

# HUNTIA

A Journal of Botanical History



Volume 8 Number 2  
1992

Hunt Institute for Botanical Documentation  
Carnegie Mellon University

Pittsburgh

*Huntia* is published irregularly, in one or more numbers per volume of approximately 200 pages, by the Hunt Institute for Botanical Documentation, Carnegie Mellon University, Pittsburgh, Pennsylvania 15213-3890.

Executive Editor	Robert W. Kiger
Managing Editor	Sharon M. Tomasic
Book Reviews and Announcements Editor	Charlotte A. Tancin
Associate Editors	Gavin D. R. Bridson T. D. Jacobsen Anita L. Karg James J. White

Subscription rate is \$50.00 per volume. Associates of Hunt Institute may elect to receive *Huntia* as a benefit of membership.

Editorial correspondence, manuscripts, and books for review should be addressed to Mrs. Tomasic at the Institute. Please inquire about guidelines for authors before submitting manuscripts for publication.

Orders for subscriptions and back issues should be sent to the Institute.

Typeset, printed and bound by Allen Press, Inc., Lawrence, Kansas.

Copyright © 1992 by the  
Hunt Institute for Botanical Documentation  
All Rights Reserved

ISSN 0073-4071

## Reviews and Announcements

**Allen, David Elliston.** *The botanists: A history of the Botanical Society of the British Isles through a hundred and fifty years.* Winchester, U.K.: St. Paul's Bibliographies, 1986. xv, 232 pp., ports., map, facsim., illus., 2 pp. of plates (ports.). \$40.00. ISBN 0-906795-36-2.

To commemorate its sesquicentennial, the Botanical Society of the British Isles (BSBI) commissioned David Elliston Allen, official historian and present President of BSBI, to write "a History of the Society, so that all members and the world at large could learn more about its origins and give informed thought to its future." Records of the Society were scarce—some had been destroyed in a fire, others were destroyed during a World War II bombing of London and others, which were presumed to exist among the Job Edward Lousley papers, never materialized. Lacking Society records, Allen researched the lives of its prominent members and produced an intriguing history told through discerning biographies. As the author reveals the lives of Hewett Cottrell Watson, George Claridge Druce, George Edgar Dennes, Charles Edward Moss, William Harrison Pearsall and others, the impact of their personalities and interrelationships on the Society is demonstrated. The most flagrant example of the influence of one individual on the Society occurred during the tenure of G. C. Druce. Druce's insistence upon ruling the Society autocratically caused friction among some of the members. James Britten, Charles Edward Moss and Edward Sherburn Marshall attempted to convince Druce to administer the Society in a collaborative way. Moss went to the membership asking for support, but the majority of the members at that time were allies of Druce—many of whom had been invited by him to join the Society. Failing in his attempt to lessen Druce's power, Moss resigned from the Society. It was not until Druce's death in 1932 and under the leadership of William Harrison Pearsall, who ironically had been chosen by Druce as his successor to carry on his objectives, that the Society returned to a democratic administration. It is noteworthy that in spite of internal conflicts, financial problems and periods of forced inactivity caused by wars, the Society was able to make considerable contributions to science—the most notable being the *Atlas of the British flora*.

Because of David Allen's background in history and the natural and social sciences combined with his unique position with the BSBI (forty-year member, Council Member, Honorary General Secretary and its current President), he was able to select and analyze the available information and produce a useful, comprehensive and

entertaining first history of the Botanical Society of the British Isles.

There are additional features to this publication which are noteworthy. The volume is divided into three parts with headings bearing the name changes of the Society, i.e., the Botanical Society of London, the Botanical Exchange Club, and the Botanical Society of the British Isles. Each part details the history of the Society during the period it bore that particular name. The section titled "Notes" includes the abbreviations used in the publication, a list of the publications of the Society and profuse notes to the chapters. There are four appendixes: Appendix 1 lists the membership figures of the Botanical Society of London from 1836–1852; Appendix 2, entitled "The members of the Botanical Society of London," includes a short discussion of the membership, abbreviations used in this appendix and a list of the members, their vital statistics, location and profession; Appendix 3 is entitled "Officers 1836–1986" and names the officers of the Botanical Society of London, the Botanical Exchange Club and the Botanical Society of the British Isles and gives their titles and lengths of service; Appendix 4 lists the "Principal BSBI Conferences" and the dates they were held. Following the appendixes is an index. Photographs, maps, charts and illustrations add to the enjoyment and instruction of the reader.

This volume is essential for libraries specializing in the history of science, social science, natural history, and botany.

---

Anita L. Karg  
Hunt Institute

**Berkeley, Edmund and Dorothy Smith Berkeley.** *A Yankee botanist in the Carolinas: The Reverend Moses Ashley Curtis, D.D. (1808-1872).* Berlin, Stuttgart: J. Cramer, 1986. 242 pp., port., illus. \$48.00 (paper). ISBN 3-443-50005-6.

Reverend Moses Ashley Curtis always served in small semi-rural parishes. It is probably because of these modest semi-rural ministries that he had ample time to explore the countryside and collect plants. M. A. Curtis became interested in plants very early in life. One account reveals that at the age of nine he attended a lecture about botany



that so spurred his curiosity that he began to examine and collect plants at every opportunity. Massachusetts, Delaware, Washington, D.C., North Carolina and South Carolina are places where he lived, studied, ministered and collected—a fact that led Asa Gray to remark, “no living botanist is so well acquainted with the vegetation of the Southern Alleghany Mountains, or has explored those of North Carolina so extensively as the Rev. Mr. M. A. Curtis.”

