Monthly Report

November 2024

White-bellied free-tailed bat (*Mops niveiventer)* caught on a trapping survey in Lilongwe

Contents

Roost Visits for ILRI

By Riitta Vikberg, Volunteer

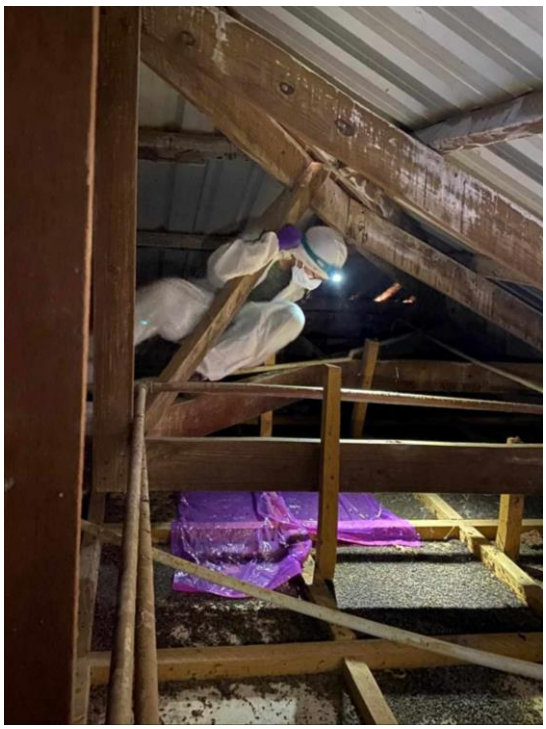

Figure 1. An ABC team member setting down sheets to collect fresh bat droppings.

In November, the ABC team focused the majority of their time on organising and conducting roost visits across Lilongwe. Urbanisation and the loss of natural habitats have driven many bat species to seek alternative roosts in buildings, often resulting in human-bat conflicts.

The primary goal of these visits was to gather information and samples for research conducted by the ABC team, funded by the International Livestock Research Institute (ILRI). This project has focused on understanding human-wildlife interaction in urban Malawi, with a particular emphasis on understanding zoonotic risks and their implications for both human and wildlife health. Additionally, the team worked to update the roost database and collect fundamental data on bat roosts and their conditions.

During the visits, both external and internal inspections were conducted to detect evidence of bat presence. Key indicators included signs of soiling on the walls beneath potential access points, bat droppings, and noise made by bats. In some cases, live bats could be observed directly. While some bat species (such as tomb bats and fruit bats) roost on the exterior of the houses, the majority of smaller insectivorous bats roost inside the roof voids. This required the team to enter these areas, using ladders and personal protection equipment.

For newly identified roosts, detailed data and measurements were collected about the building's structure, its surroundings, and the roost itself. If bat activity was detected, sterile foil sheeting was placed to collect fresh bat droppings over two days. These samples will now be analysed to study the potential health risks associated with bat roosts.

To understand human perspectives, roost owners were also asked to complete a questionnaire exploring their thoughts, feelings and experiences on bats and other wildlife. It is important to gain insight into the perspectives of people who

have bats in their homes. It is a way to understand the challenges faced by people living with bats, but also to identify positive interactions, where people may see the benefits of having bats around, such as natural pest control.

The ABC database currently contains nearly 300 bat roosts in buildings, many of which are found in residential houses. However, some contact details were outdated, requiring door-to-door visits to update records and arrange inspections. In November, the team visited approximately 40 homes to carry out these updates. As a result of these visits, they completed 17 roost inspections, filled out 9 questionnaires, and collected 49 bat dropping samples from 10 different roosts.

The team extends their thanks to all the roost owners for their cooperation and support!

One Health Dissemination Workshop

By Kieran O'Malley, Research Manager

Over the past year, ABC and ILRI have partnered on a project to investigate bat diversity and zoonotic disease potential within Lilongwe city. The research that ABC conducted included bat trapping, vegetation surveys, roost surveys, and acoustic monitoring to explore the relationship between bat distribution and zoonotic disease presence across gardens, farmland, and riverine habitats.

