



THE GOMPOU

The kori bustard SSP newsletter

December 2009

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If you are interested in submitting an article or information for the 2010 newsletter feel free to contact me at any time.

This issue of the Gompou is dedicated to Jessie Cohen, NZP photographer. On Oct 24, 2009, Jessie lost her battle with cancer. During the 20 years I had the privilege to work with her, she captured the beauty, magnificence, poise and wonder of kori bustards at the National Zoo. Many of her pictures appear on the web and have become classic images for koris. Her image of the breeding male at NZP won honorable mention in the 2008 edition of AZA Connect. Jessie's photos captured koris as they entered the world and followed them as they matured into adults. She spent countless hours photographing breeding displays and documenting behaviors. Thanks to Jessie, her images of kori bustards will inspire people to care for these magnificent birds for years to come. —Sara Hallager

2009 Kori bustard chick hatchings



Jacksonville Zoo (2 chicks)

Photo provided by Donna Bear-Hull



Miami Zoo (1 chick)

Photo provided by Jim Dunster



National Zoo (2 chicks)

Photo provided by Sara Hallager



Zoo Atlanta (2 chicks)

Photo by James Ballance

Kori Bustard field diary: the good, the bad and the ugly side of bustard conservation in Botswana

Kabelo Senyatso

Incoming satellite tracking data from one of our tagged Kori Bustards *Ardeotis kori* suggested either the bird, the transmitter, or both, had not moved for at least 10 days; whichever it was, that was not good news. Only three months earlier, we had dispatched satellite transmitters on four Koris in the Central Kalahari Game Reserve, a Kori stronghold and one of the largest game reserves in the country. With apprehension, I gave the coordinates to colleagues based nearer the game reserve to investigate what was happening. A few days later, they confirmed the worst case scenario – signs of a dead bird, and a transmitter with a large puncture hole through it.

Despite intensive searching near where the transmitter was recovered, we never discovered the bird remains – just feather piles. The assumption then was that the bird was killed by a large carnivore, perhaps a leopard, which would explain the hole through the transmitter (figure 1), and the carcass had subsequently been moved about by scavengers. As I looked at the supposed ‘tooth mark’ I was to some extent angry at the bustards for their natural history traits – in such predator-infested landscapes, why should they have evolved to roost on the ground where they would be easy prey to marauding carnivores that move about at night? If they were small, fast and acrobatic, or had talons and could fight back, then I would understand, but alas, they’re ungainly fliers – the heaviest flying birds – with some of the largest males requiring a few running steps before they take off; time they may not have if attacked.

Accepting the loss, we sent the transmitter to the manufacturer for repairs. Their shocking feedback was that the hole was due to a bullet that went straight through the transmitter! They found no bullet remnants, and because they do not have ballistics expertise, could not draw conclusions about the

gun that may have been used. A few years ago, BirdLife Botswana had discovered that Kori Bustards were being poached by locals mainly for home consumption, although there were also signs of illegal export of live birds along the Botswana–South Africa. This shooting incident, inside a protected conservation area, highlights another facet of Kori Bustard poaching we have hitherto been unaware of. While we do not have hard evidence, it is unlikely someone killing the bird just so they could eat it would do so inside a protected area, more than fifty kilometres from the park boundary. The bird was shot not too far from a popular camping site, thus perhaps the shooter was someone pretending to be a tourist? An international, or Botswana-based Kori Bustard poacher? Whoever they are, it is a scary thought that their motivation was so high they risked armed confrontation with wildlife wardens. The implications for Kori Bustards are that we have to add another item to the long list of threats they face – armed poachers inside what we thought were formal conservation areas.

