

BOOK REVIEWS

BOOK REVIEW EDITOR, WENDY L. APPLEQUIST

The Illustrated History of Apples in the United States and Canada. Bussey, Daniel J., edited by Kent Whealy. 2017. JAK KAW Press, Mount Horeb, WI. 3742 pp. in 7 volumes (hardcover). USD 320.00. ISBN 978-0-9980048-0-8.

We are occasionally blessed by a horticultural book or series of a magnitude, depth, utility, and beauty that is unprecedented in publishing history. *The Illustrated History of Apples in the United States and Canada* is one such publishing feat, and it is unlikely that a project of this proportion will appear for any other horticultural crop during the rest of our lifetimes.

The lavish, color-illustrated hardcover set of seven volumes of over 3500 total pages systematically documents all apple varieties that have appeared in publications in the USA and Canada through the year 2000. Its 16,350 separate descriptions of distinct apple varieties include detailed description of every significant morphological feature, as well as astonishingly comprehensive commentaries on their origins and histories that cite 1650 references from 2 centuries of apple literature in the U.S., England, Canada, Germany, France, and Russia. It also cross-references those listings with shorter ones for 9700 synonyms for the same varieties and ecotypes, untangling many nomenclatural “balls of yarn” that have plagued apple historians for decades. Usage lists for cider, dessert, ornamental, rootstock, and fresh or baked kitchen use will particularly appeal to growers and cider makers. As icing on an already rich cake, the volumes also include 1400 life-size watercolors commissioned by the USDA 1 century ago, only a few dozen of which have ever been published (and those were in Creighton Lee Calhoun, Jr.’s masterpiece on old Southern apple varieties.)

But it is not the sheer volume of new information that makes this book series a masterpiece. It is the diligent scholarship of author Dan Bussey, who has also personally cultivated hundreds of these varieties at two of his orchards in Wisconsin and at the Seed Savers Exchange Heritage Farm in Decorah, Iowa. Dan worked for three decades unpaid by any agency or non-profit to compile this information and vet it with hands-on evaluation of the varieties and consultations with the likes of Lee Calhoun, Tom Burford, and John Bunker, among many others. (Bunker also contributed an introductory essay.) Bussey is a remarkable scholar and practitioner in his own right, but his years of dialog with other experts in the horticultural community means that no stone (nor apple) has been left unturned. Bio-systematists and botanical historians realize just how knotty the untangling of plant nomenclature can be, but subspecific varietal names are especially knotty, given that several can arise for the same widely distributed taxon within a matter of a decade. It is here that Bussey’s diligence, detective work, and good common sense come into play... in a manner that prevents headaches for the rest of us!

If Bussey’s own contributions are not enough to wow you, then consider the seven additional years of meticulous editing and design work that Seed Savers Exchange co-founder Kent Whealy contributed, along with Anne Korhase, Aaron Whaley, Jessica Whealy, and the staff at the National Agricultural Library in Beltsville, Maryland. Kent Whealy knows horticultural publishing as well as anyone, and with Judith Kern of the Ceres Trust, they invested not only in this book but also in the high-quality scanning of 7584 historic illustrations of fruit held in the Pomological Watercolor Collection in Beltsville. Whealy had to form his own publishing company—JAK KAW Press LLC—to ensure that Bussey’s research and the appropriate pomological watercolors were recorded for posterity. The combination of century-old watercolors and historic varietal descriptions has created an

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unequaled and unprecedented identification tool when searching for lost apples.

No series of book volumes of any fruit species can compare to this masterwork. We owe the many contributors our deep gratitude. Let these books find a way into your life and library... And have your institutional library purchase another copy!

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Ethnobotany for Beginners. Albuquerque, Ulysses P., Marcello A. Ramos, Washington S. Ferreira Jr., and Patricia M. de Medeiros. 2017. Springer, Cham, Switzerland. xii + 71 pp. (paperback). USD 53.99. ISBN 978-3-319-52871-7.

I thought this book would be a sort of general review of classical ethnobotany but I was wrong. It is far more than a treatise for beginners; it is an excellent review of current trends in ethnobotany as well as a summary of theory and praxis.

Ethnobotany for Beginners was translated from the authors' work in Portuguese. The authors are Brazilian so it is not surprising that virtually, all the examples and much of the literature are Brazilian, based on the work of these practicing ethnobotanists.

