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Avian Scientific Advisory Group



# Training a Pair of Abyssinian Ground Hornbills for Voluntary Radiographs



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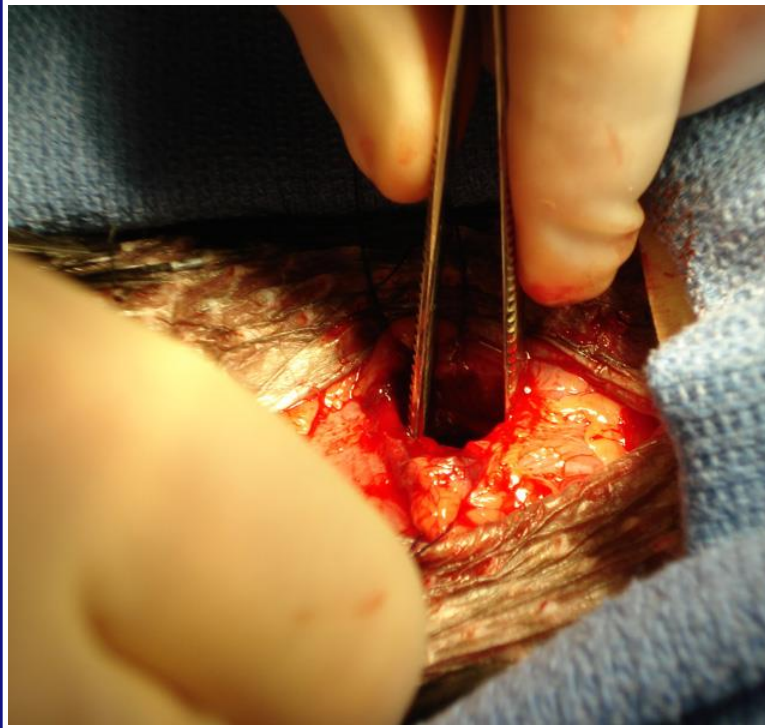
# Why Train That?

- Ground hornbills are known to ingest foreign objects
  - Our Abyssinians were no exception
- In 2008, our AGHs started ingesting rocks that were too large to pass through on their own
  - We began to look closer at their diet - looking for deficiencies, etc
  - Doubled the amount of daily enrichment they were receiving
    - Implemented new enrichment ideas to increase foraging time
  - Contacted other zoos to get advice on how to stop the behavior





- Eventually our female required surgery to remove glass and other objects (besides the rocks) from her stomach



- Afterwards, repeated catch ups were required to pass a tube with mineral oil down her esophagus to lubricate and facilitate the passage of additional rocks ingested

(Not a photo of the above procedure but still a SUPER cool pic that I had to use somewhere!)





- This broke down the trust between Jekyll and her keepers
  - She stopped training with us
  - Would flee when we approached
  - Had to work on rebuilding that trust account with her once again



- Eventually we were able to slow down the pica via:
  - Increased enrichment
  - Multiple feedings during the day
  - More frequent training sessions
  - A change to the AGHs' enclosure
    - Rubber mats
    - Still allow for dust bathing
      - Provide sand or sifted soil
    - Monitored time on natural substrate





# Time to Be Proactive

- Decided to train both hornbills for voluntary radiographs to be taken to monitor foreign body ingestion and to reduce the need for repeated sedations in the future





# Equipment Needed

- Decided to modify a dog kennel (once we discovered that x-rays can pass through the plastic)
- Used an x-ray plate cover designed for use with our giraffe to prevent damage to the plate
  - If it's strong enough for a giraffe, then it's strong enough for a hornbill! (maybe...)



# Equipment Needed



# Training Plans

- The personalities of each bird needed to be considered when writing up training plans
  - 1.0 “Petrie” was hand-reared and is very confident during training sessions
  - 0.1 “Jekyll” is shy and more timid of new situations and people
- Both were crate trained





# Training Plan

- At 1st, the plan was to have the hornbills enter into the crate and turn around to face the door so they would feel more comfortable
  - The x-ray plate holder took up a lot of room inside the crate - became quickly evident that they were not able to do that easily
  - Further modified the crate by cutting a couple holes in the rear of the crate to reinforce them from there
- Also realized once several sessions into the training plan that it was better to place the plate holder into the crate prior to cueing them to crate - instead of slipping it down into the crate besides them
- A further change to the original plan was to remove the crate door and allow them the freedom to enter and exit the crate as they wanted

