

## BOTANY

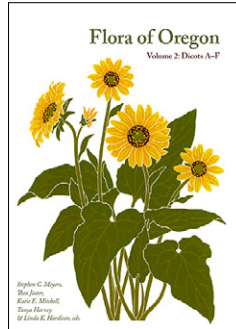
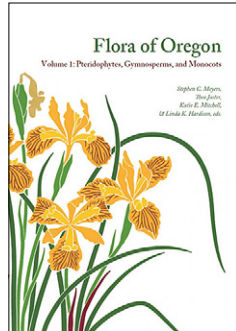
**Flora of Oregon. Volume 1: Pteridophytes, Gymnosperms, and Monocots**

Edited by Stephen C. Myers, Thea Jaster, Katie E. Mitchell, and Linda K. Hardiston. 2015. OregonFlora, Oregon State University, and Botanical Research Institute of Texas. 608 pages, 520 black and white figures and maps, and 73 landscape colour photos, 75.00 USD, Cloth.

**Flora of Oregon. Volume 2: Dicots Aizoaceae - Fagaceae**

Edited by Stephen C. Myers, Thea Jaster, Katie E. Mitchell, Tanya Harvey, and Linda K. Hardiston. 2020. OregonFlora, Oregon State University, and Botanical Research Institute of Texas. 880 pages, 785 black and white figures and maps, and 96 landscape colour photos, 85.00 USD, Cloth.

The two volumes of the three-volume *Flora of Oregon* that have been published to date are beautiful books to own, filled to bursting with floristic information of importance to the whole Pacific Northwest including southern British Columbia (BC). They cover 1054 pteridophyte, gymnosperm, and monocot taxa in Volume 1 and 1668 dicot taxa (Aizoaceae to Fagaceae) in Volume 2, with full floristic treatments. An additional 206 native, naturalized, non-naturalized, and hybrid taxa are noted in Volume 2. Volume 3 will cover the remainder of dicot families found in the remarkably diverse Oregon flora, which consists of 4653 terminal taxa (native, naturalized, non-naturalized, and sporadic taxa).



Introductory materials in the two volumes are fantastic. Volume 1 contains valuable sections on the history of the Oregon Flora Project, notable Oregon botanists, and the ecology and the botanical diversity of Oregon, constituting a whopping 64 pages of great information. In Volume 2, introductory sections include chapters on landscaping with native plants, insects as plant taxonomists, and a both important and timely discussion of the importance of herbaria to our understanding of contemporary flora. These interesting topics all likely appeal to a wide range of readers. The editors acknowledge that the flora itself is inclusive, built on the hard work of academics, graduate students, and skilled amateur botanists. Generating interest in different aspects of the flora and being readable and accessible are obviously important goals of this publication.

Introducing the landscapes of Oregon through the work of notable botanists commencing in the early

1800s sets the scene for subsequent chapters on the ecology and botanical diversity of the state. Colourful maps of the ecoregions are found not only in a stand-alone chapter but on the front cover of the book and on the front page. They are valuable in helping the reader visualize where notable field botanists spent their time, and where plants noted in the chapters are found within the state.

The Flora of Oregon Project has been a highly organized effort from its beginning in 1994, constituting a huge, collaborative effort involving project leaders, taxonomic specialists, an advisory board, taxonomic and ecological contributors, student assistants, and volunteers. Other important aspects of the project include a commitment to documenting the flora on the basis of specimens preserved in major regional herbaria and the digitization of the information both in an online atlas in the mid-1990s and later in an online photo gallery. The checklist has been an important online resource for years to many in the Pacific Northwest prior to the publication of the flora.

The core significance of any flora is its species treatments. Clear and informative representative line drawings are included for each group in the *Flora of Oregon*, although many of the taxa are not illustrated. To make up for this, key features are highlighted, including a valuable montage of illustrations of the taxonomically informative nutlets of the 17 *Plagiobothrys* (popcorn flowers; Boraginaceae) taxa (Volume 2, p. 427), and, it appears, a figure for each native species of the taxonomically challenging *Carex* (sedges), including numerous illustrations of perigynia. The range maps are remarkable. Despite their small size they clearly illustrate collection locations overlaid upon base maps that depict the counties and ecoregions represented by occurrences of each taxon. What a terrific way to immediately indicate environmentally-directed versus random-distribution patterns! Accordingly, a bit more discussion and explanation of these patterns would have been valuable additions to the end notes provided with many treatments, particularly for distributions apparently displaying natural discontinuities. The nomenclature employed by the various contributors appears to reflect a modern

but restrained taxonomy. While a more liberal contribution of synonyms would have been appreciated, the limited numbers provided are adequate in most cases. Importantly, the language employed in the economical descriptions and in the keys is technically precise but not so academic as to require overly frequent reference to the (excellent) glossary provided in both volumes. Quite simply, the *Flora of Oregon* species treatments are impressive.

