



# THE GOMPOU

## The kori bustard SSP newsletter Volume 8 December 2010

### *The Power of a Kori Bustard*

*I hope everyone will read "Dafino's Story" on page 5. This is an inspirational story about a truly remarkable bird and the incredible dedication of Dafino's caretakers. Sadly, Dafino did not make it but his story richly illustrates the special bond that people develop with these birds. I often hear from kori keepers how special kori bustards are and how much keepers enjoy working with them. Although a challenging species on many levels, their endearing personalities, natural curiosity and charismatic presence manage to win our hearts time and time again. Kori bustards are truly a magnificent species and I want to thank everyone who takes care of them. This newsletter is dedicated to Dafino and the staff at Cheyenne Mountain Zoo.*

*Sara Hallager*

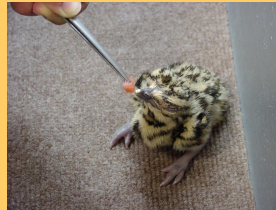
### INSIDE THIS ISSUE:

Eggs and hatchings	1
Africa update	2
From our Zoo to You	3
Research	10
Husbandry	12
Feather update	13
For the love of all things kori!	14

Sara Hallager, SSP Chair  
[hallagers@si.edu](mailto:hallagers@si.edu)

Newsletter edited by  
Katie Bagley,  
Keeper Rep.  
[kbagley@zooatlanta.org](mailto:kbagley@zooatlanta.org)

## 2010 Kori Bustard Chick Hatchings

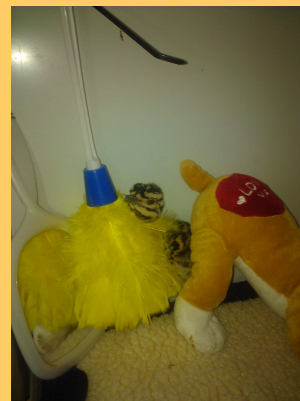


Photos submitted by Jenny Elms

1 chick at San Diego Zoo. Jenny Elms says that this chick was sired by a male with a deformed left foot and chronic limp. This chick was the result of a new pairing.



4 chicks hatched at Smithsonian's National Zoo. Photo submitted by Sara Hallager



"Jacksonville kori chick"  
photo submitted by  
Donna Bear-Hull

The following zoos reported eggs from their kori bustards in 2010: Toledo Zoological Gardens, Birmingham Zoo, Smithsonian's National Zoo, San Diego Zoo's Wild Animal Park, Cameron Park Zoo, Zoo Miami, Jacksonville Zoo and Gardens

## Kori bustard collisions with power lines

In the Overberg region of South Africa, [http://www.birdlife.org.za/page/5561/bustard\\_working\\_group](http://www.birdlife.org.za/page/5561/bustard_working_group) power line mortality rates have recently been estimated for several species of birds including three species of bustards (Denham's, Ludwig's and kori). Bustards are a group of birds known to be vulnerable to collisions with power lines. Research shows that aspects of their visual field prevent them from seeing the lines. This report details research into power line collision of bustards in South Africa using the kori bustard as an example and offers possible solutions to combat collisions.

Martin, G. and Shaw, J. 2010. Vision and collisions with power lines in bustards: failing to see the way ahead. Bustard Beat No. 1.



*Bustard Beat* is a newsletter produced twice a year by the Bustard Working Group of Birdlife South Africa. The newsletter was the result of a one day bustard conservation workshop in Johannesburg in May 2009 hosted by Birdlife South Africa. The newsletter can be found on BirdLife South Africa's website <http://www.birdlife.org.za>. The over-arching aim of the workshop was to charter a way forward for bustard research, monitoring and conservation, with the ultimate aim of ensuring the future conservation of South Africa's ten bustard species. [http://www.birdlife.org.za/data/files/bustard\\_beat\\_june2010\\_20100522142517.pdf](http://www.birdlife.org.za/data/files/bustard_beat_june2010_20100522142517.pdf)

### Workshop goals included:

- 1 – review current knowledge about bustards,
- 2 – review relevant current research, monitoring and conservation projects,
- 3 - draw up species matrices for a formal assessment of the threats faced by these birds locally,
- 4 – identify gaps in research, monitoring and conservation projects, and
- 5 - determine appropriate future strategies.

## Zoo Atlanta Raises Money for SSP

This year Zoo Atlanta's bird department and the Georgia AAZK chapter held the second annual Kori Bustard Movie Night which featured *Ice Age*. In addition to zoo employees, docents and volunteers, zoo members and Georgia Aquarium employees were also invited to the event. We had a lot of support from so many institutions! A popular pizza restaurant in Atlanta, Grant's Central Pizza, donated four pizzas to the fundraiser.

