



FitzPatrick Institute of
African Ornithology



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

APNR Southern Ground-Hornbill Research & Conservation Project

QUARTERLEY REPORT

January 2024



email: nghututu@gmail.com

call: 072 345 6584

ABOUT US

The APNR Southern Ground-Hornbill Project works towards slowing and reversing the decline of the species while carrying out fundamental research on these endangered birds. For the past 23 years, researchers from the FitzPatrick Institute of African Ornithology have been investigating Southern Ground-Hornbills' habitat-use, reproductive success, and behaviour. Conservation efforts concentrate on installing and monitoring artificial nests, while our research delves into the social system, dynamics, and benefits of group living among Southern Ground-Hornbills in a changing environment.



WHAT WE ACHIEVED IN 2023

Installed 4 artificial nests

Presented at 3 conferences (1 International)

Analysed more than 4000 hours of camera trap footage

Repaired 6 nests

Carried out 194 nest checks

1 PhD graduation - Kyle Middleton

Recorded 215 sightings of birds in the APNR

Gave 4 educational talks + 1 podcast

Completed landscape survey for PhD research

Identified 3 new ground-hornbill groups

2023/2024 BREEDING SEASON

The breeding season commenced in mid-October, and we are pleased to report that nine groups have chicks currently in nests. The fledging of these chicks is expected to take place between mid-February and mid-March.

Regrettably, there were five breeding attempts that ended unsuccessfully. The new Bladerwick nest faced disruption from a leopard, resulting in trampled eggs. However, the group persevered and laid eggs again in the Von Tonder nest. The Senalala nest, upon checking for the first hatching chick, was found empty for unknown reasons. In the Copenhagen nest, only a single egg was laid, but, unfortunately, it failed to hatch. Finally, the chick in Thornybush nest died or was preyed upon between 20 and 30 days old, and the exact cause remains uncertain.

Successful Nests:

Timbavati PNR:

- Karan Khaya
- Addger
- Caroline
- Von Tonder

Klaserie PNR:

- Baobab Ridge
- Ntoma

Umbabat PNR:

- N'tsiri
- Yankee Dam

Balule PNR:

- York

Unsuccessful Nests:

Timbavati PNR:

- Tawane
- Bladerwick-new nest

Klaserie PNR:

- Senalala
- Copenhagen

Thornybush PNR:

- Thornybush



Picture 1. Two eggs in Von Tonder nest.



Picture 2. Protective female with chick in Baobab Ridge nest.



Picture 3. Female attacked and falling out of nest - footage captured on camera trap

ATTACK AT NEST

The Java group who had taken up residence in Tawane nest (Timbavati PNR) unfortunately lost their female in November. She was incubating eggs when she was violently attacked by an unknown intruding pair (a male and female). She wasn't able to escape and was beaten up inside the nest before falling to the ground. We found her remains near the nest several days later and we were able to identify her from her rings. With group members often foraging away from the nest for extended periods, incubating females and nestlings are left vulnerable to predators and even rival ground-hornbills. This female had successfully reared four nestlings since being monitored and was ringed as an adult in 2015. We therefore expect she was at least 16 years old.

Interestingly, the intruding pair have now joined forces with the rest of the Java group, which included two adult males and last years juvenile. They continued to hang around the nest for weeks after this event.



Picture 4. The intruding pair happy with their newly claimed nest.



Picture 5. The remains of the Java female

RESEARCH

This season Carrie has continued to weigh and measure chicks at specific ages to obtain growth rates. She also installed temperature loggers in nests which will be used to improve the design of artificial nests, and placed camera traps at active nests to determine adult feeding rates and identify group members.

We also welcomed new field assistants. In December, Robin Fourie assisted with data collection while Kyle monitored nests in Kruger. Sam Wagstaff joined as the project's field assistant in January and will support Carrie until the end of March. Sam brings extensive research experience, having worked with species such as fork-tailed drongos, yellow-billed hornbills, white-browed sparrow weavers, pied babblers, red-winged starlings, black-footed and laysan albatrosses, and meerkats. She also holds an MSc in marine biology, where she studied the population dynamics of spotted gully sharks.



Picture 6. Sam (left) & Carrie (right) carrying out measurements on chick.



Picture 7. Katleho (left) and Roos (right) assisting with egg measurements



Picture 8. Three egg clutch in N'tsiri nest.

In November, we welcomed intern Katleho and MSc student Roos from the Mabula Ground Hornbill Project, with Roos focusing on investigating the sex ratio of ground-hornbill chicks, incorporating the significance of egg size into the study. Their presence in the APNR provided them with valuable fieldwork experience. Additionally, during this period, we discovered a 3-egg clutch in the N'tsiri nest, which, upon closer inspection, we suspected to be an Egyptian goose egg and was later discarded by the incubating ground-hornbill female.

NEW RINGS FOR IDENTIFYING INDIVIDUALS

The project has always placed a metal ring on the leg of any ground-hornbill that has been handled. Bird ringing/banding is the process whereby registered ringers permanently mark wild birds to study their lifecycles (births, deaths, age of breeding and survival rates), habits, populations and movements. These rings are registered with [SAFRING](#). We now have brand new aluminum colour rings that we will be placing on the chicks before they fledge this season. These new rings will hopefully make it much easier to identify individuals from afar.



Picture 9. New aluminum colour rings with unique codes.



Picture 10. The same individual, JOH007, from juvenile (1 year old) to sub-adult (4 years old).

