REVIEWS AND NOTICES OF PUBLICATIONS

Edited by Rudolf Schmid

Notices—topic areas: Reviews are cross-referenced.

■ REVIEWS

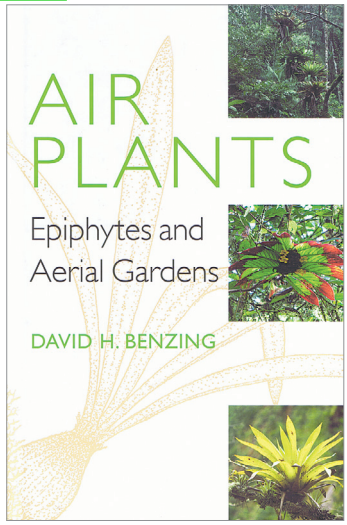
Anonymous. Nov. 2008. *Stark beauty: Klamath-Siskiyou serpentines.* U.S. Department of Agriculture, Forest Service, [Washington] ("FS-920") (www.fs.fed.us/wildflowers/communities/serpentines). [20] pp., ill. (col.), 213 × 140 mm, no ISBN, PB, price unknown. — With intro, 6 sect. [geol.—where Earth's crust collides, serpentine (S) is born; S soils, pl. adaptations; nurture or nature?; Klamath-Siskiyou Mts.—center diversity, endemism, rarity; from woodland to wetland—diversity S pl. comms.; conserv. bot. richness S comms.]; no index. ≺

If a picture is worth a thousand words, this stunning 20-page booklet easily competes with much lengthier works on serpentine (e.g., see *Taxon* 58: 1040, 59: 1003, 60: 1808). The cover is a gorgeous panting by Steve Buchanan. His poster is reproduced here, sans legend giving common and Latin names of 33 plant taxa, because the cover of UC Berkeley's library copy was spoiled by some nincompoop gluing two labels on it. This exceptional booklet

is available in modified form on the website. *Stark beauty* is an excellent introduction to the harsh life on serpentine. Buchanan's poster, available as a 1.9-MB PDF download, would be an excellent desktop background.

Stark beauty is part of the U.S. Forest Service Rangeland Management Botany Program. The website has similar offerings for a variety of topics, including: news & events, wildflower viewing areas, wildflower ethics, Forest Service regions, just for kids, teacher resources, pollinators, native gardening, native plant materials, invasive plants, rare plants, some plant adaptations, unusual plant types, unique communities (decline of aspen; also serpentine), ethnobotany, special features (plant of the week; posters; desktop wallpaper), and wildflower links. — Rudolf Schmid, UC

Benzing, David H. May 2012. *Air plants: Epiphytes and aerial gardens.* Comstock Publishing Associates, Cornell University Press, Ithaca (www.cornellpress.cornell.edu) (imprint: A Comstock book). xii, [iii], 239 pp., 8 pp. pls. (col.), text ill. (B&W), ISBN 9780801450433 HB, $39.95. — With 11 chaps. [def. epiphyte (E); types Es, their evol. origins; Es in comms., ecosystems; water management; photosyn., mineral nutrition; repro., other interactions w/ animals; epiphytic monocotyledons (Orchid.; Bromeli.; Ar.; Amaryllid., other Liliales); epiphytic eudicotyledons (Cact.; Eric.; Gesneri.; Rubi.; Melastomat.; Apocyn.; Solan.); epiphytic pteridophytes; misc. Es (Piper.; carnivorous Es; stranglers, other primary hemi-Es; gymnosperms; oddities); threats, conserv.], 14-p. unill. glossary, 5-p. biblio., indices. ≺



Modest in size (254 pp., 242 × 162 mm) but immodest in content and scope, Benzing's pithy gem of a synthesis appears 22 years after his technical monograph, *Vascular epiphytes: General biology and related biota* (Cambridge University Press, Cambridge, 1990, xvii, 354 pp.). Epiphytes, defined simply as "vascular [plants] that regularly anchor on woody hosts" (p. 2), are then characterized

Column closed 7 July 2012. Deadlines for receipt of materials are 1 Dec., 1 Feb., 1 Apr., 1 June, 1 Aug, and 1 Oct. for inclusion in, respectively, the following Feb., Apr., June, Aug., Oct., and Dec. issues. ***Send all materials for this column to:*** *Rudolf Schmid, 16 Edwin Dr., Kensington, CA 94707–1022, U.S.A. (for faster, more secure arrival) or Department of Integrative Biology, University of California, Berkeley, CA 94720–3140, U.S.A. (phone 510/525–0439; fax 510/643–6264; schmid@berkeley.edu; http://www.rudischmid.com).*

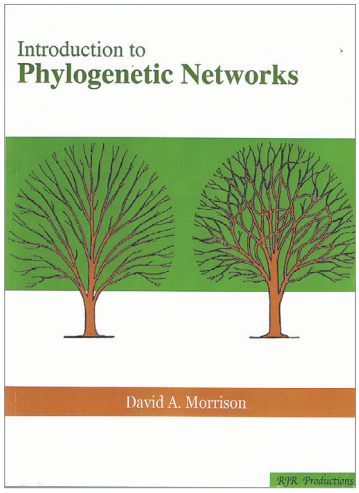
Unless noted otherwise, "Notices" are by Rudolf Schmid, prices are in U.S. dollars and exclude postage, and illustrations (ill.) are all black-and-white (B&W) versus partly or all in color (col.). Abbreviations usually follow Botanico-periodicum-Huntianum, 2nd ed. (BPH2, 2004), but "HB/PB" = hard-/paperbound and "ep." = endpaper ("ep." is used for HB and PB items). ***Note:*** *Full snail-mail addresses are given for publishers only if no website or e-mail address is indicated.*

more fully (body plan, epidermis, etc.). Epiphytes are "operationally varied and taxonomically diverse" (p. 20); "epiphytism is a derived condition that has evolved repeatedly from a taxonomically mixed ancestry that itself required different kinds of rooting media" (p. 34). Epiphytism involves about 28,000 species (ca. 10%) of vascular plants and is concentrated in four super groups: ferns (2400 species), aroids (1350), bromeliads (1500), and orchids (15,000). Some 80 angiosperm families have epiphytic taxa, but only 32 families have five or more epiphytic species. Chapters 3 to 5 discuss mostly physiological adaptations of epiphytes for mineral nutrition, water, light, drought avoidance, leaf economics, photosynthetic modes, etc. Chapter 6 treats pollination, dispersal, and interactions with animals. The next four chapters discuss the taxonomic occurrence of epiphytism, including reasons for its predominance in aroids, bromeliads, and orchids versus its rarity in gymnosperms, which have only five epiphytic species. The obligatory chapter on threats and conservation concludes. The book is well illustrated: 68 B&W figures and 24 color photos. There are 12 tables, but surprisingly no table attempting an overview classification of epiphytic types. — Rudolf Schmid, UC

Untangling phylogenetic networks

Jessica Craft <jcraft86@berkeley.edu> & Patrick M. O'Grady <ogrady@drosophilaevolution.com>, UC Berkeley

Morrison, David A. Dec. 2011. *Introduction to phylogenetic networks.* RJR Productions, Uppsala (www.rjr-productions.org). vi, 216 pp., ill., ISBN 9789198009903 PDF, gratis via website. [Fide D.A. Morrison (25 Feb. 2012, pers. comm. to R. Schmid), there is no PB ver. He deposited "a few" PB copies "in specified university libraries" in Sweden "to validate the ISBN" for the PDF and "sent the few remaining copies out for review."] — With 5 chaps. (intro; phylogenetic analysis; data-display networks; evol. networks; conclusions), examples reticulation causes, 453-ref., 20-p. biblio., 8-p. glossary, 4-p. index; w/ 105 figs. ≺



Traditional phylogenetic inference assumes that relationships among taxa are non-reticulate (Darwin 1859; Haeckel 1866). Over the past 20 years, however, examples of reticulation events within the tree of life at both deep (Delwiche & al. 1995; Margulis & Dolan 2002) and shallow (McDade 1995) nodes have been shown to be commonplace. Most biologists now appreciate these events as part of the evolutionary history of many taxa and to explain reticulations have invoked a number of processes, including horizontal gene transfer, hybridization, and gene-tree species-tree differences (Maddison 1997). Computational methods for unraveling reticulate networks have been in development for many years (Hein 1993; Dickerman 1998), but only recently (e.g., Huson & Bryant 2006) have they become more generally available.

Morrison's new book, *Introduction to phylogenetic networks,* provides a clear, example-based approach to understanding phylogenetic networks that will be very useful for biologists lacking strong computer-science or mathematical backgrounds. His approach is informal and accessible, guiding readers through examples, applications, and the concepts of phylogenetic networks, rather than focusing on the computational details of network analyses. The book opens with two applications of phylogenetic networks, providing an overview of the concepts involved without bogging down readers with new terms (chapter 1). His two well-chosen examples from *Viburnum* (viburnum) and *Dermanyssus gallinae* (red poultry mite) help clarify the key concepts to those unfamiliar with phylogenetic networks. His explanations are thorough, easing the reader into the complex literature on this subject.

