

New study underscores tuberculosis risk for working elephants

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Morris Animal Foundation-funded researchers recently found approximately 17 percent of working African elephants at several Zimbabwe ecotourism facilities tested positive for tuberculosis antibodies. The findings are a red flag for researchers as infected elephants potentially can pass the disease on to humans and other species with which they come in contact, including wild elephants.

Tuberculosis is a serious [disease](#) in elephants. Most cases are caused by *Mycobacterium tuberculosis*, the same bacterium that causes the disease in humans. Dr. Laura Rosen and her colleagues at Colorado State University and other institutions, are evaluating tuberculosis prevention, diagnosis and antimicrobial control strategies in elephants. Their findings and recommended preventive measures recently were published in the journal *Transboundary and Emerging Diseases*.

"This project represents a first step in assessing the risk of tuberculosis in elephants in Africa," said Dr. Rosen, a Morris Animal Foundation fellowship training grant recipient. "Managing threats to elephant health is important for conservation of this iconic species, as well as other wildlife."

Another important finding by Dr. Rosen's team was that seropositive status was linked to time in captivity. The working elephants that were in captivity the shortest period of time were most likely to be seropositive, a marker of exposure.

This is the first study to assess tuberculosis seroprevalence and risk factors in working African elephants in their home range. Because of potential contact between these elephants and other wildlife, it is critical to understand transmission and other characteristics of this disease.

"The findings of the Colorado State University team provide critical pieces of information to help ensure both wild and working elephants are protected from the ravages of tuberculosis, a devastating disease in these animals," said Kelly Diehl, DVM MS, Senior Scientific Programs and Communications Adviser at Morris Animal Foundation. "In addition, the people who are interacting with these populations will better understand not only the risks for transmission, but how to better protect themselves."

This project is part of a large, comprehensive study by the Colorado State University team identifying risk factors for tuberculosis in African and Asian elephants housed in North American and African facilities. This new information will be used to design and implement prevention and control strategies to reduce tuberculosis infections in [elephants](#) and other species. Because of the importance of [tuberculosis](#) in animal health, Morris Animal Foundation funds a number of studies focusing on this disease in multiple species around the world from white-tailed deer in North America to badgers in Europe to lions in Africa.

More information: L. E. Rosen et al, Tuberculosis serosurveillance and management practices of captive African elephants (*Loxodonta africana*) in the Kavango-Zambezi Transfrontier Conservation Area, *Transboundary and Emerging Diseases* (2017). [DOI: 10.1111/tbed.12764](https://doi.org/10.1111/tbed.12764)

Provided by Morris Animal Foundation

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