In 1846, Curtis felt that he had done all he could with Phanerogamia and began to specialize in the study of fungi, eventually amassing the largest collection of cryptogams in America. He earned the respect of renowned mycologists in Europe and the United States for his thoroughness and accuracy and acquired the reputation of “the greatest American authority” on fungi. Because of his lack of funds, Curtis was not able to visit botanists, herbaria or libraries to do his research. Instead he had to rely on letter writing. A necessity that was at times an aggravation to Curtis is now a rich source of information, for he was a prolific letter writer and corresponded with many of the notable naturalists of the period including Asa Gray, John Torrey, William Darlington and Spencer F. Baird. A major correspondent was the Rev. Miles J. Berkeley with whom Curtis had hoped to publish a *Mycologia Americana*; but because they were both continually plagued with financial problems [especially Berkeley who was constantly looking for profitable projects to enable him to support his fifteen children], the work was never completed. However, they did publish their new species periodically in the English *Annals of natural history*.

Edmund and Dorothy Smith Berkeley have written many articles and books about North American scientists, and we are fortunate that they have chosen to produce the first full-length biography of Moses Ashley Curtis, whose contributions to botany, and especially mycology, have not received proper recognition. Because of the Berkeleys' expertise in the history of American botany, they have made maximum use of the Curtis correspondence; and by expanding on the incidents described and the views expressed in the letters and papers, they have produced a panorama of 19th-century America as well as a detailed account of Curtis' work in botany. The enlightening, amusing and sometimes surprising comments on the status of women, the economy, medicine, slavery, politics and the Civil War revealed in the letters of Curtis, his family and correspondents are skillfully used throughout the biography.

It is obvious that this volume was compiled by knowledgeable researchers. The footnotes pertaining to the letters are especially noteworthy—the sender, recipient, date and repository are cited. A table of contents, an index and a list of abbreviations facilitate the use of this source. Sections which researchers and librarians will find in-

valuable are the bibliography, list of principal manuscript collections used, the location of Curtis' plant specimens and an appendix listing “Flowering plants named for or by Curtis which appear in *Gray's Manual of Botany* (Eighth Edition) and/or *Small's Manual of the Southeastern Flora*.”

*A Yankee botanist in the Carolinas* is a very readable biography as well as an abundant source of information. It is an essential addition to every natural history library, but libraries specializing in American history would also be enhanced by its inclusion in their collections.

Anita L. Karg  
Hunt Institute

**Burkhardt, Frederick and Sydney Smith, eds.** *The correspondence of Charles Darwin*. Vol. 1: 1821–1836. Cambridge: Cambridge University Press, 1985. xxix, 702 pp., ports., illus. \$49.50. ISBN 0-521-25587-2.

Caroline Darwin to Charles Darwin, 28 March 1836: “Mr. Owen dined and slept here last week. He quite charmed me by his look when we were talking about you, so full of affection and feeling. We were saying how very glad we were that you and your Captain had continued such good friends through your long voyage and Mr. Owen said ‘Yes, but who could quarrel with Charles?’ The words aren’t much but his look said a great deal—dear old fellow. I don’t think you will find any of your friends love you less from their separation from you and it will not last much longer now [text corrected].”

Captain Fitzroy addressed Darwin in letters as “Philos,” and the liveliness of their chats during those five years on board the *Beagle* can be inferred from letters in the *Correspondence*. Darwin was an amiable, modest, even-tempered individual, a “rarissima avis” in Fitzroy’s own words. His letters and those to him reveal this and so much more about him that they cannot be recommended too much. By selectively reading a varied sequence of letters, say between Darwin and his siblings, one sees a mosaic portrait of the great man begin to form.

The record of all the letters is a valuable documentary resource in itself because, after all, Charles Darwin is one of those rare human beings whose influence on life and thought has been pervasive. The *Correspondence* will suit different needs of different folks. I remember how years ago I thoroughly enjoyed reading the letters between Darwin and his teacher Henslow that were edited by Nora Barlow. In the *Correspondence* we have a chance to make the broader acquaintance of a large group of Darwin’s friends and family during his formative years, which include the crucial five years aboard *HMS Beagle*. For those who have not read a biography of Darwin, here is an opportunity to delve into his life. For those who have, a

different approach is now available, enhanced by the addition of many letters never before published.

I will not repeat my discussion above of the editorial method used in this work. However, I do want to note that appendixes abound in this first volume and they include the following interesting items: a chronology of Darwin's life for the period covered; "Darwin's *Beagle* records"; a list of persons and books on board the *Beagle*; Darwin's early notes on the formation of coral reefs; editorial alterations and comments on the manuscripts; a bibliography; a handy biographical register of correspondents and persons mentioned in the letters; a decent index; and a table of relationships, printed on the endpapers. The second volume is eagerly awaited.

---

Michael T. Stieber  
Morton Arboretum

**Burkhardt, Frederick and Sydney Smith, eds.** *The correspondence of Charles Darwin*. Volume 2, 1837-1843. Cambridge: Cambridge University Press, 1986. xl, 604 pp., port., table, illus., 9 pp. of plates (ports.). \$47.50. ISBN 0-521-25588-0.

The second volume of the Darwin correspondence should interest readers as much as the first. It covers the two years preceding his marriage to Emma Wedgwood (January 1839), and the letters between them as well as Darwin's amusing notes in which he expresses the pros and cons of marriage add significant color to his portrait. When he finally decides for marriage with Emma, he writes: "Marry—Mary—Marry. Q. E. D."

The letters between Darwin and Lyell on geological matters continued after the *Beagle* voyage and are included here. The *Correspondence* also documents Darwin's increasing interest in collecting whatever information he could find pertinent to the origin and variation of species. Among his sources one finds gardeners, farmers and zoo keepers, and especially animal and plant breeders. A notable example was William Herbert, a wealthy plant hybridizer from Manchester, who in his practical experiments treated species as just clearly marked varieties. The Darwin-Herbert letters illustrate Darwin's keen interest in the artificial selection of hybrids by breeders.

