California's Wild Gardens: A Guide to Favorite Botanical Sites

Edited by Phyllis M. Faber. 2005. 248 pages, 500 photographs, index. ISBN 0-520-24031-6. University of California Press. $34.95, paper.

Oregonians are fortunate to live relatively close to an area where they can find nearly one-fourth of all the plant types in North America north of the Mexican border (more than 6,000 species). California's Wild Gardens–A Guide to Favorite Botanical Sites, serves as a tour guide to finding "botanical hot spots" throughout the various ecological regions of this large and diverse state.

This book showcases, with vivid photographic images, the abundance of California's native plants in their natural settings and offers a close up look at more than 100 special sites in the state. The book is divided into ecoregions where their distinctive ecology and botanical challenges are highlighted with lively writing by some of California's best biologists and ecologists. One can view spectacular landscapes and close ups of rare flora through high quality color photographs. Several botanically rich areas are described in each ecoregion.

This guide to some of California's favorite botanical sites is an excellent source to identify future travel destinations to see unusual flora and to learn about the basic ecology of the area before arriving. Tucked away in the narrative are suggestions for driving, hiking or walking opportunities to locate some of the sites discussed. The book is lacking in information as to the best calendar time line to visit the various sites. The California bloom stretches the calendar with the state's diversity in latitude, elevation and climate. It would have been nice to see a table or time frame showing the more favorable times to visit each ecoregion in order to witness some of the vivid wildflowers depicted in the book.

With its stunning photography and informative narrative, I would recommend this book anyone traveling to the state of California. It should inspire readers to further explore California's natural heritage and landscape's natural gardens. Since I often travel southward to the Golden State, I will use the information in this book to seek out roads less traveled and enhance my travel experiences by visiting some of the special places described.

–Bob Korfhage, Siskiyou Chapter

Wild orchids of the Pacific Northwest and Canadian Rockies.

by Paul Martin Brown with drawings by Stan Folsom. 2006. 289 pp., 290 color plates, 85 B&W illustrations, 69 maps, bibliography, glossary, index. ISBN 0-8130-2900-7. University Press of Florida. $29.95, paper.

Live in the larger Pacific Northwest? Anywhere from southern Oregon to beyond the Arctic Circle, from the Rocky Mountains to the far out Aleutian Islands? Love our native orchids, or want to learn to love them? This just might be the book for you. Paul Martin Brown, member of the North American Native Orchid Alliance and founder and editor of The North American Native Orchid Journal, and a research associate University of Florida Herbarium at Gainesville has written several similar regional wild orchid books.

The book is nicely bound in a soft cover (Flexibound) with metric and English scales on the edge of the cover flaps. Each species is illustrated with some excellent color photographs mixed with less than perfect ones, and nice line and watercolor drawings by Stan Folsom. Distribution maps by Province or State are in color: blue, red, and green. The ocean is shown in blue, which unfortunately obscures the tiny blotches of green or red if the orchid is found in the Aleutian Islands. There are keys to genera and species with a complete discussion of each taxon.

His taxonomic treatment seems up-to-date, comparable with treatment of the Orchid Family in the Flora of North America: *Habenaria* is much reduced, for example, with former members of the genus moved to *Platanthera* and *Piperia*. This book includes 47 species, 1 subspecies, 10 varieties, 5 hybrids, and 62 forms. Brown described most of the forms (*forma* in taxonomic parlance) in the journal that he edits. The taxonomic category forma is used for trivial differences within a species, like flower color, that does not have any discernable geographic corollary. The North American Native Orchid Journal is a publication of the North American Native Orchid Alliance and is carried by only 13 libraries, mostly botanic gardens and institutes.

While an author based in Florida might give you pause for a local book, you will find that Brown has first-hand knowledge of our orchid flora. See Part 4, Orchid Hunting, which covers special geographic regions, including two in our state: the Columbia River Adventure and the Siskiyous and Southern Oregon.

I recommend this book to anyone interested in the wild orchids of the Pacific Northwest and Canadian Rockies. My complaints are as trivial as Brown's *forma*.

–Frank A. Lang, Siskiyou Chapter

Plants of Western Oregon, Washington & British Columbia

by Eugene Kozloff. 2005. 512 pages. 709 colored plates, line drawings, regional map. ISBN 0-88192-724-4. Timber Press, Inc. $65, hardback.

