

Book Reviews and Announcements

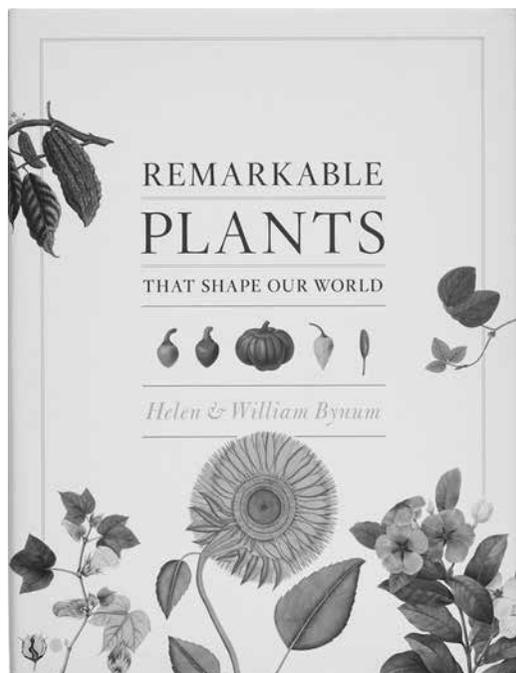
Bynum, Helen and William Bynum. *Remarkable Plants That Shape Our World*. Chicago: University of Chicago Press, 2014. 239 p., col. ill. \$35.00 (U.S.). ISBN 978-0-226-20474-1 (hardback).

Helen Bynum is a historian of science and medicine, and William Bynum is a historian of medicine. In this book they collaborate to discuss the many, important and interwoven effects that plants have had on our planet and on our lives. In the introduction they remind us that “[Plants] are the basis of all food chains and our great ingenuity hasn’t changed this.” They add that plants are “now considered to be one of the active forces that have customized the atmosphere and surface of the Earth by their shaping and reprocessing of its fresh water and minerals, helping to make it more habitable for us” (pp. 8–10). The present book focuses on how humans have exploited plants, highlights selected plants and our interrelationships with them and discusses on what those interrelationships are based.

There have been a number of books published in recent years about particularly influential plants as judged from an economic botany point of view. This one has a pleasant balance among botanical, chemical, medical, ethnobotanical, economic, culinary and cultural information, and it is densely illustrated, primarily with images from the library, art and ethnographic collections at the Royal Botanic Gardens, Kew.

The authors’ approach has been to group the 80 “key species” into 8 sections: “Transformers” (plant domestication), “Taste,” “Heal and Harm,” “Technology and power,” “Cash crops,” “Landscape,” “Revered and adored” and “Wonders of nature.” They note that some of the plants could reasonably be addressed in several categories, but the authors have resisted that temptation and there is no duplication from one section to the next.

For some plants, phytochemical factors are highlighted, as for example in the subsection on brassicas in the “Taste” section, benefiting from both authors’ backgrounds in medical history. Brassicas’ variability, according to the Bynums, is due to the “complex history of their genome” (p. 73). They write of *Brassica rapa*’s early domestication and its oily seeds, and of early cultivated brassicas similar to kale or collards that were eaten by Celts, Greeks, Romans and Egyptians. They talk about



the wide cultivation of cabbage, broccoli, cauliflower, kohlrabi and brussels sprouts in Europe, in contrast to the focused cultivation of the mallow, *Malva sylvestris*, in China, with its “slippery, mucilaginous properties compensating for its lack of vegetable oils,” and then add that advances in oil extraction techniques led the mallow to fall into disuse while the range of brassicas that could “provide food all year increased, and then spread around East Asia and crossed with local varieties” (p. 74). They go on to comment on the sharp taste of brassicas, due to enzymes breaking down damaged plant tissues, resulting in mustard oils or isothiocyanates, which deter predators, give pungency, and may be responsible for the cancer-preventing properties of brassicas that are currently under investigation. These fascinating few pages made me want not only to keep reading but also to cook cabbage for dinner.

The entire book is like this; the text is chatty in a very knowledgeable way, whether about food plants, beverage plants, dye plants, aromatics, exotic timbers, sacred flowers, strange desert plants. It's readable, interesting and full of colorful facts—botanical, medical, historical, culinary—that keep the reader turning the pages. The writing is in a loose, scholarly style that feels open and accessible to a general readership. This is the kind of book you want to read and then give to your friends and family to read. The text is rounded out by four pages of further reading suggestions (three columns per page), a list of sources of quotations and illustrations and an index. The volume is constructed with sewn signatures, and the paper is of a weight and finish that carry the illustrations well. Oddly, some of the image source information is in the captions, while the rest is given at the end of the book. Still, the images are wonderful, and one feels that

they are in support of the text, not necessarily the main reason for the book. The captions are informative and often contain surprising facts.

The Bynums have pulled together a large amount of information, not just a list of popular plants but a thought-provoking suite of interesting choices, and transformed it into an educational and beautifully illustrated volume. I hope that this book gets marketed widely and that it sells well. We need more people to understand how important plants are, how interesting they are, how their uses have varied from culture to culture, but most of all, how our continued existence completely—*completely*—depends on their continued existence, a basic fact of life that seems to be disappearing from common understanding. Maybe presentations like this one from the Bynums can help to counteract that.

—Charlotte Tancin, Librarian

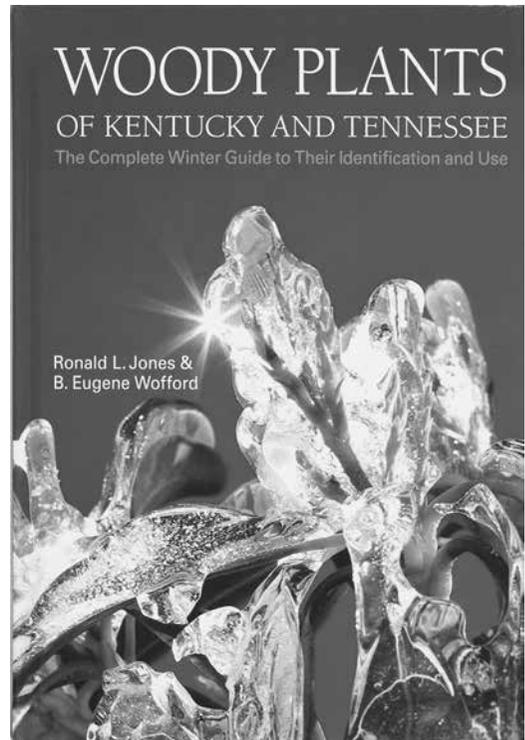
Jones, Ronald L. and B. Eugene Woffard. *Woody Plants of Kentucky and Tennessee: The Complete Winter Guide to Their Identification and Use.* Lexington, Kentucky: University Press of Kentucky, 2013. 224 p., 630 col. ill., 2 maps. \$45.00 (U.S). ISBN 978-0-8131-4250-0 (hardback).

Plant identification is an acquired skill that is particularly challenging during the winter months when flowers and leaves are not available. Herbarium collections of winter material are generally small and often not useful in identification. *Woody Plants of Kentucky and Tennessee: The Complete Winter Guide to Their Identification and Use* by Ronald L. Jones and B. Eugene Woffard endeavors to remedy that situation.

The book includes keys to 172 genera and 457 species, both native and non-native, found in Kentucky and Tennessee. Although the boundary of this work is limited to two states, most of the taxa can be found in portions of West Virginia, Virginia, the Carolinas, Georgia, Mississippi, Missouri and Arkansas as well as parts of Illinois, Indiana and Ohio. I used the keys in southwestern Pennsylvania with good success.

The introductory primer to winter plant morphology is particularly useful and well written. It includes sections on leaves, twigs, scars, buds, pith, armature, cork, climbing adaptations, pubescence, bark, cones and fruits. Corresponding photographs are included with the discussion of each section. Additionally, there are appendices covering taxa useful for food, medicinal needs, cordage and the construction of bows and arrows.

The keys are reliable and straightforward with minimal technical terminology. As the past winter was particularly long in Pittsburgh, I took advantage of the situation and collected many samples in an attempt to



identify flaws in the keys. Happily they held up well and only began to break down in situations where the species collected was a bit too northern. They were, however, very accurate at genus level.

For the amateur and most taxonomists, this book will be a welcomed addition to their libraries. My only detraction is the use of photographs instead of line drawings. I fully understand that the cost of providing line work would have been prohibitive. However, a photograph is one specimen in time whereas a line

drawing is a compilation of several specimens often collected over several years. The photographs are generally well done, but sometimes important details are a bit difficult to discern.

