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Richard M. Kleberg, Jr. Center for Quail Research

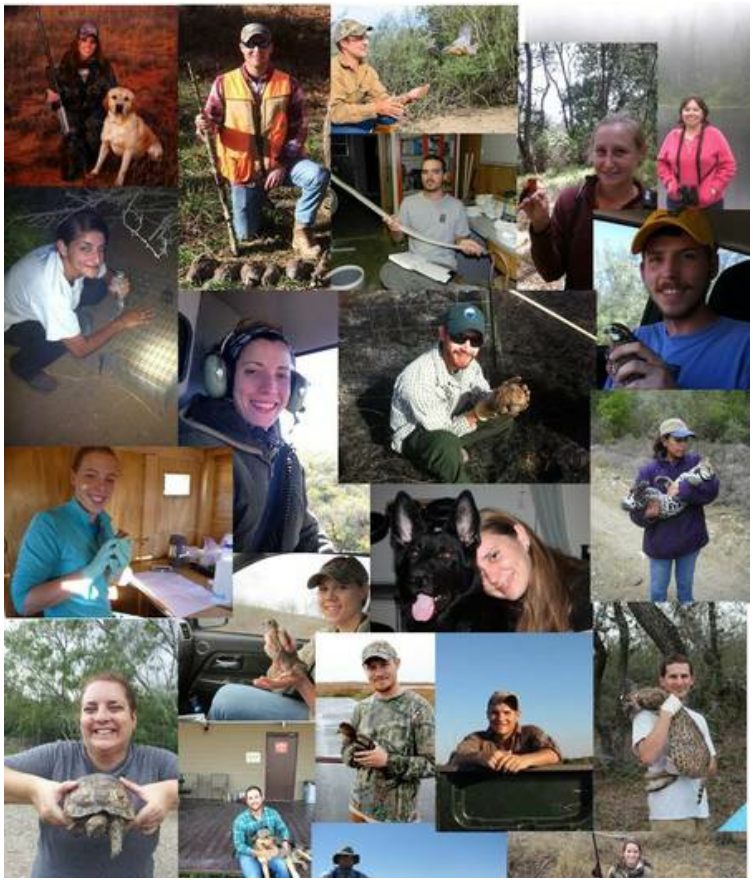
Caesar Kleberg Wildlife Research Institute

CKWRI Quail *e*News - May/June 2014

In this edition, Andrew Olsen and Dr. Alan Fedynich provide an overview of the parasitology research they have been doing on quail in southern Texas. We also celebrate the generous donations provided by the South Texas Chapter of the Quail Coalition.

Recently, the South Texas Chapter of the Quail Coalition donated funds to the Caesar Kleberg Wildlife Research Institute. Their support helps us in many ways; one way is through scholarships. Graduate recepients of the Quail Scholarship were:

Kelsey Bedford
Hank Birdsall
Kara Campbell
Sasha Carvajal-Villareal
John Clark
Carter Crouch
Cord Eversole
Josh Grace
Stacy Hines
Nate Huck
Holley Kline
Lianne Koczur
Blaise Korzekwa
Ana Krainyk
Corey Lange
Mylea Lovell
Ashley McCloughan
Brent Newman
Andrew Olsen
Lindsey Phillips
Richie Sinclair



Providing the science behind quail conservation and management.

May/June 2014

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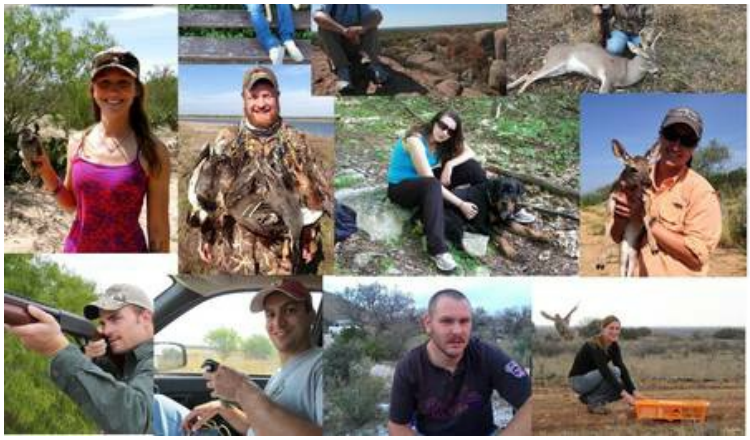

