Vascular Plants of Minnesota, A Checklist and Atlas

By Gerald B. Ownbey and Thomas Morley. 1991. University of Minnesota Press, Minneapolis, xi + 308 pp. U.S. $39.95.

This most useful publication represents the culmination of many years of study of the vascular plants of Minnesota — indeed the second author began the mapping project in 1962. The text following the introduction, which provides a most useful background, is divided into two parts: Checklist and Atlas.

But the checklist is not just a plain list. it contains a wealth of pertinent references that will be invaluable, not only to those working on the flora of Minnesota, but also the surrounding regions. Also included here are common names, pertinent synonymy, for non-native species "Naturalized" or "Introduced", and even such comments as "The proposed varieties are not distinguishable". An Appendix to the Checklist comprises a list of excluded species, and a second Appendix presents tables showing the breakdowns for the 2010 taxa listed.

Part 2 consists of 1881 distribution maps which show the positions of the 87 counties and depict the exact locations of the various collections – not just a single dot in the middle of a county. These are preceeded by a larger map showing the names of the counties, plus an alphabetical list of county names with a key to their locations. There are maps for all the native or presumed to be native species, even if some are known only from a single locality, plus introduced species that have become naturalized. Excluded are other introduced species that may occur from only time to time, but are not persistent. A comparison of these maps, as pointed out in the introduction, will demonstrate the dividing lines between the western limits of the eastern forest flora and the northern and eastern limits of the flora of the prairies and plains. Rare species can also readily be detected.

Knowledge of the flora of Minnesota has gradually increased through various publications starting in 1822, with the first comprehensive list in 1875 and the last in 1946. In addition, Olga Lakela published *A flora of northern Minnesota* in 1965 and Thomas Morley published *Spring flora of Minnesota* in 1974. As yet however no comprehensive flora of Minnesota exists. With the present checklist in hand, the writing of such flora should be a much easier task.

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The Illustrated Field Guide to Ferns and Allied Plants of the British Isles

By Clive Jermy and Josephine Camus. 1991. Natural History Museum Publications, London, England. X + 194 pp., illus. Paper £7.95.

Naturalists planning to visit the countryside of the British Isles will find this publication on the ferns and fern allies a welcome companion. The black silhouettes which are accompanied by fine line drawings of diagnostic parts where needed, are particularly useful. With these, the descriptions are not lengthy, but the important items are emphasized by the use of bold face. The notes on habitat and distribution are most helpful, as are the many other pertinent comments found throughout. There are 72 species known in the area — the challenge now is to go out and find them.

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Manual of Vascular Plants of Northeastern United States and Adjacent Canada

By Henry A. Gleason and Arthur Cronquist. 1991. Second Edition. New York Botanical Garden, Bronx, New York. LXXV + 910 pp. U.S. $74.60 in U.S.A.; U.S. $76.90 elsewhere.

This second edition is based on the first edition published in 1963, which in turn was based on the *New Britton and Brown Illustrated Flora,* published in 1952. As pointed out by Dr. Cronquist in the preface to the first edition, where the manual resembles the first printing of the *Illustrated Flora,* it is the work of Gleason, and insofar as it differs, it is the work of Cronquist. Now in the second edition Cronquist takes full responsibility for the entire contents.

Perhaps the most obvious of changes is that the families of angiosperms follow the more modern arrangement proposed by Cronquist (1988) in his *Evolution and Classification of Flowering Plants,* rather than the Englerian arrangement followed in the first edition and many other floras. This may

pose some problems for those using the book for the first time when they are familiar with the old order, but with use this should readily be overcome. Throughout the text the user will find that some additional species are included, the occasional genus has been split, and that in many of the species descriptions additional information has been provided along with a general polishing of the text. In part for this, Dr. Cronquist acknowledges the help of a large number of individuals in the Preface, but the production of such a volume as this is a monumental task, and Dr. Cronquist is to be congratulated for having brought this most useful work to completion.

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Common Poisonous Plants and Mushrooms of North America

By N. J. Turner and A. F. Szczawinski. 1991. Timber Press, Portland, Oregon. xv + 311 pp., illus. U.S. $55.

A thoughtfully prepared, nicely presented book on a topic which has been quite prominent in recent years. The information on various types of poisoning, various types of plants and mushrooms that cause poisoning, various types of treatments for poisoning, and various related topics is well organized. From the book's beginning with "What to do in case of poisoning" and "How to prevent poisoning", both sections of a couple of pages, to the final sections on "Honey poisonings" and "Some medicinal herbs of questionable safety" there is a wealth of pertinent and fascinating information.

The main chapters are (a) the introduction to poisonous plants, (b) poisonous mushrooms, (c) poisonous plants of wild areas, (d) poisonous garden and crop plants, and (e) poisonous house plants and plant products. Most of the plants and mushrooms discussed are illustrated in colour. The 215 colour pictures are good but some of the mushroom photographs are tinted an atypical pink. The format for each plant or mushroom is consistent and composed of the following: common name and family, scientific name and family, quick check, description, occurrence, toxicity, treatment, and notes.

The authors designed a book "intended for parents, hikers, wild food enthusiasts, and health care workers in poison control centres" and I believe they have succeeded most admirably. It is a good book to browse through and to gain a better understanding of that plant that lurks next to the piano.

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ENVIRONMENT

Extinction, Bad Genes or Bad Luck?

By David M. Raup. 1991. W. W. Norton, New York. 210 pp., illus.

The ball began to role in earnest in 1980 when physical evidence pointed the finger at an extraterrestrial object as the cause of the extinction event 65 million years ago which included our favourite fossil forms, the dinosaurs among others. David Raup, a statistical paleontologist with the University of Chicago has produced the latest volume in the field and, unlike his earlier book, *The Nemesis Affair* which was more of a personal journal of his involvement of the developing scenarios of extraterrestial causes of extinction and the "ways of science", Raup's latest book involves the understanding of biostatistics.

By using biostatistics (as frightening as this word may sound to the general reader, Raup is very careful not to lose the reader in numbers), Raup is able to show that the other side of evolution, extinction, is not a signal of failure but merely a component that "adds another element to the evolutionary process." As well, the early record of life shows that species start out in small numbers and, because of this small population, are easy to wipe out by natural causes. Species that are widely distributed have more strength against extinction because natural causes are often not global. However, as seen in the geological past, global events have indeed happened and a catastrophic event previously not experienced by the species could cause such an extinction. This is the "bad luck." Massive extinctions in the past showed no preference to their victims: they transcend all ecological boundaries.

The modern analogy of the heath hen is an important symbol in two respects: the impact our species has on the biosphere and as a comparative tool. The geographic range of this bird was relatively large prior to human territorial expansion and hunting. These circumstances are what Raup calls the "first