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North American Watersnakes: A Natural History

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North American Watersnakes: A Natural History. *Animal Natural History Series, Volume 8*. By J Whitfield Gibbons and Michael E Dorcas; Foreword by Roger Conant.

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photographs and wash drawings that illustrate habitats, anatomy, field marks, and behavior. Because raptors spend so much time searching for prey, this volume provides information on foraging behavior, breeding information, flight and evolutionary adaptations, as well as how to find nests and how to estimate when the young might hatch.

THE DOMESTIC HORSE: THE ORIGINS, DEVELOPMENT AND MANAGEMENT OF ITS BEHAVIOUR. *Based on a workshop held in Holar, Iceland, 2002.*

Edited by D S Mills and S M McDonnell. Cambridge and New York: Cambridge University Press. \$90.00 (hardcover); \$43.00 (paper). xiii + 249 p; ill.; index. ISBN: 0-521-81414-6 (hc); 0-521-89113-2 (pb). 2005.

Cambridge University Press has previously published *The Domestic Cat: The Biology of its Behaviour* (D C Turner and P Bateson. 2000. Second Edition) and *The Domestic Dog: Its Evolution, Behaviour, and Interactions with People* (J Serpell. 1995), which focus on behavioral biology. *The Domestic Horse* is the third volume of the series and will undoubtedly encounter similar success. Animal behavior specialists Daniel Mills and Sue McDonnell have ably promoted and edited the contributions of 25 authors (scientists from Europe, U.S., and Australia) to achieve a concise summary of recent studies on the domestic horse, its behavior, and concerns for its utility and welfare.

The volume consists of 16 papers that review the work of the contributors, plus many other researchers. The papers are grouped into three sections: the origins and selection of horse behavior (three papers); the natural behavior of equids in the wild and domestic environment (seven papers); and the impact of the domestic environment on the horse (six papers). The intent is to bridge the gap between scientists and the public, as well as between the different scientific groups that work on equine behavior.

The broad coverage is science based and scholarly. Each paper ends with a reference section that clarifies the literature cited within the chapter. Tables and figures are frequent. The book concludes with a helpful index. It is no surprise that duplication occasionally exists from one chapter to another because each is prepared by different authors; but the duplication is not excessive and is often helpful. Writing styles and level of presentation also vary, as does the clarity of information and accuracy of proofreading. Yet, the book achieves its aim and is excellent for its overview of recent studies. The volume will be most useful to the

equine behavior research community, to students of animal science, and to horse enthusiasts, both professional and amateur.

GEORGE H WARING, *Zoology, Southern Illinois University, Carbondale, Illinois*



AQUATIC SCIENCES

NORTH AMERICAN WATERSNAKES: A NATURAL HISTORY. *Animal Natural History Series, Volume 8.*

By J Whitfield Gibbons and Michael E Dorcas; Foreword by Roger Conant. Norman (Oklahoma): University of Oklahoma Press. \$49.95. xxvi + 438 p + 32 pl; ill.; index. ISBN: 0-8061-3599-9. 2004.

The *Thamnophiini* comprise a well-defined lineage of live-bearing natricine snakes and a conspicuous element of the North American herpetofauna. A review of the largest *thamnophiine* genus, *Thamnophis* (gartersnakes), was published in 1996 (D A Rossman, N B Ford, R A Seigel. *The Garter Snakes*. Norman (OK): University of Oklahoma Press). Now this authoritative volume offers a comprehensive review of the three most aquatic genera of *thamnophiines*, *Nerodia* (North American watersnakes), *Regina* (crayfish snakes), and *Seminatrix* (black swamp snakes). Like some gartersnakes, certain species of watersnakes reach high densities and, therefore, have served as important models for ecological and behavioral studies.

The authors present detailed but readable accounts for each species, including not only standard information on morphology, distribution, and diet, but also details such as fossil record, physiology, parasites, and conservation status. Each account is accompanied by an exquisite black-and-white rendering by Peri Mason, and high-quality color photographs are presented for all species and subspecies. Excellent maps generated by a geographic information system show U.S. ranges by county and Canadian and Mexican ranges by specific locality. Summary maps show the distribution of each genus, as well as species richness for all three genera combined. Identification keys are provided for the nine species of *Nerodia* and four of *Regina* (*Seminatrix* is monotypic). Introductory chapters provide overviews of major topics, such as phylogeny, ecology, and conservation; complete synonymies are relegated to

an appendix. The late Roger Conant, whose own pioneering contributions to the biology of watersnakes spanned more than 40 years, contributed the Foreword.