Throughout the book, Morrison uses figures to illustrate concepts, which is especially helpful in introducing phylogenetics (chapter 2) and in describing coalescence (Fig. 2.2–2.4). Chapter 2 begins with a basic overview, placing networks in the broader context of phylogenetic analyses. Morrison's discussions of character coding, alignment, and tree rooting provide a good basis for students interested in using phylogenetic trees. Morrison then summarizes the use of phylogenetic networks, preparing readers for subsequent chapters on network analyses by presenting the vocabulary and concepts required to read and understand networks. The examples (Table 2.1) are informative and the figures (Fig. 2.17–2.18) effectively illustrate the benefits of including reticulations in phylogenetic analyses.

Chapters 3 and 4 discuss the theory and methods involved in, respectively, data-display and evolutionary networks. Each section describes the type of network and then reviews any biological processes involved. Encountered most often in the literature, data-display networks summarize the existing patterns within data without prior assumptions of homology, meaning the apparent relationships lack an evolutionary basis (chapter 3). Several examples demonstrate how useful this type of analysis is when determining whether data should be fitted to a tree-like structure or to a network. Morrison advocates using data-display networks as an exploratory analysis, suggesting that these networks can reveal possible errors in sampling, collecting, and processing data. This makes data-display networks an essential tool for most systematists. Chapter 3 focuses on the multitude of display networks that biologists will most commonly desire to use or encounter in the literature. A list of the available software for creating data-display networks concludes the chapter.

Chapter 4 discusses what Morrison calls evolutionary, or homology-based, networks, a special class of networks that display evolutionary relationships while accommodating reticulation events. This is a topic that will interest most readers, because these networks can display the myriad patterns resulting from coalescence, introgression, hybridization, and horizontal gene transfer. Morrison concisely overviews the processes responsible for reticulation events, as well as the methods used in network creation. An easy read for those already familiar with these concepts, this section could be a bit dense for the new student. However, because each topic is further discussed with their corresponding methods, navigating this chapter in conjunction with the glossary (p. 205) should be manageable. As with the previous chapter, Morrison includes the methods he deems most important and compiles a list of the

available software. While the latter portions of chapter 4 are well written, some annotations and explanations for the software packages would have been a useful addition.

Finally, chapter 5 reviews the concepts and application of the networks. Paralleling the first chapter, Morrison includes two final examples on the application of phylogenetic networks reminding readers of the power and utility of a network approach. The chapter closes with a discussion of hypothesis testing and a prospectus on the future of phylogenetic networks.

Reducing the details of the procedures involved in estimating phylogenetic networks keeps this book short and makes it an excellent foundation text for students interested in understanding and using phylogenetic networks. While this book will be most useful to biologists who already have an understanding of phylogenetics, the accessibility of the text makes it very suitable for new students as well as a good companion to more methods-based literature. Overall, this work is valuable for anyone interested in phylogenetic networks and will prove a useful and quick reference guide. The free download available from the website makes this book a must-have!

Literature cited: **Darwin, C.** 1859. *On the origin of species.* John Murray, London. **Delwiche, C.F., M. Kuhsel & J.D. Palmer.** 1995. Phylogenetic analysis of *tufA* sequences indicates a cyanobacterial origin of all plastids. *Molec. Phylogen. Evol.* 4: 110–128. **Dickerman, A.W.** 1998. Generalizing phylogenetic parsimony from the tree to the forest. *Syst. Biol.* 47: 414–426. **Haeckel, E.** 1866. *Generelle Morphologie der Organismen.* Georg Reimer, Berlin. **Hein, J.** 1993. A heuristic method to reconstruct the history of sequences subject to recombination. *J. Molec. Evol.* 36: 396–405. **Huson, D.H. & D. Bryant.** 2006. Application of phylogenetic networks in evolutionary studies. *Molec. Biol. Evol.* 23: 254–267. **Maddison, W.P.** 1997. Gene trees in species trees. *Syst. Biol.* 46: 523–536. **Margulis, L. & M.F. Dolan.** 2002. *Early life: Evolution on the Precambrian earth.* 2nd ed. Jones and Bartlett Publishers, Sudbury. [Ed. 1 1982.] **McDade, L.** 1995. Hybridization and phylogenetics. Pp. 305–331 *in* P.C. Hoch & A.G. Stephenson (ed.). *Experimental and molecular approaches to plant biosystematics.* Missouri Botanical Garden, St. Louis (series: *Monogr. Syst. Bot. Missouri Bot. Gard.,* vol. 53).

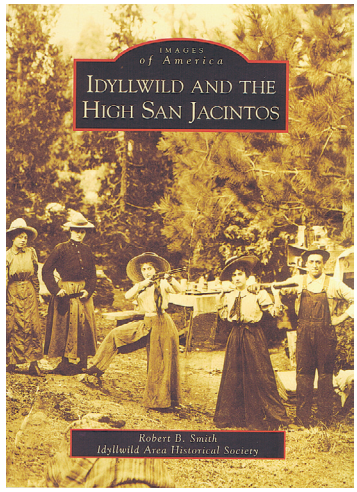
Arcadia Publishing, the premier American publisher of local histories

Rudolf Schmid, UC

Smith, Robert B. (w/ Idyllwild Area Historical Society). Apr. 2009. *Idyllwild and the high San Jacintos.* Arcadia Publishing, Charleston (www.arcadiapublishing.com) (series: *Images of America,* unnum.). 127 pp., ill., ISBN 9780738559858 PB, $21.99. — With fp. map, 2-p. intro, 6 chaps. [resource—mts. exploited; reserve—mts. preserved; resort—mts. rediscovered; residence—the village (V) emerges; refuge—beyond the V; renaissance—V evolves], re. Idyllwild Area Historical Society; no biblio., no index. See www.idyllwildhistory.org for PDF of a 10-p. index. ≺

In June 2012 my daughter Mena and I spent four enjoyable days in our favorite place in southern California (SoCal), the San Jacinto Mountains. We stayed at UC Riverside's James San Jacinto Mountains Reserve, hiking locally and continuing our research on the Sierran endemic *Sequoiadendron giganteum* naturalizing in the wilds of SoCal (see *Aliso* 30: 19–32, 2012). In seeking background information for our work I checked the website of the Idyllwild Area Historical Society (www.idyllwildhistory.org) and stumbled upon Smith's valuable regional history (I also stumbled up some rocky mountain trails, age defying gravity, but that's another story).

Smith's history begins (chapter 1): "The San Jacinto Mountains, rising more abruptly than any other range in the 48 contiguous states, a knife-edge defining coastal Southern California's eastern horizon, command instant attention. Curiosity follows, and 19th-century pioneers who first made the effort to explore this mountain wilderness were impressed with its resources—they observed wood, water, wildlife, and vegetation and imagined mineral wealth." [San Jacinto Peak (3293 m el.) on its steep north-face escarpment drops 3147 m in elevation to Palm Springs (146 m el.) in the Coachella Valley. However, the 3540-m elevational drop from Telescope Peak (3454 m el.) in the Panamint Range overlooking Badwater (−86 m el.) of Death Valley is the most in the 48 contiguous states.]



Smith's introduction and six chapters (see heading) involve only eight pages of text. The chapters thus are mostly embellished with illustrations: 219 unnumbered, previously unpublished ones, chiefly photos, including a fair number of landscapes. The figure captions are very detailed. The frontispiece is a 1937 vintage map. The lack of an index makes it obligatory to download from www.idyllwildhistory.org the ten-page index and to print out the PDF.

This fascinating pictorial account relates the early exploitation of the area in the 1880s for timber to accommodate California's first population boom. The outgoing administration of President Grover Cleveland (1885–89, 1893–97) created the San Jacinto Forest Reserve in 1897 to control the rampant logging and grazing. The latter half of the book depicts how the settlement in Strawberry Valley morphed into an ideal village in the wild, Idyllwild.

Arcadia Publishing is the premier American publisher for local and regional histories, which are typically issued by historical societies or their members. Arcadia's catalog exceeds 4000 titles. The publisher's extensive website has an unusual, perhaps unique feature. Besides the usual search capability by title (but not by author), one can search by state, theme, and hometown. There are 44 themes, mostly non-biological, as "bridges," "canals," "cemeteries," "crime," and "military," but a few biological, as "national parks" (197 titles), "parks & gardens" (226 titles), and "roads & routes" (83 titles). The hometown search is by zip code for applicable titles within 10, 25, and 50 miles of a zip code. For instance, my 94707 zip code turned up 41 titles within 10 miles, beginning with Albany, Berkeley, and El Cerrito within 2 miles. The titles can be sorted (ascending and descending) by place name, state, series, price, ISBN, and distance. There is a very limited Google preview capability (that of Amazon is more extensive).

