

ies may depend on which species and which stages of the life cycle are examined and a consideration of the indirect interactions among three or more species.

In Chapter 4, Lockwood, Moulton, and Balent use an experimental null-model approach to examine patterns of successful colonization of islands by introduced avifauna. Thus, statistical approaches and a natural experiment are combined in a powerful demonstration of the importance of assembly rules. Such an experimental approach is revisited by Lockwood and Pimm in Chapter 13, "When does Restoration Succeed?" Because restoration ecology is inherently experimental in nature (or at least it should be), restoration projects may provide the best opportunity to test hypotheses about community assembly. In their review, Lockwood and Pimm discover that full restoration is rarely achieved, but that restoration efforts that include secondary succession are more likely to succeed than those that rely on micromanagement of community structure.

In Part II, the reader learns about other nontraditional perspectives on assembly rules. In the introductory chapter of the book, Keddy and Weiher provocatively state that "asking if there is pattern in nature is akin to asking if bears shit in the woods." In Chapter 9, Weiher and Keddy start with the assumption that nonrandom patterns of assembly exist in natural communities and then ask if it is possible to devise a set of rules that can be used to predict patterns of assembly of functional groups along environmental gradients. Quite interestingly, they find that when the analysis is focused on traits rather than species, some trait patterns show evidence of competition (i.e. limiting similarity inferred from morphological overdispersion), whereas others show evidence of having passed through an environmental filter or sieve (morphological underdispersion). The authors suggest that filtering is more important in stressful habitats, whereas competition appears to be more important in less-stressful habitats. Similarly, Strange and Foin (Chapter 11) expand the concept of assembly rules to include an emphasis of the role of the physical environment on stream fish assemblages. In an extremely well-written chapter, Diaz, Cabido, and Casanoves (Chapter 12) use a similar trait-environmental analysis to identify assemblages of functional groups of plants that are predicted to change with global climate change. They further highlight how changes in functional-group composition of assemblages in response to global environmental change may alter ecosystem function. Other chapters in Part II (e.g. Chapter 8 by Drake et al., Chapter 10 by Lomolino) fruitfully expand the concept of assembly rules to evaluate the spatial and temporal dynamics of community assembly.

To summarize, this timely and important book has much to offer anyone interested in community ecology, avian or otherwise. For those interested in a re-

view and reading about the current status of the debate over the statistical methodology used to test for the existence of "forbidden combinations," this volume suits that purpose perfectly. For those interested in empirical data on assemblages rather than disputes over methodology, read Martin Cody's detailed chapter (no. 6) on plant and bird communities. Booth and Larson's chapter (no. 7) provides an interesting and informative history of the study of assembly rules, pre-Diamond era. For those interested in the potential for expanding the concept of assembly rules beyond Diamond's original intent, all of Part II is helpful.

Ecological Assembly Rules, along with Gotelli and Graves' (1996) *Null Models in Ecology*, is ideal for use in a graduate-level seminar on the assembly of communities. Chapters 4 and 6 deal specifically with bird communities and, thus, could be read in seminars pertaining to avian ecology. Also, the book would serve as excellent supplementary reading in a graduate-level Community Ecology course while also being extremely helpful at suggesting and guiding avenues for research in community ecology. Unfortunately, the exorbitant price (\$90.00) may place the book beyond the financial reach of many graduate students. Nevertheless, I highly recommend the book for research and graduate-level teaching.—J. STEPHEN BREWER, *Department of Biology, University of Mississippi, University, Mississippi 38677, USA.*

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John Gould the Bird Man: Correspondence. Volume 1, through 1838.—Gordon C. Sauer. 1998. Maurizio Martino, Mansfield Centre, Connecticut. xiv + 340 pp. ISBN 1-57898-063-1. Cloth, \$58.00. **John Gould the Bird Man: Correspondence. Volume 2, 1839 through 1841.**—Gordon C. Sauer. 1998. Maurizio Martino, Mansfield Centre, Connecticut. x + 408 pp. ISBN 1-57898-078-X. Cloth, \$64.00 (available from Maurizio Martino Publisher, Box 373, Mansfield Centre, Connecticut 06250).—It is difficult to imagine that anyone had a greater influence on 19th century ornithology than John Gould. In the 50-year

