Book Review

The Tree Book: Superior Selections for Landscapes, Streetscapes, and Gardens. Michael A. Dirr and Keith S. Warren. 2019. Timber Press, Inc., Portland, OR. 900 pages incl. photo credits, index (scientific and common names), color photographs. \$79.95 (U.S.), hardcover (ISBN: 9781604697148). Digital book (ISBN: 9781604699180).

The Tree Book, co-authored by two renowned plantsmen, who have collaborated for more than 30 years and introduced 66 patented and trademarked plants between them, resembles the layout of *Dirr's Encyclopedia of Trees and Shrubs* (Dirr, 2011).

An introductory section is followed by an alphabetical listing of taxa arranged by scientific name. *The Tree Book* focuses on trees and palms—"trees" broadly defined as plants greater than 15 ft. in height—adapted to temperate regions of the northern hemisphere.

In the 33-page Introduction, Dirr and Warren explain their reasons for writing the book, share insights regarding the breeding, selection, and evaluation of trees, and mention the cultural ecosystem services provided by urban trees. They allude to a number of studies but do not cite references. The attractive photographs in this section complement the text, but the staccato captions (e.g., "*Ulmus americana*, Princeton, looking good.") and punctuation errors, such as the incorrect use of single quotes with a trademarked name (*Lagerstroemia* 'TWILIGHT MAGIC') instead of *L.* 'PILLAG-VIII') annoy, rather than distract, the reader.

The "Origins of new shade and ornamental trees: The roles of serendipity and breeding" fascinated and enlightened me. The section on "Provenance" offers the reader parallel viewpoints: one extolling the importance of locally sourced seed-propagated shade and ornamental trees to improve biodiversity and urban resilience and the other supporting the use of clones because of their availability, predictability, and reliability.

The A-Z index that follows the Introduction includes more than 2,400 species and cultivars, according to the publisher. Dirr and Warren introduce the reader to each taxon with an opening paragraph that summarizes noteworthy characteristics, which include mature height and spread, form, growth rate, texture, and ornamental features.

Included in *The Tree Book*, but absent in the *Encyclopedia*, are a series of criteria reminiscent of Dirr's magnum opus, *Manual of Woody Landscape Plants* (2009): "foliage," "flowers/seeds/fruits/cones," "adaptability" (origin and habitat), and "landscape use." The authors define only mature height and spread in the introduction, so the reader must assume the hardiness zones used in *The Tree Book* refer to the

2012 USDA Cold Hardiness Zone map (USDA, 2012).

The authors added two criteria not listed in the 2009 *Manual*: "street tree use" and "in the trade." While the discussion of streetscape adaptability lacks the detail and depth of other print and digital resources, it brings attention to the inhospitable, crucible-like conditions of the urban environment. Street tree selection often relies on a Darwinian survival-of-the-fittest approach—the arboricultural equivalent of *The Hunger Games*—that results in a pared-down list of a few, overused but resilient taxa.

Their "In the trade" comments address the commercial availability of the taxa, which ranges from "rare" to "omnipresent." Rare or uncommon species, such as Henry Wilson tree (*Sinowilsonia henryi* Hemsl.), receive the "BIO" designation: botanical garden interest only. Additionally, some entries include information about how the taxa are sold (seeds or clones) and propagated, provenance, and opinions and anecdotes from a pair of legendary nursery insiders.

Compared to *Dirr's Encyclopedia of Trees and Shrubs* (2011), Dirr and Warren included more than 150 additional species and cultivars. As they state in the Introduction: "We included the good and the bad." They discuss a plethora of good—I dare say, great—species that offer multiseason interest, enjoy widespread availability, and perform reliably in landscapes or streetscapes. They also introduce the reader to a number of species that deserve recognition and evaluation before they become mainstream plants.

Dirr and Warren expose "bad" taxa, such as salt-cedar (*Tamarix chinensis* Lour.): "Our advice is simple: don't plant it." Other ornamentals considered invasive or endowed with invasive traits, such as Russian-olive (*Elaeagnus angustifolia* L.), Chinese parasol tree (*Firmiana simplex* W. Wight), china-berry (*Melia azedarach* L.), and princess tree (*Paulownia tomentosa* Steud.) receive endorsements for breeding or genetically engineering sterile cultivars. They include caveats with some species, such as recommending only male Chinese pistache (*Pistacia chinensis* Bunge) cultivars.

An outstanding feature that makes this book stand out are the photographs—closeups and wide shots of foliage, flowers, and forms—that range from so-so to sublime. Their inclusion of seasonal images of a particular species or cultivar showcases its multiseason interest.

The authors annotated the plant images with either a cultivar or trademarked name. Perhaps in subsequent editions the authors will include image locations to answer the oft-asked question: "Will it grow around here?" Only one photograph in the entire book lists a location: the U.S. National Arboretum.

