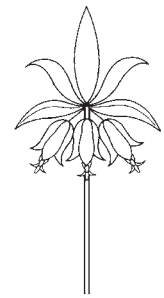
HUNTIA

A Journal of Botanical History



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Book Reviews and Announcements

Book reviews

Balandin, Sergey, Ivan Gubanov, Charles Jarvis, Sergey Majorov, Sergey Simonov, Dmitry Sokoloff and Sergey Sukhov. *Herbarium Linnaeanum: The Linnaean Collection of the Herbarium of Moscow State University: Digital Images, Comments, Historical Review.* Moscow: Dehlia Co., Ltd., 2001. 1 CD-ROM, with 23-page booklet. System requirements: IBM PC or Apple Macintosh; CD-ROM drive; Microsoft Internet Explorer 3.0 or better with Java support; Microsoft Windows 95/98/Me/NT/2000 or Mac OS 8.1; 64 MB RAM or more. £49.99 (for EU residents, includes postage & packing and VAT); or £42.54 (for non-EU residents, includes postage & packing). ISBN 5-86476-174-5. [Copies can be ordered from The Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom. Fax: [+44] 020 7942 5529; tel: [+44] 020 7942 5466; email: A.Hutson@nhm.ac.uk]

A group of five botanists from Moscow State University have collaborated with Sergey Sukhov from the university's Science Research Computing Center and Charles Jarvis from The Natural History Museum, London, to produce the CD, *Herbarium Linnaeanum.* This informative and aesthetically pleasing resource provides a window onto the historical collections of the Herbarium of Moscow State University, focusing on a subgroup of specimens from the Herbarium's four largest collections that are linked with the 18th-century Swedish naturalist Carl Linnaeus. In addition to a searchable database of specimen images and data, the CD contains an overview of botany in Moscow and Russia between 1706 and 1843 as represented in the Herbarium's Linnaean materials, a history of the Herbarium and a discussion of its scientific profile and collections, and general information on the main herbaria worldwide that also contain Linnaean specimens. Also included are portraits of and biographical information on selected botanists, plus a list of references.

The work is dedicated to Mikhail Nikolaevich Karavaev, whose publications were extensively consulted in the authors' research. In 1981 he and I. A. Gubanov published the first list of Linnaean specimens in the Herbarium. The *Herbarium Linnaeanum* project has expanded this list. The authors used four criteria in determining whether to include a specimen in the CD: a specimen was annotated by Linnaeus (directly or on pasted-on slips); annotations indicate a specimen was received from Linnaeus; there are reasons to suppose that a specimen may have been studied or identified by Linnaeus; or, a specimen is of the same provenance as other original material that Linnaeus did see and may therefore be an iso-lectotype of a Linnaean name.

In addition to the information provided in the booklet accompanying the CD, there is considerable background information provided on the CD in 64 linked screens, outlining the history of the Moscow Pharmaceutical Garden (established in 1706 and still surviving on the original site, later becoming the university's new Botanical Garden), the creation of the Department of Botany at Moscow University in 1804, and other historical events significant to the current Herbarium at the university. Biographical information on the major figures in this story is interwoven with the historical narrative.

Various relevant collections are documented, such as the plants (presented in a scrolling list) collected by Jacob Friedrich Ehrhart in the Uppsala Botanic Garden with permission from Linnaeus, and plants and seeds collected on the Second Kamchatka Expedition (1733–1763) that was aimed at mapping and describing the northern and eastern coasts of Russia, the specimens from which were studied by Linnaeus. Among other collections discussed are Carl Berhnard von Trinius' collection, the Kunstkammer Herbarium of the St. Petersburg Academy of Sciences, and Count Alexey K. Razumovsky's private botanical garden, which developed into a scientific institute with a herbarium and collections. Specimens collected by G. W. Steller, Johann Georg Gmelin, Traugott Gerber and Johann Jacob Lerche were sent to Linnaeus, along with some manuscripts; the first two volumes of Gmelin's *Flora Siberica* (1747–1769) were consulted by Linnaeus for information on Russian plants in connection with his work on his *Species Plantarum* (1753). The contributions to the history of Russian botany and Moscow University by several generations of the Demidov family are detailed, as is the loss of almost the entire University Herbarium — which included the herbaria of Boerhaave, Steller and Gmelin, and the personal collections of G.A., P.A. and P.G. Demidov — during Napoleon's 1812 invasion. A small portion of the collection survived, mainly because of Carl Ludwig Goldbach, who, after the Moscow fire in 1812, purchased a number of the surviving sheets, including scorched specimens from D. Gruneberg and perhaps others from other sources. His herbarium of about 10,000 specimens was acquired by the Herbarium of the Moscow Society of Naturalists, later merged with the Herbarium of the Moscow University. All of these connections, and more, are discussed on the CD.

The CD also presents the more recent history of the present-day Herbarium at Moscow State University. A list of the main collectors at the Herbarium is given, and three current projects are highlighted: development of specimen

databases, a scientific analysis of the historical collections, and a digital herbarium. Following on this section, the authors provide a list of a dozen herbaria worldwide holding Linnaeus-related material.

All of the preceding information is in addition to the actual Linnaean specimen database. One can click through the specimens, or use the "search and query" feature by which one can search by genus, species epithet, group, origin or status — the last three having controlled lists from which to choose. Several views of each specimen are presented: one full view with a smaller, movable frame that one can move to choose a section of the specimen sheet to show in more detail, and then the detailed close-up. Views can be had both of specimen sheets and covers, including additional options such as watermarks, second specimens, and versos of specimen sheets, covers and labels, when available. For each specimen brief data is given on the Linnaean name and its typification, names, botanical group, origin, status, paper and mounting, labels, and comments, while clicking on a "field information" button provides expanded information. The nomenclatural comments were written by Charles E. Jarvis, head of the Linnaean Plant Name Typification Project.

It would be remiss not to mention the botanical, artistic, and historical aesthetic that marks the CD's presentation style, which figures not so much in the specimen database but more in the rest of the CD text. Screen backgrounds reproduce photos of antique papers with deckled edges — photographed to show foxing, paper fibers and other details — or facing pages of an open book on which the CD text is superimposed. Images or annotations on slips of paper are tipped-in or affixed to pages: photos and silhouettes of plant specimens, flower petals, leaves, pressed flowers; watermarks; painted and engraved plant images; portraits as photos, engravings, medallions; all included selectively to accent the narrative. The overall arrangement is an arresting juxtaposition of antique and modernist treatments of visual elements, giving the work a unique look. I spoke with several others who had seen the CD, some of whom found the visual style to be impressive and a positive enhancement, while others felt it to be an unnecessary distraction. All, however, found the information content of the CD to be valuable.

