

Russians drill into Lake Vostok, begin search for life under Antarctica's surface

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Scientists are taking the search for life in extreme environments to the ends of Earth and beyond. On Wednesday Russian scientists announced they had reached Lake Vostok, a subglacial lake under Antarctica. As AP reported:

Russian researchers reported Wednesday that they had reached Lake Vostok, a pristine body of water untouched by light or wind for about 20 million years. They want to know what type of microbial life — bacteria too small to see — might exist there.

Finding microbes may not sound like much. But they were the first form of Earth life eons before plants and animals existed.

If scientists find these tiny germs in Lake Vostok, it bolsters already strong hope that elsewhere in our solar system, life also might exist where once it didn't seem possible.

There are plenty of examples of life forms existing in the most improbable of places:

—A tiny shrimp was captured on a NASA video floating under thick ice sheets in a different part of Antarctica.

—Tubeworms somehow get needed energy from violent hydrothermal vents in the deepest Pacific and Atlantic oceans.

—A germ called “the world’s toughest bacterium” by the Guinness Book of World Records and also termed “Conan the Bacterium” was found 55 years ago in a can of meat. It survives

and even repairs itself in radiation that would be deadly to cockroaches.

Some in the scientific community expressed concern that the drilling techniques used to reach Lake Vostok could contaminate the pristine lake. As Marc Kaufman explained:

The long effort has met with controversy over some of the chemicals and techniques used in the drilling. Many have been concerned that pristine Lake Vostok — which hasn't felt the wind for more than 20 million years and may well be home to previously unknown life forms — could be contaminated by the kerosene, Freon and other materials used in the drilling.

John Priscu of Montana State University, an Antarctica specialist who has been in periodic contact with the Russian team, said rumors are flying that the lake was indeed pierced but that no information has been formally announced.

“If they were successful, their efforts will transform the way we do science in Antarctica and provide us with an entirely new view of what exists under the vast Antarctic ice sheet,” he said in an e-mail.

Many scientists see Vostok as not only a last frontier on Earth but also a potential gold mine for learning about possible conditions on Jupiter's moon Europa or Saturn's moon Enceladus. Each is covered by a thick shell of ice with liquid water below, warmed by either the inner heat of the moon or by tidal forces.

The United States and Britain will begin drilling later this year into small subglacial Antarctic lakes. Scientists estimate that there are about 200 of these lakes beneath the ice sheet.