



Southern Ground-Hornbill Research and Conservation Programme Quarterly Report – Jan 2019



Mid-Breeding Season Report

The breeding season of 2019 has been a largely unsuccessful and unusual one. A total of only five groups have attempted to breed this year.

Groups breeding: Pitlochry (Camp George nest), Karan Khaya, Johnniesdale (Vlak nest), Janovsky and Addger

Usually, roughly predicting if groups are going to breed is based on observing the lining within the nests, however, this season showed almost no evidence for the groups which bred and visa versa for the ones that did not. The onset of breeding by these groups also came very late in the season with two groups (Janovsky and Addger) laying eggs only in the beginning of this month. This means that if the chicks manage to survive until fledging, they will only be leaving the nest in mid-May. Unfortunately, looking at the long-term data from the project, groups which lay later are less successful due to the increased difficulty in finding food.

While it is difficult to say exactly what the reasons for the bad season are, it is likely to be attributed to the late heavy rains and extreme temperatures of the season. The unpredictability of this season means that we will continue with the routine nest checks in case there are groups which still decide to breed.

The ground hornbills are not the only species to have an unusual breeding season. Sociable weaver research based in Kimberley reported one of the worst breeding seasons ever recorded with only 3 out of nearly 100 breeding pairs attempting.



Figure 1. Caroline group birds (photos by Carrie Hickman)

Research

With the breeding season being unfortunately poor, it has resulted in less data. However, that said, the data collection has gone well, and we are beginning the statistical analyses on the vocalisations of the species.

An opportunity might be available for additional research to be conducted with the information we are gathering from the nesting sites. It would look at how climatic factors affect the behaviours associated with breeding, as well as the overall reproductive success. Past research on ground hornbills has been inconsistent with regards to the effect of helpers and group size on the reproductive output. Studies in other species has shown that the effect of helpers may go unnoticed during good times and may only become apparent in tough environmental conditions. This may provide information on the success of ground hornbills through changing environmental conditions. I will be presenting a proposal to the university on 12 February.

During the beginning of December, we also attended the African Bioacoustics Conference at the University of Cape Town where we presented some of our preliminary results from the hornbills. The figures below are some of these results and show the differences in call lengths and call frequencies between males and females, as well as between the two different vocalisations of the chorus and contact calls. Call lengths were found to be different between males and females, as well as between the two different calls. Call frequencies rendered the same results. This is the initial step and more data is currently being analysed.

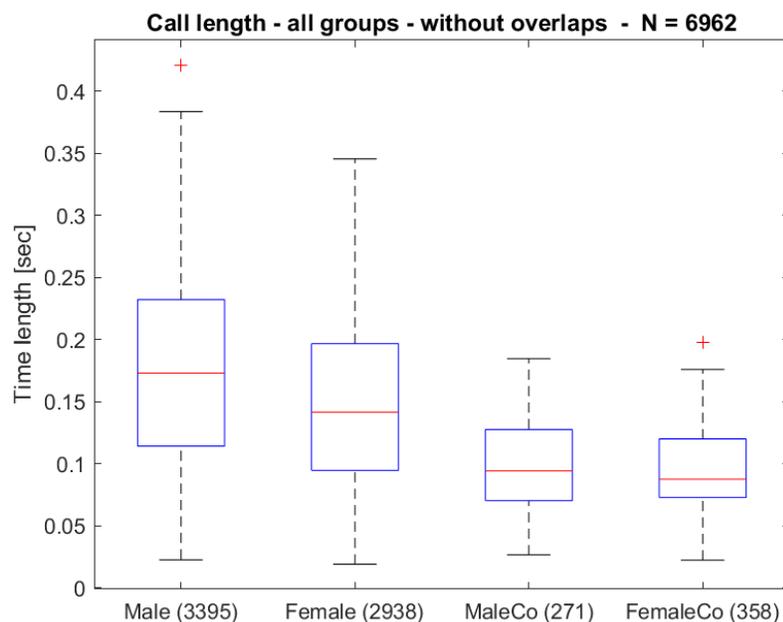


Figure 2. Call length differences of chorus (Labelled Male and Female) and contact calls (Labelled MaleCo and FemaleCo) between males and females. Male calls tend to be longer than that of females and the chorus calls are longer than that of the contact calls.