Also published here in an appendix is a transcription of a manuscript that Darwin wrote, as an amanuensis, for William Kemp of Galashiels. It concerns the vitality of some seeds that Kemp had discovered in a formation thought to be many thousands of years old. The results supported Darwin's belief in "the long-continued vitality of seeds under certain conditions," a subject that contin-

ued to fascinate him as he delved deeper into the origin of species.

Portraits of thirteen individuals occur in this volume. The extensive index and biographical register, as well as the bibliography and notes, continue in the excellent fashion set by the first volume.

---

Michael T. Stieber  
Morton Arboretum

**Burkhardt, Frederick and Sydney Smith, eds.** *A calendar of the correspondence of Charles Darwin, 1821-1882*. New York, London: Garland Publishing, 1985. iv, 690 pp., port. \$100.00. ISBN 0-8240-9224-4.

This *Calendar* needs neither justification nor recommendation to those seriously interested in the revolution in scientific thought for which Charles Darwin and Alfred Russel Wallace were largely responsible. As companion and guide to the forthcoming publication of all of Darwin's correspondence, the *Calendar* must be deemed essential.

One or two years of work by each of thirteen research assistants, undoubtedly students, from 1975 to 1983, in collaboration with the nine senior researchers mentioned facing the title page, together with the acknowledged contributions of various other peoples' time and of many institutions' resources (principally those of the Cambridge University Library)—in short, a host of persons and places—made production of this comprehensive reference book possible in little over a decade.

The introduction describes the processes used to sift through the nearly 9,000 letters, date them (Darwin rarely put years on his correspondence!), and identify as fully as possible all his correspondents (those who were crackpots, curmudgeons or just lackluster individuals, as well as those who substantially advanced his research).

Besides brief synopses of the letters themselves, the *Calendar* provides a bibliography of published letters; provenances of the correspondence; a biographical register and list of correspondents; a reference list of articles by Darwin and of short titles used for his books, pamphlets, transcripts of manuscripts, and collections of letters and papers; and a detailed index.

This reviewer surely must echo thousands of researchers, who will wear well the acid-free pages of this *Calendar*, in saying to all the editors and compilers, *bene merita!*

---

Michael T. Stieber  
Morton Arboretum



**Conermann, Klaus, ed.** *Fruchtbringende Gesellschaft*. Der Fruchtbringenden Gesellschaft geöffneten Erzschrein: Das Köthener Gesellschaftsbuch Fürst Ludwigs I. von Anhalt-Köthen 1617-1650. Weinheim, VCH Verlagsgesellschaft, 1985. 3 volumes in decorative slipcase. (Text in German.) Volume 1, [422] pp., facsimils., illus. (partly in color). Volume 2, 412 pp., including 144 pp. of plates; port. Volume 3, 680 pp. DM 750. ISBN 3-527-17513-X.

The first volume of *Fruchtbringende Gesellschaft* is the facsimile of the membership book for 1629/1630 listing the first 200 members of the Weimar based Fruit-bearing Society which flourished from 1617 to 1650. The Society used aspects of individual plants to symbolize traits which members sought to embody, the goal being mutual motivation and encouragement in worthy endeavours. Matthäus Merian's copper engravings of plants and landscapes illustrate the poetic text ascribed to each member, and facing each of these is the heraldry of that member reproduced in color, accompanied in many cases by an annotation and signature.

The second volume lists the 203 members of the Society between 1630 and 1649, illustrating in black and white photographs the heraldry of the members, and reproduces 90 related aquarelles of Christoph Steger from the Staatsarkiv Weimar. This volume also discusses the historical importance of the Fruchtbringende Gesellschaft and presents a biographical essay on its founder, Prince Ludwig von Anhalt-Köthen.

The third volume is a transcription of the handwritten text of the Society's book which includes short biographies of the 527 members. Various commentaries on the text and the illustrations accompany the biographical material.

Michael T. Stieber  
Morton Arboretum

**Crane, Eva, Penelope Walker and Rosemary Day.** *Directory of important honey sources*. London: International Bee Research Association, 1984. 384 pp. \$44.00 (paper). ISBN 0-86098-141-X.

This well-organized and thoroughly documented work covers 467 plant species that have been identified as major honey sources, selected from among 2,567 possibilities surveyed worldwide. An important contribution to the literature of apiculture, this *Directory* deserves wide consultation, since more efficient honey production can add significantly to the world's available foodstuffs, not only in honey itself, but also in greater crop yields, with increased numbers of bees promoting more complete pollination. The potential economic rewards are particularly compelling in the cases of developing countries.

The entry for each plant gives its scientific and vernacular names, geographic distribution, soil and water requirements, and additional economic uses. This is followed by information on nectar rating, honey flow, pollen, and physical properties of the honey, including electrical conductivity, color and granulation. Ominous warnings are also included, principally identifying potential pest plants, but also alerting beekeepers to other possible problems, such as that "pollen may be inadequate for brood rearing." The hazards of advanced civilization are sometimes evident, as in the warning under *Gossypium barbadense* L. (Egyptian cotton) that "pesticides kill more bees on this crop than any other."

The main listing, which is alphabetical by scientific name, is complemented by a substantial bibliography and by indexes of botanical synonyms, common names, and names of insects that produce honeydew. The main listing was produced from a machine-readable database that allowed sorting by various specific plant and honey characteristics, of which seven have been selected for particular notice in special indexes.

The authors request further information from readers to complete the data on the species covered and suggestions for additional satellite directories that would assemble information on plants or honey having certain desired characteristics.