The *Images of America* series has a uniform format judging from the volumes seen in UC Berkeley's library, where I examined the series's books on Albany, Angel Island, Big Sur, El Cerrito, Oakland Hills, Port Chicago, and Richmond (also Berkeley in the similar *Postcard history series*): paperbound; 235 × 167 mm; 128 pp.; very brief introduction; a small number of themed chapters comprised entirely or almost entirely of illustrations with detailed captions; bibliography and index absent. This format is primarily pictorial but cursory on specific people and places. The strength of books in the series is the diversity, but the lack of detail is a weakness. The absence of indices is frustrating and accentuates the weakness of the series.

Nevertheless, the series is very worthy. Arcadia Publishing has a vast catalog that should be valuable to historians, biographers, and historically inclined biologists, among others. The books in Arcadia's catalog often have limited availability (e.g., Smith's book is available only from the San Diego campus of the ten-campus University of California system). Biologists interested in vegetational change of a region could peruse such histories for insights and local photographic documentation. Similarly, biographers might obtain important background information on towns where their subject lived. For example, I have become interested in the works and life of conifer-expert John Theodore Buchholz (1988–1951) of *Sequoiadendron* (Lindl.) J. Buchholz fame (see *Aliso* 30: 5–17, 2012). Buchholz was born in rural Polk County, Nebraska, the county seat being Osceola, zip code 68651. A search for "Nebraska" turned up 36 titles, whereas a search for "68651" turned up five titles within 50 miles. Some of these titles may be applicable to Buchholz's boyhood years.

Evolving with conifers and the Internet

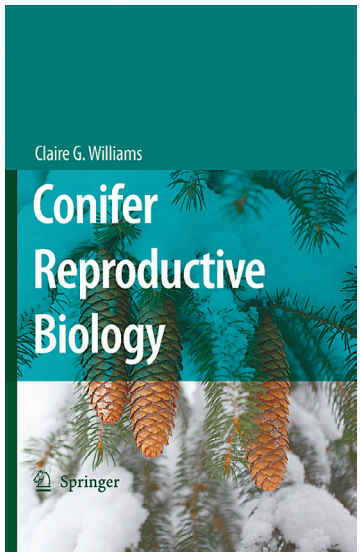
Rudolf Schmid, UC

Williams, Claire G. May 2009. *Conifer reproductive biology.* Springer, Dordrecht (www.springer.com). xvii, 169 pp., ill. (some col.), ISBN 9781402096013 HB, US$69.95, ISBN 9789048181674 PB, US$69.95(!), ISBN 9781402096020 e-book US$54.99 (special MyCopy PB ver. in B&W avail. for $24.95 postpaid). — With 3-p. foreword by P. von Aderkas, 3-p. prolog, 9 chaps. in 3 topic areas [*(a)* overview conifer repro. biol.: intro; 2N life hist.; *(b)* consequences heterospory: separate female, male meioses; female GPT in ovule; male GPT in pollen wall; synchrony—poll., fert.; syngamy, embryo develop., seed dispersal; *(c)* dynamics mating systems—form, chance: dynamic wind-poll. mating sys.; embryo lethal sys.], 5-p. conclusion, 6-p. glossary, 3-p. index. ≺

Williams's expertise in this field shows in this most valuable overview of conifer reproduction; for Williams's (ed.) *Landscapes, genomics and transgenic conifers,* 2006, see *Taxon* 55: 824. His nine-chapter account is especially well presented: 24 numbered, mostly B&W figures, 12 numbered color photos or plates of color photos, and 25 tables. Supplementing the text are 16 boxed topics on additional or more peripheral subjects, for instance, on threatened conifers (chapter 1) and pollen allergens from Cupressaceae: "a case of mistaken germination" (chapter 6). Each chapter has a closing statement and a detailed bibliography. The book ends with a 5-page epilog, a 6-page unillustrated glossary, and a superficial 3-page index to taxa and botanical terms.

The aforenoted numbers are my counts; Springer offers no statistics. Although I dearly love conifers, I forego further review and deserved praise (see Springer's website) to comment not on the book itself but rather on the digital format of its publication, which evokes several issues:

(1) Squeezed for space and shekels, libraries are increasingly eschewing the physical for the digital. Patrons generally prefer the convenience of digital copies, collecting PDFs just as researchers of yore used to collect reprints. I too have succumbed to the seduction of the PDF (see *Taxon* 54: 1121). Moreover, the PDF is a boon not only to lawyers, historians, and biographers but also to researchers because it allows systematic searching of relevant dates and text strings. [Yet, those non-searchable imaged (bitmapped) PDFs really frustrate, although they can be converted to searchable (vectored) PDFs using Adobe's Acrobat Pro (see www.creativetechs.com).] However, so far I've resisted the Kindling of books, preferring to read on the computer screen, where my eyes doth protest less, and where I can sidetrack easily within and without the computer. Nevertheless, I expect to Kindle some day; meanwhile I do not avoid the phenomenon because it evokes images of Nazi bonfires or *Fahrenheit 451* (for the source of Amazon's "Kindle" Google "kindle origin name").



(2) The entire ten-campus UC library system has only the e-book version of Williams's work. Thus, naturally I missed it on the physical new-book-shelf, which seems destined for dodo-land. I am not sure a virtual new-book-shelf or e-mail robotic alert is the solution because my e-mail inbox already overflows with so much vying for my attention that it is nearly impossible to keep up, forcing reliance on and refuge in "happenstance happens." Thanks go to Tim Brady for the personalized alert about Williams.

(3) Fide Springer's website, Williams's *Conifer reproductive biology* is "intended as a text supplement for plant biology courses. Such a volume seems timely because knowledge of model flowering plants is expanding so fast that each new plant biology text has less written on conifers than the last. [Williams's book] seems needed as a specialized botany reference for life science professionals, graduate students and advanced undergraduates. … Its content has also been shaped by a trend towards the integrative study of conifer reproduction." Oh my, has P.H. Raven & al.'s *Biology of plants,* 8th ed. (2012) and the like become so exclusionary that the conifers therein are given short shrift. Their treatment in basic texts used to be overly complex for many students. One wonders how Williams will fare with such students, with the book's greater length and complicated terminology such as "haplodiplontic," "hydrasperman," "iteroparity," "zooidogamy," etc. Williams's fine synthesis stands on its own merits; it hardly needs special pleading as a supplement to undergraduate plant biology texts.

(4) I downloaded the entire book gratis, thanks to the University of California's site license. It took a while, the downloads totaling about 14.3 MB for 11 files representing the 9 chapters plus front and back matter. The 9 chapter files each download unhelpfully named "fulltext.pdf" so that one ends up with files named "fulltext.pdf" to "fulltext(8).pdf," which naturally need appropriate renaming ("W1"–"W9" is an expedient start). Having eleven files for the book takes a lot of mousing around, especially for jumping-jack searches. The circa 14.3 MB total would be vastly more convenient to download and to use as a single file. I routinely download fat USDA publications in the 20 to 50 MB range (see www.fs.fed.us/psw/publications or www.fs.usda.gov/r5; see also www.demoforests.net/publications.html). Furthermore, one can use Acrobat Pro to bundle the 11 PDFs into a single 11.8 MB file. There is thus no good excuse for Springer's PDF dismemberment of the book.

It was all quite time consuming. Of course I fumbled around because I lack the Internet dexterity of most undergraduate students. I am sure that tips I might have learned using Springer's cumbrous interface will not apply to my next book download from another publisher, or even to the next book download from Springer. Somehow I downloaded the PNG file of the front cover, but a download of the back cover eluded me—probably because none is available. I was happy there was no download of the spine (mine needed chiropractic help after all the stressing downloads). The whole process was so frustrating that I was tempted to order the hardback version from Amazon—certainly not the Kindle edition to save $14; the heading also notes regular and special MyCopy paperbound versions. Incidentally, amidst this experience I clicked on "5 foods to never eat" to "cut down a bit of stomach fat every day"! This appeared on the Springer website (despite my Firefox having pop-ups disabled). We probably can expect more ads in this new global economy. Defying the admonition in the ad, I ate a banana for consolation, undoubtedly contributing to my still reasonable amount of stomach fat.

(5) The Springer website helpfully had a PNG file that could be used for the accompanying thumbnail of the book cover. The RevNot column may not be so lucky in the future in having automatically available book-cover pictures of sufficient resolution.

Data retrieval seemed so easy in *Star trek* (1966–69) and especially in *ST: The next generation* (1987–94). In this brave new digital world we still have a long way to boldly go to the point even of the first generation. (I'm thinking of librarian Mr. Atoz in episode 78, "All our yesterdays," 1969.) Nevertheless, the conifers and Internet will continue to evolve.