"This is Eugene Kozloff," said the woman with the shade umbrella. And that is how Veva Stansell and I learned, in June 2001, that there was to be a new flora of western Oregon, Washington, and British Columbia that would include the southwest corner of our state. Veva and I were driving on Wimer Road along the west fork of the Illinois River, scouting serpentine areas for our "Siskiyou Wildflowers" class the following day, when we spotted a photographer and his assistant bent over a patch of bright red

lilies. Naturally we stopped to meet our fellow botanists. Neither of us recognized the cameraman until his helper with the umbrella introduced him. Dr. Kozloff described his new project to us, and asked Veva for the name of the lily which she, with her intimate knowledge of the area, supplied—*Lilium bolanderi*. Perhaps the Wimer Road photo is the image in plate 668 of Kozloff's handsome and groundbreaking new regional flora.

In the five years since our chance encounter in Josephine County, Dr. Kozloff, who lives in Friday Harbor and is associated with the University of Washington marine labs, completed his research at herbaria in Seattle and Corvallis and found a publisher for his book, Timber Press. I was excited about the prospect of a reference that could be used west of the Cascades in BC, Washington, and Oregon. Perhaps at last we would be able take our students to botanize the diverse floras of Eight Dollar Mountain, Wimer Road, and Rough and Ready Creek without carrying a truck load of references!

Now this beautiful new book has appeared and my bottom-line advice to readers is—you will want to own it. I am not claiming it is perfect in every detail, but it will be a handsome addition to your botanical library, and I guarantee you will find it useful in many ways. The Kozloff volume does not pretend to be a new Flora of Oregon and will not take the place of the flora being prepared by the Oregon Flora Project at OSU. This book covers only the area between the Cascades and the Pacific Ocean; it does not provide range maps of species, and it has no electronic components. However, it is the first reference for this area that includes most of the newer plant names, and it is illustrated with luscious colored plates. I found the front material outstanding; the section on geography and geology is especially fine. Kozloff's philosophy is to bring the identification of plants into a realm where it is accessible to all. He has done away with many of the Latinate words and abbreviations students must learn in order to use Hitchcock and Cronquist's manual. And, as Aaron Liston of OSU recently wrote to me, Kozloff displays an "admirable taxonomic honesty seldom conveyed to the general public in floras." I agree with Aaron who further commented that Kozloff "avoids the old-fashioned authoritarian approach to science and introduces the concept of taxonomic uncertainty."

It is inevitable that the new book will be compared with the Hitchcock and Cronquist manual first published in 1973. The two floras are about the same size and weight, and contain approximately the same number of families. However, Hitchcock's manual contains 218 more pages than Kozloff's–pages that the older book puts to good use with genus descriptions and drawings. In comparing the two field guides, here is what I particularly admire about the new book: it includes southwest Oregon species, most of the new scientific names, a number of new family names, the majority of our introduced weeds. In addition, there are 709 very handsome colored plates and Kozloff uses a less challenging vocabulary than Hitchcock. I especially like his friendly and accessible introductory material.

On the other hand, there are certain features of Hitchcock and Cronquist I miss in the new book. Authorities for plant names are not used; this eliminates a sense of the history of a species. There are no genus descriptions and, since some of the keys are very long, one lacks information to confirm that one's keying was successful. Only a limited percentage of species are illustrated in Kozloff, whereas Hitchcock included a sketch of each taxon. (If Kozloff prepares a second edition, I urge him to add generic descriptions and at least one small sketch for each species.) It is too easy to lose one's way in Kozloff's very long key to "other Dicots and Monocots" which begins on page 75, going on for 11 pages with 109 pairs of leads–especially since pairs are not designated a and b. For example what I would call lead "12b" is 4 pages away from lead "12a," with no clue as to where to find it except to search. Gail Baker of Lane Community College and two of her advanced students also reported difficulties with some of the keys. However, I have used the new book to key approximately two dozen spring-blooming plants and have only two complaints: I had to plod through 12 pages and 106 pairs of leads to get to the mustard family! And while thorn-like short-shoots on our wild crabapple, *Malus fusca*, are not always obvious, this is the choice one must make in the key to Trees, Shrubs, and Vines on page 67.