This collection of information is an important contribution to the history of botany, and its presentation on a CD in English brings it to a wide audience. The authors are to be commended for creating this interesting vehicle for bringing the Linnaean collections of the Herbarium of the Moscow State University to us all.

Charlotte Tancin
Hunt Institute

Guest, Coral G. *Painting Flowers in Watercolour: A Naturalistic Approach. Portland, Oregon: Timber Press in association with the Royal Botanic Gardens, Kew, 2001. 128 pp., illus. (chiefly col.). $19.95. ISBN 0-88192-509-8 (paperback).*

Coral Guest, whose splendid paintings are known to the Hunt Institute and to Dr. Shirley Sherwood, has conducted courses for the Royal Botanic Gardens, Kew, and other venues. Her book "provides practical working methods for painting plants in this naturalistic style, with the emphasis upon the development of observational skills through different areas of study." The first part describes equipment, materials, plant material, work in progress, the workspace, the properties of watercolor, watercolor wash techniques, dry brush techniques, the color palette, mixing greens, the neutral tint mixture, color assessment, drawing, composition, the thumbnail sketch, light and the tonal sketch, and the color study method. The ample and colored figures illustrating the application of wash, blended wash, and colors may be of particular interest.

The second part, called "Flowers through the Spectrum," contains chapters on *Lilium longiflorum, Anemone coronaria, Delphinium, Fritillaria imperialis, Canna, Camellia japonica, Tulipa cultivar,* and *Strelitzia reginae.* Under each of these is a brief history and description; notes on light sources used for the illustrated painting; colors used in the palette; notes on the composition and on the drawing; and progressive images of Guest's own artworks from sketches to completed paintings. This survey of Guest's own techniques concludes with a list of botanical terms, selected bibliography, suppliers directory and index.

The magnifications of the paintings are instructive to artists, but for even a hint of Guest's talent, the reader should take note of the full-page reproductions of the eight completed paintings. At under $20 (US), this title should be irresistible to artists and libraries, particularly those associated with botanical gardens and art schools.

James J. White
Hunt Institute

Halliday, Pat. *The Illustrated Rhododendron: Their Classification Portrayed through the Artwork of Curtis's Botanical Magazine. Portland, Oregon: Timber Press, 2001. col. frontisp., [ii], 268 pp., incl. 121 plates, chiefly col. $69.95. ISBN 0-88192-510-1 (cloth).*

Although in her introduction Pat Halliday characterizes her book as "primarily a book of 'pretty pictures,'" anyone who spends more than a minute or two leafing through the book will see that *The Illustrated Rhododendron* is more than that. It is, granted, full of pretty pictures of rhododendrons — 121 of them, plus the frontispiece by J. D. Hooker from his

Rhododendrons of the Sikkim Himalaya (London, 1849) — but in addition there is a page of text for every plate, containing information such as descriptive notes, notes on history and cultivation, botanical descriptions, and information on distribution and habitat. In other words, the text contains a mix of information to catch the attention of readers with a penchant for history, horticulture, botany, exploration and, of course, rhododendrons. The plates are presented in order according to the Edinburgh revision, consistent with the arrangement of herbarium materials at the Royal Botanic Gardens, Kew, where Halliday worked for over 40 years, having joined the staff as keeper's assistant in the Herbarium in 1947. She studied rhododendrons for many years, carried out all the identification work for Kew, and has illustrated plants for various publications since her retirement in 1990. This combination of background experiences suggests how she came to write this book and why it was so well executed.

As indicated in the subtitle, the illustrations have come for the most part from *Curtis's Botanical Magazine* and *Kew Magazine* (an interim title for the same publication). Halliday wanted to have every subsection of every section of the genus *Rhododendron* represented, but she acknowledges that she encountered difficulties along the way. Not every subsection had been illustrated for these magazines; some plates were badly done or not available (in which cases, new plates were commissioned); some subsections were not in cultivation (so line drawings had to be used instead, drawn from dried specimens or photos). So in addition to reproductions of original plates from *Curtis's Botanical Magazine* and *Kew Magazine,* there are some new color plates, four black and white drawings, and a few other anomalies. However, all of the parts seem to work together well.

Halliday recounts a brief history of *Curtis's Botanical Magazine,* which has been in continuous publication since its inception in 1787, making it the oldest botanical — and one of the oldest scientific — periodicals still being published, as well as possibly the world's longest surviving magazine in color. William Curtis's original idea was to provide color portraits with descriptions and cultivation information to publicize exotic plants being introduced to European gardens from all over the world. For the first 160 years of the magazine's history, the illustrations were engraved or lithographed and then hand-colored by a team of colorists. It wasn't until 1947 that photographic reproduction took over. In the history of the magazine, over 11,000 plant portraits have been published in its pages. Many of the original watercolors are held at Kew's archives.

As noted on the title page, the illustrations were made by John Curtis, Sydenham Edwards, Walter Hood Fitch, Joseph Dalton Hooker, Christabel King, Mary Mendum, Valerie Price, Rodella Purves, Stella Ross-Craig, Matilda Smith, Lilian Snelling, Margaret Stones, Wendy Walsh and Ann Webster. Also included in the book are alphabetical and numerical lists of the plates, a classification of the genus *Rhododendron,* cultivation information, a glossary, references and a selected bibliography. In addition there is an appendix, "Rhododendron species that have appeared in *Curtis's Botanical Magazine,* 1787–2000."

Rhododendrons are quite popular, as is certainly in evidence throughout gardens here and abroad. Halliday tells us that the genus has about 850 species native to the northern hemisphere, many widely cultivated. Further, with the exception of orchids, there are more plates of rhododendrons in *Curtis's Botanical Magazine* than any other plant group. This longstanding popularity attests to the beauty of these plants, beauty that can be seen in the collection of plates reproduced here. I found this book to be quite enjoyable and recommend it to all with an interest in botanical art, botanical history, horticultural history, and rhododendrons.

