

Review

A liverwort and hornwort flora for Québec and Labrador

Reviewed by

RENÉ J. BELLAND

Devonian Botanic Garden, University of Alberta, Edmonton, Alberta, Canada. T6G 2E1.
e-mail: rbelland@ualberta.ca

Faubert, J. 2012. Flore des bryophyte du Québec-Labrador. Volume 1. Anthocérotes et hépatiques. Société québécoise de bryologie, Saint-Valérien, Québec, xvii + 356 pp., illus. [ISBN 978-2-9813260-0-3 V. 1, hardback]. In French. CAD\$94, <http://www.societequebecoisedebryologie.org/>.



Rarely does a new bryophyte flora appear for part of Canada, so when this event happens, it is worth celebrating! And when a bryophyte flora appears that treats liverworts and hornworts, groups that are less well known than their moss cousins, it is noteworthy indeed. While there have been several guides to common liverworts for various parts of Canada, this volume is comprehensive and as of now is the first book to reach for when one has eastern Canadian liverworts and hornworts in hand. My impression is that it was worth the wait!

The book is written entirely in French. The author, Jean Faubert, is a self-taught bryologist with an intense passion for bryophytes. He has written numerous, mainly taxonomic or floristic, bryological articles. This is the first volume in a large project to produce a flora of the bryophytes of Québec and Labrador. The volume includes only the liverworts and hornworts. Curiously, nowhere does the text mention how many species are treated in the flora; I counted 213 species. This comprises approximately two-thirds of the liverwort and hornwort flora of Canada (350 species).

The author makes no pretense that the flora is a monographic work, but rather a book with a focus on identification. Nor does the author adhere to one species concept or taxonomy (e.g., Stotler & Crandall-Stotler 1977), but the flora is a presentation of several different views depending on the group. Species accepted by the author are “practical” ones, those emphasizing the ability to recognize a taxon using morphological characters—as opposed to using species based on molecular information.

This is not a field guide. It is hefty volume of 357 pages, printed on high quality glossy paper measuring 22 × 29 × 3 cm. The first 15 pages are Roman

numeraled containing a foreword, production notes, financial support, and acknowledgments. The next 12 pages are brief sections describing the 3 major bryophyte groups (anthocerototes, hepatics, and mosses), including aspects of their biology that are particular to each group, a basic description of alternation of generations, and a brief overview of bryophyte biology. In keeping with the focus on identification, considerable attention is given to collection technique and curation. Three pages are devoted to preparation of specimens for identification, including how to rehydrate, section, and mount specimens on a slide. The photographs and instructions provided are very useful for the novice bryologist.

This beautiful botanical work is amply illustrated with photographs, line drawings, and artistic renderings. The drawings are not tied to a specimen, but generalized to show what a typical specimen of a species would look like. High quality photographs are used liberally throughout the text. While most are about 7 × 7 cm, a few are up to a half page. For families, an artistic rendition of a species representative of each family is presented, not for use in identification, but rather to highlight the beauty of liverworts!

Lists of references as supplementary readings about taxonomic groups appear scattered throughout the flora, sometimes at the end of a family, sometimes at the end of genus. There seems to be no pattern when such a list will be provided.

The next 303 pages contain the systematic account of the taxa, beginning first with an artificial key that is provided for each of the Marchantiales, Metzgeriales, *Fossombronia*, and the leafy liverworts. Although mainly dichotomous, the first choice for the leafy liverworts is multichoice. Families are presented systematically within

the major groups, and a familial description is provided for those with more than two genera, in addition to a key to the genera. The keys use many characters that are not field characters, and to use many of the keys the user will need microscopes. Genera are presented alphabetically within each family with a description and a key.

Individual species accounts vary from a full page to 1/3rd page in length. For each taxon, the publication where the taxon was first described is given, as well as synonyms when appropriate. The morphological description follows and reflects the morphological variation of the species only as they are represented in the provinces covered. Morphological descriptions emphasize the characters that are most distinctive for each species and are accompanied by a plate containing a line drawing(s) showing the salient characters necessary for identification, including growth form, leaves, leaf cells, gemmae, underleaves, perianths, and cellular features. The drawings are beautiful and finely detailed. In the drawings the stippling creates a realistic 3-D rendering. Many of the species descriptions are also accompanied by a photograph showing either growth form, some aspect of the morphology, microhabitat, or habitat of the plants.

The morphological description is followed by comments on distribution, ecology, and microhabitat. Inclusion of distributional information is not consistent. In some cases, only the Québec/Labrador distribution is given, in others the North America or world distribution is also mentioned, and for yet other species, there is no mention of species range at all. It would have been useful to include, for all species, at least the eastern North American distribution as context for the Québec situation.

Each species description is also accompanied by a small distribution map. These are thumbnail in size, but useful for gaining an idea of the range of the species in Québec/Labrador. Many of the maps use a combination

of shading and dots to depict the relative frequency of occurrence of a species within the region.

Three appendices ("Annexe") follow the species accounts. Appendix 1 gives English and French names for each species. Appendix 2 gives the illustration credits. Five illustrators provided the line drawings, including Linda Ley, who illustrated a guide to the bryophytes of eastern Canada (Ireland & Bellolio-Trucco 1987). Appendix 3 contains the credits (6 photographers) for each of the 130 photographs.

The appendices are followed by a 64-page glossary adapted from Magill (1990). The glossary is extensive, including about 630 entries. Most entries have small line drawings that illustrate selected bryological terms. English translations are given for each entry, as well as antonyms. Of interest also is that while the flora treated in this volume is anthocerotes and the liverworts, a large number of entries in the glossary relate to mosses. I surmise that this may be in preparation for the upcoming volume(s) on the mosses of the region.

Overall, the presentation in this flora is nicely done and deserving of applause. Also, since the flora treats two-thirds of the flora of Canada and includes many widespread boreal and temperate species, it is an eminently useful and valuable work. The only major concern I have is the potential audience. As this flora is written entirely in French, this may restrict its usage within the bryological community.

LITERATURE CITED

- Ireland R. R. & G. Bellolio-Trucco. 1987. Illustrated guide to some hornworts, liverworts and mosses of eastern Canada. *Syllogeus* Vol 62. National Museums of Canada, National Museum of Natural Sciences, Ottawa.
- Magill R. E. (ed.). 1990. *Glossarium Polyglottum Bryologiae*. A multilingual glossary for bryology. Missouri Botanical Garden, St. Louis.
- Stotler R. & B. Crandall-Stotler. 1977. A checklist of the liverworts and hornworts of North America. *The Bryologist* 80: 405-428.