that the author has spent a great deal of time observing nature. The writing conveys an appreciation of the natural world while encouraging the joy of discovery through quiet observation.

Long Spikes is a wonderful addition to children's

literature, and an asset to any young reader's nature library.

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BOTANY

A Naturalist's Guide to the Arctic

By E. C. Pielou. 1994. University of Chicago Press, Chicago. xv + 327 pp., illus. Cloth U.S. \$57.00, Paper U.S. \$19.95.

The number of naturalists who have the opportunity to visit the northern parts of Canada and Alaska has been on the increase. Northern travel however does not allow for the great weight of numerous books that might be required to gain an understanding of the various aspects of natural history that might be encountered. Now for that area lying north of continuous permafrost in Alaska, the Yukon Territory, the Northwest Territories and somewhat further south in northern Quebec there is a single volume that can easily be carried for ready consultation.

Information is provided on such topics as the midnight sun, the use of a compass near the magnetic pole, the aurora borealis, climates and atmosphere, the terrain from ice caps and glaciers to tundra, pingos and other land formations and various aspects of plant communities. This is followed by a field guide to arctic plants with line drawings of the species which are most likely to be observed, a field guide to arctic birds, and sections on the terrestrial mammals, walruses, seals, whales, fish, and insects, all similarly illustrated.

This book is full of interesting comments and makes most easy reading. For someone travelling for the first time in our far north and interested in the world about them, it is a must.

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Intermountain Flora, Vascular Plants of the Intermountain West, U.S.A., Volume 5: Asterales

By A. Cronquist. 1994. The New York Botanical Garden, Bronx. 496 pp., illus. U.S. \$75.

This is the fifth volume of six that were proposed for the Intermountain Flora, but now it would appear that there are still two to come. Those previously published are Volume 1, Ferns and Fern Allies (with introductory materials) (1972), Volume 6, Monocotyledonae (1977), Volume 4, Subclass Asteridae (except Asteraceae) (1984), and Volume 3B, Fabales (1989). All have been reviewed in previous issues of The Canadian Field-Naturalist.

The only family in the Order Asterales is Asteraceae (Compositae) which in the manuscript prepared by Arthur Cronquist for this volume of Intermountain Flora contained 130 genera. Like the earlier volumes, the family, genera and species are all described in detail and additional information on the number of species in the genus, the areas in which they predominate, biological distinctions, problems involved in the groups, hybridization, and pertinent references where

the author considered them of value to the user. Pertinent synonomy together with place of publication, and information on the type specimen when available are also provided. And indeed comments such as "I am still not satisfied with my treatment of the genus *Cirsium*, but it is the best I can do in the time available for the preparation of the flora", show his deep long-time interest in this group of plants. Arthur Cronquist did a tremendous job in the preparation of the manuscript for this important volume. It is most unfortunate that he did not live to see the end result of the effort.

An addendum of nine pages has fortunately been provided by Noel Holmgren. This includes several Intermountain Asteraceae that have recently been described as new taxa or were inadvertently overlooked in Cronquist's inventory of taxa found in the region. These are treated in the same fashion as the main text together with expansion of Cronquist's keys. One new combination by Holmgren,

Hymenoclea sandersonii (S.L. Welsh) N.H. Holmgren is included here. It should also be noted that at the end of Cronquist's text there is a list of 35 nomenclatural innovations together with page numbers where they may be found in the text.

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A Utah Flora

Edited by Stanley L. Welsh, N. Duane Atwood, Sherel Goodrich, and Larry C. Higgins. 1993. Second Edition, Revised. Brigham Young University, Provo, Utah. viii + 986 pp. U.S. \$65.00 + \$6.00 shipping and handling.

In 1987 Welsh, Atwood, Goodrich and Higgins published the first edition of *A Utah Flora*. This was reviewed in *The Canadian Field-Naturalist* 102(2): 406-407, 1988. This treatment included 142 families, 765 genera, 3152 species (including 580 introductions), and 355 infraspecific taxa. It numbered 894 pages.

In the present volume 3284 species (including 682 introductions) and 393 infraspecific taxa are treated. This is a tremendous step forward in only six years. The keys have been altered to include the additional taxa and many taxon descriptions have been enlarged. Information on the presence of type specimens in the Brigham Young Herbarium (BRY) has

been added. It is of particular interest that 10 new species and 13 new varieties are included as well as 12 nomenclatural combinations. These have all been published separately (*Rhodora* 95: 392–421, 1993) rather than being published in the flora, itself, as were similar entities in the 1987 edition. Separate publication is a much better practice; particularly for new taxa.

Students and botanists in Utah and adjacent states will welcome this new treatment even though it is thicker and heavier. It is amazing too that the price for such a volume has been kept so low.

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The Cruciferae of Continental North America

By Reed C. Rollins 1993. Stanford University Press, Stanford, California. xvi + 911 pp., illus. U.S. \$125.

This is a comprehensive taxonomic treatment of the mustard family, Cruciferae (Brassicaceae), for North and Central America, not including Greenland, the Caribbean Islands, and other islands east of the Continent. It contains original keys, descriptions, cytological and habitat data, and pertinent synonymy for all species and varieties found growing in this area. It also has keys to all genera and photographs and line drawings of plants and plant parts. The author details the criteria that he has used to classify members of this important family. This book represents the culmination of Rollins' 50 plus years of exhaustive and innovative research on the systematics and ecology of the family Cruciferae (Brassicaceae) in the Americas.

Coverage of members of the family occurring in Canada is generally much weaker than south of our border. This has resulted from the fact that Rollins has only examined a small fraction of the material of Cruciferae that is available in Canadian herbaria. In addition, he has excluded many Cruciferae that are cultivated within his study area and has given less attention to naturalized, often weedy, taxa.

This very readable book represents an excellent synthesis of a lifetime of research on Cruciferae by America's foremost expert on the family. It would be a very useful addition to any plant systematic library and is a must-purchase for those interested in the large number of native, naturalized and weedy mustards found in Canada. Although it is an excellent value at the price of U.S. \$125, its specialized and fairly technical nature probably makes it a poorbuy for most naturalists.

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