As stated in the introduction, "apiculture utilizes food resources that would otherwise be wasted," and this directory should alert its readers to greatly increased possibilities in this area.

Bernadette G. Callery  
New York Botanical Garden

**Diment, Judith A., Christopher J. Humphries, Linda Newington and Elaine Shaughnessy.** *Catalogue of the natural history drawings commissioned by Joseph Banks on the ENDEAVOUR voyage 1768-1771 held in the British Museum (Natural History)*. Part I: Botany: Australia. (Bulletin of the British Museum (Natural History), Historical series, vol. 11). London, British Museum (Natural History), 1984. 183 pp., illus., 8 pp. of color plates. £30.00 (paper). ISBN 0-565-00937-0.

The late-nineteenth-century dispersal of many of the important papers bequeathed by Sir Joseph Banks to the British Museum is one of the sadder events in the history of natural history. This now familiar story was told by J. C. Beaglehole in his introduction to the first full publication of Banks' *Endeavour* journal in 1962. Happily for science, his great collection of field drawings, finished watercolours, and engraved copper plates prepared for the projected "natural history" of the voyage (1768-1771)

did not suffer the same fate. They remained with the British Museum and, with the related plant and animal specimens, have provided invaluable reference material for generations of taxonomists. Nowadays, Sydney Parkinson's botanical field drawings and sketches are kept bound up in 18 volumes, together with the finished paintings by T. Burgis, J. Cleveley, J. & J. F. Miller, and F. P. Nodder, and contemporary proofs of the 753 engravings prepared for eventual publication. Another three volumes comprise Parkinson's zoological drawings, none of which was engraved.

In the 1840s the Museum published the first of dozens of catalogues which documented its many specimen collections, but virtually none of its rich resource of curatorially valuable drawings was accorded this treatment. Now, a century and a quarter after the drawings and copper plates became the property of the national museum, the first of three instalments of a comprehensive catalogue has appeared. It "brings together for the first time details of the specimens, drawings, copper plates, related manuscripts and publications" and will account for all botanical and zoological drawings and such specimens as are illustrated by them.

It is not, therefore, an art catalogue, but rather a scientifically oriented curatorial tool. The entries are arranged by botanical classification, each providing a note of the related specimen(s), reference to relevant manuscripts, a physical account of each sheet of drawing with precise transcriptions of annotations, and a description of the copper plate and its impressions. Various other lines of access are facilitated by indexes of plant names, place names, and artists and engravers. This first instalment of 393 entries accounts for materials on Australian plants.

The catalogue is prefaced by a short account of the collection's formation, the unrealised plans for its publication, and its subsequent history. Mention is made of Banks' distribution of a few selections of black impressions of the coppers, but without reference to the survival of an atlas of 45 of these which is preserved in Linnaeus' library, at the Linnean Society of London not far away. A mere eight half-tone figures serve to demonstrate the visual character of the original materials, to which are added eight colour plates showing the appearance of modern à la poupée colour impressions being taken by a London publisher from the original copper plates (engraved for black-line illustration). Unfortunately, only one mediocre half-tone is used to reproduce the masterly quality of the line engravings, whose richness of texture, vividly clear modelling and perspective can only be appreciated properly in black impressions—just as Banks intended them be, and just as he distributed them to his scientific peers. Botanists will welcome the taxonomic value of this catalogue, historians will appreciate having reliable details of the extent and minutiae of Banks' greatest scientific

endeavour, and art historians may be encouraged to turn their glance to one of the most ambitious, but strictly functional, applications of the draughtsman's and engraver's arts.

---

Gavin D. R. Bridson  
Hunt Institute

**Fuller, Thomas C. and Elizabeth McClintock.** *Poisonous plants of California*. (California natural history guides, vol. 53.). viii, 433 pp., illus., 16 pp. of color plates. Berkeley: University of California Press, © 1986. \$25.00, \$12.95 (paper). ISBN 0-520-05568-3, 0-520-05569-1 (paper).

This well-written and competently produced work provides an introduction to the toxic plants and fungi found in California. We reviewed a paperbound copy. There are brief chapters dealing with the algae, fungi, ferns and horsetails, and gymnosperms. The main body of text includes abbreviated descriptions of the flowering plant species known to be poisonous to humans and other vertebrate animals. The flowering plants are arranged alphabetically by family. There is a separate chapter on plant toxins and their derivative drugs. Unfortunately, there are no keys to aid in identification. The color photographs and line illustrations are quite good, and will be very useful since keys are lacking. The book includes three indexes—a general one as well as one each for common and scientific names. In addition, there are three appendixes that deal with plants that cause dermatitis, hay fever and asthma, and those that accumulate nitrates. The authors have tried to use nontechnical terms, which will make the work ideal for amateur botanists, naturalists and farmers. Regrettably, the authors have chosen not to include the authorities when citing the scientific names. The authority is part of the scientific name and should always be included. With that and the lack of keys to identification aside, I highly recommend this useful book to anyone who is concerned with the problem of plant/fungi poisoning.

---

T. D. Jacobsen  
Hunt Institute

**Glimn-Lacy, Janice and Peter B. Kaufman.** *Botany illustrated: Introduction to plants, major groups, flowering plant families*. New York: Van Nostrand Reinhold, © 1984. xvi, 146 pp., 130 pp. of plates. \$29.95 (paper). ISBN 0-442-22969-0.



As the introduction claims, "this is a discovery book about plants" intended for students of both botany and botanical illustration. It could serve as a text for introductory courses at the junior- and senior-high school levels, for "informal" programs conducted by nature centers, museums and similar institutions, or even for collegiate general-education courses on plants. We recommend it highly for such purposes and audiences. However, if the manuscript really was read "by colleagues and graduate students of the University of Michigan," some of them slipped up. Care was lacking in a number of cases, some of which should be mentioned.