—T. D. Jacobsen, Assistant Director

Juniper, Barry and Hanneke Grootenboer. *The Tradescants' Orchard: The Mystery of a Seventeenth-Century Painted Fruit Book*. Oxford: Bodleian Library, 2013. [ii], 120 p. (including [iii], 71 p. of facsim.), ill. (chiefly col.), port. \$65.00 (U.S.) ISBN 978-1-85124-277-1 (hardback).

“Although so very little is known for certain about these paintings, clues abound,” so say the authors in their introduction. *The Tradescants' Orchard* reproduces a book of watercolor images of fruit that raises many questions, discussed ably by the authors. The book they refer to is a bound volume of 66 original watercolors of fruit tree branches with leaves and fruit, with handwritten captions and notes, and is part of the original Ashmolean collection in the Bodleian Library at Oxford. It bears no title but was catalogued in 1845 as “The Tradescants' Orchard.” No one knows why it was catalogued with that title. The manuscript also gives no indication of who might have made it or for what purpose. Juniper and Grootenboer have assumed the roles of sleuths and delved into the historical context in which the paintings would have been created, looking at some of the major personages on the British horticultural scene at the time and at the evidence that can be gleaned from the volume itself. The result is an interesting and educational foray into 17th-century English social and cultural mores and gardening history, the lives of Elias Ashmole and the Tradescants and the creation of the Ashmolean Museum, as background for an investigation into how the volume of watercolors might have been created, as well as why and for whom.

In 1680 Elias Ashmole's (1617–1692) collection of books, manuscripts and curiosities was given to the University of Oxford to create the Ashmolean Museum. The fruit volume was part of that gift, and the authors note that Ashmole had had the volume rebound; the pages show signs of a previous binding, and his coat of arms is stamped onto the binding clasps. Ashmole wrote a table of contents for the volume and rewrote the “Gret Reson Grape” image caption after the picture was partly trimmed away by the binder. Some pieces of pressed plants were also found between the bound pages, likely put there by him. In 1860 the nearly 1,500 volumes of books and manuscripts in the Ashmolean were transferred to the Bodleian Library at Oxford.

We know that the book came from Elias Ashmole's collection, and we know how it came to be part of the current Ashmolean collection at the Bodleian Library. Why was the manuscript catalogued as “The Tradescants' Orchard,” and who made the pictures and why?

John Tradescant the Elder (ca.1570s–1638) had a taste for adventure and a gift for finding and growing new and exotic garden plants. From his earliest important garden post in 1610, when he was hired to manage the gardens of Hatfield House for Robert Cecil, 1st Earl of Salisbury, up through his last such post in 1623 when he became head gardener to George Villiers, 1st Duke of Buckingham, he was tasked several times with traveling to Continental Europe to seek out and purchase new and exotic plants, including fruit trees, for his employers. Circumstances also placed him on several diplomatic missions, including one to Russia, again allowing him to see new places and procure more plants, along with other sorts of artifacts and curiosities that appealed to him. In 1628 his employer was assassinated, leaving Tradescant without a job but able to open his own nursery, and within a few years his services were sought by “the highest in the land”; in 1630 Charles I appointed Tradescant keeper of His Majesty's Gardens, Vines and Silkworms at Oatlands in Surrey.

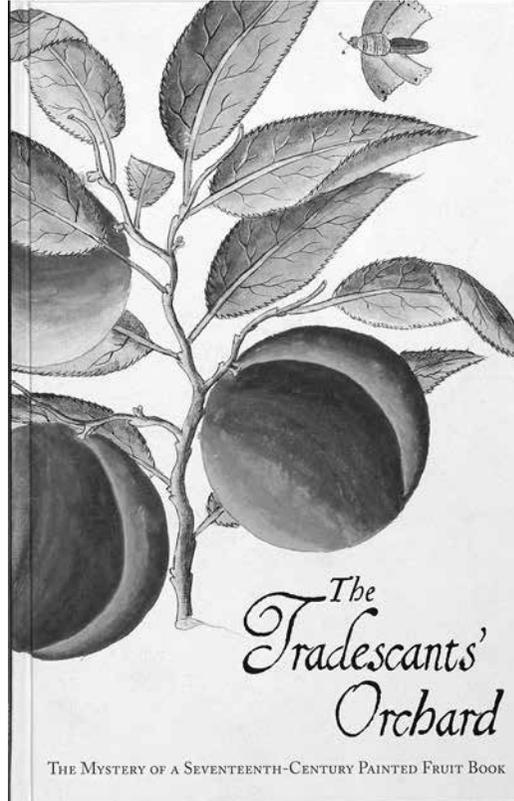
At his nursery in South Lambeth, Tradescant began to display his exotic plants and other curiosities for public viewing in what became known as the Ark, an early museum. It quickly became a famous collection and was unusual in being open to the general public. His nursery inventory of 1634 listed nearly 1,000 varieties (including 169 fruit varieties) held at Lambeth, of which an estimated 50 or so were first grown in England by Tradescant.

By this time his son John had his own family and was also gaining recognition as a knowledgeable plantsman. In 1634 he was admitted as a freeman of the Gardeners' Company and three years later was commissioned to collect plants in Virginia. He is credited with introducing to England the tulip tree, red maple, bladder nut, hop tree, trumpet vine, swamp cypress and Virginia creeper. While in the New World he received news of his father's death, so he came back to take over the business and also serve as keeper of His Majesty's Gardens, etc. in his father's stead. He curated the Ark collection, and the

authors of the current book speculate that it is possible that, if the Orchard book were ever owned by the Tradescants, it could have been part of this museum. His wife died in 1634, and he married Hester Pooks in 1638. John and Hester became close friends with Elias Ashmole and his wife Mary. A printed catalogue of the Ark's contents was made at this time, financed by Ashmole and authored by John Tradescant. In 1659 Tradescant arranged for the entire Ark collection to be willed to Ashmole, since his only male heir had died young. However, he stipulated that Hester would continue to have the use of and profit from the collection until her death, at which point it would go to Ashmole. Two years later a revised will kept the same arrangement except that after her death the collection would go to Oxford or Cambridge. Tradescant died

the following year, and then things got complicated. The courts ruled that the original will was intact regarding Ashmole's interest in the collection. In 1675 Ashmole moved to the property next door to Hester, and "Only shortly before her own death in 1678 (drowned in her garden pond) did Hester relinquish the collection to Ashmole, who lost no time in implementing a plan that he had long been formulating, under which it would pass under his name, rather than that of the Tradescants, to the University of Oxford" (pp. 15–16).

This is how the authors think that the Orchard volume came to form part of Ashmole's collection, and they suggest that the watercolors could have been commissioned by one or both of the Tradescants to showcase or illustrate their nursery and their interests in fruit-growing. However, there are numerous unanswered questions regarding the creation and ownership of the volume. It was not listed in the catalogue of the Ark in 1656. The authors note that items kept in private apartments of the house were not covered in the catalogue, so perhaps the volume was in Ashmole's private quarters. He obviously treasured the paintings, having had them rebound for his own library.



However, because the volume is undocumented, it is also possible that it was not part of the Tradescant collection in 1656 at all.

Having provided this historical background regarding the Tradescants and the Ashmolean collection, the authors turn next to look at the evidence of the paintings themselves. In chapter three they note that in 2000 Bruce Barker-Benfield, curator of medieval manuscripts in the Department of Special Collections and Western Manuscripts at the Bodleian Library, made a detailed study of the volume of paintings. Summaries of his conclusions and his suppositions are given.

First, graphic evidence establishes that the work dates to the 17th century and that none of the writing was done by either of the Tradescants. The paper was made in the 1620s, the handwriting style is from

the first half of the 17th century, and while Ashmole wrote the table of contents and the grape caption, a different and unidentified hand wrote the heading for the table of contents as well as all of the captions except for that of the strawberry, that being by yet another hand, and none of these being by either of the Tradescants. Also, the dates of fruit ripenings seem to have been added later than the original captions, but in the same hand, so it seems likely that the caption writer could have been the originator and supervisor of the project, if not the artist.

Regarding the paintings themselves, it is noted that while some herbals and other plant books of the period contained plant images that were beautifully rendered and contained botanically accurate details, these orchard paintings are different. The creator of these paintings was not particularly talented or trained artistically. With a few exceptions, the pictures all contain a branch with simply drawn leaves and fruits, carefully made but in a simple, perhaps naïve style. The authors suggest that this artist was probably inspired to imitate the style of illustration found in contemporary published herbals. A few of the paintings seem to have been made by someone else who had more talent and/or training. Also,

a number of small creatures are included in the images, again suggesting that the artist may have attempted to include elements normally found in botanical images.

