

Freezing Frogs

What animal can freeze solid, then thaw out and hop away? A wood frog from Alaska!

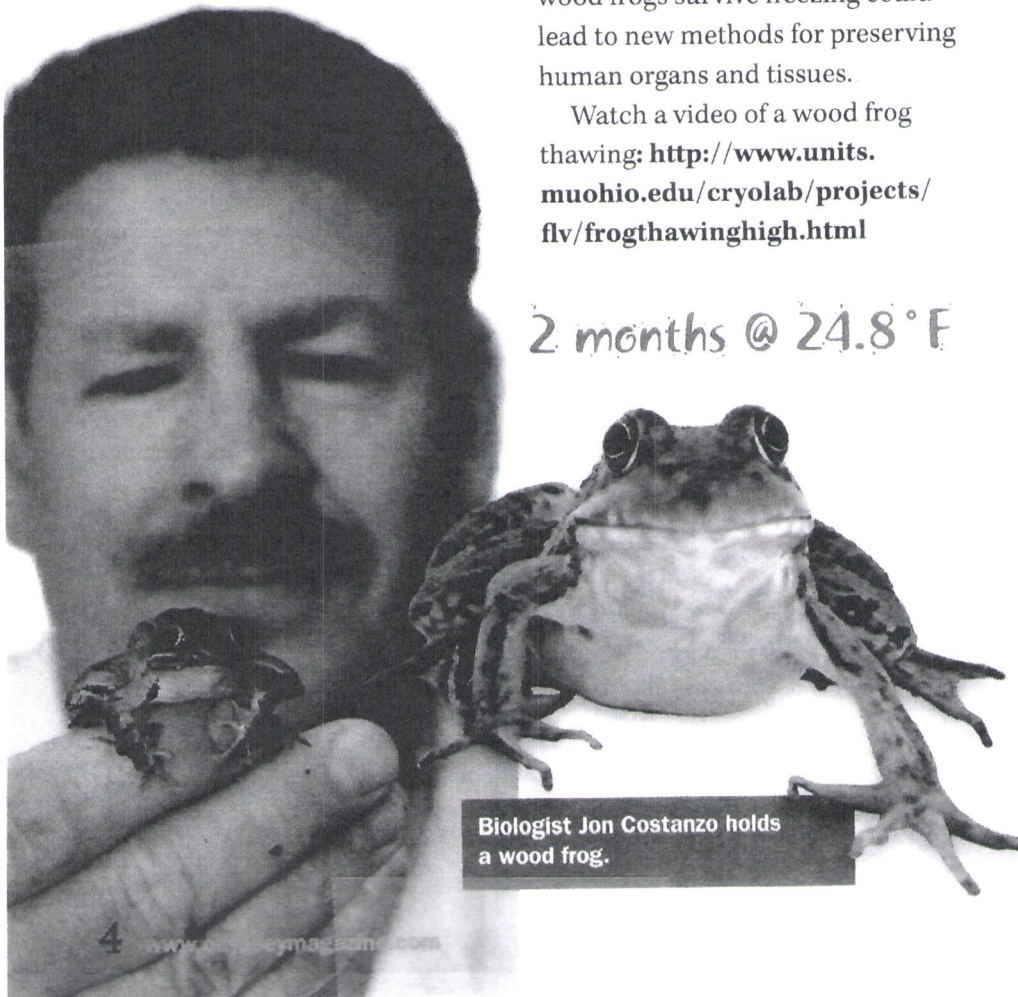
Wood frogs are a common sight across much of North America, from Ohio to Canada, and the species is well adapted to winter weather. When the temperature drops below freezing, the frogs don't eat or move at all. Their hearts even stop beating!

Recent research shows that Alaskan wood frogs are even hardier than their Ohioan cousins. The Alaskan frogs can spend two months at 24.8 degrees Fahrenheit

and then thaw out in just two days. The Ohioan frogs needed at least a week to recover. To help prepare their bodies for hibernation, the frogs build up lots of glucose, a type of sugar, in their blood. They also save up the chemical urea, which is also found in human pee. "We've never seen the accumulation [of urea] like we've seen in these Alaskan frogs. It's really spectacular," said Jon Costanzo of Miami University who led the study. A better understanding of how the wood frogs survive freezing could lead to new methods for preserving human organs and tissues.

Watch a video of a wood frog thawing: <http://www.units.muohio.edu/cryolab/projects/flv/frogthawinghigh.html>

2 months @ 24.8°F



Biologist Jon Costanzo holds a wood frog.