

The Lapwing

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concentrates on the Antarctic Treaty System (ATS) and the many difficulties of insuring adequate conservation in the Antarctic. The detailed account of conservation efforts through 2004 will be of interest to anyone working in this important region.

Boardman opens the final chapter by posing the questions that the book attempts to answer: "What are the governance arrangements for conserving the world's bird biodiversity? How are these structured and what factors create, nourish and stunt them?" He repeats his belief that government agencies cannot, by themselves, achieve effective bird conservation, remarking, for example, that if "governments were to be removed from the world of bird conservation, a large chunk of the overall global effort would still thrive." He adds, however, that "neither states nor NGOs acting in isolation from the other hold the key to effective long-term conservation." Turning to ways of improving bird-conservation activities, he rejects the creation of a mega-bird-conservation organization comparable to the World Health Organization or World Trade Organization, not only because creating such an organization would be impractical but, more importantly, because "it is not self-evident that such an institution would augment significantly the stock of conservation achievements attainable by other means." Instead, he advises bird-conservation professionals to focus on stronger links between regions, especially North America and Europe; more sophisticated "flyway organizations"; enhanced data repositories; and improved multilateral environmental agreements of several specific types.

Overall, this book presents a comprehensive review of what has worked or not worked in bird conservation around the world and how we can achieve more success in future efforts. Although I often found the writing difficult, the emphasis on foundational or structural features of economic, political, and government systems, and their influence on bird conservation outcomes, is a fresh and useful perspective and one that all conservation biologists would benefit from studying.—JONATHAN BART, *U.S. Geological Survey, Boise, Idaho 83706, USA. E-mail: jon.bart@usgs.gov*

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The Lapwing.—Michael Shrubbs, with drawings by Robert Gillmor. 2007. T & A D Poyser, London. 232 pp., 29 color plates, 19 black-and-white drawings, 53 figures, 19 tables, 4 appendices. ISBN 978-0-7136-6854-4. Cloth, \$ 84.30.—The publication of a new book by Poyser, which is renowned for highly authoritative monographs, is met with great expectations from many ornithologists. Dealing with a charismatic Palearctic shorebird, *The Lapwing* by Michael Shrubbs is no exception. Considering the traditionally great interest in the natural history of Northern Lapwings (*Vanellus vanellus*; hereafter "lapwings"), not least in Britain, I am probably not alone in finding this a long-awaited publication.

The book begins with a brief overview of field characteristics and distribution of all 24 species in the genus *Vanellus* and a closer introduction to the focal species. This is followed by a discussion of the lapwing's breeding distribution and densities, including a review of population estimates across Europe. Two chapters are

assigned to breeding habitat and population changes. The author discusses continental Europe and Britain separately, because of notable differences in population trends and agricultural practices. Further, winter patterns of distribution, population sizes, and habitat use are presented, as well as food and feeding behavior. Five chapters summarize aspects of breeding biology, namely arrival and territorial activity, courtship and pair formation, the egg period, nesting success, chick rearing, and fledging success. Other chapters discuss movement patterns, mortality, and directions for future conservation of the species. Four appendices provide details on population changes in Europe, breeding habitats, diet, and scientific names of species mentioned in the text. Robert Gillmor has illustrated the book with brilliant black-and-white drawings that serve as visual introductions to each chapter. Chapter 5 includes 29 color photographs showing the lapwing's appearance, behavioral aspects, and habitat types. Four of the photos show other lapwing species.

On the book's cover, Shrubbs is presented as a retired farmer who "has enjoyed a lifetime of study on Lapwings." Actively involved in British lapwing conservation and having published research papers on the species' biology and its population status in the United Kingdom, Shrubbs is clearly an expert on conservation of farmland birds and their habitats. Some readers will recognize him as the author of *Birds, Scythes and Combines* (Shrubbs 2003). *The Lapwing* clearly builds upon Shrubbs's earlier publications, drawing on his knowledge of how farming has affected bird populations in Europe throughout the past 200 years—and how it continues to do so. As the author writes, "there is inevitably a great deal of agriculture in this book." From my point of view, this is in fact the book's greatest strength.

I found the chapters on population regulation and population effects of human activities highly informative. Lapwings were hunted in the past, and their eggs collected for food, in several European countries. The eggging activity was almost like an industry in some places. For instance, Shrubbs mentions that an amazing 800000 eggs were imported annually to London from the Friesland region in the Netherlands during the 1870s. Protective legislative measures restricting hunting and egg collection in most places led to considerable increases in both distribution and population sizes during much of the 20th century. However, in recent decades, it has become increasingly apparent that the species has a highly unfavorable population status in many European countries. There is now compelling evidence that this is largely a result of recent changes in agricultural practices. *The Lapwing* provides a detailed review of how this situation has arisen and how modern agriculture causes problems for lapwings and other farmland birds.

