

BOOK REVIEW

A PLACE IN SPACE^{1,2}

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*There are some who can live without wild things . . .
For us of the minority, the opportunity to see geese is
more important than television, and the chance to find
a pasque-flower is a right as inalienable as free speech.*

—(Aldo Leopold, 1949, p. vii)

The technical side of the review is relatively easy. We have two new and important professional books on the landscape of North America. Their appearance is worthy of celebration. Buy them. Keep them by your bed to read at night. Give them to students as gifts. These same two books, however, also have a broader significance for the culture and landscape of North America. I intend to take this opportunity to discuss both technical matters and the broader cultural significance, because most scientific journals are unlikely to deal with culture, whereas most cultural journals will simply ignore the books in the mistaken belief that they matter only to scientists. This dichotomy is what C. P. Snow once called the two solitudes and, sadly, they still exist.

First, then, to technical matters. Barbour and Billings provide 19 chapters (708 pages) on the major vegetation regions of North America. The coverage ranges from tundra and grasslands to tropical forests of Mesoamerica and Hawaii. Anderson and his co-editors use 26 chapters (470 pages) to provide a counterpoint, focusing upon the nonforested landscapes that are scattered within the larger vegetation regions. Barbour and Billings, then, sketch the larger picture while Anderson adds rich detail. With these two books, Cambridge University Press would seem to have cornered the market on the vegetation ecology of North America. The only comparable volume is Archibold's (1995) *Ecology of World Vegetation*, with an unknown future now that Kluwer has bought Chapman and Hall.

This second edition of Barbour and Billings more fully represents North America as one geographic whole. This unity contrasts positively with too many other scholarly articles that truncate at the Mexican or Canadian borders, leaving a reader to guess whether it is the natural feature or merely the author's world view that ends with the political border of the United States of America. The second edition of Barbour and Billings also includes more vegetation types, such as freshwater wetlands and coastal marine wetlands, making it far more complete. The chapter on temperate Mexico by Alejandro Velázquez et al. was particularly helpful to an ecologist like myself who has most field experience in the northern temperate zone.

With such improvements, it would be easy to overlook cer-

tain technical shortcomings. Yet they remain. A specialist will always be most critical of those papers nearest his own area of expertise. In Curtis Richardson's chapter on wetlands, the treatment runs diagonally through the center of the continent, from northern peatlands, through prairie potholes, to southern swamps. I was less than satisfied with the coverage of the Great Lakes watershed and with the treatment of eastern North America in general. Biological interactions such as herbivory and competition were also given little consideration relative to the direct effects of physical factors. None of my own work on wetlands was consulted. A continuing bias towards the United States was particularly evident to me in this chapter, and the repetition was particularly obvious to someone already familiar with the expansive literature on prairie potholes, including van der Valk's own (1989) book. I am of the opinion that when writing an overview chapter, it is important to carefully balance the treatment, avoiding the tendency to focus on well-traveled areas (like prairie potholes and the Everglades) that already have a high profile. As another example of uneven coverage, I found that too much of the already-published work about Florida was repeated in several chapters. There are already several fine regional treatments that deal solely with this state. It is easy for writers to amplify existing lack of balance in coverage by writing solely about that which they (and presumably, many others) already know most about. Perhaps this problem can be addressed in a future edition.

The treatment of the geological events and ecological events of Quaternary is also generally less than satisfactory. In many chapters the standard reference works appears to have been the two overviews already thoroughly published by Delcourt and Delcourt (1991, 1993). The problem is that if you have read these articles already, few of the chapters give sufficient added regional depth or detail. The Delcourt and Delcourt rendition is often treated as the whole story, rather than as a continental framework upon which each local author must expand. With reference to the southeast, I could find no map of the greatly expanded Gulf Coastal Plain during periods of the glacial maximum (except for a reproduction of a very coarse-scale map from Delcourt and Delcourt [1993]), and while the Mendelssohn and McKee chapter on mangroves at least gave a plot of sea level vs. time, the vertical axis was in fathoms rather than metres. (I know that the United States of America is proudly nonmetric, but still. . .) In the chapter on the coastal plain, Christensen's introductory map of the physiographic features of the southeastern coastal plain has neither the 100 m depth contour (the approximate outer limit of the coastal plain during the full glacial) nor a topographic contour indicating where the sea level maximum may have been. This is all the more unsettling, since, in 1994 I co-edited a special volume of *Biological Conservation* devoted to coastal plain wetlands, including the theme of changing sea levels allowing