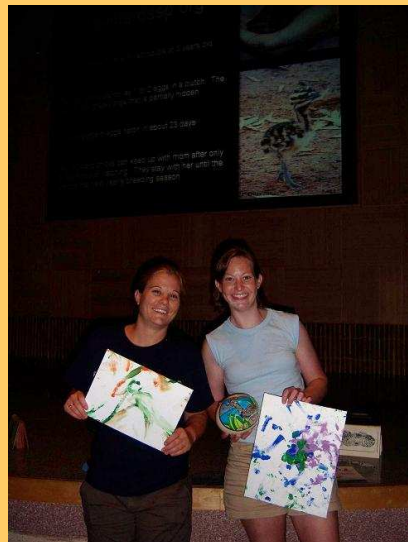
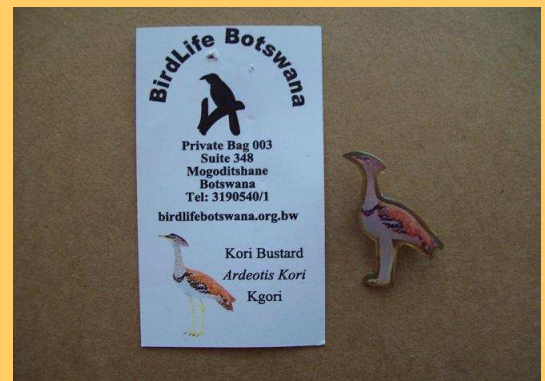


Photo by Jennifer Kvapil

The raffle prizes were better than we could have imagined! Atlanta Kick donated \$815 worth of kick boxing and karate classes! Sara Chartier, mammal keeper and Georgia AAZK president, donated painted ostrich eggs. Priceless paintings by the gorillas, elephants and southern ground hornbills were donated for the raffle. We had a great time at the movie night while raising money for the kori bustard SSP. The \$230 that was raised was used to purchase educational lapel pins worn by government officials in Botswana.

Katie Bagley



"Lapel Pins"

## National Zoo Koris Move to Africam

In February 2010, two captive hatched male kori bustards were shipped from the Smithsonian's National Zoo to Africam Safari Park in Puebla, Mexico. Health testing beyond the normal tests required for shipment within the United States, extensive permitting requirements and airline logistics made this a very difficult shipment. The birds left on a cold winter morning in February. No commercial airline would fly the birds into Mexico so FedEx was used to fly the birds from Baltimore to Indiana to Mexico. Because of the anticipated 48 hour travel time, two National Zoo staff members accompanied the shipment. Once in Indiana, they fed the birds and cleaned the crates. After successfully clearing customs, and a 2 hour drive to Puebla, Mexico, the birds arrived safe and sound.

# Of Mice and Meatballs

Tiffany Shrum, Bird Keeper II  
Zoo Atlanta

When I began working with Zoo Atlanta's pair of Kori Bustards this past summer I did not think it was going to be possible for them to grow on me. Our male was a little ...assertive and on top of that neither the male nor the female were motivated to eat the most nutritionally beneficial [read healthiest] parts of their diet. Who is, really? I spent the first several weeks introducing myself as a non-threat, to no avail. Both birds would take mice from a close distance but a pleasant interaction was not guaranteed or even likely. Shortly thereafter we had to restrain the birds for a wing clip. It was then we discovered the female was a little thinner than she looked. The male's domineering attitude had affected not only my ability to wear shorts without being covered in bruises but also the female's ability to obtain the only portion of her diet that she reliably ate, the mice (they were his favorite too!). So how do I get these precious angels to eat all of their prescribed diet and behave?

I started by really looking at what their diet was composed of and how it was put together. It was clear that these Koris found mice and meal worms most desirable so I set these to the side as my new primary reinforcers for training. They also receive and enjoy live crickets and grapes but they are not regularly on the menu. The Koris could take or leave the non-moving crickets as well as the Mazuri Crane pellets so I decided to

pick my battles and try for them to eat more meatballs. After all, our meatball recipe included crushed Mazuri Crane pellets anyway!

Through experimentation, I had to find the right combination of meatball characteristics to make them as appetizing as possible. I considered EVERYTHING: size, shape, texture, moisture content, consistency, BOP concentration.. you name it. I began with a rough guideline of 2 yogurt cups of this, 3 of that... Of course, over time, the size and shape of the current "yogurt cup" changed and what was actually being served had steered slightly away from what was originally intended. After much trial and error, the current meatball that is working for us is (per bird per day), 30g Mazuri Gamebird, 90g Mazuri Ostrich, 120g crushed Mazuri Crane pellets mixed with 1 1/4 cup of water. We let this soak overnight and then add 154g Central Nebraska BOP to form the meatballs for each bird.

In order to ensure the female had equal opportunity to eat her fill, and earn mice, we began hand tossing food to each bird. It took approximately three weeks for us to see the pay offs of our new feeding method. The birds switched from taking more mice to taking more meatballs! We've found that the female prefers round meatballs slightly larger in size than a green grape. She likes to begin her meal with the smaller meatballs, then have some larger ones and then is

rewarded with a mouse or two at each hand (toss) feed. The male prefers the larger, round meatballs but will eat fewer before losing interest in the session. He is also rewarded with mice after attentively eating his portion of meatballs. We give free access to the remaining parts of their diet after each feed session.

