

# Why mystery surrounds what may be Earth’s oldest tree

*Keeping the location a secret is essential to protecting it from overenthusiastic tourists. But drought is also threatening the ancient bristlecone.*

By Erik Ofgang

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*A tree that might be Methusaleh, a bristlecone pine about 4,600 years old, is shown in the White Mountains of eastern California in the Inyo National Forest on Nov. 28, 2021. (Tayfun Coskun/Anadolu Agency/Getty Images)*

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What *might* be the world’s oldest tree — a bristlecone pine named Methusaleh that is thousands of years old — is hidden in plain sight somewhere along the 4.5-mile [Methuselah Trail](#) in the Inyo National Forest in California. Even photos of it are rare — the internet is littered with pictures of old and gnarled bristlecone pines mislabeled as Methuselah.

“We do not give out the exact location or give photos out of the Methuselah tree, to keep it protected,” said Becky Hutto, a visitor center supervisor in the Inyo National Forest. More than a half-century of word of mouth, amplified in recent years by the internet, has eroded the secret of Methuselah’s location in the Eastern Sierras. Yet uncertainty persists, even among some experts.

“I have a vague idea of which tree is Methuselah, but I’m not positive,” said Peter Brown, founder of Rocky Mountain Tree-Ring Research, which maintains a database of the world’s oldest trees.

Maintaining as much mystery as possible has become essential to keeping overenthusiastic tourists away from Methuselah and trees like it. But tourists aren’t the only threat — [the West’s worst drought](#) in more than 1,200 years has killed bristlecone pines near Methuselah, while [bark beetles are threatening](#) other ancient bristlecones.

These trees have survived hot and dry periods in the past, said Constance Millar, a scientist emerita at the U.S. Forest Service. But she worries human-induced climate change could create a “perfect storm” of threats to some of them with extreme heat, drought and an increased risk of forest fires.

Matthew Salzer, a research scientist at the [Laboratory of Tree-Ring Research at the University of Arizona](#) in Tucson, agreed. “Current conditions for some trees are worse than they have ever been,” he said. “I believe the species as a whole will persist in more favorable locations, but unfortunately many very old individuals may succumb.”

## **Older than giants**

Generally, tree age is determined by taking core samples with boring tools that remove a piece of the tree about the diameter of a pencil, which researchers can use to count tree rings.

In 1957, after gathering initial cores from Methuselah, [Edmund Schulman](#), then a scientist at the Laboratory of Tree-Ring Research, estimated that the gnarled bristlecone pine was more than 4,600 years old. He also found that relatively small bristlecone pines — most of the ones Schulman studied were only 10 to 30 feet tall — were older than giant sequoias, which previously had been thought to be the longest-living trees.

Schulman announced Methuselah’s existence and shared a photo of the tree in National Geographic in 1958, sparking others’ curiosity. Later, the Forest Service stopped publicizing the tree’s location to protect it from those wishing to take a pine cone or other souvenir from the ancient tree.

Salzer recently re-examined Schulman’s Methuselah cores and got a count close to 4,600 years, although some rings were difficult to tally. Reportedly, a core from Methuselah with more rings visible was later found in the laboratory’s tree core archive, but Salzer and colleagues have not been able to find it. This has led to confusion about Methuselah’s age. Wikipedia and many other sites and publications list it as 4,854 years old, but the basis for that age is the rumored “missing” core, which has never been scientifically documented.

Across the globe, there are legends of trees older than Methuselah, including Iran’s [Sarv-e Abarkuh](#) and the [Llangernyw Yew](#) in Wales, both rumored to be between 4,000 and 5,000 years old. The estimates are based primarily on local lore and have not been verified.

Then there are clonal trees, genetically identical trees that share a root system such as Sweden’s [Old Tjikko](#) and the [Pando colony of aspens in Utah](#). Although these trees have root

systems older than the oldest trees, the trees themselves are clones and generally much younger than Methuselah and other ancients.

