

## BOOK REVIEW

**Burton V. Barnes, Christopher Dick, and Melanie Gunn. 2015[2016]. *Michigan Shrubs & Vines: A Guide to Species of the Great Lakes Region*. 400+ pp. University of Michigan Press, Ann Arbor. ISBN 978-0-472-11777-2. Hardback. \$65.00. ISBN 978-0-472-03625-7. Paperback. \$26.96. ISBN 978-0-472-12107-6. e-book. Price TBD.\***

Among the many signal accomplishments of Burt Barnes' career was the writing of *Michigan Trees*, co-authored with Warren H. "Herb" Wagner and published in 1981, followed by a revised and updated edition in 2004, long recognized as the finest guide to the trees of the Great Lakes region and beyond, and among the finest anywhere. The Preface to the revised and updated edition states that "[s]hrubs and vines will be considered in a companion volume to follow." This is that companion volume, and the 12-year wait has been worth it. In place of the late Herb Wagner, Burt has collaborated in this volume with two well-chosen co-authors, Christopher Dick, the current Director of the University of Michigan Herbarium and an Associate Professor who has also taken over Burt's woody plants class, and Melanie Gunn, a former Master's degree student of Burt's who is now the outreach coordinator for the National Park Service at Point Reyes National Seashore.

*Michigan Shrubs & Vines* follows the same format as *Michigan Trees*, except that the species in the former are arranged throughout alphabetically by genus. The species that are accorded full treatment are each given two full pages. One page has detailed descriptions collected under the topics (a separate paragraph for each) size and form, bark, leaves, stems-twigs, winter buds, flowers, and fruit, followed by sections for distribution, site-habitat, notes, chromosome number, and similar species, along with a dot map showing the distribution of the species in Michigan by counties (the map is an added feature—it does not appear in *Michigan Trees*). The facing page contains beautiful and detailed line drawings of the species illustrating separately such critical features (not always the same for each species) as leaves, leaf bases, winter buds, flowers, inflorescences, fruits, and seeds, each with labels. Below the drawings are several bulleted key characters and often one or two short paragraphs describing how the species is distinguished from a similar species.

The book provides several avenues for identifying an unknown shrub or woody vine. First, one may simply scan the book looking at the illustrations to find a match or near match. The choice can be confirmed by reading the list of key characters below, then, if necessary, delving into the more detailed descriptions on the facing page. The discussion of "Similar Species" in each species treatment is an important tool. It may provide distinguishing characters not only

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\* This title has not yet been released. The publisher has kindly provided me with an uncorrected proof copy for purposes of writing this review.

for other species of the same genus that occur in Michigan, some of which are accorded full treatments of their own, but for others that are mentioned in this book only in these notes, as well as related species that are not known to occur in Michigan.

Then there are the dichotomous identification keys. Five general keys start the process—one for coniferous shrubs, one for broad-leaved evergreens, and three for broad-leaved deciduous species, including one for plants with opposite or whorled leaves, one for plants with alternate simple leaves, and one for plants with alternate compound leaves. These keys lead either directly to a species treatment or to separate keys for certain genera for which three or more species are accorded full treatment (three genera with three or four species do not have separate keys—*Lonicera*, *Parthenocissus*, and *Spiraea*). The separate generic keys appear just before the alphabetical position of that genus, usually accompanied by lengthy discussions of the genus. Only the 138 species that are accorded full treatment are included in any of the keys. The key to *Salix* emphasizes plant form and leaves during the growing season and refers to Voss and Reznicek's *Field Manual of Michigan Flora* for keys to reproductive material. The five general keys are followed by two so-called "Quick Keys," or shortcuts, for species with readily observed features, namely one for plants armed with thorns, spines, or prickles, and one for woody vines.

This book is much more than just an identification guide. To those who already know the identity of a particular shrub or vine, the species discussion provides valuable details of its structure, habitat, range, and various other bits of information in the Notes section. The final 25 pages of the book include an in-depth discussion of the ecology of shrubs and vines, including such germane topics as historical biogeography (especially important in the glacial terrain of the Great Lakes region); sexual and asexual reproduction and the cycling between the two modes; native, introduced and invasive species; site factors (which, among other things, are critical for the establishment of a seedling), including light and shading, soil, the availability of nutrients, water and temperature; disturbance factors, or the lack thereof, and the geographic and ecological distribution. In regard to the latter, there is an explanation of the landscape ecosystems in Michigan in relation to shrub and vine species. This is a concept extensively developed by Burt Barnes during his career at the University of Michigan (see Albert et al., *this issue* pp. 34–41). Appendix A describes each of the four landscape ecosystems in Michigan—Southern Lower Michigan, Northern Lower Michigan, Eastern Upper Michigan, and Western Michigan—and provides maps showing their extent. In addition, the distribution notes under each species in the main part of the book gives the percentage occurrence by county of that species in each of the four regions; that is, 100% for a region means that the species is known from every county in that region.

Michigan now has a first-rate guide to all aspects of its native and introduced shrubs and woody vines that will serve as a first choice far beyond the borders of the state. The lifelong experience of its principal author shines throughout this magnificent volume.

—Michael Huft