



## **Insect and Bird Interactions**

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## Reviews

EDITED BY R. TODD ENGSTROM

*The following critiques express the opinions of the individual evaluators regarding the strengths, weaknesses, and value of the books they review. As such, the appraisals are subjective assessments and do not necessarily reflect the opinions of the editors or any official policy of the American Ornithologists' Union.*

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**The Birds of Hispaniola.**—Allan R. Keith, James W. Wiley, Steven C. Latta, and José A. Ottenwalder. 2003. BOU Checklist No. 21. The British Ornithologists' Union. Printed in Italy by Giunti Industrie Grafiche. xvi + 293 pp., 7 appendices, including gazetteer, 73 color plates, 2 figures, 5 tables, 29 pp. bibliography. ISBN 0-907446-26-4. Cloth, £30.00.—As heralded in the Editor's Foreword by Janet Kear, this sterling volume emulates the excellence of Keith's previous BOU (British Ornithologists' Union) Checklist of *The Birds of St. Lucia*. In the current volume, Allan Keith and his coauthors (all prominent local and regional experts), have written not merely an annotated checklist of Hispaniolan birds, but a very readable compendium on a diverse array of topics ranging from natural history to the geological and climatic record of the island and the region. Other topics include the general history and economy of Hispaniola's two sovereign nations, Haiti and the Dominican Republic; the island's ornithological history, and that of its 10 faunistically related satellite islands; geography; vegetation and forest history; migration; breeding; zoogeography; conservation; and even other taxa. Each topic is succinctly presented and well articulated within 66 pages of introduction. The occasional critic, musing over such a menagerie of seemingly disparate subjects, may complain that many are superfluous to an avian checklist. On the contrary: a careful reading of the entire volume should silence even the most adamant detractor. In preparation of this volume, it is obvious that Keith et al. spent many years on patient and diligent data collection, prolonged

visits to libraries and museums, and continuous interchanges with librarians, museum curators, and professional and amateur bird enthusiasts from around the world—as the two-page acknowledgments section and list of 259 data contributors bear testimony.

The authors have not only amassed substantial knowledge on each topic, they have succeeded in synthesizing and presenting their information in a manner that clearly demonstrates how prehistoric and contemporary geological and climatic factors, coupled with the often turbulent socioeconomic history of both nations, have shaped the avian colonization and present-day distribution of birds throughout Hispaniola and the immediate region. Although the geological history of Hispaniola is not well understood and is still controversial, Keith et al. present comprehensive and convincing evidence drawn from several historical and archeological sources, as well as the burgeoning field of avian genetics, in their comparative presentation of the most plausible models leading to the avian diversity and distribution found in the Greater Antilles and peninsular Florida early in the 21st century.

Readers should find the account of the ornithological history especially informative. This section could easily have been dubbed "natural history," because it encompasses much more than a simple compilation of bird records. I especially enjoyed the engaging discourse on the exploits of several well-known early naturalists—including, in addition to ornithologists, eminent botanists, entomologists, and zoologists. Keith et al. meticulously document a

variety of circumstances in which birds have been recorded, ranging from artistic renderings of birds by the region's Amerindians to the first written bird records from Columbus's four explorations between 1492 and 1504. A somewhat longer section describes the numerous voyages undertaken during further exploration and colonization of the West Indies (1492–1750), as well as several subsequent expeditions mainly by visiting scientists and specimen collectors who dominated the scene between 1917 and 1934. The authors bring us to the 21st century by detailing the many scientific expeditions by prominent ornithologists that not only collected valuable museum specimens but, just as importantly, gleaned detailed ecology and life-history notes on island endemics and other resident and migratory birds. This section is adroitly couched in a very brief but, at the same time, enlightening discussion of how ornithological "progress" and the conservation of Hispaniola's natural resources ebbed and flowed during the reigns of each country's numerous dictators and assorted governments. Rounding out this educational journey are a couple of paragraphs outlining the last five decades, a period of intensive field studies of birds and other vertebrates by visiting and resident biologists alike. Contemporary resident biologists and naturalists, some of whom are conservation-minded clerics more than competent in the natural sciences, have made major contributions to the knowledge and understanding of Hispaniola's flora and fauna for more than a half century. Future editions should include Tomás Vargas Mora in the list of the first "home-grown" biologists emerging during the 1970s; he was the first trained ornithologist to work at the Natural History Museum in Santo Domingo, under the supervision of A. S. Dod.

