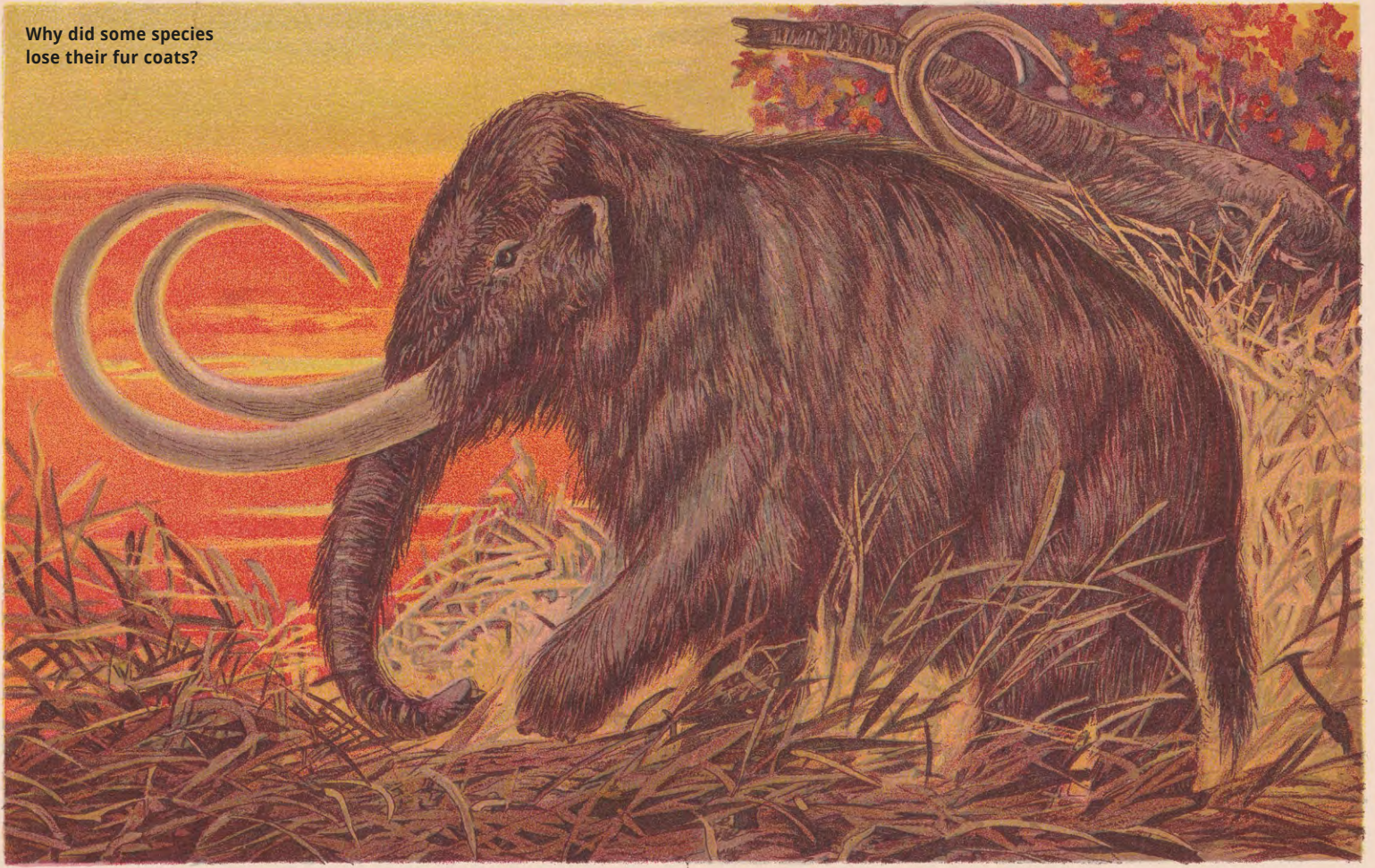


Why did some species lose their fur coats?



*Das Mammut, Elephas primigenius Blumb  
nach einem vollständig erhaltenen Funde aus einem Flussufer Sibiriens.*

## FOR REAL! TWEEN SCIENCE



Ever wonder why you don't have fur all over your body, like your primate cousins—chimps and bonobos?

After all, if we humans had thick hair all over our bodies, we wouldn't need such heavy jackets in the winter. (Our heating bills wouldn't be as high, either.) So why do we have less body hair than most mammals?

Of course, the answer lies in evolution—how living things change over long periods of time. Plants and animals (people included) all gain and lose traits depending on what they need to survive; those changes often help us thrive.

Typically, it takes many millions of years before a new trait becomes standard. But humans seem to have lost their thick body hair, a.k.a. fur, much more quickly than that. Our hair loss might have happened over *merely* a hundred-thousand to a few million years.

As it turns out, we humans still have genes for producing hair all over our bodies. But during our evolutionary history, those genes mutated and stopped sending fur-making instructions. Other mammals such as naked mole-rats and dolphins also have the genes for fur. But apparently, they didn't need to be so shaggy either. The “phenotype,” or physical trait, was lost at some point.

Take the extinct woolly mammoth and its present-day cousin, the elephant. Somewhere along the chain of evolution, across a warming ice age, a common ancestor lost a full coat of hair.

For all of us—elephants, humans and other furless friends—there was probably an advantage to nature fussing with the follicles. Scientists aren't yet certain what the benefit would have been for humans to have lost their fur. Maybe it helped keep pesky parasites from getting too comfortable. And that might have made furless men and women more attractive to potential mates.

Our hair loss is thought to have happened well before modern humans migrated north of Africa. So body balding would also have allowed our ancestors to better control body temperature in hotter climes.

You may need a coat sometimes, but at least you don't have to carry it around all year long.

—Lynnette Tibbott

A big thanks to Amanda Kowalczyk (PhD '21), who got her doctorate in computational biology through Pitt and Carnegie Mellon University's program and is now a postdoctoral researcher at CMU. Kowalczyk's recent study with Pitt's Maria Chikina and University of Utah's Nathan Clark on the genetics behind how humans and other species lost their fur helps explain this hairy situation.