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Review Of "Fifty Animals that Changed the Course of History" By E. Chaline

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MYCOLOGY

21st Century Guidebook to Fungi.

With roughly 100,000 described species and possibly millions of unnamed species, fungi make up one of the major clades of eukaryotes. Fungi play key roles in the carbon cycle, as decayers, mutualistic symbionts, or damaging parasites of primary producers. The impact of fungi on human affairs is massive, both positive (e.g., as sources of antibiotics or biofuels) and negative (e.g., as pathogens and agents of spoilage). Moore et al. have taken on a major challenge in writing a guidebook to this ancient branch of the tree of life, and have succeeded marvelously. The range of topics treated here is vast, from evolutionary origins and classification, to cell biology, genetics, ecology, and bioinformatics. Throughout, there is extensive reference to the primary literature. All textbooks are out of date as soon as they are published, but the information here will be of lasting value and the connection to the literature will enable students and researchers to follow citations and quickly get up to speed on the latest advances. I paid particular attention to the sections on phylogeny and classification, which draw heavily on the 2007 Assembling the Fungal Tree of Life (AFTOL) classification of fungi and the 2006 “Deep Hypha” volume of Mycologia (Volume 98, Issue 6). This material will provide a solid ground-

The printed version of this text is massive, and in its paperback form it is an unwieldy, floppy handful. Fortunately, there is an excellent companion CD included with the hard copy that makes for easy browsing and encourages readers to explore content and surf connections in this very rich volume (including links to references on JSTOR, Science Direct, and other publisher’s websites). The CD provides all of the convenience of a website, with none of the concerns about stability, broken links, or unanticipated changes in content. Indeed, one wishes that the publisher would make the volume available as a CD alone.

As encyclopedic as this text is, it still manages to have a personal, occasionally quirky tone. For example, in section 17.15 on penicillin and other pharmaceuticals, we learn that the Lord Carnarvon, who discovered Tutankhamun’s tomb in 1922, died of a Staphylococcus infection (which now can be cured with fungus-derived antibiotics). Such passages may make the text somewhat longer than it absolutely needs to be, but they also make for lively reading that has the potential to engage students (and, on the CD, length is not such an issue).

This remarkably comprehensive volume will be useful to every scientist and educator whose work touches on the fungi, and it is coming out just as the tsunami of fungal genomes is gathering. This 21st Century Guidebook to Fungi will provide a wealth of background information necessary for interpreting the coming flood of data from various “-omics” technologies in fungal biology.

DAVID S. HIBBETT, Biology, Clark University, Worcester, Massachusetts

ZOOGY

Fifty Animals that Changed the Course of History.

This is a fun read. Each animal has its own section and each section is anywhere from two (Dodo, Carp, and Cochineal) to eight pages (Human) in length. Chaline’s book is visually pleasing. The basic template for each section includes a short introductory paragraph defending the choice of the animal as one
Forest Entomology: A Global Perspective.


I often find myself staring out of my office window during periods of low travel funding, wondering what forest insect challenges look like in other parts of the world. Now during such droughts I can content myself with a copy of William Ciesla’s recent contribution to the wide world of forest insects. The book begins with a biogeographic overview of the world’s forests before covering the basics of forest and insect population dynamics and human interactions, providing a logical segue to invasion biology. Following requisite sections on monitoring and management, the latter two-thirds of the volume provides an overview of insects and taxonomy before covering feeding guilds: foliage feeders, bark and wood-boring insects, sucking and galling insects, shoot and tip insects, and those affecting reproductive structures of trees or young seedlings. An informative section on insects of importance to wood products concludes the work. As a global overview, the book comfortably blankets all of the major forest insects one might expect to see in a worldwide tour. Conversely, the text does not necessarily serve as an encyclopedic reference for potentially obscure phylophages in far-flung places. Scattered throughout are 81 stunning color plates (and many more black-and-white figures), showing not just insects but forest damage and practitioners engaged in management around the world. With species movement rapidly shrinking the globe, this work is a timely contribution truly transnational in scope.

Brian Aukema, Entomology, University of Minnesota, St. Paul, Minnesota

Ecology and Evolution of Poeciliid Fishes.


This book is a worthy successor to Meffe and Snelson’s Ecology and Evolution of Livebearing Fishes (Poeciliidae) (1989). Englewood Cliffs (NJ): Prentice Hall, and promises to emulate its predecessor by becoming an indispensable reference for workers in the field. One of the most attractive features of the new book is its success in handling a challenge inherent in any compilation of work on poeciliid fishes: the family contains several “model systems” (notably the guppy, Poecilia reticulata and species of the genus Xiphophorus, the swordtails and platy fishes) that have been foci of attention for a very long time by biologists of almost every description, and other groups (e.g., Poeciliopsis unisexuals and their bisexual ancestral species) that have perhaps not quite achieved “model” status, but are still important research subjects. Reviews of recent and/or ongoing work on just these more widely known species could easily fill a volume of this size. However, the family contains perhaps 225 additional species in more than 20 additional genera and quite a few of these have reproductive, life-history, and/or ecological adaptations of potential general interest, and several