

regions. Eastern North America is known to be a hotspot for freshwater animals, but it is with great interest that one finds the Northeast supports an odonate fauna just as diverse as that of the Southeast. And the maps suggest additional questions, such as why are darners and emeralds the preeminent dragonflies of the far north?

The introduction provides a good summary of what most beginners would want to know about dragonflies. Although oriented toward identification, the species accounts provide much more. Organized by genera within families and containing information about habitats, flight season, and behavior, they offer a good thumbnail biology of many dragonflies. The comments included in the "Similar Species" sections are especially helpful for identification.

As a student of both live and dead dragonflies, my only criticism of the book is that it lacks information that I consider essential to any book on insect identification—some description of how to capture and at least temporarily hold animals for close study. The book jacket states "how best to achieve identification without capture," but many species will not be identifiable unless captured. Indeed, the "Body Features" sections include information on characteristics that are only visible in the hand. Users of the book should have been informed that capture and release is an acceptable way to identify odonates. I suspect that the author was not able to include such information because of the feelings of the series editor that insects not be collected at all, and I think this omission represents the book's most serious flaw. However, it only slightly detracts from the great usefulness of our first continent-wide field guide to dragonflies. Buy this book and spend a sunny summer afternoon along the shore of a stream, pond, or lake; your life will be transformed.

#### BOOKS: ENTOMOLOGY

## Twitching Butterflies

Paul R. Ehrlich

I've been captivated by butterflies for almost 60 years, since I was first introduced to them in the nature program of a summer camp. The counselors armed me with a net, and soon I was deep into butterfly collecting. *Butterflies Through Binoculars: The West* and its gorgeous

photographs, almost all of live individuals, awakened many pleasant memories. I hope the book, with its emphasis on observing butterflies, will divert people from starting collections and instead help enthusiasts to enjoy butterflies as living, behaving organisms. I find I can sublimate my collector's instinct by keeping a life list of birds. Summer camps could substitute binoculars and this book for nets and specimen cases, and many more kids would become butterfly "twitchers" rather than collectors. That development would fit right in with the conservation ethic needed for the new millennium.

The book is the fourth in a series that Jeffrey Glassberg, president of the North American Butterfly Association, has written. (Earlier titles covered the Boston–New York–Washington region, Florida, and the eastern United States and southeastern

butterflies have an advantage over conventional ones, because patterns are shown as they evolved, rather than as positioned in specimens on which forewings are unnaturally pulled forward. For instance, the plates of the boldly patterned tiger swallows

(the *Papilio glaucus* group) nicely display the "matching up" of the stripes on the fore and hindwings. In general, the distributions, life history information, latinized names, and other information in *Butterflies Through Binoculars* seem accurate. Overall, I like this guide's arrangement better than that of Bob Pyle's pioneering *National Audubon Society Field Guide to Butterflies* (Knopf, New York, 1981), which covers all of

North America. *Binoculars* supplies descriptions and, most important, scientific names and range maps on pages that face the photographs, which saves a lot of page

turning. Although the more restricted geographic coverage means two books are needed to cover the United States, it allows more photographs per species—a distinct advantage to someone trying to identify an individual that is often moving around and seen only briefly from various angles. The arrangement also avoids a major annoyance of the *Audubon Guide*, with which one sometimes can't tell what butterfly is depicted because the photographs are accompanied only by a "com-

mon name." Many of these names, such as "Chiricahua White," "Gray Cracker," and "Whirlabout," are relatively recent inventions for field guides rather than genuine popular names like "Monarch." In *Binoculars*, latinized names come with the pictures, so the confusion for scientists and serious amateurs is restricted to the introductory material, where only common names occur. But even Linnean binomials are losing their original purpose of unambiguous international communication, as taxonomists engage in a frenzy of name-changing. The recent call to rename all species [see *Science* 291, 2304 (2001)] is the culmination of this trend. It is a shame that, as global ecotourism grows, the chaos of bird common names is being ex-

### Butterflies Through Binoculars The West A Field Guide to the Butterflies of Western North America by Jeffrey Glassberg

Oxford University Press,  
New York, 2001. 384 pp.  
Paper, \$19.95. ISBN 0-  
19-510669-5.



