Project Update: March 2016

We have come to the end of the first activity of this project and gladly want to share some updates. The aim of this activity was to know current bat roosts and obtain up-to-date information on population density and distribution of species. This would enable us set a new baseline data against which bat population and species recovery will be monitored for project success. The project has started well and initial public announcements on local radio have raised awareness in the community and beyond about this project; with all stakeholder representatives engaged as early as planned.

The project team assessed bat diversity in general and additionally focused on acquiring new information on the distribution of three species of conservation concern: *Epomops buettikoferi*, *Megaloglossus woermanni* and *Epomops franqueti*. Between February 5th and March 27th, a total of 24 people in three groups of 8 carried out the first activity to sample bat population in 10 forest locations over 35 nights (not successive). Megachiroptera bat species were identified by physical observation using key guidelines in Monadjem et al (2010), Hayman & Hill (1971) and Rosevear (1965).

Methodology

1. 10 locations were chosen because reconnaissance studies identified them as hotspots for bat activities such as feeding, hibernation and drinking as well as hunters' preferred camping point. These places included thick forest covers, streams, Forest Rivers and valleys. Between 5 PM and 6 PM on working days, each group will perform physical count of bats in designated locations; to be followed by capturing of bats using mist nets mounted vertically between two 4-metre-long poles and erected on bats' flight paths. The project team had an estimated total bat count of about 328,000.

Forest hotspot with bats' favourite food.

Field workers with mist net. Net is mounted vertically between two 4-metre-long poles for erection on bats' flight paths.

First bat caught in mist net erected on flight path.

2. Catching of bats was carried out between 10 PM and midnight. Each captured bat was weighed and examined to identify the species, age, sex, and reproductive conditions. The wingspans were also measured and bats whose species could be identified immediately in the field were marked as ***studied*** and released, while cages were used to take home specimens that needed further analysis and identification.

Field worker measuring wingspan of captured bat.

Bats carried in cage for further analysis and species identification at home.

Project leader, Noumbissi Tenku (in blue t-shirt) identifies one of the bats captured.

645 megabats were captured and analysed, and a worrying observation made was the lack of sighting or capture of echolocation bats. Further investigations revealed they have all migrated to mountain caves that fall outside the geographic scope of this project. This was down to the destruction of caves in the Ekona area to create arable land and establish quarries for stones and gravel for construction. Four bat species were identified in all, with one of them being recorded in the Ekona area for the first time ever. A breakdown of the 10 locations with total catch and species distribution will be shown in the final project report.

Epomops buettikofer

Epomops buettikoferi

Hypsignathus monstrosus (identified in Ekona area for the first time)

Epomops franqueti

In the course of this activity, we came up with an indicator to measure the extent to which bats are exposed to the risk of being caught by hunters. We termed this the ***Hunt Vulnerability Index*** and is a measure of how long it takes to see a bat until when that same bat is snared by a hunter's net. To test this, we fitted cases with marked ribbons indicating the date, area and time it was caught. We then released the bats on the same location caught, with special instructions to hunters and field project workers to indicate whenever any of the test cases are recaptured. Comprehensive data has been collected on this and the analysis and results will be presented in final project report.

Bat being marked for release to measure its Hunt Vulnerability Index

Project leader, Noumbissi Tenku, undertaking bat study, wingspan measurement and species identification away from the forests.

Marked bat ready to be released for monitoring.

The next activity in this project will run for two months from April to May and will entail organisation of educational workshops and sensitisation campaigns. The aim will be to develop community-level and broader public awareness on the agro-economic and social benefits of bats in our ecosystem, and secure public acceptance on the need for conservation.

Reference

Hayman, R. W., and J. E. Hill, 1971. "Order Chiroptera." In The Mammals of Africa. An Identification Manual. Part 2, edited by J. Meester and H. W. Setzer, 1 – 73. Washington, DC: Smithsonian Institution Press.

Rosevear, D. R. 1965. The Bats of West Africa. London: Trustees of the British Museum (Natural History).

Monadjem, A. et al, 2010. Bats of Southern and Central Africa. A Biogeographic and Taxonomic Synthesis. WITS University Press.