# Training Plan

- Worked on positioning 1st - standing close to the plate holder without pounding on it
- Then worked on holding duration
- Introduced a 2nd trainer holding a small Coleman lunch box cooler to act like an x-ray light machine
  - At this time we began wearing lead vests to get them accustomed to these
- Introduced vet staff - starting with the veterinary technician who would be ultimately helping with the procedures
  - At 1st, she would just stand next to the crate, then she began to hold the light machine up to the crate, then she began to shine the light onto the crate (not emitting x-rays)

# Petrie's Training



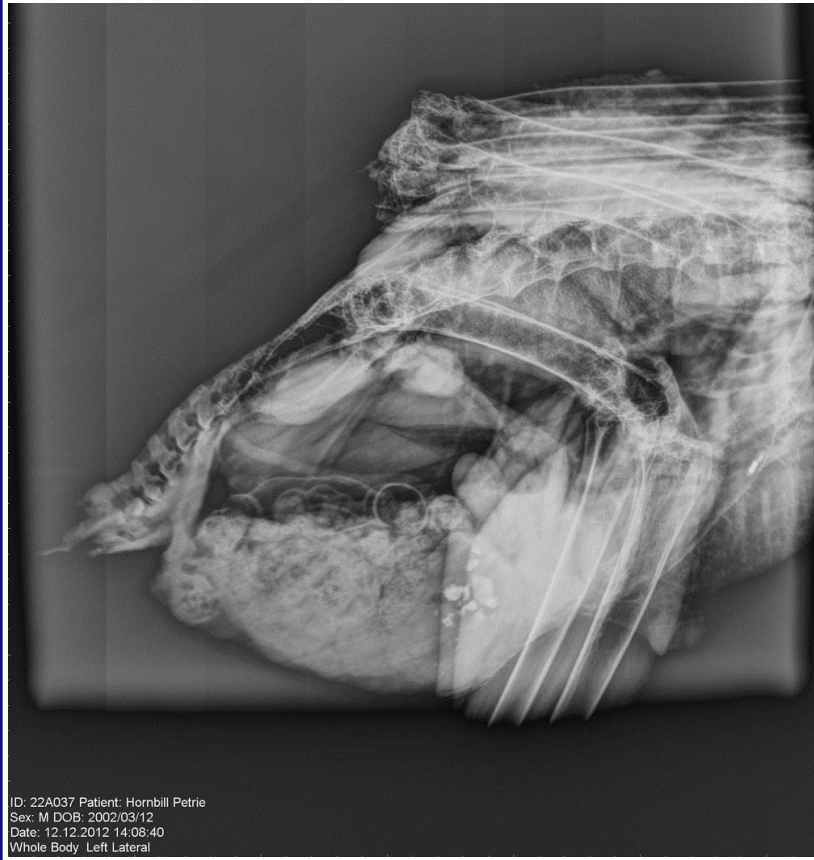