The strongest features of the paintings are the fruits' size, texture and ripening dates, suggesting that the paintings were made to be used and made to convey information, not just pleasant pictures. The first people handling the pictures might well have worked among the very trees whose fruits are depicted here. The artist might even have tended the trees that inspired the creation of the manuscript.

Having looked at the features of the manuscript and the paintings, next the authors discussed the times during which the book was created, focusing on what was happening in English gardens. New plant varieties were being imported from abroad, early hybridizations were exciting interest, and more and more information was being published and made available to those interested in gardens, gardening and new plants. Some gardening books were being produced by British authors, and by the second half of the 17th century horticultural publications from the Continent began to be available in England in translation.

Again in chapter four, following this discussion of gardening developments and new publications, the authors again turn to the manuscript itself to seek additional evidence. Ashmole had the paintings rebound. With few exceptions, the paintings are arranged in fruit groups and then in order of ripening. The ripening dates give day and month but no year. Comparing the book to Batty Langley's (1696–1751) *Pomona* of 1729, some ripening dates are identical and others wildly different.

Strangely, the Orchard book contains only one apple and includes a gooseberry and a strawberry. Also, when the table of contents is compared to the plates, it seems that some plates are missing. Barker-Benfield thinks that during its early history the book lost five other leaves, based on the current foliation sequence. He thinks that they would likely have been early ripening fruits, perhaps other strawberries or more cherries. In the 400 years since these were painted not a single additional painting from the series has turned up on the art market or been found in family archives.

There is speculation as to the purpose for which the manuscript was made. The paintings seem not to have been intended to be reproduced in print, and while they were extensively handled there is no evidence that any of them was ever framed. The authors wonder whether perhaps they were an early version of a fruit catalog, perhaps used as samples by traveling plantsmen. The authors imagine a scene at a country house where the lord

of the manor and his entourage are seated around a large table and a respected nurseryman spreads on the table a collection of images of fruits. He discusses features, flavors and ripening seasons. Selections are made, and the head gardener then would purchase new scions to graft onto existing stock. The authors also note that there is no evidence that the Tradescants ever presented their nursery stock in this manner.

Most of those who were writing about horticulture and fruit growing at this time were theorists rather than gardeners, and the knowledge of fruit growing suggested by the plates indicate the involvement of a knowledgeable fruit grower who "moves in sufficiently elevated social circles to warrant producing something like the Orchard." The authors discuss the limited possibilities. The Tradescants still seem like a good choice, but various aspects of the evidence seem to disqualify them.

Finally, they discuss the fruits themselves in the context of fruit-growing then and now. If the manuscript was commissioned in the 1620s or 1630s, that was a time when there was a revolutionary attitude to growing fruit and to publishing information about it. The pictures might be primitive, but the fruits themselves are representative of actual varieties and tell a lot about fructiculture in the 17th century. Fruit trees last on average about 30 years, and aging trees can be replaced with new varieties. A few of the names listed in the manuscript are still available today, showing "a remarkable record of staying power," while several others are suggested that may still be around but under new names.

The authors feel that "whoever conceived the work was a trail-blazer, not in fruit illustration, but, if we have read the clues correctly, in promoting the cultivation of different varieties, and with a clever and knowledgeable mind attuned to recognizing varieties that would stand the test of time." They hope that the current book will stimulate further research. No matter what, the manuscript volume is a precious artifact that has survived four centuries and that still has a story to tell.

That historical and evidentiary discussion occupies the first 41 pages of *The Tradescants' Orchard*. Then follows a facsimile color reprint of the entire manuscript. The book concludes with a list of the plates, sources and further reading and an index. This is a lovely and thought-provoking book, a window onto gardening practices, fruit growing and a mysterious illustrated manuscript from four centuries ago.

—Charlotte Tancin, Librarian

Kanellos, Tony. *Imitation of Life: A Visual Catalogue of the Nineteenth Century Fruit Models at the Santos Museum of Economic Botany in the Adelaide Botanic Garden. A Collection of Papier Mâché Models Made by Heinrich Arnoldi & Co. Gotha, Germany (1856–1899).* Adelaide, South Australia: Board of the Botanic Gardens and State Herbarium, 2013. [384] p., col. ill. \$69.00 (Australian). ISBN 0-980702-16-X, 978-0-980702-16-3 (hardback).

During the renovation and refurbishment of the Santos Museum of Economic Botany at the Adelaide Botanic Garden, Tony Kanellos, cultural collections manager and museum curator, discovered in storage a collection of pomology models created in the 19th century that had not been on display for over 50 years. *Imitation of Life* conveys the history of these fruit models, their original inclusion in the Adelaide collection and the cataloging and reinstallation of these objects representing varieties once available. This beautifully produced volume includes a wealth of illustrations that complement the essays by Kanellos, Stephen Forbes, director of the botanic garden, and Jürgen Götze, a specialist on the history of these models.

Pomological specimens have long been classified and portrayed in drawings, prints and photographs, but these three-dimensional representations are part of the history of educational models used in the classroom and in botanical displays in botanic gardens and museums. Teaching models have been created in glass, porcelain and wax, and the latter method is how these subjects were first made. The pomologist, Reverend Volkmar Sickler, author of the magazine *Der Deutsche Obstgärtner* (The German fruit grower), learned the technique of wax model making in Austria and Italy and offered for sale pomological cabinets manufactured by Friedrich Johann Justin Bertuch (Weimar, Germany) from 1795 to 1813. These models were expensive to produce and extremely fragile, and the pomologist Johann Georg Dittrich began making models in durable papier mâché by 1831. After Dittrich's death in 1842, the Thuringian Pomological Society of Gotha was given permission to continue production. In 1855 Heinrich Arnoldi, with the support of the society, began offering models. Arnoldi initially created porcelain models in his factory but faced production problems with this material, such as shrinkage during firing, unconvincing surface texture and coloration and breakage during transportation and handling. He went on to formulate an even sturdier papier mâché material that he named *compositions-masse*, which eliminated all of these issues. Pomologists selected the important fruit varieties to represent and provided Arnoldi with accurate taxonomical descriptions that were published in *Illustriertes Handbuch der Obstkunde* (Illustrated handbook of pomology). These models would take two years to produce. The first year the fruit was selected and cast in plaster; the mold was split in two and filled with papier mâché; the halves were removed and joined; and details were added. The second year, when the variety



was again available, the artist Herzog would paint directly from an actual specimen and wax the final model, which was then inspected for accuracy. Through 1899, 76 issues of a total of 456 models were produced. Arnoldi's models received accolades and medals in exhibitions in Germany, Vienna, London and Chicago. They were advertised in horticultural magazines, and subscriptions were from England, Germany, Russia, the United States and a botanic garden in Adelaide.

The Adelaide Botanic Garden was the first institution of its kind in this British colony. During Richard Schomburgk's tenure as director (1865–1891), the Museum of Economic Botany was built as an exhibition hall. Schomburgk's exhibits were meant to educate the colonists about the cultural, medicinal and economic use of plants available in Australia. He saw the need for the inclusion of accurately classified models, including fruit varieties growing in South Australia. It was unrealistic to sustain an orchard, and many fruits, especially apples, being grown in the country were misidentified. With the approval of the board of directors he subscribed to the Arnoldi models of fruit and of fungi. Of the complete set of 456 pomological models, the Adelaide Botanic Garden's collection now includes 192 apples, 129 pears, 35 plums, 3 peaches and 1 apricot.

After being engaged in the history of the Arnoldi models, the reader is led into a photo album cataloguing each of the remaining papier mâché fruits. In Paul Adkins' photographs, each fruit is staged on a dark backdrop and beautifully lit to emphasize the individual characteristics of the variety. As one studies each photograph, these classical portraits, with names such as Scarlet Nonpareil, Count Nostiz, Green Summer Magdalene, Madame Treyve and Violette Dattelzwetsche, become a memento mori of a lost heritage of color, form, texture and flavor.

—Lugene Bruno, Curator of Art

Kanellos, Tony, ed. *Out of the Past: Views of the Adelaide Botanic Garden: A Series of Edwardian Era Postcards*. [Adelaide]: Board of the Botanic Gardens and State Herbarium, 2014. 661 p., col. ill. \$50.00 (Australian). ISBN 978-1-921876-01-1 (cloth in case). Available from the Adelaide Botanic Garden, Wakefield Press (http://www.wakefieldpress.com.au/files/for_the_trade_files/WPD_New-releases_flyer_2015Mar.pdf) and AbeBooks (www.abebooks.com).

