

The largest great ape to ever live went extinct because of climate change, study finds

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This illustration provided by researchers depicts *Gigantopithecus blacki* in a forest in the Guangxi region of southern China. The extinct species of great ape that once stood around 10 feet tall and weighed up to 650 pounds was likely driven to extinction by environmental changes, scientists in China and Australia report on Wednesday, Jan. 10, 2024 in the journal *Nature*. Credit: Garcia/Joannes-Boyou/Southern Cross University

An ancient species of great ape was likely driven to extinction hundreds of thousands of years ago when climate change put their favorite fruits out of reach during dry seasons, scientists reported Wednesday.

The species *Gigantopithecus blacki*, which once lived in southern China, represents the largest great ape known to scientists—standing 10 feet tall (3 meters) and weighing up to 650 pounds (295 kilograms).

But its size may also have been a weakness.

"It's just a massive animal—just really, really big," said Renaud Joannes-Boyau, a researcher at Australia's Southern Cross University and co-author of the study published [in the journal *Nature*](#). "When food starts to be scarce, it's so big it can't climb trees to explore new food sources."

The giant apes, which likely resembled modern orangutans, survived for around 2 million years on the forested plains of China's Guangxi region. They ate vegetarian diets, munching on fruits and flowers in tropical forests, until the environment began to change.

The researchers analyzed pollen and sediment samples preserved in Guangxi's caves, as well as fossil teeth, to unravel how forests produced fewer fruits starting around 600,000 years ago, as the region experienced more dry seasons.



This photo provided by researchers shows an opening of a cave where *Gigantopithecus blacki* fossils were found, with a view across the alluvial plain, 150 meters (500 feet) above the valley floor, in the Guangxi region of southern China. The extinct species of great ape that once stood around 10 feet tall and weighed up to 650 pounds was likely driven to extinction by environmental changes, scientists in China and Australia report on Wednesday, Jan. 10, 2024 in the journal *Nature*. Credit: Kira Westaway/Macquarie University via AP



This photo provided by researchers shows a mountain where fossils of *Gigantopithecus blacki* were found in caves in the Guangxi region of southern China. The extinct species of great ape that once stood around 10 feet tall and weighed up to 650 pounds was likely driven to extinction by environmental changes, scientists in China and Australia report on Wednesday, Jan. 10, 2024 in

the journal *Nature*. Credit: Yingqi Zhang/IVPP- CAS via AP

The giant apes didn't vanish quickly, but likely went extinct sometime between 215,000 and 295,000 years ago, the researchers found.

While smaller apes may have been able to climb trees to search for different food, the researchers' analysis shows the giant apes ate more tree bark, reeds and other non-nutritious food.

"When the forest changed, there was not enough food preferred by the species," said co-author Zhang Yingqi of China's Institute of Vertebrate Paleontology and Paleoanthropology.

Most of what scientists know about the extinct great apes comes from studying fossil teeth and four large lower jaw bones, all found in southern China. No complete skeletons have been found.

Between around 2 million and 22 million years ago, several dozen species of great apes inhabited Africa, Europe and Asia, fossil records show. Today, only gorillas, chimpanzees, bonobos, orangutans and humans remain.

While the first humans emerged in Africa, scientists don't know on which continent the great ape family first arose, said Rick Potts, who directs the Human Origins Program at the Smithsonian's National Museum of Natural History and was not involved in the study.

More information: Kira Westaway, The demise of the giant ape *Gigantopithecus blacki*, *Nature* (2024). [DOI:](https://doi.org/10.1038/s41586-023-06900-0)

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