As a fledgling conservation organisation, BirdLife Botswana has been over-stretched as we come to terms with some of the threats facing Botswana’s birds. However, it has not all been doom and tragedy. For example, the organisation recently published a step-by-step guide to starting and sustaining a community-based birding tourism business in Botswana. The main purpose of this handbook is to help community groups willing to establish birding tourism businesses to know what the venture entails, opportunities for training, agencies that can provide technical and financial assistance, and marketing avenues. The rationale for this first step was that in Botswana, to date, most tourism and Community Based Natural Resource Management (CBNRM) projects’ benefits have accrued from the larger

wild mammals, accommodation (lodges and hotels), and wetlands (e.g. the Okavango Delta and Chobe River), with minimal income earning and ‘resource ownership’ opportunities from birds earned by local communities. It is hoped that when communities realise increased direct economic benefits from sustainable use of birds, they would at a minimum reduce detrimental practises, and at best adopt pro-conservation lifestyles. While this will take some time and requires a lot more resources than BirdLife Botswana has, it is definitely one of the best approaches – currently being piloted in the Makgadikgadi salt pans – to ensure as many people as possible are engaged in efforts to conserve the majestic bustards, and co-occurring species.

The multi-pronged strategy being proposed to instigate conservation action to reverse declining population trends for Kori Bustards includes engaging local communities and working with them to explore alternative and more sustainable livelihood options, enhancing anti-poaching capacity of key stakeholders such as the wildlife department, police, and local authorities and using scientific data to influence national biodiversity conservation policy. Specifically for Kori Bustard, our efforts to protect this species are affected by our limited understanding of its biology and ecology; for example, some unknowns, which the authors’ PhD study hopes to help resolve include:

1. Are there any seasonal changes in habitat use by Kori Bustards, and what are the causes?
2. Previous work in Na-

Kori Bustard field diary: the good, the bad and the ugly side of bustard conservation in Botswana

(Continued)

mibia showed that Kori can undertake considerable long-distance movements. If there are seasonal movements within Botswana, linked to seasonal changes in habitat used, what are the possible triggers for such movements and over what distances do birds move?

3. Do the sexes differ in the extent and frequency of their movements and if so how, why and with what implications for conservation?
4. Are there differences in the extent of migratory versus sedentary behaviour of Kori bustard in different climatic / vegetation regions within Botswana?

What is the importance of farmland and pasture areas outside protected areas to Kori during movement and dispersal, what threats do they face at this time, and what community based conservation activity may alleviate these threats?

Attaching satellite transmitters to a few birds represents one of the most cost-effective means to answer some of the aforementioned questions, and we are grateful for all the financial support towards our research and conservation. The following sponsored the eight transmitters we have so far dispatched: the US Kori Bustard Species Survival Plan, the BIO-KAVANGO project, BotAsh, the Hester family, and Debswana's Orapa and Jwaneng Mines. Debswana's Jwaneng Mine also provided funds for general fieldwork. All transmitters were dispatched in the Central Kalahari Game Reserve, but we are keen to tag birds in other parts of the country. Additionally, to develop an interest in bustards and birding in general, BirdLife Botswana is keen to depict the birds' movement on their website www.birdlifebotswana.org.bw, and is

looking for agencies or individuals willing to sponsor this endeavour.

On a personal level, field-working on bustards has provided many memorable events, the most exciting in August 2009 when we were charged by an adult male lion that came within 20 m! We had caught 2 birds – a juvenile travelling with its mother – and decided to attach the transmitter only to the mother; after catching the birds, we would put a hood (a sock!) over the heads as precaution to reduce stress due to handling. There would normally be three of us, with two people working on the bird while the third served as a photographer, a general hand and also looked for dangerous wildlife in the vicinity. On this occasion though, he held the juvenile Kori so that we could release the birds at the same time; and he regrettably focussed on just this task! Hardly a minute after we had released the birds – it took on average about 15 minutes to fit the transmitter – one of my assistants looked up and spotted an adult male lion, hardly 30 m and quickly closing in! Fortunately, our truck was less than 5 m away, and as I shouted that we should jump into the vehicle, the lion 'ran' through our net – which startled it, made it pause, and then change direction. Behind it, was a jackal, which means if these carnivores had appeared on the scene 5 minutes earlier, there would have been a commotion as 3 humans, 2 Kori Bustards (with socks over the heads), a lion and a jackal met in the middle of the Central Kalahari Game Reserve! Such is the joy – and risk – of working in the near pristine savannas of Botswana. The results of satellite tracking so far constitute another exciting story to be shared in the next instalment! Please contact the author for more information or to support any aspect of the Kori Bustard research and conservation project.



