BOTANY

Biotic Forest Communities of Ontario

By Norman Duncan Martin and Norma M. Martin. 2003. Commonwealth Research. Belleville, Ontario, Canada. 195 pages. $10.00 paper.

Martin and Martin set out to identify the basic forest communities of Ontario, describe their biotic composition, and consider the successional relationships among them. While they draw on an impressive amount of personal research and a broad literature survey, the book lacks focus and therefore may have a limited value to a general audience.

A fundamental component of any scientific study is that the work must be repeatable. When presenting study results it is therefore essential that the methods are clearly laid out. This is not the case here. The reader is informed that the authors tallied vegetation in transects in various types of forest. A single map of transect locations is provided, with numerous examples of data sheets. No details are provided to explain the selection of transect locations nor which aspects of the vegetation were sampled or how. There is also no explanation of the analysis itself, other than to acknowledge the influence of the "schools of interpretation" of Clements, Curtis, Hills, Whittaker and others. These were indeed important workers in this field, but listing their names doesn't allow the reader to critically examine the results of the current study.

The bulk of the book is devoted to descriptions and tables illustrating the ten forest community types identified by the authors. There are interesting observations here, but the sheer quantity of poorly organized data makes it difficult to appreciate. Most of the data is presented as tables showing various measures of abundance in selected samples. The only graph prepared by the authors is labelled as showing a "discernable pattern with characteristic variability". The discernable patterns are lines overlaid on the plotted points without any statistical support. This would not be acceptable in an undergraduate ecology class, let alone a scholarly thesis.

It is unfortunate that the authors make no reference to Lee et al. (1998), which has become the standard forest classification system for Ontario. It may be interesting to contrast the ecological land classification (ELC) of Lee et al. with Martin and Martin's forest communities. If their data could be used to refine or correct the ELC system it would be far more useful than it is as a stand-alone study.

The most interesting part of this book is the relationship between forest types and their fauna. The authors have collated a great deal of their own data as well as data from published and unpublished sources. A more thoughtful analysis of this aspect of their study might produce a more enduring contribution to the study of forest ecology in Ontario.

Literature Cited

Lee, H., W. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and **S. McMurray.** 1998. Ecological land classification for Southern Ontario: first approximation and its application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

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Les champignons des arbres de l'est de l'Amerique du Nord

By Bruno Boulet. 2003. Les Publications du Québec, Sainte-Foy, Quebec, Canada. 727 pages. $49.95

The author and a number of colleagues have invested a considerable effort to produce this detailed treatise on the principal wood-inhabiting fungi (mostly polypores) of eastern North America. The 19 × 24 cm, hardcover book is heavy but the binding is robust. The book contains nearly 500 color pictures, typically 6 or 7 on a page, of very good quality.

There are three principal sections. First there is a brief commentary on the vegetation of Quebec, especially in relation to the geographic and host distribution of the wood-inhabiting fungi. Then 118 pages are devoted to a discussion of the state of our knowledge of the polypores, including their medicinal properties, edibility, and traditional and commercial uses. The role of these fungi as forest pathogens and their influence on the management of forests are reviewed and various tree defects caused by these fungi are depicted in color.

The second section of the book introduces the reader to the taxonomy, nomenclature and classification of the polypores, as well as their distinctive macroscopic and microscopic features. The latter are in some instances essential in naming specimens. This section concludes with an explanation of the most common means of identifying and naming a specimen, i.e., the botanical dichotomous key, and a key including over 400 taxa. About 120 of the 400 are mushrooms that are briefly described in the key and 76 of them are shown in a color photo. Many are truly wood-inhabiting fungi but a few are mycorrhizal (*Lactarius* and *Russula*) and others are incidental inhabitants of well-rotted woody debris.

The third and the major part of the book presents essential information that allows recognition of 169 species, observations on their biology and ecology, color pictures, and distribution maps. Readers should be cautious in their interpretation of the distribution maps because when I compared 8 maps with distributions in two references from the bibliography, i.e.,

numbers 142 and 145, each map was deficient. Two specific examples are (1) reference 142, titled *Albatrellus* in Michigan, includes *A. caeruleoporus, A. confluens, A. cristatus* and *A. peckianus* but Michigan is not shaded on the maps for those species, and (2) shading on the map for *Sistotrema confluens* covers southern Quebec and Nova Scotia but reference 145 notes its presence in those provinces as well as in Michigan, North Carolina, New Hampshire, New York, Vermont and Wisconsin.

