Project Update: October 2021

August 2021

In August 2021, the APNR Ground-Hornbill Project attended the biannual Hot Birds Research Conference, held in Skukuza, Kruger National Park, and coordinated by the Hot Birds principal investigators, Prof Andrew McKechnie and Dr Susie Cunningham. The conference brought together researchers from all around South Africa, including students from University of Pretoria, University of Cape Town, and Rhodes University, who are all investigating how global warming is impacting a variety of species, from birds to bats. The APNR Ground-Hornbill Project's researchers, Carrie, and Kyle, presented some of their research plans and results, specifically on ground-hornbills and how a warming climate could affect these endangered birds. Rita Covas (the project's coordinator) also attended and presented findings on climate and cooperation in the sociable weaver.

The conference also gave the attendees the chance to discuss how they could reduce their own carbon footprint, specifically in aspects of their fieldwork and research.

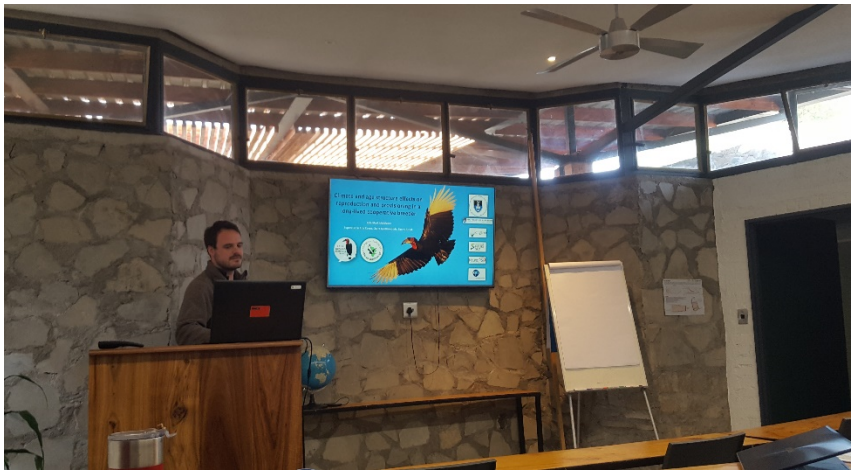
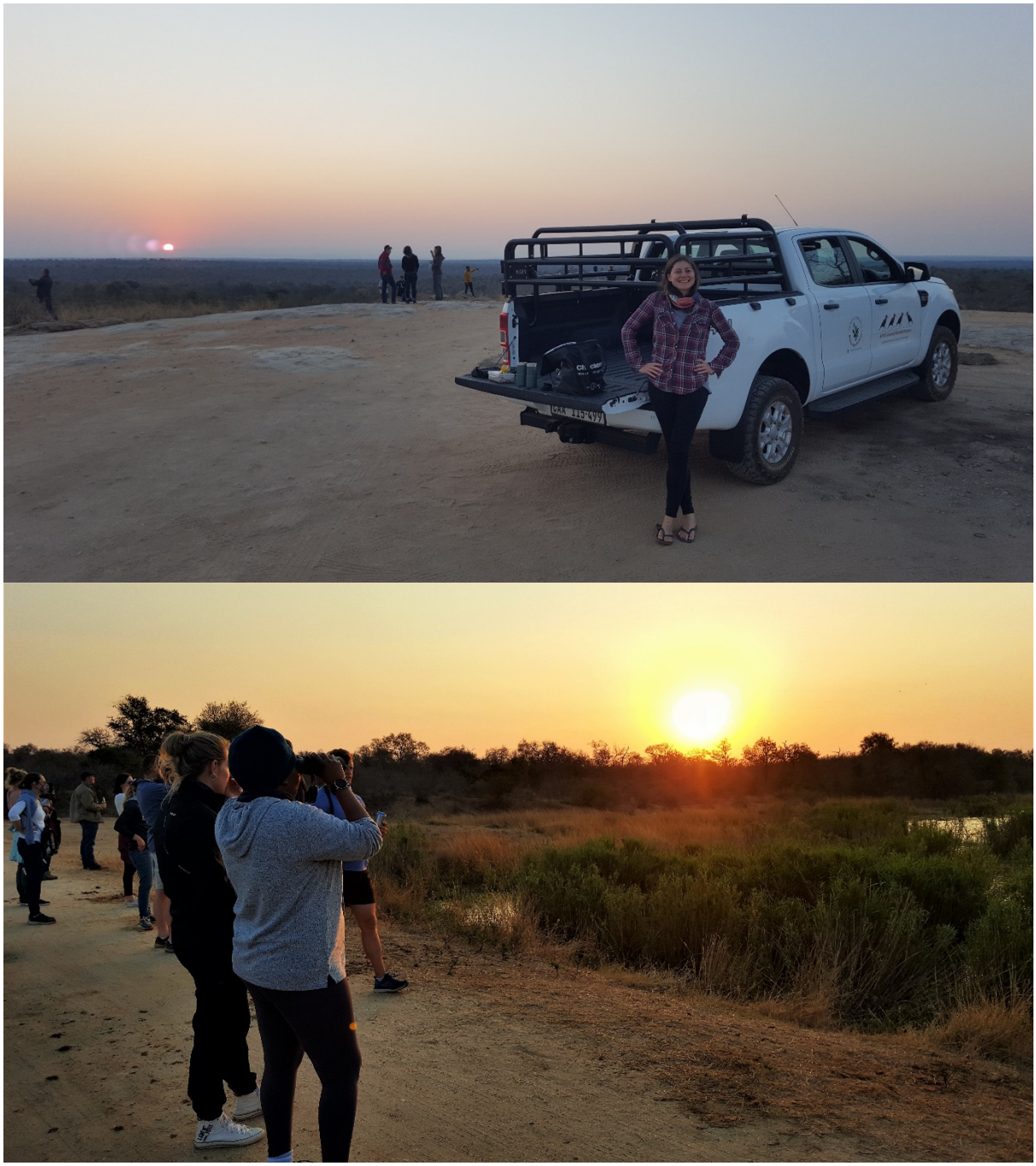


