



# SERT – Ugalla Primate Project Research Assistant

Reflective Blog

# The Project

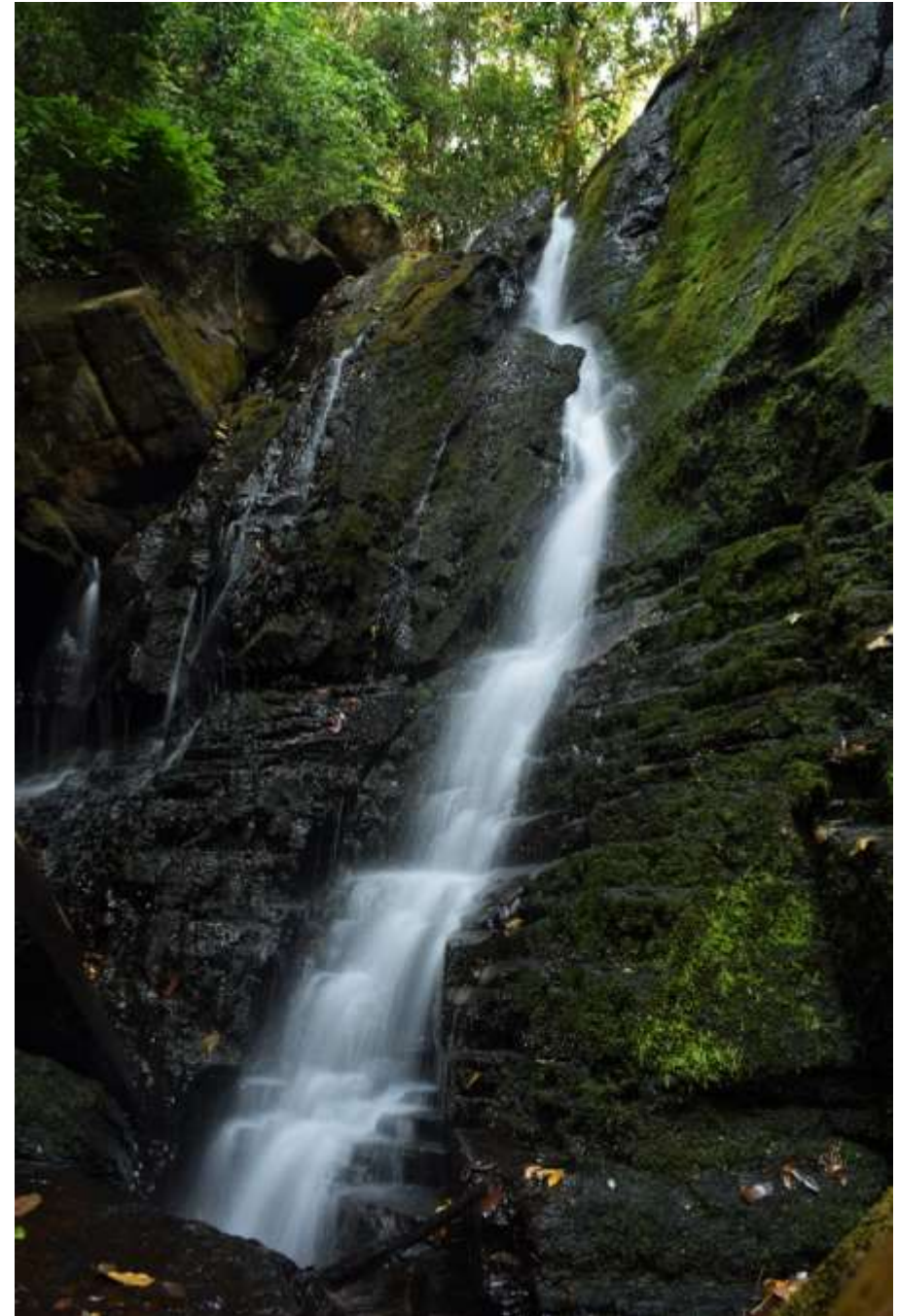
- In the summer of 2017 I took part in a SERT project involving a trip to Tanzania to work as a research assistant to PhD student Kelly Van Leeuwen.
- The aim of Kelly's study is to investigate chimpanzee landscape use in different environments using an individual-based modelling approach which can be used as a tool in primate conservation. As chimpanzees are humans closest living relatives, the model Kelly is building could also be used to help understand the behaviour and habitat use of early hominids.
- The study was carried out at Issa Primate Research Centre in Ugalla, in western Tanzania. Western Tanzania comprises one of the driest, most open and seasonal habitats where chimpanzees live: a mosaic landscape dominated by miombo woodland and interspersed with thin strips of gallery forest, swamps, and wooded grasslands.





# Daily Routines

- In order to create the model, measurements of multiple variables must be recorded from vegetation plots in different habitats used by chimpanzees, including woodland, forest and grassland.
- To record these measurements, each day would start by hiking towards the vegetation plot. Vegetation plots were reached using a GPS which would take us within 10m of the plot. Depending on the plot, hikes could take between 1-3 hours to reach a destination.
- With the help of our guides, we would follow trails through deep valleys and rivers, as well as climbing steep hills and passing by many beautiful sites including waterfalls and hill-top views.