¹ *Savannas, barrens and rock outcrop plant communities of North America*. Roger C. Anderson, James S. Fralish, and Jerry M. Baskin [eds.]. Cambridge University Press. 1999. ISBN 0-521-57322-X.

² *North American terrestrial vegetation*, 2nd ed. Michael G. Barbour and William D. Billings [eds.]. Cambridge University Press. 2000. ISBN 0-521-55986-3.

such species to extend up the eastern seaboard to Nova Scotia and inward to the Great Lakes. None of these symposium papers is cited. Whether the treatment of western part of North America has similar idiosyncracies and oversights, I am unable to judge.

With such shortcoming in mind, I consulted the index for the entire book. There were more than 25 lines of subreferences for California and just five lines of page numbers for Canada (but, then, strangely, none at all for Florida). The Gaspé Peninsula, Bruce Peninsula, and Cape Breton, do not appear; nor do the Fossmill outlet, Lake Algonquin, or Lake Agassiz (even though contemporary Louisiana is built from sediments transported southwards from the latter). Those with interests in the vegetation and geological history of north-eastern North America will therefore be less than satisfied. (Another quick check—Nunatak too, is absent from the index). Perhaps this is simply a weakness of the indexing as a whole—5.5 pages may be too short for a book of this length. Species indices do, however, add another 14 pages. Out of curiosity, I tried to look up three eastern plant species with important phytogeographical and ecological stories—*Sabatia kennedyana*, *Iris lacustris*, *Schizea pusilla*, but none was listed.

In contrast, Anderson et al. has a noticeably more thorough perspective, including solid treatment of little-known areas such as the jack pine barrens of the northern Great Lakes region (of which there were in excess of 900 000 ha at the time of European settlement!), the cliff ecosystems of the Niagara Escarpment, alvars of the Great Lakes Region, and even Ontario granite barrens. These chapters complement others dealing with mid-Appalachian shale barrens, cedar glades, and the high-elevation outcrops and barrens of the southern Appalachians. The chapters invariably seemed comprehensive, perhaps because the smaller geographic area allowed most authors to present more detail. One is left with two overall impressions. First, there is a deep reservoir of botanical expertise at the regional level. This expertise may be underappreciated because it is built around the themes of geography, flora, and site-specific factors, in contrast with the broad ecological principles that we currently favor in most professional journals. Second, fire once played a pivotal role in creating North American vegetation types, and the exclusion of fire for the last 50–100 yr has had a devastating effect upon nearly all communities. The reintroduction of natural fire regimes will be a scientific and management challenge that botanists will collectively have to address in our research, teaching, consulting, and writing.

The most pronounced overlap between the two books is the treatment of southeastern pine savannas. In Anderson et al. it is Bill Platt who covers pine savannas, whereas in Barbour and Billings it is Norm Christensen. Unlike Christensen's aforementioned map, Platt's map shows the large areas of savanna that occur in Louisiana and Texas, but changing sea levels are overlooked again, and the map places the northern limits of the coastal plain pinelands near New Jersey, while many of the species, from *Ilex glabra* to *Clethra alnifolia* extend farther northward into Nova Scotia. I am not sure where the pine barrens of Yarmouth County and the Tobetic belong in a continental classification, but when Fernald explored these areas early this century (Fernald, 1921, 1922), he called them coastal plain communities. The map in Platt seems to give a southern rather than a northern view, but in fairness, the chapter is titled "Southeastern Pine Savannas." Neither of these chapters can be considered exhaustive, as shown by a third

book chapter on the same region by Peter White (1998). Students of the southeast region, at least, will have to read all three treatments and integrate them.