Two new species, *Auricularia americana* Parm. et I. Parm. ex Audet, Boulet et Sirard and *Polyporus longiporus* Audet, Boulet et Sirard, are proposed. Several species are reported for the first time in North America, for example, *Antrodiella pallasii, Postia alni, P. folliculocystidiata, P. ptychogaster, Phellinus cinereus* and *Polyporus tubaeformis.* Although two names, *Postia minisculoides* and *P. subpendula,* are proposed as new combinations, if their basionyms, i.e., the initial name given to the fungus and its place of publication, are not in the book the new combinations are not validly published. There is a picture (plate 15 D) labeled *Punctularia strigosozonata,* that shows a typical fruit body of the orange crust fungus, *Phlebia radiata.*

The book concludes with a glossary containing approximately 250 terms with their English equivalent and a definition that often includes a reference to a page where the term is used or illustrated, an index of French and English common names, an index of scientific names, and a bibliography of 450 entries.

The book is recommended to mycologists, forest pathologists, forest ecologists, and naturalists. It is a significant contribution to our knowledge of the wood-inhabiting fungi of eastern North America.

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Manual of Vascular Plants of Northeastern United States and Adjacent Canada: Second Edition

By Henry A. Gleason and Arthur Cronquist. 2004. The New York Botanical Garden Press, 200th Street and Kazimiroff Boulevard, Bronx, New York 10458-5126 USA. 993 pages. U.S.$69.00. Cloth.

The second edition of this most useful flora was first printed in 1991. Subsequent printings have taken place in 1993, 1996, 1998, 2000 and 2002. The seventh printing which has a slightly larger page (15 cm × 23 cm, rather than 14 cm × 21.5 cm) has a slightly larger typeface. The text pages have exactly the same page numbers as the earlier printings. Some corrections were made in the 1993 volume. In 1999 nineteen individuals contributed numerous corrections but these corrections could not be included in the 2000 and 2002 printings without having an electronic version. One was finally made for the 2004 printing.

This new volume has an interesting but almost hidden drawing of a Tulip-tree, *Liriodendron tulipifera,* on the front cover. The introductory pages start with a Table of Contents which includes a list of the families in taxonomic order with their page numbers. This is followed by a Foreword by Patricia K. Holmgren and Noel H. Holmgren and short bibliographies of Henry Allan Gleason and Arthur Cronquist by Noel H. Holmgren together with photographs of them. The Glossary which preceded the synoptic keys in the earlier printings now follows the main text. This is followed by the Index to Common Names and the Index to Scientific Names which in the earlier volumes were combined.

This new volume is a most welcome step ahead with the numerous changes and corrections, and The New York Botanical Garden Press is to be congratulated even though it is still called the Second Edition.

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The Wild Orchids of North America, North of Mexico

By P. Martin. 2003. University Press of Florida, 15 Northwest 15th Street, Gainesville, Florida. USA. $27.95 paper, U.S.$45.95 cloth.

This book is a special version of a check list. The orchids included are all the recorded species found above the U.S.–Mexican border north to the Arctic and Greenland. This covers 223 species plus 24 subspecies and varieties. Additionally, this takes in 103 growth and color forms, 24 hybrids, and introduced species. The species are arranged alphabetically by scientific name, so the first entry is the charming little Spotted Orchid *Amerorchis rotundifolia*. The author gives the genus, synonyms, misapplied names, typical common name, references and range. The author also adds any appropriate comments. For each species there is a 5 × 7 cm photograph of the flower and a line drawing, generally of the whole plant. In some cases the line drawing is of the flower only which is a duplication that does not add information.

In addition to the over 60 species that can be found in Canada, and the familiar genera (*Platanthera, Cyprepedium* etc.), there are several genera that I normally associate with the tropics (*Vanilla, Laelia, Epidendrum*). While many of these are escapees from cultivation, there are a number that are native species. Not surprisingly, most of these tropical epiphytes are to be found in Florida. Indeed, I was surprised to see