It turns out, in our case, that well fed Koris are more well behaved. No longer am I sentenced to wearing jeans all summer to hide the black and blue! This new way of feeding also freed up their mealworms to be used as primary reinforcers in other types of sessions, like shift or scale training. After making these minor adjustments to the recipe and the mode of delivery we were able to not only increase our female's weight and both birds' meatball consumption in general but also decrease the percentage of BOP in each meatball by 20%, feeding more of the nutritionally balanced pellet. So, for now, our mice and meatball dilemma is solved and in the process I became a Kori fan.



*"Kori Food" Photo by Tiffany Shrum*



# Dafino's story

Roxanna Breitigan, Animal Care Manager  
Cheyenne Mountain Zoo

In April of 2002, Cheyenne Mountain Zoo received its first Kori Bustards to be displayed in the new African Rift Valley exhibit. CMZ was lucky enough to receive Dafino and Bella. I had never worked with Koris and I'll never forget Dafino walking out of his shipping crate and being amazed by this proud-looking bird. Over the years, my appreciation of them only grew. Since then one of my favorite stories to share with our guests has been the one of the Kori Bustard. I love that we get to be proactive in helping their species by collecting the naturally molted feathers for the fly tiers. Dafino lived happily together with his companion Bella until this past year. They both were trained to be stars in the Wings of Africa Bird Show where they showed off their beautiful plumage and natural behaviors.



*"Dafino and Bella" photo submitted by Roxanna Breitigan*

Over the years Dafino started to show signs of arthritis in his right leg and every once in a while would come in for the night with a limp. Vet staff

would prescribe Ketoprofen as needed to help manage his pain. We also gave him a small dose of Cosequin/Connectin daily. As part of our management practice, our koris are weighed monthly; Dafino always stayed very consistent with his weights, averaging around 34lbs.

In July of 2010, Dafino had lost five pounds from the month before, was holding up his right leg a lot, was seen stumbling often, and his appetite had decreased. Vet staff put him on anti-inflammatory meds and a knock down was scheduled. While down, fluid was drained from his right hock, x-rays were done and pain meds were injected into the swollen joint. He was prescribed oral medications and keepers began feeding him whatever he wanted to help increase his weight. The x-rays taken showed damage to his right hock. At this time the extent was still unclear. He returned, with leg bandaged, to a stall with soft hay for cushion. Over time, various other substrates were used: mats, towels and shavings, depending on what seemed the most comfortable for him at the time.

One morning in August 2010, Dafino was found in his stall lying on his back. Keepers tried to have him stand but he had great difficulty standing on his own. We quickly gathered supplies to build a sling for him. He tolerated it well rather

quickly and continued to eat well, considering he was in a sling. We had to separate Bella from him as she seemed very nervous and stressed around the sling. We had received an initial design from the SSP so we had a good idea to begin with. We tried a few different materials, starting with fleece. We originally thought we wanted something soft and not binding, but the fleece was found to be not strong enough to support Dafino's weight. The final product we used that worked really well, was a tougher canvas material. We used a tough plastic pallet to support the ropes, and the stall mesh to run the ropes through. We used the softer fleece material to keep Dafino tucked in so it would not be rough on his feathers. Through trial and error, we created a sling that worked very well for several months.



*"Dafino in sling" photo submitted by Roxanna Breitigan*

Amazingly enough, Dafino stayed calm in it. In the end, this was one of the major issues

*(Continued on page 6)*

# From Our Zoo to You

that helped us decide his ultimate quality of life. No animal is meant to be slung up forever.

Keepers tried to keep Dafino's spirits up by offering various enrichment, even finding live, wild snakes for him. His appetite stayed consistent, but he continued to lose weight and some body condition. He was given many food choice options: hard-boiled egg, peanut butter, capelin, organ meats, peanuts, bananas, grapes, hamsters, hissing cockroaches, earthworms, mice and his favorite, bison meat. Vet staff routinely re-assessed during knock downs to evaluate his leg and our options. A soft cast was put on his leg hoping this would help his injury heal and offer him some extra support. After a few weeks, he still could not stand on his own. Both wings had to be bandaged from being rubbed so much over an extended period of time in the sling. An ultrasound confirmed that he had a torn ligament, but since he was doing well, at this point we thought he could recover in 4-6 weeks.

Throughout this process, there were several instances in which our hopes were raised for a full recovery. We would take off his cast and see that the swelling had gone down significantly, blood results would come back and show the infection was under control, his appetite would increase, he would walk on his own, etc. But then, something else would happen and his prognosis would become guarded again. He got an infection in his left foot, he would stop eating for a few days, he would flip out of the

sling, he would not be able to walk on his own, etc. When he could stand on his own, we would give him time out in a side yard for exercise. These outings were for short amounts of time and always attended, just in case he fell over and could not get up on his own.