Figure 1: Damaged satellite transmitter showing bullet hole



Figure 2: Tim and Laurel Osborne showing the author and his field assistants how to fit satellite transmitters

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NZP Fieldwork in Kenya

Smithsonian National Zoo scientists and keepers have teamed up with Mpala Research Centre to study wild kori bustards in Kenya. They will be collecting blood samples from these wild birds to evaluate their health, nutrition and feeding ecology. This will also be a good opportunity for ornithologists to learn how to capture and restrain these wild birds while samples are collected. Check out NZP's website for Rhea Hanselmann's chronicles and field notes as this project continues.

<http://nationalzoo.si.edu/ConservationAndScience/TropicalEcosystems/KoriBustards/fieldnotes/default.cfm?hpout=homepage>



Pesticides in Botswana affecting koris?

Over the past few decades we have learned how pesticides can play a harmful role in many ecosystems. Conservationists suspect that a pesticide used in Botswana to prevent pest birds from destroying crops is also killing birds which feed on the dead birds that are exposed to the chemicals. It is also suggested that kori bustards could be affected since they feed on insects that are inevitably exposed to the pesticide. For more information check out the article on the website below

http://www.google.com/hostednews/afp/article/ALeqM5iFS3NegBT3u_RVQE8vYU2E9zdbfA

The name “kori” comes from the Sichuana language. Sichuana (or Sechuana) and is a dialect of Sotho spoken by the Tswana people in Botswana. *The first person who can discover what “kori” actually means will receive a free kori bustard t-shirt! Send your answer to Sara Hallager- hallagers@si.edu*

Dallas Zoo Remembers Spook

On May 19, 2009, the Dallas Zoo lost its breeding male kori bustard. "Spook" as he was called came to us from the Phoenix Zoo in 1998. In a few short years he became our only reliable breeding male. He fathered his first chicks in 2001 and continued to be a reliable breeder until his death this year, producing a total of 20 chicks, 8 of which are still living.

"Spook" had a very interesting personality. I was lucky to get to work with him his entire time at Dallas. Shortly after "Spook" began his breeding displays, his aggression level towards me and other keepers increased to the point where we could no longer enter his yard without the protection of a broom or net. He paid very

close attention to us wherever we were in the barn. He patrolled the perimeter of his yard, following us as we went through our daily routine.

He was a magnificent animal. During the weight studies that were initiated by the National Zoo, we discovered that during "Spook's" seasonal weight gains for the breeding season, his weight could reach nearly 39 pounds. He had the most beautiful and well-developed breeding display of any of the males I have observed at the Dallas Zoo.

Spook's two year old male offspring, "Bond," began his breeding displays this year. It is good to know that despite the loss of such a wonderful animal, his offspring

will continue to help build the captive population.

*Jocelyn Womack
Bird Department Supervisor
Dallas Zoo*



"Spook"
Photo by Cathy Burkey



Visitors to the National Zoo can now get their soda and learn about kori bustards at the same time! The cups are part of a series of 5 animals designed to educate visitors about a wide variety of animals at the National Zoo.

One year male shows signs of breeding behavior at NZP

During the summer of 2009, a 1 year old male kori bustard displayed to his primary keeper over the course of 2 ½ months. During this time, he was in view of an adult breeding male who was in full display nearly daily. The young male displays were rudimentary, but obviously sexual in nature. Similar displays in young male great bustards have been reported. The display was initiated once the primary keeper entered the enclosure. The crest and tail were raised. This was followed by pecking at the keeper (similar to head pecking behavior males direct to females during courtship) and followed by lowering of the wings and tail and 5-6 snaps of the bill (rudimentary booming). No noise was produced during the snapping and the esophagus was not inflated. At the end, the male did a rudimentary head toss and made a grunting sound. The behavior was only directed to the primary keeper and never to anyone else. A second 1 year old male in the yard did not exhibit this behavior.

*Sara Hallager
Biologist
Smithsonian National Zoological Park*

A Busy Year for Koris at Zoo Atlanta



Photo by James Ballance

Chris Watkinson traveled to National Zoological Park in August to pick up two kori bustard eggs. The two chicks were hatched at Zoo Atlanta and we were able to put our new hand raising skills to the test. Mosi and Johari have been getting a lot of attention through out the zoo!