Figure 1. APNR Ground-Hornbill Project researcher, Kyle, presenting his work at the Hot Birds conference.

It was also a great opportunity to meet and interact face-to-face with fellow researchers, a rare opportunity since the covid pandemic, and of course do some fantastic birding in Kruger National Park!



Figures 2. Enjoying the sites and birding in Kruger National Park while attending the Hot Birds conference.

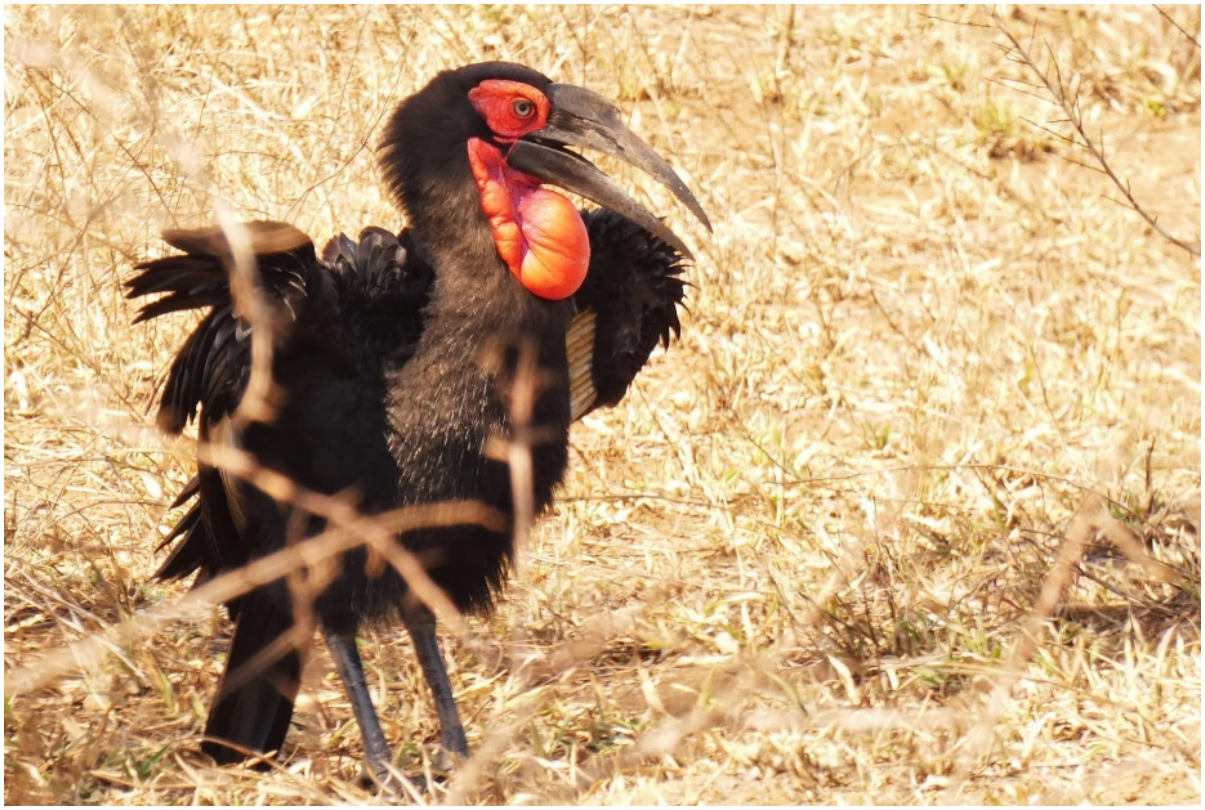


Figure 3. A hot ground-hornbill seen while attending the Hots Birds conference

September 2021

Thanks to the Rufford funding we were able to purchase some brand new camera traps with solar panels, and temperature loggers for the nests, ready to put into action for the coming season. This will allow us to monitor reproduction, nestling feeding rates and record hourly temperatures inside every nest.

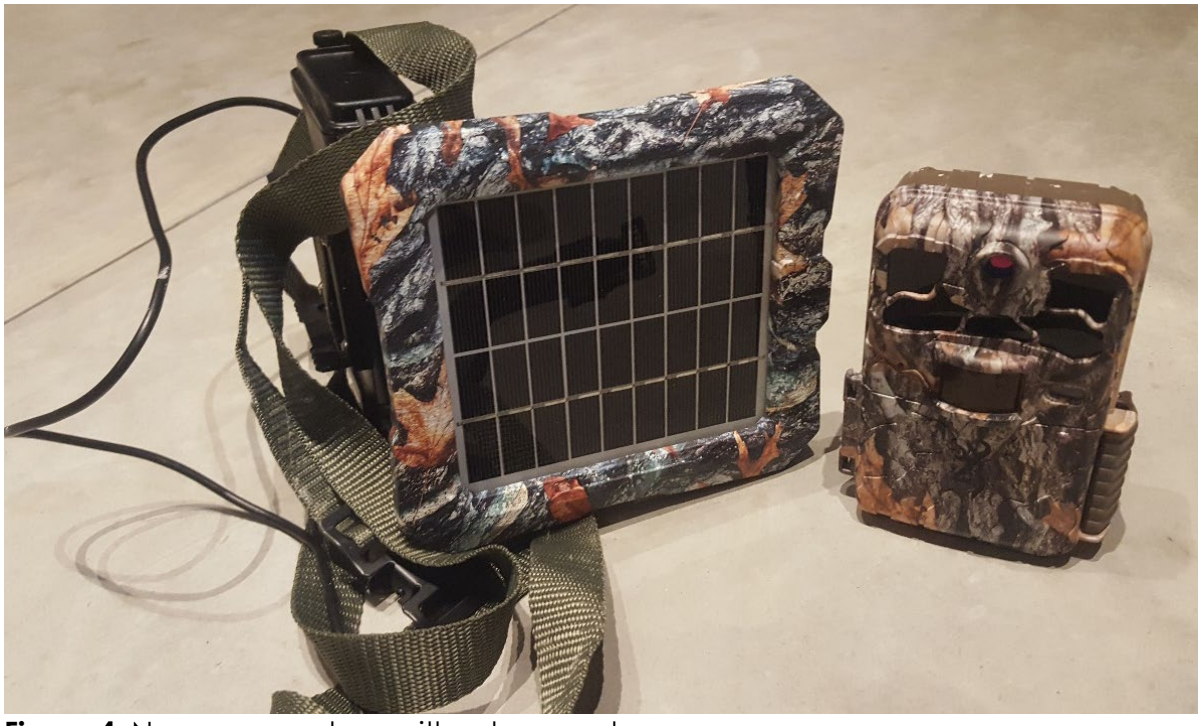


Figure 4. New camera trap with solar panel

The camera traps also allow us to gather additional information on all sorts of interesting behaviour and interactions.

