

Progress Report III

June 2021

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

Since the last report (March 2020), our giraffe research in Zimbabwe has continued without any hiccups. The main focus over the past 3 months was on field data collection, which looked at the behaviour of giraffe during the early dry season in Save Valley Conservancy. A detailed breakdown can be found below:

Field Research

To date, we have completed three seasons of research in Save Valley Conservancy, the most recent being the early dry season. During this time, we generally started seeing the first behavioural changes of giraffe as resources such as food and water became scarcer. There has been a clear indication that giraffe will select for different tree species during the early dry season as a variety of deciduous trees lose their leaves. As per the wet season, *Vachellia tortillis* is still the preferred browse for giraffe in Save Valley Conservancy, however, there has been a much bigger intake of *Boscia mossambicensis* and *Colophospermum mopane*. This is due to the fact that *B. mossambicensis* yield leaves late in the wet season and thus have a flush of fresh and nutritious leaves as the dry season starts. Similarly, *Colophospermum mopane* leaves remain green and nutritious till late in the dry season. This plays an important role in the diets of giraffe to keep up high nutrition levels even when the leaves on other tree species become senescent. We have also noticed and increase in the heights at which giraffe browse during the early dry season. As food resources become less, and inter and intra specific competition for lower level browse increase, giraffe will utilise browse at higher levels to outcompete other giraffe and species. A noticeable observation was that adult male giraffe mostly selected for browse >5 m in height. As only adult male giraffe (and sometimes elephants) can utilise this height of browse, it allows them to avoid competition for resources with other giraffe and species.



There was also a noticeable difference in the activity budgets of giraffe during the early dry season. Even though daytime temperatures easily get to >30°C at midday, we recorded that giraffe were much more active over the hottest times of the day. As resources become less, and nutritional values drop, giraffe will have to increase their daily food intake and also actively feed for longer periods of the day in order to satisfy their nutritional needs. Thus,

during the early dry season, giraffe spent the majority of their time on browsing and locomotion as they travel between different feeding sites.

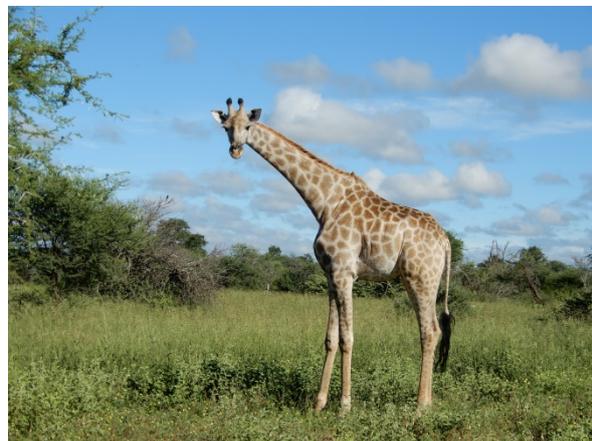
Giraffe tended to form smaller herds during the early dry season. Previous studies suggest that giraffe will form larger herds when resources are in abundance, and there is not a lot of intra specific competition. Although giraffe do not form stable herds, they do tend to feed together with other giraffe when there is an abundance of resources and they do not have to travel far between feeding sites. As the resources became less during the early dry season we identified much smaller giraffe herds and an increase in single giraffe moving around. This trend is expected to continue right throughout the dry season and will increase again once the summer rains arrive.

Spatial ecology data indicated that giraffe still have a strong preference for *Vachellia tortillias* open woodland habitat, however, they started to utilise the *Colophospermum mopane* closed woodland more often during the early dry season. As *Colophospermum mopane* leaves remain green till late in the dry season (as mentioned above), this habitat will become increasingly important for giraffe to maintain high nutrition levels during the driest times of the year. There was also an increase in the total daily distance moved by giraffe. As food sources become less, perennial rivers dry up and water sources deplete, giraffe would have to cover larger areas in order to satisfy their nutritional needs. This once again emphasises the large habitats that giraffe require to survive and why habitat loss is currently the biggest threat to populations across Africa.

The giraffe population in Save Valley Conservancy is still doing very well, being the second biggest in Zimbabwe. With sound conservation initiatives and better strategies, we will continue to do the work on the ground in order to secure a future for giraffe in Zimbabwe and the rest of Africa.

Future Plans

We will continue to work closely with local government (ZimParks) to further develop this project and increase awareness of giraffe conservation in Zimbabwe. Further field work and genetic sampling will also continue as we head into the late dry season.



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