Christina Davis, primary keeper of our resident adult kori bustards, Snake and Tuza, has been working hard on scale and crate training these two young birds. She has also been educating zoo guests through keeper talks/training demonstrations three times a week



Photo by Meghan Murphy

Katie Bagley spent a week at National Zoological Park learning how to hand-rear kori bustard chicks. Amani and Jazi were very patient as she learned the techniques of feeding and caring for them



Photo by Travis Dorn

Kori Keeper Profile: Lauren Baber

I began my keeper role as an intern at the Nashville Zoo almost 5 years ago. Soon after, I was hired for a Critter Encounter position, where I maintained a variety of species from domestic mammals to exotic birds. For the last four years I have been working in the bird department. Within the department my duties include maintaining several areas including 2 female Red-Crowned Cranes and a male Kori Bustard. I also take a role in incubation and hand-rearing. Over the last few years I have been fortunate to raise several species of birds including Toco Toucans and Rhinoceros Hornbills.

I have been successful by scale training our Kori Bustard as well as our Red-Crowned Cranes. My current goal now is target training both species onto stationing mats. The target training so far is going surprisingly well for the Kori Bustard and enjoys the daily interaction. The conditioning program has benefited the birds' overall behavior as it is less 'flighty' than upon its arrival to the zoo and has become more comfortable with its surroundings. I look forward to train both species for other behaviors in the future.

*Lauren Baber
Avian Keeper of the Nashville Zoo*



Raising Cash for Koris at Zoo Atlanta

Kori bustards have been popular birds with guests and keepers alike since their arrival at Zoo Atlanta. Our two original males, King and Rafiki, awed zoo guests with their booming and impressive displays while Snake, our new male feeds our new female, Tuza, for guests during keeper talks. Naturally, the keepers at Zoo Atlanta want to help these birds at other AZA institutions as well as in the wild. We feel one of the best ways we can help is by conducting fundraisers to support the kori bustard SSP. Since 2007 we have organized two fundraisers to raise money for the SSP: a garage sale and a movie night. Both of these fundraisers were successful at raising money but we have learned a lot of do's and don'ts from these two events.

The first fundraiser was a garage sale held in October, 2007. Our first step was to put a call out to all zoo staff, volunteers and docents asking for donations for the sale. The next step was finding a place to conduct the sale. We could not hold the sale on zoo grounds or in the surrounding park so the best alternative at the time was my neighborhood. As items came flooding in I left work everyday with a car load full of stuff which had to be hauled up two flights of steps to my apartment. Needless to say, my small apartment filled up very quickly. The night before the sale several keepers from many departments came over and we priced items for hours. The next morning all the items had to be carried down to the street and set up. We started the sale around 7am and ended around

12pm. We then had to haul away all the unsold items to Goodwill in a truck. Although it was a lot of work to organize we raised \$200 for the SSP.

On June 6th of this year we held Kori Bustard Movie Night at the zoo. Christina Davis, a fellow bird keeper, and I were the main ones to organize the event. Sticking to an African theme (and what we knew was a big hit), we decided to show Madagascar II. We are fortunate to have an auditorium with stadium seating and a large screen at the zoo that is available for events such as our movie night. Our multimedia department designed a great flyer that was posted around the zoo and emailed to staff, volunteers and docents. Several items were donated that were raffled off at the event. Some of these items included pet photography sessions, improv comedy show tickets, gift baskets, painted ostrich eggs, and paintings made by our ground hornbills. We purchased pizza, drinks, and candy bars to sell at the event and popcorn was donated by the zoo's catering service. While people were finding seats and waiting for the movie to start we had a slide show presentation looping on the screen that displayed some kori bustard facts. Unfortunately, we found out that there was a zoo wide rental the same night as our movie night which prevented a lot of zoo staff and volunteers from attending. However, after expenses we were able to donate \$270 to the SSP.