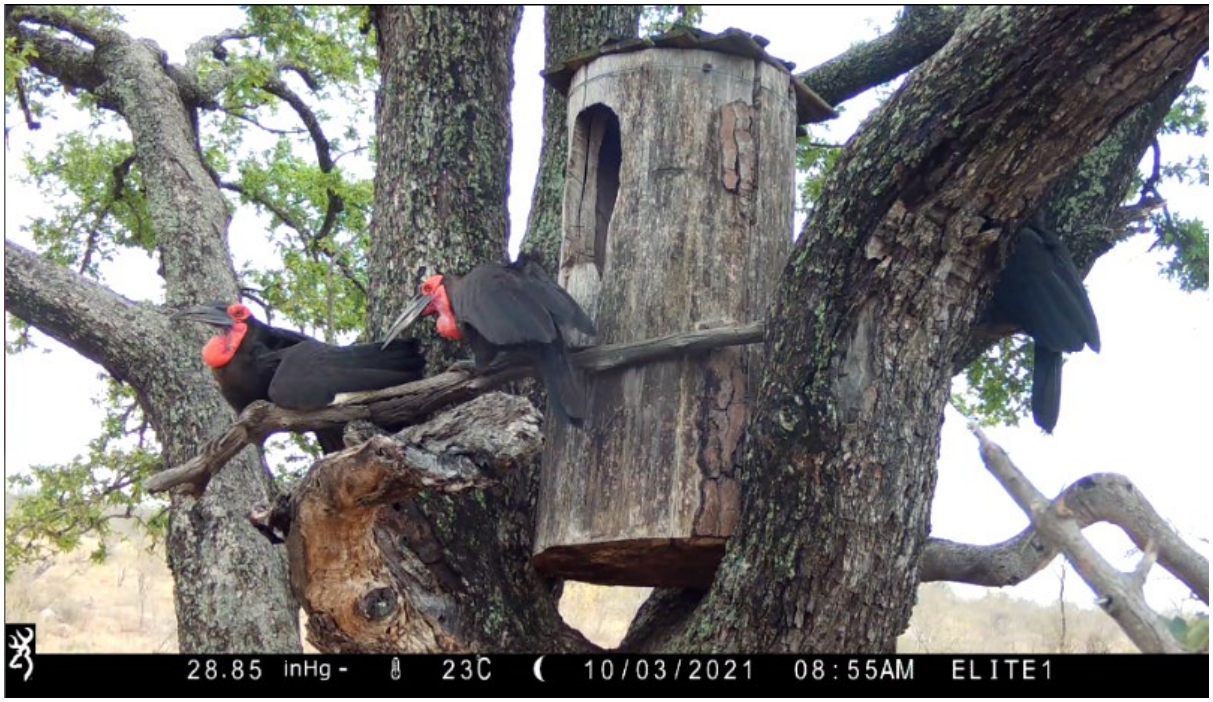


Figure 5. Recent camera trap footage at one of the artificial nests

We published a popular article in the Klaserie Chronicle, a quarterly publication that is distributed for free to lodges and the surrounding community. The magazine promotes fundraising drives and shares news about research and conservation initiatives in the area. We are thrilled to be asked to contribute quarterly articles to this magazine and share our projects news and stories to the public.

