

## Some Other Books of Interest

**Human Polymorphic Genes.** World Distribution. ARUN K. ROYCHOUDHURY and MASATOSHI NEI. Oxford University Press, New York, 1988. xii, 393 pp., illus. \$56.

Noting that human populations are polymorphic for a large number of genetic loci and that data on polymorphisms are useful for both scientific and practical purposes, Roychoudhury and Nei have undertaken "to compile the gene frequency data for all polymorphic loci so far studied." In this book they present such data for 362 loci or genetic systems from some 180 populations. The book opens with 30 pages of "general guidance," including a technical discussion of the utility of gene frequency data directed to workers in human genetics, physical anthropology, genetic counseling, and paternity testing and a tabular guide to loci included in the book. Some 230 pages are then given over to the tables of data, grouped under the headings Enzymes, Proteins, Blood Group and Platelet Antigen Systems, HLA (Histocompatibility) Systems, Immunoglobulin Systems, DNA Polymorphism, and Miscellaneous. Loci are arranged alphabetically within the tables, and for each are given place and population studied, alleles, number of individuals examined, heterozygosity expected under random mating, paternity exclusion probability, and literature sources. A set of 53 maps showing world distributions of gene frequencies follows the tables. Appendixes listing loci by populations examined and by gene symbol and a bibliography of some 1500 references conclude the volume. The compilers intend to continue the project and ask to be notified of new data or any errors found in the book.—K.L.

**Sex Determination in Mouse and Man.** ANNE McLAREN and M. A. FERGUSON-SMITH, Eds. The Royal Society, London, 1988. viii pp. + pp. 3–157, illus., + plates. £37.60. Reprinted from *Philosophical Transactions of the Royal Society of London*, vol. B322 (1988). From a meeting, London, U.K., March 1988.

The title of this volume should be interpreted figuratively, for in fact it covers a range of species, including the nematode *Caenorhabditis elegans* and *Alligator mississippiensis*. As the editors note in the preface, the 1987 report by Page *et al.* of the cloning of a possible sex-determining gene has given rise to interest in the role of the zinc finger protein, and the implications of this and other new developments are considered by the contributors. In one of the four papers devoted specifically to *Homo sapiens* Page

himself considers whether the gene *ZFY* is the testis-determining factor. The other three papers consist of a review by J. Weissenbach of efforts to map the Y chromosome, a discussion by Ferguson-Smith and N. A. Alfara of anomalies possibly associated with X-Y interchange, and an account by P. N. Goodfellow *et al.* of the pseudoautosomal gene *MIC2*. In the one paper devoted explicitly to mice C. E. Bishop *et al.* present an "alternative model" for the origin of the *Sxr* ("sex reversed") region of the Y chromosome. Other papers deal with mammals more generally, considering among other topics the role of autosomal genes and of the H-T antigen, aberrant chromosomal mechanisms, events controlling testicular differentiation, and the existence of a marsupial-eutherian dichotomy in the process of sex determination. In all, the volume contains 15 papers, most accompanied by transcripts of discussion that followed their original presentation.—K.L.

**Algae as Experimental Systems.** ANNETTE W. COLEMAN, LYNDA J. GOFF, and JANET R. STEINTAYLOR, Eds. Liss, New York, 1989. xiv, 333 pp., illus. \$70. *Plant Biology*, vol. 7. Based on a conference, June 1988.

"Nearly all the structures and functions that have evolved in eukaryotic organisms can be studied in one or more of the many groups of algae," write Coleman and Goff in the preface to this volume. Citing several "landmark discoveries" that have been based on algae and predicting that algae will continue to be important model systems in biology, they present this volume in the hope that it "will serve as a source of reference and inspiration, creating an awareness of the potentials and advantages of the algae as research tools." The papers in the volume are expanded, refereed versions of presentations made at a conference sponsored by the American Society for Cell Biology. Section 1, focused on components of the cytoskeleton, contains six papers discussing studies of anaphase spindle elongation, the centrosome-associated protein centrin, the genetics of basal body function and assembly, cytoplasmic movement and morphogenesis, and the formation and activity of scales and spines. In section 2 morphogenesis and differentiation are discussed with reference to studies of *Fucus*, *Griffithsia*, *Volvox carteri*, and desmids. Cellular recognition is the theme of section 3, which includes papers on recognition proteins, the modulation of sexual agglutinability, and rhodopsin activation in *Chlamydomonas* and the role of pheromones in sexual reproduction in brown algae. The fourth and final section is devoted to photoreactions, includ-

ing photosynthetic membrane organization, the photosynthetic apparatus in red algae, phycobilisome biosynthesis, and circadian rhythms in dinoflagellates. A listing of poster presentations from the meeting and a subject index conclude the volume.—K.L.