Charlotte Tancin
Hunt Institute

Koerner, Lisbet. *Linnaeus: Nature and Nation. Cambridge, Massachusetts and London, England: Harvard University Press, 1999. 298 pp., illus. $42.00, $19.95. ISBN 0-674-09745-9 (cloth), 0-674-00565-1 (paper).*

This exciting book examines the father of modern biology in a new light. It adds new dimensions both to Linnaean studies and to histories of the emergence of modernism. Koerner explains her project as "both a biography and a case study of the relation between natural knowledge and political economy in the early Enlightenment." Indeed, her treatment of Linnaeus in the context of political economy reframes his botany as a progressive product of his deep affinity for his nation and an attempt to move Sweden forward into modernism.

In the 18th century, no government could guarantee a conventional money base, national wealth was measured in barrels of gold, and Europeans worried about their bullion going to Asia. While Adam Smith believed that different endowments in nature meant that international trade and imperialism were the ways to be most productive, Linnaeus was a cameralist — an economist who saw the state political economy as a matter of finance and administration, and who espoused national self-sufficiency. Thus, Linnaeus scorned imperialism, believing that trade was parasitic and could not overcome varieties in nature. Koerner looks at Linnaeus' botany as part of cameralist "efforts to isolate the individual State commercially." Koerner helpfully charts a history of Linnaean studies. With earliest primarily evaluating and dating Linnaeus' science, she then traces Linnaean scholarship through Sachs, Fries, Daudin, Lindroth, Foucault, and Atran. She doesn't claim to be doing traditional Linnaean studies, but rather she is analyzing "an early attempt to govern the state economy according to principles of science — an idea that has become coextensive with our idea of modernity." Koerner borrows her methodology from cultural anthropology and

writes smartly about "the trajectories of progress not as we now see them, with benefit of hindsight, but as they were projected by the historical actors themselves." Koerner's analysis may seem controversial to traditional historians, as she acknowledges: "I have attempted to extricate myself from Linnaean scholars' longstanding consensus on how to frame problems by addressing a new topic and quarrying new primary material." But her work brings exciting new questions and concerns to some well-traveled terrain.

As an economic policy-maker in a sinking national economy, Linnaeus rejected international trade and colonial conquests in favor of import substitution. His was an old form of cameralism, but "the technologies Linnaeus used, and the science that informed them, were historically new. Indeed, they involved a particular science, which was predicated on Linnaeus' hypothesis that colonial plants could be 'tamed' to grow in the Baltic realms. Benefiting from Linnaeus' prestige as a floral classifier, between ca.1740 and ca.1760 this transmutational botany was supported by the Swedish court, parliament, universities, and scientific academies and societies." Koerner skillfully braids together the story of Linnaeus' individual drive with the multiple stories of institutional support and national economic desire.

Chapter one shows that Linnaeus understood himself as a Lutheran and civil servant. This chapter provides a family genealogy and demonstrates religion's influence on Linnaeus' writing — both content and style. Koerner concisely delineates Linnaeus' critics and supporters and the arguments between them, giving historical contexts for those debates: his "quarrel with Buffon stimulated the Romantics' accolades in favor of Linnaeus, and the French revolutionaries' celebration of Linnaeus was intricately bound up with his earlier negative reception in France."

Chapter two explores how "Linnaeus began charting his natural science (most famously, his sexual system of plant classification) [and] how Linnaeus introduced binomials for flora and fauna.…" Koerner recounts Linnaeus' Aristotelian elementary and university schooling, the dearth of libraries, and the surrounding "ecologically impoverished landscapes," implying that in botany he was self-taught of necessity. Koerner later writes that Linnaeus "wanted to feed the peasants" and her analysis links Linnaeus' compassion with his method-made-easy "for people without schooling or wealth" and his insistence on inexpensive texts small enough to carry. Koerner covers his appointment as curator to Uppsala's botanical garden and argues that "Linnaeus' binomials resulted from his attempts to practice science as an auxiliary branch of economics, from his efforts to create a simple language for it." Although this period also found larger organized movements for language reform in England and Europe, Koerner focuses on Linnaeus' language reform as a way to make his students more effective as collaborators: "In his Latin works he listed vernacular plant names. He made his students do the same, arguing that local names reflected unknown uses or properties of plants."

Chapter three covers Linnaeus' first expedition — to Lapland in 1732. Koerner shows that Linnaeus' trip led him to claim that the rewards of health were gained by rejecting "imports like coffee, sugar, and salt" and shows how "the Samis' dietary customs thus lay at the heart of Linnaeus' medical *and* economic philosophy." Koerner's text is adept at showing how rural roots and nationalism in a second-tier country shaped Linnaeus' science studies. Chapter four articulates Linnaeus' overall framing theory of nature and his program for science. Linnaeus saw nature as "a pre-lapsarian paradise and as a single self-regulating mechanism, with each nation containing all the natural products necessary for a complete and complex economy." Chapter five recounts how Linnaeus meshed his theology and his economics to form an order both moral and material and how that order underpinned his scientific and political practices. This chapter also delineates his science-building activities: "co-founding the Swedish Academy of Sciences in 1739, reforming Swedish universities, and popularizing his natural knowledge in almanacs, pamphlets, newspapers, lectures and sermons."

Chapter six traces Linnaeus' professorship at Uppsala, his acclimatization experiments, and his search for Sweden's self-sufficiency. Koerner rehearses the standard list of Linnaeus' famous students, but she also puts their travels into the context of "their larger strategy to create a miniature mercantile empire within a European state." Linnaeus pleaded with the Swedish Academy of Science to fund Pehr Kalm by explaining that explorers' efforts at ecological diversification were better than colonization. Koerner quotes him: "If Oaks did not grow in Sweden, and some mortal wanted to get Oaks into [the country], and they then grew here as they do today, wouldn't he serve the country more than if with the sacrifice of many thousands of people he had added a Province to Sweden." Linnaeus sent his students out to replicate in his homeland what was harvested abroad, and his criteria began: "that he be a native *Swede,* so that foreigners can't take what others have paid for." The government requested of Linnaeus "that he bring back porcelain clay, dye grasses, and medicinal herbs …[and later gypsum] which now yearly costs the Realm almost One barrel of Gold, and also flintstones of the better kind, which pull out [of the country] c12,000 *daler* copper yearly." In the interests of cameralism Linnaeus gave similar memoranda to his students and worked on mediating differing geographic and climatic regions. Chapter six outlines Linnaeus' climatological work and crop transplantation schemes: "Now forgotten, Linnaeus' vision provides a more complex vision of our own modernity, and particularly of the ongoing quest of marginalized polities to achieve what I have here termed a local modernity."

