



BOOK REVIEWS



Bryological

Common Mosses of the Northeast and Appalachians131

Developmental and Structural

The Anatomy of Palms: Arecaceae–Palmae133

Ecological

Air Plants: Epiphytes and Aerial Gardens134

Invasive Plant Ecology135

Economic Botany

Bromeliads for Home and Garden136

The Drunken Botanist: The Plants That Create the World’s Great Drinks137

Systematics

Flora of the Cayman Islands, 2nd ed.138

Florida Wildflowers: A Comprehensive Guide142

BRYOLOGICAL

Common Mosses of the Northeast and Appalachians

Karl B. . McKnight, Karl B., Joseph R. Rohrer, Kirsten McKnight Ward, and Warren J. Perdrizet
2013. ISBN-13: 978-0-691-15696-5
(Paperback, US\$24.95.) 392 pp.
Princeton University Press, 41 William Street,
Princeton, New Jersey, 08540-5237USA.

I can't tell you how many times I have been asked by amateur naturalists in New England to recommend a good field guide to the mosses. I usually suggest several books from other regions (Michigan, Pennsylvania, or the southern Appalachian Mountains) that cover broadly distributed genera, have color photos, and do not require a microscope for identification (Glime, 1993; Munch, 2006; Davison, 2007). For New England naturalists, these guides suffice for generic-level identifications, but the need for a regionally appropriate guide has persisted for far too long. *Common Mosses of the Northeast and Appalachians* fills this long-standing gap, covering mosses of the northeastern United States and Canada from Nova Scotia to Wisconsin and south throughout the Appalachian Mountains.

The book's introduction is thorough yet concise. Readers are taught how to use a hand lens,

oriented to basic moss structures, and introduced to the moss life cycle. The authors take the time to review what I like to call "mossy misnomers"; plants whose common names include the word "moss," but are not in fact bryophytes. This section also covers how to discern mosses from other small, potentially confounding plant relatives. Instructions are given for making a collection voucher, including details on how to fold collection packets and which information should accompany the specimens. The introduction concludes with the authors answering the burning question "What good are mosses?" by touching on a bevy of topics including the connections between mosses and ecosystem services as well as their usefulness to humans. The authors take a moment to provide a brief word of caution to remind the reader to refrain from collecting in prohibited areas, such as national or state parks. If there were anything I would add to this informative introduction it would be a brief discussion of moss conservation in order to stimulate the reader to think about the sustainability of harvesting economically useful mosses and the impact of habitat destruction on these and other plants.

Common Mosses is a field-ready companion even in the physical sense. It is a nice compact size that easily fits in one hand and is covered by a clear, waterproof dust jacket. The first thing I noticed flipping through the book are the multiple colored tabs on the page edges. These tabs form the core

of the identification key, which focuses on three main features of the leafy gametophyte: growth form, leaf shape, and leaf midrib. The authors dedicate several pages to explaining these key features using both drawings and photos. Then the reader is directed to either the tabbed pages or the dichotomous keys, which are both organized into 12 groups of mosses with similar morphologies. By focusing first on these three main features, the individual dichotomous keys are not intimidating in length and the majority of species are identified in less than ten couplets. This will be a refreshing identification experience for anyone who has tried to identify plants in the field using a guide with an overwhelming number of couplets.

Both color photos and line drawings illustrate the 150 main species in the book. Line drawings, originally published in the classic two-volume tome *The Mosses of Eastern North America* (Crum and Anderson, 1981), focus on sporophyte capsules in addition to habit and leaf shape. These line drawings are accompanied by color photographs, which together comprise a full page of illustrations for each species. The color photos focus on gametophyte habit and leafy stems. Some mosses look quite different wet versus dry, a situation that is usually remedied by taking a bottle of water into the field for both personal and bryological hydration. The authors address this issue by including side-by-side photos of both conditions for a quarter of the species included in the guide. Photos for some species include the sporophytes, but they are never the focus. The sporophyte phase of the life cycle is the most seasonably variable, and thus I think it was a wise choice to center the images and identification on gametophyte features.

Each main species also has a full page of text detailing its appearance, leaves, capsules, and habitat(s). Broad-ranging mosses are the focus of this book, and rare or endemic species are lacking. Unfortunately, that means that species' distributions are not included in the text. Including a list of states or small map indicating the distribution for each moss would have been helpful for readers to confirm that a species is present in their area. The text is complemented by a short list of "similar species," and their distinguishing characteristics to help the reader discern them from the species in question. The brief treatment of "similar species" contributes information for an additional 46 taxa not covered elsewhere in the book, without adding multiple entries for similar taxa or lengthening

the dichotomous keys. At the end of each species description, a few microscopic features are listed to entice readers to further explore the mosses beneath the microscope.

The four authors include two botany professors, a professional artist, and a former undergraduate biology student. This unique combination of expertise results in a particularly accessible text for both budding and seasoned naturalists, requiring only a hand lens and a desire to explore. I have no doubt that this guide will become a trusted field companion for outdoor educators and amateur naturalists, who may be new to moss identification, as well as to botanists interested in refreshing their moss identification skills. *Common Mosses* fills a long-standing void in moss field guides for the region, and, as such, this guide will make the identification of these small plants more accessible to a wider botanical audience.

LITERATURE CITED

- CRUM, H. A., and L. E. ANDERSON. 1981. *Mosses of Eastern North America*. 2 vol. Columbia University Press, New York, New York, USA.
- DAVISON, P. G. 2007. *A Trailside Guide to Mosses and Liverworts of the Cherokee National Forest*. Blurb Inc., San Francisco, California, USA.
- GLIME, J. 1993. *The Elfin World of Mosses and Liverworts of Michigan's Upper Peninsula and Isle Royale*. Isle Royale Natural History Association, Houghton, Michigan, USA.
- MUNCH, S. 2006. *Outstanding Mosses & Liverworts of Pennsylvania & Nearby States*. Sunbury Press, Inc., Mechanicsburg, Pennsylvania, USA.

–J. M. Budke, Katherine Esau Postdoctoral Fellow, Plant Biology Department, University of California, Davis, California, USA. jessica.m.budke@gmail.com, <http://mossplants.fieldofscience.com>