



APNR Southern Ground Hornbill Research & Conservation Project



October Quarterly Report 2020

Breeding Season 2020/21

The months between breeding seasons (May until September) always give us the opportunity to catch up on data capture and analyses. Despite the worldwide halt to daily life for several months, this year has been very productive, and Kyle is making steady progress with the analyses of the data collected over the past few years.

It has been a fantastic start to the season with early rain, and a lot of it! It has spurred the birds to breed and already we have nine groups who have laid. A contrast from last season where groups only began breeding in December. Hopefully in the coming weeks, we will find more groups with eggs.

Breeding groups so far:

- Karan Khaya group (Timbavati PNR)
- Hermansburg group (Timbavati PNR)
- Johnniesdale group (Timbavati PNR)
- Lornay group (Timbavati PNR)
- Senalala group (Klaserie PNR)
- Janovsky group (Klaserie PNR)
- Pitlochry group (Klaserie PNR)
- Charloscar group (Klaserie PNR)
- Thornybush group (Thornybush NR)



Figure 1. Senalala first egg in nest (left) and Pitlochry female sitting tight in the nest (right)

New Nests

Against all odds, the Mabula Ground-Hornbill Project were able to construct a few new nests this year and supplied the APNR with five nests for us to install. All of these were installed to replace old nests.



Figure 2. Nest builders hard at work at Mabula

We installed four of these nests on Timbavati. One to replace Kempiana groups natural nest which sadly fell last year, two replacing Tawane and Giraffe nests which crumbled from termite damage, and one to replace Caroline nest. Caroline group has not used the old nest in several years and we suspect that it might be down to the nest shifting in the tree and the actual tree having a lack of shade.

We also replaced a nest at Yankee Dam (Umbabat PNR) which had deteriorated to the extent where the roof was collapsing.



Figure 3. New nests up Yankee Dam (left) Giraffe (middle) and Kempiana (right)

Tawane and Yankee Dam's new nests have already been lined by the birds which is a positive sign that they may breed this season. Interestingly, Tawane nest has had two different groups investigating the nest and lining it simultaneously.



Figure 4. Captured on our camera trap. Rhino Road group showing interest in their new nest

Research

Kyle's PhD research:

- **Testing the function on chorus vocalisations:**
Further analyses into the vocalisations of the ground-hornbills has been completed. These results confirm that female birds within the groups each call with a unique melody that can potentially be used by groups to distinguish who is calling. This was further tested using algorithms which was able to correctly distinguish different groups based on their morning vocalisations with a success rate of 89,15%.
We will continue our playback experiments this season to determine if the birds themselves can distinguish neighbour calls from stranger calls.
- **Camera trap analyses.** Camera traps will be installed at all breeding groups this season. Camera traps are a vital tool in monitoring natural behaviour at nests and have provided valuable information on group dynamics and who is contributing to the raising of the nestling. These cameras are also allowing us to slowly start building a database on the different individuals within the APNR.

Carrie's MSc research:

- **Effects of high temperatures on nestling growth.** We will weigh and measure the nestlings at six different ages from 1 day old to 75 days old.

Temperature loggers (iButtons) will be installed inside the nests to monitor nest temperatures. The aim of this research is to investigate the effects of high temperatures on nestling's growth and physiology.

We will also be installing iButtons in all new artificial nests to determine what the temperature and humidity parameters are of the newly designed nests in relation to ambient conditions. This is in collaboration with The Mabula Ground Hornbill Project who are leading the research.

Ground-Hornbill Reintroduction Workshop

We attended an online workshop which was hosted by Birdlife SA and The Mabula Ground-Hornbill Project. The agenda was to plan the next phase of reintroductions of harvested birds into the wild. Due to the birds being slow to mature and so long lived, models predict that it will take up to 80 years for sustainable populations to occur in areas where they do not thrive currently.

Some potential areas for release were discussed, with northern KZN/eSwatini being a possibility to link the gap between the established Southern Kruger populations and established KZN population further south. The game reserves to the North West of Kruger were discussed as being an ideal area of expansion from the APNR population. The hope would be to start to install nests outside of the APNR in the attempt to encourage the birds to naturally disperse into these areas. This will be a slow process, and it will take many years for birds to become viable breeding populations in these areas but hopefully this would increase their range across Limpopo.

New Website



We have created a website for the project where you can read more about the birds, the project and what we are up to with our research in more detail. There is information on where to submit sightings, which is such a valuable part of our research, and links to our partners. Please note that while the website is live, there are still a few additions which are in the process.

www.apnrgroundhornbillproject.com

You can now also shop for ground-hornbills, we have collaborated with Wild in Africa who have created a stunning ground-hornbill bracelet where 50% of the purchase price goes directly to us at the APNR project and the Mabula Project.

<https://wildinafrica.store/>

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BRACELETS FOR WILDLIFE





Wild Wonderful World are a company based in Hoedspruit who have created a means for people to purchase a ground-hornbill nest or camera trap for the project. A great initiative from two people who are passionate about conservation.

<https://www.wildwonderfulworld.com/shop-for-wildlife>

Acknowledgements

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