Rheingold's guide to Internet literacy

Rudolf Schmid, UC

Rheingold, Howard. Apr. 2012. *Net smart: How to thrive online.* The MIT Press, Cambridge (http://mitpress.mit.edu). xiii, [i], 322 pp., ill., ISBN 9780262017459 HB, $24.95. — With 33-p. intro (why you need digital know-how, why we all need it), 6 chaps. [attention—why and how to control your mind's most powerful instrument; crap detection 101—how to find what you need to know, and how to decide if it's true; participation power; social-digital know-how—the arts and sciences of collective intelligence; social has a shape—why networks matter; how (using) the Web (mindfully) can make you smarter], 33 pp. notes, 34-p. index.

James A. Hendler gave this book at laudatory review in the 1 June 2012 issue of *Science* (336: 1108–1109), and to date (13 July 2012) at Amazon the book has garnered a 4.6* out of 5* rating based on 16 reviews.

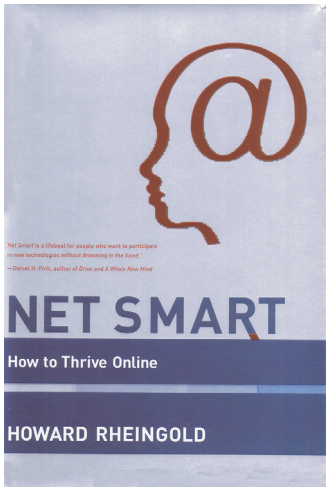
I concur. This is a well-written, entertaining, and informative guide to online literacy by Internet guru Rheingold (born 7 July 1947; http://rheingold.com).

Fide the website (and dust-jacket blurb), "Rheingold shows us how to use social media intelligently, humanely, and, above all, mindfully. Mindful use of digital media means thinking about what we are doing, cultivating an ongoing inner inquiry into how we want to spend our time. Rheingold outlines *five fundamental digital literacies, online skills* [emphasis added] that will help us do this [I resequence these in book-chapter order, as well as their sequence in the introductory overview and final bulleted summary.]: [1] attention, [2 not 4] critical consumption of information (or 'crap detection'), [3 not 2] participation, [4 not 3] collaboration, and [5] network smarts. [1–2] He explains how attention works, and how we can use our attention to focus on the tiny relevant portion of the incoming tsunami of information. [3] He describes the quality of participation that empowers the best of the bloggers, netizens, tweeters, and other online community participants; [4] he examines how successful online collaborative enterprises contribute new knowledge to the world in new ways; [5] and he teaches us a lesson on networks and network building."

"The final chapter frames these [five] practical literacies in relation to the broader issues of privacy, remix culture and copyright conflicts, and the role of today's citizens in the digital public sphere. It also provides advice for parents and a bullet-point summary …" (p. 12), that is, "five literacies in a nutshell" (pp. 246–252).

Besides the shell just noted, I found the first two kernel chapters on "attention" and "critical consumption of information" the most valuable. Then my attention began to wander because I do not participate in Facebook, Linkedin, and the like. Eventually some inattention set in during the final more cyberculturally abstract discussions.

Rheingold offers a host of useful tips. Some are verbally elaborated in the main text, for instance, avoid "'email apnea,'" holding one's breath reading or writing email, which promotes distraction, or "triangulation," checking three different, credible sources on a search topic. Other tips and suggestions require Web access. The appropriate URLs appear not in the main text but rather are relegated to notes in a 33-page back-section. This approach has two shortcomings. *(1)* Pages 255–287 each have "notes" as the page header instead of the appropriate section in the book. Thus locating the proper note is tedious because notes are individually numbered for each section. Solution: mark the pages with the relevant headers, perhaps "I" and "1" to "6" to signify the introduction and the six chapters;



alternatively, tab with Post-Its the beginning pages of the seven sections. *(2)* Many of the notes consist of unannotated URLs; a brief comment about the relevance of the worthwhile URLs would focus attention on these and take them out of the documentary noise/"crap" category, as the URL for the hoax "endangered Pacific Northwest tree octopus" (http://zapatopi.net/treeoctopus). For example, Internet Archive's Wayback Machine (http://archive.org) is briefly praised on page 78 (chapter 2) as a tool "to get a snapshot of what [a] [web]site looked like before it was removed. Publishing is permanent now." Page 236 (chapter 5) then briefly considers Wayback's implications: "the irrevocable Web is the norm. … Every word as well as image ever posted [can] be stored and searchable forever. If you think you can erase something from the Web nowadays, think again. Invisible audiences have inalterably changed the boundaries between private and public." Rheingold's two notes of merely "The Wayback Machine, http://www.archive.org/web/web.php" need brief annotation. [For more on Wayback see the next review.]

The book has a detailed 34-page index. Incidentally, MIT Press's website offers Rheingold's 19-page "Syllabus: Social media literacies college/university level" (ver. 17 May 2012) as well as some interesting audio and video supplements to this invaluable and fascinating book.

Remembrance of URLs past

Rudolf Schmid, UC

Chester, Thomas J. (w/ Jane Strong). 2012. *Native and introduced plants of southern California*. http://tchester.org/plants (accessed 15 July 2012). — With many sect. [floras, pl. checklists, trail guides; bloom reps.; regions; comments on floras, wildfl. books; bot. trail reps.; general info; analysis pp. (abundance spp.; alien spp.; other; specific spp.)], many subsect.

Internet Archive. 2012. http://archive.org (accessed 15 July 2012). — With 9 sect. [announcements, etc.; Web, the Wayback Machine (see below); RSS; "moving images" (movies); live music (concerts); audio (recordings); texts; posts; support]. From website: "The Internet Archive is a 501(c)(3) non-profit that was founded to build an Internet library. Its purposes include offering permanent access for researchers, historians, scholars, people with disabilities, and the general public to historical collections that exist in digital format. Founded in 1996 and located in San Francisco, the Archive has been receiving data donations from Alexa Internet and others. In late 1999, the organization started to grow to include more well-rounded collections. Now the Internet Archive includes texts, audio, moving images, and software as well as archived web pages in our collections, and provides specialized services for adaptive reading and information access for the blind and other persons with disabilities."

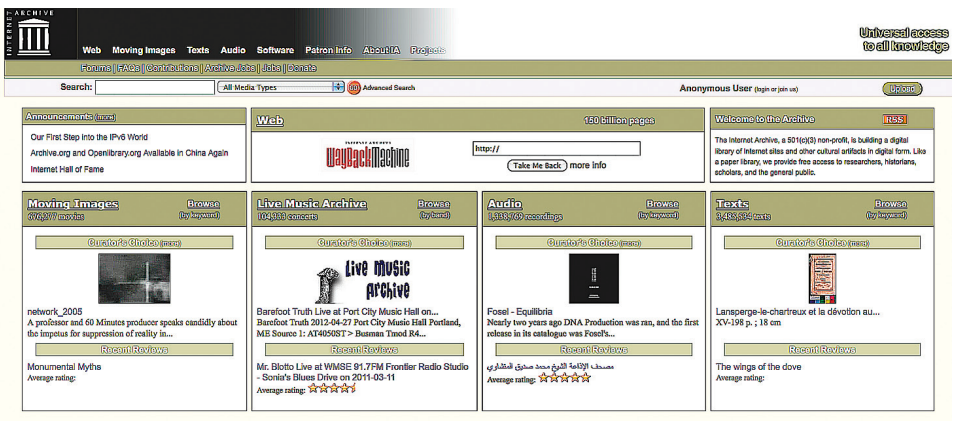
Nickrent, Daniel L. 2012. *The parasitic plant connection*. www.parasiticplants.siu.edu (accessed 15 July 2012). — With 5 main sect. (general info; order, fam. pp.; phylogenetic relations; mole. data; awards, recognition), many subsect. ⪡

My Proustian allusion "remembrance of trees past" in the last issue of *Taxon* (61: 700) is recycled here for more appropriate titular use. Many websites are littered with those pesky 404-error and other dead links. Even more annoying, many Internet searches turn up dead links on the results pages; some of these links have tantalizing snippets for the information one was seeking. I used to ignore these and just move on.

However, serendipity blesses, as I found out recently while using Tom Chester's extensive and searchable website for plants and floras of southern California. Chester wrote (29 Dec. 2011; http://tchester.org): "I no longer update links for most of my pages. I have over 2,000 webpages, and it is simply not possible for one person to keep the links current. Almost all the now-dead links can be found at the Internet Archive [http://archive.org] by putting the old URL into their Wayback Machine." I immediately sidetracked to Wayback and was astonished with the expected feature of URL retrieval.