Vet staff contacted outside facilities for consultation and help. Photographs and x-rays were sent for consultation to the Avian Department at Colorado State University. A local veterinarian who uses laser treatments on her patients came in to help. The laser treatments help increase circulation by activating the blood supply at the inflammation site. Orthoped, a local prosthesis provider, fitted Dafino for a specially-made brace. The hope was that he could use this to provide more support while his leg healed. He tolerated the brace and at times it did seem to offer support. However, we discon-



*"Kori Brace" photo submitted by Roxanna Breitigan*

tinued using the brace since it seemed to need to be continually adjusted so that it did not inhibit his ability to hock sit and was causing small sores at pressure points.

After months of trying different options and considering his quality of life, we made the decision to euthanize. Staff was told, "unless we had a miracle on the mountain over the weekend," that it was time to let him go. Animal Care Staff wanted to give him one more experience outside in the sunshine and on natural substrate. We took Dafino outside and, to our awe and amazement, he started walking on his own, hock sitting, standing and taking food. We could not believe our eyes. When blood results came back on Monday and showed the infection under control, we thought we had received the miracle we all had hoped for. Animal and Vet staff agreed to keep trying since he had shown so much promise. We continued to provide him time outside to exercise and to feed him whatever he would take. As autumn began to turn to winter, keepers set up an indoor exercise stall with natural substrate so Dafino could continue his exercise regimen, even as the Colorado temperatures began to drop. Bella was allowed to have frequent visits with Dafino, which seemed to perk them both up. Things were progressing and hopes were high once again. But then another setback occurred. At a morning check, it looked as if Dafino's right leg was severely extended behind him and he could not place his leg in a normal position. It was feared that he had snapped his tendons. X-rays confirmed that he had hyperextended his injured hock, snapped his medial collateral ligament and was no longer able to stand. At this point, we knew we were out of

*(Continued on page 7)*

# From Our Zoo to You

options. Even if the injuries could have healed, it would have meant several months back in the sling and fighting against the odds. We made the extremely difficult decision to let him go.

Keepers said their goodbyes, as we all know is one of the most difficult parts of our chosen career. Then, Dafino was laid to rest. A vet we once had would tell us during these events that letting them go is the last greatest gift we can give them. That provides some comfort; it doesn't make it easier, but knowing he had the best care, lots of people giving him options and none of us wanting to give up on him helps. We all will have those special animals or cases that touch us on a deep level; Dafino was one of those. He was a beautiful and amazing bird. His feathers will live on through fly ties so that he can continue to help his species. He helped tell his species story to thousands of visitors during countless shows and keeper talks. For those that cared for him, he will remain forever in our hearts.



*Kwaheri, Dafino- September 22, 2000- November 17, 2010*

## Kori Keeper Profile

### *Paige McNickle, Senior Keeper*

### *Phoenix Zoo*

What does a hoof stock keeper have to do with Kori Bustards? Where I work usually a lot! Our Koris have been kept on multi-species exhibits, multi-taxa exhibits, sometimes in holding yards, and most commonly with Hoofstock. At Phoenix, caring for Kori Bustards is the shared responsibility of the bird and hoofstock departments. When I started working Koris the mammal keepers took care of the adults - the breeders and surplus males - because they were on exhibits which housed mostly ungulates. The bird department took care of the eggs and hand-rearing the chicks. Historically, Phoenix has successfully housed them on our four acre savanna exhibit 4 other bird species and 4 species of Hoofstock on a one acre exhibit with gerenuk. We were very lucky and had a calm and easygoing male gerenuk and wise and wild caught Koris. Most recently they have been housed on a one acre exhibit with

Mhorr gazelle, Kirk's dik-dik and sulcata tortoises. Not many species in zoos have the benefit of being cared for by 2 departments worth of keepers. The bird keepers feed them and the hoof stock keepers take care of the exhibit and cleaning. Both areas help with restraints and observations. The animals on the exhibit with the Koris have twice as many eyes watching them throughout the day, and they are used to many different keepers and keeping styles. This also helps to increase communication and understanding between the two departments. We have many hoofstock keepers who are passionate about birds and many bird keepers passionate about ungulates.

Throughout the 10 years I have been working with this amazing species, I have had the opportunity to assist with all aspects of bustard

*(Continued on page 8)*

# From Our Zoo to You

life. I started with the adults, many of which were wild caught and experienced, and they made it easy to learn about them. I have been the subject of an imprinted male's affections, so much so he was referred to as my boyfriend and I couldn't walk onto the exhibit without an escort. Nothing is more humbling then having to radio for someone to please remove the bustard from the back of your belt. Over the years, I have watched breeding, collected eggs, watched males boom for the first time, helped send out all the zoo's Koris and helped solicit for their return to the Phoenix Zoo. I was able to help get the zoo involved in the Kori Bustard fly-tying program. Recently I was able to see the other side of a Kori's life. I was able to assist our bird department with hand-rearing Skwerl, a female bustard completely raised on insects, vegetables, and pellets. Walking a bustard chick has to be one of the coolest things I have ever done. It is a really tough day when you have to walk around the children's trail with a baby bustard following you.

Currently I assist in the Kori Bustard Ethotrak program, observing our bustard's behaviors and how they interact on multi-species/multi-taxa exhibits, and assist our bird department whenever I can.

