

SPECIES study

There are 1,500+ species of bats in the world. This is one of them.

Mauritius free-tailed bat

Working with community members key to protecting endemic cave-roosting bat

By Annika Hipple

bat stats



Binomial and Common Names
Mormopterus acetabulosus
Mauritian free-tailed bat,
Natal free-tailed bat,
Mauritius cave bat



Family
Molossidae



Colony Size
From fewer than 20 to
approximately 15,000



Weight
Average 7.2 grams



Diet
Insectivorous



Status
Endangered

Region
Mauritius



Mauritius free-tailed bat

On the small Indian Ocean island of Mauritius, a tiny cave-roosting bat is at risk of disappearing due to human behavior, lack of legal protection, and misinformation about the species' role in the island's ecosystem.

Yogishah "Ashmi" Bunsy, a Ph.D. candidate at the University of Mauritius and 2021 Bat Conservation International (BCI) Student Scholar, is the first person to formally study the Mauritius free-tailed bat (*Mormopterus acetabulosus*) within an academic framework. One of three bat species currently found on the island, it was declared endemic to Mauritius as recently as 2008.

Establishing a plan

Bunsy is currently collaborating with several local non-governmental organizations (NGOs) to develop a species conservation plan. The primary concern is to protect the network of lava tubes where the species roosts. Local residents use these caves as garbage disposal sites, dumping trash and sewage at entrances and through holes in the ceilings. In some cases, people have intentionally burned or closed off caves. Currently, there is no conservation strategy or legal protection in place for the bats or their roost sites.

"We're trying to address one very clear threat, which is basically that the caves are being destroyed and disturbed. In some cases, you have to wade through a mountain of garbage just to get to where the bats are," says Isabella Mandl, Ph.D., BCI's Regional Director for Africa and South Asia. Mandl, who recently visited the caves with Bunsy, says that despite the garbage problem, bats continue to use the sites and occupy spots deep in the caves where they are relatively undisturbed—for now.

"BCI could potentially help facilitate some of the actions that are needed on the ground, given that enough Mauritian organizations and lawmakers are interested in actual change," Mandl says. The goal is to collaborate on a national level to establish lasting legal protection for the caves, as well as conduct outreach to local communities to promote behavioral change and help people find alternative ways of managing their garbage.

Working together is a must

One challenge is how to get lawmakers to recognize the importance of protecting the bats. "BCI can play an important role in facilitating communication between Mauritian stakeholders. We could bridge the gap between the conservation needs on the ground and potentially any policy and legislation that needs to change," Mandl says. She sees promise in the "very good open dialogue" Bunsy has with policymakers at various levels.

Because the caves are located on a mix of public, government, and private land, any conservation plan will need to

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Mauritius free-tailed bat

Photo: Isabella Mandl Ph.D.

involve multiple stakeholders. Mauritius' small size, combined with the nature of the caves and the fact that only one species inhabits them, makes tackling the conservation challenges comparatively straightforward.

Bunsy emphasizes no conservation effort will succeed without the support of the people living near or, in some cases, even on top of the caves. Sharing information with the community and involving village leaders in supporting the project is a vital first step. This will grow awareness of the importance of the caves, as well as teach residents about the different bat species. Most locals don't realize that the bats in the caves protect human crops by eating insects, which also reduces villagers' exposure to mosquito-borne diseases. According to Bunsy, some people even kill the tiny cave bats on purpose because they are under the impression that they are the babies of fruit bats, which are often blamed for destroying crops.

Once educational outreach is accomplished, other stakeholders, including the Mauritian government, can come in. Creating a legal framework to protect the caves is essential to stop people from throwing refuse into the caves. This must be done in a way that has the support of the local community and is sustainable over the long term.

Once the health hazard of waste dumping in the caves has been eliminated, local communities can potentially benefit directly from the bats' presence through income from structured, small-scale bat and cave tourism.

Though other major potential threats to the Mauritian free-tailed bat are still under study, Bunsy suspects that pesticide use in the agricultural fields where the bats forage may also be a problem. Using acoustic recorders, she has found that the bats prefer to forage in forested and agricultural lands.

"In Mauritius, the major crop is sugarcane," she explains. "It's a big industry that uses a lot of pesticides. So indirectly, it would be a link to the decline of the bat because it's not just a threat to its habitat, but also to its feeding grounds." More research is needed about the bats' feeding behavior to address this other half of the conservation equation.

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