

BOOKS

Illustrations of Pteridophytes of Japan, Volume 4, edited by S. Kurata and T. Nakaike. Tokyo: University of Tokyo Press, 1985. x + 850 pages + maps. Available in the United States from Columbia University Press. \$64.95.

DAVID E. BOUFFORD

This volume represents the fourth in a regularly appearing series that began in 1979 and that eventually will treat the more than six hundred species of ferns and fern allies occurring in Japan proper, the Ryukyu Islands, and the Bonin Islands. As with volumes 1 through 3, Volume 4 treats one hundred taxa, providing for each a full-page habit-habitat photograph, a full-page line drawing of a frond or of fronds, frequently with detailed drawings of critically important parts (scales, sori, etc.), a full-page map showing distribution, and numerous citations of specimens on which the distribution is based. The citations are extensive and take up the major portion of the book. Photographs of spores taken through a light microscope of every taxon treated in the text are covered in seven pages at the back of the book; three pages of documentation accompany these photographs. The book is entirely in Japanese except for plant names and the measurements for the line drawings. Despite this, English-language readers can obtain much useful information. For those interested in growing ferns, the photo-

graphs provide habitat data, and the distribution maps are extremely helpful for determining hardiness, especially if one considers that species that grow on Hokkaido or through the central backbone and northern portions of Honshu probably would grow in New England and in much of the Appalachian region, and that ferns from other parts of Japan probably would grow throughout the warmer parts of the eastern and southeastern United States. The line drawings (by several different artists) are valuable aids in identification.

The major families covered in this volume (their names are given in Japanese only) are the Equisetaceae, Isoetaceae, Marattiaceae, Schizaeaceae, Pteridaceae, Davalliaceae, Plagiogyriaceae, Cyatheaceae, Aspidiaceae, and Aspleniaceae, but not all genera in each of those families are treated. For example, Volume 4 covers most Japanese species of *Dryopteris*, but others are covered in volume 2; species of *Pteris* are also in Volumes 1 and 4. An unfortunate aspect of the work is the absence of synonymy.

The book is of the highest-quality production, and the illustrations and photographs are first rate. For anyone interested in the relationships of North American and eastern Asian ferns the illustrations alone are highly informative and useful. For the quality of production the book is reasonably priced, but if one thinks of buying the complete set one should consider the total cost of what may eventually be a seven-volume set.

Additional comments on this series can be found in the reviews of volumes 1, 2, and 3 published in the *American Fern Journal* (Cranfill, 1982; Price, 1982, 1984).

References

- Cranfill, R. 1982. *Illustrations of the Pteridophytes of Japan*, Volume 1: A review. *American Fern Journal*, Volume 72, Number 1, page 11.
- Price, M. G. 1982. *Illustrations of the Pteridophytes of Japan*, Volume 2: A review. *American Fern Journal*, Volume 72, Number 2, page 48.
- . 1984. *Illustrations of the Pteridophytes of Japan*, Volume 3: A review. *American Fern Journal*, Volume 74, Number 1, page 6.

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Native and Cultivated Conifers of Northeastern North America: A Guide, by Edward A. Cope. Ithaca, New York, and London: Cornell University Press, 1986. 231 pages. \$39.95 (cloth), \$17.95 (paper).

RICHARD WARREN

This book is wholly directed at the identification of conifers and at distinguishing them from each other. It gives no attention to cultivation, propagation, or the diseases that affect them.

The order Coniferales contains sixty-four genera and some five hundred

seventy species. In order not to be tediously encyclopedic, a manual, or guide, on conifers, therefore, requires thorough winnowing of the material to be discussed. Only then can the size be manageable and the treatment sufficiently thorough to interest horticulturists and taxonomists. The author has done this wisely, focussing on northeastern North America (Canada to southern Pennsylvania, and the Atlantic shore to Kansas).

But even with such defined boundaries one cannot be strict. When he was in doubt about the hardiness of a plant, for instance, the author usually has included it. He lists, for example, *Cunninghamia lanceolata*, *Pinus ayrcahuite*, and *Sequoiadendron gigantea*, which do grow in the Boston area, but with considerable difficulty. He has not included the "southern pines," other than those, such as *Pinus echinata* and *Pinus virginiana*, which are not exclusively "southern." We miss the other southern species, of course, but that can't be helped; the dividing line has been drawn as judiciously as possible. One inconsistency does catch the eye, namely, the inclusion of a drawing of *Cypressus macrocarpa*, which is definitely not hardy in the northeastern United States—nor does the author contend that it is. The inclusion of the drawing is unnecessary.

With the passage of time, the numbers of genera officially accepted in the Coniferales, as in other orders of plants, has inexorably increased. These have grown in the last twenty years from fifty-four (Dallimore and Jackson, 1966) to sixty-four (the present work). Eight have been added in the Podocarpaceae and two in the Cupressaceae. The author lists these in Appendix 2, a helpful tabulation of the genera currently recognized.



Boufford, David E. 1987. "Illustrations of Pteridophytes of Japan, Volume 4, edited by S. Kurata and T. Nakaike [Book Review]." *Arnoldia* 47(1), 26–27.

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