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## Review of *A Classification of North American Biotic Communities* by David E. Brown, Frank Reichenbacher, Susan E. Franson

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## BOOK REVIEWS

**A Classification of North American Biotic Communities.** David E. Brown, Frank Reichenbacher, Susan E. Franson. Salt Lake City: University of Utah Press, 1998. x+141 pp. Figures, tables, plates, references, map. \$34.95 paper and map set (ISBN 0-87480-568-6), \$19.95 paper (ISBN 0-87480-562-7), \$20.00 map (ISBN 0-87480-567-8).

This is the latest of many efforts over the past century to classify North America's natural, undisturbed biological communities as they existed in pre-agrarian times and in many places continue to exist today. Its authors' stated objective is to integrate existing works into a hierarchical synthesis that can lead to a standardized system for researchers, land managers, conservation groups, and government agencies. To that end, the authors have modified and expanded David Brown's earlier classification for the Southwest to cover the continent, defined here as the area from the Panama Canal to the Arctic, including Greenland and some of the West Indies. This explicit system is designed to categorize each biotic community in its worldwide context through the medium of a computer-digitized, statistically testable format that uses plant and animal distributions as well as climatic data.

The first chapter, a cogent and thorough summary of relevant literature, ends with a clear statement of the work's motivation and principles: integration of faunistic and floristic data; definition of biotic communities recognizable in the field; and expandability, testability, and predictive capacity of the classification system. The second chapter explains the seven-level coded system, presents it in two long indented lists, names the communities, and maps the thirty-two biotic *provinces* into which the numerous biotic *communities* are placed. This is followed by sixty-two pages containing over a hundred black-and-white photographs of representative samples of most communities, each with a legend identifying location and its prominent plants and animals.

The third chapter explains the large (42" × 42") folded map (1:10,000,000) showing most of the continent's eighty or so biotic communities, each laid out in a separate color. Many of the colors are murky or lack contrast, making some communities difficult to locate; a brighter, more contrasting, but much smaller version appears on the book's back cover. Political boundaries that would help users site the communities are omitted.

*A Classification of North American Biotic Communities* should be considered a report of work in progress. Some areas of the continent, notably the West and Southwest, are classified in detail; others are not, especially the tundra, boreal forests, grasslands, and eastern forests — each treated as a single biotic community and in less detail than one finds in beginning textbooks. Anticipating such criticism, the authors note that numbers of species of plants and animals increase westward and southward, leading to greater variation at the biotic-community level. Yet the authors' definitions of communities are largely based on the most prominent or influential plants and animals, not on the numbers of species. The eastern deciduous forests, for example, were carefully categorized and mapped more than fifty years ago by E. Lucy Braun, whose classifications have served quite well. Most of these forest types are so distinctive they can be identified from a moving car, and many, especially those in the Appalachians, have more species than western forests.

Readers in the Great Plains, at least those with biological leanings, will be surprised that the interior grasslands, from Alberta to Texas and from the Rocky Mountains to Indiana, are also rendered as a single community. Gone are the familiar primary categories of tall-, mixed-, and short-grass prairies. Omitted are detailed vegetation maps available for most of the prairie provinces and states, maps that could provide the starting point for biotic-community classifications that also include animals. With at least 4,000 species of plants, these grasslands constitute diverse biotic communities, as defined here for other regions, many so distinctive they can also be identified from a moving car.

For areas in and west of the Rocky Mountains, this book succeeds in its attempt at formal classification of biotic communities; for areas east of the Rockies and across the far north it makes no contribution and is, in fact, a setback. **Robert B. Kaul**, *School of Biological Sciences, University of Nebraska-Lincoln*.