

BOOK REVIEW

Edited by Charles E. Rupprecht
charles_rupprecht@yahoo.com

Book reviews express the opinions of the individual authors regarding the value of the book's content for Journal of Wildlife Diseases readers. The reviews are subjective assessments and do not necessarily reflect the opinions of the editors, nor do they establish any official policy of the Wildlife Disease Association.

The Flying Zoo: Birds, Parasites, and the World They Share. Michael Stock. University of Alberta Press, Edmonton, Alberta, Canada. 2019. 260 pp. ISBN 978-1-77212-374-6. \$54.00 CDN.

*Review by John C. Holmes
and Margo J. Pybus*

Do you ever wonder why so many birds are beautiful, or have marvelous songs, or build elaborate nests, or have males that engage in competitive interactions, or why such questions might be raised in a recent treatise on parasites of birds? If so, this book is for you, an affordable addition to your nature library. Go get it! Trust us—you will enjoy it!

Parasitologists view the world through different eyes. Broadly speaking, a bird (or any other animal) does not exist as an individual—it is an ecosystem of specialized organisms making their homes on or in that animal. This book covers one small portion of that ecosystem—the part that can be seen with an unaided eye—the lice, fleas, ticks, mites, flies, and worms. Each of these gets its own chapter, filled with a wealth of observations and interpretations, grounded in evidence, with 20 pages of references. There is also a separate chapter on “Oddities”—moths, tongue worms, bed bugs, and leeches. Each of these chapters covers the diversity of the parasitic group, the basic life cycles, the habitats occupied, and some evaluation of the interactions between the host and its parasites. They are all beautifully written and fun (and informative) to muse upon productively.

Michael Stock approaches the topic of the flying menagerie with a full mastery of the science and the broader context and natural history that links all living critters. He also applies an enthusiastic wit that keeps the reader fully engaged regardless of their own skills, knowledge, and expertise. This little gem is crammed with knowledge and wisdom, from the specific to the holistic, and a myriad of data that ensures every reader will learn far more than they ever thought they would, from when they first turned the opening page up to very-useful 30-page index.

The text is a marvelously seamless collection, weaving a tapestry of science, natural history, biology, evolution, ecology, and astute observation. It also blends in genetics, behavior, and immunity—and any other aspect at play among living creatures—with a healthy dose of awe... lots of AWE!! This little book should have broad appeal to anyone with an enquiring mind, who is a student of science and has a need for a broader understanding of our world, particularly aspects of natural history, ornithology, and ecological relationships. Readers with a technical range from undergraduate to established professor and working professional will be fully engaged by the book. Although the text might be a little dense in some places, please understand that this is not a piece meant to be picked up and devoured quickly from cover to cover. Rather, perhaps the best way for maximum enjoyment is to sample the offering in portions and let the information and insights sink in, slowly.

As to answers for the proposed introductory questions above (and the real value of the book for wildlife disease specialists), those

arrive in the last two chapters (“Flying Zoo Behaviour” and “Environmental Impacts”). In the Behavior chapter, the author points out that a primary goal of any parasite is to infect a new host, so it must invest heavily in reproduction, the cost of which (and that of any defenses against the parasite) is borne by the host. Such losses reduce the amount of energy available for allocation to bright feathers or costly behavior, suggesting that parasites are involved in the evolution of those aspects of sexual selection. Most of this chapter provides evidence on what female birds seek, and the influence of parasites upon those characters. The final part of this chapter discusses the significance (and variation) of brood parasites.

The final chapter, subtitled “The Future of the Flying Zoo,” covers perturbations in natural systems caused by human activities,

using examples from New York, Hawaii, the Galapagos, and the Arctic; evolving solutions (using the example of resistance to avian malaria in Hawaiian honeycreepers); and increasing pressures on habitats around the world. The *Flying Zoo* knows its limits yet opens the door to many other inner worlds. The true essence of this book lies in explanation of the interconnected nature of living beings from a fresh but rarely articulated perspective. In essence, it is all here in witty, readable, factual form.

John C. Holmes, Biological Sciences, University of Alberta (retired), 4711 117A St., Edmonton, Alberta, Canada T6H 3R9 (jchkeh@shaw.ca) and **Margo J. Pybus**, Alberta Fish and Wildlife, and Biological Sciences, University of Alberta, 6909-116 St., Edmonton, Alberta, Canada T6H 4P2 (margo.pybus@gov.ab.ca).