Chapter seven covers the vast disparity between Linnaeus' goals and results. Koerner examines research conducted by Linnaeus' first-generation students and such systemic impediments as a high mortality rate. A student's death proved to Linnaeus "a double death, since not only he has

disappeared but also his work." Patrons could also interfere with the flow of information, as they often kept for themselves the specimens and narratives that their patronage bought. Poor storage and preservation, as well as some particularly harsh winters, brought havoc on experiments with potatoes, mulberries, tea, and wheat. This chapter delineates these sad facts and explores Linnaeus' complicated relationships with his students, his giving over his position to his son, and his slow decline in health. Chapter eight concludes this exciting study on ground similar to those Linnaean studies with which it began. This closing segment traces the decline of Linnaeus' economics and the Romantic following he gained posthumously, then his dwindling popularity as a national icon after 1932.

The book is completed with appendices, notes, a list of works cited, and an index. The text's strengths are its new questions posed for Linnaean scholars, its recapitulation of the history of Linnaean studies, and its detailed, nuanced use of original texts. I would in fact like to see even more textual references: how does Koerner know, for example, that Linnaeus knew Genesis by heart, as she says on page 24? However, Koerner's book is nonetheless required reading for scholars of Linnaeus, science studies, or the emergence of modernity.

Angela Todd
Hunt Institute

Lack, H. Walter. *A Garden for Eternity: The Codex Liechtenstein.* (Translation of *Ein Garten für die Ewigkeit: Der Codex Liechtenstein*. Berne: Benteli, 2000.) Published by The Art Foundation of the LGT Bank in Liechtenstein and the Collections of the Prince of Liechtenstein. Translated by Martin Walters, with the assistance of the author. Berne, Benteli Publishers, 2000. 343. [1] pp., col. frontisp., ports., illus. (chiefly col., incl. 88 col. plates). $140.00. ISBN 3-7165-1225-7 (cloth).

This important work by H. Walter Lack documents a 14-volume collection of plant illustrations created ca.1770 to 1804 and known as the *Codex Liechtenstein,* bringing to light its history and reproducing pages from the actual work for the first time since its creation and subsequent storage among the royal collections of Liechtenstein. Lack examines the cultural and scientific milieu in which the work was created, the principle characters and circumstances surrounding its creation, and the *Codex Liechtenstein* itself. The result is a careful and detailed recounting that adds to our knowledge of the history of botany, enhanced by a generous sampling of images. The *Codex* contained 2,748 plates with naturalistic illustrations of over 3,100 species of plants from five continents, including many rare and new species. It was created as a "flora universalis," the subjects being drawn from native plants from lower Austria and Moravia, along with cultivated and greenhouse plants from the region, including Vienna.

The early pages of *A Garden for Eternity* contain a two-page photograph of the 14 volumes as they would stand on a shelf, but isolated in white space, emphasizing their aged, gold-tooled leather spines, each bearing a red label lettered "Hortus Botanicus." This photographic view of the outer covers entices the reader to [virtually] open the volumes and sample their contents. Thus are we welcomed into this historical, botanical and artistic study.

A Garden for Eternity is beautifully produced in large format, liberally illustrated, and includes 88 plates reproducing title pages from 13 of the 14 volumes of the *Codex* — hand-lettered and decorated with architectural frames and floral wreaths — as well as a number of views of gardens, a park, a monastery, a castle, a village seen from afar, followed by a photograph of the Bauer brothers' numbered color chart, and then a large selection of plant portraits, beautifully and realistically depicted, mostly by the Bauers, with some also done by Jakob Walter, Stanislaus Figenschuh and Norbert Boccius. These pictures, particularly those by the Bauers, are extraordinary.

Lack's text is arranged in a series of short chapters on interconnected subjects: gardens and plant collections, botanical discoveries; Paris as a "botanical Mecca;" the lives and work of Linnaeus, Jacquin, Boccius, the Bauers, and some of the other artists; and then various aspects of the *Codex* itself, including its history. Chronologies of the lives of Jacquin, Boccius, the three Bauers, and the *Codex* itself are given, from the time when work was begun on it, ca.1770, to the completion of the final volume in 1804 and the subsequent fate of the set.

A biographical study of Nikolaus Joseph Jacquin (1727–1817) elucidates the first half of Jacquin's life and his earlier botanical work, showing how he helped to create the scientific climate that influenced the making of the *Codex,* and noting his having employed the Bauer brothers for a time in Vienna. Lack also provides biographical information on Norbert Boccius (1729–1806), a doctor and monk as little known as Jacquin was well known, who discovered the talents of the Bauer brothers and supported them for several years. Boccius had assembled a three-volume herbarium in 1766, subsequently forming the idea of creating a "hortus pictus," for which he solicited the skills of the Bauers and others. Incredibly, at the beginning of the project, the Bauer brothers ranged in age from 10 to 14. A chapter traces their lives and artistic careers.

More than half the paintings were done by Franz (1758–1840), Ferdinand (1760–1826) and Joseph (1756–1831) Bauer, and Lack says of the first two that they are "considered to be the most accomplished of all plant illustrators, from any period." Although most of their later work is held in British repositories, their early work was done in Feldsberg (now Valtice, in the Czech Republic) and in Vienna and is

little known. The *Codex* was held in the private library of the ruling Prince of Liechtenstein in Vienna until 1944, when it was moved under duress and under cover to Vaduz, where it has been stored in the castle to the present day. The work has never been exhibited, nor scientifically investigated. At present, apparently the contents of Lack's book form the extent to which the work is being made public, and so he makes the most of this opportunity, documenting it from many angles.

Following the plates are eight appendices, including bibliographic and botanical information about the *Codex,* after which Lack also adds references to published and unpublished sources, along with a general index and indices to books, manuscripts, illustrated works, places, people, and plants. A few of the appendices refer the reader to the author's Web pages, bgbm.fu-berlin.de/BGBM/research/data/lack/, for more information.