The two fundraisers provided two completely different experiences. The garage sale took a

large amount of time and labor to organize and run. We just didn't have the resources to operate it smoothly. However, the movie night was extremely easy to put together and we had a lot of positive feedback from those who attended. Not only that, we raised more money with the movie night. We have learned from these two fundraisers and are planning on having kori bustard movie night again. Next year our membership team has offered to advertise to zoo members and we expect a possible sell out. Based on the things we have learned from these two fundraisers, we feel we can raise much more money next year with more advertisement and by making a few adjustments. Organizing a fundraiser can be rewarding and is a great way to support a cause while advertising awareness. With that being said I would like to share some of the do's and don't's of fundraising that I have learned.

*Katie Bagley
Keeper III, Bird Dept.
Zoo Atlanta*



The Do's

- Put feelers out. Get a consensus of what people would enjoy doing
- Start organizing and advertising early
- Research your date to make sure as many people can attend as possible
- Seek out donations to keep your costs down
- Keep it simple and fun
- Accept help from co-workers/friends

The Don't's

- Know your limitations. Don't organize an event if you lack the resources
- Don't expect people to remember the date. Send out several reminders to potential attendees
- Don't do it on your own. Help will keep things positive
- Don't be discouraged if you don't make the \$ you hoped for. Any money is better than none
- Don't give up. Learn from your experiences and apply them to the next fundraiser

Koris on the Move

Denver zoo received a wild caught female kori from Tanzania this year that will be paired with their male

Phoenix zoo is now a holding facility for kori bustards surplus to the SSP. Birds will be held until they can be placed at other zoos. The zoo has two large exhibits that can comfortably hold 2.6 koris. They also have additional holding areas to hold the same number of birds (depending on ages and sexes). While this space can accommodate a large number of kori bustards they hope to limit that number for the sake of the birds and keepers. The weather in Phoenix is perfect for housing koris. The climate there does not require additional heating or cooling (as long as there is shade). (information provided by *John Sills, Collection*)



A face only a mother could love? We don't think so! Johari and Mosi, chicks hatched at Zoo Atlanta this year, will most likely be enjoying the nice weather at Phoenix Zoo's kori holding areas sometime next year

"Johari" Photo by Stephanie Scanlin

2009 Ethotrak Update

Phoenix Zoo joined the ethotrak program in early 2009 and added two more birds to the study. Data collection has been ongoing since early 2007 and over 40,000 observations have been recorded. Ethotrak collection will continue through 2012 upon which evaluation of data will determine if collection should continue

Primary Goals of project:

- Document onset of sexual maturity in males and females
- Behavioral effects of alpha male on beta male
- Behavioral effects on dominant females on subordinate females
- Determine effects of moving individuals between institutions

Secondary Goals of project:

- Activity budgets: male vs. female
- Activity budgets: adult vs. juvenile
- Activity budgets breeding vs. non breeding season

Goals with respect to a subset of zoos

- Activity budgets of dam/chick (Dallas Zoo only)
- Understanding how birds utilize space > applications to exhibit design
- Crowd level effect on activity budgets and space utilization

Additional information acquired:

- Document onset/cessation of male display at different latitudes
- Document onset/cessation of egg laying at different latitudes

Future of project:

- Continue to recruit more zoos to join study
- Publish interim results
- Publish final study results at conclusion of data collection

Preliminary results of kori bustard (*Ardeotis kori*) morbidity and mortality survey

Rhea Hanselmann, DVD

According to the kori bustard studbook, managed by Sara Hallager at the National Zoo, a total of 207 kori bustards have resided at zoos and wild animal parks in the United States since dated records became available for this species around 1978. Of these, 204 birds were alive during the twenty-year period between 1988 and 2008 targeted by the kori bustard morbidity and mortality survey. Information was submitted by 33 of 41 (80%) institutions holding kori bustards in their collections during this time. Data was made available for 193 qualified birds representing approximately 95% of the target population.

Although data analysis is still underway, the main causes of morbidity and mortality have been identified to include the following: ocular abnormalities, cardiovascular problems, respiratory diseases, gastrointestinal and urogenital irregularities, a high prevalence of musculoskeletal injuries, as well as some neurologic anomalies. Traumatic injuries appear to be overrepresented as a cause of morbidity and mortality in captive kori bustards. These preliminary findings indicate the potential need for changes in management of this species in captivity. However, definitive recommendations should not be developed until final results become available.

