PREFACE

I have read a description of textbooks as "those formidable fossilizers of misconceptions." As a textbook author, this caught my attention. I hope it is not true of me or this textbook, but it is an opinion worth considering.

Do textbooks fossilize misconceptions? Well, they come close to engraving certain ideas and theories in stone. I have always tried to ensure that the ideas I put into this textbook—through its many editions—are correct and will stand the test of time. One goal of authors, editors, publishers, and teachers is that a textbook should be as up-to-date as possible. This is risky: The newest observations, experimental results, and interpretations have not been widely repeated, verified, analyzed, or vetted to determine whether they are something new and important or are instead merely misinterpretations, errors, or exceptional cases that are not representative of most organisms. I would say that it is the duty of a textbook author to specifically avoid including the latest trendy, attention-grabbing tidbits that are in the spotlight at the moment the book is being written. It is our responsibility to give students solid, trustworthy, and reliable information. That means textbooks might always be a bit out-of-date, but the role of a textbook and its author is to give a student a solid foundation.

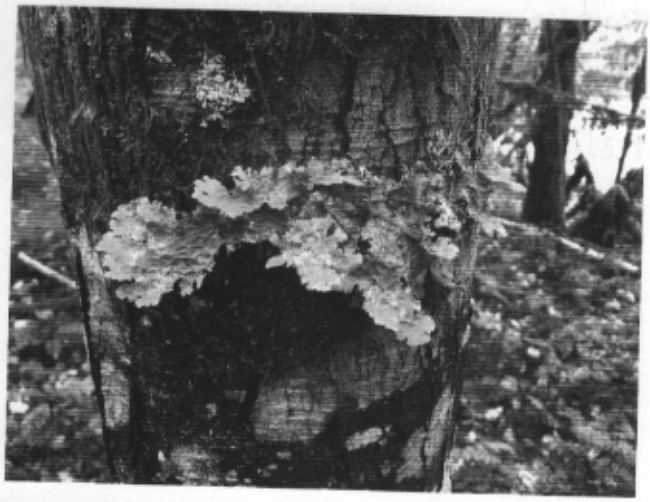
Another goal of a textbook and its author should be to emphasize how much we do not yet know. If a textbook were to give the impression that its contents were the complete and absolute truth, that would indeed be formidable and discouraging. A textbook is a means by which an author speaks to the newest members of a discipline and shares with them the most important concepts and insights of that disciplin coming the readers into the discipline. It is important vey to students that there is still much work left to be Research into plant biology is an ongoing process, ar dents need not fear that everything will have been do erything will have been discovered, by the time they gra

Of course, an author cannot tell readers everythin is currently known; it is necessary to choose core co and to make generalizations. It is here where an author cause a textbook to fossilize misconceptions. We p the most common, most representative cases, but oth teresting and valid points are left out. During my ye college, I was bewildered to read certain "facts" that I first-hand were not true. For example, I grew up in the Basin Desert of eastern Washington State, and I knew many outcrops of ancient lava were covered in mosse lived in harsh sun, extreme drought and heat, with l ly cold winters. But my textbook told me that mosse in moist forests. The author had given mosses a descri that was accurate for most but not all of them. But wa an unforgivable error by the textbook and its author? allowed me to realize that I could take charge of my ow ucation: the book gave me the basics and I could perso fill in some details and nuances. I hope that in this *Se Edition*—just like in all previous editions—I have em sized diversity enough that students will realize they sh keep an open mind and expect that variations often exis

But just in case, let's clear up some botanical miscon tions and break some old fossils:

1. Mosses and ferns live in wet areas . . . and also in ones.
2. Lichens grow slowly . . . but in moist areas they g rapidly, overwhelming mosses and liverworts.
3. Deserts are hot . . . and cold or in between.
4. Wood and bark are dead . . . but only after they They are alive while growing, differentiating, cond ing. Living cells persist for years throughout sapw and inner bark.
5. Mosses and ferns reproduce by spores . . . . as do plants; there are no exceptions. The point is that mo and ferns reproduce without seeds.
6. The tropics are warm, humid habitats in which lif easy . . . but plants adapted to tundra or deserts wo find them stressful.
7. Textbooks are formidable fossilizers of misconceptio I will let you decide.

—James D. Maus



In the moist conditions of Victoria, British Columbia, this lichen grows rapidly enough to cover mosses and to exceed the formation and shedding of tree bark.