

BOOK REVIEW #5

Chadde, Steve W. *A Great Lakes Wetland Flora: A Complete, Illustrated Guide to the Aquatic and Wetland Plants of the Upper Midwest*. 1998. x + 569 pages; dichotomous keys, descriptions; illustrations; references; illustration credits; list of species with their wetland indicator status rankings; illustrated glossary; index. Pocketflora Press, Calumet, Michigan. Paper. Price: US\$44.95. Available from Pocketflora Press, RR1 Box 206A, Calumet, MI 49913.

Wetlands are important transitional ecosystems of our landscape mosaic between aquatic and upland ecosystems. Owing to their unique, but varied, vegetational and plant growth medial features, wetlands provide remarkable and vital functions. They have the capacity to store large volumes of runoff and then gradually release water that recharges ground water aquifers, discharges water into streams, and reduces the adverse effects of flood and drought periods. Wetlands are natural filters. They remove sediments from runoff, and they remove heavy metals, excess nutrients, and other toxicants. Wetlands have a relatively high productivity and provide significant habitats for native organisms (animals, fungi, plants, etc.) consisting of species that vary from those with narrow ecologic amplitudes to those with relatively broad ecologic amplitudes. Therefore, wetlands are critical in maintaining biodiversity across our landscape mosaic.

The benefits of conserving and protecting wetlands has been known among fish and wildlife enthusiasts and naturalists for over a half century, but only recently have the functional values of wetlands gained a broader public interest with respect to their ecology, conservation, restoration, and construction. Hence, professional and non-professional citizens interested in wetlands continuously need useful information. To this end, the author's comprehensive manual, that reflects his extensive knowledge and field experiences in wetlands, provides a wealth of information on how to identify and understand the types of wetlands and their corresponding vascular plants for the "Great Lakes Region." Here, the "Great Lakes Region" consists of Minnesota, Wisconsin, Michigan, northern Illinois, and northern Indiana, furthermore the manual is applicable to areas beyond the boundaries of this region.

Because wetlands are very diverse, a brief single description is unsuitable; however, the author presents the generally accepted vegetational, soil (plant growth medial), and hydrologic features used to delineate wetlands. Furthermore, users of this manual will appreciate the dichotomous key to open water communities and thirteen types of wetland communities recognized for the "Great Lakes Region". Subsequently, there are descriptions of each community with a selected list of common plant species. After a brief introductory statement under the heading "Family Keys", the treatment of the wetland flora begins with sets of artificial and natural dichotomous keys to groups and families of vascular plants. Subsequent to the "Family Keys," is an additional practical feature of the manual entitled "Woody Plant Key" which is actually two sets of keys. One set is to wetland trees and the other to wetland shrubs and vines.

The largest portion of the manual (500 pages) treats over 900 species of aquatic and wetland plants. This portion of the book is organized alphabetically by families under four different groups: ferns and fern allies, gymnosperms, dicot angiosperms and monocot

angiosperms. Concise family descriptions are followed by keys when two or more species represent a family. On the other hand, if a family is represented by a single species in the manual, the description of that species suffices for the family description. Keys to species may be preceded by generic or subgeneric keys for complex families and genera. The utility of the manual is enhanced when going from keys to the descriptions and illustrations of species, because within families, generic names are arranged alphabetically and are clearly visible. And within genera, species are arranged alphabetically. In addition to descriptions and illustrations, each Latin name of a species is accompanied by its common name, wetland indicator status ranking, and habitat and distribution notations. Also, synonymic and taxonomic comments are included when considered appropriate by the author. The illustrations of the species are borrowed from other publications as acknowledged by the author and thus, they are somewhat inconsistent in detail and quality. Nevertheless, they add considerable value to the manual. A minor criticism is in the construction of the dichotomous keys. They lack the second number for each set of couplets, which may result in some users skipping past the second part of a couplet on to the next set. However, this feature is more of an initial annoyance that quickly diminishes as one becomes familiar with the manual.

Chadde's comprehensive and utilitarian manual is an important contribution to plant taxonomy and plant ecology of wetlands of the upper midwest. Its size (ca. 6 X 9 inches) is convenient for field and in-house usage, and its price is reasonable. It should be within arms-reach of anyone working with, or wanting to learn about, aquatic and wetland plants of the "Great Lakes Region" and neighboring areas.

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