Interspecific Competition in Birds

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Source: The Auk, 129(4) : 793-794

Published By: American Ornithological Society

URL: https://doi.org/10.1525/auk.2012.129.4.793

"Nomenclatural Struggles, Checklists, and Codes" suggests that "Ridgway stood at the very top of the messy, challenging, and crucial taxonomic heap… [and] described far more new genera, species, and subspecies of American birds than any other ornithologist" (p. 146). The AOU was instrumental in establishing a unifying set of bird names for American birds, and Ridgway was on the committee that was responsible for this. In 1886, the AOU published its first check-list, *The Code of Nomenclature and Check-list of North American Birds*. The chapter also deals with the Americans embracing trinomial nomenclature while Europeans in general rejected the idea. The chapter contains, as do all the chapters, some pithy quotes that provide insight into the very personal interactions that went with the growing pains of the AOU. For example, Coues wished to be the official representative of the AOU in talks with British ornithologists during a visit to Great Britain but was rebuffed by a usually accommodating William Brewster in a letter to Allen:

> Having little, if any, faith left in Dr. Coues' good faith, tact, judgment, and discretion I cannot believe it either wise or safe to empower him to act as a formal emissary of the A.O.U. during his proposed visit to England. (p. 176)

Chapter 6, "Publications about Birds," presents a general discussion of journal papers and priority and then discusses Ridgway's publications and his illustrations, including his magnum opus *The Birds of North and Middle America*, published by the Smithsonian in eight volumes between 1901 and Ridgway's death in 1929, with the final three volumes completed by Herbert Friedman and published in 1941, 1946, and 1950. The final chapter deals with Ridgway's standardizing the descriptions of the colors of birds and his color dictionaries. In the text and in the epilogue, Lewis suggests that Ridgway, with his singular focus on anatomy, taxonomy, and classification, had become out of step with an ornithology that was moving toward the study of behavior and the living bird and the conception that amateurs could make significant contributions to the science of ornithology.

Lewis weaves the story of Robert Ridgway and his ornithological career expertly through the historical context of the late 19th and early 20th centuries and the emergence of modern ornithology. The book is full of interesting historical tidbits. For example, it recounts the Harriman Alaska Expedition of 1899, which brought together a rich assortment of conservation and ornithological bright lights, including, in addition to Ridgway, such dignitaries as Louis Agassiz Fuertes, John Muir, John Burroughs, Daniel Elliot, A. K. Fisher, C. Hart Merriam, and George Bird Grinnell. The book is well written, well researched, and includes frequent quotes from the correspondence of the major players, which adds immeasurably to the effectiveness of the story. Lewis infuses his writing with vivid statements. For example:

> Discussing nomenclature and taxonomy…doesn't really qualify as good cocktail party conversation. Broach the subject, and civilians are quickly gripped by a look of panic. Their eyes, if they haven't already rolled far back into their skulls, begin darting furtively around the room in a desperate dance as they attempt to break free of the conversational shackles in which they have been placed. (p. 145)

This book belongs in every academic and museum library and should appeal to anyone with an interest in the historical roots of modern ornithology.—William E. Davis, Jr., *Professor Emeritus, Boston University, 23 Knollwood Drive, East Falmouth, Massachusetts 02536, USA. E-mail: wedavis11@gmail.com.*

The Auk 129(4):793–794, 2012

Interspecific Competition in Birds.—André A. Dhondt. 2012. Oxford Avian Biology Series (Book 2). Oxford University Press, New York. 296 pp., 59 text figures. ISBN 9780199589029. Paperback, $59.99.—This book is a rich source of inspiration for anyone interested in competition and how the presence of competitors is manifested in the daily life of birds. It is a timely and welcome integration of knowledge on several levels of organization—community, population, and individual. For ecologists, competition has become something of a Holy Grail, eagerly sought but evasive. It is attributed a key role in both evolutionary theory and population dynamics. Yet the role of competition remains controversial, and its mode of operation is rather abstract when deduced from limiting similarity or niche separation. As manifestations of competition, such patterns reflect the "ghost of selection past" rather than illustrating its mechanisms in operation. Here this new book by André Dhondt comes to our aid, giving competition a more concrete form in showing how individuals monitor daily threats to survival and their prospects of reproduction. The book pulls together a wealth of field data demonstrating how the presence of competitors affects the individual's behavior. The data span several levels of organization, ranging from density-dependent responses on a population level, to between-individual behavioral interactions, and, in particular, to individual strategies of efficient resource use in a competitive environment.

The book reflects how rich the study of competition of birds in the wild can be—it can include more than linking numbers to population growth. Dhondt lays bare a wealth of between-individual behaviors and individual–resource relations demonstrating responses to resource depletion and how individuals handle their social environment. The reality of competition can, for instance, be read from individual differences in their strategic responses to a dominance-structured society. Individual differences in behavior reflect adaptive responses in habit use, time allocation, and energy storage. Eventual evolutionary consequences of such individual differences are manifested in survival and reproductive success. Population dynamics and adaptive strategies here go hand-in-hand. This book amply demonstrates how competition is more than a mere abstraction with such a multilevel approach, but it also shows how painstaking the quest to unveil the operation of competition in the field can be. The main value of this book lies in the impact of the combined detail of data from an array of meticulous field studies on different organization levels—population,

between-individual, and individual—and how their conclusions converge. It is hard to put this book aside without being convinced you have seen competition in the wild as a reality.