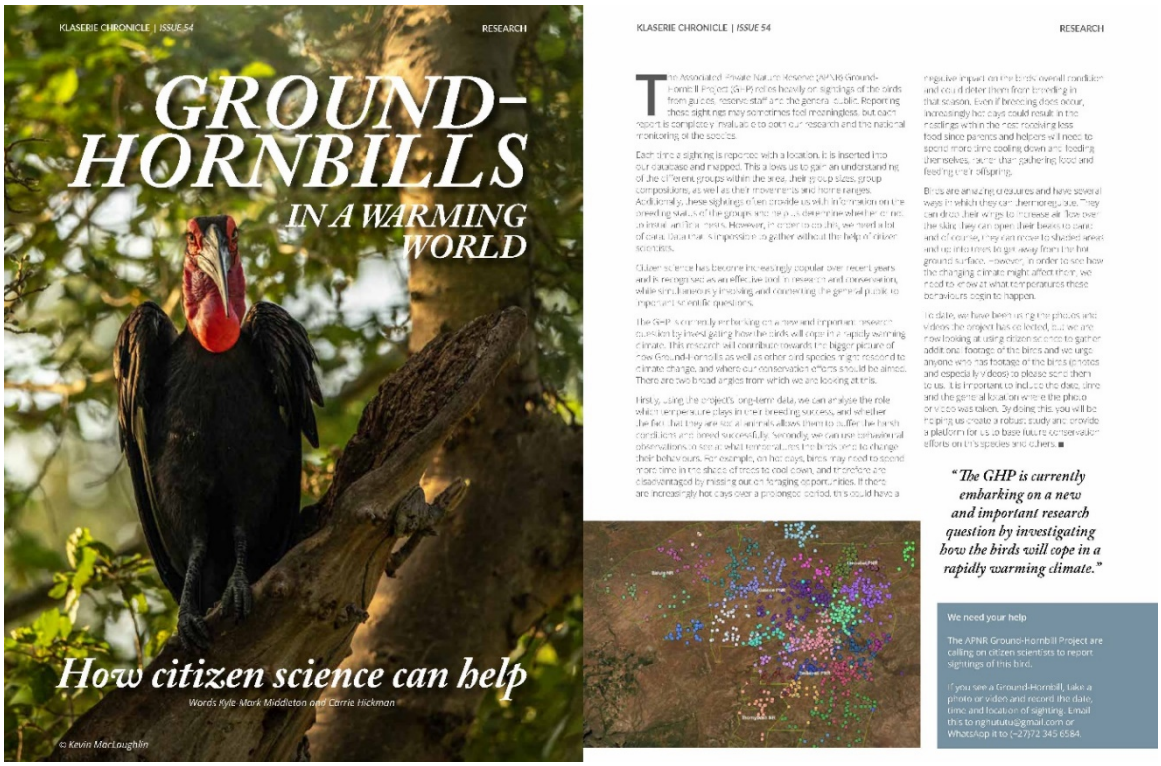


Figure 6. Our popular article published in the Klaserie Chronicle.

October 2021
With the ground-hornbill breeding season looming, we started our first round of nest checks throughout the study site. This gave us the opportunity to assess the nests and make any repairs to artificial nests where needed.

We collected five new artificial nests made by the Mabula Ground-Hornbill Project and have installed three of these so far. These nests have been painted a lighter colour to try and reflect sunlight, reducing surface temperatures and creating cooler microclimates within the nests. This is part of an ongoing effort to provide these birds with the best possible artificial nest in a warming climate.