There have also been credible rumors of bristlecones older than Methuselah. In 1964, a bristlecone pine called the [Prometheus Tree](#) was cut down by a geography graduate student on Wheeler Peak in Nevada and then found to be nearly 5,000 years old.

In the archive of the Laboratory of Tree-Ring Research, a core sample from an unnamed tree gathered by Schulman in the 1950s was found years later to be more than 4,800 years old. Tom Harlan, a dendrochronologist at the lab who had worked with Schulman, discovered the sample but did not reveal the tree's location before his death in 2013. But Salzer and a colleague recently used old notes to find what they believe is the tree, though they have not yet been able to determine its age. As with Methuselah, the tree's location is being kept secret.

## **The great-grandfather**

A more recent challenger to Methuselah's claim has emerged in Chile, where researchers estimate that a massive and famous alerce or Patagonian Cypress tree called Alerce Milenario, or Gran Abuelo (great-grandfather), is 5,400 years old.

Because the tree is more than 12 feet in diameter, the researchers obtained only a partial core sample, but they determined that the tree is at least 2,400 years old based on its tree rings. They then used tree-ring information from other old alerces and computer modeling to calculate an additional 3,000 years.

The findings regarding the tree have not been published, which has led experts to caution against proclaiming it the world's oldest tree.

Brown said a peer-reviewed study is necessary, but he was skeptical that modeling could accurately account for the variables involved. "There are just more details that we need before having confidence that this could be the oldest tree in the world," he said.

## **A fountain of youth?**

The tree-ring record contained in old bristlecones has helped scientists refine carbon dating and provides an important history of the Earth's climate. The trees might also offer insight into the aging process.

David Neale, a professor emeritus and expert in [forest genetics](#) at the University of California at Davis, is leading a team of scientists that is sequencing the genome of a 2,000-plus-year-old bristlecone. The team hopes to investigate a theory that the tree would live forever if not cut down or killed by disease.

"We've been looking for the Fountain of Youth since the beginning of time, so any basic biological knowledge of longevity, whether it's a human or a mouse or bristlecone pine tree, might be instructive," he said.

Environmental preservation is also inspiring research into the Alerce Milenario tree in Chile. Jonathan Barichivich, an environmental scientist at the Climate and Environmental Sciences

Laboratory in Paris, is leading the research. He said he and his collaborator, Antonio Lara of the Austral University of Chile, plan on publishing a paper next year.

But Barichivich is more concerned with preserving the tree than proving it is older than Methuselah. Whether it is “the oldest tree in the world, or it will be the second or the third, it doesn’t matter to me. It is one of the oldest trees in the world and that’s enough to protect it,” he said.

### **Otherworldly protection**

There is urgency to these protection efforts, as Alerce Milenario has long been a tourist destination. Visitors walking around the tree in recent years have damaged its roots. “The tree is in a really, really bad state,” Barichivich said. “It’s like a lion in a cage in a zoo.”

Barichivich’s concern for the tree’s health is part of what makes determining its age without models difficult. Although existing coring tools are too small to get to the center of a tree the size of Alerce Milenario, a longer tool could be custom manufactured. But Barichivich, who is Chilean, does not want to do this out of fear of harming the tree.

His grandfather discovered the tree in the 1970s, and his grandparents, mother and uncle worked in the park where it lives. Barichivich sees himself as a third-generation protector of the tree and identifies with the Indigenous Mapuche people and their concept of the “spirit of the forest.” “The tree is giving up something, and I don’t want to go and disrespect the tree,” he said. “There is a spiritual part. It is not just pure rational science.”

Tales of otherworldly protection also surround bristlecone pines. Stories of a curse began after several bristlecone pine researchers, Schulman included, died young. Schulman suffered a stroke and passed away at 49.

Salzer is skeptical of such tales, but acknowledged: “It is useful from a preservation point of view to say, ‘Don’t mess with the trees or you’ll be cursed.’ ”

<https://www.washingtonpost.com/health/2022/10/16/ancient-tree-secrets/>