Project Update: June 2019

The first phase of the project started 2/05/2019. This was after some of the much needed equipment were obtained. The team arrived Omo Biosphere and was on the field for 3 weeks.

Activities carried out include bat survey, conservation outreach to one of the target communities' as well as one of the target primary school within the reserve. Permit was granted by the Forestry Research Institute before field began.

The Omo Biosphere Reserve View

Permission and information on presence within the Strict Nature Reserve

We arrived at the gates of Omo Forest Reserve in the evening after a tiring travel from Ibadan. Entering the reserve gate, we saw tree logging vehicles and met about 25 of them between the gate and the J4 base camp. We were informed that the tree logging activity was carried out supposedly in the areas of concession but the number of logs was very discouraging as to the forest health of the reserve.

Our research purpose in the reserve was to compare the bat species composition and activities between the different land use types. After preparations, we engaged the paid services of a forest navigator named Mr Daniel (as our night guard) and we moved into the Strict Nature Reserve (SNR) the following day with the help of motorcycles because the roads were too degraded for regular vehicles. On our way, we stopped at Gerald Agricultural Camp also known as 'Aba Gerald,' a cocoa farmers' enclave where we liaised with the head of the camp called 'Baale' and informed and discussed our purpose of survey. This was led by Mr Clifford Omonu, the Forest Research Institute Field officer who is also a team member. Prior to this meeting, Mr Clifford had gone ahead to inform the Baale of our visit and the duration of our stay.

This camp is one of the camps that is working with the Forest Research Institute of Nigeria (FRIN) for the protection of the core area of the reserve. They assist in monthly patrols so as to curb illegal activities such as hunting, snail gathering, felling of trees as well as mining. One of the forest guards/hunter/subjects (Mr Safejo) from the camp was assigned to us after agreement between the men of the camp to assist us during our stay within the Queens Forest. The agreement was for a ten night field work with an agreement that we remunerate him after the 10 nights work. We arrived at a stream which marked the beginning of the SNR close of Aba Gerald and we move in on foot for about 500 m before setting up camp

The pillar to show where the buffer ends and the start of the Queen's Forest.

The Batlife Team and local assistants from the Gerald Village setting out into the Queens Forest (Strict Nature Reserve), Omo Biosphere Reserve


From left: Taiye Adeyanju (PhD); Temidayo Adeyanju (Principal Investigator); Cliford Omonu (Team member and Forestry Research Institute of Nigeria field Officer) and the

Baale of the Aba Gerald Settlement (Mr Gerald JNR). Photo by Adejumo Dolapo (Team Member), speaking with the Baale about our mission within the Queens Forest, OBR

The Batlife Team, the Baale and the Subjects at the Aba Gerald Settlement, Omo Biosphere Reserve, OBR

Bat Survey and activities

The bat survey lasted for 20 nights with five team member. We began survey from the core of the OBR usually called in local language 'Igbo Queen' meaning the Queen's Forest. It is an area of no use and a distance of about more than 10 km to the surrounding communities. Trapping occurred between 6 pm to midnight and 4 am and 6 am. We moved the netting points further into the SNR each day and had to entirely move camp twice. We did some birding whenever we were not trapping bats and recorded other observations we made in the reserve. We spent about 9 days in the SNR.

Mist net protocols, harp trap set up and use of bat detectors were deployed to survey bat species composition and activities for six nights. 18 points were covered with three points per sapling site; the distance from one point to another point is about 500 m with a minimum of 200 m from one netting point to another. The netting points were randomly selected. At each point, a total of 144 m mist nets were set up, harp tarp placed between the net points. This is to ensure that effort is sufficient for each point. The SM4FS Bat detector was hang on a tree at about 1.3 m high with the microphone set along the trail free of obstacle. The detector was turned on at 18.00 through to 23.00 I observed that the activities have dropped. Mist nets were checked an hour after set up and checked almost at every 5 minutes depending on observed bat activities. All trapped individuals