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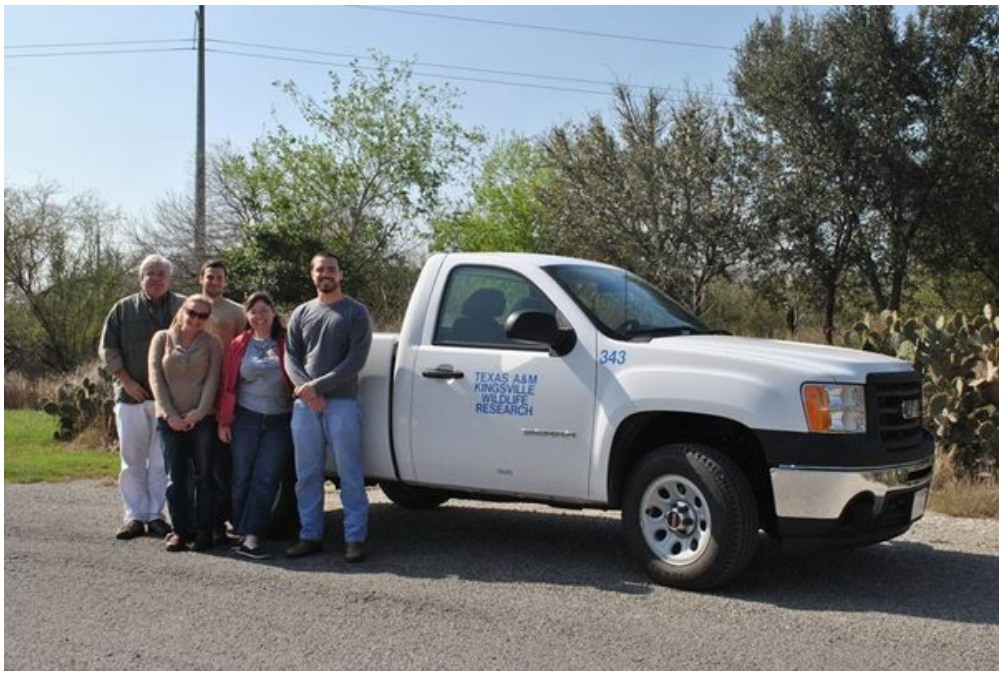
This year, two undergraduates were awarded scholarships; Victoria Haynes and Brandon Mitchell. The coalition also supports the Amanda Whitaker Memorial Scholarship in Quail Research, awarded to Katherine Miller. Congratulations to all the scholarship recipients, and a huge thank you to the South Texas Quail Coalition for supporting our students!

The South Texas Chapter of the Quail Coalition also supported CKWRI by purchasing a truck for field research. The quail students were excited to have a new set of wheels for getting out to the ranches!



Pictured L to R: Dr. Leonard Brennan, Maia Lipschutz, Carter Crouch, Katherine Miller, and Ross Couvillon.

QUAIL PARASITES IN SOUTH TEXAS: WHAT'S THE STORY?

Andrew Olsen

and

Dr. Alan Fedynich

Caesar Kleberg Wildlife Research Institute
Texas A&M University – Kingsville

As all Texas quail enthusiasts know, the Northern Bobwhite has been declining for decades in most of Texas and across its geographic range. Research on the cause of these declines has revolved around habitat, predation, invasive exotic species, climate change, and disease. Recent research on the parasites of Northern Bobwhites and Scaled Quail (blue quail) in the Rolling Plains has identified eyeworms (*Oxyspirura petrowi*) and cecal worms (*Aulonocephalus pennula*) as the most common parasites in quail from that region. These findings led to the development of a parasitological survey of Northern Bobwhites and Scaled Quail occurring within South Texas, a region with the largest remaining contiguous tracts of quail habitat in the U.S.

A sample of 92 whole-body Northern Bobwhites and 12 Scaled Quail was collected from 12 counties across South Texas during the 2012–2013 hunting season. Complete necropsies were conducted to identify and count every helminth in every quail sampled.

In the Northern Bobwhites examined, 5,930 individual helminths were counted that belonged to six species. Among the species were cecal worms and eyeworms. Cecal worms accounted for 99% of the total helminths counted. Eighty-six percent of the bobwhites in the sample were infected with this parasite and the average infection was 76.4 cecal worms (ranged from 3 worms to 585 worms per bird). All other species were extremely rare in the sample including the eyeworm. Only 8% of the Northern Bobwhites were infected with eyeworms and the average number of eyeworms per infected individual was 2.6 (ranged from 1 worm to 7 worms per bird).

The parasitological survey in Scaled Quail from South Texas is the first ever for this region. Cecal worms also dominated in these birds, comprising 96% of the 1,282 helminths counted. Six species of helminths were documented in Scaled Quail including eyeworms (See Figure 1) and a tapeworm species that may be new to science. Three eyeworms were identified in a single Scaled Quail. Unfortunately, the small sample size of 12 Scaled Quail precluded making any firm conclusions about the parasite loads carried by this species in South Texas.

