

BOOK REVIEW 2007 - #3

Burger, William C. *Flowers: How They Changed The World*. 2006. 337 pages; line drawings; colored photographs; notes with references; glossary; index. Prometheus Books, Amherst, New York. Hard Cover (5 X 7 inches). ISBN 1-59102-4072. Price: US \$23.00. Available from Prometheus Books, 59 John Glenn Drive, Amherst, New York 14228.

Burger has done it again! As with his previous tome (Burger, 2003), he has given us another first-rate, captivating, and exploratory read in natural history. In *Flowers: How They Changed The World*, Burger expertly takes the reader on a journey through the life history and evolution of flowering plants, their importance in the development and maintenance of ecosystems, and their influence on humankind's beginnings, social development, and well-being. Also, the author's life-long enthusiasm for botany and the sharing of his keen field observations add considerable appeal to the text.

Following a brief introduction about the global significance of flowering plants and a challenge to intelligent design, the author's treatment of the largest taxonomic group of photosynthetic plants, the flowering plants or angiosperms, is achieved in eight clearly written chapters. Each chapter is entitled with an intriguing question or phrase. They are by chapter: 1) "what, exactly is a flower?"; 2) "what are flowers for?"; 3) "flowers and their friends"; 4) "flowers and their enemies"; 5) "how are flowering plants distinguished?"; 6) "what makes the flowering plants so special?"; 7) "primates, people and the flowering plants"; and 8) "how flowers changed the world".

Subsequent to these chapters there are three sections preceding the subject index. The first section entitled "epilogue" is a concise essay on the long term development of relationships of humans and selected flowering plants, and the adverse impacts of these relationships on our planet's biosphere. The author then takes the reader to the disquieting question. What's next – changing our way of sharing the biosphere or another great extinction? We prefer the first option. The next section "notes" is essentially an annotated bibliography. Each chapter and section has its own set of "notes" and reference numbers that are referenced in the text by small subscript numbers. After the "notes" is the "glossary" where numerous technical terms applicable to plant biology are defined.

Flowers: How They Changed The World is not intended to be an introductory textbook. Thus, readers wishing to enlarge their knowledge of basic plant biology need to examine college level textbooks. In addition to the first-rate botanical books recommended by the author (p. 272), we recommend Graham, Graham, and Wilcox's (2006) excellent textbook entitled – *Plant Biology*. Chapter thirteen has noteworthy discussions and illustrations on the difficult concept of meiosis within the gametic, zygotic, and sporic life cycles. As a reminder, all plants (i.e., bryophytes, ferns, fern allies, gymnosperms, and angiosperms) and some algae have sporic life cycles. And during the sporic life cycles, spores (1n) are produced by meiosis, whereas gametes (1n) are produced by mitosis.

This book certainly fills a need in our society with respect to the transmission of scientific knowledge by scientists to the general public [In her recent article entitled – *Who Is Science Writing For?*, Margaret Wertheim (2006) expressed this social concern and

challenges scientists to participate in popular science writing]. Besides the basic plant science information in the book, Burger's personal experiences and insights will be helpful to anyone teaching plant biology at all educational levels. Also, college students of biochemistry, botany, and zoology will find this book informative and fun to read along with the textbooks of their introductory courses. Buy or borrow it, read it, and discuss – *Flowers: How They Changed The World*.

Reviewers: James R. Rastorfer, Department of Biological Sciences
Chicago State University, Chicago, IL 60628
and Department of Botany, The Field Museum, Chicago, IL 60605
Judith B. Rastorfer, 547 Lakewood Boulevard, Park Forest, IL 60466

Literature Cited

- Burger, W.C. 2002. *Perfect Planet, Clever Species: How Unique Are We?* Prometheus Books, Amherst, New York. 345pp. (For a review of this book see: *Transactions of the Illinois State Academy of Science* 98(1&2): 83-85, 2005).
- Graham, L.E., J.M. Graham, and L.W. Wilcox. 2006. *Plant Biology*. Second Edition. Pearson/Prentice Hall, Pearson Education, Inc. Upper Saddle River, New Jersey. 670 pp.
- Wertheim, M. 2006. Who Is Science Writing For? *BioScience* 56(8): 640-641.