One of us, an agrostologist, read the treatment of the Poaceae and found it wanting. Boldly printed atop page 123 is "Poaceae (Graminae)"—every botanist knows that it's "Gramineae." On the same page, lodicules is thrice rendered as "lodicles." Worse, there are some misleading generalizations, such as, "Grasses are wind-pollinated." All grasses? In recent years many species and a few notable tropical genera have been studied precisely because they are insect-pollinated; why keep it a secret? To give another example, the standard line in evidence here has always been that "grasses are annual or perennial herbs except for bamboo, which is woody [sic]." But is it not true that the large subfamily Bambusoideae includes a fair number of forest-floor denizens that are herbaceous perennials, and that as tropical forests are explored more thoroughly, more of these herbs come to light? Why keep the student in the dark?

A list of other errors follows with the hope that the publisher will prepare an errata list for subsequent printings of this otherwise admirable text. *Ectocarpus* has plurilocular sporangia and gametangia (not "pleuilocular sporangium" and "pleuilocular gametangium," facing p. 59; correct spelling in text on p. 59). *Zamia "furfuracea"* is *Z. furfuracea* (p. 71 and facing). Even though a kelp named after the violinist-arsonist-emperor ("*Nerocystis" luetkeana*," facing p. 60) might be suitable, it should read (as it does on p. 60) *Nerocystis luetkeana*. *Taphrina* (not "*Typhrina*," facing p. 47). Elaters (not "elators") are and always have been hygroscopic ("hydroscopic" doesn't exist in any dictionaries we own except as an adjectival form of the name of the instrument that enables one to see below the surface of water, p. 66 and facing p. 66). "*Rubutia*" = *Rebutia* (p. 85). "Carotinoids" = carotenoids (facing p. 4). "*Pryus*" = *Pyrus* (p. 99). "*Cassis*" = *Cassia*, (p. 100). "*Diperonia*" = *Dipteronia*, (p. 105). "*Sagittaria*" = *Sagittaria*, (p. 120 and facing; it is spelled correctly just before the misspelling).

The illustrations by free-lance artist Glimn-Lacy are most adequately drawn (but would you call them "beautiful," as the publisher promises on the back cover?). These line drawings, with some stippling and hatching, are designed for coloring—an idea we don't personally care for,

but one that might appeal to some readers, whose "knowledge of plants increases rapidly as you color the illustrations." Everything is color-coded, including chromosomes, geologic timetable, chart of evolutionary relationships, even the pollinators. Recommended colors for stamens and pistils are blue and pink respectively! Nevertheless, the drawings are accurate and, therefore, serve their purpose well.

Despite the shortcomings noted above, as a teaching device for taxonomy and morphology the book passes muster superbly.

Michael T. Stieber  
Morton Arboretum  
and

James J. White  
Hunt Institute

**Greene, John C.** *American science in the age of Jefferson*. Ames: The Iowa State University Press, 1984. xiv, 484 pp., ports., maps, facsimils., illus., 2 color plates. \$9.95 (paper). ISBN 0-8138-0102-8.

This account of American scientific endeavors during the so-called Age of Jefferson (1780–1830) is narrative rather than analytical. Professor Greene has painted a panoramic canvas that illustrates the work of early American scientists, framing the picture in its socio-political context and using Jefferson's participation over 50 years as a unifying element.

During Jefferson's political ascendancy, he accepted the mantle passed from Benjamin Franklin, which carried with it the responsibility for motivating and animating the pursuit of scientific inquiry. Greene emphasizes that the ensuing period of scientific development is worth studying, both because beginnings are inherently interesting and because the consequences surround us.

One cannot, of course, discuss Jefferson's role in American natural history without considering the expedition through the Louisiana Territory made by Lewis and Clark, who were immortalized by Frederick Pursh in the generic names *Lewisia* (Portulacaceae) and *Clarkia* (Onagraceae). It was upon Europeans like Pursh, Nuttall, Michaux and others that botany depended during the Age of Jefferson.

However, one might suggest that Jefferson catalyzed the transformation of botany from a European into a respectable American science. On the other hand, zoology was already prospering here quite independently of Europe, especially ornithology under the intrepid Alexander Wilson. Against all odds, not the least of which was rapidly failing health, Wilson sought out, described, and illustrated new or little-known species of birds in far-



flung regions of the country. Furthermore, he stimulated others that he met to continue after him. Unfortunately, he succumbed to chronic dysentery at the young age of 47, but not until he had nearly completed all of a nine-volume *American ornithology*, which was finished by his colleague George Ord, and about which Greene said, "Judged by any appropriate standard, the *American ornithology* was a heroic achievement."

Although geology, geography, and related physical sciences are not neglected by the author, he pays considerably more attention to archaeology and anthropology. Jefferson himself was fascinated by the native Indians and even excavated a burial mound. Others equally inspired but more knowledgeable strove to record and analyze the various languages, primarily in quest of the single or several progenitors of the tribes. Three amateur ethnolinguists—Gallatin, DuPonceau, and Pickering—concluded their respective research near 1830, achieving at least in part Jefferson's goal of collecting "all the languages spoken in North and South America, preserving their appellations of the most common objects in nature . . . with the inflections of their nouns and verbs."

Professor Greene's readable account conveys a full appreciation of not only what our pioneering scientific forebears established in so little time, against great odds, but also how much Thomas Jefferson himself facilitated their enterprise.