A new bustard book published...

Diseases and Medical Management of Houbara Bustards and Other Otidae. 2008. By Tom Bailey. Published by Emirates Printing Press L.L.C, Dubai. 494 pages. Available in hard copy or CD. Contact Tom Bailey at tom.bailey@dfh.ae This is an excellent, comprehensive book covering all aspects of bustard management from conservation, captive breeding, diet, biochemistry, radiology, surgery and post mortem exams. It is highly recommended for any facility housing any species of bustard.

Trichomonas in Kori Bustards

Kathy Orr, DVM

From 1984 to 2003, the Phoenix Zoo housed several Kori Bustards in large open air mixed species exhibits. A total of 28 chicks were hatched and hand raised. Parent rearing was never successful. The 19 chicks that survived were also housed in outdoor open pens.

One of the most common diseases affecting, and in some cases killing, our bustards was trichomoniasis. This disease is caused by a flagellate protozoan parasite common in doves and domestic pigeons. The name of the parasite is *Trichomonas gallinae*. Common names for the disease include “Canker” or “Frounce”(in raptors). A cheesy necrotic mass of tissue develops in the mouth and esophagus of affected birds. This makes it difficult for the bird to eat or swallow or even breathe in some cases. Our open air exhibits did not exclude pigeons and doves, so our bustards were exposed. Symptoms in the bustards were often non-specific. Birds would stop eating, have difficulty swallowing, lose weight and were just ADR (ain't doing right). The typical “canker” lesions commonly seen in the mouths of other bird species were often not apparent in the long necked bustards. The obstructive lesions were often deep in the esophagus where we could not see them. Diagnosis was made by inserting a moistened equine vaginal swab (16” long) into the esophagus to collect a sample. The fresh sample was put on a slide with a cover slip and examined under a microscope as soon as possible. The moving flagellates can be seen in large numbers in infected birds.

Fortunately, trichomoniasis is easily treated if caught early enough. Metronidazole comes in tablets that the bustards take readily in meat balls. We used 500 mgs for males and 250 mgs for females. This was given once daily for 5 days. For awhile we treated our birds once a month for 5 days during the months when we saw the most cases of trichomoniasis in wild doves and pigeons.

Pigeons and doves can be asymptomatic carriers of *Trichomonas*. They can become ill, but often survive and carry the organisms in their mouths and crops. Pigeons and doves transmit the organism to their young when they regurgitate to feed them. This perpetuates the life cycle of the parasite. Other species of birds catch *Trichomonas* from food and water contaminated by pigeons and doves, or in some cases from eating an infected bird. Our keepers have seen our bustards eat baby doves that fall into their exhibits. Bustards and other species of birds that are not “normal” hosts of *Trichomonas* are more susceptible, so are more likely to become sick.

Prevention is always better than treating a disease, so the keepers and vet staff brainstormed to come up with ideas to exclude pigeons from the food and water sources used by the bustards. That strategy has been successful, and we have not had to treat many bustards in recent years.



How much do you love kori bustards? Now you can show the world with these cool items!

Contact Sara Hallager for more details (HallagerS@si.edu)

Krazy about Koris



Just in time for the holidays! Kori Bustard SSP pins! Choose from three different styles at \$3 each or collect the whole set for \$8. Button size is 1 1/4 inches. These make great stocking stuffers!

Kori key chains are back in stock! Available for \$8 each, these key chains are hand made in Zimbabwe. Show your support of the kori bustard SSP!



Kori Bustard SSP pins \$5 and t-shirts are \$15



Don't forget to check out café press for more kori bustard t-shirt selections

<http://www.cafepress.com/LifesaZoo/6785453>

Keep collecting those kori feathers!

Continue to support the SSP by mailing naturally molted kori bustard feathers to John Mclain (John@FeathersMc.com) of Feathers MC. You can contact him for feather mailing information and instructions. The kori bustard feathers are cleaned and distributed free of charge to fly tiers. Donations received by fly tiers have supported a hormone study in captive kori bustards and the purchase of a satellite transmitter for field work in Botswana



<http://www.feathersmc.com/kori>