Yes, those dead links may indeed be archived by Internet Archive's Wayback Machine. For instance, Dan Nickrent's fine searchable website, "The parasitic plant connection," has a 404-moved dead link on my website (www.rudischmid.com). Entering the dead URL (www.science.siu.edu/parasitic-plants) into Wayback's search box turns up 43 versions of the website extending from 16 May 2008 back to 17 January 1999. Wayback informs: "[The URL] has been crawled 43 times going all the way back to January 17, 1999. A crawl can be a duplicate of the last one. It happens about 25% of the time across 420,000,000 websites. FAQ." Checking "Upcoming Meetings on Parasitic Plants" Wayback informs "14 captures 26 Jun 06–18 Aug 10." Accessing the captures one can get a chronological list of meetings. [I exemplified with meetings because they are clearly dated; I could easily get lost exemplifying with molecular data.] Wayback also gives the current URL (www.parasiticplants.siu.edu), which of course can also be obtained via Google or other search engines.

One can also check the archives for a currently active URL. Thus my good friend Steve Ruzin, Director, Biological Imaging Facility, College of Natural Resources, UC Berkeley, searched for http://microscopy.berkeley.edu and found 69 archived versions extending back to 9 November 2001. His verdict was (pers. comm., 25 June 2012): "Wayback is cool. I just looked at how the technology in the Center has changed since 2001."



There are other archiving engines. For alternatives to Wayback see "Finding old web pages" (last updated 27 Jan. 2008; www.searchengineshowdown.com/others/archive

.shtml) on Greg R. Notess's website, "Search engine showdown: The users' guide to web searching" (1999–2012; www.searchengineshowdown.com). However, Wayback seems to go back further in time, to "late 1996," and to be among the most inclusive of archivers. [For more on Wayback see the previous review.]

The implication of Wayback and similar services is that information put on the Internet is irrevocable and that Internet "youthful indiscretions," to use that politically expedient expression, may come back to haunt you, in addition to one's "adult indiscretions." "The arrogant claim of 'youthful indiscretion' has never been more in vogue than it is now" (see Ryan Monceaux, 6 Aug. 2001, Youthful indiscretions: A guide to getting it on, www.democraticunderground.com).

Wayback also astonished me with an unanticipated feature. It has four massive archives for "moving images" (676,277 movies), live music (104,333 concerts), audio (1,338,769 recordings), and texts (3,485,534). These numbers are for Sunday, 15 July 2012, 13:50:30. About 12 hours earlier the numbers were 676,007 movies, 104,274 concerts, 1,338,185 recordings, and 3,485,008 texts. Each subject area has a search box; there is also a general search box for the whole shebang. A general search for "botany" leads to a number of downloadable gems, as volume 1, *Botany* (1876), in *Geological survey of California.* The downloadable movies include everything from Cecil Hepworth's *Alice in wonderland* (1903) to Julian Steyermark's *To a new lost world* (1957) to William Burger's *Threatened cloud forests of Costa Rica* (1974) to a large number of public-domain feature films on film noir and other topics. Naturally, this is the place to search for a favorite musician, as Leonard Cohen: 15 movies (interviews, etc.), 76 live concerts (mainly covers of his songs), and 282 recordings (likewise)—ditto for other favorites such as Bob Dylan, Eric Andersen, Chris Smither, and The Flatlanders. Before I get further sidetracked, I better go.

Women in the lab (and elsewhere)

Rudolf Schmid, UC

Creese, Mary R.S. (w/ contribs. by Thomas M. Creese). Mar. 1998. *Ladies in the laboratory?: American and British women in science, 1800–1900: A survey of their contributions to research.* The Scarecrow Press, Lanham (www.rowman.com/scarecrow). xii, [i], 452, [1] pp., ISBN 9780810832879, $100.00. **Idem** (w/ contribs. by Idem). May 2004. *Ladies in the laboratory II: West European women in science, 1800–1900: A survey of their contributions to research.* Ibid. xii, 290, [1] pp., ISBN 9780810849792, $95.00. **Idem** (w/ contribs. by Idem). Feb. 2010. *Ladies in the laboratory III: South African, Australian, New Zealand, and Canadian women in science: Nineteenth and early twentieth centuries: A survey of their contributions.* Ibid. x, 245, [2] pp., ISBN 9780810872882, $80.00. *Each:* ill., 287 × 224 mm, HB. *Vol. 1* w/ list 23 figs., intro, 16 chaps. in 3 topic areas [*(a)* life sciences: bot.—from early explorers to pl. geneticists; entomol., mainly lepidopterol.; zool.—museum tax. to morph., embryol.; nat. hist.; general biol.; med. sci.; physicians, etc.; *(b)* math., phys., earth sciences: math., stats; physics; astronomy; chem., biochem.; geol.; *(c)* social sciences, other areas: geogr., also explorers, travelers; ethnol., anthropol.; exp. psychol.; others], summary, abbrs. *Vol. 2* w/ list 22 figs., intro, 8 chaps. (Scandinavia; Ire.; Fr.; Belg.; Holland; Ger.; Austria-Hung.; Switz.; Ital.), internatl. comparisons/conclusions, appendix (biogrs. 15 Amer., Brit. women). *Vol. 3* w/ list 21 figs., 4 chaps. (S. Afr.; Australia; N.Z.; Can.), comparisons/conclusions. *Vols. 1–3 each end* w/ biblios. for 1800–1900 for women in areas covered, key to abbrs. serial titles, general biblio., index, author bionotes. ≺

In *Taxon* 50: 1291–1292 I began my review of the 1998 work as follows: "Mary Creese's exceptionally significant study analyzed the nearly 1000 woman authors listed in the Royal Society of London's monumental *Catalogue of scientific papers (1800–1900),* which was published in 19 volumes from 1867 to 1925. These women produced about 3400 papers, fewer than 1% of the entries in the catalog, with 41% of the women American, 26% British, 8% Russian, 4% French, 3% German, 2% each Italian and Polish, and 14% other. Creese restricted her study to circa 680 American and British women, and for better representation added some persons and serials not indexed by the *Catalogue.* What has resulted is a comprehensive analysis of the development of women's science during the 19th century in the United States and Britain in various disciplines (see Contents) of the life sciences, the social sciences, and mathematics and the physical and earth sciences." I ended the review with: "Merely the biographies for the 119 American and the 64 British 19th-century women botanists make this book an invaluable resource. The fact that there are biographical accounts for some 500 other, non-botanical American and British women scientists, plus the various conclusions about the role of women in science for the period 1800 to 1900, is just frosting on the botanical cake."

Two sequels have since appeared, volume 2 (2004) on women of western Europe, and volume 3 (2010) on women of British colonies:

Volume 2 "focuses on 177 European women working in … twelve countries: Austria-Hungary [16], Belgium [8], Denmark [5], Finland [3], France [39], Germany [30], Ireland [21], Italy [20], the Netherlands [7], Norway [5], Sweden [16], and Switzerland [7]. The contributions of these 177 make up about 20 percent of the articles by women indexed in the *Catalogue"* (p. xi); 44 (25%) women were botanists.

Volume 3 focuses on 26 women from the *Catalogue* who were from Britain's colonies: Australia (9), Canada (11), New Zealand (4), and South Africa (2); 22 (85%) were biologists or naturalists, including 8 (31%) botanists. Creese added women scientists, especially plant collectors and botanical artists, to the four countries. Creese also sketches "the careers of a few of Canada's earliest women professional scientists whose work began in the first quarter of the twentieth century" (p. 137).

The 2004 and 2010 sequels continue the format of the 1998 work: biographies of women supported by very extensive backnotes (1081 and 714 in the 2004 and 2010 books, respectively), plus many intriguing "international comparisons and conclusions" (a section in the 2004 volume). My review cited above offers details for the 1998 book. To keep the present review relatively brief I spotlight the 2004 work.

Volume 2 treats the 29 Scandinavian women in one chapter (pp. 1–35, with 166 notes), albeit in separate sections for Sweden (16 women), Norway (5), Denmark (5), and Finland (3): Most "of their research was in the biological sciences, especially botany [10 women] and zoology (…). In part, this choice reflected the outstanding opportunities for original investigations on northern plants (including work on such topics as the adaptation of forms to Arctic conditions), and the tremendous interest at the time in the rich microscopic animal and plant life of the waters of the North Atlantic. In both Norway and Sweden women made notable, in some cases outstanding, contributions in botany (including paleobotany) and zoology; Denmark, a country in which agriculture was especially important, had a leading woman entomologist [Sofie Rostrup, née Jacobsen (1857–1940)]. University-level training was opened to Scandinavian women in the 1870s and early 1880s. However, as in most other countries, the lack of secondary schools for girls was a serious handicap initially" (p. 1).