Many of the stunning photographs of flowering trees justify their place in *The Tree Book*. They included many outstanding images, such as the one of *Laburnum* × *watereri* (Wettst.) Dippel 'Vossii' in full bloom with

cascading racemes of golden-yellow flowers. What made this particular cultivar especially memorable was its location: a 2 ft. wide road verge (a.k.a. hellstrip)—the area between the sidewalk and street, that will prove challenging to cultivars of callery pear (*Pyrus* × *calleryana* Decne.) and Chinese elm (*Ulmus parvifolia* Jacq.) Interestingly, Dirr and Warren do not recommend golden chain trees for street tree use for a number of valid reasons.

A trivial comment is that some of the text might have benefitted from additional information. In discussing the development of chestnut blight-resistant hybrids, the authors did not mention *Phytophthora cinnamomi* Rands, the second most lethal pathogen of American chestnut and its hybrids, which has hampered their establishment in the wild, primarily in the Piedmont regions of the southeastern U.S.A. Their recommended list of pecan cultivars might have included their Type I and Type II dichogamy. Additionally, the authors parenthetically provide definitions of terms when a glossary and an index of terms would have enhanced comprehension of the botanical jargon.

Some readers will question the inclusion of some taxa and the exclusion of others. I wonder why Dirr and Warren included the invasive glossy privet (*Ligustrum lucidum* W. T. Aiton) but not Japanese privet (*Ligustrum japonicum* Thunb.). The authors write that *L. lucidum* is "a suitable urban tree only if rendered sterile via modern breeding techniques" and has only "limited" commercial availability. *Ligustrum japonicum* and its cultivars, which are widely available, well behaved, and considered by Dirr (2011) to be "an absolute building block of southern and West Coast landscapes," was not included. *Ligustrum japonicum* possesses the same growth habit and tolerance to limbing-up as other species addressed in *The Tree Book* (e.g., Chilean myrtle [*Luma apiculata* (DC.) Burret], staghorn sumac [*Rhus typhina* L.] nannyberry [*Viburnum lentago* L.] and yellowhorn [*Xanthoceras sorbifolium* Bunge]).

In presenting the attributes of *Acer rubrum* and its widespread popularity, the authors might have mentioned the existence of wet- and dry-site ecotypes and the inability of red maples to cope with the physical, chemical, and biological adversities of the urban environment. Recent investigations have documented the stress imposed by urban heat islands, which increases susceptibility of red maples to pests, viz., gloomy scale (*Melanaspis tenebricosa* Comstock). Other investigators recommend special accommodations for city-grown red maples by reducing impervious surface area to minimize infestations and improve their performance and longevity in this anthropocentric space.

Although I disagree with the authors' contention that this 7.5 lb. book is portable (digital alternatives are available in online, downloadable PDF, or ePub formats), I agree with their statement: "A computer is great for seeking out very specific information, but we believe in the power of a book to encompass a

subject within a framework of the authors' knowledge." Tree-selection decisions, however, are difficult to make with *The Tree Book*. Unlike *Dirr's Encyclopedia* with its 28-page section titled "Selecting Plants for Specific Characteristics or Purposes" where the taxa are organized into 15 categories, *The Tree Book* lacks features to select appropriate plants for particular purposes and designs.

Instructors of college-level woody plant identification courses should consider using *The Tree Book* as a supplemental resource that complements the plethora of digital resources available to students via smartphones and tablets. The many discussion points presented in this book offer instructors opportunities to teach creative thinking. I will engage my students in discussions of cultivars and trade-

marked names, accommodating genetic diversity in a built environment that requires uniformity and symmetry, or whether the *Tsuga* hybrids that are resistant to hemlock woolly adelgid can still be considered natives because of their Asian parentage.

In summary, *The Tree Book* serves as an entrée to a diverse collection of taxa with foundational information that must be augmented by the knowledge and experience of local and regional producers, practitioners, and specialists familiar with the challenges and nuances of their respective growing areas. I am confident that readers of *The Tree Book* will experience a strong kinship with the authors' passion for the beauty and functionality of trees and will greatly appreciate this oft-repeated quote: "The best time

to plant a tree was 20 years ago. The second best time is now."

Dirr, M. A. 2009. *Manual of Woody Landscape Plants*. 2009. 6th ed. Stipes Pub., Champaign, IL.

Dirr, M. 2011. *Dirr's Encyclopedia of Trees and Shrubs*. Timber Press, Portland, OR.

USDA Plant Hardiness Zone Map, 2012. Agricultural Research Service, U.S. Department of Agriculture. 12 June 2019. <<https://planthardiness.ars.usda.gov>>

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