

'Shocking' die-off of Africa's oldest baobabs: study

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The iconic tree can live to be 3,000 years old and one in Zimbabwe is so large that up to 40 people can shelter inside its trunk

Some of Africa's oldest and biggest baobab trees—a few dating all the way back to the ancient Greeks—have abruptly died, wholly or in part,

in the past decade, researchers said Monday.

The [trees](#), aged between 1,100 and 2,500 years and some as wide as a bus is long, may have fallen victim to climate change, the team speculated.

"We report that nine of the 13 oldest... individuals have died, or at least their oldest parts/stems have collapsed and died, over the past 12 years," they wrote in the scientific journal *Nature Plants*, describing "an event of an unprecedented magnitude."

"It is definitely shocking and dramatic to experience during our lifetime the demise of so many trees with millennial ages," said the study's co-author Adrian Patrut of the Babes-Bolyai University in Romania.

Among the nine were four of the largest African baobabs.

While the cause of the die-off remains unclear, the researchers "suspect that the demise of monumental baobabs may be associated at least in part with significant modifications of climate conditions that affect southern Africa in particular."

Further research is needed, said the team from Romania, South Africa and the United States, "to support or refute this supposition."

Between 2005 and 2017, the researchers probed and dated "practically all known very large and potentially old" African baobabs—more than 60 individuals in all.

Collating data on girth, height, wood volume, and age, they noted the "unexpected and intriguing fact" that most of the very oldest and biggest trees died during the study period.

All were in southern Africa—Zimbabwe, Namibia, South Africa, Botswana, and Zambia.

The [baobab](#) is the biggest and longest-living flowering tree, according to the research team. It is found naturally in Africa's savannah region, and outside the continent in tropical areas to which it was introduced.

It is a strange-looking plant, with branches resembling gnarled roots reaching for the sky, giving it an upside-down look.

The iconic tree can live to be 3,000 years old, according to the website of the Kruger National Park in South Africa, a natural baobab habitat.

'Difficult to kill'

"One ancient hollow baobab tree in Zimbabwe is so large that up to 40 people can shelter inside its trunk," says the park.

"Various baobabs have been used as a shop, a prison, a house, a storage barn, and a bus shelter."

The tree serves as a massive store of water, and bears fruit that feeds animals and humans.

Its leaves are boiled and eaten as an accompaniment similar to spinach, or used to make traditional medicines, while the bark is pounded and woven into rope, baskets, cloth, and waterproof hats.

The purpose of the study was to learn how the trees get so enormous.

The researchers used radiocarbon dating to analyse samples taken from different parts of each tree's trunk.

They found that the trunk of the baobab grows from not one but multiple core stems.

According to the Kruger Park, baobabs are "very difficult to kill".

"They can be burnt, or stripped of their bark, and they will just form new bark and carry on growing," it states.

"When they do die, they simply rot from the inside and suddenly collapse, leaving a heap of fibres."

Of the ten trees listed by the study authors, four died completely, meaning all their multiple stems toppled and died together.

The others saw the death of one or several parts.

The oldest tree by far, of which all the stems collapsed in 2010/11, was the Panke tree in Zimbabwe, estimated to have existed for 2,500 years.

The biggest, dubbed Holboom, was from Namibia. It stood 30.2 metres (99 feet) tall and had a girth of 35.1 m.

Arguably the most famous baobab, called Chapman, was a declared a national monument in central Botswana, bearing the carved initials of explorer David Livingstone.

The tree named after South African hunter James Chapman, who visited it in 1852, saw all six its stems topple simultaneously on January 7, 2016 where it had stood for some 1,400 years.

Other than the oldest and biggest, the research team observed that many other mature baobabs had died.

The deaths were not caused by an epidemic, they wrote, with Patrut adding: "there were no signs of disease".

More information: Adrian Patrut et al. The demise of the largest and oldest African baobabs, *Nature Plants* (2018). [DOI: 10.1038/s41477-018-0170-5](https://doi.org/10.1038/s41477-018-0170-5)

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