Lack has a personal connection to this work, as the story of the *Codex* unfolded largely in his homeland. He also has a historian's sense of the toll that time takes on the artifacts of civilization. Consider this meditation from his epilogue: "What then remains? The Monastery of the Brothers of Mercy in Feldsberg is deserted, Ferdinand Bauer's grave is abandoned, Norbert Boccius' gardens have disappeared, the late baroque gardens of Schloss Feldsberg and Eisgrub have long since been altered, and the majority of the sketches for the *Codex Liechtenstein* lost. Only the garden painted on paper remains.…" Perhaps ironically in an age of digital libraries and brittle books, this is the garden for eternity, and it has in fact endured for two centuries.

Applause are due to the Reigning Prince Hans Adam II Von und Zu Liechtenstein for making the *Codex* available for study, to H. Walter Lack for the wonderful work he has done to bring knowledge of the Codex to the world, and to Benteli for publishing an English translation of their original German edition of *A Garden for Eternity,* making this work accessible to an even wider audience. The book is impressive and important and deserves the broadest possible exposure.

Charlotte Tancin
Hunt Institute

Leith-Ross, Prudence. *The Florilegium of Alexander Marshal at Windsor Castle in the Collection of Her Majesty The Queen at Windsor Castle.* With contributions by Henrietta McBurney. London: Royal Collection Enterprises Ltd., 2000. (Distributed in the U.S. by Thames & Hudson.) viii, 284 pp., ports., illus., 165 col. plates. $175.00. ISBN 1-902163-05-2 (cloth).

The Florilegium of Alexander Marshal at Windsor Castle in the Collection of Her Majesty The Queen at Windsor Castle is the first of four volumes to be produced of drawings and watercolors in the Royal Collection. These 159 folios were added to the collection during the reign of King George IV and include Alexander Marshal's (ca.1620–1682) watercolor paintings of 600 different plants, birds, animals and insects. This is the only intact florilegium by a 17th-century English artist in existence today, and it is arranged seasonally (spring to winter) and depicts 650 exotic and common flowers of 284 species from 73 genera.

Alexander Marshal was a collector of exotic birds, insects and plants, and an amateur artist of independent means, who most likely developed his skills observing the natural world, and copying the paintings of masters and contemporary artists. Diverse varieties of plant material were arriving from all over the world, and the exotic was an important component in the lavish gardens of the wealthy. Although Marshal's first florilegium, created in the 1640s of the garden of John Tradescant the Younger, no longer exists, much of his work from the 1650s survives. During this time it is assumed he began the florilegium of two gardens he created on property he leased from John Dawe in Islington, and the Earl of Northhampton in Northhamptonshire. Marshal also had a reputation as an entomologist, and annotated Thomas Mouffat's *Theatre of Insects* (London, 1658), which also included 50 of his own drawings. He also compiled a *Supplemental Volume of Painted Insects with MSS Annotations,* which included 200 of his illustrations. What remains of these two volumes is in the collection of the American Entomological Society in the Library of the Academy of Natural Sciences of Philadelphia. In 1667, Marshal was appointed Steward of the Hospital of St. Cross by its master, Henry Crompton, and in 1674 followed the now Bishop Crompton to Fulham Palace, when he moved and took over the garden. There, Marshal continued to record plants for his florilegium, until his death in 1682.

The only documentation that has survived by or about Marshal are three letters in his hand, a diary by Samuel Hartlib (a friend with whom he shared an interest in gardening and horticulture), and Marshal's own annotations on the back of the drawings and watercolors. After his wife Dorothea Smith's death in 1711, the florilegium was inherited by his nephew Robert Friend and passed to Dr. William Friend, Dean of Canterbury, whose properties were sold at a Christie's auction in 1777. The florilegium was rebound, reordered and renumbered (and some of the artworks were removed) into two volumes in 1818 by the owner John Mangles of Hurley, Berkshire, and presented to King George IV.

Included in this beautiful publication (printed and bound by Grafiche, Milani, Italy) is a preface by Oliver Everett, librarian of the Royal Library at Windsor Castle; an introduction on Marshal's life and work by the author Prudence Leith-Ross; and a discussion of Marshal's place in the history of botanical illustration along with a physical description of the Windsor volumes by the editor Henrietta McBurney. The catalogue of the artworks contains color illustrations of a high quality (reproduced at 60% of their original size), and one can easily discern the technique

used to apply the pigment to the paper, as well as the stains and imperfections. These illustrations are accompanied by detailed descriptions of the plants and/or Marshal's sources for the images, interesting pieces from correspondence, references and bibliographic information. There also are three appendices with Marshal's letter to Sir Justinian Isham, the Friend catalogue and a list of known works by Marshal; a full bibliography; concordance; an index of modern Latin names of the plants and animals, and a general index.

This volume is a thorough introduction to the work and world of Alexander Marshal and a splendid addition to the bibliography of the history of botanical illustration. We look forward to future volumes of the works in the Royal Collection.

Lugene Bruno
Hunt Institute

Love, Rhoda M. *Louis F. Henderson (1853–1942): The Grand Old Man of Northwest Botany.* (Native Plant Society of Oregon. Occasional Paper No. 2.) Eugene, Oregon: Printed by University of Oregon Printing Services, 2001. i–ii, 58 p., ports., illus. $10.00. ISSN 1523-8520 (paperback). [Copies can be ordered from Occasional Papers, Native Plant Society of Oregon, P.O. Box 902, Eugene, Oregon, USA 97440-0902.]

This biographical sketch of Louis F. Henderson was written by Rhoda Love, a botanist with a long-time interest in the lives of Northwest botanists and plant collectors.

Although born in Mississippi, Henderson spent nearly all of his adult life in the West. In his 65 years in the field, this interesting individual botanized throughout Washington, Oregon and Idaho. In his lifetime he was a teacher, private plant collector, expedition botanist, World's Fair commissioner, college professor, commercial orchardist, and real estate speculator. On top of all that, at age 71 he began a 15-year career at the University of Oregon as an outstanding herbarium curator.