This volume covers as completely as possible the hundreds of bird species reaching and residing in Hispaniola, its satellites, and surrounding waters. Fossil material for 35 species is discussed in the zoogeography section of the introduction; 300 species are treated in the individual species accounts, and another 25 species are discussed in Appendix 1 (Species of Uncertain Occurrence and Hybrids). There are 73 color plates in the volume. Fifty-three are by Eladio M. Fernández, who also contributed 31 of the 32 bird photos, which include 22 of Hispaniola's 25 endemic

species. Virtually all 73 plates are excellent and of high quality, but I consider those of Fernández no less than spectacular. I feel that he deserved more recognition than a simple mention buried deep in the acknowledgments section. In future editions, the authors might consider mentioning him on the front cover, given that his color photos immediately alert the prospective buyer of the superiority of this volume. Tables and figures, though kept to a minimum, complement the text with visual presentation of a wealth of geological, geographic, climatic, and habitat information. The 29-page bibliography contains almost half of Wiley's 1,000+ reference citations amassed for the entire Greater Caribbean Basin. The Systematic List preceding the individual species accounts is clear and concise. Status (e.g. resident, migrant, etc.) and abundance terms (vagrant, rare, common, etc.) are easy to interpret and basically follow standard usage. Twenty-seven museums are listed, 13 in the United States and 14 located elsewhere.

Each species account consists of a separate, easy-to-read title line for English name, scientific name, and status abbreviations. One can easily find the residence or breeding status of each species without having to dig through the text. Each account comprises (1) a brief discussion of the species' range outside of Hispaniola, (2) abundance and range throughout Hispaniola, (3) breeding information, (4) taxonomy, and (5) museum specimens. Arrival and departure dates, including extremes, can be found both within the species accounts and throughout the volume (e.g. Table 2). Likewise, ample specimen records are located at the end of each species account, and the number of specimens and species examined are tallied in Appendix 7.

There are enviably few instances of poor reproduction of color plates and figures, typographical, and grammatical errors. However, although plates 1–5 are attractive and professionally made, it is difficult to discern the letters of most words, which often appear fuzzy on their colored backgrounds. I noticed also that the squared term in land-mass areas ( $\text{km}^2$ ) appears as an unintentional parenthesis ( $\text{km}''$ ) throughout the text.

In recommending this book to university and public libraries and museums, I can say without fear of overstatement that virtually anyone with an interest in the birds and history of the

Caribbean will benefit from this exemplary, commendable work.—WAYNE J. ARENDT, U.S. Department of Agriculture, Forest Service, International Institute of Tropical Forestry, HC 2 Box 6205, Luquillo, Puerto Rico 00773. E-mail: warendt@fs.fed.us

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**Curassows and Related Birds.**—Jean Delacour and Dean Amadon, with an updated chapter by Josep del Hoyo and Anna Motis. 2004. Lynx Edicions, Barcelona, Spain. 476 pp., 52 black-and-white maps and figures, 56 color plates, 6 dichotomous keys. ISBN 84-87334-64-4. Cloth, \$75.00.—About 30 years ago, Jean Delacour and Dean Amadon published an elegant book about a cryptic group of tropical gamebirds, about which relatively little was known at the time. They filled that book with every bit of information they could find, from notes scribbled by zoo curators to records of habitat, voice, and other important aspects of natural history scrawled during brief research trips to the birds' native haunts. Most likely, Delacour and Amadon had no idea that these birds, 30 years later, would inspire passionate fervor among Neotropical ornithologists and be among the most studied groups from an autecological standpoint.

Today, the IUCN–Birdlife Cracid Specialist Group (CSG) boasts a list of some 500 correspondents, many of whom are Cracidologists actively working in the field—to this band of dedicated scientists, the original book by Delacour and Amadon has served as a bible. Over the past decade, the CSG has published more than 100 chapters spanning approximately 1,000 pages in four separate trilingual books, as well as a trilingual biannual bulletin (20 volumes containing approximately 50 articles to date). The updated chapter by del Hoyo and Motis in the revised *Curassows and Related Birds* (2004) is primarily an exhaustive compilation of those works by the CSG. This is not surprising, considering that neither del Hoyo nor Motis has

ever done any work on cracids, as evidenced by their absence from the list of more than 700 references at the end of the updated chapter.

The revised *Curassows and Related Birds* is divided into three major parts. The first (pages 18–206) comprises the original book, including its black-and-white figures. The second part (pages 207–320) consists of color plates from the cracid section in *Handbook of the Birds of the World* (HBW), volume 2, plates from the original book, and some updates (including 15 plates of downy young at the end). The final part (pages 321–476) is the updated chapter by del Hoyo and Motis.