period between 1831 and 1881, Gould described more than 600 taxa of birds, including 98 genera and 386 species that remain valid to this day (A. P. Peterson pers. comm.). Moreover, he directed the production of lavishly illustrated and scientifically accurate works on the birds of Europe, Australia, Asia, Great Britain, and New Guinea, in addition to definitive monographs on toucans, trogons, New World quails, and hummingbirds. It is equally difficult to imagine that anyone from the 20th century has been more devoted to understanding the life of John Gould than has Gordon Sauer. Dr. Sauer's first major work on Gould, *John Gould the Bird Man: A Chronology and Bibliography* (1982), provided a detailed look into the life and works of this fascinating man. Sauer later published *John Gould the Bird Man: Associates and Subscribers* (1995) and *John Gould the Bird Man: Bibliography 2* (1996). At present, he is in the midst of a most ambitious project: reproducing the more than 4,500 extant letters from, to, or about John Gould. Volume 3 of *Correspondence* will appear before this review is published, and Sauer is hard at work on volume 4; he estimates that 18 volumes will be required to complete the project!

Volume 1 includes a thorough genealogy of the Gould family. Both volumes contain a list of Gould's major published works, a brief chronology of Gould's life, and notes on the correspondence to facilitate the use of the books. The bulk of the correspondence material was supplied by Gould's living family members, the Mitchell Library in Sydney, Australia, and the British Museum (Natural History), the latter containing the largest intact collection of Gould correspondence (ca. 3,500 letters). Sauer was ably assisted by Ann Datta of the British Museum, who supplied him with photocopies of many of the original letters, and by Storrs Olson of the Smithsonian Institution's National Museum of Natural History, who painstakingly reviewed the manuscripts and updated the nomenclature for many of the birds mentioned in the correspondence.

The letters themselves have been typed directly from photocopies of the originals or from the originals themselves, sometimes in their entirety, and sometimes in part. Many contain Sauer's brief annotations that help set the context by identifying the person connected with the letter or by providing some other useful tidbit of information. Sauer makes no attempt to identify all of the people mentioned in the letters, but he states that biographical notes on more than 2,770 of these individuals are provided in *John Gould the Bird Man: Associates and Subscribers* (1995). Thus, one should obtain a copy of that book to maximize the utility of the *Correspondence* volumes.

The correspondence from the first two volumes spans the period from when Gould was appointed "curator and preserver" for the newly formed Zoological Society of London in 1828 to the death of his

wife Elizabeth in 1841. In between, Gould got started in the publishing game with *A Century of Birds Hitherto Unfigured from the Himalaya Mountains* (1830 to 1832), which was followed closely by *The Birds of Europe* (1832 to 1837) and the first editions of his monographs on toucans (1833 to 1835) and trogons (1835 to 1838). This period also includes Gould's visit to Australia from September 1838 to April 1840 (accompanied by Elizabeth and Gould's valued field collector John Gilbert), which ultimately led to his monumental work *The Birds of Australia* (1840 to 1848).

In these volumes we find letters to and from many of the prominent naturalists and scientists of the day, including Audubon, Darwin, Jardine, Owen, Selby, Strickland, and Swainson. Volumes 1 and 2 also include several letters from Edward Lear, who worked for Gould from 1831 until 1837, during which time Lear executed some of the finest bird illustrations ever produced. That said, William Hewitson's remarks (7 November 1836) to Gould concerning *The Birds of Europe* are especially vexing: "... beautiful it certainly is, except where Mr. Lear is allowed to blot its pages . . ." Also of interest is the letter by William Swainson to a Dr. Williams on 3 April 1832, in which Swainson remarks of *A Century of Birds* "... this tawdry publication has been well puffed into notice—without any other claim to attention than the few new species it contains. The figures evince a total ignorance of the anatomy of birds, and are, with scarcely one exception, distorted poses of the attitudes stolen from Audubon and myself . . ." Does one detect a hint of jealousy here?

Especially interesting are the many letters between Gould and William Jardine; one such letter, written by Gould on 19 December 1833, includes a sketch of the head of an Imperial Woodpecker, a spectacular species that Gould had described several months earlier. Also of special significance are the exchanges about Darwin's collections that took place among several scientists shortly after Darwin returned from his famous voyage on *The Beagle*. Space limitations preclude me from doing any more than scratch the surface with regard to the many letters included within these *Correspondence* volumes. Suffice it to say that anyone with an interest in 19th century ornithology will find no shortage of fodder to feed his or her curiosity.