---

Michael T. Stieber  
Morton Arboretum

**Marranca, Bonnie, ed.** *American garden writing: Gleanings from garden lives then and now.* New York: PAJ Publications, © 1988. xxii, 334 pp., 14 pp. of plates (including ports., maps, facsim.). \$23.95. ISBN 1-55554-029-5.

This is a collection of letters, travel journals, essays, natural histories and seed catalogues that ranges from the seventeenth to the twentieth century and includes works by Liberty Hyde Bailey, John and William Bartram, Frederick Law Olmstead and Henry David Thoreau. Informative editorial comments conclude each segment. The volume contains a table of contents as well as an index and is well-illustrated.

---

Anita L. Karg  
Hunt Institute

**Miller, Anthony G. and Miranda Morris.** *Plants of Dhofar, the Southern region of Oman: Traditional, economic*

*and medicinal uses.* Oman: The Office of The Adviser for Conservation of The Environment, Diwan of Royal Court, Sultanate of Oman, 1988. xxviii, 361 pp., color illus. £35.00. ISBN 0-7157-0808-2.

For this book British free-lance artist Susanna Stuart-Smith, a Gold Medal winner in a Royal Horticultural Society exhibition, has drawn almost 150 delicate, subdued watercolors, generously detailed. According to the dust jacket, many of these species have never been illustrated and most were painted from living material. The substantial text and attractive illustrations make a most satisfying book. As a side note, one of these watercolors ("*Rhytidocaulon fulleri*, *Echidnopsis planiflora*") was borrowed by the Hunt Institute for its 6th International Exhibition of Botanical Art & Illustration in 1988. Included in the work are a checklist of plants, list of Jibbali and Dhofari plant names, glossaries, bibliography and index.

---

James J. White  
Hunt Institute

**Needham, Joseph.** *Science and civilisation in China.* Volume 6, Biology and biological technology. Part 1, Botany. With the collaboration of Lu Gwei-Djen, and a special contribution by Huang Hsing-Tsung. Cambridge: Cambridge University Press, 1986. xxxii, 718 pp., ports., maps, facsim., illus. \$110.00. ISBN 0-521-08731-7.

Upon looking into Needham's treatise on Chinese botany one is immediately stunned, not only by the sophistication of ancient Chinese wort-cunning, by the parallels to and the divergences from Western botany, and by our general ignorance of Chinese science, but also by the phenomenon of Joseph Needham himself. This student of life became enamored of China nearly 50 years ago while he was employed at the Sino-British Science Cooperation Office during World War II. Early friendships forged with his Chinese colleagues nurtured the love that propelled him in the quest for knowledge that finally gave birth in 1956 to the first volume of *Science and civilisation in China*.

As Needham writes in his introduction to the present installment of the series (p. xxv):

In previous volumes we have often given a few words of help to the prospective reader, intended as a sort of waywiser to guide him through those pages not always possible to lighten by some memorable illustration. . . . I confess that in this Volume on the botanical sciences I feel incapable of doing this, for I believe that every lover of plants and their ways, opening at random any page of the various sub-sec-

tions, will at once be enthralled, and unable to put the book down until he or she has finished the topic in question—provided always that there is a willingness to bear with strange names and strange book-titles, landmarks of a civilisation quite other than that of Europe.

I could not agree more with those comments. The Chinese language, and particularly its symbolization, is totally foreign to me. Because of that one of my first eye-openers came from Needham's discussion of "Botanical Linguistics" in China. Of the 43 radicals in basic Chinese writing that relate to growing plants, 17 are taxonomic in quality, and 15 of the present 214 radicals represent stems, branches, foliage and similar plant parts. Take those 43 radicals and augment each tenfold, and enough ideograms result to account for the nearly 435 natural families of plants recognized today by such well-known taxonomists as Hutchinson or Good. One may then allow these ideographic components to account for intra-familial taxa all the way to species (binomes and multinomes). If Linnaeus had been Chinese!

Both China's phytogeographic awareness and its detailed taxonomy of soil types reveal an ecological keenness to rival any in the West. The Chinese have applied their knowledge in many ways, perhaps the most noteworthy of which is the biological pest control that prevails there today. Its roots lie deep in Chinese history.

Some 9th-century B.C. Chinese recognized the workings of a predatory species of Hymenoptera, the sphecid wasp to be precise. Shortly after, in the 6th-century, another quick-eyed soul reported delightfully of the arcane goings-on of small parasitic creatures, to wit mites, on the eyebrows of mosquitoes! These parasites stand out to the unaided eye, because they are a brilliant orange. Mites, of course, are one of the chief arthropod controllers of natural populations of mosquitoes.

From as early as 300 A.D. and up to the 1960s, the yellow citrus ant has protected the orchards of Kuangtung. Some enterprising people would raise these ants, *Oecophylla smaragdina* Fabr., and sell them to orchard owners. The ants would destroy many larvae of citrus pests, leaving unharmed the natural enemies of aphids and citrus scale, so that these orchards unwittingly represented a balanced micro-ecosystem fostered by wise biological pest management.

Another example of this is the use of ducks in controlling populations of land crab nymphs that infest the rice fields and destroy rice seedlings. The Chinese as early as 1540 noted that only ducks could chew these nymphs. Toward the end of the 16th century ducks were feasting on locusts as well. During Linnaeus' time "A legacy of locust control," edited by Chhen Shih-Yuan, stated (p. 551):

A single duckling can consume up to a thousand nymphs. Forty ducklings can destroy a forty thousand nymph infestation. One labourer can carry forty ducklings and thus his power is multiplied forty times. Furthermore, rearing ducks is not only an effective way to control locusts, it can also in itself be a profitable undertaking.

