DISTRIBUTION PATTERNS OF GREAT PLAINS PLANTS

Atlas of the Flora of the Great Plains. T. M. Barkley, Editor. 1977. Iowa State University Press, Ames. 600 pages. $25.00.

Not since 1932, when P. A. Rydberg's *Flora of the Prairies and Plains of Central North America* was published, has the Great Plains region had a book about its unusual and diversified flora. Rydberg's book has long been outdated by taxonomic changes and better distribution records, but the only other sources were a few state floras that have appeared in recent years. Now there is a monograph that documents the records of distribution of all vascular plants in the region extending from the Canadian border to the Texas panhandle and from the Rocky Mountains east to the beginnings of the continuous woodland in Minnesota, Iowa and Missouri. Compiled by a team of 11 taxonomic botanists at colleges and universities in the Great Plains states under the coordination of Dr. R. L. McGregor of the University of Kansas, this book contains dot-distribution maps for each of the nearly 3,000 species of vascular plants that naturally occur in the area, except for those that are either rare or of restricted occurrence. Records of the latter are listed in a table at the end of the volume. There is no text, only a three-page introduction. The maps and the list are both arranged in the conventional taxonomic sequence beginning with clubmosses and selaginella and ending with the flowering plants. There is an index to the families and genera and the common names.

The plant most frequently recorded (i.e., recorded from the largest number of counties) in the region appears to be the prairie coneflower (*Ratibida columnifera*) which has been found in all counties in Kansas, all but 17 in Nebraska, all but 9 in South Dakota and all but 3 in North Dakota. It seems clear from the maps that the distribution of plants in Kansas is better known than that of any other states.

Most of the maps show north-south trends; to a large extent this probably represents the distributional pattern. In other cases, the lack of dots in counties outside the region (even though those counties appear on the maps) gives this impression. A better understanding of the overall distribution and of the patterns would have come with the addition of a small inset map showing the North American distribution for each species.

It is hard to tell from some of the maps if the patterns are due to disjunct distributions or to inadequate collecting. This is especially true in the western part of the region, areas far removed from the colleges and universities where the researchers are located. Little bluestem (*Andropogon scoparius*) is a case in point. It is recorded from every county in Kansas but only 50 of 93 counties in Nebraska, 30 of 67 counties in South Dakota and 40 of 53 counties in North Dakota. The dandelion (*Taraxacum officinale*) is also recorded from every Kansas county but from many fewer counties in the other states. Alfalfa (*Medicago sativa*) is found in every county in Kansas and in most North Dakota counties but in less than 20% of South Dakota counties and in less than 30% of Nebraska counties. All three of these species probably occur in every county in all four states. Box elder (*Acer negundo*) distribution also illustrates the variation in extent of knowledge of plant distribution in each state. The map of this species shows western Missouri and eastern and northern Kansas covered with dots while the other states have many fewer.

Poison ivy (*Toxicodendron rydbergii*) is recorded from only 4 counties in North Dakota and sparsely from all the other states except western Kansas. Stevens in his *Handbook of North Dakota Plants* recorded poison ivy as "a common and troublesome plant, growing in all sorts of places all over the State." Thus, if the dots on the map of this species represent the only records known to taxonomic botanists in this region, then they must have been avoiding the species in the field.

This book is large and attractively bound; the printing is of good quality. While the price may put it out of the reach of all but the most dedicated botanists, it seems appropriate for the size and content. The *Atlas* is not only a document of plant distributions, but also a checklist of the vascular plants of the region. As such, it will be of value to both amateur and professional botanists.

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