# Hazards



- Hiking through the landscape of Ugalla had its hazards. Ugalla is home to many dangerous species including venomous snakes such as the Black Mamba. Hiking through woods on multiple occasions we discovered snakes on paths on route to vegetation plots which we would quickly avoid, often by running to a safe distance.
- Temperatures throughout the day could reach as high as 32 degrees. It was important therefore to stay hydrated as strenuous activity in heat could leave us feeling weak and dizzy.
- The terrain could become very steep at times and it was important to take care when climbing hills not to slip or fall.



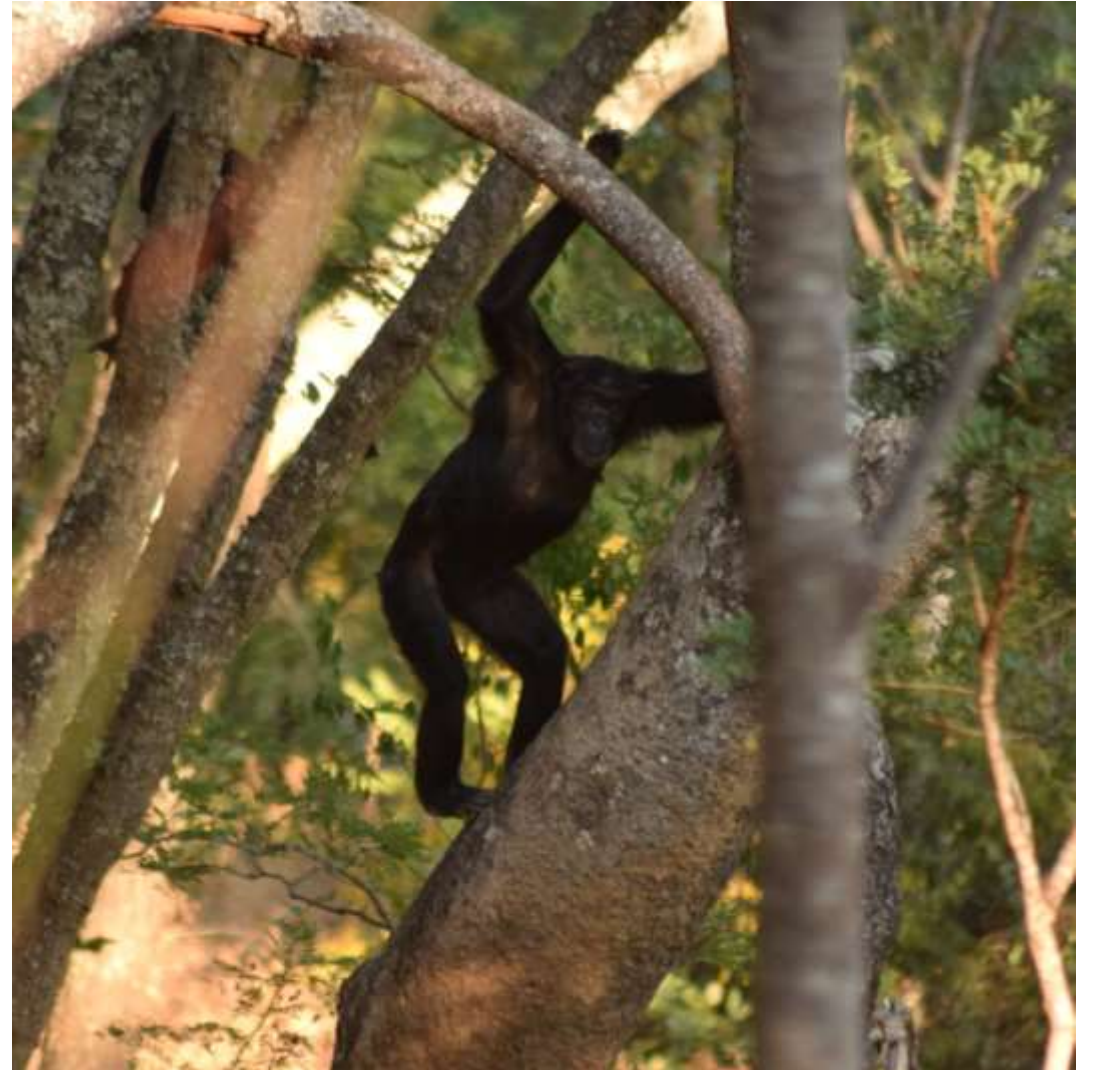
# Data Collection - Vegetation Plots

- Working as a research assistant, I was able to gain many skills as well as practice theory I had been taught within my degree. From the beginning it was integral to closely follow the instructions given by Kelly. In order for research to be accurate and non-biased it's important that variables are carefully measured. My first task assisting Kelly was to help measure a set list of 21 variables within each vegetation plot.
- Vegetation measurements included any tree within the plot over 10cm in diameter, as well as any vines that were over 10cm in diameter. Measurements taken included the trunk diameter, total tree height, lowest branch height, canopy cover and crown shape, as well as the tree species.
- At first vegetation plots took a long time to complete, as it took time to adjust to the measuring techniques. Throughout the first week I found it very difficult using the equipment effectively while keeping a good pace. Consequently, it took many hours to complete a vegetation plot. As time went on however, I was able to adjust, and soon enough each day we would work faster and more efficiently together. Most difficult of all was using a range finder to measure the height of each tree. In plots within habitats such as grassland and woodland where trees were less abundant it was easier to use the device. However in plots within forest habitats where trees were more abundant, it was difficult to measure the height as a laser must be aimed at the top of the canopy. Therefore in plots with many trees it was hard to point a laser at the top of the canopy without hitting branches of other trees.



# Data Collection - Data Loggers

- As well as measuring variables of vegetation within each plot, data loggers were positioned in each plot to measure the light intensity and temperature. Three data loggers were placed in a tree in the centre of each vegetation plot at 3 different heights. The first being 1m above the ground, the second being halfway up the tree, and the third being positioned at the top of the tree.
- The data loggers recorded temperature and light intensity once every hour. Data loggers remained active in each plot for 50 days before being removed and uploaded onto a laptop so it could be inserted into an excel spread sheet.
- Subsequently vegetation data could be compared with temperature and light intensity to draw comparisons between habitat type and how the frequency and size of vegetation effects temperature and light intensity.





# Independent Research Project



- Alongside helping Kelly I also developed my own project and collected data for my dissertation.
- Initially I set out to measure densities of mosquitoes within chimpanzee nest sites to compare this with mosquito densities of non nest site vegetation plots. I then intended to perform some statistical analysis to determine whether chimpanzees select nest sites that provide lower frequencies of mosquitoes, which would improve their quality of sleep, improving their immune system, as well as reducing the risk of the transmission of diseases among troops.
