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Author: Mainwaring, Mark C.

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BOOK REVIEW

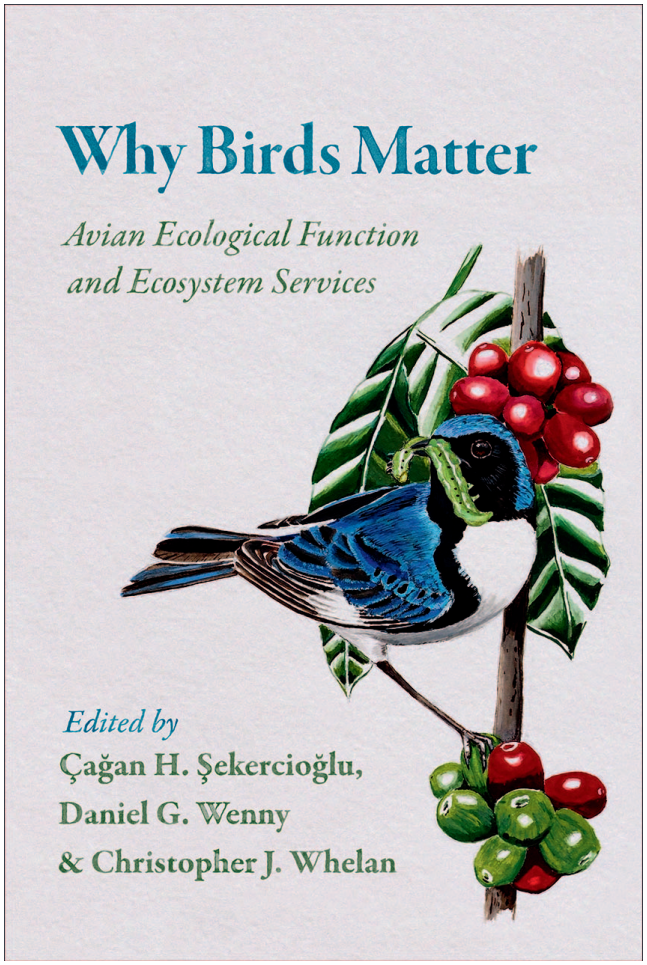
Why Birds Matter: Avian Ecological Function and Ecosystem Services

Reviewed by Mark C. Mainwaring

Lancaster Environment Centre, Lancaster University, Lancaster, United Kingdom
m.mainwaring@lancaster.ac.uk

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Why Birds Matter: Avian Ecological Function and Ecosystem Services edited by Çağan H. Şekercioğlu, Daniel G. Wenny, and Christopher J. Whelan. 2016. University of Chicago Press, Chicago, IL, USA. x + 387 pp. $45 (paperback). ISBN 978-0-226-38263-0.



This edited volume examines the many ways in which humans benefit from the ecological functions and ecosystem services that are provided by birds. Just a decade or so ago, concepts such as "ecological functions" and "ecosystem services" were relatively unheard of, but research examining and quantifying the functions and services provided by animals, including birds, has proliferated in recent years. Such research has highlighted that humans actually benefit from birds in myriad ways, both directly and indirectly. Direct benefits range from the consumption of birds as food for subsistence in some societies to financial gains from increased crop yields due to insectivorous birds providing a cheap and effective way of controlling insect pest populations on commercially valuable crops. Indirect benefits are those services that may not appear, at first glance, to be beneficial to humans because they are perhaps less tangible than direct benefits. However, by dispersing seeds—which, in turn, support plant species and ecosystems more generally—birds indirectly contribute to the wider environment in which humans live. One particularly topical example highlighting the benefits that humans accrue from birds relates to the scavenging of carcasses by vultures throughout southern Asia. The vultures provide important sanitary services by scavenging carcasses, but the recent catastrophic declines of vultures in South Asia mean that more and more carcasses have been left untouched. The increasing numbers of carcasses left lying around has led to irruptions of rats and feral dogs, many of which carry rabies, and the numbers of human illnesses and deaths that are attributable to rabies have subsequently increased in recent years. Fascinatingly, one study (reported in Chapter 2) estimated that healthy vulture populations prevent human health costs, such as the loss of wages and even human life, of up to $2.4 billion per year! These examples, and many others, illustrate that by seeking to outline the ecological functions and ecosystem services provided by birds, this volume is highly topical and of great interest to a broad range of ornithologists and ecologists.

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The book consists of twelve chapters that outline and discuss the services and functions provided by birds. Chapter 1, quite naturally, provides a general introduction to the topic before Chapters 2 and 3 outline the economic value of birds and trophic interaction networks, respectively. While both chapters are well written, I found the second, by Matthew Johnson and Steven Hackett, to be particularly enlightening, and it was fascinating to find out precisely how much money some people gain from the services provided by birds and how much money other people are prepared to spend to watch birds recreationally. For example, one study reported in the chapter estimated that tourists spend $103 million annually traveling (nationally and internationally) to and from Lake Manyas in Turkey alone, which is somewhat mind-boggling to me. Chapters 4–7 cover various aspects of the pollination and seed-dispersal services provided by a range of birds and, by doing so, cover some important topics. Each of these four chapters is informative and will provide extremely useful summaries for other researchers interested in these issues. Chapter 8 covers those ecosystem services that are provided by avian scavengers, and Chapter 9 discusses nutrient dynamics and nutrient cycling, both of which are services that may not immediately be attributed to birds, so this overview is enlightening. Chapter 10 discusses the creation of nesting holes by primary hole-nesting species for secondary hole-nesting species that are unable to excavate their own nesting cavities. Chapter 11 discusses avian ecological functions and ecosystem services in the tropics, an understudied part of the world compared with temperate regions, and is useful indeed for researchers of the tropics. Finally, Chapter 12 discusses those ecosystem services that support human well-being and reaffirms the need to value birds not only for the financial services they provide for humans, but also for the enjoyment they bring to people across the globe.

Each of the chapters is written to a high standard and by a collection of authoritative figures whose knowledge of their respective fields shines throughout. Although this is not a criticism per se, I found the book a relatively tough read in places. However, all the chapters are very good and I particularly enjoyed Chapter 6, written by Andy Green and colleagues; Chapter 8, written by Travis DeVault and colleagues; and Chapter 10, written by Chris Floyd and Kathy Martin, although these preferences may reflect my own research interests to a certain extent. Overall, the book is enjoyable and informative, and the presentation is beautiful throughout. However, the underlying message is a stark one, because while it is clear that birds provide a huge range of services and functions that benefit humans, the ongoing biodiversity crisis means that we need to do more to conserve the very birds that are so beneficial to us.

In summary, the book makes a valuable contribution to the literature and brings together disparate empirical studies examining the ecological functions and ecosystem services provided by birds. Moreover, by highlighting those areas where further research is likely to prove fruitful, the book is likely to prompt other researchers to initiate studies examining other ecosystem services. Some excellent editing has ensured that the chapters are all relatively consistent in terms of style and language used. It is unlikely that non-academic birdwatchers would be particularly interested in this book, but they are not the book's intended audience. The book is aimed at, and best suited to, an academic audience, and I would thoroughly recommend it for college, university, and museum libraries and also in the personal libraries of those interested in ecosystem services. I congratulate the editors and contributors for producing such an informative volume.

Book Review Editor: Jay Mager, j-mager@onu.edu

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