I disagree with the authors who advise the readers to "... take a deep breath and turn the page, because this book should be read in one breath." I do not think so. The content is so pithy and thought provoking that following the authors' advice would require oxygen by the second page.

There are six short chapters. Chapter One is a brief history of ethnobotany with a helpful discussion of its relationship with archeology, anthropology, and botany. With earlier work "...the prevailing view was merely utilitarian" with "potential applications for urban-industrial society."

The broad scope of ethnobotanical research is expanded in the second chapter with a strong emphasis on the importance of hypothesis testing rather than just recording observations.

Because ethnobotanical research requires interviewing the users of the plants, interviewing methods are essential for meaningful results. Various methods are discussed. I found this third chapter very helpful and wish I had read something similar before research in Brunei Darussalam and

with Iraqi Kurds. The authors emphasize the need for an emic approach, that is, conducting ethnobotanical investigations using the epistemology of the people being studied, i.e., research should be conducted from a non-Western perspective.

The classic approaches, the title of the fourth chapter, is misleading as the major thrust is an insightful overview of folk taxonomies and how the practicing ethnobotanist should understand them.

Chapter Five treats of the need for specific training in the discipline and the importance of having a grasp of the literature. This chapter is inchoate with a rather rambling discussion of ethical principles.

The final chapter is largely a presentation of the requirement that all studies based on indigenous use of plants, especially medicinal use, include provision for communicating the discovery and significance with the users and arranging for information and pecuniary sharing.

The translation is eminently readable but awkward in places. Each chapter has recent references, many in Portuguese. There are color images throughout the book though often with skimpy and uninformative legends.

This is a very helpful, authoritative, and above all, a thought-provoking contribution valuable to researchers and especially students beginning ethnobotanical research. It could be ancillary reading in an undergraduate ethnobotany course. One hindrance to its wide adoption is the exorbitant cost—\$54 for a 71-page booklet. Perhaps ethnobotanical ethics should apply to publication costs as well.

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Cannabis: A Complete Guide. Small, Ernest. 2016. CRC Press, Boca Raton, Florida. xxx + 567 pp. (hardcover). USD 119.95. ISBN 9781498761635.

The intellectual careers of Dr. Ernest Small and this reviewer have crossed a number of times over the past half century. Small received a doctorate in plant evolution from the University of California at Los Angeles in 1969. Since then, he has been an employee of the Research Branch of Agriculture and Agri-Food Canada, where he presently holds the

status of Principal Research Scientist. In 1969, this reviewer completed his master's thesis in Geography, at the University of Hawai'i at Manoa. My thesis focused on the ancient ecological and ethnobotanical relationships between *Cannabis* and humans; the thesis was subsequently published as a book by an eastern U.S. university press (Merlin 1972). Over the past several decades, Dr. Small and myself have studied and published research dealing with a variety of economically valuable plants, including *Cannabis*. Small has authored 15 books, including the newest under review here. Six of his books received or were nominated for major awards. Small has also authored over 350 scientific publications on plants, many on *Cannabis*. Small's latest and most substantial book under review here is entitled *Cannabis: A Complete Guide*.

Cannabis: A Complete Guide is indeed large and heavy with a very lengthy text of 567 pages, and includes 286 illustrations along with an extensive 66-page "Literature Cited" section. Unfortunately, all the text and references are in rather disengaging small fonts, which were probably chosen by the publisher to accommodate the very long manuscript. However, it would be hard for this reviewer to overly fault Small for this because I am the co-author of a large and long, comprehensive book also focused on *Cannabis* published by the University of California Press (Clarke and Merlin 2013) that covers much of the same intellectual territory as Ernest Small's new book, but also has its text printed in a frustratingly small font.

Notwithstanding this limitation to relatively easy reading for many people, both of these large-format books contain very extensive amounts of diverse information about *Cannabis*, and although there is much overlap in specific topics related to the botany, ecology, biogeography, ethnobotany, economics, and medicine, there are significant sections in both books that are not mutually addressed.

