BOTANY

Atlas of Ontario Mosses

By Robert R. Ireland and Linda M. Ley. 1992. Syllogeus Number 70. Canadian Museum of Nature, Ottawa. v + 138 pp. Free.

Over the past decade or so, atlas projects have become popular among Canadian field biologists. Such projects can provide excellent ways for both amateur naturalists and professional biologists to contribute to the knowledge of the distributions of species. Atlases of breeding birds have been most popular, but other recent atlas projects in Ontario have involved herpetofauna, mammals, butterflies, and now, mosses. Admittedly, this *Atlas of Ontario Mosses* was not generated through the same sort of concerted volunteer effort that was used in some of the other atlasses. Nevertheless, a perusal of the list of collectors of mosses contained in this atlas indicates that a good number of naturalists and biologists with non-bryological backgrounds have contributed to the information base from which this atlas was compiled. One of the many benefits of an atlas such as this can be the stimulation of more collecting activity by field biologists and naturalists. This should generate new records that will further elucidate the distributions of Ontario's mosses. It should also make it possible to produce a list of the rare mosses of Ontario in the future.

This atlas is a valuable complement to the earlier *Checklist of the Mosses of Ontario* (R. R. Ireland and R. F. Cain. 1975. National Museums of Canada Publications in Botany Number 5). At the time of publication of the *Checklist*, 464 taxa of mosses were known from Ontario. The *Atlas* now contains distribution maps for 490 taxa, all of which are supported by herbarium specimens.

The bulk of this atlas (122 pages) is comprised of the distribution maps, with taxa arranged in alphabetical order. However, there are also several introductory sections containing information on the herbaria examined, nomenclature used, physiography, geology, climate, and vegetation of Ontario, major collectors of mosses, and general biogeographic interpretations of distribution patterns of Ontario mosses. Some of the sources used to describe the physiography and vegetation of Ontario are somewhat out-dated, but the interpretations provided are adequate for the purposes of this atlas. It is especially nice to see a preliminary analysis of the biogeographic patterns exhibited by Ontario's mosses. The categories used in this publication include: widespread (throughout, southern bias, northern bias), southern, northern, eastern, western, and unknown. As more information becomes available, this chapter could be enhanced, and the distribution patterns of species now placed in the "Unknown" category (68 taxa) should become more fully resolved. Some of the species placed in the "Widespread" category also require better resolution of their distributional affinities (e.g., *Amblystegium riparium*, listed as widespread with southern bias, has three stations in the Hudson Bay Lowlands).

There is very little to criticize in this publication. The value of the range maps should be obvious; additional interest and collecting activity, undoubtedly will be stimulated, with a concomitant increase in the knowledge of these plants. Several excellent guides and monographs are available (one of these by Dr. Ireland) to assist budding bryologists with moss identification. A valuable addition in a future revision would be a list of the rare mosses of Ontario. Such a list would be useful for resource managers and conservation agencies responsible for conserving the elements of the biodiversity of the province. In my perusal of the distribution maps, I found that almost 36% of the taxa (137) known to occur in Ontario are found in five or fewer locations. Fifty-four (54) taxa presently are known from only single locations.

All active field biologists and naturalists should obtain this atlas. Although few of us can claim to have more than a basic knowledge of moss identification, this atlas should stimulate us to learn more about these (often overlooked) plants.

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