This book was created as an exhibition catalogue for *Postcards from the Edge of the City*, which was on display at the Santos Museum of Economic Botany from 9 December 2014 to 26 April 2015. As Tony Kanellos writes in his acknowledgments: "Out of the past... presents what appears to be a humble collection, and reveals the richness embodied in these objects" (p. 659). In this case the objects are old postcards of the Adelaide Botanic Garden, 1900–1914. Three hundred postcards are shown full size, front and back on facing pages and reproduced in color. They are referred to on the outer box in which the book is held as "pocket-sized memories." Indeed, not only do the pictures show a story of the garden, but the messages provide a view of the lifestyle of the times.

Four essays preface the card reproductions, each followed by authors' notes. In "Postcards from the edge of the city," Tony Kanellos observes that the garden has been located "on the edge of the city" since 1855.

In many instances the scenes depicted in this book have changed beyond recognition, but in any case the postcards focus more on the places than the plants.

A brief history of postcards, and of postcards in Australia, is outlined. Postcards in Australia were issued only by the Post Office until 1894 when the GPO in England decided to allow private firms to issue them. The golden age of the postcard is presented here as coinciding with the Edwardian era, 1901–1910. Photography was still out of the reach of most people, but there was a growing desire for photographic images. An important development in postcard history was the change in postal rules that allowed for a divided back, where previously only an address was allowed to be written. In Australia this happened in 1905. Earlier views often showed a picture taking up most of one side, with an inch or so wide margin along the bottom and/or one side, in which the sender could write a message. The divided back allowed the picture to fill the entire front of the card and still give the sender a space on the back on which to pen a message. Postcards were also considered to be quick messages at a time when the mail was delivered twice a day, so that one could pen a note and expect that it would be received the same day.

In the chapter "The pocket-kammer," Lisa Slade discusses the postcard as a "portable, miniature, and paper cabinet" (p. 30). The examples in this book were printed in Adelaide, Melbourne, Great Britain and Germany.



The quotidian messages on the backs of the cards are in apposition to miniature, often hand-colored, collectable views of the botanic garden, such as the glasshouse, the water lilies, the more unusual trees. Slade muses on the impulse to collect such views.

In the chapter “Botany in a botanic garden,” Stephen Forbes writes about the entwined roles of beauty and knowledge in a botanic garden, of the dual roles of museum and public park. He notes how funny he finds it that a botanist would expect the postcards to be about the plants, whereas the plants are clearly just part of the scene and the captions are often botanically inaccurate. The plants form the beloved garden, but “from a botanical perspective there are of course fine botanical specimens evident in the scenes—these simply aren’t addressed by either the publisher or the correspondent” (p. 39). He supplies some history of the formation of the Adelaide Botanic Garden and ends with a discussion of the Jubilee Souvenir postcard produced in 1907.

The final essay is “Meet me here,” by Luke Morgan, who writes of the “social reception” of gardens and its role in landscape history. He mentions that the notes on the postcards reproduced here connected writer and recipient but also provide us now with hundreds of responses to a single designed landscape.

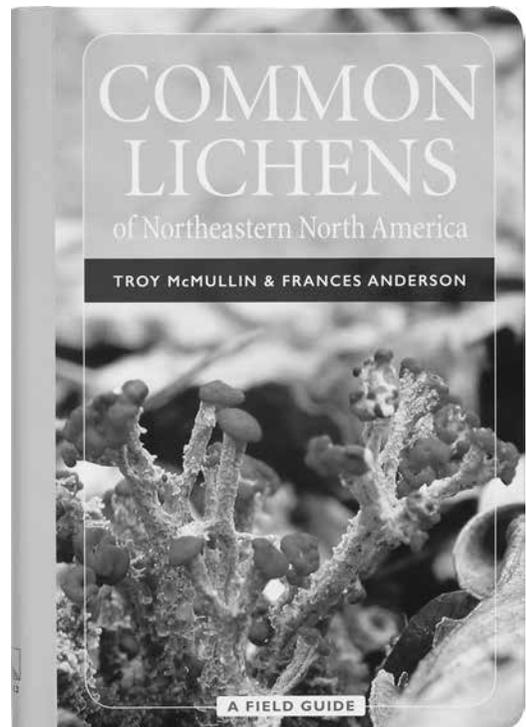
Following the essays, 300 historical postcards are reproduced. They are wonderful. The fact that they are reproduced at actual size somehow adds to the feeling that we are directly partaking of these small, elegant bits of history rather than just seeing photos of them. Paging through the book one is transported to a different place in an earlier time, seeing the garden through the eyes of the persons who visited and then wrote and sent the postcards, sharing beautiful views with family and friends.

Adelaide Botanic Garden is the most frequented cultural and scientific institution in the state. This book was issued as a portable archive of this postcard collection and as a souvenir of the botanic garden. It comes in its own box and actually looks like a keepsake itself. Many of us in other parts of the world will never visit Australia, due to the distance involved, but the Adelaide Botanic Garden has been helping us to enjoy the garden vicariously through this and other books they have produced in the last few years. Kudos to Tony Kanellos for another beautiful and unusual book about the Adelaide Botanic Garden.

—Charlotte Tancin, Librarian

McMullin, Troy and Frances Anderson. *Common Lichens of Northeastern North America: A Field Guide.* (Memoirs of the New York Botanical Garden, vol. 112.) New York: The New York Botanical Garden Press, 2014. 192 p., 138 col. photos, 138 black-and-white ill. \$39.00 (U.S.). ISBN 978-0-89327-511-2 (spiral-bound hardback).

Lichens are often shunned by the beginner because they have no flowers, grow in strange places and appear difficult to identify. *Common Lichens of Northeastern North America: A Field Guide* goes a long way to remedy that problem. The guide covers 138 lichen taxa mostly in the Canadian Atlantic provinces, Quebec, eastern Ontario and New England. That stated, this field guide is still useful and accurate (at least to genus) for other regions of the northeastern United States. It is divided into sections based on substrate—tree, soil or rock; growth form—foliose, fruticose or crustose and finally the color of the upper surface. The substrate sections are color coded: trees—green; soil—brown; rock—dark gray. Additionally within each substrate section the species are grouped by growth form and color of the upper surface: gray, yellow, slate and red. Color, while generally useful to 92% of the population, must be employed with caution. The time of day, season, moisture levels or even substrate composition will cause variations in the color. A 10× hand lens coupled with the excellent photograph and line drawing for each taxon is all that



is needed to make accurate identifications. I was able to venture out in the snow and rain and accurately identify a common species. The text is non-technical and is easily understood by novice naturalists as is the glossary. My only real criticisms of this field guide are the spiral

binding, which, at least with the review copy, tends to tear the pages, and the coated paper, which makes it a “fair weather” field guide.

—T. D. Jacobsen, Assistant Director

Morrison, Gordon and Alex George... [et al.]
Capturing Flora: 300 Years of Australian Botanical Art. Ballarat, Victoria: Art Gallery of Ballarat, 2012. 288 p., 226 ill. (col.). \$70.00 (Australian). ISBN 978-0-98723-452-0 (hardback). Available from Florilegium (<http://www.florilegium.com.au/product/capturing-flora/>).

This beautifully illustrated volume accompanied a 2012 exhibition at the Art Gallery of Ballarat. Using a selection of items from the gallery's extensive collection of botanical prints and drawings of Australian plants (supplemented by rare 18th- and 19th-century items on loan from state and national libraries and herbaria and artworks from private collectors and artists), the six essayists highlight important contributions made to the botanical record of the flora of this vast continent. According to the forewords by the director of the Art Gallery of Ballarat Gordon Morrison and Alex George, the exhibition and book were inspired by and dedicated to Helen Hewson, author of *Australia: Three Hundred Years of Botanical Illustration* (1999). Her monograph was a template for building a collection for this city-funded gallery through the support of foundations, trusts and bequests. This volume borrows heavily from her text and acknowledges the great artists of the 18th and 19th centuries who set the bar for illustrators of the present day, and the relationship of explorers and amateur and professional botanists and artists in Europe and Australia who met the challenges of creating a botanical record of a new territory.

For the edification of the general public, Gordon Morrison's essay “A Willdampnia by any other name” outlines the context for which botanical illustrations were created for science and horticulture. He also gives an overview of the sexual and natural classification schemes of the Swedish botanist Carolus Linnaeus (1707–1778) and the French botanist Antoine Laurent de Jussieu (1748–1836), respectively, two systems that were most frequently used to describe the newly discovered Australian flora. Accompanied by originals and prints from several publications, Morrison relates the story of the shifting nomenclature during the 18th, 19th and 20th centuries of the wildflower Sturt's desert pea, which becomes a testament to the necessity of botanical illustration.

