

## BOOK REVIEW

JAMES W. HINDS AND PATRICIA L. HINDS. 2007. **The Macrolichens of New England**. (ISSN 0077-8931, ISBN 13: 978-0-89327-477-1, ISBN 10: 0-89327-477-1, hbk., printed on FSC certified 86 lb. gsm glossy). Memoirs of The New York Botanical Garden, Volume 96:1–608. The New York Botanical Garden Press, 200th Street and Kazimiroff Boulevard, Bronx, New York 10458-5126, U.S.A. (**Orders:** 718-817-8721, 718-817-8842 fax, <http://www.nybgshop.org/NYBG-Press-p-1-c-333.html>). \$65.00, 584 pp., 10 tables, 14 line drawings, more than 400 color illustrations, glossary, index, 7¼" × 10¼".

The authors hope this book will serve as a true field guide but the larger size format, heavy weight, and thick, nonflexible hardback cover would preclude hand carrying or hiking with a book bag over long distances. More value would be realized as a reference book or identification manual at home or in the laboratory using the dichotomous keys and photographic images depicted at magnifications that make picture identification possible.

Macrolichens include species considered foliose and fruticose growth forms that are often larger, showy, and more conspicuous to the eye as the name macro implies and excludes microlichens that include mostly the smaller, less conspicuous crustose growth forms. This will make the keys and book more user friendly since a compound microscope is not required for identifications. Nevertheless, the lichens are a difficult group to identify because of the reliance on chemical characters that require different chemical reagents not readily available and mastery of an extensive vocabulary of terminology applied to the more than 25,000 species currently recognized.

The effective use of publication sidebars in the early topical sections, for example, "A classic study of sexual reproduction in lichens," "Colonization of land by lichens in the Precambrian Period?," "Lichen biomonitoring used to discover areas with increased risks of lung cancer" among others, enlivens the narrative and introduces additional information that engages the reader's interest about lichens. Introductory sections will help the beginner grasp the biology, terminology, and economic importance of lichenology through the discussion of "What is a lichen?," "Ecological role of New England lichens," and "Human uses of New England lichens."

The biophysical region of New England covered in this book includes the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. A topical section that deserves special mention, for example, "Biophysical regions of New England and their macrolichen floras" gives helpful information that includes a map of the counties, geography, geology, climate, natural forest vegetation zones, major biographical zones, and specialized lichen habitats in New England, especially the saxicolous lichens on tombstones in cemeteries. Another section highlights "Changes in abundance and distribution of New England macrolichens during the last 100 years" based on an interesting Table 5 that lists the records of "Macrolichen species once found in 3 or more New England states but now in none," Table 6, "Macrolichen species with decreases of 3 or more New England states," and Table 7, "Macrolichen species with increases of 3 or more New England states" based on data gleaned from herbarium and field collections made over a long period of time. Some of these data are highlighted in the next topical section entitled "Rare or declining macrolichens of New England" and Table 9 lists the "New England Macrolichens that are regionally rare or declining" that includes a comments column with the number of sites, general location, state, and time period. These data increase the value of this regional publication.

A section on "How to collect and identify macrolichens" draws on the 35 years of field experience of the authors and should be required reading for any novice considering collecting lichens. I found Table 10, "Color reactions of selected lichen substances to spot test or ultraviolet fluorescence" especially helpful in getting this information at a quick glance.

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## BOOK REVIEW (CONTINUED)

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The exceptional high quality printing of 400 color images at magnifications that enhance the recognition of key characters is a feature that facilitates identification and use of the keys using a hand lens or dissecting microscope. Unfortunately the high glossy surface of the paper at times reflects light and is a minor annoyance when reading text.

The heart of the book is the "General keys to New England macrolichens" that includes descriptions of 98 genera, 461 New England species, and 41 additional species known from adjacent states. A Quick Key Index on trees, on rocks, and on soil quickly locates the page numbers using the foliose growth form. Some foliose lichen keys use colors, lobe morphology and size and this also applies to the fruticose growth forms. The section "Genus and species descriptions of the macrolichens of New England" has the species descriptions as well as species keys based on morphology and not chemical characters. Included with the generic descriptions are comments, distribution, etymology, and common names and with the species descriptions are synonyms, illustrations, range/habitat, notes, and in some cases chemistry.

The Literature Cited section includes 19 pages that number approximately 469 references, the majority from 1950 to 2005 time period. There is a 9-page glossary of terminology used in the text of the book. There is an Index of Latin and English names.

This is a lot of book for a best bargain basement price of \$65. There is much here that will appeal to users such as outdoor professionals in the forest and park service, visitor centers at state and national parks, summer visitors to the New England states, nature enthusiasts, the nature conservancy organizations, libraries, botanical museums and herbaria, botanists, ecologists, and of course in the hands of every lichenologist. If this book were rated based on 1 star (lowest) to 5 stars (highest) it would receive a 5 star must buy rank that far exceeds the scope of a regional publication.—*Harold W. Keller, Research Associate, Botanical Research Institute of Texas, 1700 University Drive, Fort Worth, Texas 76107-3400, U.S.A.*