**Easy to misidentify.** Most western species of *Speyeria* are exceptionally variable and many individuals cannot be identified in the field. Great Basin fritillaries (*S. egleis*), which usually favor forest openings at fairly high elevation, can closely resemble members of five other species.

Canada.) Books like these could open the world of butterflies to much more of the general public. Organizations of butterfly enthusiasts might eventually start making standardized transect counts of butterfly communities. There is no reason why such censuses, if properly organized, could not be as useful detecting trends in distribution and abundance as were the data gathered by amateur enthusiasts in Christmas censuses of birds that Terry Root [*Ecology* 69, 330 (1988)] so brilliantly analyzed to document changing patterns in the winter distributions of birds. The results of such efforts could be a major contribution to monitoring changes in biodiversity in the United States.

Guides that include photographs of live

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tended to butterflies; even in nations with the same language, terms like "buzzard" and "fritillary" have multiple meanings.

Lastly, *Butterflies Through Binoculars* has a wonderful section on conservation, which states, "First and foremost we need to restrain the growth of the human population...." This basic point is ignored by all too many politicians and even many environmental nongovernmental organizations. Glassberg's fine book might even help to lower birth rates while it introduces people to the joys of butterfly watching.

## BROWSINGS

**Photographic Guide to the Butterflies of Britain and Europe.** *Tom Tolman.* Oxford University Press, Oxford, 2001. 319 pp. \$60, £35. ISBN 0-19-850607-4. Paper, \$29.95, £16.50. ISBN 0-19-850606-6.

To encourage "netless butterflying" in Europe, Tolman provides photographs, detailed maps, and succinct text that will help observers quickly and accurately identify butterflies they encounter in the field. The descriptions complement the photos and emphasize distinctions among similar species. They are accompanied by notes on flight periods, habitat preferences, and characteristic behaviors. The pearl-bordered fritillary (*Clossiana euphrosyne*) shown here is a widespread, locally common inhabitant of woodland clearings.



**Voices of Amazonian Birds.** Birds of the Rainforest of Southern Peru and Northern Bolivia. Vol. 1: Tinamous (Tinamidae) Through Barbets (Capitonidae). Vol. 2: Toucans (Ramphastidae) Through Antbirds (Thamnophilidae). Vol. 3: Ground Antbirds (Formicariidae) Through Jays (Corvidae). *Thomas S. Schulenberg, Curtis A. Marantz, and Peter H. English.* Library of Natural Sounds, Cornell Laboratory of Ornithology, Ithaca, NY, 2000. 3 CDs. \$14.95 each.

**Voices of Andean Birds.** Vol. 1: Birds of the Hill Forest of Southern Peru and Bolivia. Vol. 2: Birds of the Cloud Forest of Southern Peru and Bolivia. *Thomas S. Schulenberg.* Library of Natural Sounds, Cornell Laboratory of Ornithology, Ithaca, NY, 2000. 2 CDs. \$14.95 each.

Many birds of neotropical forests are relatively skulking and hard to spot, so being able to recognize them by sound will greatly increase one's ability to find them. Field ornithologists and bird watchers wishing to

hone their listening skills before they head for the western Amazon basin and adjacent Andes can practice with these five discs. Each contains characteristic songs, calls, or other vocalizations for 99 species.

**The Millennium Atlas of Butterflies in Britain and Ireland.** *Jim Asher, Martin Warren, Richard Fox, Paul Harding, Gail Jeffcoate, and Stephen Jeffcoate.* Oxford University Press, Oxford, 2001. 453 pp. \$40, £30. ISBN 0-19-850565-5.

Between 1995 and 1999, thousands of volunteers surveyed Britain and Ireland to determine the current status of the islands' long-studied butterfly fauna. Their findings are reported in this attractive atlas, which includes photographs and short accounts of the biology of each species. The authors also summarize patterns and causes of changes since a 1984 atlas and discuss approaches to conserving butterflies and their habitats.

