

The Blue Jay Bookshelf

FLORA OF THE PRAIRIE PROVINCES, PART 1: Pteroids, Ferns, Conifers and Woody Dicopsids. By Bernard Boivin. 1967. Laval University, Quebec. 202 pp. Paper covers.

This study has been reprinted from *Phytologia* 15, 121-159, 329-446, (1967), and 16, 1-47, (1968), as No. 2 of "Provancheria", which are memoirs of the Louis-Marie Herbarium, Faculty of Agriculture, Laval University. It appears to be a photographic reproduction of a typescript.

This is the first part of a work covering the flora of Manitoba, Saskatchewan and Alberta, to be completed in four parts. The price for the four parts will be \$8.00 before complete publication and \$10.00 thereafter, payable to the author or to the Blue Jay Bookshop, Box 1121, Regina, Saskatchewan.

First of all, let me say that the work will, when complete, constitute a complete, critical, authoritative and up-to-date treatment of our flora by a competent classical taxonomist. This is something which has not been carried out for the whole area now called the Prairie Provinces since Hooker's *Flora Boreali-Americana* was completed in 1840; though, of course, numerous floras have dealt with parts of our area since then.

The Flora contains keys, synonymy, brief descriptions, and indications of range and habitat. The keys seem workable. The synonymy (listing of Latin names under which the plant has passed in other works) is very complete.

On the subject of synonymy a few words may be added. It is an illusion to imagine that the scientific (or Latin) names of plants are any more changeless than the common or English names. Most species have accumulated at least one synonym, some many. One of the most prolific sources

of synonyms is botanists giving different names to the phases of a variable species, which later are found to be connected by intermediates. One may get a rough idea of the variability of a species in the field by noting the number of synonyms given in Boivin's Flora; I counted 14 for the notoriously variable *Potentilla gracilis* complex.

This flora is designed for the serious student of vegetation; pictures are lacking, and technical botanical terms are used extensively. I trust a glossary will be included in one of the later parts. The beginner should start with a simpler illustrated work.

As the Flora covers not only the grassland zone, but also the Boreal Forest zone north to 60° N (the north edge of the provinces), it should provide virtually complete coverage for Mackenzie and Keewatin territories, except perhaps along the Arctic coast.

I like the way the author has faced up to the problem of pairs (or more) of species which are separated in most floras but which are in practice indistinguishable; he merges them, wholly or as varieties of one another. To cite a few examples: *Lycopodium complanatum* and *L. tristachyum*; *Ribes oxyacanthoides*, *R. setosum*, and *R. hirtellum*; *Sorbus decora* and *S. scopulina*; and *Galium trifidum* and *G. labradoricum*.

Yet this reviewer must admit to finding some things in this Flora that are startling, to say the least. The most disagreeable of these concerns the sequence of orders and families. Dr. Boivin has adopted more or less the phylogenetic (pertaining to the evolutionary tree) classification of Hutchinson, who postulates a fundamental cleavage of the dicotyledons into predominantly woody and predominantly herbaceous groups, the woody being more primitive. Following this classification, this Part I of the Flora contains (besides ferns and conifers) Sub-Class I, *Lignidae*,

Woody Dicots. The Part in effect includes not quite all our deciduous shrubs and trees, plus a miscellany of families whose Canadian species are herbs but which have been assigned to the *Lignidae* on the strength of exotic woody relatives, such as *Leguminosae*, *Urticaceae*, *Viola*, *Cucurbitaceae*, etc. These assignments seem a bit capricious in places. One gathers that Part II will include the remaining polypetalous and apetalous dicots, Part III the gamopetalous dicots, and Part IV the monocots.

The trouble is, this is an extremely unorthodox arrangement and users of the book will find it awkward to locate a desired group without checking the general index. Almost all other floras are laid out in a standard sequence named Englerian (after the originator), to which botanists have become accustomed; one knows where to open the book to reach any given group.

