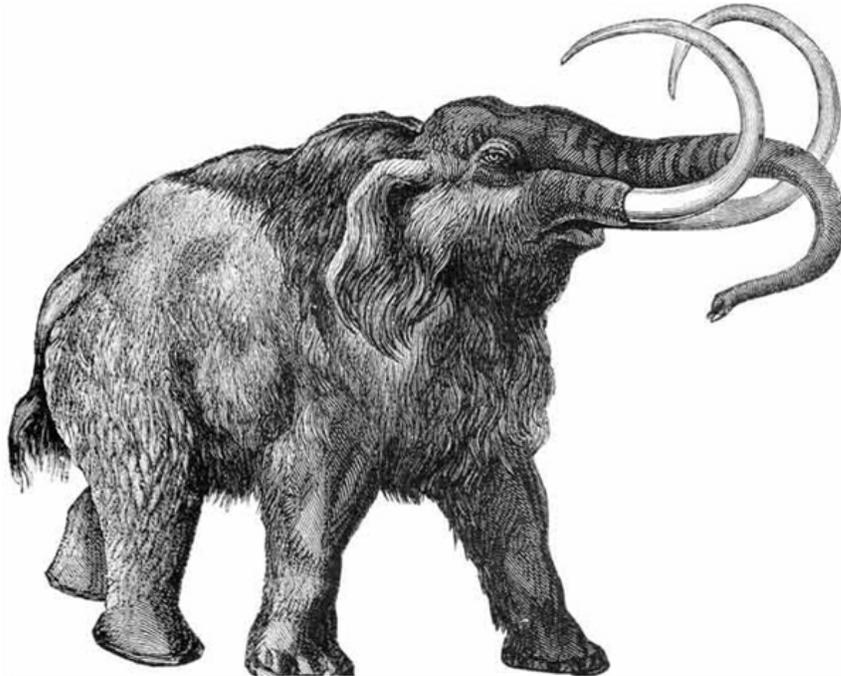


Mammoth resurrection on the way?

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MSNBC



Stephan Schuster lab, Penn State

A Japanese-led team of researchers plans to resurrect a long-extinct woolly mammoth using new cloning technology.

John Roach writes: The long-extinct woolly mammoth could be resurrected within five years, thanks to recent advances in cloning technology.

Japanese researchers plan to collect mammoth tissue this summer from a carcass that was frozen in the Siberian permafrost and is now in a Russian research laboratory, according to a report in the [Yomiuri Shimbun](#).

The hope is to recover an undamaged nucleus of a mammoth cell from this tissue and insert it into an elephant egg cell from which the nucleus has been removed. This will create an embryo with mammoth genes, according to the news report.

This embryo will be inserted to the elephant's womb in hopes that she'll give birth to a mammoth.

"Preparations to realize this goal have been made," Akira Iritani, a team leader from [Kyoto University](#), told the Yomiuri Shimbun.

New technique

Previous attempts to recover nuclei from frozen tissue failed because the cold temperatures damaged the DNA.

The new technique is based on work by [Teruhiko Wakayama of the Riken Center for Developmental Biology](#), who in 2008 cloned a mouse from the cells of another mouse [that were frozen for 16 years](#).

Iritani says his team has devised a method to extract the nuclei of mammoth cells without damaging them. "Now that the technical problems have been overcome, all we need is a good sample of soft tissue from a frozen mammoth," he told London's [Daily Telegraph](#).

Mammoth for display

If the team is successful in creating an embryo, they will discuss how to breed the mammoth — and whether or not to display it to the public — before transplanting to a surrogate elephant, Iritani told the Yomiuri Shimbun.

Even if the embryo is successfully created and implanted, the chances of bringing a cloned mammoth to term (or any cloned animal, for that matter) are slim. When South Korean researchers tried cloning dogs, for example, nearly 1,100 embryos were transplanted to surrogate dogs, but only two live births resulted, and [only one of those puppies](#) survived past the 22-day mark.

Nevertheless, Iritani was confident of success. "After the mammoth is born, we'll examine its ecology and genes to study why the species became extinct and other factors," he said.