were identified to species level using the Mammals of Africa (MoA) (Happold and Happold, 2013). Morphometric measurements were taken, individuals sexed, aged and classed into reproductive class of pregnant, lactating and not pregnant. For species that are a bit of difficulty with identification, photographs were taken for further confirmation with collaborators. This same protocols were replicated in other existing land use types (cocoa plantation, *Gmelina* plantation, *Nauclear didicherii* plantation and the pine plantation). We also set harp trap and detector across small streams to capture bat species composition and activities. Individuals were allowed to stay in the extraction bag for about an hour to obtain faecal samples and also to obtain specific call for each species. The faecal samples were stored in 70% alcohol (samples yet to be analysed) and call library built. All trapped bats were released after information were obtained close to the point of trapping.

Results from Bat Survey 15 nights out the 20 nights were successful for bat trapping. 88 individuals, nineteen species belonging to seven families of bats were trapped. Call library was built for three species from three families (HIpposideridae, Rhinolophidae and Vespertinioloidae).

We also discovered a new species to Nigeria (Pohle's fruit bat- *Casinycteris ophiodon*), rufous mouse eared bat- *Myotis bocagii* and about two species that were new to the southwest range. One of the new species to Nigeria has been confirmed for identification based on anatomical identification with the help of Meredith Happold and Jakob Fahr. A similar species has been described from Cameroon (Hassannin, 2014) to be *Casinycteris campomaanensis*. The individual from Nigeria seem to differ from that of Cameroon in forearm length and weight. We hope to further carry out a molecular study on this new species to Nigeria and further confirm some other species needing confirmation. There is an ongoing species confirmation with Jakob Fahr through the inaturalist group.

Marking out point for mist net setup and bat extraction from the net, Queen Forest, OBR, Ogun State

Pohle's Fruit Bat- *Casinycteris ophiodon*- New species to Nigeria

Setting up of and checking of the SM4FS Bat detector at one of the trapping point by one of the team member.

Total head length measurement and the team after a bat trapping night.

Left: Front view of Sooty Leaf-nosed Bat- *Hipposideros fuliginosus.* Right: Rufous mouse-eared bat- Myotis bocagii (New species to Nigeria).

Front and side view of Cyclops Roundleaf Bat- *Doryrhina Cyclops*

A released insect bat after morphometric data had been collected.