I have had the opportunity to watch our male bustards hunt small birds, rodents and reptiles. It is an amazing sight to see a Kori catch a grackle in mid-air, and then see his fellow bustard take it from him. It is even more fun trying to get the grackle away from them as the public never finds it as cool as I do. I have learned how to play keep the scrub brush from the keeper, let's take all the debris out of the wheelbarrow so the keeper can rake it up again - all fun games that help remind us Koris have a sense of humor. I started as a volunteer and had the responsibility of hand-feeding an injured Kori Bustard, throwing meatballs to the zoo's eight adult bustards, and of course the cleaning. It didn't take long for the Koris to earn a place as one of my favorite animals. In my 11 years at the Phoenix Zoo I have worked with the animals on the Africa trail, been a bird keeper, and have been the Primary keeper of our African

savanna exhibit for the entire time. In March 2009 I had the opportunity to go to Africa and teach a class of college students about ungulates and large African birds. When asked what I most looked forward to seeing I answered "a Kori Bustard in flight". I got my wish on the second day of the trip and it was amazing. By the end of 3 weeks there were 15 new Kori bustard and hoof stock fans. My title is Senior Keeper- Hoofstock Trail but at heart I am senior keeper - hoof stock/birds.



*"Paige and Molly" photo submitted by Paige McNickle*



*"Namibian kori in flight" photo submitted by Paige McNickle*



## NZP wins AZA Edward Bean

The National Zoo's kori bustard (*Ardeotis kori*) team received the prestigious Edward H. Bean Award Sept. 15 from the Association of Zoos and Aquariums for its work on the long-term propagation, breeding and management of kori bustards. This award recognizes institutions that contribute to the reproductive success of one or more species and/or subspecies.

## Achievements and Disappointments at the Nashville Zoo

We made great progress at the Nashville Zoo with our three year old male kori bustard 'Rasi' over the last year. Unfortunately we also lost him in September. Acquired in 2008, we began to work on conditioning soon after his arrival. Coming in at 18 lbs. we were able to watch him mature physically and as of September of 2010 he had jumped up to 35 lbs.

Upon request, we acquired a hen and had common-walled the two birds in their spacious yards and newly renovated building. Rasi immediately began 'booming' for the hen. It was during this time frame that he died.

Although an obvious setback for us and the captive population we were able to hone our skills in training this species. Touch tar-

gets, made of laminated colored paper, were introduced to him. This was used to allow keepers to get a good overall view of him when needed and certainly kept him stimulated. Rasi was also scale trained, station-trained and conditioned for shifting between areas, as needed. We have also made progress with the newly acquired hen for stationing on mats and eventually scales.

Lauren Butler



"Rasi" Photo by Lauren Butler



"Rasi displaying" Photo by Lauren Butler

# Crate Training Kori Bustards

Jennifer Kvapil, Bird Keeper I  
Zoo Atlanta

In mid-March 2010 we began training our Kori Bustard chicks, Mosi and Johari, to enter a crate. The birds were both approximately 8 months old at the time. Their exhibit consisted of a mulched yard with a few scattered trees and bushes, and a building at the back for indoor holding. The crate we used was made of plywood, approximately 4 feet long, 3 feet wide, and 4 feet tall. It was open on one end, with a small window in the wall of the opposite end. There were holes along the sides near the top, for light and ventilation. Bubble wrap was stapled to the ceiling for padding, and black rubber mats were attached to the floor for traction.

We began to desensitize the birds to the crate by placing it at the back of their exhibit, where they were not spending much time, but in a location they had to pass by in order to enter their building for their afternoon diet. They were slightly wary of the crate initially, but did not seem very concerned or stressed. They walked by it each night to enter their building without much hesitation and within a few days seemed completely at ease with its presence. Over the following 5 days, mealworms and giant mealworms were offered in and around the crate by a keeper standing next to it, 3 or 4 times per day. At the end of this time frame, both birds were comfortable taking a small step inside the crate. Over the next week, training sessions were held 2-3 times per day, and the

birds became comfortable enough to enter the crate completely. From that point on, training sessions were held once per day, first thing in the morning at live check, and the birds were consistently entering the crate entirely. In their eagerness for their morning snack, occasionally both birds would squeeze into the crate, but each time would find this uncomfortable and quickly back out. Over the following month, each bird became comfortable enough to enter the crate completely and eat from a bowl of bugs held outside the back end of the crate by placing their head through the small back window.

"Training" may be a strong word to describe what was accomplished, although an excellent foundation was laid. The birds were shipped to other institutions just a few weeks later, of course ending the training opportunity for us. Although weather conditions prevented us from using Mosi and Johari's willingness to enter a crate to our advantage on shipping day, their familiarity with the crate made the process much easier and less stressful. Due to heavy rains, the crate needed to be moved inside the building the day before Johari was scheduled to ship out. On the morning of his departure he would not walk into the crate on his own, however he was easily guided in by hand.

