

Progress Report II

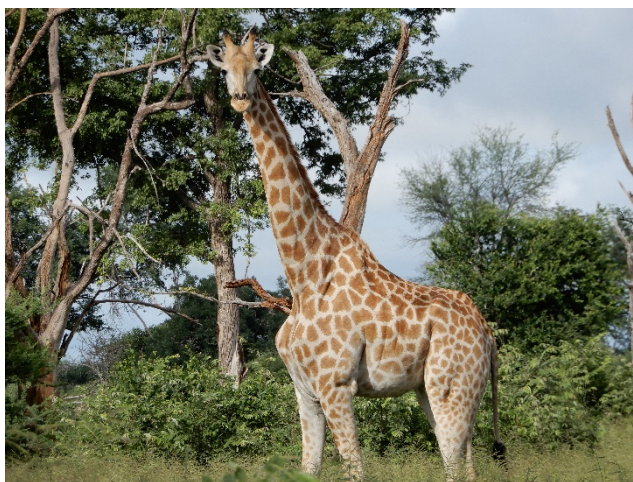
The ecology of southern giraffe (*Giraffa giraffa*) in Savé Valley Conservancy and Gonarezhou National Park, Zimbabwe

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Since the last report (Dec 2020), our giraffe research have been running smoothly here in Zimbabwe, with a bigger focus being put on our country wide genetic sampling. A detailed breakdown can be found below of each individual section of our work on the ground:

Field research

Our work in Savé Valley Conservancy (SVC) have now reached the halfway mark, whilst data collection have been very efficient over the past three months. This includes our ongoing field surveys, specifically focusing on the population dynamics, diets, browse availability, activity budgets and spatial ecology of giraffe in SVC. We are continually learning more about southern giraffe in the area and the changes in behaviour as seasons change.



Preliminary results suggest that giraffe in SVC favour *Vachellia Open Woodland* (previously *Acacia*) habitats whilst the majority (50-60%) of their diet during the wet season consisted out of *Vachellia tortillis* trees. Previous studies also found that giraffe select for a wide range of *Vachellia* species and our browse availability data indicate that there is an abundance of these species in SVC. Thus, it come as no surprise that giraffe have specifically selected for *Vachellia tortillis*.

Field observations indicate that giraffe in SVC tend to be more active in the early mornings and late afternoons as temperatures can easily reach 40°C at midday. Much of their days are spent browsing as their large body size requires a very high intake of food. It has also been recorded that giraffe were more vigilant in the wet season when there is a flush of tall grass. Adult females with new-borns tended to spend more time on vigilance as compared to adult males as this behaviour is largely driven by the presence of lions.

We also recorded an abundance of juvenile being born in the past three months and our field data indicate that the population in SVC is still growing, which is particularly good news for giraffe conservation in Zimbabwe.

Giraffe DNA Sampling

Following the lifting of travel restrictions in the country, DNA sampling commenced in a number of areas in Zimbabwe. The GCF team, with the help of Zimbabwean veterinarian Dr Richard Hoare, have taken samples from various populations across Zimbabwe. Below are the details:

- Live animals were sampled via remote biopsy darts.

- Samples were also collected from field carcasses, hunting trophies and tanned skins, in the hope that new genetic isolation techniques might allow some DNA to be extracted and amplified from such old or chemically processed material.
- Salted hide samples were animals which were hunted on trophy licences or for rations.
- Tanned hides were raw hunting trophies or processed ones (taxidermy) or in a museum collection.
- All samples were preserved in 90% alcohol in 2ml plastic vials.

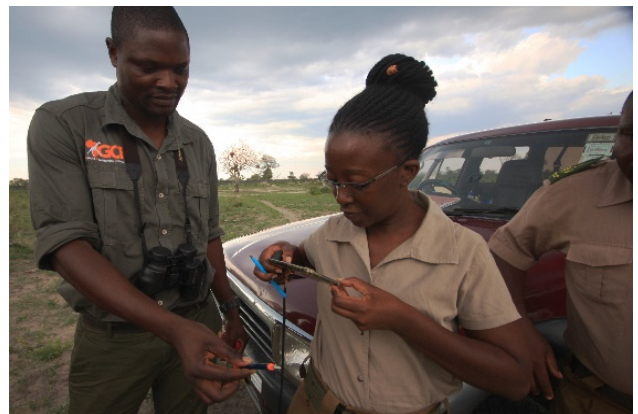
TYPE	No. (to March 2021)
Live Animals	64
Carcasses Field	6
Salted Hide	63
Tanned Hide	18
TOTAL	151

Areas sampled

- Small fenced sanctuaries (6) – three near Harare, one at Marondera, Matobo and Vumba
- Larger fenced sanctuaries (1) – Victoria Falls
- Large Ranches (combined game and cattle operations) (2) – Matabeleland
- National Parks Estate (2) - Hwange National Park and Safari Area (tourism concession)
- Taxidermy Companies (3) in Bulawayo – hunting trophies
- Natural History Museum, Bulawayo



Left: Nunc tubes and labelling used to store giraffe skin samples.



Right: GCF Field Assistant, Livingstone Hoda, assisting Hwange National Park ecologist, Daphine Madhlamoto, to keep record of the biopsy darts.

Population data

The range of fully wild giraffe in the north-west of Zimbabwe (*Giraffa giraffa giraffa* and / or *G. g. angolensis*) were sampled in Victoria Falls, Hwange National Park and Matetsi Private Game Reserve, however, more wider sampling is required in 2021. The countries south-east range (likely *G. giraffa giraffa*) are planned to be sampled in 2021 – this will be essential to complete our national survey of giraffe populations in Zimbabwe.

Where possible, the origins of each sampled population is recorded. Many of the larger sanctuaries and ranches obtained their giraffe from wild populations, typically many years ago, or from large conservancies (e.g. Buby Valley and Save Valley – that in turn may have had resident giraffe from the start of their operations). However, many giraffe have been translocated between larger ranches and conservancies – including introductions into smaller sanctuaries. To date, no one had discussed any distinction between different giraffe taxa in Zimbabwe, and as such, there has been no considerations about potential ‘genetic mixing’. This information is critical as it will play an important role towards the future management of giraffe in Zimbabwe.



Future Plans

Over the next three months we plan to continue our field work, genetic sampling across Zimbabwe, and to expand our research into Gonarezhou National Park (GNP) by fitting another 15 GPS units on giraffe. This will be the first steps towards setting up our comparative study between the two areas (SVC & GNP).

Acknowledgements

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