He began his studies at Cornell, majoring in Romance languages, and took a botany class incidentally, at the suggestion of a fraternity brother. Like so many others before and since, he became hooked on the study of plants, both in the field and in the herbarium. As a collector he sent specimens to Asa Gray. He worked as a teacher and botanist in Portland and Washington state, and then as a professor of botany at the University of Idaho, Moscow. He collected extensively over the years and throughout the region, and when a fire destroyed the Herbarium at the University of Idaho, the damage included the complete loss of his personal collection of over 10,000 specimens, along with his records, field notes, journals and correspondence.

He retired at that point, disheartened, at age 52. Then, he moved his family to a farm in Hood River and began a new career as a commercial orchardist. Nearly 20 years later, at an age when many people end their careers, he was recruited and enthusiastically agreed to be curator of the Herbarium at the University of Oregon, where he worked for the next 15 years, until age 86. In Henderson's 80th year, a fellow botanist wrote that Henderson seemed "to have found the fountain of eternal youth in his love for plants." At the time of his retirement from the University of Oregon, Henderson was considered the foremost living expert on the flora of Oregon, Washington and Idaho.

Rhoda Love has thoroughly researched this story and tells it with warmth and respect. The book contains a 32-page biographical essay, followed by ten pages of footnotes and an eight-page chronology. The book also includes two pages listing plants named for Henderson, a four-page list of the illustrations, and a list of Henderson's publications. Love has also compiled a separate ten-page annotated bibliography that is being distributed with the book. The biographical essay is liberally illustrated with photographs and reproductions of documents and is both readable and informative. Love provides a very accessible telling of Henderson's story, and I recommend it to all who have an interest in botany and its history in the U.S., particularly in the Northwest, as well as to anyone who enjoys a good story about triumph against the odds and living life to its fullest.

Charlotte Tancin
Hunt Institute

Mabberley, David J. and David T. Moore. Catalogue of the holdings in The Natural History Museum (London) of the Australian botanical drawings of Ferdinand Bauer (1760–1826) and cognate materials related to the Investigator voyage of 1801–1805. *Bulletin of The Natural History Museum: Botany Series*. 29(2): [80]–226. Andover, Hampshire, UK: Intercept, Ltd., 1999. 146 pp., col. frontisp., illus. £43.40. ISSN 0968-0446 (paper).

Mabberley, David J. *Ferdinand Bauer: The Nature of Discovery.* London: Merrell Holberton Publishers and The Natural History Museum, 1999. 128 pp., ports., illus. (chiefly col.), 62 color plates. £29.95. ISBN 1-85894-087-7 (cloth).

Ferdinand Bauer's position in the history of botanical art is without equal and so it is with satisfaction that we welcome the "Catalogue of the holdings in The Natural History Museum (London) of the Australian botanical drawings of Ferdinand Bauer …," containing reproductions of 269 species — of these, 160 drawings and five lithographs heretofore unpublished. Mabberley and Moore have each culled their expertise and produced a wonderful text that will be a useful research tool across disciplines. Their essay discusses the completed plant drawings of Ferdinand Bauer (1760–1826) "in light of the cognate material" in The Natural History Museum, London; The Royal Botanical Gardens, Kew;

The Linnean Society of London; and the Naturhistorisches Museum, Vienna. Their introduction lists the ultimate repositories for the papers of Lt. Matthew Flinders, R.N. (1774–1814), leader of the *Investigator* expedition to Australia, and for the papers of expedition naturalist Robert Brown (1773–1858).

Their brief biography of Bauer, son of an Austrian court painter, traces his work in Jacquin's *Icones Plantarum Rariorum* (1751–1793), in what became Sibthorp's *Flora Graeca* (1806–1840), and in the *Transactions of the Linnean Society* before Joseph Banks (1743–1820) signed him on as illustrator on the HMS *Investigator.* The biography situates Bauer in the broad context of a profession that emerged historically with Cook's employing an artist on his first voyage; employing expedition artists had become standard practice by Bauer's time. Mabberley and Moore's assessment of Bauer's time on the HMS *Investigator* gives special attention to his collection activities with Brown and the hazards of the expedition.

Mabberley and Moore recount Bauer's works' public appearances and lineages of ownership. Their work sometimes succumbs to awkward prose, but nonetheless an astonishing amount of information is in the 11 pages of text, covering Bauer's life, his method of drawing and painting, his life back in London, and his publication *Illustrationes Florae Novae Hollandiae.*

The catalogue — the remainder of this publication — is arranged by the identifying number in the Botany Library of The Natural History Museum. It includes identification of the plant; place of valid publication of the accepted plant name; pencil annotations on the drawings and their labels; size and description of drawing; provenance; and other publication data. Each entry is accompanied by a black-and-white illustration. Some pencil drawings and unissued lithographs understandably are faint, but the artworks, all uncolored except the frontispiece, are illustrated with roughly 4″x3″ images. A three-page index of plant names facilitates locating drawings. This work is a great piece of material history that will be of interest to libraries devoted to the history of science and art.

Ferdinand Bauer: The Nature of Discovery is a more popular work on noted botanical artist Ferdinand Bauer. Less of a documentary, it is nonetheless packed with information and with beautiful illustrations of both plants and animals. In his introduction to the first full-scale treatment of Ferdinand Bauer, Mabberley articulates one aspect of his subject that makes both of these books so important: Bauer's elusiveness. Bauer had no children or pupils, left no portrait, and wrote precious little correspondence. The Moore and Mabberley book above details the manuscripts by and relating to Bauer.

The work of Ferdinand Bauer and that of his brother Franz "though brilliant, is not well known because little of it appeared in popular books or periodicals. Most was executed for the very rich or for official purposes. Some was intended for publications that never appeared, some for publications so expensive that they exist in minute editions issued at great expense." And Ferdinand's first commission was an unpublished florilegium, followed by "commissions for the Viennese — grand books, some even with individual paintings so no two copies are the same."

