A Useful Roadmap Through the World of Algae, Protozoa, and Fungi
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At some point during the semester, instructors of Introductory Biology courses tell their students (rightly so) that, “Protists are not a true group of related microbes; this is merely a ‘catchall term’ for eukaryotic microbes.” Eukaryotic Microbes, edited by Moselio Schaechter, does a good job in helping the reader understand this complexity, demonstrating the diversity of algae and protozoa, and highlighting some of the more interesting aspects of fungi. The book is logically separated into two parts—fungi and protists. There is so much information on these microorganisms that one would expect a work composed of multiple volumes, but that is not the case. The authors have distilled the information into a reasonable 479 pages. The content appears to be current in taxonomic classifications and topics of interest in these fields of microbiology. The book is for people interested in the significant connections of these microorganisms to the environment.

I really like two things about this book. First, the book is not an encyclopedia with entries for every single eukaryotic microbe discovered. The authors chose current and emerging topics in the study of algae, protozoa, and fungi. There is no attempt to discuss every single organism known. For example, fungi do not have a chapter devoted to each major taxonomic group (Ascomycota, Basidiomycota, etc.) discussing every possible detail. Instead, chapter titles are Aspergillus, Endophytic Microbes, Yeasts, Fungal Infections, Lichens, and so on. I believe readers will find these selections more exciting than the “traditional” entries for fungi. The protists section of the book is just as interesting. This section is a bit more traditional in the fact that the chapters focus on the diversity of this group (Trypanosomes, Stramenopiles, Ciliates, and so on), but there are also chapters discussing secondary endosymbiosis and microbial food webs. Second, many chapters have ecological themes. Reading about significant connections between these microorganisms and the environment is more “attention grabbing” in my opinion, and may encourage more people to explore these areas in their research pursuits.

The book is very straightforward and is definitely for readers with a science background. However, the writing is not so complicated that readers new to these topics will have difficulty grasping the information. Chapters end with a list of articles and books for those interested in investigating further, which is helpful to readers who want to learn more about specific concepts or the research discussed in the chapter. Many times the “Further Readings” lists alone are worth the price of the book. The chapters have a fair number of figures and tables to complement the text. They are well organized and designed. The illustrations are black and white, which never discourages scientists.

Eukaryotic Microbes is a valuable desk reference for instructors who wish to refresh their own memories or pick up some engaging nuggets of information to use in their class presentations. I can definitely see the tables, figures, or illustrations making their way into lectures. Students will find it valuable in making connections between these important organisms and their environments. I can also see the book being used as a textbook for an upper-division undergraduate or graduate course that wants to highlight current knowledge in this field of microbiology.

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