

Wild chimpanzees have surprisingly long life spans

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A member of the Ngogo community of chimpanzees in Uganda's Kibale National Park. A new study shows that the Ngogo chimps have surprisingly long life expectancies. Credit: Brian Wood/Yale University

A 20-year demographic study of a large chimpanzee community in Uganda's Kibale National Park has revealed that, under the right ecological conditions, our close primate relatives can lead surprisingly long lives in the wild.

The study, published March 19 in the *Journal of Human Evolution*, establishes an average [life expectancy](#) of about 33 years in its sample of 306 chimpanzees, nearly twice as high as that of other chimpanzee communities and within the 27- to 37-year range of [life](#) expectancy at birth of human hunter-gatherers. These findings are important for understanding the evolution of chimpanzee and hominin life histories, the researchers argue.

"Our findings show how ecological factors, including variation in food supplies and predation levels, drive variation in life expectancy among wild chimpanzee populations," said Brian Wood, assistant professor of anthropology at Yale University, the study's lead author. "They also inform the study of the evolution of human life history, helping us to imagine the conditions that could have changed mortality rates among our early hominin populations."

The Ngogo chimpanzees reside in the center of Kibale National Park, in southwestern Uganda. The directors of the Ngogo Chimpanzee Project—David Watts (Yale), John Mitani (University of Michigan), and Kevin Langergraber (Arizona State University)—have monitored births, deaths, immigrations, and emigrations in the unusually large Ngogo chimpanzee community since 1995, producing the largest demographic dataset available for any community of wild chimpanzees. This study reveals that Ngogo chimpanzees have the highest life expectancy on record for any group of wild chimpanzees.

Favorable ecological conditions largely account for the Ngogo community's high life expectancy, according to the study. The forest in

Ngogo provides a relatively consistent and abundant supply of high-energy and nutritious foods, including easily digestible figs. The research team argues that this rich food supply helps buffer the Ngogo chimpanzees against periods of hunger, and helps fuel their ability to stave off diseases that would otherwise lead to higher mortality. The Ngogo chimpanzees also benefit from a low risk of predation, because leopards are not found within Kibale National Park, and from the fact that during the study, the chimpanzees did not experience major disease epidemics, either introduced by humans or due to other causes, like those that have affected [wild chimpanzees](#) at several other long-term research sites.

In the same national park, not far from Ngogo, other researchers have studied the life expectancy of chimpanzees in the Kanyawara community. Like Ngogo, this community lacks natural predators, but its life expectancy at birth is nearly 13 years shorter than that of Ngogo. The Ngogo chimpanzees' higher survivorship appears to be an adaptive response to a more abundant and less varied food supply than that of Kanyawara, the researchers argue.

"It has long been proposed that there are extreme differences in the life expectancies of human hunter-gatherers and chimpanzees," said David Watts, professor of anthropology at Yale and a coauthor of the study. "Our study finds that while maximum lifespan differs a great deal, the differences in average lifespan are not as dramatic as typically thought, especially when [chimpanzees](#) are not subjected to major negative impacts caused by humans. In fact, the Ngogo community's pattern of survivorship more closely resembles that of human hunter-gatherers than those documented for other chimpanzee communities."

Provided by Yale University

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