Mabberley's first chapter is devoted to the Bauer brothers' connections to amateur botanist Dr. Norbert Boccius (1729–1806) and to Ferdinand's commission by Viennese professor of botany Baron Nikolaus Joseph von Jacquin (1727–1817). Bauer's most notable achievements were illustrations for John Sibthorp's *Flora Graeca* and Aylmer Bourke Lambert's *A Description of the Genus Pinus* (1803–1824). Chapter two is devoted to the Sherhardian professor of botany at Oxford, Sibthorp (1758–1796). In 1785 Jacquin introduced Sibthorp to Ferdinand Bauer, and the professor subsequently hired Bauer to accompany him on his travels through Italy, Greece, Turkey, and returning to Oxford. The resulting works are the subject of chapter three. Mabberley's fourth chapter charts Bauer's relationship with Lambert (1761–1842), his having moved to London. Lambert, a wealthy antiquarian and fellow of both the Linnean and Royal Societies, commissioned Bauer to illustrate *A Description of the Genus Pinus.* Chapter five treats Bauer's expedition to Australia and his relationships with Matthew Flinders and Robert Brown. Chapter six tracks them in 1803, picking their way along the coast, on the Barrier Reef, and attempting to finish circumnavigating Australia. Sick sailors and a leaky boat diverted them to Timor for assistance, and the increasing illness drove Flinders to dash back to New South Wales. There, Bauer and Brown successfully petitioned to stay in New South Wales. Their collecting trips and deteriorating relationship are covered in the seventh chapter, along with Bauer's ultimate return to London. The final chapters cover the support Bauer received from Banks, landscape commissions he received from John Hawkins, and Bauer's return to Austria. The book includes an appendix (a list of animal and plant names commemorating Bauer) and a bibliography. Most images are from The Natural History Museum, London; some from the Department of Plant Sciences, Oxford, reproduced here for the first time. Attractively printed on ivory paper, it is a pleasure to see images by this artist.

Angela Todd and James J. White
Hunt Institute

Malcolm, Bill and Nancy Malcolm. *Mosses and Other Bryophytes: An Illustrated Glossary.* Nelson, New Zealand: Micro-Optics Press, 2000. (Available from Timber Press, Inc., Portland, Oregon.) iv, 220 pp., 970 photos (color). $39.95. ISBN 0-473-06730-7 (cloth).

Mosses and Other Bryophytes: An Illustrated Glossary, written in informal prose, covers mosses, liverworts, and hornworts. Even though they are not closely related, these three groups were chosen by the authors because their structures and life

cycles are similar enough that a term which applies to one often applies as well to the other two. Lichens, however, are not included.

The illustrations are the volume's signature. In all, the glossary contains 970 full-color close-ups and 22 black and white drawings that illustrate 1,550 cross-referenced terms and 400 species. Taken at various levels of microscopic magnification, these truly remarkable photographs illuminate the text and average nearly five per page. Frequently, more than one photo is provided for terms that describe highly variable structures. Color separation and printing are remarkably good. Each photo's caption has a differentiating scale bar.

The glossary provides alternative definitions for contentious terms as well as entries for terms having the same or similar meanings. Terms are extensively cross-referenced with each term printed in **boldface.** Many of the terms used in the definitions are themselves defined separately elsewhere, for example, "**gasteropodous** — shaped like a stomach, bulging or swollen on one side toward the base (similar to **ventricose** and **strumose,** swollen goiter-like on one side of the base) (compare with *gibbous,* bulging or swollen on one side toward the top)."

Species coverage provides a dramatic statement on bryophyte diversity — one as a morphological atlas and another on the geography of evolution, though the volume is not meant to be a textbook. Morphological clarity appears throughout for both the description language for the structures and for the structures themselves. Though a good number of the species illustrated are from the southern hemisphere, many are nearly cosmopolitan in distribution. To increase usability, species were deliberately chosen from among those commonly found in botany textbooks. The authors provide a page of further readings as well as an extremely useful, seven-page index of species illustrated.

This valuable, desktop reference will be of logical interest not only to professional bryologists and botany students but also to a broad audience of naturalists, gardeners, and anybody interested in plants. Used in conjunction with any moss flora or technical paper, the glossary will make that task more meaningful and pleasurable.

Frederick H. Utech
Hunt Institute

Varey, Simon, Rafael Charran and Dora B. Weiner, eds. *Searching for the Secrets of Nature: The Life and Works of Dr. Francisco Hernández.* Stanford: Stanford University Press, 2000. [v]–xvi, [2], 229 pp., map frontisp., illus., map on front endpapers. $60.00. ISBN 0-8047-3964-1 (cloth).

Varey, Simon, ed. *The Mexican Treasury: The Writings of Dr. Francisco Hernández,* transl. Rafael Chabran, Cynthia L. Chamberlin and Simon Varey. Stanford: Stanford University Press, 2000. [v]–xix, [3], 281 pp., map frontisp., chart, illus., map on front endpapers. $65.00. ISBN 0-8047-3963-3 (cloth).

This deeply researched two-volume work was written by scholars from six disciplines who have collaborated to introduce Francisco Hernández (1515–1587) and his accomplishments to the English-speaking world, where even his name is barely known. Redressing this slight is a worthy goal because Hernández' role in history was many-faceted and of considerable importance. This Renaissance man rose from relative obscurity to become one of the greatest physicians, historians and naturalists in Spanish history.

Hernández' most important work, *The Natural History of New Spain,* has never been published in its entirety in any language, not even in the *Obras Completas,* and only a tiny fragment of his work has appeared before now in English. Hernández also translated the 37 books of Pliny's *Natural History* into Spanish, and he felt that these two works on natural history together covered the whole world. In *The Natural History of New Spain,* Hernández described more than 3,000 plants, 40 quadrupeds, 229 birds, 58 reptiles, 30 insects, 54 aquatic animals, and 35 minerals. He collected this information during a royally-mandated expedition to New Spain in 1570–1577. He was interested in the medicinal uses of the natural resources in New Spain, and he hired native artists to make paintings of many of the species that he described. At the time, this work occupied 16 folio volumes, six of text and ten of paintings. When Hernández returned to Spain in 1577, apparently there were two copies of his manuscripts. His corrected drafts survive today and are held in two locations in Madrid, while copies of 60 paintings made from the other set, which was itself destroyed in a fire, survive in the *Codex Pomar* in Valencia.

In *Searching for the Secrets of Nature,* the writers discuss, among other things, the intellectual milieu in which Hernández worked, the state of medical knowledge and practice in New Spain at this time, the exporting of drugs and plants to Europe, the dissemination of Hernández' considerable knowledge, and his continuing relevance today. They recount his part in the expedition to New Spain, and they analyze his contributions to European botany and materia medica. Also discussed are the political realities of the time, medical knowledge and practice, religious factors, Hernández' influence on Spanish painting, and much more. This multi-dimensional approach to a complex subject has produced an intriguing and satisfying study that deserves to be read and promoted, and that offers a useful model for other such studies. This first volume includes a two-page chronology of the life of Hernández, extensive footnotes, a postscript on Hernández' legacy today, and a glossary and index.