In “Curious cones and gigantic lillies: Early encounters with the Australian flora,” essayist Jennifer Jones-O'Neill postulates that Australia was the beneficiary of the Enlightenment. The formation of European botanical gardens, scientific societies and

academies spurred the competitive exploration and dispersal of information of the new plant offerings of the Pacific. The aesthetic and descriptive quality of these scientific illustrations increased as artists were challenged to understand plant structure in order to meet the descriptive needs of the botanists and to create visually appealing images for an audience of subscribers. The complex *Banksia*, which became an item of fascination throughout Europe, and the Gynea lily, *Doryanthes excelsa*, are the two plants specifically discussed along with other plant discoveries made during English, French and Spanish expeditions.

In the third essay, “New Holland ‘Exoticks’: Australian plants, global gardening,” Richard Aitken discusses the confluence of conditions that created the rage for collecting and growing Australian exotic plants during the Romantic Age in Europe. These factors included safer and more reliable travel on the high seas for explorers and collectors; establishment of colonies and concerns for the economic use and likely cultivation of seeds and plants grown on site and shipped back to Europe; and the development of the science of horticulture by curators of botanic gardens, nurserymen and gardeners of private collectors who sometimes sponsored exploration. Illustrated horticultural journals heralded these exotics, many of which were tender in Europe and required controlled conditions. This led to the popularity of glass houses for competitive collectors including the landed gentry, wealthy industrialists and the rising middle class. This essay is populated with several images of plant introductions that are illustrated most often from plates published in English and French horticultural magazines, with captions referring to specific voyages of exploration, collectors, botanical gardens and nurserymen.

In the fourth essay, “The desert shall rejoice and bloom: Botanical prints in colonial Australia,” Thomas A. Darragh discusses the progression of botanical descriptions from those produced solely in Europe before 1850 to the development of publishing in Australia by the end of the 19th century. As more and more colonies became established, talented European artists and printmakers immigrated to the continent, fueled by the gold rush of 1851 in Victoria. Unlike in Europe, scientific publications initially were coming out of the colonial government printing offices. Victoria was the leader with the work of the first appointed colonial botanist in 1853, German born and trained Frederick

Mueller (1825–1896), who is now considered the father of Australian botany. Himself an avid explorer and plant collector, Mueller commissioned artists to illustrate the flora of the region that he prepared over a period of 40 years.

In the fifth essay, “The ornamental garden: Lady amateurs and female botanical artists, 1830–1930,” Julie Collett brings attention to the amateur and professional female artists who contributed to the understanding of Australian flora. This included middle- and upper-class women documenting the areas in which they resided to express their connection to nature, and women, trained in the arts, finding work to support themselves or their families by receiving commissions from botanists to illustrate descriptions. The author notes professional European artists illustrating Australian plants for European horticultural journals as a lead-in to the women artists who temporarily immigrated to Australia with family and encountered these plants in situ.

The final essay, “Decline and rebirth: Botanical art in Australia from 1900 to the present day,” also by Gordon Morrison, notes that after the death of the botanist Frederick Mueller (1896) and the retirement of Margaret Flockton (1927) there was a decline in botanical illustration due to the economic depressions in the 1890s and the 1930s. Government funds were no longer available for professional artists, so botanists were left to illustrate their own descriptions. This led, with few exceptions, to a period of mostly mediocre illustration. This was combined with the substitution of poorer quality color photography for the more expensive method of color lithography using multiple plates. Also with the economic decline came less leisure time for the pursuit of drawing and painting by amateur women artists. After the retirement of Margaret Flockton, no professional talent emerged until the native-born Margaret Stones was recommended to document plants in the field during an expedition to the Bogong High Plains in 1948. She moved to London and by 1958 was working as the senior artist for *Curtis's Botanical Magazine* while still receiving commissions in Australia.

Wilfred Blunt and William Stern's *The Art of Botanical Illustration* (1950) introduced many to the history and the artistry of botanical illustration. New government policy, a vibrant economy and assistance from foundations and trusts led to the full staffing of scientific institutions in the 1970s. Continuing research on indigenous flora of the country meant a need for professional illustrators.

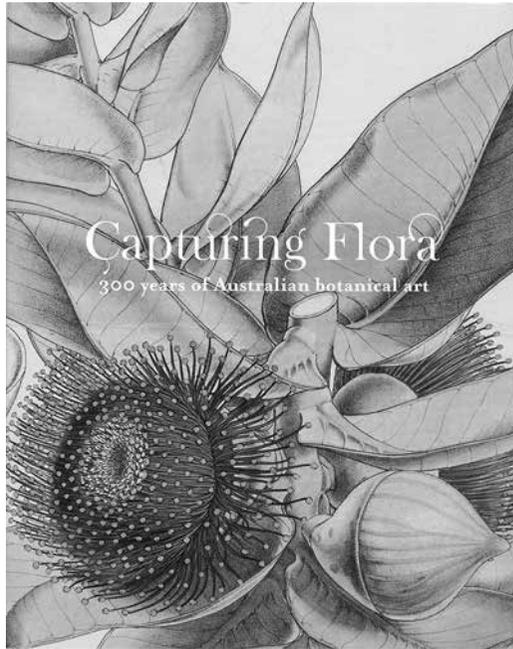
Since then, exhibitions devoted to botanical art and illustration held at botanical gardens, museums and galleries, prizes in honor of Margaret Flockton and

Celia Rosser and classes and workshops have brought many new Australian botanical artists to the forefront. Through their work they are joining artists from around the world that are bringing a public awareness of this art form to a larger audience. One hopes that the talents of these and up-and-coming botanical artists will be supported through commissions and exhibitions.

Not having the pleasure of seeing the gallery exhibition, I am unable to compare the use of word and image in these individual entities. With so many individual essays information is sometimes reinforced, other times repetitive and sometimes overlooked. The wealth of illustrations do not always

support the text as much as highlighting the Art Gallery of Ballarat collection. The use of several pages of illustrations and enlarged details for design impact creates large breaks in the textual content and to this reader made it difficult to find the relationship between the images and the essays. I admit that after reading this volume, I immediately read Helen Hewson's book to garner a better understanding of the history of the expeditions and the work of the botanists and artists that were briefly mentioned in *Capturing Flora*. This volume is most successful when introducing and highlighting the artists that visually documented the history of Australian botanical illustration and the new generation of artists that are continuing this tradition.

—Lugene Bruno, Curator of Art



Nelson, E. Charles and David J. Elliott, eds. *The Curious Mister Catesby: A "Truly Ingenious" Naturalist Explores New Worlds*. Athens, Georgia and London: The University of Georgia Press, 2015. xviii, 406 p., col. ill., port., maps. \$44.95 (U.S.). ISBN 978-0-8203-4726-4 (cloth).

This book is the culmination of a symposium that was held in 2012 to celebrate the 300th anniversary of Mark Catesby's first voyage to the New World. The book was created to examine Catesby's life and work for both the scholarly community and a general audience, with contributions by 25 experts in a range of fields that touch on his work and legacy. A colleague in another library asked if I thought another study of Catesby was really needed, when so many other persons have yet to be researched. After reading this book I can answer that *The Curious Mister Catesby* is important for the history of natural history as it offers so much to know and understand about this interesting man and his contributions to natural history. The publisher's strategy of using experts from diverse backgrounds to look into different aspects of Catesby's life and work has yielded information from many informed viewpoints.

The organization of the book traces an arc beginning with Catesby himself and moving through his predecessors, the places where he lived and explored, his work processes, his landmark publication, his specimens, his influence on science, his work on plants and animals, and his successors. In the course of the book Catesby becomes better known as a naturalist, an explorer, an artist, a writer, a scientific thinker and an introducer of new plants into European gardens.