Chapters 5 to 7 treat 30 German, 16 Austro-Hungarian, and 7 Swiss women (pp. 115–169, 171–180, 181–187, with, respectively, 207, 43, 35 notes). It might have been better to include these 53 women in one chapter entitled "mainly Germanic countries." Nine of the 53 women were botanists: 3 each in Germany [Johanna Elisabeth Lüders, née De Boor (1811–80), Elise Schwabach, née Salomon (18??–1907), and Elise Widmer (fl. 1880s, 1890s)], Austria-Hungary [Emma Lampa (1873–19??), Emma Ott (fl. 1880s–1902), and Johanna Witasek (1865–1910)], and Switzerland [Alice Jenne Pierrette Rodrigue Grinţescu (1871–19??), Maria Barbara Flandrina Gugelberg von Moos (1836–1918), and Charlotte Ternetz (fl. 1890s)]. In addition, Creese discusses 3 German naturalists (respectively, pp. 124–128, 128–129, and 159): Therese, Prinzessin von Bayern (1850–1925), Helene von Siebold, Baronin von Ulm zu Erbach (1848–1927), and Emma von Ramdohr (fl. 1890s). The latter two were ornithologists. The traveler and naturalist princess had a remarkable career; she journeyed extensively—throughout Europe, North Africa, the Middle East, and the Americas (Brazil in 1888, Canada, United States, and northern Mexico in 1893, much of South America in 1898), wrote in detail about her travels, and made collections of the flora and fauna in the Americas. Her plant collections in the West Indies and South America appeared in supplements of *Botanische centralblatt* (1902, 1905). She also collected over 2000 anthropological and ethnological artifacts from native peoples in the Americas. She has an entry in *TL2* 6: 248–249.

A lengthy appendix (pp. 217–235, with 93 notes) treats 15 women (6 American, 8 British, 1 of uncertain nationality) either omitted from the 1998 volume or having new information. One woman is Edith Rebecca Saunders (1865–1945) (pp. 231, 235), who was part of Agnes Arber's (1879–1960) circle in Cambridge.

Creese makes many interesting comments and conclusions. I cite, randomly, a few about the Germanic women: *(1)* Page 115: "The German states were some of the last places in Europe to allow full matriculation of women at their universities. Only in 1900 did the first state (Baden) take this step …; the process was completed within a decade, the Prussian administration issuing the necessary decree in 1909. …" Most of the 30 German women "acquired their advanced training abroad, by independent study, or by private arrangement at German universities." *(2)* Page 155: "The crucial role played by close male relatives in fostering and facilitating the work of especially successful women research scientists in France [also England] … does not appear to have been as important among the leading German women." *(3)* Page 177: "The botanical research, carried out by three women at Vienna University's botanical museum and gardens, might be considered the earliest example of a block, albeit very minor, of scientific research by women in an Austrian academic setting. … The extreme conservative outlook that reserved higher education for men until almost the turn of the century was even stronger in Austria-Hungary than in its German neighbor." *(4)* Page 177 [in a "footnote: medical women in the Balkan states" (pp. 177–178) in the chapter on Austria-Hungary]: "By the late nineteenth-century a number of women physicians worked in the region, notably in the Moslem communities of Austrian-administered Bosnia-Herzegovina. Here the need for women doctors was crucial because custom dictated that Moslem women could not be attended by male physicians." *(5)* Page 181: "The number of Swiss authors [7] might seem surprisingly low considering the early opening of Swiss universities to women and the country's reputation as a Mecca for women aspiring to advanced academic training during the last three decades of the nineteenth century. However, although formal barriers to women's enrollment in the universities began to come down in 1867, Swiss women still faced many problems in gaining access to higher education. …"

In conclusion, Creese's triplet of fascinating "ladies books" is a most worthy addition to the reference bookshelf; the three volumes are filled with valuable detail and intriguing observations and insights.

[In fall 2011 good-quality used copies of Creese's volumes 1 and 3 were selling on Amazon and elsewhere for $2.50–$2.99 each, plus $3.99 postage. By July 2012 Creese's stock had risen ten to twentyfold! Volume 2 has been fairly constant in price throughout. In November 2011 I bought for $6.49 an ex-library copy from Le Moyne College, a private Jesuit College in Syracuse, New York; apparently a Jesuit school did not have much call for a book on ladies in the laboratory.]

■ NOTICES

TAXONOMIC, HORTICULTURAL, AND ECOLOGICAL GROUPS, INCLUDING PLANT-ALGAL-FUNGAL STRUCTURE

Under "Reviews" see: Benzing; titled reviews "Evolving," "Remembrance."

Aedo, Carlos. June 2012. *Revision of Geranium (Geraniaceae) in the New World.* American Society of Plant Taxonomists, Ann Arbor (www.aspt.net) (series: *Systematic botany monographs,* vol. 95). [ii], 550 pp., [1] p. pls. (col.), text ill. (B&W), ISSN 07378211, ISBN 9780912861951 HB, $75.00 U.S., $95.00 foreign, postpaid. — With intro, tax. hist., methods, adventive spp., infragen. divisions, morph., habitats/distr., tax. pt., biblio., appendices, indices. On 137 spp. (1 new comb.) N., Cen., S. Amer. Editor Christiane Anderson (MICH) steps down after devoting 31 yrs. (1981–2011) to *SBM*2-95.

Kärnefelt, Ingvar; Seaward, Mark R.D. & Thell, Arne (ed.). May 2012. *Systematics, biodiversity and ecology of lichens.* J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin (www.borntraeger-cramer.de) (series: *Bibliotheca lichenologica,* vol. 108). [ii], ix, [ii], 290 pp., ill., ISSN 14361698, ISBN 9783443580872 PB, US$113.14. — Festschrift for Hans Martin Jahns (b. 3 June 1941), w/ tributes by eds., S. Ott & al., 17 papers [incl.: L. Ardvisson on the 9 presidents Internatl. Assoc. Lichenol. (see entry under "History …"); N.M. Fedorenko & al. on mole. phylogeny xanthorioid lichens (Ls); E.S. Hansen on Ls Greenland; S.Y. Kondratyuk & al. giving key to *Caloplaca* spp. in Austral.; R. Pino-Bodas & al. on *Cladonia conista, C. humilis* are distinct; C. Printzen & al. on *Aphanopsis, Steinia* are basal lineages in Leotiomyceta; H.J.M. Sipman on *Usnea* on smaller Aegean isles Greece; R. Sundin on lit. rev. *Arthonia* s.l.]; no index. With 72 figs., 12 tables.

Orlando-Necchi, Júnior & Vis, Morgan L. May 2012. *Monograph of the genus Kumanoa (Rhodophyta, Batrachospermales).* J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin (www.borntraeger-cramer.de) (series: *Bibliotheca phycologica,* vol. 116). 79 pp., ill., ISSN 00678112, ISBN 9783443600443 PB, US$76.73. — With abstr., intro, methods, mole. analysis, tax. pt., biblio., index. Mobio. 27 of 35 spp. (5 new comb.); w/ 26 pls.

Seaton, Philip; Cribb, Phillip; Ramsay, Margaret & Haggar, John. Nov. 2011. *Growing hardy orchids.* The Royal Botanic Gardens, Kew (www.kewbooks.com) (series: *Kewgrowing* unnum.). 128 pp., ill. (col.), 194 × 242 mm, col. ep. photo, text, ISBN 9781842461754 PB, £10.00. — With foreword by S. Hopper, 11 chaps., unill. glossary, biblio., index. On 150+ hardy spp. from Eur. N. Amer., Aust.

Sumbali, Geeta. Dec. 2011. *The fungi.* 2nd ed. Alpha Science International, Oxford (www.alphasci.com). xvi, [329] pp. (various pagings), ill., ISBN 9781842655979 HB, $64.95. [Ed. 1 2005.] — With 7 chaps. (intro; Gymnomycota; Mastigomycota; Amastigomycota; significance fungal diversity; culturing, preservation fungi; conserv.), 16-p. unill. glossary, Internet resources, test questions, biblio., indices.

FLORISTICS, BIOGEOGRAPHY, AND SYNECOLOGY

Under "Reviews" see: Anonymous, titled review "Remembrance."

Acevedo-Rodríguez, Pedro & Strong, Mark T. May 2012 (online ed. 1 Jan. 2012). *Catalogue of seed plants of the West Indies.* Smithsonian Institution Scholarly Press, Washington (www.scholarlypress.si.edu) (series: *Smithsonian contributions to botany,* no. 98). xxv, 1192 pp., ill. (3 maps), 288 × 224 × 67 mm, ISSN 0081024X HB, price unknown, ISSN 19382812 online, gratis PDF via website. — With abstr., intro, list new nomen., 649-ref. biblio., list gen. by fam., checklists by location (Bahamas; Cayman Is.; Cuba; Hispaniola; Jamaica; Puerto Rico; Virgin Is.; Lesser Antilles). On all seed pls.; 30,000+ names treated, comprising 208 fam., 2033 gen., 12,279 spp., infrasp. taxa, ca. 10,740 native, 7446 (71.1%) endemic. Searchable, updated cat. at http://botany.si.edu/antilles/westindies.