Small has a remarkably lengthy academic and practical governmental association with *Cannabis*, and his extensive publications as well as his technological and horticultural experience involving the extraordinarily multipurpose *Cannabis* plants are especially noteworthy. In fact, Small is certainly one of the most broadly knowledgeable people who have focused any or all of their careers on this controversial genus of plants, and this is reflected in his authoritative text. As noted above and necessary to remember when evaluating the content of the book under review, Small is widely known for his research on the taxonomy of the

genus *Cannabis* as well as the use of its fiber, seed, and medicinal and psychoactive properties; he has indeed spent a great deal of his long and productive career studying the multifarious aspects of *Cannabis* and published as much scientific and scholarly research on this subject as anyone to date. More specifically, this includes two of his previous books and more than 40 research papers on this genus, as well as the development of "a standard *Cannabis* strain that has been the basis of all licensed medicinal marijuana in Canada for more than a decade, supplying over 100,000 patients" (present reference, p. xxv).

My co-author, Robert C. Clarke, and I, in our own recent book, as well as our subsequent professional articles about *Cannabis*, have disagreed with Small about the taxonomy of *Cannabis* (whether there is more than one true species in the genus *Cannabis*, e.g., see Small 2015a; Clarke and Merlin 2015; Small 2015b; Clarke and Merlin 2016; Clarke and Merlin 2017; present reference, pp. 447–474). This debate notwithstanding, well-informed researchers as well as the interested general public will be impressed with Small's "Complete Guide" to the multipurpose plants of *Cannabis*. Although the naïve artist's interpretation of many aspects of past and present human-*Cannabis* relationships in Small's latest book are somewhat cartoonish, overall, Small has included an extensive and generally quite useful set of illustrations to go along with his encyclopedic review of a vast array of aspects concerning one of the world's most famous (some would say infamous) plants.

The detailed subheadings of the many individual chapters of Small's book reveal the remarkable breadth of this book and highlight its value as a reference book for *Cannabis*, reinforcing the readers' respect of the decades of scientific and scholar research undertaken by Small and his colleagues. In order, the author's chapters deal with the following topics, each generally discussed in considerable depth: prehuman and early history of *Cannabis sativa*, the ecology of wild *Cannabis sativa*, sex expression, photoperiodism, shoot and foliage architecture, fiber, oilseed, essential oils, and medical marijuana: production, the commercial marijuana revolution, sustainability, germplasm resources, and botanical classification and nomenclatural issues.

In addition to the potential interest of scientific, scholarly and administrative specialists, the general public ought to find Small's new book worthy of detailed reference because of

the vast and still growing concern today in *Cannabis*. In sum and without reservation, I would recommend that readers with an inquisitive and intellectual passion for having a vast amount of information about one of the world's most useful and yet most notorious groups of plants obtain Ernest Small's latest and by far his most comprehensive *Cannabis* publication.

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Agaricus of North America. Memoirs of the New York Botanical Garden, Vol. 114. Kerrigan, Richard W. 2016. New York Botanical Garden Press, Bronx, NY. xviii + 574 pp. (hardcover). USD 127.99. ISBN 978-0-89,327-536-5.

Agaricus of North America is the long-awaited work by Richard W. Kerrigan, American expert with 45 years of research. Most folks are familiar with *Agaricus bisporus*, the cultivated white button mushroom and its brown varieties crimini and portabella. The genus *Agaricus* are gilled mushrooms with more than 300 species worldwide, some choice edibles, others poisonous. This six-

pound tome is a very modern treatment of existing knowledge, as Kerrigan says, bridging the gap between specialist literature and the field guide “to allow the nonspecialist and interested amateur to understand not only how, but why, various taxonomic, nomenclatural, and phylogenetic practices are employed.” Much work remains as new *Agaricus* are discovered every year. The 60 pages of excellent introductory material cover topics from the history of *Agaricus* and how to study them to DNA phylogenies. The last 76 pages covers the contributions of five past authors (with species of unknown status), literature cited, types examined, collections accepted, nomenclatural citations, and index of names.