Three features will especially appeal to serious researchers. An exhaustive appendix provides documentation for U.S. county records (primarily in the form of museum specimens) and a comprehensive 78-page bibliography includes almost 1800 citations. Finally, the closing chapter provides suggestions for future research to which species of watersnakes are especially suited.

Production values are high, errors are few, and the price is reasonable. This is a volume that deserves to be on the shelves of every public and academic library in North America, and within easy reach of any researcher or naturalist with a serious interest in the reptilian fauna of the Americas.

ALAN H SAVITZKY, *Biological Sciences, Old Dominion University, Norfolk, Virginia*

CLADOCERA: THE GENUS *DAPHNIA* (INCLUDING *DAPHNIOPSIS*) (ANOMOPODA: DAPHNIIDAE). *Guides to the Identification of the Microinvertebrates of the Continental Waters of the World, Volume 21.*

By John A H Benzie. Leiden (The Netherlands): Backhuys Publishers and Ghent (Belgium): Kenobi Productions. €90.00 (paper). vii + 376 p; ill.; taxonomic index. ISBN: 90-5782-151-6 (Backhuys); 90-804341-5-8 (Kenobi). 2005.

KING OF FISH: THE THOUSAND-YEAR RUN OF SALMON.

By David R Montgomery. New York: Westview Press. \$26.00 (hardcover); \$16.00 (paper). xiii + 290 p; ill.; index. ISBN: 0-8133-4147-7 (hc); 0-8133-4299-6 (pb). 2003.

The term "Four Hs" refers to the four human activities that may have caused the most harm to natural runs of salmon in the U.S. Pacific Northwest: habitat degradation, harvest activities, hatchery production, and hydropower operations. Montgomery's book, *King of Fish*, is an entertaining 1000-year history (a "fifth H") of interactions among salmon and humans, including him and his pet dog "Xena" who likes to chew on an occasional salmon carcass. The author is a geomorphologist at the University of Washington, and the most original and interesting aspects of this book are popular accounts of his own research and theories on how changing landscapes have influenced the evolution of Pacific salmon species and their declines in Pacific Northwest rivers. In the book, how-

ever, there are some major gaps in history. For example, Montgomery describes the failure of the North Atlantic Salmon Conservation Organization to formulate an international ban on salmon fishing in the Atlantic Ocean. And yet, he fails to mention the North Pacific Anadromous Fish Commission, which since 1993 has successfully regulated an international treaty that bans salmon fishing in all international waters of the North Pacific Ocean, forming the world's largest conservation area for salmon.

Montgomery's take-home message in this book is that we must learn from past mistakes if we want to restore salmon and their rivers. He concludes that whether the "sixth H" is hubris or humility is up to us. This is worthy advice. But in addition to reading this book, anyone interested in not repeating history would do well to also go to the original sources.

KATHERINE W MYERS, *High Seas Salmon Research Program, School of Aquatic & Fishery Sciences, University of Washington, Seattle, Washington*

ATLAS OF PACIFIC SALMON: THE FIRST MAP-BASED STATUS ASSESSMENT OF SALMON IN THE NORTH PACIFIC.

By Xanthippe Augerot with Dana Nadel Foley; cartographs by Charles Steinback; design by Andrew Fuller; photographs by Natalie Fobes; illustrated by Kate Spencer. Berkeley (California): University of California Press and Portland (Oregon): State of the Salmon Consortium. \$34.95. xiv + 150 p; ill.; index. ISBN: 0-520-24504-0. 2005.

This volume is the culmination of a ten-year project by Xanthippe Augerot and State of the Salmon Consortium (Wild Salmon Center and Ecotrust) to map and assess the geographic distribution and risk of extinction for seven anadromous species of Pacific salmon (*Oncorhynchus* spp.). This attractive and easy-to-read book provides introductory-level text on salmon life history and distribution, indigenous peoples of the Pacific Rim, and the various factors that may influence salmon distribution and biodiversity. The volume is beautifully illustrated with numerous color photographs, drawings, diagrams, and charts, including more than 30 full-page maps that summarize various data sets on the same broad North Pacific scale. On a less positive note, the small font used for explanatory text on maps will have some readers groping for their reading glasses.

The focal point of the book is a comparative evaluation of the risk of extinction of Pacific Rim salmon populations. Expert opinion data from surveys of biologists in Asia and North America, scientific data from provincial, state, and federal fish-