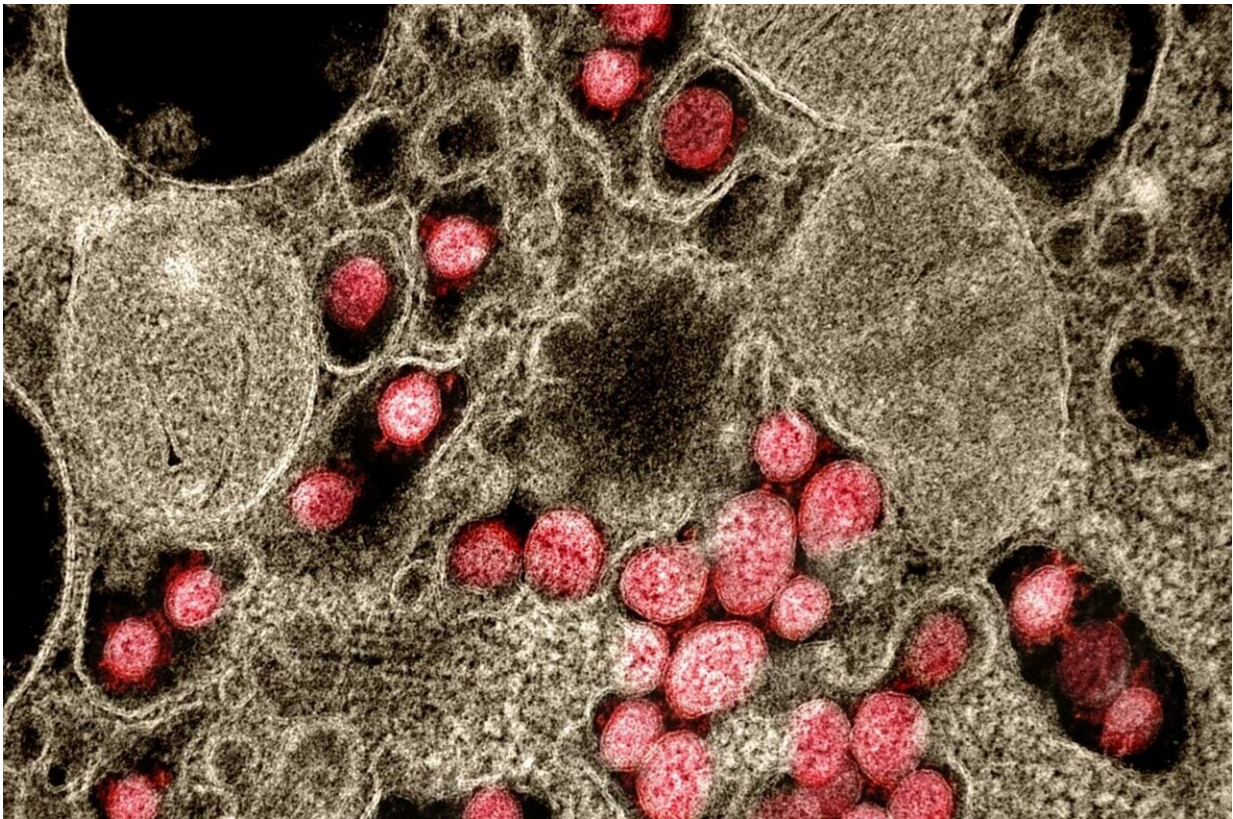


# COVID-19: Disease may pose threat to wild mountain gorillas in Volcanoes National Park

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Transmission electron micrograph of SARS-CoV-2 virus particles isolated from a patient. Credit: NIAID

A COVID-19 outbreak among wild mountain gorillas in the Volcanoes National Park, Rwanda, could lead to the collapse of the population,

according to a modeling study published in *Scientific Reports*.

SARS-CoV-2 infections have previously been identified among captive western lowland gorillas, however, the potential risk that COVID-19 poses to wild apes, including endangered mountain gorillas, has been unclear.

Fernando Colchero and colleagues simulated the probability that a COVID-19 outbreak in a population of mountain gorillas living in Volcanoes National Park could lead to the collapse of this population. Using data gathered between 1967-2018 on 396 gorillas by the Dian Fossey Gorilla Fund, the authors took into consideration yearly variations in the size and structure of this population. They also accounted for epidemiological factors that influence COVID-19 disease dynamics in humans, including the number of individuals that contract the disease from an infected individual ( $R_0$ ); the probability of death after infection; the probability of developing immunity; and immunity duration.

The authors ran 2,000 simulations in which the size and structure of the population in the park varied at different rates and found that, under similar epidemiological conditions to those reported in human outbreaks, 71% of these simulated populations would collapse within 50 years. However, the authors suggest that mortality may be higher among gorillas than humans, owing to the lower availability of treatments for gorillas. When this was accounted for in the model, the proportion of the 2,000 simulated populations in the park that would collapse within 50 years increased to 80%. While the average  $R_0$  of COVID-19 in humans has previously been found to be approximately 2.5, the authors found that when the  $R_0$  among gorillas was at least 1.05, the probability of population collapse increased. This demonstrates the importance of limiting SARS-CoV-2 transmission within the population. The authors note that the tendency of gorilla groups to naturally socially distance

from each other likely decreases the risk of SARS-CoV-2 transmission. However, this population has grown in recent years, leading to higher rates of intergroup encounters and potentially increasing the opportunity for [disease transmission](#).

The findings highlight the risk that the COVID-19 pandemic currently poses to the mountain gorilla [population](#) of the Volcanoes National Park. The authors suggest that measures to limit SARS-CoV-2 transmission, such as mask wearing and the vaccination of park staff and tourists, in addition to regular testing of [gorillas](#) for possible infections continue to be implemented within the [park](#).

**More information:** Exploring the potential effect of COVID-19 on an endangered great ape, *Scientific Reports* (2021). [DOI: 10.1038/s41598-021-00061-8](#)

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