

liberal amount of ordinary table-salt on each leaf. Placed in a cool spot in the cellar, they keep through the winter. The salting tenderizes the leaves. To use the salted leaves, wash each leaf and soak over night. The leaves also keep dried.

GRAND FALLS, New Brunswick

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THE EIGHTH EDITION OF GRAY'S MANUAL OF BOTANY.<sup>1</sup>—Amateur and professional botanists alike have eagerly looked forward to this new edition of Gray's Manual. Forty-two years is a long time in the light of the rapid strides which all branches of botanical science have made in recent years and when botanists realized that the new edition was really on the way, it seemed that it would never actually materialize. Now that the book is before them, their long period of waiting has been richly rewarded. It might be said that this volume is more than a revision, so much that is new has been incorporated into it. In looking it over, it is borne in upon one what a prodigious amount of research was involved. This eighth edition comes off the press just two years over the hundredth anniversary of the original edition by Prof. Gray in 1848.

To this edition Prof. Fernald has given the fruits of a lifetime of study, not only in the herbarium but to a greater extent than can be said of any of the previous authors, of intensive work in the field. He has added considerably to the area covered by the seventh edition by including the Gaspé Peninsula and Newfoundland, in fact all the region south of the Straits of Belle Isle. Since the last edition there has been much careful and intensive field-work in all parts of the manual range. More than any other such manual this book represents an intimate knowledge of the plants in the field. Especially is this true of the author's own field-work. Such accurate understanding of the live plants is reflected in the writing of the descriptions in the text.

There are certain specifications which the botanist who uses such a manual has a right to expect. Two such criteria seem to be of prime importance. First the text should show the highest degree of accuracy. How well the Manual shows this, only those who have followed the author's painstaking work through the years can fully realize. The second criterion is that the Manual should be usable for both professional and amateur botanists. In looking over the book various devices to facilitate its use are at once apparent. The practice of italicizing the most distinctive characteristics has been followed as in the seventh edition. The use of various kinds of type to make the text clearer is also followed. Under the genera several categories have been used for grouping as for example subgenera, sections and series. By this means the more conservative treatment of the genera has been possible while at the same time indicating worth-while distinctions. Many of the illustrations of the older book have been retained and in addition many more figures have been used here for the first time. These are of much help in emphasizing critical structures. The glossary again appears, much expanded and in larger type to make its use easier. At first the appearance of two indices, one to Latin and the other to colloquial names, is a surprise, as in the seventh edition they had been merged in one master-index. Again this innovation may be an advantage. From the standpoint of the beginner, the absence of unfamiliar Latin terms in with the English names will probably render the book more

<sup>1</sup> MERRITT LYNDON FERNALD—*Gray's Manual of Botany*, Eighth (Centennial) Edition—Illustrated. A Handbook of the Flowering Plants and Ferns of the Central and Northeastern United States and Adjacent Canada. LXIV + 1632 pp. New York—American Book Company 1950. \$9.50.



usable and certainly for the advanced amateur and the professional botanist, a clean Latin index is a time-saver.

The families, as they were known in the seventh edition, have been for the most part retained, as well as the order in which they occur. There has been some readjustment in accordance with the better understanding of the plants in our area and of their relationships. The inclusion of one new family, the *Butomaceae*, was made necessary by the aggressive appearance of *Butomus umbellatus* in our Flora. A few other families are new to the area. In some cases there has been a significant expansion of a group, well illustrated in the treatment of *Amelanchier* and *Antennaria*. To one familiar with the seventh edition the nomenclatural changes may seem too extensive but such alterations were necessary because of a better understanding of the types and of the original descriptions. The newer revised nomenclature and modern methods are well shown in the treatment of the genus *Carex*, a treatment which will be welcomed by all students of this group.

Such a work as this naturally contains a great number of new forms, the result in part of the enlarged area covered. This is particularly true in such genera as *Salix*, *Betula*, *Saxifraga*, *Astragalus* and *Oxytropis*. To a much greater extent this is the result of more intensive study of the old area and a more critical study of old entities. Readers of RHODORA have been aware of this reviewing of supposedly well-known genera and species and have been stimulated to a more critical attitude in their own collecting. The new Manual crystallizes this attitude and will be sure to add an increased interest in our local Flora. At the same time, plants which really do not show a tendency to establish themselves, have been excluded or only casually noted.

There are other features which will make the book more usable. The more adequate keys, in general dichotomously arranged, are such an improvement over the older book. The descriptions are more extensive and in many cases entirely rewritten and so have smoothed out many of the difficulties encountered in the older book. Pronunciation is indicated as in the previous edition. Here even the seasoned botanist may find a surprise.

