



LIVINGSTONE MUSEUM
GBIF-BID Project BID-AF2017-0301-NAC

TRAINING REPORT
Bat identification and taxonomy training report
Livingstone Museum, Zambia - 15-19 January, 2018

The Livingstone Museum hosted a workshop on bat identification and taxonomy for the Biodiversity Information for Development (BID) Project Core Team and two other members of staff. The core team comprises Keeper of Mammalogy/Project Lead, Clare Mateke, and research assistants Sande Mulwanda and Debra Nachinga. The other two trainees were Maggie Mwale, Assistant Keeper of Ornithology and Martha Imakando, Assistant Keeper of Entomology. This workshop was one of the scheduled activities of the BID Project. The BID Projects are organised by the Global Biodiversity Information Facility (GBIF) and are funded by the European Union.

Aim

The purpose of the workshop was to provide basic training in the identification of bats using morphometric methods and to provide an insight into bat taxonomy and classification.

Trainers

The training was provided by Dr Paul Bates from the Harrison Institute, United Kingdom and Dr Rachael Cooper-Bohannon from Bats without Borders, Malawi.

Topics covered

The GIS Workshop ran for five days, during which the following topics were covered:

1. Introduction and overview of bat identification and nomenclature
2. Practical training in using dichotomous and matrix keys to identify bat families and genera
3. Taking measurements from study skins and skulls
4. Understanding the technical terms for various skin and skull characters
5. An introduction to the various literature resources available for the identification of Zambian bats
6. An introduction to the species of 6 families of Zambian bats
7. Understanding the importance of using a range of characters to determine identification

8. Practical training using skin and skull characters to identify bat species
9. How to assess the accuracy of a particular identification, especially based on incomplete specimens of cryptic species
10. How to identify live individuals based on morphometric characters
11. Comparison of external characters in preserved specimens and live individuals (as part of a one evening field survey)
12. How to take biopsy punches from live specimens for molecular analysis to determine species identity
13. How to record acoustic characters of echolocating bats in the field to facilitate non-invasive surveys

During the workshop, the identities of nearly 50% of the bat specimens held in the collections of the Livingstone Museum were reassessed. For every specimen a level of confidence in the identification was given. This will be used to determine which specimens can be used to match doubtful identifications against when carrying out molecular analysis for a second confirmation of the taxonomic identification.

Application

The project core team now have relevant basic training in bat identification (museum and field-based) and an insight into bat nomenclature, taxonomy and classification. This training is essential for the BID project, specifically:

1. Providing accurate taxonomy data on Zambian bats based on specimens held in the Livingstone Museum
2. Determining the level of confidence in each specimen identification
3. Ensuring that species names follow current classification and are in accordance with current bat taxonomy/phylogeny
4. Ensuring that all records can be included in future reports and peer reviewed publications.

Clare Mateke

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Keeper of Mammalogy

January 2018



The BID Programme is funded by the European Union