It was feared that this edition would not include individually itemized references but that they would be summarized at the end of each species account, as was done in *HBW* (also produced by del Hoyo and his company, Lynx Edicions). The problem with that practice is that the individual references cannot be traced, forcing anyone using a Lynx Edicions publication as a source to cite del Hoyo et al. rather than the rightful author. During several conversations with Amadon about this before his death in January 2003, he expressed concern about this. Thankfully, del Hoyo was careful to cite individual references in this book, to avoid Lynx Edicions being viewed as one of a number of scandalous businesses (e.g. Enron, WorldCom, Tyco, etc.) characterized by the wholesale theft of the hard work of others.

One problem with the updated chapter is that some of the information published by the CSG that del Hoyo and Motis attempt to summarize is summarized incorrectly. Without going into too many details, I will provide an example. In the second paragraph on page 339, del Hoyo and Motis state, in relation to the Chaco Chachalaca (*Ortalis canicollis*) "...only one sighting involved a group of nine birds (Brooks 1997b)." When one checks the cited reference, however, one finds that flocks of nine were actually observed more than once. Such errors may seem trivial, but attention to detail is of the utmost importance when writing a master compilation of published works. Other, more serious, errors include misspelled species names.

Another criticism of this book is that it is not trilingual. Only one species of cracid (the Plain Chachalaca, *Ortalis vetula*) occurs in the United States (the southern-most three counties of Texas), the other 49 species occurring entirely in Latin America. Therefore, the primary audience

for this book is Latinos, whose primary language may not be English. Also, the book's hefty price will make it prohibitively expensive for the libraries where it is needed most. However, many of the Cracidologists using this book will already have web access to the trilingual publications of the CSG, for which the updated chapter by del Hoyo and Motis serves as a good summary.—DANIEL M. BROOKS, *Department of Vertebrate Zoology, Houston Museum of Natural Science, 1 Herman Circle, Houston, Texas 77030, USA. E-mail: dbrooks@hmns.org*

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**Insect and Bird Interactions.**—Helmut F. van Emden and Miriam Rothschild, Editors. 2004. Intercept Limited, Andover, Hampshire, United Kingdom. xx + 301 pp., 5 color plates. ISBN 1-898298-92-0. Hardback, \$140.00.—Although this volume stems from a conference run by the Entomological Club at the University of Reading in 1997, the editors point out in the preface that this is not strictly a conference proceedings. New authors were recruited to increase the coverage of certain topics in the form of review papers that were inappropriate for the conference. The volume is described as a first, and thus unique, compilation of information on insect–bird interactions. Although the title is unique, the latter statement is not exactly true, because there have been two edited volumes that largely covered insect–bird interactions, albeit with a more restricted focus than the current volume. Dickson et al. (1979) edited the proceedings of a conference on the role of insectivorous birds in forest ecosystems; all the contributors were from the United States and Canada. Morrison et al. (1990) edited the proceedings of a conference on foraging theory, methodology and applications; again, most of the papers were North American in emphasis, with a focus on methodology of studies on bird foraging, diet, and the like. The strong emphasis of both previous volumes was on birds; such is not the case here. There is a much more balanced approach to examining the

relationships between birds and insects than any previous effort; for that reason alone, this book is unique.

The volume is divided into four parts. Part 1, on population management issues, largely focuses on agricultural systems in Great Britain, which are under government pressure to become more productive. As in other regions of the world, unproductive parts of the landscape such as hedgerows and field borders are being put into agricultural production, and there is increased reliance on mechanization and chemical inputs such as fertilizers and pesticides. Associated declines in many bird populations are blamed on decreasing food supplies, especially insects. However, except for some experimental evidence of Grey Partridge (*Perdix perdix*) populations being thus affected via decreased chick survival, most of the evidence that bird population declines are caused by food reduction is correlative. As several of the authors point out, large-scale manipulative experiments are badly needed in this area. The idea that terrestrial arthropod management can be a means of managing songbirds is promoted in several chapters; this notion has not been developed enough in U.S. wildlife management programs. We definitely need to learn more about terrestrial arthropod management.