Both books are adequately illustrated, but neither is striking in this regard. I would have preferred more maps and photographs. Perhaps Archibold's (1995) book has spoiled me with its excellent illustrations. North American ecologists may still wish to use the latter book as a companion to the two under review.

In conclusion, while there is still room for improvement, particularly in Barbour and Billings, the fact remains that these are valuable contributions. It is auspicious that we should have them both available as foundations for North American botany in the coming millennium. These are two books that all North American plant ecologists should have in their personal library. They would also make ideal gifts for anyone working in botany and are probably suitable as well for many general naturalists.

Now to the second part of the review. Why should anyone other than a professional botanist care about these two books, particularly among the flood of other popular books on the market? The answer lies, in part, in Gary Snyder's latest book, *A Place in Space*, which is, in part, a lament for the disorientation that occurs when no one belongs anywhere. The need to fit into a landscape may be innate within human beings. Without a sense of place, that is, without some appreciation of the regional geology, fauna and flora, humans are left adrift in a restless sea of dissatisfaction. Hence, one could argue (as I will) that the two books under review have an importance well beyond their technical readership.

Certainly, it seems to this reviewer that many people in North America no longer live anywhere. For example, my new neighbors here in the expanding suburbs of Ponchatoula, Louisiana have enlisted in the same suburban campaign against Nature that is being waged in every other region of North America. The native forest is cleared, the trees bulldozed into piles and burned. Native plants are replaced by sod. Finally, some cheap cultivars from a chain megastore are planted in rows—a few evergreens for the foundation, a white birch, some privet, geraniums and day lilies. Voila—there is no longer any indication of whether the house is in Louisiana, Nova Scotia, New York, Montana, or California. This abuse of the natural world (one dare not call it landscaping) shows a disregard for the ecological regions and plants of this continent. No, it is actually worse than that. It shows a complete lack of awareness that such regions even exist. It reveals an inability to comprehend that wild nature is anything more than bush to be felled or weeds to be eradicated. It is the antithesis of the opening quotation.

But the issue extends beyond so-called landscaping. Such abuse of Nature is just a physical manifestation of minds lacking any geographical context. Such minds are oriented to relatives, sports teams, malls, and perhaps a favorite holiday theme park or hunt camp. The result is placeless ghosts driving similar cars, watching similar television shows, and reading the same few best sellers (if they read at all). To such minds, the difference between Louisiana pine savannas, New York deciduous forests, and Wisconsin prairies is utterly foreign and irrelevant.

Snyder, like Leopold, contends that such placelessness is unhealthy. Belonging somewhere seems to provide our species of ape with basic sanity. Such sanity combines the sense of being grounded in one's local reality with a broad and open

sense of spaciousness and perspective. Perhaps it is significant that the term "keeping things in perspective" can apply either to a state of mind or to a landscape. Perspective, this sense of place, this basic relationship with a natural landscape, is a state of mind increasingly at risk. Louisiana, for example, still has a certain sense of place: images of magnolias, alligators, swamps, crawfish, and Cajun cooking are familiar totems. But increasingly these are cartoon-like images of Louisiana, as alien to the suburbs of New Orleans and Baton Rouge as they are to the suburbs of New York or Los Angeles.

Yet our very thought processes probably evolved within an environmental context. Our tribal ancestors knew their land intimately. As humans destroy the environment in which consciousness evolved, they may be simultaneously damaging their own basic sanity. Consider. The call of a barred owl, the glimpse of a pine tree against the moon, the smell of a magnolia flower—each can briefly stop discursive thought. For an instant, we are at rest and aware of our surroundings. In the past, our endless train of mental images, our endless thinking, may have been constantly interrupted by familiar reminders of place and perspective. Without these reminders, we lose perspective. We become diminished, disoriented, and adrift.

Quite apart from their scientific significance to biologists, then, these two books provide information that is needed to varying degrees by each human being. Each of us has to live somewhere. Each of us needs a sense of place. That minority

to whom Leopold refers in his opening quotation may have been larger than he understood.

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Submitted by Spencer C.H. Barrett, Book Review Editor