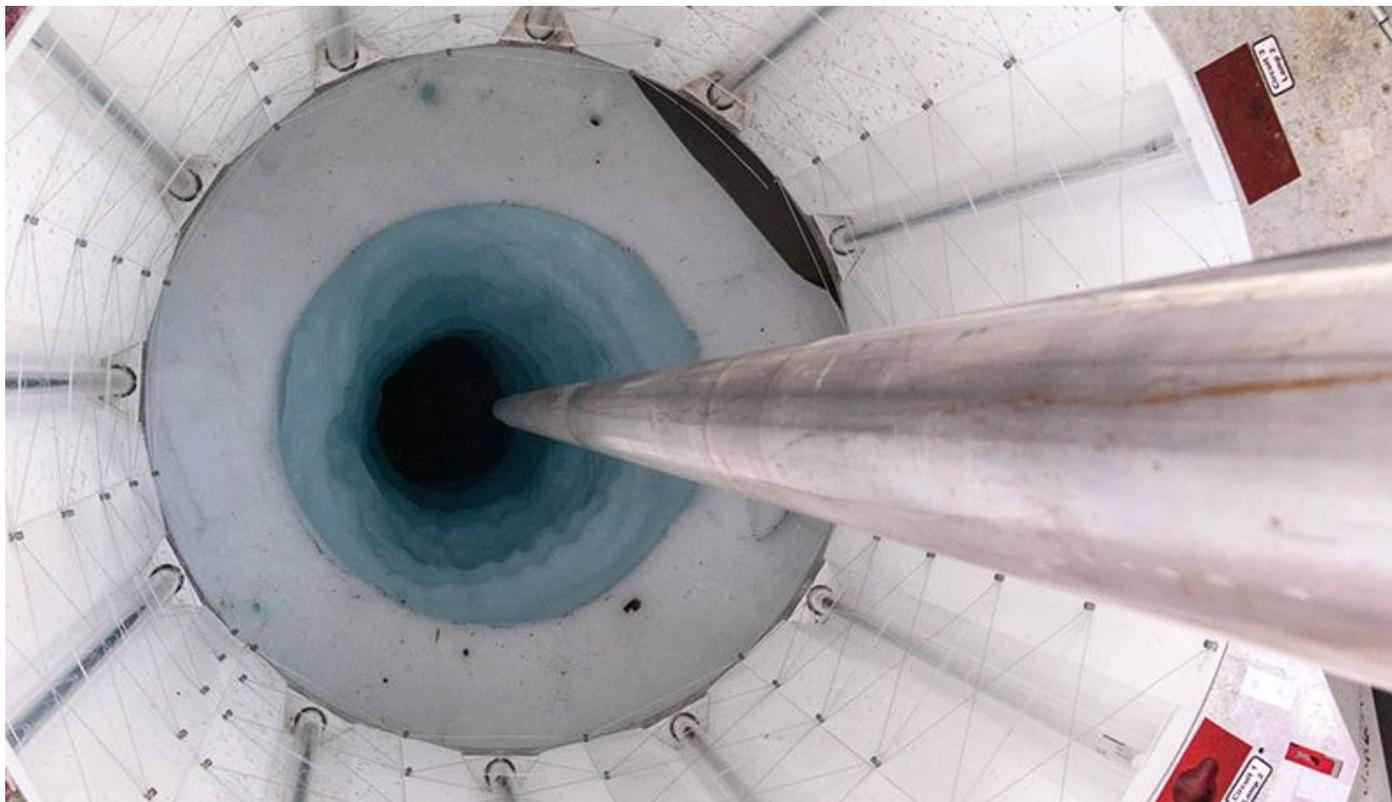


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## Trove of Tiny Ancient Animal Remains Recovered From Depths of Antarctic Ice

The crustaceans and tardigrade, or water bear, were found around a kilometer below the surface of the subglacial Lake Mercer



Researchers drilled into the depths of Lake Mercer with a pencil-sized nozzle that sprayed hot water (Billy Collins/SALSA)

By [Meilan Solly](#)  
smithsonian.com  
January 22, 2019

Scientists drilling into Antarctica's subglacial Lake Mercer have successfully retrieved the carcasses of tiny, long-deceased animals including [tardigrades](#), or "water bears," and small crustaceans, reports Douglas Fox for [Nature News & Comment](#).

The discovery is one of several projects spearheaded by the [Subglacial Antarctic Lakes Scientific Access](#), or SALSA, expedition. According to SALSA's [website](#), the ambitious campaign involves 50 scientists, drillers and support staff who aim to uncover the secrets of this "scarcely studied environment."

The most significant aspect of the find is its implications for Antarctic organisms' versatility. As Maria Temming writes for [Science News](#), researchers had previously believed subglacial lakes were only capable of hosting simple life forms. A 2013 sampling of [Lake Whillans](#), a neighboring body of water just south of Lake Mercer, supported this theory, yielding nothing more complex than a microbe. SALSA team member and University of Nebraska-Lincoln micro-paleontologist David Harwood called the find "fully unexpected."

But when scientists turned their attention to Lake Mercer, the results were far more diverse: “[We found] some things that looked like squished spiders and crustacean-type things with legs, ... [plus] some other things that looked like they could be worms,” Harwood tells Temming.

To reach the depths of Lake Mercer, SALSA researchers used a pencil-sized drilling nozzle that sprays heated water. Upon reaching the desired level, the team retrieved samples with the aid of a corer tool. [Business Insider](#)’s Aylin Woodward reports that the group was initially surprised to see tiny crustaceans and a tardigrade—an eight-legged invertebrate capable of surviving in extreme conditions—hiding in the cores. Speculating that the samples had been contaminated by uncleaned equipment, the team launched a second drilling expedition. Shockingly, it produced the same results.

Crucially, Nature News & Comment’s Fox notes, the specimens recovered appear to be land-dwellers rather than lake or ocean creatures. As Slawek Tulaczyk, a glaciologist at the University of California, Santa Cruz, who is not part of the SALSA team, explains to Fox, it’s possible that the carcasses traveled from the mountains to the lake via subglacial rivers or by clinging to the bottom of an advancing glacier.

It probably went something like this, Fox adds: Either some 10,000 or 120,000 years ago, the [Transantarctic Mountains](#) went through a brief warm spell that found the region’s characteristic glaciers receding, allowing pockets of animal life to blossom in ponds and streams before succumbing to the return of frigid conditions. As encroaching ice overtook the mountain range, a number of these creatures ended up trapped within the buried lake, where their remains eventually came to rest around a kilometer below the surface.

The next step is narrowing that timeline down. Byron Adams, a researcher at Brigham Young University, says it’s likely most of the organisms from the lake didn’t die that long ago, relatively speaking—mere thousands of years ago rather than millions. It’s even possible that scientists will be able to analyze them using radiocarbon dating, which would confirm that they’re younger than 40,000 years old. Overall, the team hopes to use its findings to garner a clearer picture of the regional ecosystem than ever seen before.

In general, crustaceans and more complex organisms are capable of surviving in Antarctica’s ice-covered lakes because they receive a small amount of sunlight. Subglacial lakes such as Mercer, however, offer no sunlight, making it nearly impossible for animals to thrive. Still, the new discovery could speak to the tenacity of certain species, suggesting they found a way to survive in the dark depths of a subglacial environment.

Adams, at least, is holding onto hope that Lake Mercer could yield more intriguing finds: Speaking to Nature News & Comment, he concludes, “It’s possible that you could still find things that are alive.”

#### About Meilan Solly

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