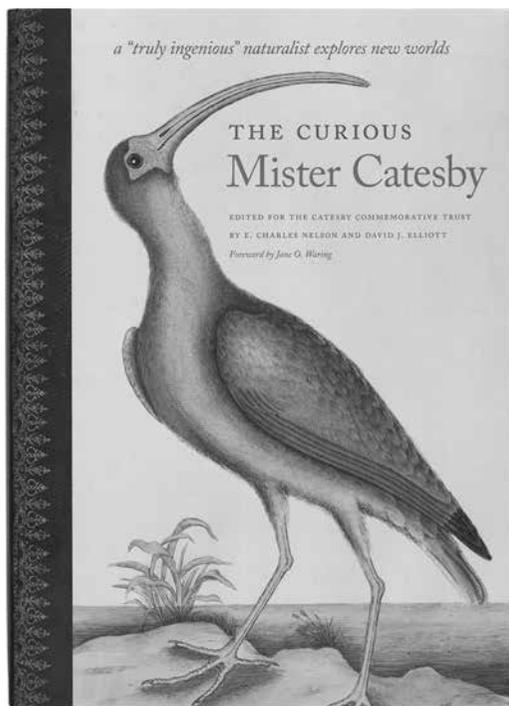
Charles Nelson, one of the book's editors, opens the book with fresh research on Catesby, skillfully using public records to offer new documentation of Catesby's early years, his family and his inheritance of properties. Correspondence is presented that documents some of Catesby's movements and activities from the time he first arrived in Virginia in 1712, where he collected plant specimens and seeds for the apothecary

Samuel Dale (ca.1659–1739). A few years later Dale wrote to botanist William Sherard (1659–1728): "Its pitty some encouragement can't be found for him, he may be very usefull for the perfecting of Natural History" (p. 9). Catesby returned to England in 1719, found that "incouragement" and went back to North America in 1722 and to the Bahamas in 1725, exploring, collecting specimens and making drawings and notes. He corresponded with supporters back in England, returning there in 1726 to begin preparations for publishing the findings of his explorations and collecting. He made and colored the etchings for the 200 plates himself and wrote the English text, then had it translated into French so that the text could be presented in both languages in parallel columns. It took from 1729 to 1747 to complete the publication of the first edition in two folio volumes. He died two years later.

Four chapters trace forerunners of Catesby's in North American exploration and natural history. Karen Reeds discusses eight predecessors, four of whom traveled to the New World, and there are separate chapters on Maria Sibylla Merian (1647–1717), William Dampier (1651–1715) and John Lawson (ca.1674–1711), placing Catesby within a longer history of natural history exploration and resulting publication, showing earlier

work upon which he built.

Four chapters discuss Catesby's world in both England and Virginia, and his explorations in Carolina and the Bahamas. Aspects of 18th-century England discussed include the relationship between natural history and the national economy, natural theology, social networking, patronage systems and the importance of correspondence in enabling Catesby to connect with botanists, gardeners and potential patrons. Sarah Meacham writes about how he got to Virginia and what kind of society he found there. The chapter on Carolina explorations includes thoughts on how Catesby would have been handling, storing and shipping his specimens. The Bahamas exploration chapter looks at ethnobotany and Catesby's Bahamian illustrations and descriptions. It is suggested that Catesby's book contains nearly all of what is known about the Bahamas in the 18th century.



Perhaps my favorite chapters are those that discuss Catesby's work processes, publication and specimens. Henrietta McBurney explores the preparatory drawings for his book and discusses how his work related to that of some of his advisors. Leslie Overstreet provides a detailed bibliographic study of the publication of *The Natural History of Carolina, [etc.]*, based on a survey and examination of surviving copies. Stephen A. Harris looks at Catesby's specimens at Oxford, from his field practices to the eventual location of many of his specimens there, and shows how varying curation practices over centuries have led to Catesby's specimens remaining mostly unknown and unused, commenting that they are generally "unavailable to all but the most persistent researcher" (p. 188) and thus as yet still outside the mainstream of botanical knowledge. Charles Jarvis relates how Carolus Linnaeus (1708–1778) used Catesby's botanical work in his own publications, noting that of the 187 plants illustrated by Catesby, 131 were cited by Linnaeus, with 34 of the plates serving as types for Linnaean binomial plant names.

The next five chapters will be of particular interest to those whose focus is on the plants and animals that Catesby collected, described and illustrated. There is a chapter on the economic botany and ethnobotany in Catesby's work, which set his publication apart from those of contemporaries and successors over the next century. Shepard Krech provides a fascinating examination of Catesby's ideas about bird migration, situating the paper that Catesby wrote about it within historical and contemporary thought on the subject. Another chapter focuses on the animals in the 109 plates that show one or more animal subjects that are not birds. Herpetologist Kraig Adler contributes a chapter on Catesby's contribution to Linnaeus's cataloging of North American animals, citing *The Natural History of Carolina, [etc.]* as "the key reference for North America in the first systematic catalog of the animals of the world" (p. 251). He discusses Linnaeus's main sources of animal information and specimens, and Catesby's role in the overall treatment of animals by Linnaeus in his *Systema Naturae*, eds. 10 and 12. He then provides detailed analysis of Linnaeus's verification processes and proposes a rationale for changes in the inclusion of Catesby's snake identifications from the 10th to the 12th editions of *Systema Naturae*. There is also a chapter here that focuses on Catesby's plant introductions in terms

of 18th-century English gardens and the nursery trade, an aspect of his work often overlooked.

The final chapters focus on Catesby's successors and his legacy. Judith Magee looks at three Americans: William Bartram (1739–1823), Alexander Wilson (1766–1813) and John James Audubon (1785–1851), all self-taught artists and naturalists who broke with the conventions of natural history illustration. I take exception with her statement that "Catesby's illustrations introduced a move away from the standard lifeless depiction of a species," as it has been well established (and is discussed in chapter four) that it was Maria Sibylla Merian who pioneered that approach and whose artistic style served as a model for Catesby's. Aside from this, though, Magee's observations are excellent and show that the work of these naturalists led to a more ecological understanding of the natural world. She notes that, ironically, their art that included important contextual information would come to be seen as non-scientific following the introduction of new standards for scientific illustration that came about in the wake of Linnaeus's work.

The late James L. Reveal contributed the two-part "Appendix: Identification of the plants and animals illustrated by Mark Catesby for *The Natural History of Carolina, Florida and the Bahama Islands*." Reveal's work followed on past efforts by at least a half-dozen individuals from the 18th century to modern times. In the first part he provides modern scientific identifications for nearly all of the organisms in the publications, while in the second part he does the same for the watercolor paintings in the Royal Library at Windsor.

The book ends with notes for the authors' chapters, an 18-page bibliography, brief contributors' biographies, indexes to scientific and common names of animals and plants and a general index. The volume is remarkably compact, given its coverage. It is nicely laid out and well illustrated, largely with Catesby's images but also with other images that provide context. *The Curious Mister Catesby* is an important contribution to the history of natural history, and its editors and contributors are to be congratulated. The book is affordably priced and would be a good addition to public and academic libraries, as well as a treat for individuals with an interest in history and natural history.

—Charlotte Tancin, Librarian

Nelson, E. Charles. *John Scouler (c1804–1871) Scottish Naturalist: A Life with Two Voyages.* Glasgow: Glasgow Natural History Society, 2014. [xi], 142 p., ill. (chiefly col.). £11.50. ISBN 978-0-9565295-1-0 (paperback).

E. Charles Nelson's *John Scouler (c1804–1871) Scottish Naturalist: A Life with Two Voyages* dusts off the memory of

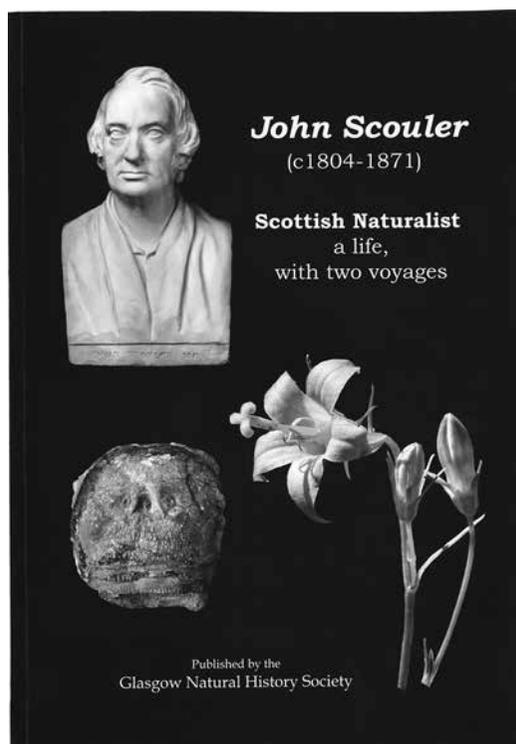
a man whose work in the natural history field practically had been forgotten. Pulling from primary sources found in archives and historical repositories around the world, Nelson gives John Scouler his rightful, if not high, place in history among the people he knew and with whom he worked.