If the unorthodox arrangement under discussion were any truer—any nearer the evolutionary sequence—we would of course have to adopt it and forego the convenience factor of the old. But it is not. Science knows nothing certain about the evolutionary interrelations of the dicots, because no fossil evidence thereon has been found. Some must exist somewhere, but to our knowledge the dicots came on stage in the Cretaceous full-formed, like Aphrodite from the sea, in the form of advanced genera like *Populus*, *Viburnum*, *Quercus*, etc. Lacking fossil evidence, phylogenetic taxonomists erect hypotheses and deduce evolutionary schemes, with every man's scheme differing from his neighbour's. This Hutchinson scheme, separating as it does such closely related groups as *Labiatae* and *Verbenaceae*, *Araliaceae* and *Umbelliferae*, is one of the more extreme ones.

Another feature worthy of some remark is the unfamiliar French names for topographical features. While these doubtless have priority, as they date from the days of the buffalo hunters, yet some explanation could be given modern readers to

whom they are unfamiliar. Some examples are:

La Petite Montagne de Cyprès. p. 140. Refers to the high ground around Sandilands in southeastern Manitoba.

Coteau de Prairie, pp. 105, 197. Means Manitoba Escarpment. Also as Prairie Coteau, pp. 82, 137. To be distinguished from the Missouri Coteau in southern Saskatchewan, not mentioned in Part I.

Sault à la Biche, p. 82. Unknown to me, but somewhere in southern Manitoba.

Boisé Coteau. On p. 26 seems to refer to the Cypress Hills; p. 52, definitely the Cypress Hills; p. 65, uncertain. Yet elsewhere in the book the Cypress Hills are often mentioned, while Wood Mountain is not.

A name change that will be hard to swallow is the substitution of *Pinus divaricata* for the very well known *P. banksiana*, on the strength of one year's priority in 150 or so. The author himself has used *Pinus banksiana* as a name in the discussion of Mistletoes on pp. 173 and 200.

Other lesser matters worthy of remark are the unconventional splitting of the Fern Family into four; the name *Carpogynia* for the Oak-Fern to which no two floras give the same Latin name; the recognition of five species of Rose from Saskatchewan instead of the usual three (and of even these in the field I am never certain); the adjective "dimegueth" applied to the pairs of leaves of *Abronia micrantha* (must mean "unequal").

I am looking forward with interest to what the author is going to do in the forthcoming parts to critical and interesting groups such as *Carex*. Because the work, despite its unusual arrangement, will be a standard reference for many years to come, consideration should be given in any future editions to making it a sturdy one-volume hard-bound book rather than paper-bound pamphlets.—John H. Hudson, Saskatoon.

A FIELD GUIDE TO WILD-FLOWERS of Northeastern and North-central North America. By Roger Tory Peterson and Margaret McKenny. 1968. Houghton Mifflin Company, Boston. 420 pp. Illustrated by Roger Tory Peterson with black and white sketches and 22 pp. in colour. \$5.95. Available from the Blue Jay Bookshop, Box 1121, Regina, Saskatchewan.

This new guide is a welcome addition to the already famous Peterson Field Guide series. The method which for 34 years revolutionized the identification of birds is here focussed on wild flowers. Again the underlying principle is that of emphasizing characters and visual impressions recognizable in the field, providing a relatively easy method of identification.

The authors point out that this book "attempts to extend the normal colour visual approach to analysis of shape and other visual aids such as arrows pointing to critical details in order to create in a sense a pictorial key based on readily noticed visual impressions rather than on technical features." The amateur botanist therefore is not burdened with cumbersome taxonomical terminology and technical know-how, but instead is given in a single pocket-size volume, a text which is simple to understand and a pictorial key. The care and accuracy with which this guide has been executed shows the understanding the authors have for the amateur botanist, and it is with them in mind that this really excellent guide was born.

The main body of the text describes 1293 species of plants belonging to 84 families (including a few flowering shrubs and woody vines) likely to be found in the northeastern and north-central United States roughly east of the 97th meridian and the 47th parallel of latitude in Canada. The species coverage is most adequate for the northeastern and Great Lakes area but less complete toward the periphery. Although the guide is primarily designed for the eastern amateur botanist, his western counterpart will

also find this guide of some use, as roughly 365 species belonging to 64 families are described for his area.

The aims in the production of this guide seems to be threefold:

1. To make available at modest cost a guide to the most common wild flowers of the northeastern and north-central United States and adjacent Canada with descriptive text illustrated in black and white and colour, in suitable pocket format (4½" x 7½") with durable hard cover and attractive dust jacket.