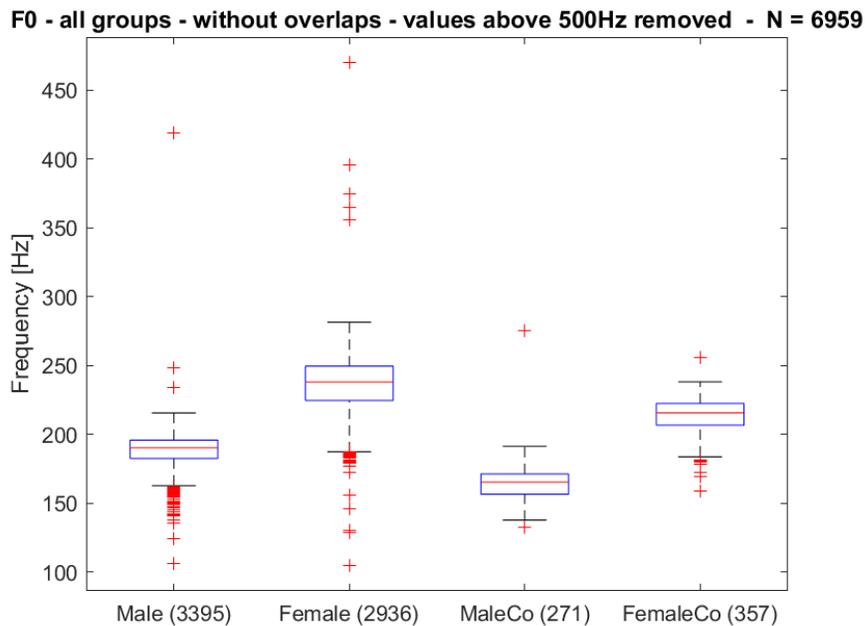


Figure 3. Frequency differences of chorus (Labelled Male and Female) and contact (Labelled MaleCo and FemaleCo) calls between males and females. Female calls have a higher frequency than that of the males and the different calls are performed at different frequencies.



Figure 4. Camera trap footage from Charloscar (left) and Camp George (right) nests

Harvesting

No birds were harvested this year to go through the release programme, despite the new facility at Mabula being installed. With such a late breeding season here, they were able to harvest from other locations for this year. Since the majority of harvesting for the Mabula Project has come from the APNR, it was an ideal opportunity to acquire birds from other areas.

The harvested birds from last year are currently still alive and are doing well. Some extra good news with the fact that a release group at Loskop Dam has bred for the first time. The breeding male from the group comes from Java nest here in the APNR.



Figure 5. The new nestling

Trouble Birds

Recently, we have had some birds causing havoc at two of the properties based on the reserves. A single group (Java group) managed to break approximately 60 windows in the space of two weeks. The territoriality of the birds makes them aggressive towards other birds and when they see their reflection, they usually attack. Most of these window breakages occur at camps that stand unoccupied for long periods of time. Increased aggressiveness by birds is usually attributed to an onset of breeding, however, this particular group have not bred this season so the reasons for the current surge is difficult to say but the removal of the nest will have no effect on their aggressiveness. These window

breakages are obviously a nuisance and, in this case, have resulted in numerous repairs. This is a concern for us, not only because of them breaking windows and creating a form of conflict, but because the birds often end up injuring themselves in the process. We are currently looking into the problem, but I have attached a document made by the Mabula Project with solutions to prevent this from happening in the meantime.

Acknowledgements

We thank the landowners and wardens of the APNR for their continued support and permission to work with the Ground-Hornbill groups on their properties. Special thanks to Timbavati PNR, Ntsiri, Tanda Tula and Peter Smelting for helping with fuel. Many APNR members and staff have been of great help, both logistically and by reporting ground-hornbill sightings. We thank one and all.

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