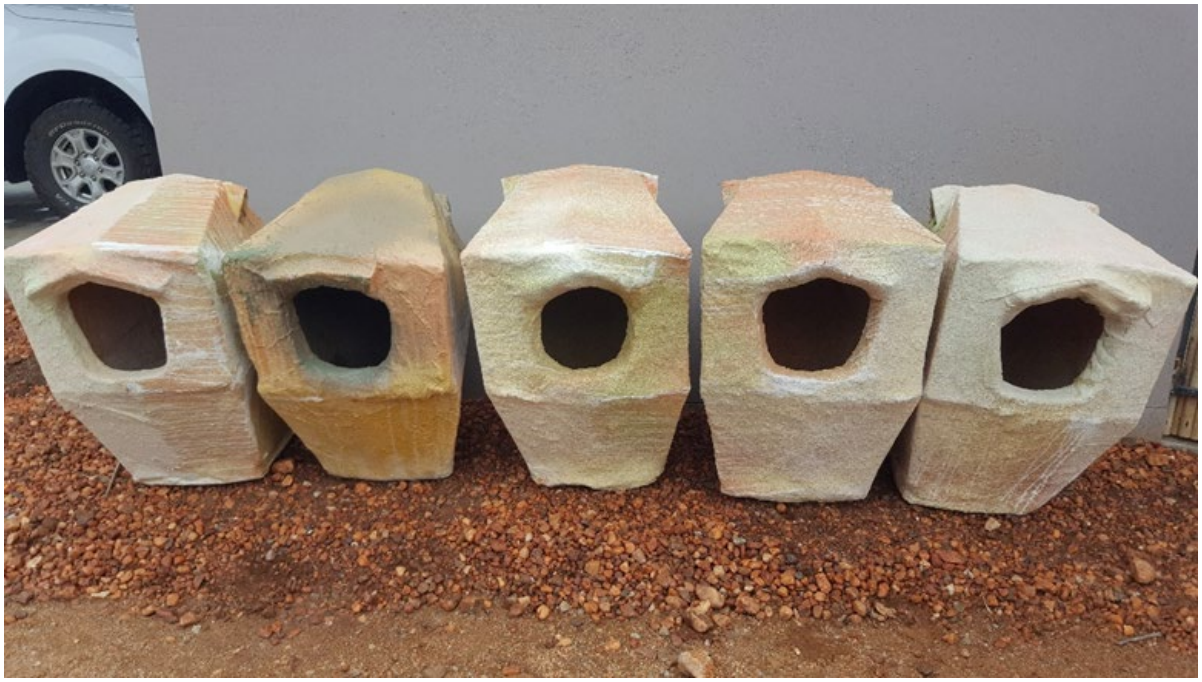


Figure 7. New artificial nests before installation, provided by Mabula Ground-Hornbill Project

Two of these were installed in new locations and one replaced an old nest that had succumbed to termite damage. Baobab Ridge Lodge kindly donated an artificial nest where staff