The core of the book is 440 pages of systematic arrangement starting with a dichotomous key and a “quasi-synoptic” key to the sections and groups for North America. The treatment of each section or subsection of the genus has a key, spore chart, and phylogenetic tree. Odor and color reactions are important characters. This work of 180+ species, subspecies, and varieties of *Agaricus* describes 37 new taxa; there are also additional unnamed taxa. Each species treatment covers nomenclature, description, habitat, and distribution (as known), discussion, edibility (if known), and one or two photos. The photos vary in size and are of acceptable to good quality. Some older species are represented by paintings. The discussion can be longer for species with historic challenges for species concepts. Two widely used names provide opposite examples. The common urban “pavement mushroom” *Agaricus bisporus* is widespread in North America (both east and west) and Europe. It is easily recognized with a stable concept and no related cryptic species. The name *Agaricus campestris* has been widely used for meadow mushrooms or the “pink bottom” of lawns and meadows. This European species is not completely defined and only collections in Wyoming and California come close. All other collections in the USA were found to belong to other cryptic species based on DNA data, including in the eastern U.S. *A. andrewii*, *A. argenteus*, and *A. porphyrocephalus*. Problems with identification can be compounded when species grow together resulting in mixed collections.

The interesting species discussions often cover what has been figured out and what further research remains. For me, it is nice to see an excellent edible almond *Agaricus* we enjoyed eating 30 years ago get its own name:

Agaricus nanaugustus. Parts of the *A. subrufescens* group are called “princess” as they are similar to *A. augustus*, the large “prince” of West Coast. Mushroom hunters now have a great tool for decoding the *Agaricus* they find in fields and forests. I recommend this book to those wanting to move beyond the limits of a field guide.

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Botanical Art from the Golden Age of Scientific Discovery. Anna Laurent. 2016 University of Chicago Press, Chicago. 224 pp. (hardcover). \$60.00. ISBN: 978-0-226-327107-3.

This book begins with a quote from Arnold Dodel-Port that sets the stage for what is to come, “Natural scientifically reliable wall charts can replace a natural object in classroom teaching and in lectures; they are more enlightening than the spoken word.” There is plenty of enlightenment here, as Anna Laurent takes the reader on a journey of exploration and discovery of the natural world, “thereby emulating the experience of a schoolchild in the nineteenth century” (p. 9). Surprisingly, this is the first book on the botanical wall charts: an object so that until recently was so prevalent in schools and universities that it appears to have been taken for granted. Even worse, many of these charts have been discarded over the years in favor of flashier modes of pedagogy.

More than just a simple collection of wall charts, Laurent explicitly recognizes the value that they hold to explore complex relationships between plants and how people view them. To give but one example, she contrasts two illustrators of sundews. The first chose was to isolate the plant and explore it through a reductionist approach while the second “believed that a plant and its ecology were inseparable; neither one could be properly understood without the other” (p. 93). Thus, with two wall charts of sundews, an instructor could demonstrate the history of science and the tension between holism and reductionism! The charts are presented with well-written annotated explanations that guide and educate the reader.

This is a fabulous book, on par with what the publisher Taschen Books has done with reproductions of such classics as Seba’s *Cabinet of Natural Curiosities* or Haeckel’s *Art Forms in Nature* that a

press of the stature of the University of Chicago has taken it on bodes well for the future of academic publishing as it seeks larger audiences in times of shrinking budgets.

A quibble is the size of the wall charts that are reproduced here. Although it is obvious that every effort was made to accurately reproduce the color and splendor, there is no getting around the fact that these wall charts were enormous and have been shrunk down to fit the confines of what might be considered a medium-sized coffee-table book. I was left wishing for the ability to pull the charts out to full size and examine them in all their intricate detail and beauty. This book is the next best thing though and I highly recommend it for anyone interested in the intersection between art and science, and the rich history of botanical illustration in the 19th and early 20th centuries. Perhaps the most frustrating aspect of reviewing a book that contains so many fascinating images is that they are not reproduced here and so this review does not do the book justice. Go out and buy a copy—you will not be disappointed.

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Botanical Sketchbooks. Bynum, Helen, and William Bynum. 2017. Princeton Architectural Press, New York, NY. 296 pp. (hardcover). US\$40.00. ISBN 978-1-61689-588-4.

While there has been a steady sprinkling of books about botany and art since the invention of the printing press, botanist-explorers’ field sketches are seldom seen. The Bynums approach the history of botanical artistry as biographers. A concise yet comprehensive reference guide for plant lovers and art students is this sumptuously illustrated volume profiles major artists from the Renaissance to the modern era. This book is topnotch for what it is, an introduction to botanical illustration by 80 different artists. Each receives a paragraph that summarizes their life, their work, and their influence; each artist’s work is illustrated with one, or at most, 2–3 examples of botanical study. The plant kingdom as well as fungi are represented with a diverse selection of examples. One marvels at the incredible range of creativity on view.