# Jekyll's Training

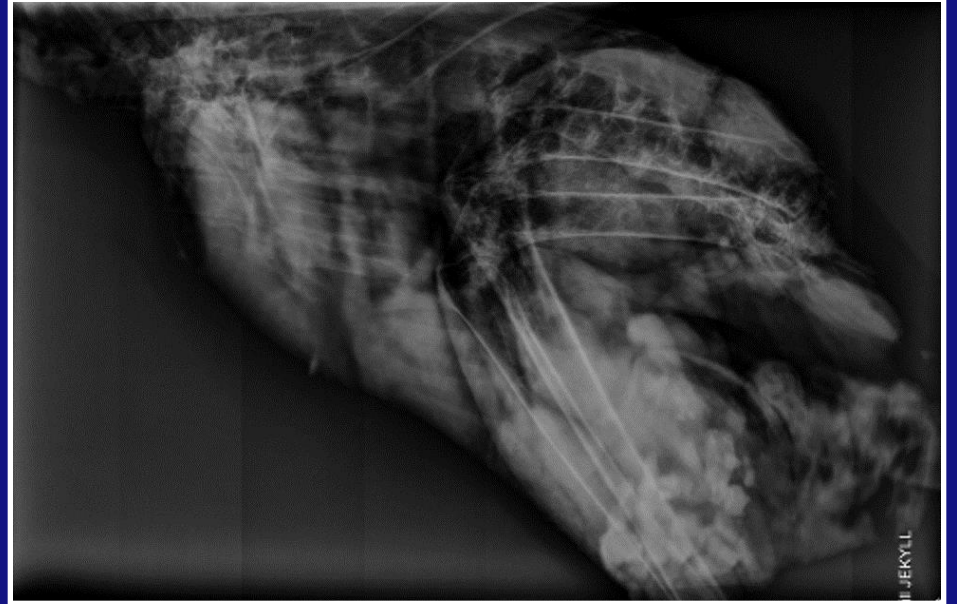




# Radiographs

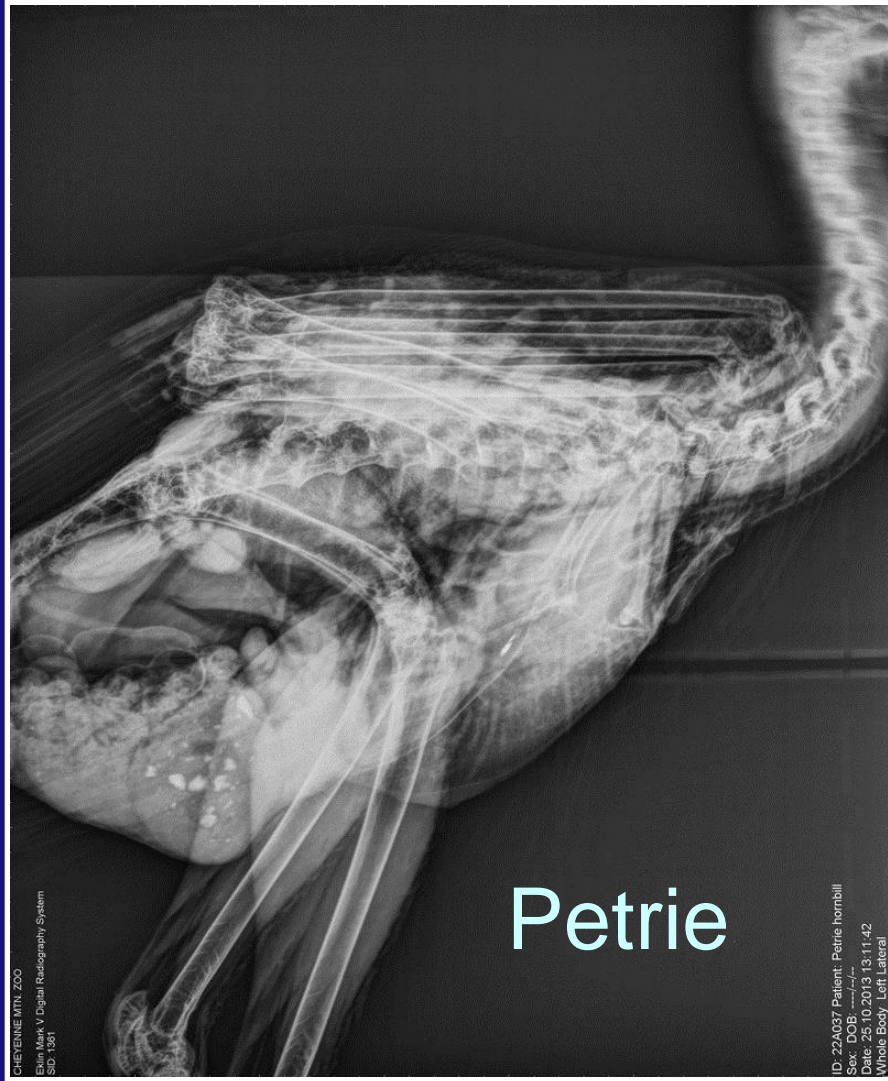


Petrie



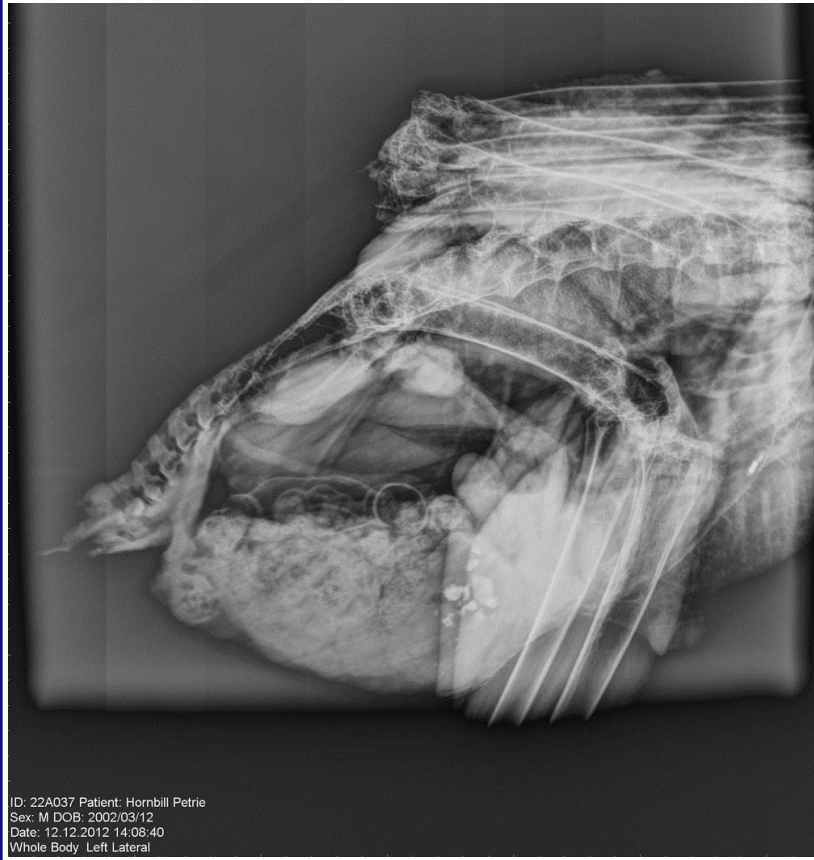
Jekyll

# Radiographs (Oct. 2013)

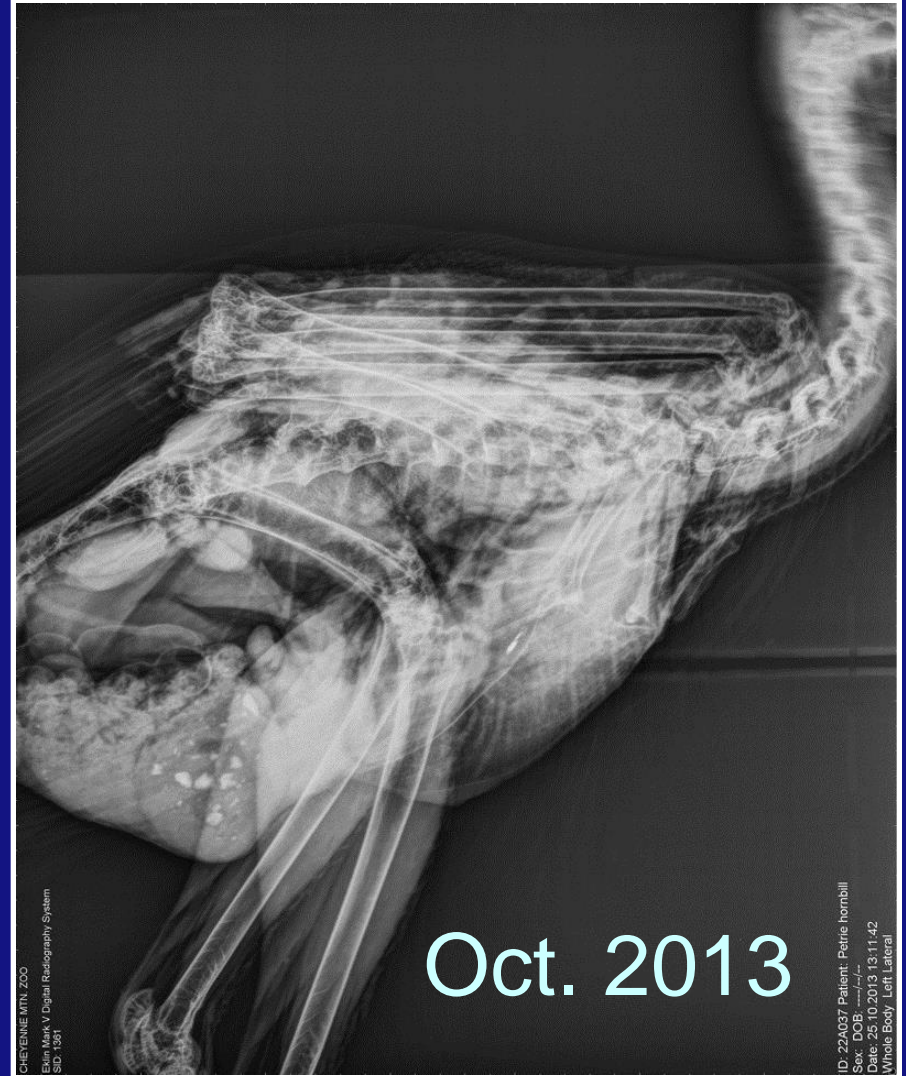




# Petrie

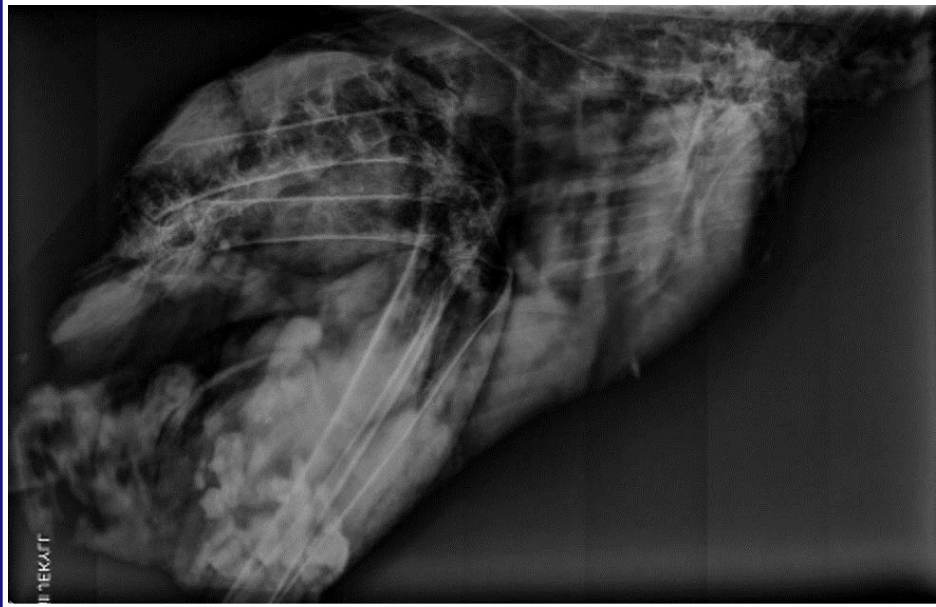


Dec. 2012

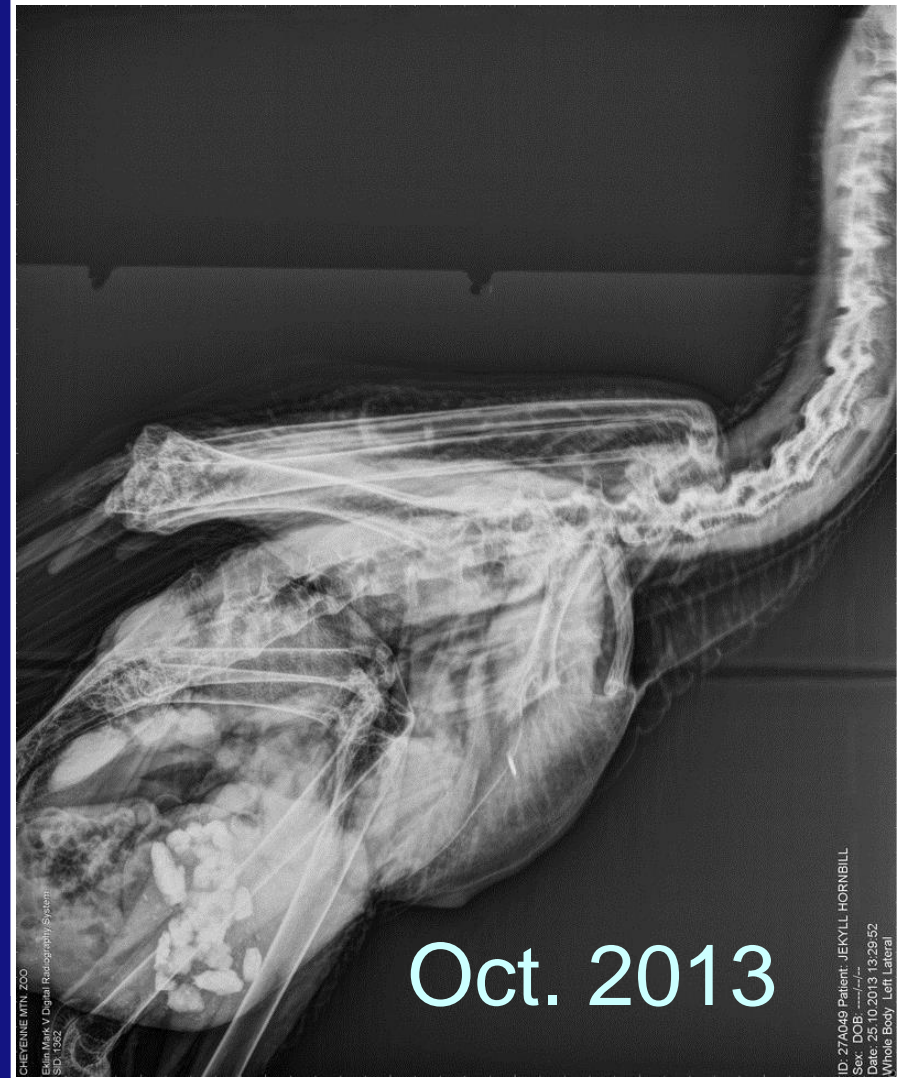


Oct. 2013

# Jekyll



Jan. 2013



Oct. 2013



# Training Results

- As expected, Petrie's training progressed quickly:
  - From start to finish - 26 sessions (a little over 1 month)
- As expected, Jekyll's training took a little longer to accomplish:
  - From start to finish - 40 sessions (a little over 2 months)



