

shining a Light on Bats Through Conservation Photography

Alexandra Mason, Education Curator
Riverside Discovery Center
Scottsbluff, Nebraska

Introduction of Microbats and Megabats

There are over 1,400 different species of bats in the world. The smallest species is the bumblebee bat (*Craseonycteris thonglongyai*) also known as Kitti's hog-nosed bat, which is about the size of a dime. The largest is the Malayan Flying fox (*Pteropus vampyrus*) with a six-foot wingspan. Megabats have puppy-like faces, don't echolocate (except for Egyptian fruit bat (*Rousettus aegyptiacus*)), small ears, able to see well and in color, primarily eat fruit and possess no tragus. Bats are important to ecosystems in many different ways. Megabats are responsible for seed dispersal and pollination.

Microbats have larger ears and smaller eyes, primarily feed on insects and have a tragus. Microbats are responsible for insect population control which saves farmers millions of dollars in pesticides and helps prevent the spread of mosquito-borne diseases. The United States and Canada are home to 45 different species of microbats (US Department of Interior, 2017). Bats face many difficulties, including human conflict due to being misunderstood as diseased vermin. In North America, many of the hibernating species are impacted by a disease called white nose

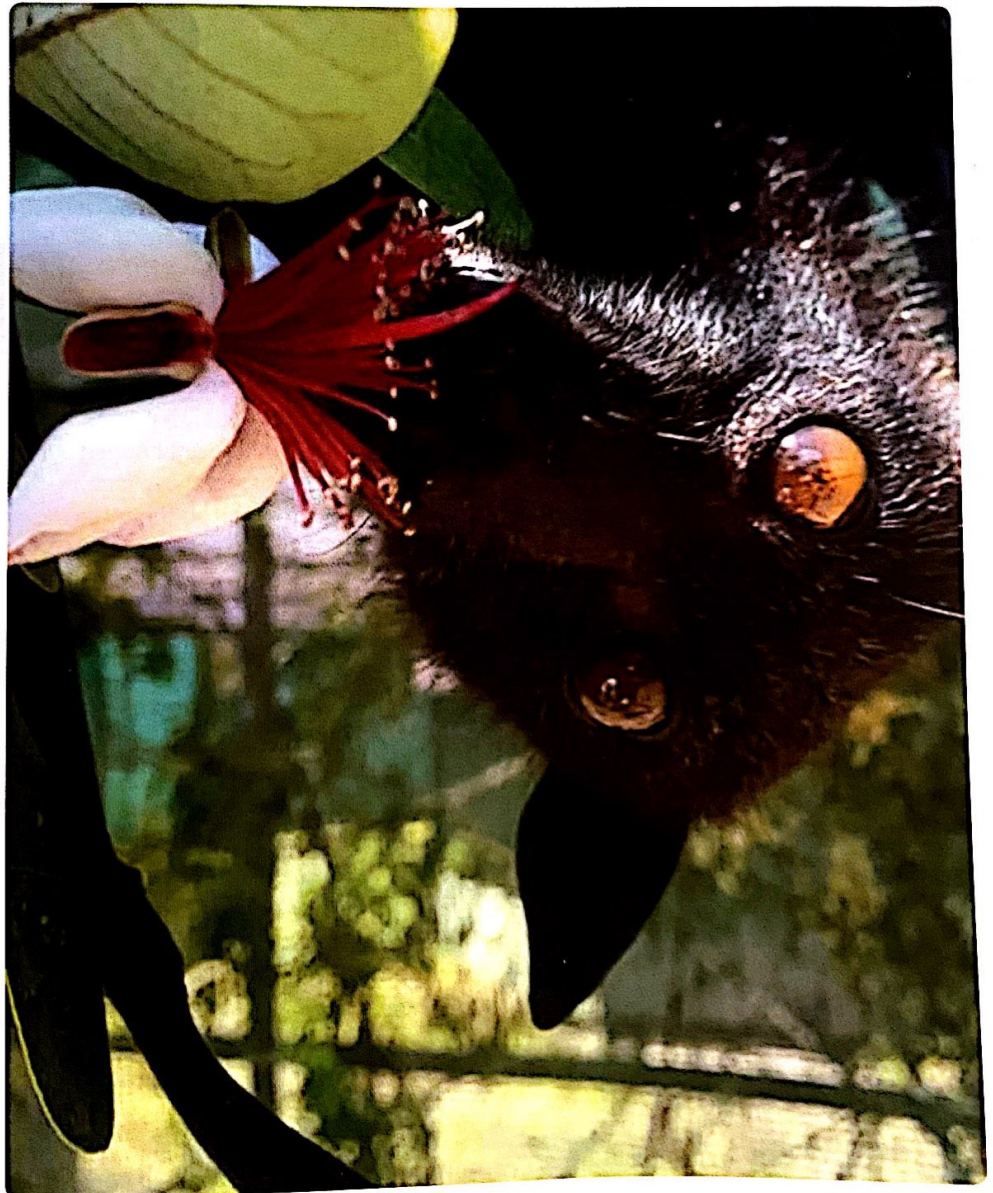


Figure 1. A young Malayan Flying Fox sniffing/eating a flower

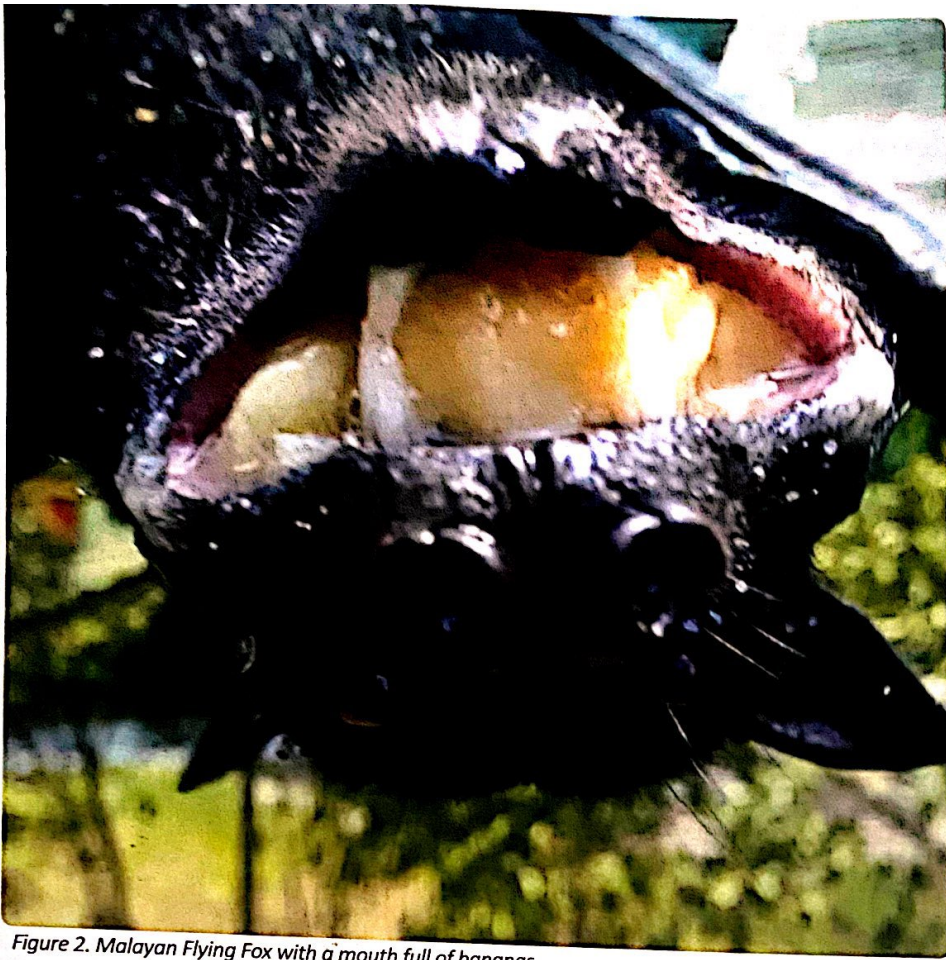


Figure 2. Malayan Flying Fox with a mouth full of bananas

syndrome (WNS). It was first detected in Albany, New York in 2006 (Lorch et al., 2016), and the disease impacts bats by covering their nose and other parts of their bodies with a white fungus. It causes the bats to wake up early during hibernation by covering their nose. They then start to venture out looking for food in the cold winter months, are unable to find food and die of starvation. WNS has killed more than 5.5 million bats in the United States and Canada (Coleman, 2014), and it has been spreading rapidly and first made its appearance in Nebraska inside Cass County in 2017 (Fish and Wildlife Services, 2017).