Measuring the bag and bat at the Strict Nature Reserve, OBR

Second camping site in the Strict Nature Reserve at Omo

Conservation Education Outreach and questionnaire administration

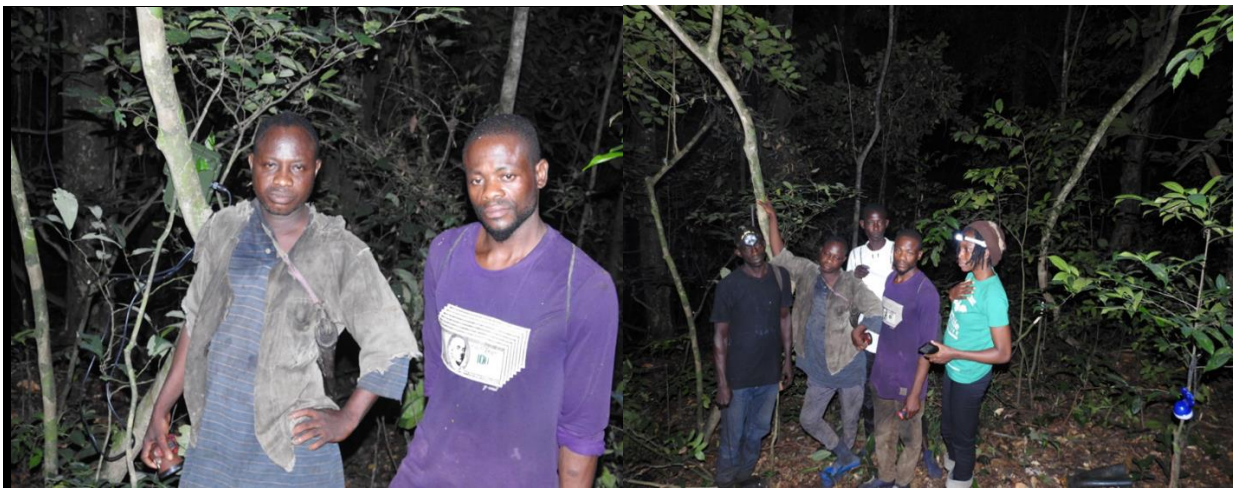
We had an eight day conservation outreach and questionnaire administration in one legal community 'Aba Gerald'- Gerald Camp, two agricultural settlements- 'Omo Bridge' and Aba Tami' and a primary school (Plantation Primary School). There was an in-depth discussion with community heads called 'Baale' in each community after which permission was granted to speak with residents of the community. Structured questionnaire was administered to respondents in the three communities and interpreted in local language (Yoruba) and sometimes Pidgin English. Majority of the respondents were farmers with some individuals hunting as side vocation. A conservation outreach/talk was given using a power point presentation (more like an evening outing) at the end of the questionnaire administration titled importance of BATS to US at the Gerald Camp. This camp is about 10 miles to the SNR, so we spent about 5 nights here. The talk was organised in the evenings after the locals returned from the farm (Gerald Camp) and during the early morning time before they set out to the farm (Omo Bridge Camp) was well attended.

We also spoke with the children found in these communities. Four children within the primary school age were spoken to between ages 2-10 years. At the Aba Bridge, only a boy of 6 years old was there with his parents. They are foreigners from the neighbouring Africa community (Togo). The parents are here in Nigeria to farm cocoa while at the Aba Gerald, three children were reached out to on conservation of bats and other members of the forest ecosystem. During the field work within the Queen Forest, an arrest was made of two poachers (illegal hunters) who claimed they lost their way into the SNR. They were arrested by the forest guard from the Gerald Settlement and the two poachers returned with us to the settlement. These two poachers were from an illegal farm settlement more than 25 km to the SNR, so the case was handed over to the Baale of the Gerald settlement and the Forest Research Institute of Nigeria. A meeting was set up to address the matter.

We had an outing with one of the primary school children from Plantation Primary School, a school set up by the State Forestry Ministry to assist with State workers children's education. There has been an active conservation school club but sometimes lack the encouragement to further with conservation outreaches. The presence of the team brought a great encouragement as we together reached out again to this children. We spoke to them about bats, the two main groups (fruit-eating and insect eating), their habitats and the effects of anthropogenic activities. We emphasised very much the importance of bats, why they are found roosting in roof of houses and sometimes on trees close to where humans live. It was explained to the children that when the primary home of bats are destroyed especially the natural forests, some species will find a very good alternative that resemble very much their lost home and live in it. In most cases that will be our roofs, or trees of fruits around or close to human live. The ages that attended were between ages 3 years (children in play group and per-nursery) up to children of about 13 years of age. We had a quiz competition for the children after the talk and the very attentive got gifts with Rufford Small Grant label. Some of the children were asked what they had to be when they grow up, and all said conservation environmentalists.

Questionnaire administration and community outreach at the Aba Gerald Agricultural Camp, OBR

Conservation outreach at the Aba Bridge (Omo Bridge). The only child in this settlement is six years old, Yusuf whose parents are form Togo. He is very keen about nature with keen observation during processing of bats with lots of questions. We will check him again soon



Arrest of poacher within the Queens Forest (Strict Nature Reserve)

Batlife Team members and the poachers


Left: Temidayo Speaking to the children at the Plantation Primary School, J4, OBR. Right: The Batlife Team with the head of School, Plantation Primary School, J4. OBR, Ogun State.





Interactive section with the pupils, and those who answered questions were given water bottles and while others got writing materials. We plan to revisit again to follow up on what we began on the bat campaign