

# Roads, pet dogs and more may pose hidden threat to Africa's primates

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The eyes of a greater bushbaby shine in the light of a camera at night in South Africa. Credit: Birthe Linden

Many of the hallmarks of human civilization—from roads and power lines to pet dogs—are taking a larger-than-expected toll on non-human

primates living in Africa, according to two recent studies.

The findings result from a collaboration between the University of Colorado Boulder and three South Africa-based institutions: the University of Venda, Lajuma Research Center and the conservation organization the Endangered Wildlife Trust (EWT). They take an almost forensic look at what is killing wild animals in South Africa. The country is home to five species of non-human primates, including greater (Otolemur crassicaudatus) and southern lesser (Galago moholis) bushbabies. These primates spend most of their lives in trees, and some are so small they can fit in the palm of your hand.

In one study, scientists led by Birthe Linden at Lajuma analyzed hundreds of cases in which non-human primates had been killed on roads or around [power lines](#) across the country.

In a companion paper, the researchers explored the growing risks that [domestic dogs](#) pose to the animals.

The research shows that the threats facing the world's monkeys, apes and other non-human primates aren't always easy to see, particularly for lesser-studied animals like bushbabies.

"Bushbabies, especially, are an example of species that may be having problems, but we don't know what they are until we go looking," said Michelle Sauter, co-author of the two studies and professor of anthropology at CU Boulder.

For her, the results border on personal.

In the process of studying bushbabies in South Africa for more than a decade, Sauter and her colleagues got to know one male, in particular—a greater bushbaby with one eye who the team nicknamed

Bruiser because he reminded them of an old prize fighter.

Then in 2019 Bruiser, who had bad and missing teeth, tried to move on the ground to reach a fig tree with easy-to-grab fruit. A pet dog found and killed him.



A samango monkey crosses a simple canopy bridge in South Africa. Credit: Birthe Linden

"These are small stories," Sauther said. "They're not the big stories of conservation, but they really do matter, especially as we have no good data on bushbaby mortality and thus cannot easily judge their conservation status."

They're also small stories that likely touch almost all non-human primate species, not just in South Africa but across the continent.

"We found that all South African non-human primates are in one way or the other impacted by human linear infrastructure, such as power lines or roads," Linden said.

## Roadkill on the rise

Linden, a primatologist from South Africa, first became interested in the hidden dangers facing primates on her almost daily drives to the University of Venda in South Africa's Soutpansberg Mountains.

She kept seeing samango monkeys (*Cercopithecus albogularis*) run over on the side of the road. These monkeys are listed in the "Red List of Mammals of South Africa, Swaziland and Lesotho" as "vulnerable," one step up from "endangered."

"It's one stretch where the [road](#) is quite close to indigenous forest, which is where samango monkeys typically live," Linden said.

She wondered if a lot more [non-human primates](#) could be dying as roadkill than researchers suspected. South Africa is home to more than 675,000 miles (1,090,000 kilometers) of roads and power lines—and the number keeps climbing.

To explore this pervasive threat, Linden and her colleagues drew from a wide range of data sources. They include [Road Watch](#), a citizen science app released by the EWT that allows anyone in South Africa to upload reports of roadkill. In all, the team gathered 483 examples of primates killed on roads or around power lines, some dating back to the late 1990s. Species included the two bushbabies, samango monkeys, chacma baboons (*Papio ursinus*) and vervet monkeys (*Chlorocebus pygerythrus*).



Greater bushbaby seen crossing a canopy bridge in South Africa at night. Credit: Birthe Linden

Next up, Frank Cuzzo of the Lajuma Research Center and a research fellow at the University of Pretoria's Mammal Research Institute led the group in exploring a different kind of peril: domestic dogs. The researchers tracked down 13 reports of greater bushbabies like Bruiser killed by dogs in South Africa since 2014. In one case, humans intentionally released dogs to hunt down a bushbaby that had gotten too close to town.

"These reports are clearly a sliver of what's actually happening," said Cuzzo who earned his doctorate in biological anthropology from CU Boulder in 2000. "It's happening in the towns and suburban areas, in the [rural areas](#), the reserve areas, and it's happening far more than anyone would think."

## **Why did the monkey cross the road?**

The researchers aren't sure how big of a dent roads, power lines and domestic dogs are making in non-human primate numbers in South Africa or surrounding nations. But they argue that these deaths are important to follow—especially for animals already struggling to survive amid climate change and habitat loss.

Wendy Collinson-Jonker, co-author of the infrastructure study and a researcher at the EWT, noted that these problems are widespread, but the fixes may be surprisingly simple.

[Studies have shown](#), for example, that monkeys and other forest critters can hop across roads safely on "canopy bridges," such as a rope bridge hanging between trees.

Humans can also keep dogs away from primates by being careful to not leave food out, especially at night.

"We know the solutions," Collinson-Jonker said. "It's a case of now getting them implemented."

As for Bruiser the bushbaby, Sauter noted that his story ended with a small bit of consolation. The team was able to recover his body and collected X-rays that helped reveal a deeper picture of his more than a decade of life—down to the arthritis building up between his joints that likely led him to climb down to the ground.

"We were able to document his whole life story," Sauther said. "We knew him right to the end."

**More information:** Paper 1: [Impact of linear infrastructure on South Africa's primate fauna: the need for mitigation](#)

Paper 2: [Domestic Dogs Present a Human-Induced Threat to Thick-tailed Bushbabies \(\*Otolemur crassicaudatus\*\) in Northern South Africa](#)

Provided by University of Colorado at Boulder

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