The book addresses data from bird studies in particular. The reader must, however, be aware that "birds" in this context is largely equivalent to tit and titmice species (genus *Parus* before it was recently split into several genera). As early as page 4, the author exclaims "Tits come to rescue." Other species do come in, but it is abundantly evident that André Dhondt primarily thinks in terms of tits and titmice. The selection of material may seem narrow given the title, but this is no coincidence. In fact, the concentration on this genus is due to the fact that no other bird genus is likely to have been studied more intensively on different levels of organization in the field. Several *Parus* species that differ in many aspects of their ecology have a long history of study. To a large extent, this book is an excursion in behavioral ecology from a tit's perspective. Overall, a focus on the tits—and, in particular, the quality and diversity of data from these studies—allows a coherent approach to the role of competition, and it comes out more as a strength than a limitation of the book. The combined weight of these data makes it possible to link processes governing inter-individual relations on different organizational levels.

The book's title promises to address interspecific competition, but this is treated with great latitude. Interspecific effects do get their share. We are, for instance, presented with the unique long-term data on how the Great Tit and the Blue Tit mutually affect each other's numbers. Yet considerable attention is equally given to within-species competition and individual behavior, and this allows the treatment of competition to be more than an excursion in the theory of mutual influence on numbers. Dhondt can dissect in incisive detail how the presence of competitors profoundly governs how individuals go about securing their survival and how they invest in reproduction. In this he can draw heavily on the emergence of behavioral ecology as a separate field of study. Dhondt is exceptionally well placed to draw together this information with his own *Parus* studies, which straddle population biology and behavioral ecology. The book relies on the progression of approaches to competition in studies of bird populations in the wild. Competition studies were initially based on population census data aimed at detecting density dependence, reflecting the influence of David Lack. With the emergence of behavioral ecology, the census data were complemented with studies of social organization and strategies on an individual level. Here, Dhondt goes beyond the idiosyncrasies of the single studies to show their relevance for population dynamics and community structures.

André Dhondt has done us a great service in bringing all this information between two covers. If there is any weakness of the book, it is a Northern Hemisphere bias. Extrapolating conditions from the largely temperate and boreal environments of the Northern Hemisphere to the largely tropical and subtropical environments of the Southern Hemisphere requires a leap of faith. The author cannot be blamed for this, for it reflects the state of the art. The limited geographic distribution of population studies of birds in general, and of *Parus* species in particular, should serve as an incentive for future studies. This book provides a rich source of ideas and should serve as inspiration for any young biologist who aspires to study population biology in the wild. In particular, it is successful in managing to express in plain terms how the presence of competitors is manifested in the everyday life of an individual. It has a natural place on the desk of any biologist interested in the role of competition as a structuring force in nature.—Jan Ekman, *Department of Ecology and Genetics, Evolutionary Biology Centre, 752 36 Uppsala University, Sweden, Norbyv. 18d, 752 36 Uppsala, Sweden. E-mail: jan.ekman@ebc.uu.se.*

The Auk 129(4):794–795, 2012

What Were They Thinking? Is Population Ecology A Science?—Bertram G. Murray, Jr. 2011. Infinity Publishing, West Conshohocken, Pennsylvania. xiv + 289. ISBN 0741463938. Paperback, $16.95.—I admit that I love a good argument, not to mention a portrait of courage, and we get both in Bert's last book. In life Bertram G. Murray, Jr., was always challenging: I cannot remember a meeting or a phone conversation we had in which he did not have an intellectual ax to grind. He was singularly creative and demanding, and now all readers of the posthumously published *What Were They Thinking?* can take a look at some of the remaining questions from Bert's perspective. From the grave Bert's words appear, offering us a hand, speaking to those of us who ignored or failed to comprehend his work. So what if his tone is defensive—he had the courage to tell us what he thought. He reaches out to those of us who were not fair to his work and those who failed to *openly* criticize it. As Bert was dying, he resolved to speak after death even to those who dismissed his work as if it had not been done. Great credit for helping Bert achieve his goal goes to Joanna Burger and Joseph R. Jehl, Jr., who saw this book to publication months after Bert died.

I found Bert's papers, his rebuttals to anonymous critiques, and his philosophy demanding, just as he was in life, but also insightful: I learned a lot. By making sure that even his rejected papers were published, Bert showed his faith in the social, ethological aspects of science. You know: science is cooperative, and if our work remains unpublished, it's not science. I, for one, am sorrier than ever that I did not take more opportunities to know Bert's work while our colleague lived. He pleads with us to enter the fray of discussion and explain his errors: "My intention is to advance my science by having my views about ecological theory readily available for others to judge" (preface, p. *viii*).

Each chapter of Bert's last book is about something he was passionate about. The first chapter, "Philosophy," is an introduction to what I consider exciting stuff. Here we glimpse the trailings of Bert's intensely intellectual life: it is a distilled primer of the great philosophers of science, particularly Popper, with whom all scientists should be familiar. I welcomed too the discussion of inductive and deductive hypotheses, and their conceptual differences and efficiencies that few of my new graduate students readily grasp. Could it be we're not teaching undergraduates the logic of scientific discovery? This chapter could