At the end of November, we were joined by members of ILRI, as well as cohort of guests (Figure 2), to present our findings at Kumbali Country Lodge, Lilongwe. The event provided an excellent platform to share the progress of our work and foster collaboration.

Throughout the day, we had the privilege of learning about the diverse research being conducted by our partners at Carnivore Research Malawi (CRM), as well as the impressive projects undertaken by students and organisations across Malawi. I had the opportunity to present ABC's findings from our trapping and roost surveys, which included a detailed analysis of species presence, composition, and diversity across the 46 sites the ABC team surveyed. Additionally, our director Dr Emma Stone shared results from questionnaires distributed across the city to gauge public perceptions of bats. During the workshop, I had the opportunity to demonstrate the equipment used in our surveys, such as harp traps (Figure 3), mist nets, and passive acoustic detectors. Participants also had the opportunity to visit a local Sundevall's roundleaf bat (*Hipposideros caffer*) roost located nearby at Kumbali.

The workshop was a resounding success, fostering knowledge exchange and strengthening partnerships to advance bat conservation and zoonotic disease research in Malawi.

Figure 2. Participants of the One Health Dissemination Workshop 2024.

Figure 3. Research Manager Kieran demonstrating how harp traps work to workshop participants.

Symphonìa 2024 – Italian International Meeting of Cavers

By Luisa Auletta, Senior Research Assistant

Between late October and early November, I had the privilege of returning to my home country of Italy to participate in an important event for cavers: The International Meeting of Cavers (Syphonìa 2024), held in Caselle in Pittari (SA). My role at this event was twofold: I was responsible for logistics and participant reception at the information point, and I also had the honour of presenting some of the significant projects conducted by African Bat Conservation (ABC) in Malawi (Figure 4).

It was a privilege to be among the many speakers showcasing their research from Italy and around the world. My presentation attracted an audience of over 20 participants, including expert cavers, chiropterologists, researchers in cave environments, and biospeleologists.

During the presentation, I provided an overview of the ABC organisation and its mission, followed by an in-depth discussion of several key research projects currently underway. These included the *Eidolon* Project, the Lighting Experiment, and the ILRI Project, funded by the International Livestock Research Institute, which focuses on the study of bats and zoonotic diseases. I

Figure 4. SRA Luisa presenting ABC during Syphonìa 2024.

shared some of the results obtained to date and explained the ongoing nature of these studies.

Following my talk, I was invited to participate in a roundtable discussion on conserving cave-dwelling bat species in Italy. The session focused on best practices for cavers visiting caves known to serve as hibernation or maternity roosts.

Additionally, I had the remarkable opportunity to participate in the Annual Meeting of the European Speleological Federation (Figure 5). This experience allowed me to gain valuable insights into the work being conducted by the caving community across Europe.

The event was a meaningful platform to share the work of ABC, exchange ideas with experts in the field, and contribute to discussions on the intersection of cave exploration and bat conservation.

Figure 5. SRA Luisa with the FSE Committee.

Bat Talks and Surveys at Maula Parish

By Kieran O'Malley, Research Manager

This month the ABC team visited Maula Parish, an important site for bats located in the centre of Lilongwe. The site is of special scientific interest, owing to the high density of straw-coloured fruit bats (*Eidolon helvum*) that can be found here, which gather in their thousands every year as they track the African rains. However, the substantial amount of guano produced by the bats, in combination with the noise and smell produced, can cause conflict with the local communities and members of the church.

Figure 6. Esther giving a talk to the congregation at Maula Parish Church.

Prior to restarting our research on the bats at Maula Parish, we wanted to first talk to the local communities that work and attend the church in order to help alleviate their concerns. Therefore, myself and Esther gave talks to the congregations, where we discussed the ecology of straw-coloured fruit bats, the benefits they can provide, whilst highlighting both the risks and concerns regarding bats (Figure 6). The reception we received was encouraging, with many showing interest and engaging in discussions about bats, eager to learn more.

Following the success of our talks, we restarted our research at this site, which consists of two aspects. First, we undertake weekly counts of the bats to monitor changes in their population numbers. This involves multiple team members identifying trees occupied by bats and counting the number of individuals in each tree (Figure 7). During this process, we likewise collect guano samples from under the trees, which we use to assess dietary composition.