Save the Date!

August 23rd, 2014:
South Texas Chapter of the Quail Coalition

Annual Banquet and Fundraiser

For more information, click here.

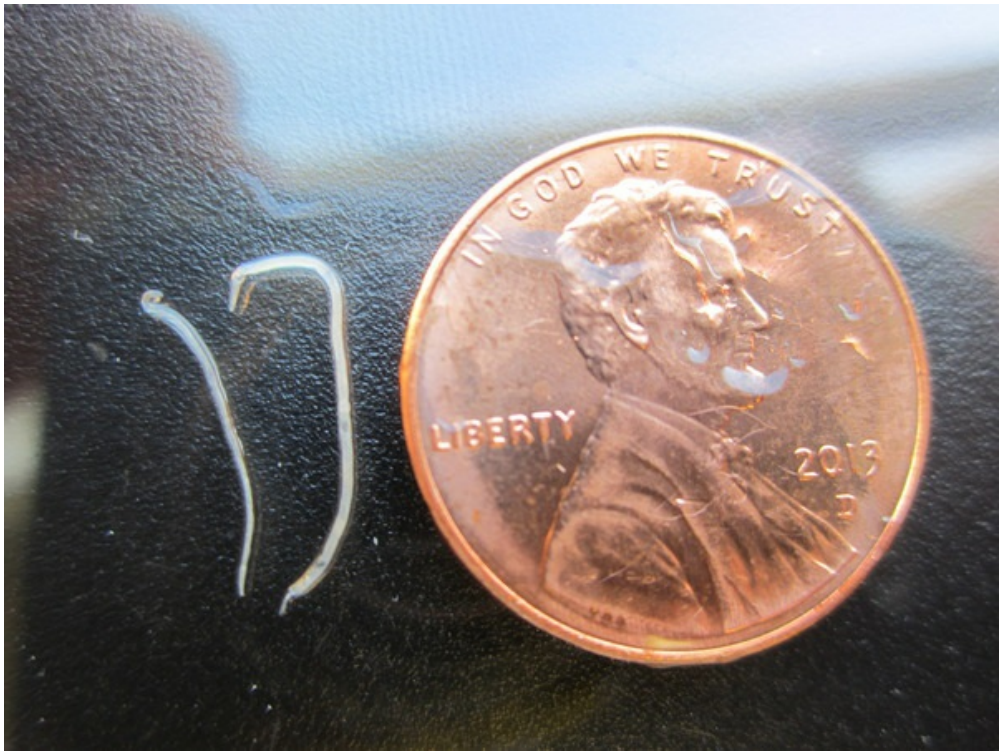


Figure 1: A male (left) and female (right) eyeworm (*Oxyspirura petrowi*) found in a Northern Bobwhite.

So what does all of this mean for these two quail species in South Texas? Based on the findings from this research, South Texas appears to have fewer eyeworms than the Rolling Plains and about the same prevalence of cecal worms. Because eyeworms and other parasite species seem to be rare compared to cecal worms in South Texas, perhaps future research should investigate this species and its potential effects on individual quail and quail populations. The ceca are two blind sacs that connect to the intestines at the junction of the small and large intestines. These long sacs house microbes that break down plant cells, thereby providing additional nutrients to the quail that otherwise would be unavailable (think of it being similar to a deer or cow that has a four-chambered stomach for breaking down plant material). We often find ceca bulging with hundreds of cecal worms (See Figure 2). The impact of cecal worms on the digestive efficiency and overall health of the quail is unknown, but it is reasonable to conclude that high numbers of cecal worms are taking away nutritional energy needed by the quail. This may have a minimal effect when resources are abundant and quail are in good health, but during drought and other stressful conditions, these infections may be detrimental to quail.

CKWRI Quail eNews:

Winner of the Outstanding Electronic Media Publication Award from the Texas Chapter of The Wildlife Society, February 2011.

