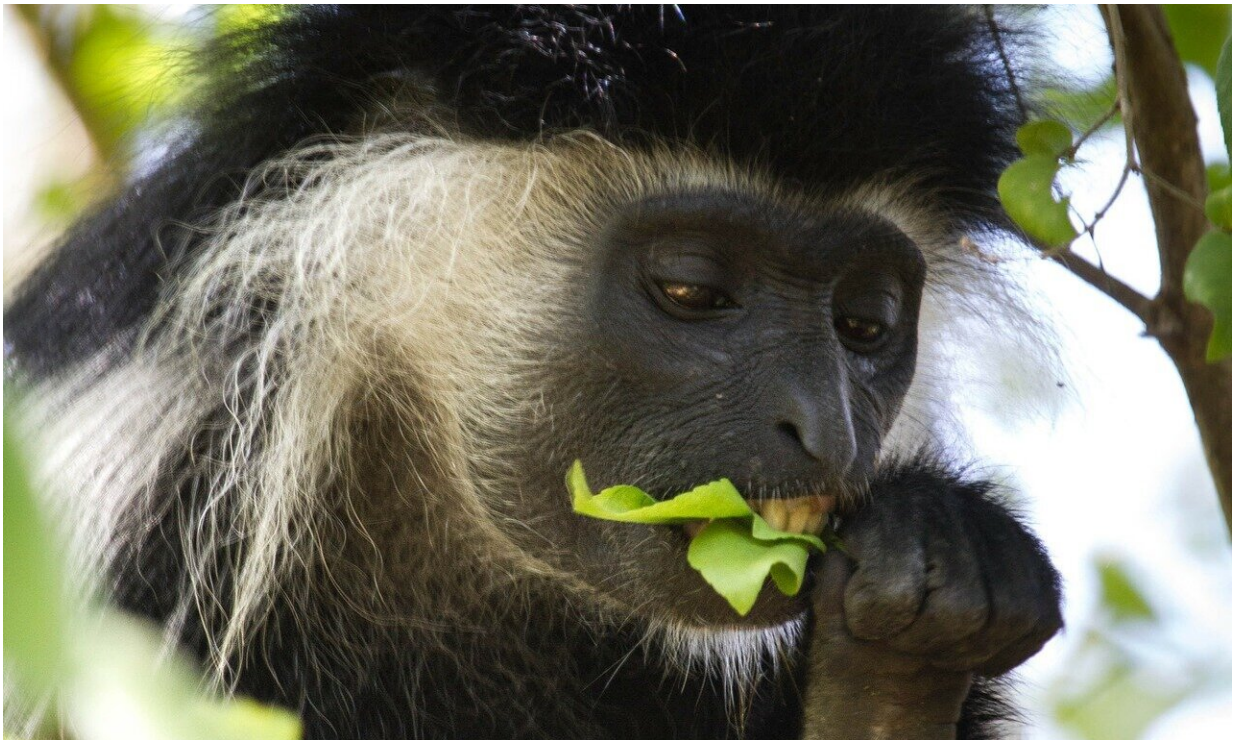


# Research shows even animals benefit from social distance to prevent disease

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Microorganisms living inside and on our body play a crucial role in both the maintenance of our health and the development of disease. Now researchers at UTSA have uncovered evidence about the importance of maintaining physical distance to minimize the spread of microbes among individuals.

The scientists observed monkeys in the wild to understand what role genetics, diet, social groupings and distance in a social network play when it comes to the microbes found inside an animal's gut.

"Social microbial transmission among monkeys can help inform us about how diseases spread. This has parallels to our current situation in which we are trying to understand how social distancing during the COVID 19 pandemic and future disease outbreaks may influence disease transmission," said Eva Wikberg, an assistant professor in UTSA's Department of Anthropology who studies the interaction between ecology, behavior and genetics in primates.

The gut microbiome refers to all the microorganisms inhabiting the digestive tract, starting with the stomach and ending with the colon. Over the past decade the microbiome has come under more scientific focus because it's believed that an unhealthy gut microbiome can lead to obesity, impaired immune function, weakened parasite resistance and even behavioral changes.

However, researching microbiomes is difficult because of the variation in microbial composition between individuals. One long-standing question is whether this variation is driven by genetic makeup, diets or social environments.

This research inquiry has been especially hard in [wild populations](#) because of the lack of detailed data necessary to tease apart the myriad factors that shape the [microbiome](#).

To find an answer, Wikberg and fellow researchers studied the fecal matter of 45 female colobus monkeys that congregated in eight different [social groups](#) in a small forest by the villages of Boabeng and Fiema in Ghana. The scientists saw major differences among social groups' gut microbiomes.

However, individuals from different groups that were more closely connected in the population's social network had more similar gut microbiomes. This discovery indicates that microbes may be transmitted during occasional encounters with members of other social groups.

A similar setting may be when people come into one-meter proximity of each other at a store. Being in close proximity or accidentally brushing up against someone else may be all it takes to transmit certain microbes.

This study suggests that [microbes](#) transmitted this way help the colobus monkeys digest the leaves in their diet. However, further research is needed to investigate whether this type of transmission yields health benefits, which could explain why different social groups occasionally have friendly between-group encounters.

"Studies of wild animals can teach us a lot about the importance of using interventions, such as social distancing, to ensure a safer community during this pandemic," said Wikberg.

The study's findings are reported in the May issue of the journal *Animal Behaviour*.

**More information:** Eva C. Wikberg et al, Interactions between social groups of colobus monkeys (*Colobus vellerosus*) explain similarities in their gut microbiomes, *Animal Behaviour* (2020). [DOI: 10.1016/j.anbehav.2020.02.011](#)

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