

# Tourism, Pathogens, Captive Environments and Disease Transmission

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Abstract: Human diseases in captive animals are a public health issue explored in this presentation. As another aspect of my nine-year ecotourism research project, participant observation in settings with endangered non-human primates and the context for zoonotic disease transmission via direct contact, oral, aerosol, reproductive, fomite, vector-borne and/or environmental pathways, a literature search of zoonotic disease transmission in captive and wild settings, was undertaken. Although over 200 zoonoses (animal-to-human) have been identified, not until recently have cases of anthroponoses, reverse zoonoses (human-to-animal), been documented in both wild and captive settings. Wildlife contracting such diseases as scabies, M. tuberculosis, and respiratory viruses from humans and, additional suspected cases of transmission from humans-to-animals in the wild include polio, yaws, and anthrax are documented. Captive environments such as zoos, aquariums, petting zoos, fairs, animal exhibits, and camps present their own potential for "...pathogen spread to animals from visitors with an illness, contamination of a shared environment or food, and the spread of disease through relocation of animals for captivity or educational purposes." (Messenger 2014) In captive environments, like zoos, the bidirectional transmission of M. tuberculosis has been documented between elephants and humans. (Zlot 2016) The first documented report of TB infections in a gorilla and a lioness in a zoo has been reported at the Zoological Garden in Ibadan, Nigeria. This research continues with a focus on another pathway of transmission, bushmeat as a public health threat. Bushmeat is a "back door" for further disease transmission, e.g., ebola transmission in the decline of great apes (Huus 2003) and periodic outbreaks in humans. Bushmeat carriers of Ebola (bats, nonhuman primates, cane rats, and antelope) are smuggled into the US (Flynn and Scutti 2014). While the CDC notes that "Ebola infections in people have been associated with handling and eating infected animals," it is further noted that "To date, there have been no reports of human sickness in the United States from preparing or consuming bushmeat illegally brought into the United States." Source: <https://www.cdc.gov/importation/bushmeat.html>