A brief look at either volume of *Correspondence* is sufficient to make one realize that Sauer is doing historians and ornithologists a huge service in compiling this vast storehouse of information. Each volume is thoroughly indexed so that one can find every mention of a particular person or species, no matter how minor a role that entity played in the letter in question. As stated in Storrs Olson's review of *Associates and Subscribers*, Gordon Sauer's compilations will enable some future historian of biology to assess "the breadth and depth of Gould's lasting contributions to ornithology" so that we may "understand

fully just how extraordinary Gould's accomplishments really were" (*Auk* 114:541, 1997).

Despite the value and utility of these volumes, they are not destined to become "best sellers," because the production of each is strictly limited to 400 copies. Who should obtain these books? Without question, the libraries of all major ornithological research institutions should acquire them. So, too, should those among us whose interest in Gould borders on obsession. If your interest in 19th century natural history is strong but not consuming, you probably will be better off investing in Sauer's *Chronology and Bibliography* (1982), if you can find a copy. But if you are in this latter category, don't hesitate to track down and peruse at least one of the *Correspondence* volumes, for your efforts will be rewarded.—JEFFREY S. MARKS, *Montana Cooperative Wildlife Research Unit, University of Montana, Missoula, Montana 59812, USA.*

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Hancock House Encyclopedia of the Lories.—Rosemary Low. 1998. Hancock House, Blaine, Washington. 432 pp., 175 color photographs, numerous maps and tables. ISBN 0-88839-413-6. Cloth, \$70.00; Limited collector's edition, \$300.00.—Rosemary Low spent 10 years in the production of this important work. It is not a rewrite of her 1977 *Lories and Lorikeets*, but rather is a completely new book. The collector's edition is limited to 100 copies and has a special green binding with gold lettering and comes with a signed and numbered print of a Red-chinned Lorikeet (*Charmosyna rubrigularis*) by wildlife artist Gamini Ratnavira. The print is suitable for framing but is not one of Ratnavira's better pieces. The regular edition has a beautiful color cover depicting a family of Red-collared Lories (*Trichoglossus haematomus rubritorquis*) painted by Australian artist Rachel Lewis. Both editions are printed on high-quality paper.

The Encyclopedia is divided into four parts. Part 1, "Alphabetical Listing of Topics," includes more than 90 listings, with topics ranging from lories in art to lories in zoo exhibits. In between are such diverse subjects as CITES, field studies, and the reproductive span of lories. These topics are listed alpha-

betically and are really quite informative, as an encyclopedia should be.

Part 2, "Lory Species Accounts," takes up 238 of the book's 432 pages. Low's accounts of the 53 lory species are written in an interesting and personal style. She combines scientific observations with ornithological, avicultural, and personal experiences. The species accounts are very detailed and describe the adults as well as the immature birds, sexual dimorphism, if any, and subspecies descriptions. Also included are the topics of natural history and aviculture. Under these headings such things as range, habits, nesting, status in the wild and in captivity, breeding data, and chick development are covered. A tremendous amount of avicultural detail is provided for the more common species. It is unfortunate that the color photographs were not interspersed with the text for each species. Of course, grouping them all in the center certainly cut printing costs, but it would have been nice had each photo appeared next to its respective descriptive text. In many cases, the photos are spectacular. Some of the head studies are especially nice. Most notable are the Kuhl's Lory (*Vini kuhlii*) on page 103 and the Blue-streaked Lory (*Eos reticulata*) on page 115. There are a couple of interesting photos of New Guinea tribesmen, including one depicting a medicine man's headdress that contains, among other things, the skins of Josephine's (*Charmosyna josefinae*) and Yellow-billed (*Neopsittacus musschenbroekii*) lorikeets.

Part 3, "Lorikeets in Australian Gardens," is a brief six-page contribution from a variety of Australians on the lories in their gardens and parks. Low makes a plea here for the use of natural shrubs and trees for attracting lories into yards rather than the less-than-ideal practice of offering sugar water at feeders. A list of the appropriate plants is included.

Part 4, "Gazetteer," alphabetically lists the various islands in the range of lories and the species that occur there. Like the previous section, this one is small, consisting of only five pages. It would probably be most useful to the traveler in Indonesia as a quick reference for species likely to be encountered at any given location. Ten pages of references follow this last part.

Anyone with an interest in parrots should have Low's *Encyclopedia of the Lories* in their library. The detailed tables and charts of mass gains may be most useful to aviculturists, but they also will appeal to the person interested in the natural history of these beautiful birds. This volume is the best treatment of the Loriinae to date.—DICK SCHROEDER, *P.O. Box 305, Fallbrook, California 92088, USA.*