Figure 7. A straw-coloured fruit bat and its pup at Maula Parish Church. Photo credit: Felix Tuff.

Summary of Work

Bat surveys carried out in November 2024

Date	Type	Site code	Location	Total bats caught	Species caught / encountered
04/11/2024	Opportunistic	LLRIV16	Lilongwe	0	-
08/11/2024	Opportunistic	LLWO17	Kumbali	11	*Epomophorus labiatus*, *Hipposideros* (A), *Hipposideros* (B), *Scotophilus dinganii*
14/11/2024	Opportunistic	ROOST187	Lilongwe	2	*Epomophorus labiatus*, *Scotoecus hindei*
15/11/2024	Opportunistic	ROOST203	Lilongwe	22	*Epomophorus labiatus, Scotoecus hindei*
18/11/2024	Opportunistic	ROOST181	Lilongwe	31	*Scotoecus hindei*, *Scotophilus dinganii*, Vesper (A)
27/11/2024	Opportunistic	LLW017	Kumbali	15	*Afronycteris nana*, *Chaerephon pumilus*, *Epomophorus labiatus*, *Rhinolophus* sp., *Scotophilus dinganii*, Vesper (B)

Biosamples collected November 2024

Date	Survey type	Sample type	Site code	Location	No. samples	From which species
08/11/2024	Opportunistic	Parasite	LLW017	Kumbali	4	*Hipposideros* (A), *Hipposideros* (B)
15/11/2024	Opportunistic	Parasite	ROOST203	Lilongwe	1	*Epomophorus labiatus*
18/11/2024	Opportunistic	Wing punch	ROOST181	Lilongwe	2	*Scotoecus hindei*, Vesper (A)
18/11/2024	Opportunistic	Faecal	ROOST181	Lilongwe	6	Vesper (A)
18/11/2024	Opportunistic	Parasite	ROOST181	Lilongwe	1	Vesper (A)
21/11/2024	Roost	Faecal	ROOST274	Lilongwe	4	Unknown
27/11/2024	Opportunistic	Wing punch	LLW017	Kumbali	12	*Afronycteris nana*, *Chaerephon pumilus*, *Epomophorus labiatus*, *Rhinolophus* sp., *Scotophilus dinganii*
27/11/2024	Opportunistic	Hair	LLW017	Kumbali	15	*Afronycteris nana*, *Chaerephon pumilus*, *Epomophorus labiatus*, *Rhinolophus* sp., *Scotophilus dinganii*, Vesper (B)
27/11/2024	Opportunistic	Faecal	LLW017	Kumbali	9	*Afronycteris nana*, *Epomophorus labiatus*, *Rhinolophus* sp., *Scotophilus dinganii*

Acoustic samples collected November 2024

Date	Survey Type	Site code	Location	Total no recordings	Species caught / Encountered
18/04/2024	ILRI	LLWOP3	Lilongwe	7	*Scotoecus hindei*, *Scotophilus dinganii*, Vesper (A)
21/04/2024	ILRI	ROOST182	Lilongwe	11	*Epomophorus labiatus*, *Epomophorus wahlbergi*, *Scotoecus hindei*, *Scotophilus dinganii*, Vesper, Vesper (A)

Helpline calls received November 2024

Date	Type	Location	Details
26/11/2024	WhatsApp message	Lilongwe – Area 3	Homeowner reported that there were dead fruit bats in their garden. The ABC collected them shortly after being contacted.
29/11/2024	WhatsApp message	Lilongwe – Area 3	Homeowner reported that there was a dead fruit bat pup in their garden. The ABC team were not available but advised on disposure.

Total events / leaflets distributed November 2024

Date	Type	Location (incl. district)	Total people	Materials distributed	Outcomes
24/11/2024	Talk	Maula Parish Church	700	250 leaflets	Two talks (one in English and the other Chichewa) given on bat ecology and conservation, with a particular focus on straw-coloured fruit bats.
22/11/2024	Workshop	Kumbali Country Lodge	32	53 leaflets	One Health Dissemination Workshop – We presented the research that ABC had been conducting as part of the joint project with ILRI. We engaged with both members of ILRI and a cohort of guests to share our findings, as well as carry out practical demonstrations of the equipment we use for surveys.