Interestingly, the first chapter in Part 1, by Goss-Custard and West, does not involve insects but rather the interactions between aquatic invertebrates and their shorebird predators and is offered as a model to strive for in achieving a better understanding of the interactions of insects and birds, especially with regard to understanding avian population dynamics. I agree that the work of Goss-Custard and colleagues has been exemplary in understanding bird predator–invertebrate prey relationships, but there are some important differences between mudflats and terrestrial systems that make this model a difficult one to achieve for those of us working in the latter. First, prey sampling becomes much more difficult as additional layers are added to the essentially two-dimensional substrate in which shorebirds forage. Forest arthropod sampling is especially challenging. Tidal inundation is a major factor affecting invertebrate prey availability and is predictable, but the factors affecting terrestrial arthropod availability are highly variable and unpredictable, or largely unknown. Birds are harder to count, find, and



observe in scrub and forest than in open areas. The list goes on. Still, this is a great chapter.

Part 2, which covers the effects of insecticides on bird populations, continues with the agroecosystem emphasis. It is recognized that most modern pesticides used in agriculture and forestry do not kill or otherwise harm birds directly. Rather, they affect them indirectly through reduction of nontarget prey such as caterpillars or by killing the plants that are fed upon by herbivorous insects. Another chapter features a case study by Colin Walker, who, in an ecotoxicological "whodunit," assigns the blame for British raptor declines not to DDT but to cyclodiene insecticides, principally aldrin, dieldrin, and heptachlor, which were used as sprays and seed dressings in the 1950s and 1960s.

Part 3, which covers foraging behavior of birds on insects, differs markedly from the Morrison et al. (1990) volume mentioned above. Here, the focus is on the basic biology of avian vision, warning coloration, smells, and the chemical defenses of insects. The chapter on the avian retina is written by James Bowmaker, an ophthalmologist. Two other papers at the end of the section focus on studies of diet and prey availability.

Part 4 consists of three chapters on ectofauna. This section, though interesting, seemed an odd addition to me because several entire volumes on this subject already exist. The first chapter (Moyer and Clayton) is an excellent review of the defenses birds have against ectoparasites. The second is a study of how brood parasites (here, cuckoos) acquire feather lice that are specific to them, when they are raised by other hosts. The last is a review of the phylogeny, evolution, and systematics of the Tineidae, caterpillars that feed on food substrates produced by birds, such as guano and feathers.

Although the diverse nature of the chapters mentioned above is impressive, I also think it is problematic, in that the subject matter covered is simply too broad to be included in one volume in any detail. The challenge is to be diverse without being diffuse, and I am not sure the editors succeeded. However, the quality of the work is strong, for the most part. A large number of ornithologists will be interested in some but probably not most of the book, and I am afraid the book as a whole will be of interest to a relative few. I recommend the book to anyone interested in population dynamics of bird-insect interactions. The focus on European agricultural

systems should not deter those ornithologists working in other systems; New World ornithologists can learn much from this volume.

The editors and authors are to be commended for their unique contribution, but I hope it is just the first of many such volumes that focus on insect-bird interactions. The detail with which we know and manage the plant foods of most North American game species is impressive. We lag far behind in our knowledge and practice of habitat management for insectivorous species. In the future, I would like to see more of the topics covered in this volume presented alone in new volumes (some already have been), perhaps with a much-needed synthesis between continents. The topic is simply too important not to be covered more thoroughly.—ROBERT J. COOPER, *Daniel B. Warnell School of Forest Resources, University of Georgia, Athens, Georgia 30602, USA. E-mail: rcooper@smokey.forestry.uga.edu*

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**Gulls of North America, Europe, and Asia.**—Klaus Malling Olsen and Hans Larsson. 2004 (reprinted with corrections). Princeton University Press, Princeton, New Jersey. 608 pp., 83 color plates, 823 color photographs, tables, range maps. ISBN 0-0-691-11997-X. Cloth, \$55.00.—Gulls are tough. Geographic variation, a plumage sequence that may span four years or more, closely similar species, hybridization, wear, leucism, and more combine to make them among the most challenging birds to identify.

Reading this fine book makes me wonder if young ornithologists know how fortunate they are. In the 1950s, there were few ways to learn gull identification. The best was Dwight's (1925) monumental study of plumages of gulls of the world, which covered all species and was written for curators. The few birders of that era recognized its value, but the book had a limited printing and quickly became a collector's item. Despite its comprehensiveness, its graphics were rudimentary and limited to drawings of patterns of the primaries and rectrices (an important innovation in itself) and a few color plates illustrating head, legs, and soft-part colors of some North American species. To learn about European rarities, we fell back on *The Handbook of British Birds* (Witherby et al. 1939), which was a great help, but there were still holes. Thayer's Gull (*Larus thayeri*), for example, had been described as early as 1915. Nevertheless, into the late 1960s, most birders and curators had no clue how to identify it. Since then, there have been other books, of which Grant's (1982) *Gulls: A Guide to Identification* was a notable advance. It included many black-and-white photos, but its coverage was limited to Europe and eastern North America, and even in the expanded second edition (Grant 1986), Thayer's Gull was essentially ignored.