Overall, in the short amount of time this behavior was encouraged, the koris cooperated very

well. Given more time, the behavior should be tied to a distinct cue and the reliance on baiting the birds into the crate discontinued. One consistent lesson we took from the experience each day was the observation that Kori motivation first thing in the morning for giant mealworms is very high; they will seemingly follow them anywhere. Their willingness to participate became progressively weaker throughout the day, the first attempt in the morning always being the strongest. This was consistent with previous experiences we have had with our adult Koris, Snake and Tuza. They readily shift into their indoor holding area in the morning for giant mealworms, but very often refuse in the afternoon. Beginning our crate training sessions first thing in the morning with giant mealworms seemed a natural place to start. Mosi and Johari responded well and learned quickly that it was more of a treat box than anything else. The greater challenge will be keeping their cooperation consistent throughout the day.

## 48 Hours of Fecal Fascination

On July 10<sup>th</sup> and July 11<sup>th</sup>, Sara Hallager, Linda Penfold (SSP Research Advisor) and Jeanette Boylan (SSP Behavior Advisor) spent two days at the Smithsonian Conservation Biology Institute (formally CRC) writing up the results of a fecal hormone study that occurred from 2004 – 2008 at the following institutions: Dallas Zoo, Denver Zoo, Sedgwick County Zoo, Smithsonian's National Zoo, Toledo Zoo, St Catharine's Wildlife Survival Center, White Oak Conservation Center, and Zoo Atlanta. The primary objective of this study was to determine whether differences in fecal testosterone could be used to indicate reproductive status of juvenile and breeding versus non-breeding male and female kori bustards. A secondary objective was to examine the role of estrogens in determining seasonality in female kori bustards. Watch for the paper coming out this year!



*"Kori Poop" Photo submitted by Sara Hallager*

## Kori Bustard Thermography at the National Zoo

In mid-March 2010, up or absorbing heat from Vaughan Langman, a USDA Research Biophysicist based in Colorado, came to the National Zoo to perform some thermal imaging exercises on a variety of zoo animals. Being primarily mammal-focused, Dr. Langman was interested in taking thermal measurements of several avian species, and one of our koris was on that list. Although we could not extrapolate much, the images are the first in a developing set of avian thermoregulation assessments that hopefully will provide insight into birds and how they interact with their environments in a zoo setting. In this case, the kori was measured outside and was found to be within its thermoneutral zone (not giving

up or absorbing heat from the environment) on this day (ambient temperature was 21.4 degrees C). In the future, we may seek to take measurements when the birds are exposed to temperatures that are outside of the thermoneutral zone (above and/or below) to determine (1) how well they can thermoregulate in those conditions (and delineate the mechanisms they use to do so), and (2) what the potential metabolic costs may be (kcal per day or hour) when the birds remain outside of thermoneutrality. In addition to the kori, we also imaged flamingoes, a toucan, and a couple of incandescent heat sources. It was a great start!

Mike Maslanka



*Photo submitted by Mike Maslanka*



*Photo submitted by Mike Maslanka*

# Kori Bustard Research

## Ten Years of Watching Kori Bustards at the National Zoo

Since 2000, volunteers at the National Zoo have been observing kori bustards. Friends of the National Zoo Volunteer Kori Bustard Behavior Watchers have documented over 3500 hours of data including various behaviors exhibited by the birds, space utilization information, and crowd levels. But what has been learned about kori bustards from these observations?

1. An ethogram detailing 63 kori bustard behaviors has been produced and can be used as a basis to develop ethograms for other bustard species.
2. The effects of visitor numbers on kori bustard behavior and space usage determined that high visitor levels negatively impact some birds causing them to retreat to back areas of the enclosure while other birds increased their vigilance. Stress-related behaviors have the potential to increase as a result of human presence in more stress-susceptible individuals. Since kori bustard breeding is often tied to peak visitor levels in zoos, we conclude that enclosures should ensure that birds have areas they can retreat to in times of stress.
3. Documentation of a previously undescribed breeding display in male kori bustards [head tossing].
4. Seven years of data on male booming observations (over 15,000 booms recorded!) confirming that a pattern of 6-booms is the norm as observed in wild birds
5. This and much more has revealed the secret lives of koris!

## IUCN Bustard Specialist Group



The Bustard Specialist Group of IUCN has been re-formed after several years of inactivity. Chaired by Dr. Olivier Combreau, the BSG hopes to provide a single point of contact and communication for those engaged in bustard research and conservation, assist in gathering information (especially from oral and unpublished sources) on bustard status and threats, and raise public awareness and promote the conservation of bustards, including their grassland habitats which are among the most threatened habitats in the world.