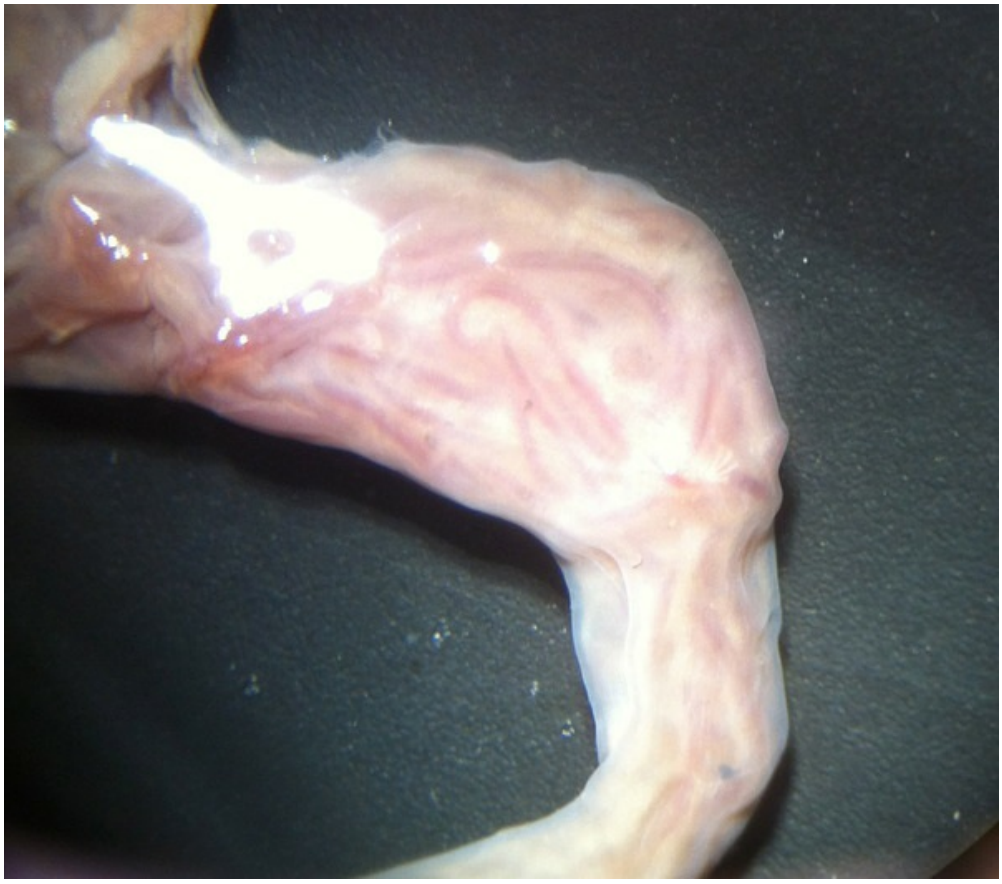
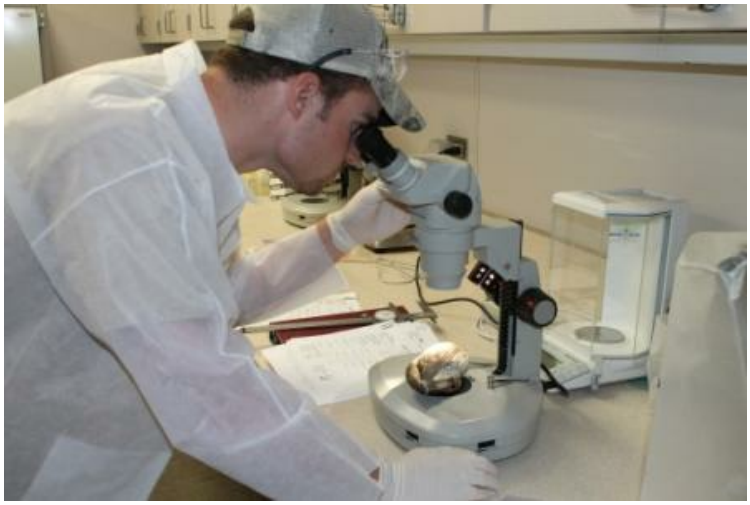


Figure 2: A Northern Bobwhite cecum bulging with cecal worms (*Aulonocephalus pennula*).

A large sample of Northern Bobwhites and small sample of Scaled Quail was collected during the 2013–2014 hunting season, and we will have additional data forthcoming after necropsies are completed sometime this summer. The necropsies will provide additional information that will educate us about helminth parasites found in these gamebirds from South Texas and the potential role they may play in affecting the health of quail. If you are interested in seeing our findings from the 2013–2014 quail sample, please let us know.

Andrew Olsen is an M.S. candidate at the Caesar Kleberg Wildlife Research Institute. As a native of Montana, he gained his passion for wildlife by exploring the national forest around his childhood home and learning from his wildlife biologist father. Andrew received his B.S. in Biology from Northwest Nazarene University in Nampa, Idaho. While there, he studied abroad for a semester in Costa Rica and conducted research on the amphibian pathogen, chytrid fungus. Upon completion of his degree at CKWRI, Andrew hopes to work as a biologist in the Rocky Mountain west and eventually earn his Ph.D. in wildlife biology.



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The mission of the Richard M. Kleberg, Jr. Center for Quail Research is to develop a scientific basis for the sustainable management and harvest of wild quail populations throughout South Texas and elsewhere.

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