

Public Review

Title: *Mycology Laboratory Manual*

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Reviewer: Christopher Smyth

Throughout my years of teaching Mycology courses, I have implemented a variety of laboratory structures. Most of this was built from my previous experience taking Mycology courses, rather than textbooks or lab manuals. This lab manual is the first accessible semester-long Mycology laboratory manual I have come across. Clearly intended for college level students in an introductory Mycology course, this manual does an excellent job of providing a structured approach to designing and implementing mycology labs throughout a semester. Of note, this manual does an excellent job of traversing everything from identification of macrofungi to working with, and manipulating, microscopic fungi in a lab environment using both microbiological (i.e. microscopy) and molecular techniques (i.e. PCR, genetic modification). One strength I would like to highlight in particular is the focus on both microscopy and molecular biology for identification of filamentous fungi. Integration of molecular work, including DNA extraction, PCR and working with fungal sequence data, sets students up to develop essential skills in a broad array of disciplines, not just Mycology. This manual does an excellent job of piecing together these essential components of fungal identification and provides clear protocols that can be followed in most Mycology teaching laboratories. I appreciate the hands-on and inquiry-based approach this manual provides for teaching Mycology. It provides clear protocols and sufficient background information, while ensuring the results from laboratories themselves have some level of uncertainty around them. This kind of uncertainty is an essential part of science and allows for a discovery-based approach to teaching and learning that can be influential on student technical skill development, critical thinking and general curiosity about a topic. Overall, I highly recommend this laboratory manual, especially for anyone just starting to teach a Mycology course and looking for a good guide to build around.

Reviewer's Bio: I am a science educator, mycologist and marine biologist. I fundamentally believe in the importance of experiential, hands-on learning experiences in order to best prepare our students for the challenges of the present and future. I earned my Ph.D. in Plant Pathology from Penn State University and have been teaching in higher education for nearly a decade.