The importance of all this, to us who face irreversible extinctions of species due to unwise chemical pesticide practices, should be evident. In conclusion Needham writes (p. 553):

Enough has been said, we believe, in the foregoing discussion to show that before the nineteenth century there was greater recognition and appreciation of biological agents for the control of noxious agricultural pests in China than in the Western world. This tradition has undoubtedly been a source of inspiration for the modern flowering of biological control that has taken root in China in the last thirty years.

There is too much in this book about plants to allow for anything but a mention of the few items above. I have chosen to emphasize the biological control aspect, because I find it of crucial importance to our long term agricultural survival in the West. In the long and short of it, without that survival all the rest will be frosting on the inedible cake.

But do not take my word for it. Delve into Needham's delightful prose, and be awed with him at the wondrous things Chinese science and civilization have wrought.

Michael T. Stieber  
Morton Arboretum

**Nelson, E. Charles.** *An Irish flower garden: The histories of some of our garden plants*, with twenty-three plates by Wendy Walsh. Kilkenny: Boethius Press, 1984. [viii], 220 pp., 22 plates. (4 col.). \$21.00, \$12.50 (paper), \$85.00 (limited ed.). ISBN 0-86314-095-5, 0-86314-094-7 (paper), 0-86314-096-3 (limited ed.).

Irish taxonomist Charles Nelson is becoming increasingly known as an advocate of plant conservation and in this work pursues this advocacy with the national gift for story telling. *An Irish flower garden* deals with the histories of plants cultivated in Ireland, including introductions as well as discoveries of native plants, and the tales of how the plants were discovered and introduced are the principal attraction of the book. Cameo appearances by the collectors, often commemorated in the plant names, abound, and the descriptions of their adventures are en-



hanced with excerpts from unpublished manuscript sources.

Some chapters are loosely designated by habitat group or landscape use, such as a winter garden, an Irish shrubbery; others focus on plant origins, including "Gardens rich in memory" and "Shrubs from distant lands." Dr. Nelson has taken particular pains to recount the origins of these Irish plants—information that he hopes will aid efforts toward the plants' conservation and their return to cultivation. The index includes both scientific and common plant names, as well as personal names.

Wendy Walsh's watercolors are reproduced more successfully than her china-ink drawings, at least in the paperbound edition reviewed, although the drawing of *Maddenia hypoleuca* Koehne. does not appear as softened as some of the others. The watercolor of *Paeonia cambessedesii* Willk. is particularly vivid and would have been my choice to use for the cover illustration in the standard edition and for the frontispiece in the limited edition, instead of the illustration of *Anemone obtusiloba* f. *patula* Craib.

In addition to achieving its stated purpose of recounting the histories of Irish garden plants, this attractive work also serves as a narrative history of Irish horticulturists and plant explorers of the nineteenth and twentieth centuries, and I recommend it for that as well.

Bernadette G. Callery  
New York Botanical Garden

**Pancaldi, Giuliano.** *Darwin in Italia: Impresa scientifica e frontiere culturali.* Bologna: Società editrice il Mulino, ©1983. 294 pp., facsim., illus. (Text in Italian.) Italian lire 25,000 (paper). ISBN 88-15-00177-8.

This little volume contains five enlightening essays about distinguished Italian scholars from various branches of science and reveals how Darwin influenced and was influenced by their work. The first essay details the work of Giambattista Brocchi, 1772–1826, mineralogist and geologist, and explores some pre-Darwinian theories on the history of the development of species. The second investigates the work of Carlo Luciano Bonaparte, 1803–1857, and his alignment with Étienne Geoffroy Saint Hilaire in the Georges Cuvier–Geoffroy controversy over "whether animal structure ought to be explained primarily by reference to function or by morphological laws."<sup>1</sup> Giovanni Canestrini, 1835–1900, the subject of the third

essay, translated Darwin's publications into Italian. He developed some original hypotheses on the origin of man and was one of Darwin's early defenders. Another who was among the first to call himself an "evolutionist" was Federico Delpino, 1833–1905. He corresponded with Darwin and discussed with him some crucial aspects of his concepts. Finally, the fifth essay discusses the work of Cesare Lombroso, 1836–1909, who applied Darwin's concepts to the social sciences with results that won him international recognition.

When Darwin's concepts were first being debated in international scientific circles, Italy was in the throes of the unification wars and there was little or no exchange of ideas among the scientists living in the various states. This left a lacuna in this area of Italian history of science that Pancaldi has filled. Giuliano Pancaldi, a historian of biology, has made judicious use of primary sources and has produced a work that gives new interpretations to the continuing discussions on the relationship between biological changes in living things and their environment. An English translation is desirable to make this scholarly account available to a larger audience. All history of science collections would be enhanced by the addition of the original or a translation of this volume.

Anita L. Karg  
Hunt Institute

**Soderstrom, Thomas R., Khidir W. Hilu, Christopher S. Campbell and Mary E. Barkworth, eds.** *Grass systematics and evolution.* An international symposium held at the Smithsonian Institution, Washington, D.C., 27–31 July 1986. Washington, D.C.: Smithsonian Institution Press, 1987. xiv, 474 pp., ports., maps, illus., 1 color plate. \$45.00. ISBN 0-87474-300-1.

The evolutionary "tree" of the Poaceae may best be represented:

not as a typical tree having branches divergent from a main axis or 'trunk,' but a pattern intermediate between a much branched shrub or a *Hydrodictyon*-like network. . . . Moreover, since most of the major groups, and even individual tribes, became independently adapted to increasing aridity and more efficient wind pollination, parallel evolution with respect to individual characteristics has taken place to a greater extent than in most other angiosperm families, and to a far greater extent than in any group of annuals. As explained in a later section, genomic differentiation and allopolyploidy, like that which now prevails in the *Triticeae*, have been features of evolution in Poaceae ever since they originated, so

<sup>1</sup> Appel, Toby A. *The Cuvier-Geoffroy debate: French biology in the decades before Darwin.* New York/Oxford: Oxford University Press, 1987.

the hypothesis of reticulate pattern of evolution for the entire family is highly probable."