# Kori Bustard Husbandry

AZA Kori bustard Animal Care Manual. Available at [www.aza.org](http://www.aza.org)

## Unusual Kori Bustard Behavior

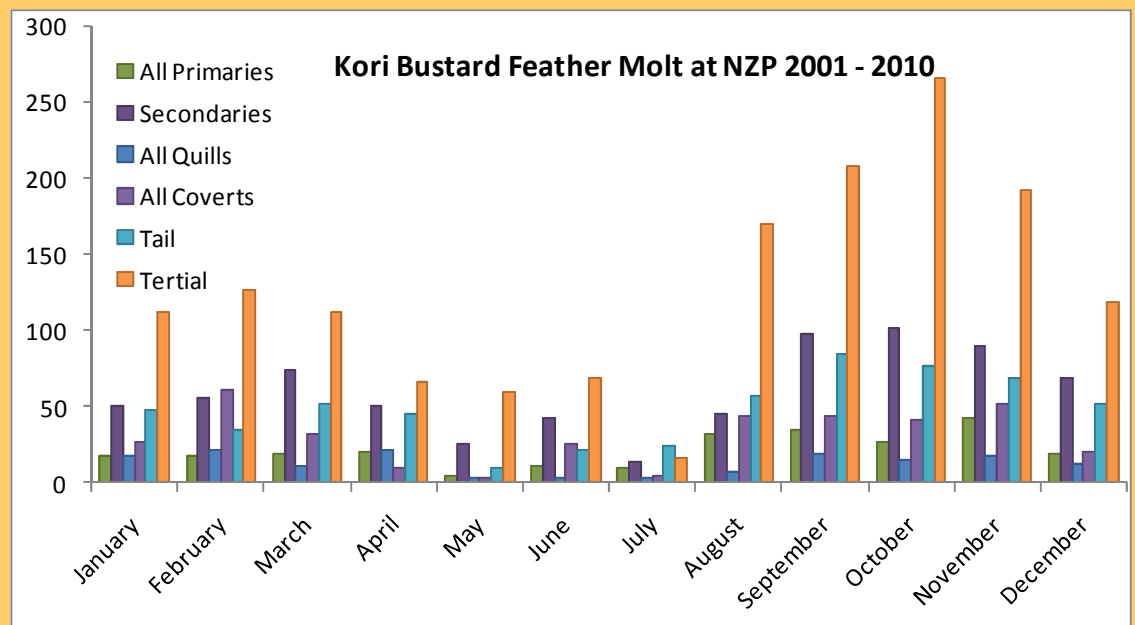
This behavior was observed in the early 1990's at the National Zoo. For many years, a female at National Zoo would sit under the wing of a male bird during the winter months when temperatures approached 40°F. Neither bird ever performed this behavior with any other bird and it has not been reported elsewhere. The pair was imported together in the mid 1980's and lived together for over 20 years until the death of the male in 2000.



*Photos submitted by Sara Hallager*

## 4000 Kori Bustard Feathers Later....

Since 2001, kori bustard feathers at National Zoo have been picked up and entered into a spreadsheet in an effort to determine the molt cycle of captive kori bustards. 4000 feathers later and the results are in! Kori bustards exhibit heavy molts following the breeding season and lighter molts in early spring. Tertiary feathers are by far the most commonly molted feather followed by secondary and tail feathers. Smaller feathers like neck, under wing, secondary coverts were not recorded but simply noted when observed. The breeding male routinely molted his neck feathers prior to the breeding season. Given the prominence of the neck in the balloon display, the new feathers may serve to enhance the visual aspect of the display.



## The Kori Bustard Feather Program at Five Years

John McClain

When I first came up with the idea of [www.FeathersMc.com](http://www.FeathersMc.com) for additional information on this subject. Finding the sometimes rare and unusual feathers that make up these flies is the most difficult part of making these flies. My passion for the craft makes me want to help others enjoy it as well, so I've done what I can to make that happen. Certain Kori feathers are used in most of the classic patterns and, as a result, the historic cost prevented many people from even trying. Now, with the free Kori feather program, any fly tyer in the United States that wants kori bustard feathers to use can have them for free.

I retired in 2001, my union offered to buy me an expensive hand gun as a retirement gift. I declined the firearm and ask that they buy me a pair of Kori feathers instead. They were shocked, to say the least, when they learned that the feathers cost \$500.00! They purchased them and I still have the feathers—but the ridiculous cost is now gone.

I receive naturally molted Kori bustard feathers from a number of AZA ac-

credited zoological facilities throughout the United States housing kori bustards. These feathers are distributed to the domestic fly tying community free of charge. Those feathers that the fly tyers don't use are sent to the Native American community where they are used in authentic looking headdress or bustles as a substitute for large raptor or sacred eagle feathers.



I belong to a small, but passionate group, that recreate a certain group of special fishing flies that were popular during the Victorian Period of Great Britain. Please visit my website,

Because of CITES permitting regulations, the program doesn't extend outside the United States, but the program

(Continued on page 15)

## The Kori Bustard Feather Program at Five Years

*Continued from page 9*

has had a worldwide impact on the price of Kori feathers. No longer do individuals that were obtaining molted Kori feathers from US zoos for free, pocket thousands of dollars on the black market because the black market no longer exists. Any money now generated by Kori feathers, with the exception of the postage, goes to the **Kori SSP Fund** in the way of donations. The amount of money donated to the Kori SSP over the past 5 years pales in comparison to money once involved but, I believe it has helped some. What the fly tiers and Native Americans can't use usually end up in an elementary school or nature center for educational purposes. This is a conservation project is carried out without great cost but with great benefit.

