama: Social Hierarchies Affect Feeding Order

by K. Whitney Hansen

If you've ever watched a group of deer at a feeding site, you might think they're peacefully nibbling away together. But look a little closer, and you may see there's a whole social drama playing out. Who eats first? Who gets pushed aside? And does family connection make a difference? We recently wrapped up the first of what will hopefully be several studies in our semi-natural deer pens at the Alkek Facility to take a deeper dive into these questions.

White-tailed deer are social animals, and their interactions can have big impacts on behavior, space use, and even population dynamics. While we know that female deer structure their territories based on kinship, there are limited studies that investigate consequences of social hierarchies on fine-scale behaviors. We wanted to see how social rank, personality, and relatedness influenced feeding behavior when high-quality food—like corn—was available for a limited time each day.



**You can support our research by
donating right from your phone
with this QR code!**



Among does, personality traits are more important than family ties in determining who is allowed to eat when high-quality food is available for limited times.

Our study took advantage of the natural enhancement regimes we used in our deer pens. In these pens, we provided corn at specific times during the day, and manipulated group composition within the pens to observe how different groups behaved in response to food.

While we're still processing behavioral video data with the help of our amazing technical team, a few intriguing patterns have already emerged. First, personality packed more punch than family ties; we initially thought that relatedness might play a big role in feeding dynamics, especially among female deer, who tend to associate in family groups. However, it turns out that individual personality traits—like boldness and aggression—were more influential in determining who got the best access to food. The more aggressive females would punish younger does for trying to access corn, regardless of whether or not they were related.

Second, more aggressive yearlings faced more pushback. The feistier young deer were happy to throw their weight around with their peers, but were even more severely controlled by older females when exposed to the adult pens. Yearling deer that were more aggressive actually faced more resistance from older, dominant deer. It's as if the mature deer were putting them in their place! The more a yearling tried to muscle in, the more likely it was to be chased off.

Third, lower ranking females took advantage of the human shield effect. Technicians noticed that those deer who knew they'd be pushed off were very excited as soon as we entered with the corn; in fact, they'd stay as close to us as possible, knowing that some of the older does were less comfortable with human proximity, hoping to sneak a few bites before being kicked off the corn when the humans left the pen.

Lastly, we noticed males constantly reshuffled their pecking order, but only the oldest bucks. Among older male deer, access to corn resulted in more formal opportunities to reassess social hierarchy. This suggests that male deer are constantly reassessing dominance as they compete for limited resources, and feeding time is a prime opportunity for these power struggles to play out. Meanwhile, the yearling bucks had absolutely no problems sharing corn access calmly and with dignity.

These are just our preliminary observations, and there's still a lot to unpack. Our next steps include formally analyzing the behavioral data we collected and running models to better understand the patterns we observed. We're also hoping to repeat this study to see if these social dynamics hold up over time and across different seasons.

It's exciting to see how complex deer social structures really are, especially when food is on the line. Stay tuned for more updates as we continue to explore the fascinating world of deer hierarchies! ~

Dr. K. Whitney Hansen is a Research Assistant Professor at the CKWRI.

What Do They Eat?

Crested Caracara (*Caracara plancus*) are opportunistic feeders that will eat a wide variety of smaller creatures, including what they catch alive or scavenge dead. Their diet includes small mammals, birds and eggs, reptiles, amphibians, fish, and large insects. (National Audubon Society. 2025. www.audubon.org/field-guide/bird/crested-caracara.)

CKWRI News

Chapline Land Stewardship Award

Congratulations to Dr. Poncho Ortega on receiving the Chapline Land Stewardship Award from the Society of Range Management that recognizes Ponchos' contributions to land stewardship on an international level. Poncho served more than 20 years at CKWRI where his work focused on livestock and wildlife interactions and habitat management. He retired from CKWRI in 2024.



Dr. Poncho Ortega

Faculty Invited Lectures

Several CKWRI faculty have given invited lectures at other institutions, sharing their work with students and faculty there, during the past year. These include:

- Dr. Levi Heffelfinger at Oklahoma State University on Integrating Spatial, Demographic, and Nutritional Ecology into Large Mammal Conservation and Research
- Dr. Alynn Martin at John Carroll University on Integrative Methods for Understanding and Managing Wildlife Disease
- Dr. Lisanne Petracca at Utah State University on New Perspectives on Ocelot and Mountain Lion Ecology in the Texas-Mexico Borderlands