and guests from the lodge came to help us install the nest and learn about the birds. This nest will fill a gap where there are currently no suitable nest sites for the birds and hopefully a group will find it over the coming season.

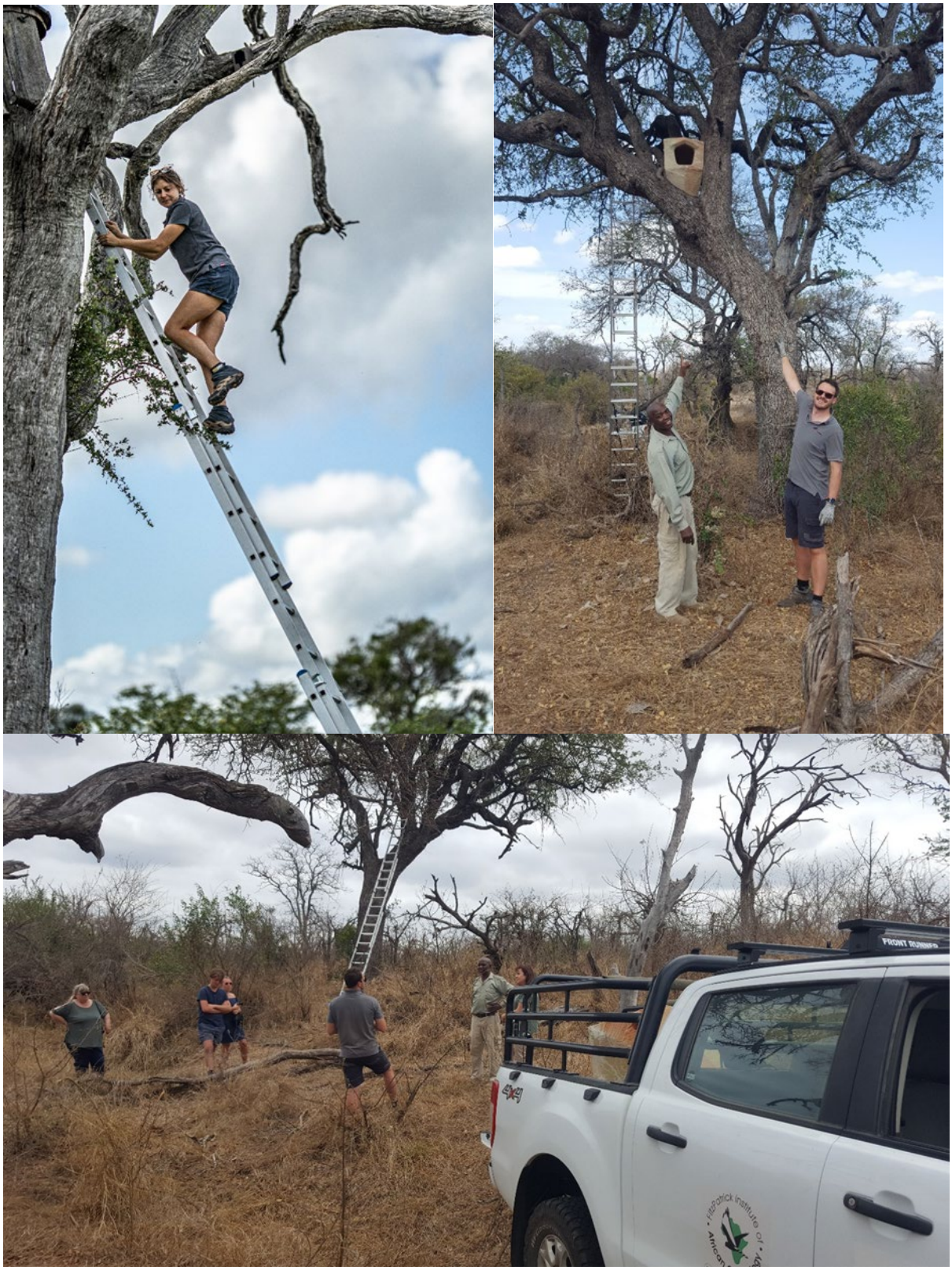
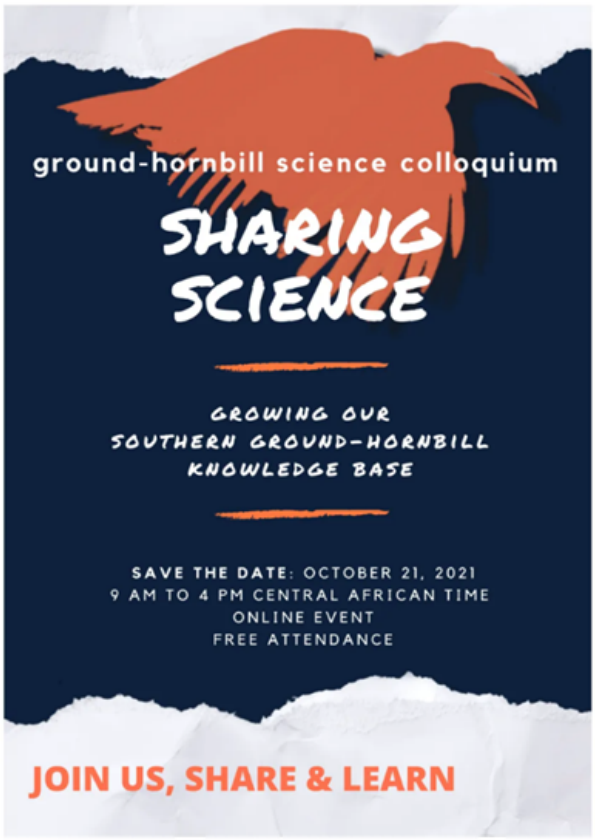