ABC Project Species List

Latin Name	Common Name	Liwonde NP	Lilongwe City	Nyika NP	Vwaza Marsh	Kasungu NP	Kuti WR & Salima	Other
Chaerephon sp.	Free-tailed bats		X					
Chaerephon ansorgei	Ansorge's free-tailed bat	X						
Chaerephon pumilus	Little free-tailed bat	X	X		X	X	X	X
Eidolon helvum	Straw-coloured fruit bat		X					X
Epomophorus crypturus	Peters's epauletted fruit bat	X	X		X	X	X	X
Epomophorus labiatus	Little epauletted fruit bat	X	X		X	X	X	X
Epomophorus wahlbergi	Wahlberg's epauletted fruit bat	X	X		X		X	X
Epomops dobsonii	Dobson's epauletted fruit bat		X		X			
Eptesicus hottentotus	Long-tailed serotine	X						
Glauconycteris variegata	Variegated butterfly bat	X	X		X		X	
Hipposideros caffer	Sundevall's leaf-nosed bat	X	X		X	X	X	X
Hipposideros ruber	Noack's leaf-nosed bat	X						
Kerivoula lanosa	Lesser woolly bat				X			
Laephotis botswanae	Botswana long-eared bat	X	X		X	X		X
Lissonycteris goliath	Harrison's soft-furred fruit bat							X
Macronycteris gigas	Giant leaf-nosed bat	X	**X**					X
Macronycteris vittatus	Striped leaf-nosed bat							X
Mimetillus thomasi	Thomas's flat headed bat	X						
Miniopterus sp.	long-fingered bats	X						
Mops condylurus	Angolan free-tailed bat	X			X	X	X	X
Mops niveiventer	White-bellied free-tailed bat		X					X
Miniopterus inflatus		X						
Miniopterus natalensis		X						
Myopterus whilteyi		X						
Myotis bocagii	Rufous myotis	X	X		X			X
Myotis tricolor	Temminck's myotis	X			X			X
Myotis welwitschii	Welwitsch's myotis	X	X					
Neoromicia sp.*	Pipistrelles	X	X		X			X
Neoromicia nana	Banana bat	X	X	X	X		X	

Neoromicia capensis								
Neoromicia rendalli	Rendall's serotine	X			X			
Neoromicia zulensis								
Nycteris grandis	Large slit-faced bat	X						
Nycteris hispida	Hairy slit-faced bat				X		X	
Nycteris macrotis	Large-eared slit-faced bat	X	X				X	
Nycteris nana		X						
Nycteris thebaica	Egyptian slit faced bat	X	X		X		X	
Nycticeinops schlieffeni	Schlieffen's twighlight bat	X			X		X	
Pipistrellus sp.*	Pipistrelles	X	X	X	X			X
Pipistrellus grandidieri		X						X
Pipistrellus hesperidus		X						
Pipistrellus rueppellii	Ruppell's pipistrelle	X			X		**X**	
Rhinolophus sp.*	Horseshoes							
Rhinolophus clivosus	Geoffroy's horseshoe bat		X					
Rhinolophus fumigatus	Ruppell's horseshoe bat	X	X		X	X		
Rhinolophus hildebrandtii	Hildebrandt's horseshoe bat	X			X			
Rhinolophus lobatus	Lander's horseshoe bat						X	
Rousettus aegyptiacus	Egyptian rousette	X						
Rousettus lanosus	Hairy rousette			X				
Scotoecus hirundo	Dark-winged lesser house bat	X	X		X			X
Scotophilus dinganii	Yellow-bellied house bat		X		X	X	X	X
Scotophilus leucogaster	White-bellied house bat	X	X		X	X		X
Scotophilus viridis	Green house bat	X	X				X	
Scotophilus nigrita	Giant yellow house bat	X						
Tadarida aegyptica	Egyptian free-tailed bat	X						X
Tadarida ventralis	Giant free-tailed bat							X
Taphozous mauritianus	Mauritian tomb bat	X	X		X	X	**X**	
Triaenops afer	African trident bat	X						X

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