Thus spoke G. Ledyard Stebbins in the final talk of what may properly be called the "Second" International Symposium on Grass Systematics and Evolution, held 27-31 July 1986 at the Smithsonian Institution. The 33 papers of that symposium offer a synthesis of current knowledge on grasses from all branches of agrostology, a great deal of which sprang from research stimulated by the "first" such symposium held in 1959 at the 9th International Botanical Congress in Montreal. If as much research develops from the 1986 symposium as followed the 1959 conclave, agrostologists will surely have to meet again in plenary session before the end of this century. The papers corroborate Stebbins' summary statement, which is not exactly new. The published volume should certainly be read by interested researchers who could not attend the Washington meeting. Those who attended will find the book a resource for refreshing the memory and for access to all those tables of information and illustrations that flashed before them on those sultry afternoons.

The introductory essay provides a biographical sketch of the energetic prime mover of the symposium, Thomas R. Soderstrom, who died after much suffering on 1 September 1987. A friend since Tom's arrival in Washington, William L. Stern has created a well-deserved tribute to Tom. If I may be allowed a personal note here, I recall how, in my visit with Tom a few weeks before he left us, he lamented the passing a few months before of Mrs. Ruth McClure, whose 94th birthday we had toasted at the symposium banquet. She was almost the last link with Floyd McClure and Agnes Chase that Tom knew; Jason Swallen, the other link, had telephoned Tom during the summer of 1987. In retrospect, the grass symposium was Tom's swan song, and what a beautifully fitting one! A great reward for the participants was seeing his face flushed with embarrassment and joy when all present gave him a resounding accolade at the conclusion of the symposium. For those agrostologists who have benefitted from Tom's knowledge, help, and enthusiasm, and we are many, I can promote the symposium proceedings as doubly significant. The meeting was surely a central event in the contemporary history of agrostology, and it stands as a memorial to the life and accomplishments of one of its great scientists, Thomas Robert Soderstrom.

Michael T. Stieber  
Morton Arboretum

**Strid, Arne, ed.** *Mountain flora of Greece*. Volume 1. Cambridge: Cambridge University Press, 1986. xxx, 822 pp., map, illus. \$110.00. ISBN 0-521-25737-9.

Both collecting activity and biosystematic studies have increased rapidly during the past twenty years in Greece. Hence, Strid and his collaborators have decided to produce a flora of those areas of Greece that have been inadequately represented in past floristic works of Hellas, namely the mountain regions. One third of the taxa that Strid and his collaborators treat here were excluded from or were recognized differently in *Flora Europaea*.

Gymnosperms and dicotyledonous Angiosperms (Fagaceae to Plumbaginaceae) are treated in the first volume. A great deal of information is given for most taxa. Specialized indexes to scientific names, mountain names, and names of new species or new combinations conclude the work.

Michael T. Stieber  
Morton Arboretum

**Ványkó, Kálmán.** *Illustrated genera of smut fungi*. (Cryptogamic studies, vol. 1.) Stuttgart and New York: Gustav Fischer Verlag, 1987. viii, 159 pp., illus. \$40.80 (paper). ISBN 3-437-30557-3.

This 159 page, soft-cover book is a guide to the currently accepted genera of the smut fungi. Included in the work are a taxonomic key, descriptions of the type genera and information on synonymy and species number. The list of regional floras and general bibliography are extensive and will be very useful to phytopathologists and botanists alike. The microphotographs (SEM) of spores and sori are quite good, but unfortunately, the LM microphotographs are less than adequate in many instances. Also, the poorly reproduced and often crude line drawings of the infected plant, sori and spore germination make this taxonomically and bibliographically competent work less than useful.

T. D. Jacobsen  
Hunt Institute

**Walters, S. M., [et al.], eds.** *The European garden flora: A manual for the identification of plants cultivated in Europe, both out-of-doors and under glass*. Volume 2, Monocotyledons (Part 2). Cambridge: Cambridge University Press, 1984. x, 318 pp., map, illus. \$67.50. ISBN 0-521-25864-2.

*The European garden flora* is scheduled to be published in six volumes with volume 2 being the first. This volume contains taxonomic treatments of 17 families (Juncaceae to Orchidaceae), 402 genera, and 1,663 species of monocotyledons. It is designed specifically as an identification



manual for cultivated plants of Europe. The line drawings, where used, are simple but well-executed and serve the user in distinguishing subtle differences between taxa. The descriptions use uncomplicated vocabulary and still maintain scientific standards and accuracy. There is a great amount of useful horticultural information provided, such as methods of propagation and cultural requirements. Literature citations are given for each family and genus. Particularly welcome are references to good illustrations.

Although the binding may not wear well under constant use, the volume's contents should remain the standard reference to cultivated plants in Europe for some time.

---

Michael T. Stieber  
Morton Arboretum

**Whittle, Tyler.** *The plant hunters: Being an examination of collecting with an account of the careers & the methods of a number of those who have searched the world for wild plants.* New York: PAJ Publications, ©1988. xii, 281 pp., [22] pp. of plates (including map, ports.). \$13.95 (paper). ISBN 1-55554-037-6.

This is an issue in paperback of the 1970 edition of Tyler Whittle's history of plant exploring with accounts of the lives and adventures of the collectors and their contributions to society. A few substitutions in the subjects and arrangement of the plates constitute the only difference between this edition and the original.

---

Anita L. Karg  
Hunt Institute

