

BOOK REVIEWS

BARRY G. HALL. 2010. **Phylogenetic Trees Made Easy: A How-To Manual, Fourth Edition**. 2011. (ISBN-13: 978-0-87893-606-9, pbk.). Sinauer Associates, Inc., 23 Plum Tree Road, P.O. Box 407, Sunderland, Massachusetts 01375-0407, U.S.A. (**Orders:** 413-549-4300, orders@sinauer.com). \$49.95, 282 pp., 221 illustrations, 9¼" × 7".

The author describes this book as “a ‘cookbook’ intended to aid beginners in creating phylogenetic trees from protein or nucleic acid sequence data.” It should not be used as a stand alone text, but it is a wonderful “how-to” manual of creating and describing the phylogenetic trees produced by inputting molecular data. It provides steps from start to finish on how to build and interpret a tree.

The first few chapters of the book describe the different computer programs (many of which are free downloads) and how exactly to use these programs. Most helpful are the many figures in the book which guides a user through every step. “Click” and “drag” are words commonly used by the author to literally walk a user through the somewhat confusing programs to beginners. Some of the programs that the author uses are BLAST, MUSCLE, ClustalW, MEGA 5, GUIDANCE, and Codeml. Later chapters describe some of the more (in this reviewer’s mind) complex diagrams and explanations of the data such as phylogenetic networks and type of directional selection.

The author does go into some detailed explanations in the “Learn More About” boxes found throughout the book. He explains evolutionary models, parsimony, distance methods, Bayesian inference, and others. However, as stated earlier, the author intends this book to be a supplement to a phylogenetics text.

Overall, this is an incredibly helpful book to those trying to reconstruct the evolutionary histories of proteins, species, or populations.—*Sam Kieschnick, Botanical Research Institute of Texas, 1700 University Drive, Fort Worth, Texas 76107-3400, U.S.A.*

DAVID M. WILLIAMS AND SANDRA KNAPP, EDITORS. 2010. **Beyond Cladistics or the Branching of a Paradigm**. (ISBN-10: 0520267729, ISBN-13: 978-0-520-26772-5, hbk.). Species and Systematics Series 3. The University of California Press, Berkeley, CA, c/o California/Princeton, Fulfillment Services, 1445 Lower Ferry Road, Ewing, New Jersey 08618, U.S.A. (**Orders:** phone 1-800-777-4726). \$65.00, 330 pp., 14 b/w photos, 47 illustrations, 8 tables, 6" × 9".

The book is prefaced by a remark that, according to Colin Patterson and echoed by Gary Nelson, the cladistics revolution “began in the 1960s, accelerated in the 1970s, and was virtually complete by the eighties”. Cladistics is phylogenetic systematics which is a method of discovering, unraveling, and then testing hypotheses of evolutionary history. Even though the broad outlines have been established, this book illustrates that methodologies and techniques are developing as well as being improved. Newer analytical tools and more imaginative uses are also contributing to the development of cladistics. This book is about the future of cladistics and the ways it has and is influencing its future. It is also a tribute to Chris Humphries who is now a major force in its development. In addition to studying the species as a unit (which is comprised of its past, present and future), a new tool, DNA, now brings the species back into the picture. The book is divided into Botany, Cladistics and Biogeography, each with several chapters by various authors. An excellent book with in-depth analysis explaining why cladistics’ real value lies in the careful specimen examination and then comparing it to previously described taxa.—*Troy Mullens, Volunteer, Botanical Research Institute of Texas, 1700 University Drive, Fort Worth, Texas 76107-3400, U.S.A.*