A decidedly beautiful introduction to the creativity of artists from Europe and North America, of works primarily from the 15th–20th century obtained from collections of the Royal Botanic Gardens, Kew Library, Art & Archives, and other libraries, museums, and archives. *Botanical Sketchbooks* provides succinct and riveting historical descriptions of renowned artists, scientists, and amateur botanists. Included here are Leonardo da Vinci and Carl Linnaeus, as well as, of special significance to this writer, works by collectors of Pedaliaceae, including Helen Faulkner, who assembled material from Angola, Mozambique, Tanzania, and Zanzibar, and William Burchell, from South Africa. Each page of *Botanical Sketchbooks* offers readers a striking quote or botanical illustration: an assortment of confections for the mind, involving anatomical drawings, and details of root, leaf, flower, and fruit.

The book is arranged into four sections: (I) Made on Location, (II) Doing Science, (III) Making Art, and (IV) A Pleasing Occupation. Each section spotlights major artists and their work, including those who worked as plant collectors and those for whom botanical illustration was a lifetime vocation. Artists within each subheading are presented chronologically, by life span.

Rather than a full bibliography, the authors have compiled a list of useful publications and online collections about many of the people featured in the book in a three-page section titled Finding Out More. *Botanical Sketchbooks* concludes with Index of People and Places, Index of Plants, Note on Plant Names, Illustration Credits, Acknowledgments, and About the Authors.

Curiosity led me to search WorldCat® using “Botanical Sketchbooks” as keywords, retrieving 39 book titles designated by subtype “not juvenile, non-fiction,” but only 10 titles, omitting this one, by subtype “not juvenile, biography.” *Botanical Sketchbooks* is a valuable introduction to the history of plant collecting, through stunning illustrations that will appeal to artists, botanists, nurserymen, serious gardeners, and everyone who enjoys learning about nature.

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Cattail Moonshine & Milkweed Medicine: The Curious Stories of 43 Amazing North American Native Plants. Hartung, Tammi. 2016. Storey Publishing, North Adams, MA. 256 pp. (hardcover). ISBN 978-1-61212-660-9. USD 19.95.

This miniature version of a coffee-table book provides a visual delight with each turn of the page. From agave to yucca, each section of the book delivers historical, literary, and, of course, botanical information to illuminate the intricate relationships people have had with plants since time immemorial. Touching on uses of plants for food, shelter, medicines, textiles, and entertainment, Hauring weaves a tale noting common, and sometimes unusual, indigenous and non-indigenous, traditional and contemporary plant uses.

This book serves as a pleasant read for non-academic interests. Gardeners, backyard foragers, budding herbalists, and those with natural curiosities about the world around them will appreciate the gorgeous photographs, ornamental drawings, and poetic narratives that adorn each page. With just enough information to excite curiosities and draw the reader in, the book serves as an introduction to the complexities of the human-plant interface. Each of the 43 plants is introduced from an ethnobotanical perspective with a simple, yet elegant drawing, its common and some scientific names, and a brief paragraph describing the services rendered from it.

While well-researched and packed with snippets of information, this book lacks a number of components for it to serve well as a reference book. The title notes a geographic focus on North America, but not all plants highlighted in the book are found throughout this region. A map illustrating plant distributions would be helpful to contextualize and envision plant habitats and regional specializations. The naming conventions used in the book follow the plants’ most often used common name despite the fact that common names can often be imprecise or misleading. For example, while more than one species is commonly referred to as lowbush cranberry, the book only provides one scientific name for the plant (*Vaccinium macrocarpon*). When using this book for information on lowbush cranberry in areas where *V. macrocarpon* does not grow, novice readers may not understand specifically what plant is being referenced. An artist’s rendition of a plant key for each species would also make an impressive addition to the book. And finally, the book lacks a reference section. Since a lot of unique information is presented, readers are left not knowing where to seek additional information or where to follow up on a specific topic.

This book is not intended to be read from cover-to-cover in one sitting, while that could be done. It serves well as an art piece and a conversation starter to entertain a general readership. The market for

this book will probably be for readers who have faithful interests in nature, art, and history. Priced right, this “gift book” will take readers to places that are geographically and temporally out of reach from each of the 43 plants presented in the book.

