

How do animals react during a total solar eclipse? Scientists plan to find out in April

March 8 2024, by Christina Larson



A gorilla family is observed by people visiting the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. Researchers will be standing by to observe how animals' routines at the zoo are disrupted when skies dim on April 8. They previously detected other strange animal behaviors in 2017 at a South Carolina zoo that was in the path of total darkness. Credit: AP Photo/LM Otero

When a [total solar eclipse](#) transforms [day into night](#), will tortoises start acting romantic? Will giraffes gallop? Will apes sing odd notes?

Researchers will be standing by to observe how animals' routines at the Fort Worth Zoo in Texas are disrupted when [skies dim on April 8](#). They previously detected other strange animal behaviors in 2017 at a South Carolina zoo that was in the path of total darkness.

"To our astonishment, most of the animals did surprising things," said Adam Hartstone-Rose, a North Carolina State University researcher who led the observations [published](#) in the journal *Animals*.

While there are many individual sightings of critters behaving bizarrely during historic eclipses, only in recent years have scientists started to rigorously study the altered behaviors of wild, domestic and zoo animals.

Seven years ago, Galapagos tortoises at the Riverbanks Zoo in Columbia, South Carolina, "that generally do absolutely nothing all day ... during the peak of the eclipse, they all started breeding," said Hartstone-Rose. The cause of the behavior is still unclear.

A mated pair of Siamangs, gibbons that usually call to each other in the morning, sang unusual tunes during the afternoon eclipse. A few male giraffes began to gallop in "apparent anxiety." The flamingos huddled around their juveniles.



A lioness and cub move in their enclosure at the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. Credit: AP Photo/LM Otero

Researchers say that many animals display behaviors connected with an early dusk.

In April, Hartstone-Rose's team plans to study similar species in Texas to see if the behaviors they witnessed before in South Carolina point to larger patterns.

Several other zoos along the path are also inviting visitors to help track animals, including zoos in Little Rock, Arkansas; Toledo, Ohio; and Indianapolis.

This year's full solar eclipse in North America crisscrosses a different route than in 2017 and occurs in a different season, giving researchers and citizen scientists opportunities to observe new habits.

"It's really high stakes. We have a really short period to observe them and we can't repeat the experiment," said Jennifer Tsuruda, a University of Tennessee entomologist [who observed honeybee colonies](#) during the 2017 eclipse.



Primates sit in the sun at the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. Credit: AP Photo/LM Otero

The honeybees that Tsuruda studied decreased foraging during the

eclipse, as they usually would at night, except for those from the hungriest hives.

"During a solar eclipse, there's a conflict between their internal rhythms and external environment," said University of Alberta's Olav Rueppell, adding that bees rely on polarized light from the sun to navigate.

Nate Bickford, an animal researcher at Oregon Institute of Technology, said that "solar eclipses actually mimic short, fast-moving storms," when skies darken and many animals take shelter.

