

Soil in Amazon found to host a large number of fungi types

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Uncontacted indigenous tribe in the Brazilian state of Acre. Credit: Gleilson Miranda / Governo do Acre / Wikipedia

In a paper published in the journal *Ecology and Evolution*, an international team of researchers reports finding that soil in the Amazon

River Basin hosts a surprisingly large number of fungi types.

Fungi are neither plants nor animals. They are organisms that produce spores as a means of reproduction and survive by feeding on organic matter. They include yeast, molds, toadstools, and mushrooms. Prior research has shown that there are many kinds of each of the different types of fungi—some in the field have suggested as many as 3.8 million. They are not studied nearly as much as plants and animals. Prior research has shown that fungi play a major role in nature, as they regulate carbon dioxide levels and recycle nutrients. For humans and some other animals, they also serve as a source of food.

In this new effort, the researchers wondered what sorts of fungi might be living in the soil in the Amazon. To find out, they ventured to South America and collected multiple [soil samples](#) from each of four main localities in the Amazon River Basin: Benjamin Constant, which makes up a large part of the area south of the Amazon river; Caxiuanã, which lies even farther south; Jaú, which covers most of the western part of the region; and Cuieras, which covers most of the eastern region. The researchers collected samples from multiple depths in the soil and from opposite sides of trees.

Back in their lab, the researchers conducted genetic analyses of the samples to find out more about them. They discovered that most of those they found had never been investigated or named. And there were a lot of them. They discovered as many as 400 types of fungi in a single teaspoon-sized soil sample. They also found that fungi were more prevalent in grassy areas than in wooded areas. The researchers suggest that they may have found yet another reason to preserve the rainforests—to learn more about the [fungi](#) that live there and perhaps put some of them to good use.

More information: Camila D. Ritter et al. Advancing biodiversity

assessments with environmental DNA: Long-read technologies help reveal the drivers of Amazonian fungal diversity, *Ecology and Evolution* (2020). [DOI: 10.1002/ece3.6477](https://doi.org/10.1002/ece3.6477)

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