

## BOOK REVIEWS

**The herbaceous layer in forests of eastern North America.** Edited by F. S. Gilliam and M. R. Roberts. xvi + 408 pp. Oxford University Press Inc., 198 Madison Avenue, New York, NY 10016. 2003. US \$44.50. ISBN 0-19-514088-5. Hardcover.

This, most welcome volume, covers a tremendous amount of research and points the way toward much needed future studies on forest herb layers. In 14 chapters by 19 authors, the subject matter ranges from nutrient uptake, lowlight environments and ecophysiology of sunflecks, to the use of multivariate analysis to test for linkage between the forest canopy and understory vegetation. Other topics include the effects of various disturbance regimes on forest understory plants such as windthrow, fire, invasive species, clearcutting, and agriculture. Seasonal changes in understory species from spring ephemerals to evergreen herbs are discussed in a number of contexts throughout the book.

The concept of permanent versus transient residents of the understory is discussed in several contexts, tree seedlings being transient by eventually becoming part of the overstory. Conversely, the effect of understory herbs on the establishment of various species of tree seedlings is also discussed at some length.

The very extensive bibliography is almost worth the price of the book in itself. This 61 page list of sources constitutes essential reading for anyone interested in understanding forest understory plants and plant communities.

Despite the broad range of topics addressed here and, as the authors readily admit, a great deal more research needs to be done to fill in the vast gaps in our knowledge of these subjects. A look at the list of characteristics of 94 rare plants in Appendix 5.2 highlights the lack of basic information on plants in need of protection. Information on many life cycle characteristics is missing even for plants as well known as *Helonias bullata*. As someone who works in urban and suburban woodlands, I would add that many species, not now listed as rare, will become so if forest fragmentation and understory destruction continue as they are at present.

If criticism is warranted, it is that this book focuses almost entirely on forests in which the major human disturbances are logging, grazing, and agriculture. However, many forest preserves

have been established in urban and suburban areas in order to conserve local open space and ecological diversity. Human activities in these preserves range from dumping and heavy use of off-road vehicles to repeated “recreational” fires. All of which open the way for invasion of some very aggressive non-native plants. It is not uncommon to see regenerating woodland with an understory dominated by *Lonicera japonica*, *Allium vineale*, *Alliaria petiolata* and Asian bush honeysuckles (*Lonicera* spp.). *Microstegium vimineum* has also formed large monocultures in some sites, excluding native species. Nor is there much discussion of the white-tailed deer population as a factor in the degradation of suburban forest understories. Exclosure studies in a number of suburban forests have demonstrated that deer are having a profound effect on forest regeneration in many parts of the northeast near human population centers.

Overall, *The Herbaceous Layer in Forests of Eastern North America* serves as both a summary of what has been learned and a starting point for what needs to be done in order to preserve our remaining native flora and plant communities.—MARGARET B. GARGIULLO, City of New York, Parks and Recreation, Natural Resources Group, 1234 Fifth Ave., New York, NY 10029.

**Trees of Pennsylvania: A complete reference guide.** By Ann Fowler Rhoads and Timothy A. Block; drawings by Anna Aniško. 407 pp. University of Pennsylvania Press, Philadelphia, PA 19104–4011. 2005. US \$49.95. ISBN 0-8122-3785-4. Hardcover.

I probably have three dozen “Trees of . . .” volumes in my personal library. Thus, I approached the *Trees of Pennsylvania* in a bit of a jaded fashion expecting yet another volume in a long series of similar titles. I then sat down for a closer inspection and was quite impressed with what I saw. This text was assembled by two botanists at the Morris Arboretum, the official arboretum of the Commonwealth of Pennsylvania. They have done a wonderful job in this compilation of 195 species of native and naturalized trees of Pennsylvania. It will prove to be an authoritative and accessible guide not only for naturalists, foresters, and teachers, but also for any