Now comes Olsen and Larsson's *Gulls of North America, Europe, and Asia*. This is such an impressive step forward that it is hard to imagine the next steps in the progression of the gull literature, except to expand this book to include the southern hemisphere. Although the emphasis is on identification, the book incorporates many of the recent ideas on species limits in gulls adopted in Europe (some controversial and not yet considered by the AOU). It also treats geographic variation, unfortunately omitting citations of the original descriptions of the various races. Individual species accounts are detailed and include descriptions of plumages, measurements, a range map, estimates of population size, color plates of all plumages, copious color photographs, as well as a quick synopsis of salient points of identification. Some examples of the book's comprehensiveness: the account of American Herring Gull (*L. smithsonianus*, here considered specifically distinct) spans 14 pages and includes two plates and 20 photos; the Caspian Gull (*L. cacchianan* and its races or similar species) 31 pages, four plates,

and 53 photos; the little-known Relict Gull (*L. relictus*) 8 pages, one plate, and 11 photos.

The photos are excellent, and whenever possible give the date and location, which is very helpful. The plates of individual species, wonderfully executed by Hans Larsson, continue the high standard for which he is already justly renowned. Comprehensive plates comparing adult plumages of large gulls (four pages) and their typical wing patterns (seven pages) are a fine addition. The latter makes one wish for a companion plate of underwing patterns, at least for those species in which they can be important in field identification (e.g. *L. thayeri*, *L. schistisagus*).

Even with all this detail, Rule One still applies: some gulls are unidentifiable, even in the hand. In my years as a taxonomist, I never examined a museum collection without finding at least one misidentified gull. Users of this book may have the same comment. For example, images identified as first-winter *glaucescens* (fig. 160) and *schistisagus* (fig. 501), taken in the same place one day apart, are so similar that rather than being of different species they could be of the same individual.

There are occasional confusing statements and errors. The mantle color of Thayer's Gull is darker than that of the Herring Gull, which makes it much (not slightly, as stated) darker than that of the Iceland Gull (*L. glaucooides*). What does it mean that Bonaparte's Gull (*L. philadelphia*) "breeds in Canada up to 600 m"? In the California Gull (*L. californicus*) account, there are several slips. The map given for the breeding range applies only to the inland race (*albertaensis*); the year-round distribution is actually the breeding range of the nominate race. Given that this species nests almost entirely in the interior of North America, it should be considered entirely (not "partly") migratory. Juvenal plumage is more variable than shown, and can range from very pale to dark in one colony. It may be that numbers were at one time reduced to 50,000 pairs by egg collecting, as Conover (1983) contended. Even so, citations by others (e.g. del Hoyo et al. 1996) of the same data do not represent confirmation but repetition, and do not give the imprimatur of authenticity.

Two other points regarding California Gulls illustrate a more general problem in the recent and expanding literature. First, Larsson and Olsen report as fact that *albertaensis* has a leap-frog migration. Others are not as accepting. In

*Birds of the Salton Sea*, Patten et al. (2003) note this as a possibility, but rightly warn against the identification of subspecies without specimen evidence. Second, in commenting on leg color (usually given as greenish-yellow in adults), they speculate that the high proportion of yellow-legged birds in Mexico is attributable to diet. Johnston's (1956) finding that soft-part coloration is hormonally charged, though referenced, is ignored. In the colonies, legs of the earliest breeders are often bright yellow, with those of later breeders being greenish-yellow or duller (J. R. Jehl, Jr. pers. obs). Both these points are based on papers deriving solely from field observations. One cannot fault the compiling authors for citing such papers: completeness is a virtue. But so is skepticism, and the ball falls first in the court of editors (better described as "publishers") of some popular journals who are unfamiliar with the literature and accept unsupported observational papers without critical examination.

*Gulls of North America, Europe, and Asia* represents a tough job well done. At a bargain price, it is not only a welcome addition but a near necessity in an ornithological library. As with any controversial group of birds, there will be controversy in some findings. Dwight might not buy the taxonomy, but he would be pleased with the product.—J. R. JEHL, JR., 2752 Poplar Lane, Annapolis, Maryland 21401, USA. E-mail: Grebe5k@cs.com

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