Information on the taxa of conservation concern is highlighted throughout. This is provided both in notes in the main text and in specialized appendices. Endemic species (a remarkable 115 taxa) are also flagged throughout.

The appendices in the *Flora of Oregon* are unusually rich sources of information. Several in Volume 1 highlight different aspects of taxa of conservation concern. Appendices on native/wildlife gardening are interesting additions to Volume 2. (Indeed, Landscaping with Native Plants represents a stand-alone introductory chapter in this volume.) An annotated listing of the 159 taxa not supported by voucher specimens obtained in the last 50 years is another infrequently seen but instructive data set. Appendix 1 in Volume 1 contains three tables of taxa not fully treated: excluded taxa with a confirmed voucher, those reported for the state but lacking vouchers, and misapplied names. In the excluded list are many introduced but not established taxa: recent or historical waifs, occasional hybrids, ballast plants, and escapees. In addition, species only recorded once from Oregon are listed, some of which could be conceivably considered native. It can be a challenge to determine whether a very rare entity, native or introduced, should be treated as established or, in some cases, how to determine provenance. The *Flora of Oregon* addresses this on a case-by-case basis in that appendix in Volume 1, but curiously not in Volume 2. We hope Volume 3 will include a comprehensive and updated version of this valuable data set. Similarly, we feel a single appendix combining the four conservation-oriented appendices would have made it easier for readers to understand and use these data. A single appendix with species annotated by 1, not collected for 50 years (i.e., extirpated, or possibly so); 2, rare and threatened (i.e., state-, or federal-listed); 3, endemic; 4, known from a single occurrence in an ecoregion; and 5, known from only a single occurrence in the state (and native in adjacent jurisdictions), would perhaps have been clearer. That might have given more insights into plant rarity, endemism, threats, protected areas, and hotspots by ecoregion, and thus the state of conservation of Oregon's vascular plant biodiversity.

This review from a Canadian perspective has a particular interest in the affinities between the floras of BC and Oregon and in the phylogeographical implication of those affinities in the northwestern North America region. A large number of species are shared between Oregon and BC (although the flora is larger than the latter by ca. 1200 taxa). These include some taxa whose ranges almost or completely exclude intervening Washington state. Indeed, some of BC's most interesting and significant plants of conservation concern are shared with Oregon. The *Flora of Oregon* has done a fairly good job of noting the Canadian occurrence of each taxon also found in BC, although some (inevitably) were missed, including *Astragalus spaldingii* (Spalding's Milk-vetch), a number of *Boecheria* (rockcress) species, *Cardionema ramosissima* (Sandmat), *Elatine brachysperma* (Short-seeded Waterwort), *Lasthenia glaberrima* (Rayless Goldfields), *Pellaea breweri* (Brewer's Cliffbrake), *Pinus flexilis* (Limber Pine), *Plagiobothrys cognatus* (Sleeping Popcornflower), *Plagiobothrys cusickii* (Cusick's Popcornflower), *Soliva sessilis* (Carpet Burweed), and *Thelypodium milleflorum* (Many-flower Thelypody). Canadian distributional data for most of these are available online at the University of British Columbia's herbarium database or on the BC Conservation Data web tools.

One notable species shared between BC and Oregon is *Oxypolis occidentalis* (Western Cowbane), a monotypic genus currently only known from the Cascades and Sierra Nevada in Oregon and California, and disjunct to BC (Haida Gwaii and Vancouver Island). This begs the question of why it is absent from Washington. Many other species show similar geographic discontinuities that have not been adequately explained to date.

These two well-bound, attractive, and user-friendly publications contain an immense amount of valuable floristic and conservation information that is applicable far beyond their home state. From start (fascinating introductory materials) to finish (information-rich appendices) and everything in between (inspired treatments), this is a winner. We can only hope Volume 3 is not far off so *Flora of Oregon* can assume its position as the new standard of excellence for the production of regional North American floras.

JENIFER PENNY

B.C. Conservation Data Centre  
Victoria, BC, Canada

DANIEL F. BRUNTON

Ottawa, ON, Canada