Axelrod, Franklin S. 18 Apr. 2011. *A systematic vademecum to the vascular plants of Puerto Rico.* BRIT Press, Fort Worth (www.brit.org/brit-press) (series: *Sida, botanical miscellany,* no. 34). x, 428 pp., ill. (some col.), 3 folded maps, col. ep. map, ISSN 08331475, ISBN 9781889878331 PB, $45.00. — With Eng., Span. abstrs., intro, format of book, annot. checklist, metalegomena, biblio., indices, corrs. On 210 fam., 1057 gen., 2912 spp., infrasp. taxa (3 new comb.). For rev. see R. Duno de Stefano, *Harvard Papers Bot.* 17: 11.

Das, Ajit Kumar; Dutta, Biman Kumar; Sharma, Gauri D. & Hajra, P.K. 2010. *Medicinal plants of southern Assam.* Deep Publications, New Delhi (deep_pub@hotmail.com). [vii], 247 pp., 16 pp. pls. (col.), text ill. (B&W), ISBN 9789380702025 HB, price unknown. — With foreword by T. Bhattacharjee, intro. sect. (intro; ecol., soil, geogr.; hist. Barak Valley; tribal cult., tradition; floristic composition; coll.), tax. pt., phytochem., discussion, indices, unill. glossaries, 11-p. index. On 89 fam., 246 spp. (13 pteridophytes, 233 fl. pls.).

Frankenberg,† Dirk. Mar. 2012 (reissue of 1995 ed. w/ new foreword by B. Bennett). *The nature of the Outer Banks: Environmental processes, field sites, and development issues, Corolla to Ocracoke* [cover subtitle: *A guide to the dynamic barrier island ecosystem from Corolla to Ocracoke*]. 2nd ed. The University of North Carolina Press, Chapel Hill (www.uncpress.unc.edu) (series: *A southern gateways guide,* unnum.; *Southern gateways guide,* unnum.). xv, 157, [2], pp., ill., ISBN 9780807872345 PB, $19.00. [Ed. 1 1995.] — With new foreword by B. Bennett, 15 sect. in 3 topic areas (environ. processes; guide to 6 field sites; future issues), biblio., index, bionotes Frankenberg (1937–2000), Bennett.

Thurston, Harry. 2011. *The Atlantic coast: A natural history.* Greystone Books, Vancouver (www.greystonebooks.com). [viii], 327, [1] pp., ill. (most col.), col. ep. design, ISBN 9781553654469 HB, $39.95. — With 8 chaps., biblio., common vs. Lat. names, 12-p. index. Exquisite photos by W. Barrett.

HISTORY, BIOGRAPHY, AND BIBLIOGRAPHY

Under "Reviews" see: titled reviews "Arcadia," "Women."

Ardvisson, L. May 2012. *Presidents of the International Association for Lichenology.* J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin (www.borntraeger-cramer.de) (series: *Bibliotheca lichenologica,* vol. 108). Pp. 11–19, ill. [For source see entry for Kärnefelt & al. under "Taxonomic …"] — On 9 presidents, each w/ photo, brief biogr., list main publs.: Peter James (1930–), 1969–75, Teuvo Ahti (1934–), 1975–81, Mason Hale (1928–90), 1981–87, David Galloway (1942–), 1987–92, Ingvar Kärnefelt (1942–), 1992–96, Hans Martin Jahns (1941–), 1996–2000, Pier Luigi Nimis (1953–), 2000–04, Irwin Brodo

(1935–), 2004–08, Peter Crittenden (1949–), 2008–12. An excellent overview that could serve as a model for similar efforts for other societies, incl. IAPT.

Beniamino, Irma (ed.). 2011. *Luigi Colla: Piante dal mondo nell'Orto botanico di primo '800 a Rivoli.* Neos Edizioni, [Rivoli] (www.neosedizioni.it). viii, 172, 47 pp., ill. (B&W, col.), 221 × 221 mm, ISBN 9788866080343 PB, €15.00. — For exhibit at Museo Casa del Conte Verde, Rivoli, 7 Oct.–27 Nov. 2011, with forewords by F. Rolfo & al., 13 chaps., 46 col. pls.; no index. On Luigi Aloysius Colla (30 Apr. 1766–22 Dec. 1848), "Italian lawyer and botanist, owner of a botanical garden at Rivoli near Torino" (*TL2* 1: 523–525, *TL2S* 4: 267–269).

Cowie, Helen. Nov. 2011. *Conquering nature in Spain and its empire, 1750–1850.* Manchester University Press, Manchester (www.manchesteruniversitypress.co.uk) (series: *Studies in imperialism,* unnum.). xiii, 234 pp., ill., ISBN 9780719084935 HB, £72.00. — With 7 chaps., conclusion, biblio., index. From website: During 1750–1850 "Spain made strenuous efforts to survey, inventory and exploit the natural productions of her overseas possessions, orchestrating a series of scientific expeditions and cultivating and displaying American fauna and flora in metropolitan gardens and museums. This book assesses the cultural significance of natural history, emphasising the figurative and utilitarian value with which eighteenth-century Spaniards invested natural objects, from globetrotting elephants to three-legged chickens. It considers how the creation, legitimisation and dissemination of scientific knowledge reflected broader questions of imperial power and national identity."

Deigner, Angelika (ed.). Oct. 2010. *Das CEWS dokumentiert: Frauen in Wissenschaft und Forschung [2000–2010].* GESIS, Bonn (www.gesis.org) (series: *GESIS—Leibniz-Institut für Sozialwissenschaften; Recherche spezial,* unnum.). 251 pp., unill., 297 × 210 mm, ISSN 18665810 (print) PB, price unknown, ISSN 18665829 online. gratis PDF via website. — With foreword by J. Dalhoff, 9 chaps., 4 indices, appendix. With 482 refs., mostly annot. in detail.

Gómez, Leila (ed.). 2012 (publ. Nov. 2011). *Darwinism in Argentina: Major texts, 1845–1909.* Trans. from the Span. by Nicholas Ford Callaway. Bucknell University Press, Lewisburg, and The Rowman & Littlefield Publishing Group, Lanham (www.rowmanlittlefield.com). xi, 275 pp., unill., ISBN 9781611483864 HB, $70.00. [Span. ed.: *La piedra del escándalo: Darwin en Argentina, 1845–1909,* 2008, Simurg, Buenos Aires (series: *Testimonios (Ediciones Simurg),* unnum.), ISBN 9789875541030.] — With 30-p. intro (Darwin, heart of the controversy—sci., politics, lit.), 19 selections (1845–1909) in 3 topic areas (first readers of D's *Origin;* sci. fantasies—D's followers, detractors in Argentina; D, the shaping of Argentine identity—hist.-sociol. studies), biblio., index, bionote.

Griggs, Pat (w/ an intro by Jim Endersby). Nov. 2011. *Joseph Hooker: Botanical Trailblazer.* Kew Publishing, Kew (www.kewbooks.com). 64 pp., ill. (most col.), ep. text, B&W/col. ill., 193 × 242 mm, ISBN 9781842464694 PB (fr. flaps), £10.00. — With 14-p. intro by J. Endersby, 5 chaps., biblio., no index. The front ep. w/ a chron., the back ep. on useful pls. From back cover: "A confidante of Charles Darwin, Joseph Hooker [1817–1911] made his first plant collecting expedition to Antarctica in 1837–43, an epic undertaking that took him to the ends of the known world, collecting and identifying hundreds of plants. Following a major expedition to the Himalayas and India [1847–51] and the publication of his *Himalayan Journals* and *Rhododendrons of Sikkim Himalaya,* illustrated from Hooker's own sketches by the botanical artist Walter Hood Fitch, Hooker's reputation was assured. He was appointed Assistant Director of the Royal Botanic Gardens, Kew in 1855 and followed in his father's footsteps to become director in 1865. [From publicity brochure: "1877 saw Hooker's great expedition to the Western United States, undertaken with his friend the leading American botanist Asa Gray, with Hooker eventually taking back over 1,000 specimens to Kew."] Recognized as a founding father of modern botany, he ... identified more than 12,000 new plant species." Copiously and gorgeously ill., this engaging work is the perfect pictorial companion to R. Desmond's *Sir Joseph Dalton Hooker: Traveller and plant collector* (1999; for rev. see R. Schmid, *Taxon* 49: 151–152) and Endersby's *Imperial nature: Joseph Hooker and the practices of Victorian science* (2008; see *Taxon* 57: 1392).

Hertel, Hannes. Apr. 2012. *Gattungseponyme bei Flechten und lichenicolen Pilzen.* J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin (www.borntraeger-cramer.de) (series: *Bibliotheca lichenologica,* vol. 107). [v], 157 pp., ill., ISSN 14361698, ISBN 9783443580865 PB, US$52.24. — With Eng., Ger. abstrs., intro, general info, A–Z biogr. accounts, appendix (eponyms vs. persons), 23-p. biblio., 5 pls.; no index. With 48 figs., 3 tables. On 398 gen. eponyms for 287 persons alpha. arr. "Dedications included in the original descriptions—often indispensable for the correct identification of the honoured person and sometimes including interesting biographic data—are repeated in the original wording" (p. 1).