My most important criticism involves the erroneous use of the word "saprophyte" to describe certain non-green Ericaceae and Orchidaceae. Many years ago the research of Dan Luoma and others at OSU showed that flowering plants are not saprophytic. Angiosperms that lack chlorophyll are obligate mycotrophs, meaning they obtain photosynthate from a nearby woody plant via a fungal partner. For years we have been asking students to annotate Hitchcock's manual with this note, and we found the same error in the new Gilkey. To see it once again perpetuated here is depressing.

Several specific errors have been reported. Dave Dobak's review in the Oregon Flora Newsletter for April 2006 listed the missing taxa; I will not repeat that list here. Frank Lang has noted that plate 667 is *Triantha occidentalis* rather than *Hastingia bracteosa*. Three family names, Brassicaceae, Convolvulaceae and Fumariaceae, are missing from the index. Kozloff himself has posted the following: Plate 196 is narrow-leaved clover not crimson clover. The drawing at the bottom of page145 is *Sonchus oleraceus*, common sow thistle, not *S. asper*. On page 299 captions are reversed. And on page 106 users need to add a second lead 22: "Achenes without a crown of scales–*Crepis*." However, let's face it, no flora of this size and complexity can be totally error-free in the first edition. Hitchcock and Cronquist brought out two subsequent editions with corrections; and Peck inserted two pages of errata in his 1941 *Manual of the Higher Plants of Oregon*.

Kozloff's effort deserves our attention; I strongly suggest you add this book to your botanical library. This new book allows us to botanize western Oregon with a single field manual that is admirably reader-friendly in terminology, up-to-date in taxonomy, and beautifully rich in color and images.

–Rhoda Love, Emerald Chapter

Green Inheritance: Saving the Plants of the World

by Anthony Huxley. 2005. 192 pages, 234 illustrations. ISBN 0-520-24359-5. University of California Press, paper.

Green Inheritance, first published in the eighties with the help of the World Wildlife Fund and the World Conservation Union to launch programs for plant conservation, has been extensively updated in this new revision. The book offers a pragmatic message: in a world of 6.5 billion people and counting, plants must be conserved, not just for their own sake, but for the survival of humans as well. Huxley's "plants as resources" viewpoint puts a value on wild plant species for their crop improving genes, medicines, soil and watershed protection, climate stabilizing effects, foods, spices, perfumes, lumber, and fuels.

In addition to the author's very serious message for our times, *Green Inheritance* is also a beauty to behold; its large 9x10.5-inch format, gorgeous photographs, and botanical plates make it a volume you will be proud to display on your coffee table. Through numerous examples, the volume details our long and colorful relationship with plants, their gifts, and our dependence upon them. The history of crop plants, the spice trade routes, and our use of plant fibers such as cotton demonstrate the worth of plants. The chapter on "Green Medicine" details how much of the world depends on herbal remedies, how many of our drugs came from plants, and how local indigenous peoples are precious resources of knowledge about using plants.

For me, Huxley's most important message comes near the end: the warning that the genetic variability of the world's plants is now seriously threatened. Human effects on plant biodiversity are significant (1000x the background rate of extinction), many plant species are already extinct, and 75,000 more are in danger of vanishing. Have we forgotten the adage, "extinction is forever"? Man has not learned how to design genes from scratch for specific purposes; for example, if a fungus attacks a crop such as mustard seed, we must turn to wild mustard species to obtain anti-fungal genes.

In our lifetimes, as over-exploitation, loss of habitat, and invasive species threaten our wild plants, we are squandering our "green inheritance," leaving little for the future. Landraces—hardy, dependable, and locally adapted crop varieties that have survived centuries of climate fluctuations, pests, and diseases—are being swept aside by hybrid strains that require the farmer to buy seed each year and supply high inputs of fertilizer. To hold off the inevitable pests and diseases that attack the hybrid strains, the farmer must keep increasing pesticide applications, poisoning the land, and buy new hybrid strains in a cycle of dependence. Vast numbers of humans live in cities, alienated from the land, surrounded by patchworks of clearcuts and tree farms, and fed by vast monoculture crop fields.

We have a choice: turn our remaining natural landscapes first into cropland, and finally into barren wastes, or remember that plants are necessary for our very survival, and their gifts (genes) come from wild stock. *Green Inheritance* urges and galvanizes us to stop the degradation of our plant cover, heal the damage, and conserve what is left. The hard work of monitoring rare species and maintaining biodiversity reserves is required to help slow the rate of extinction and return harmony to the relationship between humans and plants.