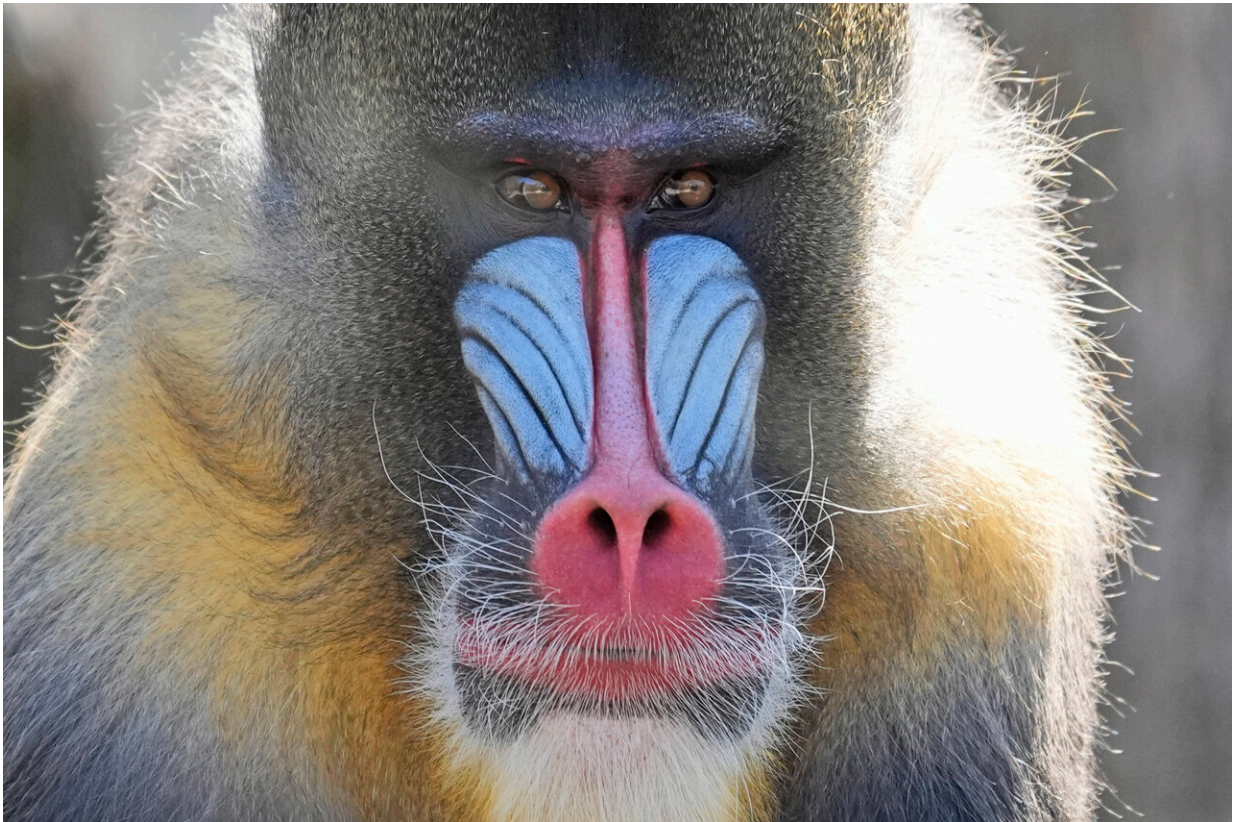
After the 2017 eclipse, he analyzed data from tracking devices previously placed on wild species to study habitat use. Flying bald eagles change the speed and direction they're moving during an eclipse, he said. So do feral horses, "probably taking cover, responding to the possibility of a storm out on the open plains."



Claire Wagner, 3, feeds a giraffe at the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. During the last total solar eclipse in 2017, male giraffes at a South Carolina zoo began to gallop. Researchers will be watching to see if the giraffes in Fort Worth show similar behavior during April's total eclipse. Credit: AP Photo/LM Otero



A flamingo tugs at one of its feathers at the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. During the last total solar eclipse in 2017, flamingos at a South Carolina zoo huddled protectively around their juveniles. Researchers will be watching to see if the flamingos in Fort Worth show similar behavior during April's total eclipse. Credit: AP Photo/LM Otero



A mandrill sits in its enclosure at the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. Credit: AP Photo/LM Otero



A lion sits in its enclosure at the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. Credit: AP Photo/LM Otero



An orangutan sits in the shade at the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. Credit: AP Photo/LM Otero



People look at a display of giraffes and other animals at the Fort Worth Zoo in Fort Worth, Texas, Friday, Feb. 23, 2024. Credit: AP Photo/LM Otero

The last full U.S. solar eclipse to span coast to coast happened in late summer, in August. The upcoming eclipse in April gives researchers an opportunity to ask new questions including about potential impacts on spring migration.

Most songbird species migrate at night. "When there are night-like conditions during the eclipse, will birds think it's time to migrate and take flight?" said Andrew Farnsworth of Cornell University.

His team plans to test this by analyzing weather radar data—which also detects the presence of flying birds, bats and insects—to see if more

birds take wing during the eclipse.

As for indoor pets, they may react as much to what their owners are doing—whether they're excited or nonchalant about the eclipse—as to any changes in the sky, said University of Arkansas animal researcher Raffaella Lesch.

"Dogs and cats pay a lot of attention to us, in addition to their internal clocks," she said.

More information: Adam Hartstone-Rose et al, Total Eclipse of the Zoo: Animal Behavior during a Total Solar Eclipse, *Animals* (2020).

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