## Books Received

**Blood Substitutes.** Thomas M. S. Chang and Robert P. Geyer, Eds. Dekker, New York, 1989. xvi, 716 pp., illus. \$99.75. Reprinted from *Biomaterials, Artificial Cells, and Artificial Organs*, vol. 16, nos. 1–3 (1988). From a symposium, Montreal, Quebec, 1987.

**The Book of the Year.** Middle American Calendrical Systems. Munro S. Edmonson. University of Utah Press, Salt Lake City, 1988. x, 313 pp., illus. \$40.

**Crimes of Obedience.** Toward a Social Psychology of Authority and Responsibility. Herbert C. Kelman and V. Lee Hamilton. Yale University Press, New Haven, CT, 1989. xvi, 382 pp. \$29.95.

**Crop Safeners for Herbicides.** Development, Uses, and Mechanisms of Action. Kriton K. Hatzios and Robert E. Hoagland, Eds. Academic Press, San Diego, CA, 1988. xiv, 400 pp., illus. \$69.95.

**Ecological Implications of Contemporary Agriculture.** H. Eijssackers and A. Quispel, Eds. Munksgaard, Copenhagen, 1988. 211 pp., illus. Dkr 250. *Ecological Bulletins*, no. 39. From a symposium, Wageningen, The Netherlands, Sept. 1986.

**Electrooptical Arrays.** D. I. Voskresenskii, A. I. Grinev, and E. N. Voronin. Springer-Verlag, New York, 1989. xx, 318 pp., illus. \$84.50. Translated from the Russian edition (Moscow, 1986) by Peter F. H. Priest.

**A Guide to Museum Pest Control.** Lynda A. Zycherman and John Richard Schrock, Eds. Foundation of the American Institute for Conservation of Historic and Artistic Works and Association of Systematics Collections, Washington, DC, 1988. xii, 205 pp., illus. Paper, \$36.

**Handbook of Systems Analysis.** Vol. 2, Craft Issues and Procedural Choices. Hugh J. Miser and Edward S. Quade, Eds. North-Holland (Elsevier), New York, 1988. xxii, 681 pp. \$115.

**An Introduction to Zeolite Molecular Sieves.** A. Dyer. Wiley, New York, 1988. xiv, 149 pp., illus. \$64.95.

**The Jurassic Ammonite Zones of the Soviet Union.** G. Ya. Krymholts, M. S. Meszhnikov, and G. E. G. Westermann, Eds. Geological Society of America, Boulder, CO, 1988. viii, 116 pp., illus. Paper, \$22.50. GSA Special Paper no. 223. Translated from the Russian edition (Leningrad, 1986).

**Laccoliths.** Mechanics of Emplacement and Growth. Charles E. Corry. Geological Society of America, Boulder, CO, 1988. x, 110 pp., illus. + plates in pocket. Paper, \$27.50. GSA Special Paper no. 220.

**Public Policies and the Misuse of Forest Resources.** Robert Repetto and Malcolm Gillis, Eds. Cambridge University Press, New York, 1988. xiv, 432 pp. \$69.50; paper, \$27.95. A World Resources Institute Book.

**Quantum Description of High-Resolution NMR in Liquids.** Maurice Goldman. Clarendon (Oxford), New York, 1988. xvi, 268 pp., illus. \$65. International Series of Monographs on Chemistry, vol. 15.

**The Secretory Event.** W. T. Mason and D. B. Sattelle, Eds. The Company of Biologists, Cambridge, U.K., 1988 (distributor, Biochemical Society Book Depot, Colchester, U.K.). iv, 345 pp., illus., + plates. \$75. *Journal of Experimental Biology*, vol. 139. From a meeting, Kolimbari, Greece, March 1988.

**Vegetation History.** B. Huntley and T. Webb III, Eds. Kluwer, Norwell, MA, 1988. xx, 803 pp., illus. \$220. Handbook of Vegetation Sciences, vol. 7.

**VLSI in Medicine.** Normal G. Einspruch and Robert G. Gold, Ed. Academic Press, San Diego, CA, 1988. xii, 270 pp., illus. \$85. VLSI Electronics Microstructure Science, vol. 17.

**Wave Phenomena.** Theoretical, Computational, and Practical Aspects. Lui Lam and Hedley C. Morris, Eds. Springer-Verlag, New York, 1989. xii, 275 pp., illus. \$49.95. From a conference, San Jose, CA, June 1988.

**Western Chou Civilization.** Cho-Yun Hsu and Kathryn M. Linduff. Yale University Press, New Haven, CT, 1989. xxvi, 421 pp., illus. \$45. Early Chinese Civilization.