We are also searching for ways to effectively track the birds. Ground hornbill groups have territories up to 100 km² and are very difficult to locate when away from the nest. If we can place safe and effective trackers on birds then it will be much easier to find them in the field and conduct behavioural observations. It will also allow us to look in depth at their movement patterns throughout the year. We are looking into using devices which are encased within a leg ring that could allow us to track the birds.

Camera traps at nest sites have allowed us to identify each individual within the group to create an ID kit. This is important in long term studies, such as this one, for understanding life histories, behaviour, reproductive strategies, and the impact of environmental factors on individuals within a population. To do this we use unique facial features, rings and even behaviour. We are also able to identify some individuals through their vocalisations, thanks to the impressive research conducted by Kyle, which found that individuals have unique signature calls.

Each individual is given a code name, that is associated with their group, and an image of them is collected each year (when possible). This is particularly interesting when monitoring juveniles into adulthood. We are beginning to notice that some individuals develop their throat colouration quicker than others.

Any photos of the birds received from anyone in the APNR also helps us to identify individuals.



HARVESTED CHICKS

As part of the Mabula Ground-Hornbill reintroduction program, we harvested five second hatched chicks this season from the APNR. In addition to these five, one was harvested from Sabi Sand Nature Reserve. In the wild, these chicks have no chance of survival as they are outcompeted for food by the older sibling.

Nests where chicks were removed:

- Addger (Timbavati PNR)
- Caroline (Timbavati PNR)
- Baobab Ridge (Klaserie PNR)
- Ntsiri (Umbabat PNR)
- York (Balule PNR)

These chicks are in the expert hands of Elaine who has the difficult job of rearing these chicks to fledging age (80 - 90 days). Once these chicks are old enough they will be released back into the wild.



Picture 11. Second hatched chick on its way to the Mabula Ground Hornbill Project rearing facility.

FLYING HIGH WITH THE BATELEURS

Usually the journey from nest to rearing facility involves a grueling 10 hour round trip on bumpy pothole ridden roads. This time however, the Bateleurs stepped in, and Marlon, a volunteer pilot based in Hoedspruit, flew some of the chicks, accompanied by the Mabula team who monitored them throughout the journey. This significantly reduced the travel time to just a two-hour round trip, ensuring a much safer and less stressful experience for both the tiny chicks and the team.



Picture 12. Bateleur pilot Marlon with the Mabula team, Winders, Vuysile and Sandiswe.

Read more about the Mabula Ground-Hornbill Projects harvesting and reintroduction program [here](#).

HOW TO HELP

We have set up WhatsApp groups for members of the APNR (guides, wardens, managers etc.) to log sightings of ground-hornbills. This is an effective way to gather information on group movements and we encourage anyone who is interested in joining an already established WhatsApp group or would like to set one up for their area to get in touch with us. Alternatively you can email sightings to: nghututu@gmail.com

FUNDING

Please get in touch if you would like to donate to the project. Funding for ecology and conservation research is becoming increasingly hard to obtain, even as the critical need for these activities increases. This means that every donation to our research and conservation project is enormously welcomed and makes a positive impact on the conservation of the species.



R7000 can pay for a new artificial nest box + materials for repairing already installed nests.

R4500 can pay for a new camera trap, R200 can pay for a pack of batteries to power camera traps.



R450 can pay for a colour ring to ID an individual



R1700 can pay for a tank of fuel for us to carry out nest checks



R380 will pay for sampling equipment (needles, syringes, tubes, gloves) used on each juvenile before fledging.



WE NEED YOUR HELP

Seen a Ground-hornbill?

The APNR Ground-Hornbill Project are calling on citizen scientists

What we need:
PHOTOS/VIDEOS of the birds along with DATE, TIME and LOCATION of the sighting

Send to:
✉ nghututu@gmail.com
☎ (+27) 0723456584
apnrgroundhornbillproject.com

FitPatrick Institute of Africa
UNIVERSITY OF CAPE TOWN
(YUNIBESITHI YASENKA • UNIVERSITEIT VAN KAAPSTAD)

ACKNOWLEDGMENTS



We thank the landowners and wardens of the APNR for their continued support and permission to research the ground-hornbill groups on their properties.

Thanks to The Rufford Foundation, John Solomon, Wild Wonderful World, Bateleurs Nest, Mary Oppenheimer & Daughters Foundation, Alan Whyte, Peter Janovsky, Clive Coetzee, The Timothy Hancock Charitable Trust, African Born Safaris, Wild in Africa, & Blue Sky Society, for their generous donations and funding which supports the continuation of this long-term project.

Thanks to The Royal Portfolio Foundation, Isambane Camp, René Vromans, Baobab Ridge, Julie McInnes and Robert Price for their generous donations towards artificial nests.

Thanks to Timbavati PNR, Klaserie PNR, N'tsiri NR, Tanda Tula Lodge, Ndlopfu, and Peter Smelting for their ongoing support in fuel donations, without which this project would not function.

Thanks to the Mabula Ground Hornbill Project for providing support and assistance in the field and to Kyle Brand from TUT, and JJ's Bones Of The Earth for designing and constructing artificial research nests. Thanks to all APNR members and staff who have been of great help, both logistically and by reporting ground-hornbill sightings.



CONTACT US

Carrie: 072 345 6584

nghututu@gmail.com

[Mabula Ground-Hornbill Project](#)

Kyle: 071 325 8956

lowveld@ground-hornbill.org.za

