



Saccharomyces cerevisiae yeast, one example of microfungi, is crucial to the production of bread, beer, and wine.

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Include all fungi in biodiversity goals

We applaud the call for mycologists and decision-makers to seize the opportunity to include macrofungi in the post-2020 global biodiversity targets (“Include macrofungi in biodiversity targets,” Y. Cao *et al.*, Letters, 11 June, p. 1160). It is shocking that only a meager 425 of the millions of fungal species on the planet have been evaluated for The International Union for Conservation of Nature (IUCN) Red List of Threatened Species (1, 2). However, the fact that most of the fungi assessed on the IUCN Red List are macrofungi—those forming easily observed spore-bearing structures above- or belowground (3)—reflects a bias toward well-known species that hinders efforts to characterize global extinction risk for fungi (4). Microfungi deserve equal consideration.

Although people associate fungi with mushrooms, most fungi do not produce reproductive structures visible to the human eye. For example, the vitally important arbuscular mycorrhizal fungi colonize the roots of 80% of all plants, a symbiosis that helped plants establish on land (5). Molds, such as those from which penicillin was isolated, are also microfungi (6). *Saccharomyces* yeasts, which give us bread, beer, and wine, are single-celled (7, 8).

Lack of knowledge about which fungi are most at risk of extinction hampers our ability to inform conservation actions to support those species and ultimately provide fungi-based solutions to tackle pressing global challenges (9). Therefore, we are

calling for the parties of the Convention on Biological Diversity meeting at the UN Biodiversity Conference (COP15) later this year to explicitly include all fungi in the designated targets. Most working documents discuss the conservation of flora and fauna (10); incorporating the funga (11) will write Kingdom Fungi into conservation frameworks while unlocking funding for mycological research, surveys, and educational programs (12). Fungi underpin all life on Earth. We cannot afford to neglect them in our efforts to halt biodiversity loss.

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Climate lawsuits could protect Brazilian Amazon

In the Brazilian Amazon, illegal deforestation increased by 37.5% between 2016 and 2020 (1). Since 2019, 50% of annual forest destruction has occurred on public lands, perpetrated by land grabbers (2). Protected areas and undesignated public forests have been invaded and illegally deforested by land grabbers who sell the land for profit and use its natural resources (3). The government’s actions have been ineffective in curbing deforestation (4). From January to May, deforestation in the region increased by 25% compared to the same period a year earlier (1). Land grabbing and deforestation have been promoted by loosening protection regulations (5–8). Fortunately, in the absence of effective strategies by the executive branch of government, the Brazilian judiciary has been creative.

An unprecedented lawsuit (9) filed by the Brazilian Federal Prosecution Office (BFPO) against a land grabber requires compensation for climate damages. From 2011 to 2018, about 2400 ha of pristine forest were illegally deforested in a protected area (the Antimary Extractive Reserve) in the South of Amazonas State (9). Using the free access platform Carbon Calculator (10)

LIFE IN SCIENCE

The hidden Olympic spectator

From my perch deep in the rocky terrain of the Yanshan Mountains, 90 km northwest of Beijing, I watch as preparations are made for the 2022 Winter Olympics. Through a gap in the tree line, I can see the construction of the official Olympic alpine ski course across the valley. With just a few kilometers between my secluded field site and the slopes, I could return as a distant Olympic spectator. Yet, I would not be alone.

I found this scenic spot while working to document wildlife in greater Beijing. My group is especially interested in the leopard cat—an elusive felid slightly larger than a house cat. When leopards went extinct in the Beijing area in the 1990s, the leopard cat became the top predator. To examine the state of the local population, we set up cameras along 15 km of this mountainous trail.

One crystal clear winter morning, we captured an image of a leopard cat walking across fresh snow. In the background, the Olympic ski slope looms. The species persists, even in this human-dominated landscape so close to the megacity of Beijing.

In February, I will serve on the Olympic alpine skiing referee team. To be surrounded by hundreds of athletes and spectators will be a thrill—a marked contrast to my solitary fieldwork. Humans are capable of extraordinary feats, beautifully showcased by Olympic events. Such achievements bring me hope that we can leverage our strengths to ensure continued coexistence between wilderness and human settlements. As we watch the skiers race down the slopes, I know that the striding leopard cat will be watching us.

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A leopard cat passes the distant site of future Olympic ski slopes near Beijing, China.

provided by the Amazon Environmental Research Institute (IPAM Amazon), the BFPO estimated the amount of carbon emission (1.5 million tons CO₂) due to that illegal deforestation. The BFPO projected the due compensation for climate damages at USD 9 million, 181.3% more than the compensatory value would be for local environmental harms alone. This amount was established by multiplying the CO₂ emitted by the illegal deforestation by USD 5 per ton of CO₂—a price referenced in the Amazon Fund, a REDD+ mechanism that invests in deforestation prevention and forest sustainability (11).

The Court has already issued a preliminary injunction in favor of the BFPO (12), recognizing the existence of illegal deforestation and embargoing the sale of cattle raised in the area. This innovative lawsuit sets a valuable precedent for other cases against land grabbers in the Brazilian Amazon. Strong monetary disincentives imposed by the courts could help win the battle against illegal deforestation and its adverse impacts on regional and global climate balance.

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