

## 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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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.