In the 1960s Blodwen Lloyd Binns, a professor of botany and a member of the Natural History Society of Glasgow, began research on Scouler after having rediscovered his herbarium at the University of Strathclyde, Glasgow, Scotland. Knowing she would be unable to finish before her death, she left an endowment to the society and suggested that some of the funds be used to finish the biography. Nelson, currently a freelance botanist and author, spent nearly 20 years as a horticultural taxonomist at the National Botanic Gardens in Dublin, Ireland, which was established by the Royal Dublin Society, Scouler's employer for 20 years. Nelson was a natural fit to write this biography, having already researched on several of Scouler's peers, and so was approached by the Natural History Society of Glasgow in the mid-1990s.

The book is divided into twelve chapters and three appendices. After an introductory chapter on Scouler's early life, the two following chapters detail his voyages to the American Pacific northwest with a stop at the Galápagos, and to India via the Cape of Good Hope, respectively. The chapter on the voyage to the Pacific northwest with the Hudson Bay Company's *William and Ann* is the meatiest of the chapters. William Hooker (1785–1865) recommended one of his "ablest botanical students," Scouler, for the position of surgeon and naturalist on the ship. Coincidentally David Douglas (1799–1834) was a passenger on the *William and Ann* collecting for the Horticultural Society of London. Using a copy of Scouler's manuscript journal held at the Oregon Historical Society, Douglas's published accounts and the ship's log, Nelson chronicles each of the stops on the voyage and highlights where and what Scouler collected. He and Douglas were the first to make natural history collections in the Galápagos, but due to unfavorable conditions, most of their specimens did not survive. Scouler also sent specimens to Hooker, who used many for his *Flora Borealis Americana*.

Scouler's voyage to India as ship surgeon on the *Clyde* is less well documented. He never acknowledged it in writing but others had alluded to it. Blodwen Lloyd Binns chased several false leads and never found hard proof of the journey, so it is satisfying to read how Nelson was able to confirm the story and piece it together with ship logs and the journals and letters of others who interacted with Scouler on his voyage. Apparently Scouler's hopes to collect in exotic India were thwarted due to a quarrel with his ship's captain, who restricted Scouler's movements.

The middle chapters narrate Scouler's more sedentary (and perhaps less exciting) life in Glasgow as professor of mineralogy and natural history at Andersonian University and curator of the university's museum, and in Ireland as professor of mineralogy at the Royal Dublin Society. They include small chapters on Scouler's personal life and the politics of botany in Dublin and



Glasgow surrounding Scouler. Towards the end of his life Scouler traveled to Portugal and then retired back home in Glasgow. Nelson finishes with an assessment of Scouler's historical significance. The supplementary material includes a bibliography of Scouler's works (Nelson doesn't mention any in text), a list of plants and animals named for Scouler, a transcription of his manuscript journal from his voyage to the Pacific northwest, and an account of the fate of collections from the now extinct Andersonian Museum that Scouler curated and to which he donated heavily. The transcript of Scouler's journal is a great addition to the historical canon and an interesting read unto itself. Previously published versions had been altered or failed to decipher all of Scouler's scribbles. Nelson's version has plenty of endnotes to fill the reader in on background information.

Scouler never published anything on the collections that he made on his expeditions and so never named a new species. In the text and endnotes Nelson mentions specimens that Scouler collected, which were used for other naturalists' works, but he does not furnish a separate list. It would be nice to be able to get a more quantitative view of how many of the specimens ended up being types or the first to be described in print.

At once a highlight and a disappointment, the plentiful colored illustrations keep the eye engaged. Most interesting are actual documents that Nelson used

in his research, the sort of things about which historians, librarians and archivists get excited, like a full-page view of Scouler's passport to France or a page from professor Lloyd Binns' typed catalogue of the Scouler herbarium specimens. A suite of four plates features plants named for Scouler. However, quite a few of the images are blurry, grainy or too dark, causing text to be illegible on some documents and other images to lose meaningful detail. For instance, the text on the map of the *William and Ann's* journey up the northwest coast is blurry, so it is hard to pinpoint locations while reading the narrative.

It goes without saying that written history is always tainted by the perceptions and persuasions of the writers. Nevertheless, it is interesting to see how that is illustrated here. Blodwen Lloyd Binns was quick to think the most of Scouler and to jump to conclusions about his life. The biography that she set out to write is quite different than the one E. Charles Nelson finished. In his footnotes Nelson describes Binns' pre-internet-era research and some of the missteps she made. Nelson, too, had to rely on possibly erroneous information from Scouler's obituaries, written anonymously and the only sources of information on Scouler's early life. We can't even trust Scouler's own narrative of what he did on the northwest voyage because his extant manuscript journal was written when he returned home. It certainly does not sync perfectly with Douglas' journal or the ship's log.

However, Nelson has pulled together an excellent array of primary sources and tells what he found without great embellishment. One gets the sense that Nelson relays everything he knows; any information that could be gleaned has been. He obviously is not intent on making Scouler a hero, and his assessment of the subject seems fair, setting straight what Scouler did and did not do. As E. Geoffrey Hancock says in the forward, "[a] fascinating detailed account of Scouler's life and times has been revealed ranging through the whole of natural history in its broadest sense as it developed in the early nineteenth century." Scouler may not have been Hooker or Douglas, but neither is he someone to be overlooked. His story reflects what it was to be in the natural history field as a young explorer, as a museum curator and as a professor, where he was sure to have influenced many students.

This book is not intended for a popular audience but rather for those who study the history of natural history, who want the details and will not mind the copious endnotes. The facts are thick, but it is not a laborious read. This is an excellent resource for libraries and scholars interested in 19th-century natural history or scientific culture, especially that of the British Isles. At £11.50, this is a steal for any collection, private or public.

—Jeannette McDevitt, Assistant Librarian

Stuppy, Wolfgang, Rob Kessler and Madeline Harley. *Wonders of the Plant Kingdom: A Microcosm Revealed*. Chicago: University of Chicago Press, 2015. 160 p., 248 col. ill. \$25.00 (U.S.). ISBN 978-0-226-21592-1 (paperback).

A follow up to *Pollen—The Hidden Sexuality of Flowers*; *Seeds—Time Capsules of Life*; and *Fruit—Edible, Inedible, Incredible; Wonders of the Plant Kingdom* by artist Rob Kessler and scientists Wolfgang Stuppy and Madeline Harley again merge science and art to showcase the microscopic elements that make up the plant world in vivid colors and fascinating descriptions. The entire book is illustrated with luscious color photographs of larger plant structures and colorized scanning electron microscope (SEM) images of smaller structures, striking against the black pages with subtle pastel-hued text. The images are the important part of this book, and though the text is both accessible and interesting, the incredible photography is what turns the pages.

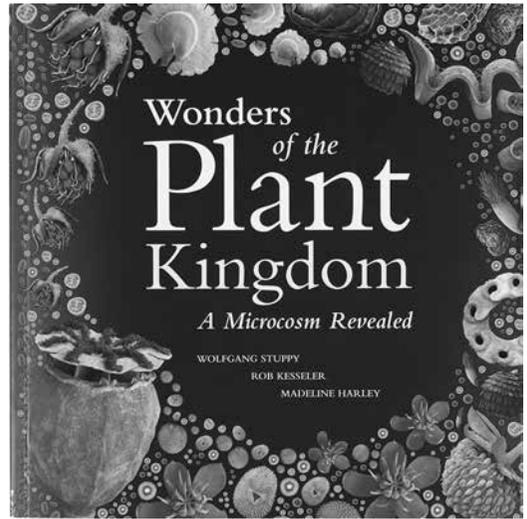
Wonders of the Plant Kingdom begins with an introduction to the authors and the project, borne of the desire to share their passion for the reproductive mechanisms used by flowering plants, structures that were largely unseen before the arrival of our more recent technological advances. Working closely with the Millennium Seed Bank, a conservation initiative focused on preserving the world's wild plant species, the

authors were able to provide a global view of the variety of reproductive structures in use while also bridging the gap between art and science. A more detailed description of the Millennium Seed Bank and their mission follows at the end of the book, a perfect place to ask the reader to consider the value of continuing this important work.