Presentations of populations, habitat choice, and conservation-related issues make up more than half the book. In addition to a general overview of these topics, readers will find detailed and insightful discussions regarding the various problems lapwings are facing and possible solutions for counteracting population decline and restoring habitats. The complexity of conservation issues is well illustrated by the fact that while the British breeding population was sharply declining, the numbers of birds wintering in Britain showed a concomitant increase. This may seem counterintuitive to people inexperienced in ecological thinking, and good communication skills may be required to convince some that lapwings are indeed threatened in the country.

Shrubb succeeds in conveying that message. However, whereas his sections on populations and agriculture are analytical and provide many anecdotes and references, I found the text dealing with breeding biology and behavior to be more descriptive and summarizing, and less detailed.

It is rather surprising that theories in evolutionary biology and behavioral ecology are hardly ever mentioned in the text. This is unfortunate, because several exciting questions regarding the evolution of lapwing breeding biology are still unsolved. In the description of mating systems, for example, I would like to have seen a discussion of the “polygyny threshold” hypothesis and how it may be affected by female dominance hierarchies (e.g., Grønstøl et al. 2003). It would also have been interesting to compare breeding behavior in lapwings and related species, with reference to the many comparative studies performed on shorebird breeding systems. The author could have related some aspects of lapwing behavior and ecology to relevant findings in other species for which there is better documentation. An example is how the production of replacement clutches may affect evolutionary fitness. Here, references to general life-history theory and some field tests of key predictions would have been worthwhile.

The Lapwing presents few new data and is, therefore, primarily a synthesis of previous research on the species. Still, a number of papers on general breeding biology were apparently overlooked. Of 13 internationally published papers from Norwegian studies between 1996 and 2005, only three are cited by Shrubb. I believe that references to more of these results would have improved the text on themes like mating system, egg size, clutch size, incubation behavior, and general time budgets. Other important but missing references include a study on copulation behavior (Zöllner 2001), one on geographic egg size variation (Chylarecki et al. 1997), and one about factors influencing breeding performance (Parish et al. 2001).

To make the monograph more complete, I also wish the author had presented information about aging birds in the hand and described general plumage variation in more detail. Plumage characteristics can be used for individual recognition of lapwings in the field. In fact, males in the color photographs on plates 1 and 3 show some of the relevant plumage details, but the text erroneously states that the male in the latter is “not quite in full breeding plumage.” Moreover, sample sizes are rarely given, which makes it difficult to properly evaluate the strength of statistical results. In still other cases, I am skeptical as to the generality of the described behavior. Shrubb claims that extrapair copulations are common in lapwings, but this cannot be substantiated by reference to the literature. Further, lapwing embryos are said to be extremely resistant to cold, but this is likely age-dependent, as with birds in general. On page 149, it is stated that lapwings will make a new nest cup and continue incubation if the eggs are simply put aside to save them from agricultural activities. In my experience, this is more likely successful if the original nest and surrounding turf are also moved. Finally, it was interesting to see the author mention slurry-spreading as having detrimental effects on nesting success. In Norway, I have the impression that birds will continue incubating unless the eggs get severely smeared in this bad-smelling fluid, which is not always the case. However, there may well be geographic variation in agricultural practices that cause differences in this respect.

Despite the various shortcomings outlined above, *The Lapwing* fulfills my expectations in several ways. Shrubb shares his vast knowledge of lapwings in clear and concise prose. His passion for these beautiful and fascinating birds shines through in all parts of the book, as does his strong interest in conservation of farmland birds. Those interested in behavioral ecology and evolutionary aspects of lapwing biology will find relatively little relevant information in this book. However, I recommend it to anyone interested in how modern agriculture affects bird populations, a topic in which the lapwing makes a thought-provoking example. Undoubtedly, this monograph also provides a good basic introduction to the fascinating biology of lapwings that a broad spectrum of ornithologists will likely enjoy reading.—TERJE LISLEVAND, *Bergen Museum, University of Bergen, Box 7800, N-5020 Bergen, Norway.* E-mail: terje.lislevand@bio.uib.no

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Bird Hormones and Bird Migrations: Analyzing Hormones in Droppings and Egg Yolks and Assessing Adaptations in Long-Distance Migration.—Ulf Bauchinger, Wolfgang Goyman, and Susanne Jenni-Eiermann, Eds. 2005. *Annals of the New York Academy of Sciences*, vol. 1046. Wiley, New York. 295 pp., 77 figures. ISBN 1–57331–577–X. Paper, \$129.95.—This volume compiles research presented at two workshops held at the Max Plank Institute of Ornithology in October 2004 and January 2005. The first was a technical workshop on the measurement of hormones in avian feces and yolk. The second focused on adaptations to long-distance migration in birds. Although the book's appeal will not extend to a very broad audience, it is important reading for anyone interested in avian fecal endocrine techniques or adaptations to long-distance migration. The chapters are organized like journal papers, but readers should keep in mind that the contents are not necessarily peer-reviewed. The book is probably not worth the price for those interested specifically in yolk steroids, which receive relatively little coverage.