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Flora of Florida, volume IV. Dicotyledons, Combretaceae through Amaranthaceae.

Wunderlin, Richard P., Bruce F. Hansen, and Alan R. Franck. 2017. University Press of Florida, Gainesville. xvi + 384 pp. (hardcover). USD 69.95. ISBN 978-0-8130-1805-8.

The fourth volume of the *Flora of Florida* is the latest addition to the ambitious *Flora of Florida* project. Florida is a biodiversity hotspot due to its varied ecosystems, which transitioned northward from tropical to temperate, and habitat heterogeneity, which includes coastal dunes, mangroves, xeric scrub, sandhills, flatwoods, and floodplain swamps (Knight et al. 2011), to name just a few. The ecosystem heterogeneity is thought to drive the species diversity in the region, which the authors estimate to consist of 4300 taxa. Given Florida’s numerous species, disparity in the taxonomic groups, loss of habitats and species diversity, and naturalized exotic species, the thorough taxonomic treatment that the authors provide is as timely as it is ambitious.

Volume 4 covers Combretaceae through Amaranthaceae and includes 31 families. The families are representatives of the orders Myrtales, Crossosomatales, Picramniales, Sapindales, Malvales, Brassicales, Santalales, and Caryophyllales in part. It is unclear why the authors did not include all families of Caryophyllales, such as Portulacaceae s.l., Cactaceae, and Nyctaginaceae. Phylogenetically, the treatment covers all of the Floridian representatives of the rosoid II clade (Malvidae)—excluding Geraniales (covered in Volume 2), plus the basal grade leading to the asterid clade (Santalales plus Caryophyllales). Therefore, the volume, while being taxonomically organized at the family level, is not phylogenetically consistent.

The classification scheme applied in the book is mostly current, with the notable exception of recognizing dicotyledons. Nomenclatural inconsistencies, when present, often reflect uncertainties in

classification. For example, the authors recognized Viscaceae, rather than synonymizing it under Santalaceae. Such a classification scheme is consistent with Der and Nickrent (2008), but at odds with APG III (2009). APG IV (2016) also recognizes a broad sense of Santalaceae and, citing the lack of support in recognizing segregate families, defers to the APG III treatment until further work is conducted.

Family and genus treatments include nomenclature, a brief description, the number of genera and/or species, distribution, synonymy, and selected references. A genus or species key then follows. The couplets are well organized and numbered, making them easy to follow, although at times, lacking definitive measurements or counts and relying instead on comparative terms such as “fewer.” The species keys are followed by species treatments that include nomenclature, morphological descriptions, and distributions. Invasive or conservation status in Florida and some taxonomic information is included for some species. The economic importance of the species, however, is not discussed. The genus is followed by excluded taxa. The author’s protocol of excluding a species without a physical voucher was noteworthy in assuring that misidentified species and unsubstantiated accounts did not convolute the treatment. The taxonomic treatments are followed by a literature cited section, an index to common names, and an index to scientific names.

The *Flora of Florida* volumes are a valuable resource for those interesting in understanding species diversity in the region. Some additional criticisms include family names not being listed on the top of the pages, which would facilitate locating families when quickly thumbing through the volume. Illustrations, although not necessary, would also add to the usability of the volume, especially for those with less experience in keying species. Despite these very minor complaints, *Flora of Florida* provides us with a significant resource to identify, study, and appreciate Florida’s unique flora.

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The Nature of Spectacle. On Images, Money, and Conserving Capitalism. Igoe, Jim. 2017. @ University of Arizona Press, Tucson, AZ. xiv + @ 162 pp. (paperback). USD 29.95. ISBN 978-0-@ 8165-3044-1.

Readers will initially wonder about as well as be intrigued by the phrase “The Nature of Spectacle” in the title. This distinctively titled book deals with the scheme of networks and the relationship between capitalism and conservation. It might be a book of six chapters, by Jim Igoe of the University of Virginia, but I felt as if they were scenes of a drama. This book is published in the series *Critical Green Engagements: Investigating the Green Economy and its Alternatives*. The other titles in this series will surely interest readers, as will this book. This book details the anthropocentric perception of nature and its interconnection with the economy and politics. The author's vast experience in one of the African countries well-known for its wildlife tourism is depicted in a detailed manner.

