

PhytoMycology: Exploring the biology and innovation of plants and fungi together

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Plants and fungi are central to life on Earth. They shape ecosystems, drive nutrient cycles, and provide essential resources for food, medicine, and industry. A thorough understanding of their biology, diversity, and interactions is therefore critical, both for fundamental science and for practical applications. Although remarkable progress has been achieved over recent decades, many aspects of plant and fungal biology remain insufficiently explored. Recent advances in multi-omics, high-resolution phenotyping, and big data and AI-based computational biology are transforming our ability to study these organisms across molecular, cellular, ecological, and evolutionary scales. These developments open unprecedented opportunities to uncover the mechanisms underlying plant and fungal function, interaction, and adaptation, and to translate such knowledge into sustainable and innovative solutions for agriculture, ecology, and industry.

PhytoMycology is an international, open-access journal dedicated to publishing high-quality research spanning the breadth of plant and fungal science. The journal welcomes studies on fundamental biology—including physiology, development, cell biology, and functional genomics—as well as research on plant–fungus interactions and symbioses from molecular, ecological, and evolutionary perspectives. Equally within scope are studies on diversity, evolution, and systematics; molecular breeding and genome engineering; and the application of biotechnology to improve traits and enhance sustainability. *PhytoMycology* also encourages submissions that integrate multi-omics, phenomics, and computational approaches, or that employ synthetic biology, systems biology, and artificial intelligence to advance plant and fungal research.

The launch of *PhytoMycology* comes at a pivotal moment. Global challenges such as climate change, biodiversity loss, and the urgent need for sustainable resource management have underscored the importance of understanding plant–fungus systems. At the same time, emerging technologies now enable questions to be addressed that were once beyond reach. By fostering research that bridges fundamental discovery with applied insight, the journal seeks to accelerate progress in conservation, agriculture, biotechnology, and ecological resilience.

Importantly, *PhytoMycology* is envisioned not only as a publication platform but also as a vibrant, inclusive community that connects disciplines and generations of scientists. The journal particularly welcomes contributions from early-career researchers and interdisciplinary teams who combine innovative methods with bold ideas. Through rigorous peer review, transparent editorial standards, open access, and a commitment to open science, *PhytoMycology* aims to provide a trusted venue where high-quality work can be shared freely and globally.

We warmly invite researchers worldwide to contribute their best work and join us in shaping *PhytoMycology* into a leading forum for plant and fungal sciences. Together, we can deepen our understanding of these remarkable organisms, reveal their roles in sustaining life on Earth, and harness their potential to meet the challenges of a changing world.

Conflict Of Interest Statement

Jian-Kui Liu serves as the Editor-in-Chief of *PhytoMycology*; Hao Lin and Yong Zhang serve as Executive Editors of *PhytoMycology*. The authors declare that they have no conflicts of interest.

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