Some innovations are encountered. One new feature is the adding of the meaning of each scientific name, whether genus, species or variety. In the seventh edition this was done only for the genera. This will add greatly to the interest in the study of individual plants. Scientists are not supposed to have imaginations nor are they noted for their sense of humor; but in reading of the way in which some of our plants received their names, one is again and again surprised by the strange ideas held by the early authors. Some examples will show that the study of these names may be in itself a fascinating recreation. *Dryopteris Robertiana* was not named for a person but for its supposed identity with Herb Robert. *Quercus imbricaria* (overlapping) received its specific name, not from imbricated scales of its cup, but because in Michaux' time the wood was used for shingles. The specific names of both *Digitaria Ischaemum* and *D. sanguinalis* mean Styptic, one from Greek and the other from the Latin, due to the reddish color of the plants. *Potentilla Crantzii* was so named by the author of it for himself. Even the author of the Manual has allowed himself a bit of humor in *Rubus pernagaeus* (of the land of hams, from the type-region, Smithfield, Va.). *Rhus Vernix* (varnish) was the result of a misconception of Linnaeus, who thought Asiatic lacquer was derived from this species. *Cornus* (horn) was so named because of hardness of its wood. The wood had various uses as the old English Dagwood or dagger-wood would indicate, preserved in our English Dogwood.

Also where there is a vernacular term used in Quebec, it has been indicated, in addition to the English name. Another acknowledgment of the state of present-day scholarship, is the use of Roman type for Greek roots. This feature undoubtedly will add to the usefulness of the book.

When a group has had a thorough revision in recent years, reference is given in a foot-note to the place where the fuller treatment may be found, in many cases in RHODORA. The International Rules of Botanical Nomencla-



ture have been followed so as to make the work usable to the great number of botanists all over the world.

The new work has 706 pages more than the seventh edition. Hence the book is somewhat larger than that edition. The publishers have done an excellent job in incorporating such a large increase of material in a single volume which, though large, is not clumsy. Of the entities treated in the book the Monocots and Dicots show the greatest increase. Some statistics might be interesting:

7TH ED.	GENERA		SPECIES	
	NATIVE	INTROD.	NATIVE	INTROD.
Monocots	184	26	993	92
Dicots	596	154	2280	571
Total	780	180	3273	663
8TH ED.				
Monocots	191	50	1250	165
Dicots	616	234	3029	926
Total	807	284	4279	1091

Certainly the amateur will find the present edition very usable and as free from technical difficulties as is consistent with accurate differentiation. All botanists are indebted to Prof. Fernald for the profound scholarship exhibited by the Manual and realize that he has rendered a service to science that would be hard to duplicate.—RALPH C. BEAN, Wakefield, Mass.

#### SCAMMAN'S FERNS AND FERN ALLIES OF NEW HAMPSHIRE.<sup>1</sup>—Attention

<sup>1</sup> SCAMMAN, EDITH. *Ferns and Fern Allies of New Hampshire*. New Hampshire Academy of Science Bull. 2. 96, [2] p. incl. 18 pl. Durham, N. H., 1947. (Obtainable from Dr. R. L. Blicke, Durham, for \$1.25.)

should be called to this excellent treatise on the pteridophytes of New Hampshire, published nearly three years ago but not yet sufficiently distributed, and practically unnoticed in the reviewing literature. It provides a carefully prepared list of 71 species and 60 infraspecific forms and hybrids known in the state, with keys to families, genera, species and varieties, and for each species brief synonymy, a paragraph or two discussing the distinctive characters, and a statement of general and local range, the latter with citation of counties or towns in the case of species that are not distributed throughout. The systematic treatment is followed by a fairly full bibliography, a glossary, a list of authors cited with full names and dates, and a full index. The excellent line drawings—those of the ferns by Dr. Shirley Gale Cross and Gordon W. Dillon, those of *Equisetum* and *Lycopodium*, as well as one plate of *Dryopteris*, by Mrs. Una F. Weatherby—should be very helpful in identification. An outline map of the state showing the counties and perhaps some of the principal collecting localities would have added to the utility of the work.

The only similar separate work for any New England state is Mrs. Edith B. Ogden's *The Ferns of Maine* (1948), which covers a more restricted field in greater detail. It includes only the ferns proper (*Filicineae*), gives comparatively full descriptions as well as keys, and cites all specimens examined or recorded in the literature.—S. F. Blake.

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Bean, Ralph C. 1950. "The Eighth Edition of Gray's Manual of Botany."  
*Rhodora* 52, 226–228.

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