**Dragonflies of the World.** *Jill Silsby.* CSIRO Press, Collingwood, Victoria, Australia, 2001. 224 pp. A\$59.95, £27.50. ISBN 0-643-06512-1. Natural History Museum, London. £27.50. ISBN 0-565-09165-4. Smithsonian Institution Press, Washington, DC. \$39.95. ISBN 1-56098-959-9.

This overview of the world's odonates (dragonflies sensu stricto and damselflies) surveys their ecology, behavior, physiology, and evolution. In summarizing the characteristics of the order's 29 families and 58 subfamilies, Silsby discusses more than 300 of the 6000 recognized species. Most are depicted in color photographs of their adult forms, and representative larva are illustrated as well.

**Threatened Birds of the World.** *Alison J. Stattersfield and David R. Capper.* Lynx Edicions, Barcelona, and BirdLife International, Cambridge, UK, 2000. 864 pp. \$115, £70, 18,750ptas. ISBN 0-946888-39-6.

BirdLife International's evaluations of extinction threats indicate that nearly 12% of the world's 10,000 bird species have more than a 10% probability of going extinct in the new century. For each such species, this reference provides a concise, standardized overview of identification, range, abundance, and ecology. The accounts also summarize the threats facing each species and conservation measures (ongoing and desired) to improve its status.

**Albatrosses.** *W. L. N. Tickell.* Pica (Helm Information), East Sussex, UK, 2000. 448 pp. £40. ISBN 1-873403-94-1. Yale University Press, New Haven, CT. \$60. ISBN 0-300-08741-1.

Anyone interested in these large, long-lived wanderers of the high seas will enjoy this comprehensive account of the albatross family. There is currently some controversy over whether the variation among living

members of the Diomedidae supports the recognition of 13 species in two genera or as many as 24 species in four genera. Taking a neutral position in these taxonomic debates, the author presents a geographic perspective on the birds' natural history. He discusses the identification, distribution, and breeding biology for taxa in the Southern Ocean, eastern Tropical Pacific, and Northern Pacific. Comparative chapters cover molt, flight, behavior (especially the much-photographed mating dances), and ecology. After a review of conservation concerns, Tickell concludes with a sometimes humorous sampling of poems and writings that reflect human attitudes toward albatrosses.

**The Sibley Guide to Bird Life and Behavior.** *Chris Elphick, John B. Dunning Jr., and David A. Sibley, Eds.,* Knopf, New York, 2001. 608 pp. \$45. ISBN 0-679-45123-4.

Identification is only the first step in enjoying the lives of birds. This companion volume to *The Sibley Guide to Birds* (reviewed on page 2002) offers interested readers and birdwatchers an accessible introduction to avian biology. Five topical chapters survey the form and function of bird bodies, avian evolution and classification, behavior, habitats, and population sizes and conservation threats. The remainder of the book comprises instructive overviews of the taxonomy, behavior, and ecology of each of the 80 families of birds that occur in North America. Nearly 800 informative color paintings by David Sibley illustrate the topics discussed in the text.

**Sylvia Warblers.** *Hadoram Shirihi, Gabriel Gargallo, and Andreas J. Helbig.* Christopher Helm (A. and C. Black), London, 2001. 576 pp. £60. ISBN 0-7136-3984-9. Princeton University Press, Princeton, NJ. \$75. ISBN 0-691-08833-0.

This impressive combination of a reference for birdwatchers and a scientific monograph presents a comprehensive account of the identification, taxonomy, and biology of the 22 species in a genus of Old World warblers. It is based on a decade of extensive field and museum research by Shirihi and his colleagues, who also include the results of their molecular phylogenetic analyses. The detailed text, 20 color plates painted by Alan Harris, and 546 color photographs by David Cottridge exhaustively cover geographic, age, and sexual variation in these usually furtive birds' appearance and their vocalizations.

A list of field, identification, and natural history guides received since 1 January 1999 is available online (see [www.sciencemag.org/feature/data/books/guides.shl](http://www.sciencemag.org/feature/data/books/guides.shl)).