

The Birds of Japan

By Mark A. Brazil. 1991. Smithsonian Institution Press, Washington. 466 pp., illus. U.S. \$49.95.

The first Japanese bird book appeared in 818 AD and described hawks and falcons. Then, as now, most of the birds found in Japan were species common in the Palearctic and Oriental regions, with migrants from Australia and the Arctic appearing in their seasons. In the mid-19th century several Europeans listed and collected many species; among them were Temminck (of the Stint and others) and von Kittlitz (of Murrelets). But through the centuries the Japanese have studied their birds intensively, as the lengthy list of references in the bibliography shows. In order to compile these, the author had to master written Japanese, no small feat.

Birdwatching has recently become a popular pastime for the Japanese. They have replaced the foreigners who flocked to Japan in the 1960s and 1970s when much of south-east Asia was at war. The new craze is bound to add more species to the present total of 589.

The introductory chapters of this breeding bird atlas are exhaustingly detailed and describe the Japanese climate, history, habitats, geography, and conservation. The main content is detailed histories for all recorded species. Some of the information is

repetitious and the histories could have been more succinct. The individual range maps are awkward to refer to as they are in a separate section. Since this is not a field guide there are very few illustrations — some black-and-white drawings, and six colour plates illustrating the 16 endemic species.

Visitors to Tokyo with limited time can learn about the sites close to the city. Those with more time should visit the southern islands, called collectively Ryukyu or Nansei Shoto Islands, and should take the ferries between the other major islands to see pelagics.

As has happened all over the world, marshes, bogs, and flood plains have been drained or developed so that there are very few left. What is perhaps less common is that the coastline has been artificially strengthened to halt erosion, and as a result many species associated with these habitats are not common.

The information in *The Birds of Japan* will be useful for western ornithologists of all levels. The dictionary of Japanese/English names and the addresses of bird societies will be valuable for visitors.

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BOTANY

Rare Vascular Plants in Canada: Our Natural Heritage

By G. W. Argus and K. M. Pryer. 1990. Canadian Museum of Nature, Ottawa. 191 pp. + 85 pp. of maps. Paper \$12.95 + \$6. Shipping. Also available in French.

This publication represents the culmination of a project that began with provincial and territorial assessments of rare vascular plants well over a decade ago. The provincial and territorial lists serve as the primary references for the status of plants, and have been used extensively by government agencies, consultants, and field botanists. Not only have they stood as the "official" lists of rare plant species; they have also stimulated and directed renewed field activity. The logical extension of the rare plants program is the publication of this list of nationally rare plants.

Many species of vascular plants are rare in one or more of the jurisdictions in which they occur within Canada. However, some of these may be rare in one province, but common in the adjacent province. In order to qualify for inclusion in this publication, a taxon must be rare in *each* jurisdiction in which it occurs. This also implies that each taxon occurs in a relatively limited portion of each jurisdiction, and/or

that its populations are relatively small. A total of 1009 taxa qualified for inclusion in this book (a little under one third of Canada's total flora).

Although various authors, with various concepts of rarity, contributed to the preparation of the provincial and territorial lists, the authors of this book feel that the nationally rare plants included here conform to "...a relatively uniform concept of rarity". From my perusal of the list, I must agree. Of course, there are a few species that perhaps could have been excluded if the criteria had been applied more rigorously. For example, American Ginseng (*Panax quinquefolius*) is known from a large number of stations throughout southern Ontario. However, because of the threat of extirpation from collectors for naturopathic and herbal markets, there is good reason to include it. The inclusion of several species of the Carolinian (southern deciduous forest) zone of southern Ontario could also be questioned (e.g., James' Sedge, *Carex jamesii*; Tulip-tree, *Liriodendron tulipifera*), since they are quite common within that restricted range.

This book provides a wealth of information about our nationally rare plants, in a very concise format. A series of introductory sections deal with reasons and causes of rarity, inclusion criteria, and explanations of The Nature Conservancy (TNC) ranking system and a novel Canadian priority rating scheme (intended to direct future efforts for the preparation of status reports and other conservation initiatives). The bulk of the book is composed of the species list. Each species is listed in alphabetical order, along with common synonyms, references, rankings (TNC, COSEWIC), and Canadian priority rating. TNC ranks are particularly useful, because they provide an indication of the level of rarity of each taxon in each province and territory (or District within the Northwest Territories) in which it occurs. In addition, all states in which the taxon is uncommon to rare are listed, with their TNC ranks. Thus, this book summarizes a lot of information that otherwise would have to be gleaned from numerous separate sources.

Following the species list, a series of appendices provides easy cross-referencing. The appendices include a list of species by family, a list of rare endemics, alphabetical lists for each province and territory, and lists by Canadian priority category. Thus, many jurisdictional conservation program needs can be served by one or more of these ready-made lists.

The book concludes with a set of range maps for the taxa included. Unfortunately, these maps are inadequate. They do not provide accurate reflections of the ranges of the species, because single dots are used to indicate occurrence within each jurisdiction. The dot is always located in the geographic center of the province, territory, or state. Thus, for example, the distributions of species restricted to southwestern Ontario, the lower mainland of British Columbia, or the Mingan Islands of Quebec, are grossly misrepresented by dots north of Lake Superior, north of Prince George, and north of Lake Mistassini, respectively.

This is a very worthwhile and useful publication that will fulfil an important function in conservation programs across Canada. The authors should be commended for persevering and carrying the rare plants program through to its logical conclusion. Hopefully, the Canadian Museum of Nature, as well as the provincial museums and all government and non-government agencies charged with the tasks of documenting and managing our flora and fauna, will continue to support efforts leading to the protection of our natural heritage.

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Liverworts and Hornworts of Southern Michigan

By Howard Crum. 1991. The University of Michigan Herbarium, Ann Arbor, Michigan. 233 pp., illus. U.S. \$18 in U.S.A., U.S. \$20 elsewhere.

Howard Crum, a master at producing useful bryophyte manuals for students and professionals, has written yet another easy to use identification book. This book is for students, somewhat along the line of his *Mosses of the Great Lakes Forest*, but this time the focus is on the liverworts and hornworts of southern Michigan. The book is actually an updated and more comprehensive version of William C. Steere's *Liverworts of Southern Michigan*. Michigan is now one of the few states that has recent manuals to help identify many of its liverworts, hornworts, and mosses, thanks to Howard Crum.

The manual treats the liverworts and hornworts in 42 Michigan counties in the southernmost portion of the lower peninsula. The counties are wholly or partly south of the so called "Tension Zone" in Michigan, i.e., the part of the state dividing south and north in regard to climate, soil and vegetation. The book treats 76 species in 44 genera that are

presently known to occur within the region. A short introduction discusses the climate, topography, soil, and vegetation of southern Michigan, as well as habitat preferences of liverworts in the region.

The taxa are arranged in families in a systematic arrangement within the two classes, Hepaticopsida (Liverworts) and Anthocerotopsida (Hornworts). The descriptions, which are of a homespun style that are easy to read and understand, contain only the salient morphological features of each taxon. The habitat and the distribution in southern Michigan is given for each species. A nice feature of the book is the etymology of each genus and species name, something that is not always easy to find from other sources. Short discussions on how to distinguish the species from closely related ones or interesting facts, such as the fragrance of the plant, accompany the treatment of many of the taxa. An eight-page glossary and a short bibliography are in the back of the book along with 104 figures of photos and illustrations that are important in helping to understand the morphology and aid in the identification of the



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