- However as the duration of my stay was spent in dry season conditions, there were not enough mosquitoes present to carry out my research. I positioned mosquito traps in a tree at the centre of each vegetation plot, 6 with nests and 6 without, but sadly only caught one mosquito. I therefore had to focus my data collection on vegetation measurements, light intensity and temperature of vegetation plots.
- I selected 6 nest sites to measure, three woodland habitats and three forest habitats. Using the same techniques and variables used in Kelly's project, I measured the vegetation within each plot as well as inserted data loggers.

# Data Analysis

- With the data I have collected I will use statistical analysis to draw any comparisons there may be between light intensity and temperature of vegetation plots including nest sites, with vegetation plots excluding nest sites.
- Results may show that chimpanzees specifically select areas to nest because they provide more suitable temperatures that will keep them warm throughout the night.
- I hope to find results that indicate temperatures of nest sites are warmer at night than temperatures of non nest sites. I will then compare this to vegetation data to see if vegetation influences temperature.





# Experience Gained from SERT

- It was very interesting to apply knowledge and skills gained from studies to a practical environment. For example, having studied the sexual behaviours of chimpanzees and baboons as well as the strong hierarchy on which the social structure of their troops are built upon, it was a privilege to study these behaviours in person. While carrying out observational research by following chimpanzees and baboons, I felt that I had a stronger insight into the behaviours shown by individuals of the group and understood actions based on what I had studied. As well as animal behaviour I was able to apply my knowledge of chimpanzee nest sites to the practical work carried out by Kelly and myself, since much of my preparation for the data collection of my dissertation was based on nest sites of chimpanzees.
- In the light of experiences derived from this placement, career plans have been developed in a number of ways. Firstly, the experience was a test of willpower and comfortability with living primitively. Working in a remote research centre, it was vital that I must be comfortable being secluded and far from civilisation. As well as this I had to be comfortable with the dangers that accompany this. Working outside with wildlife meant that I put myself at risk to dangerous animals. During my stay I encountered hyenas, venomous snakes, as well as chimpanzees and baboons which can all cause serious harm. Being secluded meant that I was far from any serious medical assistance and so being exposed to these animals put me at serious risk.
- Secondly, the choice of food was very limited and meals quickly became very repetitive. Being secluded also meant that resources were limited and so home comforts were something that I had to cope living without. As well as this there were not always facilities such as functioning toilets or showers. Sometimes, as was the case at Issa, during dry season, river sources dry up and the privilege of showering may be impossible. Having experienced these detrimental aspects to living at a remote study site for two months I know now that I am able to cope well and that I could handle long stays at research sites in the future without being too uncomfortable. This is important as this lifestyle will be a huge part of my career in days to come.
- Lastly, this placement also helped my career as it allowed me to make connections with many people who can open doors to organisations with whom I can work with in the future. I feel that I made a good impression with the manager of the site and that I could receive a positive reference from him if any organisations required one for a job opportunity. It also put me in touch with likeminded people who shared stories of their studies and inspired and motivated me to continue on the career path I am pursuing.

# Photos of SERT









