



More Fungus Among Us

As collections manager at Chicago's Field Museum, Robert Lücking is a man who knows his lichens. So he was surprised when *Dictyonema glabratum*, a well-studied fungi common in Central and South America, turned out to be more than he bargained for.

Lücking and his team collected and sequenced DNA from 376 samples of the leafy lichen and discovered 126 new species among them, many with striking physical differences, according to their study published in June. Because the samples were taken from only a small portion of the fungus's natural habitat, Lücking estimates that *D. glabratum* might actually be more than 450 different species.

Since the lichens provide vital nutrients to surrounding plants, identifying new species is crucial to understanding and protecting tropical ecosystems, many of which are threatened by agriculture and mining. As Lücking puts it, "Before we work on issues such as conservation, we need to know what species we are dealing with." —BRENDA POPPY



One well-studied fungus could actually be more than 450 different species.

LEFT COLUMN: COURTESY ROBERT LÜCKING/FIELD MUSEUM. RIGHT COLUMN, FROM TOP: AP PHOTO/PRESS SERVICE OF THE YAMALO-NENETS AUTONOMOUS OKRUG GOVERNOR; AP PHOTO/ASSOCIATED PRESS TELEVISION



Archaeologist Andrei Plekhanov says it's unlikely a meteorite caused the new crater.

Methane at Bottom of Siberian Crater Mystery

The hole's origins may be easier to explain than anyone thought.

In July, a helicopter pilot flying over arctic Russia's Yamal Peninsula noticed an odd sight: a roughly 100-foot-wide crater in the permafrost. Images of the crater went viral online, sparking theories of its formation: Was it a meteorite? A missile strike? A botched alien landing?

To solve the mystery, geologist Marina Leibman of Moscow's Earth Cryosphere Institute and colleagues lowered a chemical sensor into the pit. Near the base of the crater, they detected high concentrations of methane, which they suspect had led to a pressure buildup that caused the ground to burst.

Just where the volatile gas came from is debatable. Some scientists believe the methane may have leaked from natural gas deposits deep below the permafrost, while others, including Leibman, say it likely escaped from the permafrost itself. Either scenario is surprising, since the frozen ground usually traps methane.

It's unclear if this atypical release is linked to climate change. While ground temperatures in the peninsula have increased about 3 degrees Fahrenheit since the 1970s, permafrost temperatures are still below zero, so thawing may not account for the methane release, Leibman says.

At least one other similar crater has been found in the area, and there's concern that the next chasm could topple nearby oil and gas facilities, or even homes. "It's very possible that this process will expand over this territory," Leibman says. —LUCAS LAURSEN