–David McClurg, Emerald Chapter

Mimicking Nature's Fire: Restoring Fire-prone Forests of the West

by Stephen F. Arno and Carl E. Fiedler. 2005. 242 pages, illustrations, photographs, bibliographic references and index. ISBN 1-55963-142-2, Island Press, $24.95, paper.

"Since only the kiss of flame is needed to rouse dormant seeds from decades-long sleep, is it not strange that botanists do not turn arsonists on occasion that some floral phoenix might arise from the ashes?" J.T. Howell, 1946, Sierra Club Bulletin 31.

As illustrated by this quote from renowned botanist, J.T. Howell, botanists have long held a fascination with fire and its stimulating effects on plant growth. Fire is vital to native plant reproduction and diversity in forests in Oregon and the western U.S. What changes have been caused by suppression of fire in these forests and what can and should be done about them? Stephen Arno (USDA Forest Service, retired) and Carl Fiedler (University of Montana), foresters based in Missoula, Montana, have addressed these important questions in this book. It is a relatively short book not meant to be a comprehensive reference on fire ecology in the west. How well do the forestry-based solutions described mimic the ecological effects of fire, particularly those vital to maintaining native plant diversity and regenerative processes?

The authors provide their assessment of the effects of fire suppression in the first section of the book and return to this theme repeatedly. They use dramatic terms to describe forests as imperiled due to lack of fire and in need of urgent treatment to reduce tree density and suppress fire severity. Their sentiments are familiar to those of us in forested regions of the western US, where fires are routinely reported as catastrophic even when the opposite is true; for example, the Yellowstone Fires. Arno and Fiedler apply negative effects of fire suppression very broadly even to subalpine forests, such as those in Yellowstone, naturally maintained by stand-replacing fire at intervals of a century or more. Grazing and logging are also discussed as causes of forest degradation, but are generally considered subordinate to fire suppression in influence. Uncertainties and variability in "natural" fire regimes, forest structure and the appropriateness of including past cultural fire in the concepts of historic range of variation are not addressed.

The authors argue an urgent need for action, and that options and funding are limited. They identify "restoration forestry" as the pragmatic solution, especially since it provides revenue. The approaches they present are offered as a way to "mimic" the effects of historical fire. However, many treatments described among the case studies that comprise the main section of the book have effects that do not mimic nature's fire. Some extreme examples that can be detrimental to native plant habitat, include "group selection" (1- to 2-acre patch cutting), salvage logging, mowing of native manzanita vegetation, and ripping of soil to offset compaction from heavy machinery used in some of the treatments.

Such mechanical disturbances clearly differ substantially from fire in the environmental conditions they create. They encourage the invasion and growth of exotic species that flourish with ground disturbances. Conversely, biota have evolved with fire. As noted by Howell, fire promotes reproduction and the growth of native species absent from unburned areas. Arno and Fiedler describe the use of prescribed fire, but in practice this often differs

considerably from nature's fire by consisting of pile burning or light burning that fails to provide the same timing, heating requirements, variability and intensity. Conversely, much of what occurs inside the perimeter of many fires is ecologically beneficial and restorative, but Arno and Fiedler characterize most fires today as detrimental. However, they do describe examples of restoration resulting from management approaches that allow fires to burn more area.

Thus, the authors have embraced widely varying approaches under restoration forestry. However, they emphasize forestry treatments over process restoration. The book details many benefits of their approach over the intensive forestry of the past, but the focus on timber harvest appears best suited to a forestry audience. Botanist and ecologists with broader interests in understanding the natural role of fire and implications of human impacts to it will likely find Bond and van Wilgen's 1996 classic, *Fire and Plants* more suited to their general interests. Though unfortunately expensive and difficult to obtain, its treatment of fire more comprehensively as an ecological and evolutionary force that has shaped plant diversity throughout the world is fascinating reading. In addition, it is helpful in considering how to manage fire to place the traditional preoccupation with fire suppression and timber harvest in the western US into a broader ecological context this book provides.

–Dennis Odion, Siskiyou Chapter.