What Does a Wildlife Vet Really Do? Training, Testing, and the Grey Areas

by Clayton D. Hilton

People often ask me, “What does a wildlife veterinarian do at a wildlife research facility?” or “How does a wildlife veterinarian treat patients?” and the answers vary widely. Much of the work is related to training graduate students on best practices in animal handling (including ethics), the use of personal protective equipment, and the importance of understanding how diseases may be passed from people to animals, or vice versa. This means going into the field with students during capture events to demonstrate the use of blindfolds and hobbles, proper positioning of the animals, keeping animals cool (or warm), how to place microchips and tracking devices, and how to collect samples and data in a smooth, methodical fashion. Because the safest and most reliable way for a student to accomplish these goals typically involve keeping the animals quiet and comfortable, there is also a lot of training in chemical immobilization.

There is seldom a single commercial lab that can cover all our testing needs due to the unique natures of our projects, but we don’t have unlimited budgets or unlimited samples. This triggers ample discussions about the pros and cons of distinct types of testing, what test results can mean, and how we can get the most reward for our efforts. Learning which samples to collect based on the needs of the study, the best sites (blood vessels) for collection, which blood collection tubes are needed (think about the rainbow of tube colors at your own doctor’s office!), and the order in which samples should be collected are important attributes of a student’s training. Understanding how to take care of samples in the field is also critical because, as you can imagine, taking care of biologic samples under field conditions is quite different than in a brick-and-mortar veterinary clinic.

Training on collecting, processing, and analyzing samples is critical. Test results must be interpreted very carefully as most tests are validated for domestic animals and not for wildlife; the entire “clinical picture” must be considered. Many students are accustomed to black-and-white answers when they start their graduate training, but it rarely works that way with wildlife. One of the most crucial aspects of a student’s training is to get them to think in the grey areas. Hearing “Just because the pathogen was present at the time of testing does not mean that it was causing disease,” or even harder, “Just because the test results were negative does not mean that the pathogen wasn’t

Did You Know?

Texas Banded Geckos (*Coleonyx brevis*) may mimic scorpions when disturbed by holding their tails up and wriggling them from side to side. (Geckoweb. 2025. www.geckoweb.org/texas-banded-gecko.html.)



there,” can be excellent ways to get students to adapt their style of thinking.

Most wildlife veterinarians do not have individual patients, but we often participate in capture events and can be called upon to immobilize animals, render a professional opinion regarding the health status of a captured animal, and even to render aid in the unlikely event that an animal is injured. The drugs that we use for sedation and anesthesia are safer than ever, but their use still requires careful consideration of an animal’s age, weight, percent fat, level of excitement, gender, reproductive status, and health status. The potential for human consumption and time of year also factor into which drugs are used and how they are delivered. This process was put into practice when a novel combination of drugs called NalMed-A was trialed in the deer at the Albert and Margaret Alkek Ungulate Research Facility. The data collected aided in approval from the FDA for commercial use. The author has been using NalMed-A in bears with cubs in Arkansas and it is proving to be superior to other drug combinations. ~

Dr. Clayton D. Hilton is a Wildlife Veterinarian and Professor at the CKWRI.



Collaring a black bear in the Chihuahuan desert.

Caesar Kleberg Wildlife Research Institute
700 University Boulevard, MSC 218
Kingsville, Texas 78363-8202



Editing and Layout: Sandra Rideout-Hanzak, Ph.D.

Wildlife Research is printed on recycled paper.



Texas Chapter of The Wildlife Society

CKWRI students and faculty were a force at the annual meeting of the Texas Chapter of The Wildlife Society in Denton. They gave 64 presentations on their research and networked with over 700 biologists from across the Lone Star State.

By The Numbers

7

The number of kissing bug species in Texas, all in the genus *Triatoma*. (Hamer et al. No date. Kissing bugs & Chagas disease: What you need to know. UTHealth School of Public Health).

The CKWRI Advisory Board

The Advisory Board of the Caesar Kleberg Wildlife Research Institute provides leadership in all aspects of our work. We are indebted to them for their commitment to the Institute and its mission.

Chad Auler
Gus T. Canales
Lauren Fisher
T. Dan Friedkin
Jeff Hildebrand
Karen Hunke
Whit Jones

David W. Killam
(Chair)
Mason D. King
Chris C. Kleberg

Emeriti: Kenneth E. Leonard, James A. McAllen

Tio Kleberg
C. Berdon Lawrence
Tim Leach
James McAllen, Jr.

Ellen B. Randall
Barry Coates Roberts
Carter Smith
Stuart W. Stedman
Bryan Wagner
Ben Wallace
Charles A. Williams