The demand for certain Kori feathers will always outstrip the supply, but most tiers seem to be patient enough to wait. I sometimes may not have feathers available, but it isn't a long wait.

If you have any questions feel free to contact me, John McLain –email: [John@FeathersMc.com](mailto:John@FeathersMc.com).



*Over the past 5 years, the kori bustard feather program has generated thousands of free kori bustard feathers for the fly tying community. More than half of the current holding zoos participate in this project. All that is involved is picking up naturally molted feathers and sending them to John McLain once or twice a year when the birds naturally molt. All feathers from all parts of the bird are used by the fly tyers. Some zoos have made the emotional decision to remove feathers from birds post mortem thereby making the feathers from their beloved bird available for others to practice their art of fly tying. Since its inception, the kori bustard feather program has supported two key projects within the SSP. In the first project, the SSP provided money to purchase a satellite transmitter for Kabelo Senyatso, a PhD student studying kori bustards in Botswana. The second project supported hormone analysis from fecals in a multi-year, multi-institutional reproductive physiology study. If your zoo is not currently participating in this program and you would like more information, please contact me at [hallagers@si.edu](mailto:hallagers@si.edu)*

*Sara Hallager*

## Watch the Kori Grow!

The following pictures capture the growth of a female kori bustard chick at National Zoo from hatch until 5 months of age



hatch



7 days



14 days



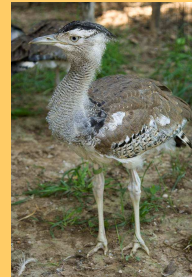
21 days



30 days



37 days



2 months



3 months



4 months

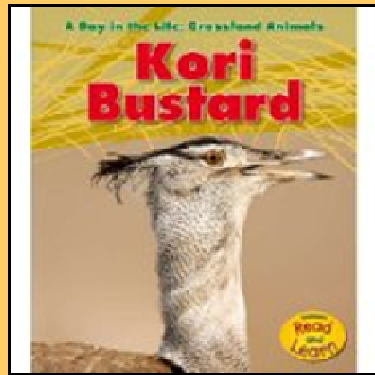
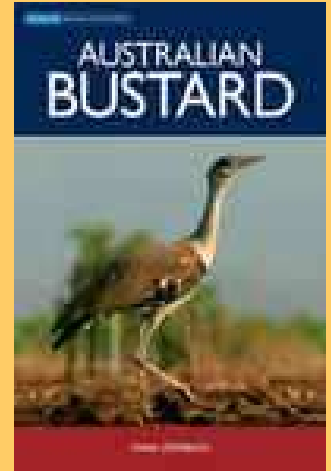


5 months



# For the Love of all things Kori!

Check out "Australian Bustard" by Mark Ziemnicki. Published by CSIRO publishing, 2010. This book has some great information on the biology and ecology of one of the kori bustards closest relatives *Ardeotis australis*.



For ages 4-8, A day in the life of a kori bustard by Louise Spilsbury. Available from Amazon.com

## *A Kori Bustard Never Forgets....*

They say an elephant never forgets but a kori never forgets either. Former Curator of Birds at NZP, Paul Tomassoni recently carried out an informal study at the request of Sara Hallager. Paul and the breeding male kori at NZP "Noname" had a unique relationship. Noname hated Paul because it was Paul who always held Noname for feather trimming or medical exams. Any time Paul walked by the kori bustard exhibit, regardless of what he was wearing, Noname would bark and run. Six months after retiring Noname still remembered Paul. And 12 months after retiring, Noname still retains his memory of Paul. Stay tuned for Gompou 2011 to see how long a kori bustard remembers!

Did you know that you can purchase replica kori bustard skulls and eggs at Bone Clones <http://www.boneclones.com/> or Skulls Unlimited <http://www.skullsunlimited.com/>? These are great for kori bustard education talks!

## *A Kori Bustard by any name is still a Kori Bustard!*

**Afrikaans – Gompou**  
**Kwangali – Epwezampundu**  
**Swahili - Tandawala**  
**Mkubwa**  
**Tsonga - Mithisi**  
**Tswana – Kgori**  
**Xhosa – Iseme**  
**Zul Umngqithi**  
**Shona – Ngomanyuni**



# For the Love of all things Kori!



*"Maliki" Photo by Meghan Murphy*

## Meet a kori bustard...

Meet Maliki! Maliki, Swahili for "King" is a 2-year old male kori bustard born at Dallas Zoo. Maliki came to National Zoo in the fall of 2010. Once out of quarantine, Maliki quickly settled in. Within several weeks he was reliably stepping on to a scale for weekly weights, using his heated pad on cold mornings, catching live prey, checking out the shed and exhibiting normal male dominant behaviors. Although he has only been at National Zoo for a few months, he shows great promise of being a great bird, adapting well to changes and hopefully being the future breeding male at NZP.



*That's "the end" for Volume 8 of The Gompou. We are already accepting submissions for next year's edition. Email [kbagley@zooatlanta.org](mailto:kbagley@zooatlanta.org) or [hallagers@si.edu](mailto:hallagers@si.edu) for submissions or more information.*