

全球变暖的影响远比你所了解到的要多的多。对树木来说，曾经过于寒冷的高山环境正在逐渐升温，它们开始了生长竞赛。



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Smithers is studying this upslope race among bristlecone pines. These trees can live for more than 5,000 years—making them the oldest individual organisms on Earth. Many of them eke out a living in dry, rocky soils, on windblown ridgelines around 11,000 feet, in eastern California and Nevada. "They look like the worst bonsai tree imaginable. They just look gnarled and twisted, something that looks like it's taken a beating for 5,000 years and still living."

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So, as tree line rises, these giant bonsais are following. But Smithers says the ancient trees now have a competitor—a species called limber pines. The limbers are passing the bristlecones at tree line, sprouting seedlings in that fresh real estate upslope more quickly. 'Quickly' being a relative term. "It's the tortoise and the slightly faster tortoise." Smithers documents the race in the journal Global Change Biology.

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The leapfrogging limber pines could put bristlecones in a bind, hemmed in by competing seedlings upslope, and hotter temperatures downslope. And that, Smithers says, would have long-lasting consequences. "You know, we talk about the effects of climate change happening on scales of 100 years. What's going to happen by 2100. But in 5,000 years someone will be able to go to this stand and say, oh it looks like this because people made climate change happen 5,000 years ago. It just changes the scale, when we talk about the effects of climate change." Assuming, that is, we stick around long enough to notice.

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