evaluation. To be fair, part of the problem is the rate at which new techniques are developed, and some of these methods may not pass the test of time. However, AFLP assays are now much more common than immunoassays. While this book is not intended to serve as a laboratory manual, a more even coverage of lab methods would increase its value as an introductory text.

Analytical techniques are generally well treated in the final chapter of the first section. The coverage is not exhaustive — readers are given enough to understand the principles behind phylogenetic analysis, without delving into the computational complexities involved. Avise presents a very clear discussion of molecular clocks and lineage sorting, key concepts for understanding phylogenies. I have two minor criticisms of this chapter. First, in contrasting Maximum Likelihood and Bayesian analysis, he claims that the latter method uses a better tree-searching algorithm. This may apply to the particular software packages he refers to, but it is not generally true. Second, there is no mention here, or elsewhere in the book, of the AMOVA approach to assessing population genetics. AMOVA appears frequently enough in the literature to warrant at least a summary.

The second section of the book consists of five chapters. The first four are devoted to the different phylogenetic levels where molecular markers are used: individuality and parentage, population structure, species level issues, and macroevolution. The final chapter serves as a summary, re-examining each of these areas in the context of conservation biology. As a whole this section is a masterful demonstration of the power of molecular markers in addressing biological issues. The taxonomic coverage is comprehensive, with examples drawn generously from the full spectrum of life.

Avise excels at drawing out the key points from the papers he cites, using them to relate fascinating natural history stories. He starts with the gruesome development of molecular markers in human forensics, and doesn’t stop until he has touched on the deep phylogenetic roots of life on earth. There is so much material that I found myself wondering if he needed a firmer editor. However, I could find very little that I would want to part with! On the whole there is a good balance between empirical examples and discussion of conceptual issues.

Readers familiar with the first edition will find that the second section of the book has been thoroughly updated. In most cases, examples included in the original are revised with newly published work, and many new research programs have been added. Where the additions made to the first section felt awkward, here the new information is seamlessly incorporated into the text. I particularly enjoyed the expanded discussion of speciation and hybridization, as well as new issues in the conservation biology section.

For biologists unfamiliar with molecular markers, this book serves as a valuable introduction, both to the techniques and the sort of questions that they can address. It won’t give them the background they’ll need to actually use the methods covered, but it should provide enough inspiration to keep their spirits up during long hours in the lab. Researchers already using molecular techniques won’t find anything here that will help them in the lab, but they will find some interesting perspectives on the ecological and evolutionary context they are working in.

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The book begins with four short chapters introducing the context of “going native”, how to read the local landscape when deciding which trees to plant, how to plant, grow, and maintain trees, and how to manage construction and landscape design in such a way that existing trees suffer as little harm as possible. The authors have few kind words for building contractors — one of the most telling photos is captioned “bulldozer blight is the most common tree disease in North America” — and they emphasize
the importance of vigilant oversight whenever landscapes must be altered.

The bulk of the book — nearly 500 pages — is the "Menu of native trees". The authors define "tree" expansively as any woody plant under which one can stand when it is mature (shrubs, in contrast, are woody plants one can stand beside). The menu includes detailed profiles of 96 species, arranged alphabetically by scientific name, from Abies balsamea to Viburnum prunifolium. Each profile contains the same set of information: a thumbnail silhouette of an open-grown specimen and a single leaf; a general description of the tree, including potential size and unique characteristics; the size and location of the U.S. "champion" tree; leaf characteristics including arrangement, texture, and fall color; flower and fruit characteristics, with special attention to ornamental traits or use by wildlife; a subjective ordering of the seasons that show off the tree to best advantage; its native and potential range along with its range limits defined by USDA hardness zones (a map of these zones is thoughtfully provided as well); cultivation and propagation information; important pests and pathogens; and a list of cultivars. Each profile concludes with a description of from 1-6 similar or related species, usually congeners but sometimes trees that are similar in structure, habitat, or growth requirements (for example, Pseudotsuga menziesii is discussed as a similar species in the profile of Abies balsamea). Each profile encompasses 4-6 oversize pages and includes one or more photographs of the tree under discussion as well as photographs of at least one of the similar or related species. Leaves, fruits, seeds, or entire trees are shown in the photographs, which always draw attention to the most favorable or interesting aspects of each species.

Some genera get more attention than others. Befitting Sternberg's history as founding President of the International Oak Society, and reflecting the diversity of the genus, 14 species of Quercus are fully profiled. On the other hand, only two species of Magnolia receive full treatments. Even the most dedicated gardener or arborist is likely to learn about new trees: my own favorite is our native Euonymus - the wahoo (Euonymus atropurpureus) - that can be cultivated into zone 3 and which would be a nice substitute for the exotic Euonymus species spread far and wide by the horticultural industry. For those living south of zone 6, Pinckneya bracteata is my favorite novelty that merits serious attention for its magnificent display of rose-pink sepal.

The book closes with a tree selection guide in which species are listed in groups based on design or horticultural characteristics. These groups include trees that tolerate seasonally wet or dry soils, hot or cold climates, or shade; trees that have evergreen foliage, good fall color, or unique flowers or fruits; and notably small or large trees. The comprehensive state-by-state list of Natural Heritage programs, native plant societies, and specialty tree growers will be particularly useful for those looking for advice on growing trees or trying to purchase hard-to-find species. There is also a few pages of web sites that the authors found useful, but given the ephemeral nature of web sites, these few pages may not have as much lasting value as the detailed glossary and bibliography of recommended reading.

Overall, this is a magnificent book that would be welcome on any coffee table. But don't just look at the pictures! The next time you want to plant a tree, read the text and find an interesting one to plant and cultivate. Like long-lived trees, this book will not go out of date any time soon. — Aaron M. Ellison, Harvard Forest, Harvard University, Petersham, MA 01366.

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Botanical Latin, 4th ed. Stearn, William T. 2004. ISBN 0-88192-627-2 (Paper US$29.95) 560 pp. Timber Press, Inc. 133 S.W. Second Avenue, Suite 450, Portland, OR 97204-3527. Having used the 2nd edition of this work since 1978, grateful for such a compilation each time I sought answers in its pages. I was curious to compare Stearn's new 4th edition with the work I have come to rely upon. Stearn wrote in his Preface to the Forth Edition, that he is gratified that it "has proved successful enough to necessitate printing two new editions and seven impressions between 1966 and 1990. The fourth edition improves upon these predecessors by a larger format for easier consultation, by minor emendations to the bibliographies and text, and by the addition of some 400 entries to the vocabulary."

I have found some minute changes, e.g. to the prefix aden- Stearn added a second example of its use, adenocarpus, with glandular fruits. Amygdalus, almond-like, of almonds, is a new entry, as is Peg, nail. It certainly is advantageous to have a larger typescript with this new 4th edition, and the paperback cover makes the lighter weight tome slightly easier to handle. Its reasonable price permits this iconic reference work to be accessible to every serious botany student and academic library. Dorothea Bedigian, Washington University and Missouri Botanical Garden, St. Louis.