2. To call attention to characteristic habits of plants by ingeniously placed arrows and a first introduction of handy family symbols in page margins to aid in field identification and quick reference.

3. To provide in a single location in the book, all the information needed for accurate plant identification and understanding, with short textual descriptions of each species on the left hand page accompanied by black-and-white or colour illustrations on the right hand page closely following the text.

The authors' own experience of publishing nature books and in nature studies has made them especially conscious of the practical requirements of a wildflower guide. Hence the accurately executed illustrations, including six colour sections handily keyed by upper right hand corner tabs immediately elucidating the plant habit and flower colour; the magnification indicator on each page of illustrations; the plant length measurements in the text; a capsule description of the families of flowers treated and a pictorial glossary on the front endpaper (flowers) and on the rear endpaper (leaves). All of these greatly enhance the value and usefulness of this guide. A special page on Survival makes us acutely aware of the urgent need for conservation of our natural heritage.

The scientific nomenclature is that of Gray's *Manual of Botany*, while the vernacular names do not adhere to any authority. The system of family arrangement is mainly artificial,

based on a visual one. This shortcut to identification will greatly aid the novice in easy recognition of wildflowers in the field. To preserve this simplicity, the guide is restricted to the more showy and common of flowering plants and as a consequence trees, shrubs (with a few exceptions), ferns, grasses, sedges, rushes, etc., are excluded. The guide also omits the more obscure herbaceous species, localized species, or peripheral invaders. Most of the illustrations are based upon actual living plants and are drawn by the first author. A double index, one at the end of the descriptive text listing families and species, and one before the actual text (families of flowers) which lists the pages where representatives of family are to be found with indication of colour section, greatly aid in the quick locating of any particular plant or flower throughout the text. The additional listing of the number of species found in any one area as compared to Gray's *Manual of Botany* and Britton and Brown's *Illustrated Flora* might cause some confusion unless one is familiar with these manuals.

The reviewer finds the guide authoritative and a welcome addition to the Peterson Field Guide series. It should be a constant companion on any holiday trip, especially one taken in the East.—*B. de Vries*, Fort Qu'Appelle.

LIFE, LAND AND WATER, PROCEEDINGS OF THE 1966 CONFERENCE ON ENVIRONMENTAL STUDIES OF THE GLACIAL LAKE AGASSIZ REGION. Ed. by W. J. Mayer-Oakes. 1967. Occasional Papers No. 1, Department of Anthropology, University of Manitoba. Published by University of Manitoba Press, Winnipeg. 414 pp., illustrated. Hard-cover \$6.00, soft cover \$4.00.

Glacial Lake Agassiz began to form from the meltwaters of the receding Laurentide Glacier about 12,000 years ago. At its greatest extent, the Lake occupied some 110,000 square miles and profoundly affected the climate,

plant and animal life and surface features of Manitoba and vast areas of northern Saskatchewan, northwestern Ontario, the Dakotas and Minnesota.

This fascinating and important subject was examined at the Conference on Environmental Studies of the Glacial Lake Agassiz Region held in November, 1966 at Winnipeg. Support for the project was obtained from the University of Manitoba, the National Museum and the National Research Council. Papers were presented on the geology, climate, flora, fauna and human history of the region by authorities from several Canadian and American universities and research institutions. This book is a collection of the papers presented at that historic conference.

Through the use of data and techniques from several disciplines, the papers present a multidimensional description and explanation of the changing environments of the Region. The book thus offers an environmental backdrop and a collection of relevant literature from other disciplines for those persons wishing to do more specific research in the Region's history, archaeology or whatever the case may be.

The vast amount of empirical data, theoretical explanations, maps, diagrams and tables and the bibliography at the end make this a useful reference book for individuals engaging in such diverse projects as tracing Lake Agassiz beach lines, determining the contemporary environment of a particular archaeological site, dating geological developments or tracing recent settlement patterns.

This book will not provide light reading for the amateur naturalist and even the learned academic will probably not want to read all of the papers presented. Yet knowledge of past environments and geophysical phenomena and the origins of present surface features can make both amateur nature trails and professional expeditions much more interesting and scientifically rewarding.—*Steve Prystupa*, Manitoba Museum of Man and Nature, Winnipeg.