

Testimony of Professor Thomas Gillespie, Emory University

Committee on Natural Resources, U.S. House of Representatives

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Chairman, Ranking Member, and Esteemed Members of the Subcommittee:

Thank you for the opportunity to speak before you today. I'm doing so in my personal capacity; the views I express are my own and do not necessarily represent my employer or any board, taskforce, commission or other body on which I serve.

I am Thomas Gillespie, Professor and Chair of Environmental Sciences and Professor of Environmental Health at Emory University and Rollins School of Public Health in Atlanta, Georgia. Prior to my current position, I was a Professor of Veterinary Medicine and Anthropology at the University of Illinois, Champaign-Urbana. I am also a member of the IUCN Primate Specialists Group and an external expert to PREZODE, a multinational effort to prevent zoonotic disease emergence.

For over two decades, my research has examined risk factors for zoonotic disease transmission at the human / primate interface. I am here to address a critical issue that threatens both public health and wildlife conservation: the trade in wild macaques for biomedical research.

Long-tailed macaques (*Macaca fascicularis*) are used for biomedical and pharmaceutical research due to their genetic and physiological similarities to humans. Unfortunately, these same traits make macaques excellent reservoirs for pathogens that can infect us and potentially lead to disease outbreaks (Gillespie et al., 2008). Considering the number of animals traded and the zoonotic potential of each animal, macaques show the highest average volume of potential zoonotic disease of all wildlife traded (Borsky et al., 2020). Furthermore, some of these pathogens can alter the immune system of monkeys, confounding the results of studies examining the effects of a drug or vaccine being tested on monkey subjects (Conroy, 2023). For these reasons, US research facilities have, for decades, expected, healthy, pathogen-free, captive-bred macaques sourced from controlled facilities (Roberts and Andrews, 2008; Conroy, 2023).

The COVID pandemic-related reduction in the availability of captive-bred, long-tailed macaques appears to have resulted in the importation of substantial numbers of wild macaques labelled as captive-bred and pathogen-free (Ruppert et al., 2022; Hansen et al., 2022). Since this time, multiple cases of melioidosis have been diagnosed in macaques imported from Cambodia (CDC, 2022). Melioidosis is a potentially fatal disease caused by the Tier 1 Select Agent *Burkholderia pseudomallei*, which is endemic to much of the geographical range of long-tailed macaques. Tier 1 Select Agents present the greatest risk of deliberate misuse with significant potential for mass casualties or devastating effect to the economy, critical infrastructure, or public confidence, and pose a severe threat to public health and safety. Equally troubling, CDC data indicate the

prevalence of culture-confirmed tuberculosis in imported non-human primates was zero from 2013-2020 but has increased since the pandemic (CDC, 2023). Both *Burkholderia* sp. and *Tuberculosis* sp. can present asymptotically in macaques and false negatives to approved diagnostic tests for both pathogens are not uncommon (CDC, 2022; 2023). Therefore, it's not surprising that multiple cases of TB among imported monkeys were reported to the CDC up to two years post-quarantine. Even more concerning were the six cases of melioidosis detected among long-tailed macaques imported from Cambodia. Four of these cases were not detected until months after the monkeys had entered the US and been transported to other facilities (Taetzsch et al., 2022). Both tuberculosis and *Burkholderia* are capable of infecting and causing disease in a broad range of mammalian hosts including humans, domesticated animals, and livestock and environmental conditions in the southern US could promote establishment of *Burkholderia*, which can be shed in the urine, feces, blood and saliva of infected animals (Portacci et al., 2017; Hall et al., 2015; Taetzsch et al., 2022; CDC, 2023).

Other than TB, CDC does not currently require screening tests to be performed in apparently healthy nonhuman primates during the CDC-mandated 31-day quarantine period. If importers choose to screen apparently healthy animals for zoonotic infections during the quarantine period, positive results must be reported to CDC within 24 hours (CDC 2022; 2023). Consequently, TB and *Burkholderia* are just the tip of the iceberg in terms of zoonotic threats to the American public. Most future emerging infectious diseases remain to be discovered, and the tropical forest habitat of the long-tailed macaques is a known hotspot (Jones et al. 2008; Gillespie et al., 2021).

Beyond these obvious threats to public health, the trade in wild macaques is a threat to wildlife conservation. Long-tailed macaques are listed by the IUCN as Endangered and are reported to have experienced an 80% decrease in their population size over the past 35 years (Koch Liston et al., 2024). Habitat degradation, coupled with pest control measures at the human interface (culling and sterilization), pose severe risks to the species (Valle, 2024). Moreover, trade for biomedical research, is likely to exacerbate this decline (Hansen et al., 2022). In some regions, macaque populations have declined by over 50% in just a decade (Koch Liston et al., 2024). This not only disrupts ecological balance but also threatens the survival of species that are already vulnerable due to habitat loss and other pressures (Estrada et al., 2017).

I applaud US Fish and Wildlife for their efforts to combat illegal wildlife trade and I encourage Congress to increase resources available to US Fish and Wildlife to facilitate their efforts. Further, I encourage research facilities making use of primate models: 1) to commit to end their use of wild-caught primates; 2) to carefully review the sourcing of primates; and 3) to actively promote and use alternative research strategies that do not involve capture of wild non-human primates.

I hope these details have clarified the critical importance of ending the wild macaque trade.

I welcome your questions.

Dr. Thomas Gillespie

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