

Rationale and goals: Our understanding of the higher-level phylogenetic relationships of Fungi has advanced considerably in recent years. These advances have been reflected to varying degrees in comprehensive classifications of fungi, including those in the Dictionary of the Fungi, GenBank, Myconet, the Tree of Life Web Project, the Mycota vol. VII, the Fungi chapter in the recent Assembling the Tree of Life text, and others. Innumerable classifications of individual groups have also been affected by molecular phylogenies. While there is an emerging consensus on the composition of the major clades of Fungi, the names applied to those clades vary from one treatment to another. For example, the “Basidiomycetes” of the Dictionary of the Fungi are equivalent to the “Hymenomycetes” of GenBank. This one example may seem trivial, but collectively the inconsistencies among classifications are a major source of confusion, especially for students and non-specialists.

The goal of the AFTOL classification project is to develop a unified classification of the Fungi down to the level of orders. A unified higher-level classification for the Fungi will facilitate communication and will make it easier for students to learn about fungal diversity. We are not attempting to develop a classification below the ordinal level, in part because of the nomenclatural challenges that a family-level classification would pose (the rules of priority in the International Code of Botanical Nomenclature do not apply above the rank of family). We are also not proposing a mechanism for updating this or other classifications, which is a subject that the broader mycological community may wish to consider.

The timing is excellent to undertake this project. Recent analyses have provided resolution of many major groups, and revisions of several major classifications are underway or about to begin. We expect that the classification proposed here will be implemented in the following works:

- Dictionary of the Fungi 10th edition—to be published in 2006
- GenBank—updated continuously
- Myconet—updated continuously
- Tree of Life Web Project—updated continuously
- Mycologia Deep Hypha issue—mss due Feb. 2006
- Alexopoulos’s Introductory Mycology—new edition to be submitted Nov. 2006