Keenan, Mary L. 2010 (publ. 2 Feb. 2011). *That hard hot land: Botanical collecting expedition in the Anglo-Egyptian Sudan 1933–1934.* The author, 26 Broadmead, Parbold WN8 7PB, Lancashire, UK (marykeenan44@hotmail.com). 416 pp., ill., 297 × 210 mm, ISBN 9780956491008 HB, £52.00. — With intro, 21 chaps., "index" (i.e., appendices: flora Dandy coll.; animals, birds; persons, peoples; places; boats), biblio., 22 maps, 342 num. photos. From Keenan's publicity sheet:

> Between December 1933 and April 1934 three very different men travelled 6000 miles through western and southern Sudan by train, motor car, lorry, river steamer, donkey, and on foot. The expedition aimed to investigate the relationship between the vegetation and soil through a strip of country with similar temperatures but with great variations in rainfall.
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> James Edgar Dandy, botanist at the British Museum, Natural History Department (later Head Keeper of Botany), wrote a diary, took over 300 photographs and collected over 700 plants. Dunstan Skilbeck, lecturer in Soil Science at Oxford University (later Principal of Wye College, London), collected numerous soil samples and wrote a diary. Cecil Graham Traquair Morison, lecturer in Soil Science at Oxford University, was leader of the expedition (continued to lecture at Oxford, and undertook further ecological surveys in Africa, including the Sudan).
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> Accompanying them were six local men, employed as cook, drivers, and servants. Dandy's diary and field notebook, short and to the point, are supplemented by his photographs and letters, and complement Skilbeck's longer, more colourful and descriptive diary. The diaries record the work undertaken, the terrain, people met, daily hardships, humour, aggravations, conversations, soul searching, and life changing events.

A ten day trek to the volcanic caldera of Jebel Marra, Darfur is described with geological, botanical, and ethnographical observations.á Journeys are described, hunting with local tribes, fishing, and shooting for bushmeat. Tribes and their customs, chiefs, government officials, governors, district commissioners, doctors, teachers, tourists, missionaries, and all others met during the expedition; as well as agriculture, water, cotton growing, salt mining, experimental fruit farms, roads and railways, hospitals, schools, and much more, are described and researched.

Readers of *That Hard Hot Land*, whether for serious academic study or for general interest, will be taken on a specific journey through Sudan, during a specific time in history. This is part of Sudan's history, for those who have been, for those who are here now, and for those who will come.

Fide H.R. Burke (pers. comm., 25, 29 June 2012, "a rather remarkable 416-p. account of the subject, filled with not only excerpts from two diaries from the expedition but also extensive boxed supporting information, lists of plants collected, and hundreds of very good (for the time) B&W photos. There are 21 chapters rather abundantly divided into day-by-day accounts. Although there is an 'Index,' this is really a section of 'Appendices' and not an index as generally expected. The many boxed 'Notes' sections are scattered throughout the book so as to be conveniently located near the text to which they apply. Another interesting deviation from the usual is that the individual notes are unnumbered. I haven't seen anything quite like it in the plant hunter literature. … I am afraid that since Keenan privately published this work it is not going to get the very wide attention that I think it deserves." For rev. see T. Wilson, *Archives Nat. Hist*. 39: 179–180.

Lamb, Christian. Dec. 2010. *This infant adventure; Offspring of the Royal Gardens at Kew.* Bene Factum, London (www.bene-factum.co.uk). 224 pp., ill. (most col.), ISBN 9781903071298 HB, £19.99. — With foreword by T. Smit, intro (Kew), 10 chaps. on bot. gards. (St. Vincent; Jamaica; Singapore; Java; Mauritius; Ceylon; Calcutta; Sydney; Melbourne; Canberra), postscript (bot. enterprise), index. From website: "The contribution of diplomatic, military and naval exploits in the formation of the British Empire are well recorded. Far less well-known are those of botanic gardens which helped to underpin the Empire's commercial success and were also so instrumental in furthering botanical knowledge around the world. … [Lamb] unearthed a fascinating insight into a selection of these gardens and the people who helped to make them."

Moran, Jeffrey P. Feb. 2012. *American genesis: The anti-evolution controversies from Scopes to creation science.* Oxford University Press, New York (www.oup.com). xi, 196 pp., ill., ISBN 9780195183498 HB, $29.95. — With intro, 5 chaps., biblio., index. Another book about this tiresome, distinctively Amer. debate.

Rutkow, Eric. Apr. 2012. *American canopy: Trees, forests, and the making of a nation*. Scribner, New York (www.simonandschuster.com). vii, 406, [1] pp., ill., ISBN 9781439193549 HB, $29.00, ISBN 9781439193587 PB, $16.00, ISBN 9781439193600 e-book, $14.99. — With intro, 10 chaps., epilog, notes, biblio., index, bionote. From website: "Story of the relationship between Americans and trees across the entire span of our nation's history."

Sepkoski, David. Apr. 2012. *Rereading the fossil record: The growth of paleobiology as an evolutionary discipline.* The University of Chicago Press, Chicago (www.press.uchicago.edu). [v], 432 pp., ill., 9780226748559 HB, $55.00. — With intro, 10 chaps., conclusion, list abbrs., biblio., index. Almost nada on paleobot.

Taylor, Edith L. (comp.). 24 Aug. 2009. *Bibliography on women and minorities in science.* etaylor@ku.edu. 202 pp., unill. (PDF of DOC file). — Annot. biblio. comp. for a seminar on women in sci., w/ 4 pts.: general; biogr./hist. refs.; book revs.; other biblios.

OTHER TOPICS

Under "Reviews" see: titled reviews "Untangling," "Evolving," "Rheingold's," "Remembrance."

Adams, Jonathan (J.M.). 2009. *Species richness: Patterns in the diversity of life.* Springer, Berlin (www.springer.com), in assoc. w/ Praxis Publishing, Chichester (series: *Springer-Praxis books in environmental sciences.,* unnum.). xvii, [ii], 380 pp., [16] pp. pls. (col.), text ill. (B&W), ISBN 9783540742777 HB, ISBN 9783642093630, each US$189.00. — With list abbrs., 8 chaps. (local scale patterns in richness spp.; latitudinal gradients; deep time, mass extinctions; hotspots, coldspots; humans as a destroyer of spp.; knowing what is out there; curr. threats; holding on to what is left), biblio., index. For rev. see M.C. Roos, *Blumea* 55: 201.

Fleischner, Thomas Lowe (ed.). May 2011. *The way of natural history.* Trinity University Press, San Antonio (http://web.trinity.edu/x1087.xml). [vi], 218 pp., unill., ISBN 9781595340733 HB, $45.00, ISBN 9781595340740 PB, $16.95. — A selection of 22 poems and essays, w/ bionotes.

Maschinski, Joyce & Haskins, Kristin E. (ed.). Mar. 2012. *Plant reintroduction in a changing climate: Promises and perils* [at head of cover title: Society for Ecological Restoration; on t.p.: Center for Plant Conservation]. Island Press, Washington (www.islandpress.org) (series: *The science and practice of ecological restoration,* unnum.). xx, 402, [1] pp., ill., ISBN 9781597268301 HB, $100.00, ISBN 9781597268318 PB, $50.00. — Based on symp. held fall 2009 in Saint Louis, w/ foreword by P.H. Raven, intro by eds., 14 chaps. in 4 topic areas [rev. pl. reintro (R); R sci., practice; managed relocation; synthesis, 2 appendices (guidelines best R practice; studies used for meta-analysis), 4-p. glossary, 53-p. biblio., bionotes, 13-p. index. From back cover: "Plant reintroduction is an established technique for conserving rare ... species that may not otherwise survive. This volume offers a comprehensive review of plant reintroduction projects and protocols, and discusses the potential role of reintroduction and managed relocation for preserving species threatened by climate change."

Maxted, Nigel; Dulloo, M. (Mohammad) Ehsan; Ford-Lloyd, Brian V.; Frese, Lothar; Iriondo, José M. & Pinheiro de Carvalho, M.Ă.A. (ed.). Mar. 2012. *Agrobiodiversity conservation: Securing the diversity of crop wild relatives and landraces.* CABI, Wallingford (www.cabi.org). xxi, 365 pp., ill., ISBN 9781845938512 HB, US$180.00. — Conf. held Sep. 2010 in Funchal, w/ 43 papers in 6 topic areas, index.

Salzman, Lorna. Aug. 2011. *Politics as if evolution mattered: Darwin, ecology, and social justice.* iUniverse, Bloomington (www.iuniverse.com). [v], 78 pp., unill., ISBN 9781462034765 HB, $20.95, ISBN 9781462034758 PB, $10.95, ISBN 9781462034772 e-book, $9.99. — With intro, 15 chaps., afterword, biblio.; no index. From website: "Salzman's special concern is the resurgence of irrationality, anti-intellectualism and anti-science attitudes."