Following a brief lesson in plant anatomy and reproduction, illustrated with blossoming flowers and colorized SEM images of fruits, *Wonders of the Plant Kingdom* is divided into three main chapters, "Precious dust," "Fruits and seeds" and "Phytopia." The first two sections present subchapters discussing the differences between pollen, spores and seeds; pollination methods; the different animals who contribute to the reproductive process; differences between fruits and vegetables; seed dispersal methods; and everything in between, all thoroughly illustrated with color photographs and colorized SEM images. Each smaller section describes a portion of the reproductive process using language that is accessible to the average reader while also illustrating complex botanical processes through the images and their captions, often colorized to help identify specific features. Sections describing various pollination methods also educate the reader on the complex relationships between plants and pollinators, especially birds, bats and insects, and the adaptations that have occurred over time for mutual benefit. Throughout, the authors use humor

and relatable examples to help the reader understand the botanical terms. This style is especially apparent in the sections describing the differences between fruits and vegetables, with fruits described as “ruthless” strategizers and the title of “vegetable” destroyed in favor of the more accurate descriptions of tubers, leafy greens, bulbs or stems. The sections that follow, devoted to descriptions of seed dispersal mechanisms, continue to be beautifully illustrated with striking color images, often combining images of a larger structure with magnified details. These two chapters end with a call for action, urging the reader to take the appreciation for plants that has hopefully been created and use it to act. They describe the intricate web among many plant and animal species that is threatened every time an individual species is lost to extinction and point out that humans are also a part of that web. These calls for action, and the chapters preceding it, are closed on a hopeful note with a transition to “Phytopia,” the final chapter of *Wonders of the Plant Kingdom*.

In “Phytopia” the beauty of the images created by the SEM is the focus, and the artistic heart of the book is celebrated. For the 22 pages devoted to this section the only text is the small caption identifying the plant while vivid colors, intricate patterns and otherworldly shapes dominate the pages. This chapter keeps you turning the pages and then going back again as you are drawn down into the smallest of crevices, pushed out by a forest of hairs and enveloped by folds and ripples. At the conclusion of these striking images is a single spread devoted to their creation, with a selection of process photos and description of how the scanning electron



microscope works. It is clear from this description, and the images preceding this section, just how much artistry goes into each image. As mentioned previously, the last text section of the book is an introduction to the Millennium Seed Bank and their work conserving the world's seeds. A small glossary and incredibly informative index, complete with botanical name, common name and location of native distribution, finishes out the book.

—Carrie Roy, Assistant Curator of Art

Taylor, Judith M. *Visions of Loveliness: Great Flower Breeders of the Past*. Athens, Ohio: Swallow Press, 2014. ix, 467 p., col. ill., port. \$29.95 (U.S.). ISBN 978-0-8040-1157-0 (paperback).

Horticultural historian Judith Taylor has long been fascinated by the enormous variation in flowers and ornamental plants and by the work of countless breeders and hybridizers that has led to such a profusion of forms and colors. She had read Richard Gorer's *The Development of Garden Flowers* (1970) and remembered his surprise at being unable to find an adequate history of the subject. Before writing *Visions of Loveliness*, Taylor looked for other histories written since Gorer's and found none, so she has taken on the task of expanding on Gorer's work and hopes that others will continue the research in years to come.

In this spirit she has tackled the task of researching, compiling and sharing the stories of at least some of these horticultural artists and scientists with the aim of keeping their names and accomplishments from being lost and forgotten. At the beginning of her book she notes that many cultivated plants are introductions from other places, adding that “This book traces what happened to

many of the plants after they reached their destinations” (p. 1). She finds inspiration in the way breeders and hybridizers followed their visions through concentrated, painstaking work over time to create new and sometimes breathtakingly beautiful forms.

The book begins with an overview of the history that preceded the work documented by Taylor. She writes of the early concerns about the inadvisability of interfering with nature and God's realm and the reluctance to step beyond that line. Rudolph Camerarius (1665–1721) proved that plants could breed with each other as animals do and produce new varieties, but the idea of changing plants on purpose to make new kinds took a long time to arise and take hold. Observations of cross-breeding by wind pollination were recorded by Cotton Mather (1663–1728), but deliberate pollination actually done by a human hand remained a frightening and taboo idea. Yet, time changes many things, and by the 19th century, the age of improvement, “the urge to tinker was overwhelming” (p. 5). Even so, when Gregor Mendel (1822–1884) published his experiments on peas in 1866, very few understood it or its implications. Only after his death, in 1899, did three

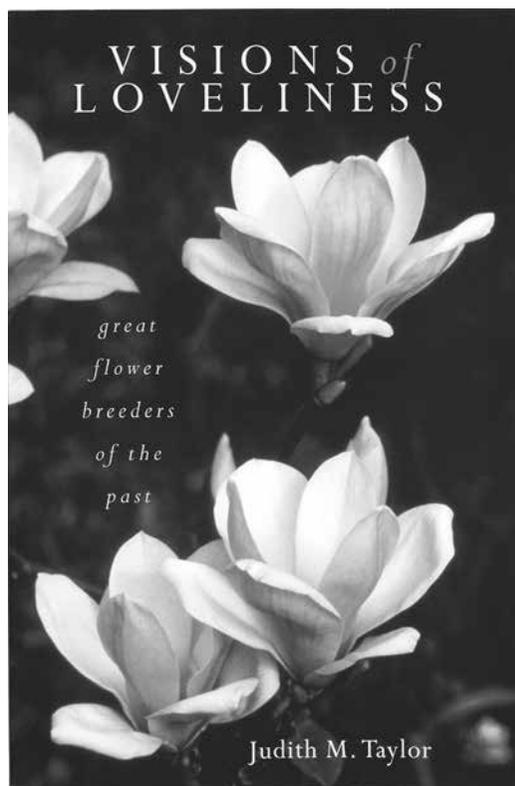
scientists separately happen upon his work and recognize its importance: Hugo de Vries (1848–1935), Carl Erich Correns (1864–1933) and Erich von Tschermak von Seysenegg (1871–1962). Thus, says Taylor, are modern genetics based on Mendel's work.

Meanwhile, unknown to the western world, Chinese, Japanese and Korean plant breeders had worked over a thousand years or more to create new flowers by selection and active pollination. When Westerners finally were able to enter those countries, they did not at first realize that the flowers they were buying in nurseries were not all pure species.

Taylor notes that the stories in *Visions of Loveliness* reflect a western viewpoint and scope, looking at both western floricultural commerce and the work of individual amateurs who often had the time to experiment without the commercial pressure of the larger businesses. She is much taken with the way in which some individuals became completely focused on a particular kind of plant or flower and subsequently spent much of his or her life working on ways to improve it in some respect. Driving that impetus were visions of something new about form, size, color. Competitiveness also provided fuel for some of this work. Much of the documentary evidence for this cultivar history is in the old nursery catalogs.

The text is presented in three parts. Part 1 recounts the history of plant breeding in Europe and North America in more detail and briefly notes some of the older Chinese work in this field. Then Taylor relates how imported plants were distributed across Europe and North America, noting some of the factors that aided or impeded the flow in different places. She comments that as a result, plants that were once exotic are now commonplace.

Part 2 presents information on a dozen or so important flower breeders in Europe and on another half dozen in the United States. Portraits are included for some, and the text includes information about their work and their businesses, as well as anecdotes that give us a feel for them as people. This is a useful part of the book



because it focuses directly on key individuals seen to be particularly important to the history of plant breeding in the west.

Part 3 is, for me, the heart of the book. Here Taylor discusses work that has been done on plants in 16 genera. She notes up front that she has not addressed tulips or irises in this book as they have received good coverage elsewhere in recent years. The shrubs she discusses are azalea and rhododendron, camellia, hydrangea, lilac, magnolia and rose. The flowers covered are begonia, dahlia, hemerocallis, lily, marigold, narcissus, orchid, pelargonium, peony and sweet pea. There is a huge amount of history compiled here, and many individual plant breeders are presented. For example, the section on narcissus gives some general information about the plants, looks at the historical movement of narcissus

within Europe and then focuses on influential individuals: six breeders and collectors in England and Scotland are discussed and additional breeders in Northern Ireland, The Netherlands, the United States and New Zealand are treated more briefly.

The book is rounded off with a short appendix on binary hybrids, acknowledgments, 17 pages of notes, a bibliography and an index. Seven pages of acknowledgments point to the enormous amount of work Taylor has done in tracking down, contacting and corresponding or speaking with experts and other sources who are connected to these breeders or who have relevant expertise. She has done considerable research for this book, and we are the beneficiaries. There is more work to be done in this area, but she has given us a good collection of information about many of the men and women who have been creating new developments in our beloved garden plants, expanding or changing their color, form, hardiness and other aspects. Our gardens are all the more beautiful and interesting for the work done by these and countless others whose imaginations were sparked by garden plants. It's wonderful that Taylor has championed these breeders and strengthened their places in history.

—Charlotte Tancin, Librarian