

Sexually transmitted diseases reduce the willingness of female baboons to mate

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A female olive baboon at peak estrus rejects the mating attempt of a male.
Credit: Filipa Paciência

Sexually transmitted diseases are widespread among animals and humans. Humans, however, know a multitude of protective and hygienic

measures to protect themselves from infection. An international research team led by scientists at the German Primate Center (DPZ)-Leibniz Institute for Primate Research has investigated whether primates change their sexual behavior to minimize the risk of contracting a sexually transmitted disease.

At Lake Manyara National Park in Tanzania, researchers observed the [mating](#) behavior of olive [baboons](#) infected with *Treponema pallidum*. They found that the females avoid mating if either the male or the female themselves showed visible signs of the infection. Males, on the other hand, did not change their behavior. The research is published in *Science Advances*.

Treponema pallidum subspecies *pertenue* causes ulcers in the genital area of baboons in East Africa that lead to severe distortions of the genitalia as the [disease](#) progresses. The pathogen also affects other monkey species. In humans, the bacteria causes yaws, which, especially in children, leads to skin lesions, and ultimately to severe bone and cartilage damage. Affected humans are physical disabled and stigmatized. Yaws is primarily transmitted via skin-to-skin contact and is currently the subject of a WHO campaign that seeks to eradicate the disease by 2030. Closely related to the yaws pathogen is the syphilis pathogen, *Treponema pallidum* subspecies *pallidum*. Syphilis is also one of the most common sexually transmitted diseases in humans.

Olive baboons are found from Mali in West Africa to Ethiopia, Kenya and northern Tanzania in East Africa. A group of scientists of the German Primate Center, led by Dietmar Zinner and Sascha Knauf, studied the mating behavior of the olive baboons in Lake Manyara National Park in Tanzania over 18 months. The study group consisted of approximately 170 baboons. Female olive baboons in peak estrus usually mate with more than one male. The peak estrus is indicated by a prominent swelling of their sexual skin. For her [doctoral thesis](#), Filipa

Paciência observed 876 mating attempts between 32 females and 35 males of which 540 led to copulations. In the vast majority of cases, the mating was initiated by the males. It was found that the females more often avoided mating attempts by males if they or the male showed visible signs of an infection. Compared to other studies of baboon populations that were not infected, a female in the study group had fewer mating partners on average.

"Our findings indicate that the risk of contracting a sexually transmitted disease can produce individual behavioral changes that could lead to a change in partner choice and potentially reduce the degree of promiscuity in a nonhuman primate population," says principle investigator Dietmar Zinner.

More information: "Mating avoidance in female olive baboons (*Papio anubis*) infected by *Treponema pallidum*" *Science Advances*, advances.sciencemag.org/content/5/12/eaaw9724

Provided by The German Primate Center

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