In 2014, guests at seven AZA facilities were surveyed on their perception of bats before and after bat education opportunities. Forty-seven percent of guests changed their attitude about bats after visiting the exhibit or talking with a staff member (Mason, 2014). Bats, in general, have been the subject of myths and mischaracterizations for centuries;

they aren't the most glamorous looking mammals, some are able to host deadly diseases (such as Nipah, Hendra, Ebola, etc.) and tend to get blamed when outbreaks occur. These factors, among others, have given them the negative stigma that they don't deserve. Pathogens from bats and other wildlife to humans isn't the fault of bats or other animals, but the fault of human behavior (Lubee, 2019). Even in 2020, the world-changing pandemic of COVID-19 is being blamed on horseshoe bats in China. It may end up being true that this virus originated in bats, but it is very unlikely that the spread would have occurred if humans were not capturing wildlife for wet markets or wildlife trafficking. Poaching and habitat destruction are human-driven threats to wildlife.

Conservation Photography

The role of conservation photography is to use images to inspire people to change behavior (Mittermeier, 2005) or to save species from extinction.

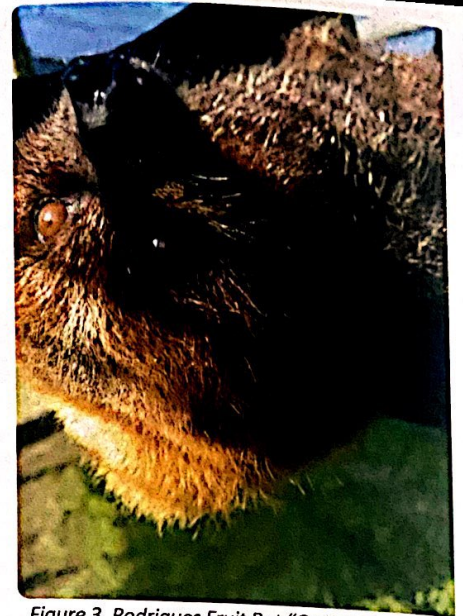


Figure 3. Rodrigues Fruit Bat "Grace"

When powerful images are published or shared, a sense of empathy is felt for the subject. We as zookeepers or educators want the general public to have a desire to learn more after seeing an image. A single photo can inspire change and action as well as give us hope. According to Joshua Sarinana, a neuroscientist at Harvard Medical School, humans are highly visible creatures, there is a strong connection between visual imagery and empathy (Penda Photo Tours, 2020). Photography and Conservation have gone hand and hand for many years and tell a story that any language can understand.

As technology progresses, beautiful photos can be taken with any smartphone and uploaded to social media platforms such as Facebook, Instagram, Twitter, Flickr, Pinterest, etc. and be shared with millions of people around the world.

Before social media, we would see breathtaking high quality photos of wildlife in magazines such as National Geographic or Sierra Club. Those photos may have sparked a collective

interest in a specific species and would hopefully inspire action to save them. We saw this with conservation efforts in chimpanzees, gorillas, elephants, whales, and so much more. As technology progresses, beautiful photos can be taken with any smartphone and uploaded to social media platforms such as Facebook, Instagram, Twitter, Flickr, Pinterest, etc. and be shared with millions of people around the world. When people see something new and unique it sparks interest, gets shared and hopefully creates learning and conservation opportunities.

When bats are photographed up close, the captured image can neutralize the “scary” and remind people of their puppy-like aspects. Showcasing uncharismatic species like bats, when they have been associated with negative stigmas, can be a difficult task.