Rocky Mountain Flora

by James Ells. 2006. 320 pages, 700 photographs, index. ISBN 0-9760525-4-7; published by Colorado Mountain Club Press/ distributed by The Mountaineers Books. $22.95, paper.

The author begins with the statement, "This book is as much a surprise to me as to those who know me…". Although I don't know the author, there were some aspects of the book that surprised me as well. At first glance, the book is organized by flower color: the chapters are white, yellow, red, blue, and purple flowers, followed by "flowers of other colors." This is where it becomes puzzling, because the latter chapter includes everything from Russian thistle (*Salsola kali*) through Canadian buffaloberry (*Shepherdia canadensis*) to subalpine fir (*Abies lasiocarpa*), without any attention to life form or conifers vs. flowering plants. The author suggests that this section groups "most of the wind-pollinated plants, including many of the trees." Then, to my surprise, the next two chapters are entitled "Grasses" and "Sedges and Rushes," inferring that these groups are not flowering plants, and differ in some fundamental way from the wind-pollinated species in the previous chapter. Then, even more puzzling, the final chapters are "Mushrooms," "Ferns and Fern-like Plants," "Lichens," and "Mosses."

There is another peculiar feature in this book: the life list. I have previously encountered this phenomenon only among birders, but suppose it might be useful for botanists. In addition to a box to check next to each species, several pages at the back of the book are dedicated to a "life list" with blanks for Flora Name, Location, Date and Elevation. At first I thought that he meant the name of the flora used to key the plant, but then realized that this blank is for the name of the plant observed.

To his credit, the author tried to include both a habit photo and insets that show details of diagnostic features. However, this objective was not always met (especially among the grasses and ferns) and photo quality is all over the map. Some are sharp and show the entire plant and a close-up of leaves, flowers or fruits. Others leave me struggling to recognize a plant that I know well.

Like many other color wildflower books, there are no keys and one identifies the plant by looking through all the flowers of similar color. Normally I refuse to use wildflower picture books because I never know whether the plant at hand is in the book or just superficially resembles one of the photos. However, the author insists that what sets his book apart is that it includes "more than 90% of the plants one would encounter in any of the parks, forests or trails in the Rocky Mountains" and he has hiked for miles without finding any plants not in the book. If that is true, then the flora might be worth carrying in one's pack, despite its weight at over 1¼ lbs. However, in my opinion, a better choice for a guide to pack is *Plants of the Rocky Mountains* by Kershaw, MacKinnon and Pojar. It has better photographs, descriptions, keys, wider coverage and its organization makes it easier to use.

–Cindy Roché, Siskiyou Chapter.

Oregon's Best Wildflower Hikes Southwest Region

by Elizabeth L. Horn. 2006. 248 pages, 150 color photographs, maps, index. ISBN 1-56579-533-4; Westcliffe Publishers. $19.95, paper.

Beth Horn has published two articles in *Kalmiopsis* during my tenure as editor and I am delighted that she has completed a book of wildflower hikes in southwestern Oregon. A number of NPSO members contributed to its preparation and she acknowledges these individuals near the front of the book.

The 50 hikes she selected are grouped in five subregions: Coast, Siskiyou Mountains/Interior Valleys, Western Cascades, and High Cascades. The geographic range extends from the California line north to Heceta Head on the coast and Black Butte northwest of Sisters in the Cascade Range; the crest of the Cascades forms the eastern boundary. Hikes are on public land and the following information is provided for each: location, difficulty rating, length, elevation (highest and lowest point), bloom season, peak bloom, agency contact, directions from a nearby community, GPS coordinates for the trailhead, a map and description of the trail and the most common and showy wildflowers. She uses common names for the flowers, in bold type, but one can easily reference the scientific names in a list in Appendix A. This method greatly reduces the clutter and improves the flow of the narrative. Each hike is accompanied by an in-depth profile of a species that Beth found to best represent the area during the peak bloom season. Her photographs are uniformly excellent for identification: important features are shown, the plant is in focus, and the background blurred so that the subject stands out. The narratives provide good description of the locations and habitats as well as attributes of the flowers in each area. It is clear that Beth has hiked every one of the trails she describes in the book. I expect to see this book pulled out of packs on many NPSO hikes. Both novice and veteran wildflower enthusiasts will find it useful.

–Cindy Roché, Siskiyou Chapter.