The preface does answer our initial question about the phrase “The Nature of Spectacle.” Further, it acts as a map for the readers to explore the upcoming chapters. The introduction chapter is an elaborate scene setting for readers to get the author's perspective on the words “Nature” and “Money” in the context of the book. Deliberate quoting from the works of Karl Marx, Deobard, and others can convince the readers of the capitalistic factors in nature conservation. The first chapter portrays means, actions, and the interrelation between the tourism circuits in the Serengeti plains and the economy of Tanzania. The title of each chapter explains its content briefly and the conclusion at the end creates curiosity about the upcoming chapter. For example, the chapter “A Landscape That Functions Ecologically and Economically?” does

answer our predominant question: whether ecology and economy can go hand in hand. The author explains that the Maasai steppe and its associated people are the living answer to this question but he constantly alerts the readers to the spirit of capitalism behind. To be frank, the book speaks of the economic interests behind present-day conservation programs in a constructive as well as critical manner. This book further widens my perspective on the sociological and economical background of conservation programs. The last chapter of the book does a nice job in connecting the ideas presented in the book.

I would also advise the readers that prior reading of the French philosopher Guy Debord could permit a better comprehension of this book. The notes at the end of the book include weblinks for additional information on the topics discussed in chapters. The author's efforts have to be appreciated. I felt the writing style was a reflection of the anthropological background of the author. This made a difference from other books on aspects of conservation. Overall, the book enlightens readers on the economic backgrounds of nature conservation efforts. I cannot in entire righteousness recommend that this is a book that should grace the tables or bookshelves of students, but it is a book that can be considered for libraries.

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Flora of Middle-Earth. Plants of J.R.R. Tolkien's Legendarium. Judd, Walter S., and Graham A. Judd. 2017. Oxford University Press, New York, NY. xvi + 406 pp. (hardcover). USD 34.95. ISBN 978-0-1902-7631-7.

The most important English-language fantasy literature of the modern era is J.R.R. Tolkien's three-volume epic novel *The Lord of the Rings* (1954–1955; numerous editions published). It had a seminal impact on the genre and remains widely read and cherished, by ordinary readers and literary scholars alike, for its influence and quality, including the detailed world-building that arose from Tolkien's love of history and philology. One of the underlying themes of the work was the beauty of nature, which Tolkien sadly witnessed being destroyed by industrialization in Britain; it includes many lyrical descriptions of majestic wild lands and charming traditional farms, which, in keeping with

Tolkien's eye for details, include the specification of many plants present in those scenes.

Botanist Walter Judd has compiled those mentions of plants, and from them produced a putative *flora* of Tolkien's middle-earth (which after all was supposed to be a portion of our own world in a different age). Recorded taxa are often identified to genus, sometimes to species or only to family; a few problem taxa, such as the mallorn and the White Tree of Gondor, are not identified. Each entry covers the plant's appearances in Tolkien: the etymology of its English, Latin, and sometimes elvish names, distribution and ecology in the real world (if present), economic uses, and a botanical description.

The work is organized as a real single-volume flora of decent quality would-be, including an opening chapter on the plant communities of middle-earth, an illustrated summary of basic morphological characters, a pair of keys to the flora, and a concluding glossary, with the addition of a special chapter regarding the Two Trees of Valinor. Of course, the keys, containing only a small subset of the genera present in England or any other region, are not usable in real life; nevertheless, they have been prepared as if they were meant to be used. The work includes woodcut-style illustrations (consistent with printing technology in the covered region!) by Graham Judd.

Readers may be wondering why this volume, however charming, is being reviewed in *Economic Botany*. Well, it does contain informative sections about the economic uses of each of the plants covered, which include everything from foods and medicines to fibers and woods to ornamentals. Medicinal uses are not well covered, e.g., nettles are just said to "have been used" for respiratory infections and fever, omitting the most common current uses, of the roots for age-related prostate difficulties and of the leaves for hay fever. However, the ethnobotanical information included is probably much more than the average urban reader will be familiar with, making this a great holiday gift (or birthday present!) to painlessly introduce your Tolkien-loving friends or relatives to the pleasures of floristic and economic botany.

LITERATURE CITED

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