Figure 4. Keeper Anthony Mason with Spectacled Flying Fox “Kuri”

Photographing bats is an important part in communicating that they are a keystone species. Without bats, ecosystems will change drastically for the worse. Conservation photography is a universal language (Ward, 2008) where anyone can understand the issue and encourage citizens to find solutions and advocate for the species.

Photographing Bats

Having a mysterious nature and not being well studied, when compared with other species, has led to numerous misconceptions around bats. When given the opportunity to view bats up close, perceptions of them can change. Lubee Bat Conservancy in Gainesville, Florida organizes a photo day every spring and invites the general public to take close range photos of the ten different species of megabats that they house. What makes this event unique is that guests can go inside the exhibit with the bats to get up close and personal, under the supervision of a staff member. This gives the guests opportunities to get amazing photographs of the bats without any obstacles. Of the ten different species Lubee has, the most photographed are the Malayan Flying Fox (Figure 1 and 2), the Rodrigues Fruit Bat (*Pteropus rodricensis*) (Figure 3), and the only Spectacled Flying Fox (*Pteropus conspicillatus*) (Figure 4) found in North America. During my time as a Lubee staff member, I would hear guests comment that they didn't realize how “cute” or “puppy like” these bats were. After taking the photos, guests wanted to learn about their personalities and the stories of the bats they interacted with. This gave the staff members a perfect opportunity to talk about the issues these bats face in the wild and the conservation efforts taking place to protect them from extinction.

In Austin, Texas millions of Mexican Free Tail Bats (*Tadarida brasiliensis*) (Figure 5) regularly emerge from Bracken Cave (20 million bats) and Congress Bridge (1.5 million bats). This is a hot spot for photographers to get jaw dropping photos of bats emerging at dusk to feed on insects. It is such a sight to see that it brings in \$10 million dollars annually to Austin's economy while lowering insect populations.

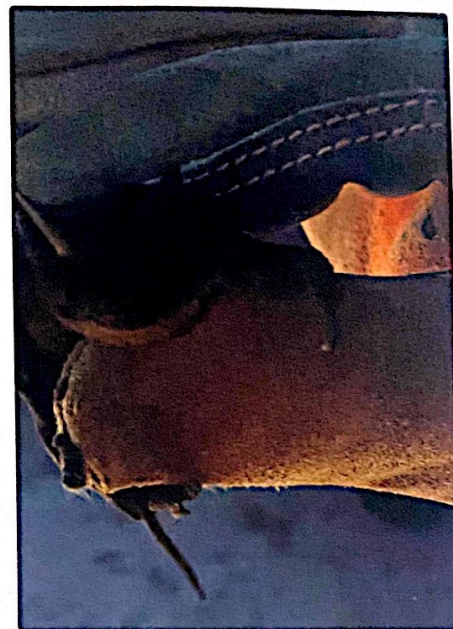


Figure 5. An upclose photo of a Mexican Free Tail Bat

Conclusion

Photography is becoming more and more popular as cell phones become just as good at taking pictures as expensive cameras. Photography also goes hand in hand with social media and everyone likes to share an inspiring or unique photo. You can have a great photo but it needs to be given in the right context or accompanied with a powerful story if you want to ignite change. No one is going to want to save something if they don't appreciate it. With this in mind, it is important to find creative ways to spark an appreciation for these animals. The more we can shine a positive light on uncharismatic species, the better we can advocate for their conservation. 🐉

References

- Coleman, J. 2014. White-Nose Syndrome. The devastating disease of hibernating bats in North America.
- Lorch, J.M., Palmer, J.M., Lindner, D.L., Ballmann, A.E., George, K.G., Griffin, K., ... & Becker, P.A. 2016. First detection of bat white-nose syndrome in western North America. *MSphere*, 1(4):e00148-16.
- Lubee Bat Conservancy. 2019. About the Bats. Retrieved from: <https://www.lubee.org/>
- Mason, A.A. and Warren, J. 2014. Multi Organizational Collaboration to Engage the Effectiveness of Bat Education Programs. Penda Photo Tours. 2020. Retrieved from: www.pandaphototours.com
- US Department of Interior. (October 24, 2017). 13 Awesome Facts about bats. Retrieved from: <https://www.doi.gov/blog/13-facts-about-bats>