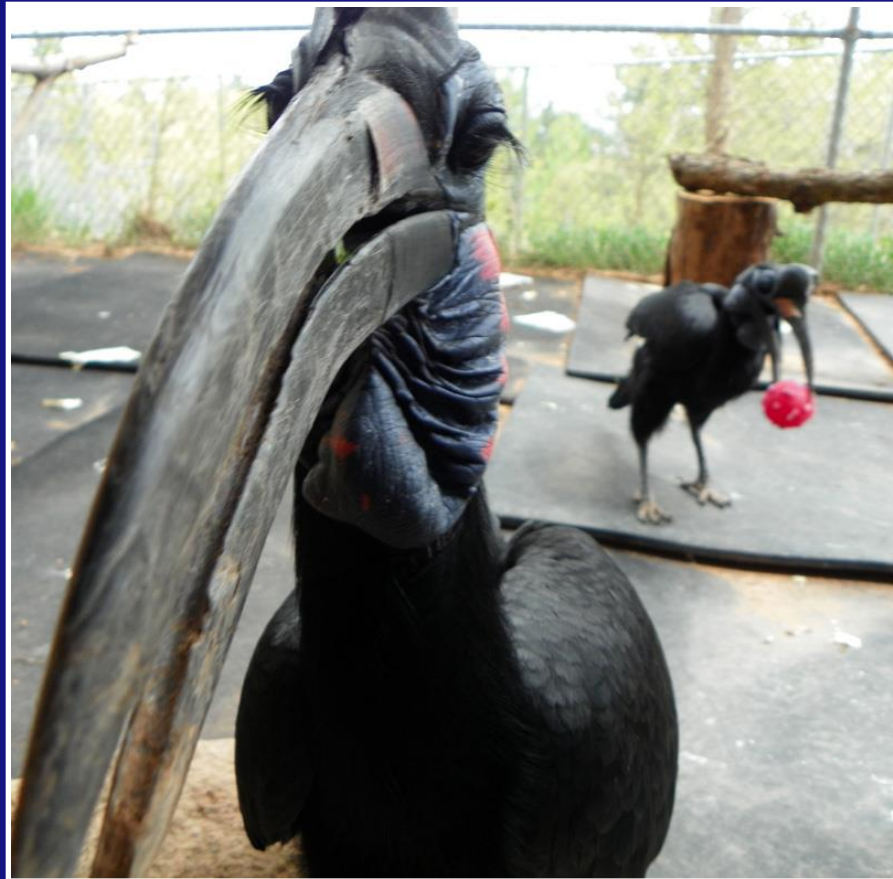


# Jekyll's Challenges

- She was more timid to approach the crate and enter it and would run out of the crate almost every time after she was reinforced
  - But after several sessions she would quickly return to the crate and re-crate
- She did not seem comfortable to be closed into the crate with the plate holder
- She was nervous with the addition of vet staff due to her negative history with them
  - This was the section within the training process that required the most sessions - In fact, took up almost 1/2 of the total training period

# Petrie's Challenges

- To not pound on the crate... or the plate holder... or the x-ray light machine... or the vet tech



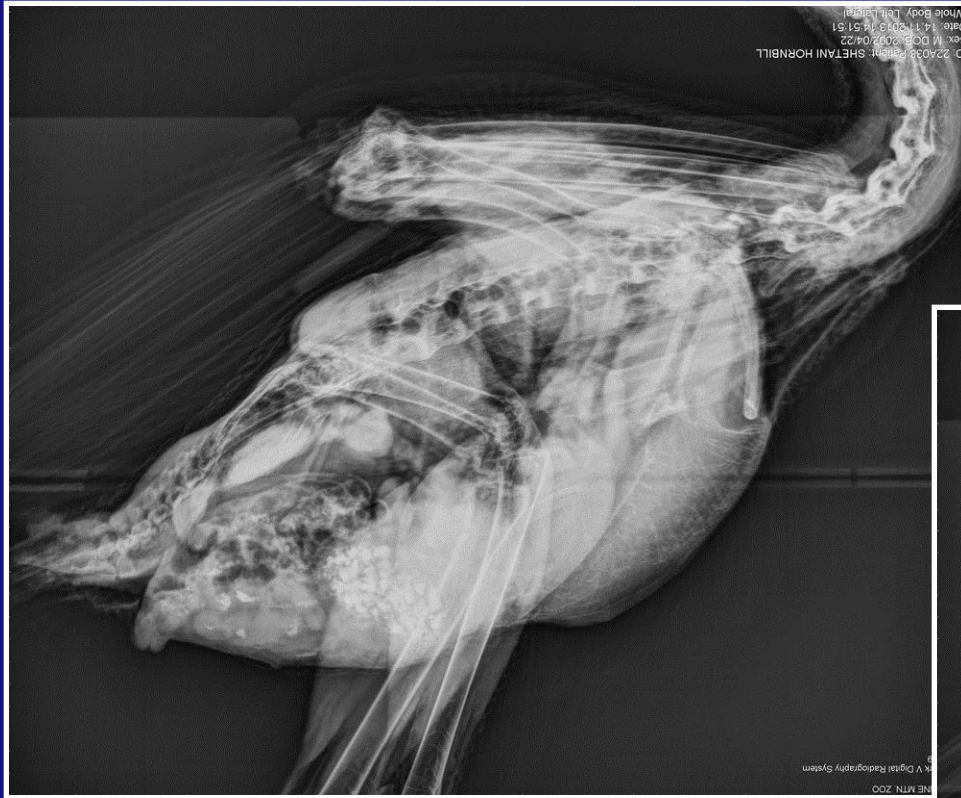
# Pleasant Surprises

- The lead vests were not frightening to either bird and didn't set us back any training sessions
- No one tried to mess with the power cord leading to the plate
- No one ever pounded on the x-ray plate holder
- Hornbills are capable of holding!





# Southern Ground Hornbills



1.0 Shetani

0.1 Hasira



# Special Thanks To:

- Our awesome vet tech, Joy Cooper, for allowing mouse guts to be smeared on her shoes, while bent over holding a 30# light machine as steady as possible
- Dr. Eric Klaphake & Harley Thompson for assisting with the procedures
- Shelly Cook and Andrea Bryant for helping me train and film the process and final procedures
- Ashley Arimborgo for the great photos
- ASAG board for allowing me to present at the 2014 Mid-Year Conference / Hornbill Workshop
- And most of all, thank you to “Petrie” & “Jekyll” for being such great students!

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