The Mexican Treasury contains an analysis and discussion of Hernández' writings, with translations of selections from his work as published by himself and others. The authors show how his work survived and influenced the world

largely by being disseminated in the work of other writers. They explain that there is no complete or comprehensive single edition of Hernández' work because his writings were "selected, edited, borrowed, incorporated, and otherwise subjected to normal Renaissance practice." Thus there is no single, stable text available. The three major editions of his work represent selections from his *Natural History,* published in 1615, 1651 and 1790. Beyond these, his work surfaced in the Low Countries, Italy, England, and Spain in books written, edited or translated by others, and the authors do a good job of explicating these connections and the resulting, widening European exposure that his work received. A chart is included to visually present these lineages as the text is traced through various incarnations.

In this second volume, the translated selections are arranged to reflect the historical patterns of dissemination of Hernández' work and to give modern readers a sense of when parts of his work entered scientific discourse as it spread across two continents in the 17th and 18th centuries. Beyond that, the writers show that this work has continued to have an impact even into the present, as it has been adapted by different scientific traditions in numerous countries over four centuries. Among the translated selections presented are Hernández' writings on cacao, chili, corn, tobacco, and tomato — five New World plants that had a major impact when they were exported beyond their native ground. The chapter on his *Rerum Medicarum Novae Hispaniae Thesaurus* (Rome, 1651) includes miniature reproductions (four to a page) of 64 illustrations from that work.

The second volume includes a four-page chronology of the various texts, as well as a glossary and index. These two volumes taken together are a fine tribute to the memory of Hernández. The translations provide ready access to his work and to these Renaissance views of New World natural history, and the contextual studies are fascinating reading. Those involved in bringing this project to fruition deserve praise for reopening this chapter in the history of natural history. Francisco Hernández would be pleased.

Charlotte Tancin
Hunt Institute

Announcements

Egorova, T. V. *Plants of Central Asia: Plant Collections from China and Mongolia.* Vol. 3, Sedges–Rushes. (Translation of *Rasteniya Central'noy Asii, vol. 3. Leningrad: Nauka Publishers, 1967.) Enfield, New Hampshire: Science Publishers, Inc., 2000. xii, [ii], 149 pp., incl. 8 plates and 12 maps. $79.00. ISBN 1-57808-114-9 (vol. 3, cloth).*

Volume three in this series of lists of the plants of Central Asia deals with four families: Cyperaceae, Lemnaceae, Araceae and Juncaceae. In the preface, Egorova gives a useful overview of these plant families as they appear in Central Asia. The information in the main text is based on the Central Asian collections of leading Russian travelers and naturalists as well as material collected by Soviet expeditions and held in the Herbarium of the V. L. Koramov Botanical Institute. The text includes keys, references to specific collection material, and information on when and where plants were collected and about their general distribution. Some 42 collectors are referred to in the text.

There are eight plates containing plant drawings by T. N. Shishlova and a dozen distribution maps. Indices to Latin plant names, plant illustrations and plant distribution ranges are provided, and the work is rounded out by five pages of addenda prepared by the author in 2000 for this English edition.

Grubov, V. I. *Key to the Vascular Plants of Mongolia (with an Atlas).* (Translation of Grubov, V. I. *Opredelitel' Soudistych Rasteniy Mongolii. Leningrad: Nauka Publishers, 1982.) Enfield, New Hampshire: Science Publishers, Inc., 2001. Vol. 1, xv, [iii], pp.1–411, incl. 78 plates, 1 map; vol. 2, [vii], pp. 412–817, incl. 66 plates, 1 map. $80.00 for the set. ISBN 1-57808-74-6 (vol. 1); 1-57808-75-4 (vol. 2); 1-57808-73-8 (set, cloth).*

This two-volume work by V. I. Grubov has been translated into English to bring it to a wider audience. According to the foreword, this work "is the first <<key>> to the pteridophytes (in a broad sense), gymnosperms and angiosperms found throughout the vast territory (1,565 thousand sq. km) of the Mongolian People's Republic (MPR).…" The source material came from the Herbarium of the V. L. Komarov Botanical Institute of the Academy of Sciences and from the author's field journals from his expeditions throughout the MPR. In the period following the publication of his *Konspekt Flory Mongol'skoy Narodnoy Respubliki* in 1955, he notes that Mongolian botanists have done a lot of work to study the MPR flora. He writes that many of the most recent Mongolian herbarium collections were consulted in preparing the current work, and he acknowledges the contributions of a number of botanists in the introduction.

Key to the Vascular Plants of Mongolia deals with 2,239 species of vascular plants, in 599 genera and 103 families, arranged according to the Englerian system. Dichotomous keys are provided, along with information on habitats and

geographical distribution. The plates show habit or detail views of 663 of the species covered and were drawn by N. K. Kocharova, L. A. Sergeeva, I. V. Stradina and N. I. Fuzeeva. Volume two includes references, a list of synonyms used in Grubov's 1955 *Konspect* and its supplements, and an index to Latin plant names.

Grubov emphasizes the need for further research on the flora of the MPR and notes that one of the principal tasks of Mongolian floristic botany is to plan for conservation of the MPR flora.

Charlotte Tancin
Hunt Institute

Loewer, Peter. *The Evening Garden: Flowers and Fragrance from Dusk till Dawn. Portland, Oregon: Timber Press, 2002. xv, 256 pp., map, illus. $17.95. ISBN 0-88192-532-2 (paper). (Cloth edition published in 1993 by Macmillan.)*

The appeal of *The Evening Garden,* for me, is not Peter Loewer's competent line drawings but his engaging text based upon gardening experience and years of research. His chapter on night-fragrance is followed by ones on night-fragrant orchids and bromeliads; annuals and perennials for the night garden is followed by ones emphasizing daylilies, evening primroses, water lilies, cactuses, and tropical vines and trees. There's lots, lots more in this book, available again in paperback, including a brief astronomy lesson, a survey of fireflies and other nocturnal critters, a plan for a moonlight garden, and tips for illuminating the garden.

James J. White
Hunt Institute