Figure 8. Top left: Carrie doing a routine nest check. Top right: Field guide, David, with Kyle after helping us install an artificial nest. Bottom: staff members and lodge guests help with the installation and learn about ground-hornbills.

Remotely we attended the annual Ground-Hornbill Working Group meeting on 20th and 21st October 2021, held online. This annual meeting/workshop is a multi-stakeholder event held to align and enhance the conservation efforts of ground-

hornbills. This included a science colloquium where Carrie and Kyle presented their findings, results, and their proposed work going forward in the APNR Ground-Hornbill Project. The working group meeting was an opportunity to discuss all conservation efforts and implementation for the coming year as well as any research gaps that need to be filled.



SOME OF OUR AMAZING SPEAKERS

Kyle-Mark Middleton – Individual bases of group behaviour in cooperatively breeding Southern Ground-hornbills.
Carrie Hickman – The effects of high temperatures on nestling growth and physiology in the Southern Ground-hornbill.
Dr Jarryd Alexander – The national monitoring plan for Southern Ground-hornbills in South Africa.
Dr Yvette Ehlers Smith – The implications of land use and climate change to the persistence of Southern Ground-hornbills.
Dr Martina Crole – Morphology of the Southern Ground-Hornbill (Bucorvus leadbeateri) gastro- intestinal tract.
Assoc. Prof. Katja Koeppel – 20 years of veterinary challenges when dealing with Southern Ground-hornbills.
Dr Lucy Kemp – 20 years of a growing community for ground-hornbill conservation.
Patience Shito – A feasibility assessment for population restoration for Southern Ground-hornbills in the Lowveld, South Africa.

Figure 9. The lineup of speakers who attended the ground-hornbill science colloquium

Now we wait for the rains to come, it's still very dry and it doesn't seem like the birds are interested in breeding just yet!