

Ornithological Literature

Edited by William E. Davis, Jr.

A BIRDER'S GUIDE TO VIRGINIA. Compiled by David W. Johnston. American Birding Association, Inc., Colorado Springs, Colorado. 1997: 280 pp., 46 maps, 10 black-and-white photographs, 13 line drawings. \$18.95 (soft wrap-around cover, wire-O binding).—Another in the burgeoning series of American Birding Association bird finding guides, this book generally follows the format of previous volumes except that the bar-graphs of most books are replaced by an annotated list of 425 species (390 of which occur regularly in the state). The introductory materials include a brief review of the geology and physiography of the state; a section on ornithological history; weather and seasonal variations; tick, chigger, and other pest warnings; where to stay; who to write to for maps and other information; and some birding opportunities of special interest such as the annual Eastern Shore Birding Festival. The site guide section divides the state into six regions, Eastern Shore, Coastal Plain, Northern, Central, and Southern Piedmont, and Southern Mountains and Valleys. Each section begins with a brief description of the region and a regional map, followed by site guides (some are divided into subsections) each of which has a map and text. The text is divided into sections on background, essentials, habitats, birds (season by season), rare or unusual birds, and special comments. The special comments sections are particularly useful, often describing non-birds of interest such as wildflowers, mammals, or reptiles, and areas where tape recorders should not be used. A chapter on hawk-watching (including a bar graph and site map), and a chapter on pelagic birding will be of special interest to many. In the annotated checklist asterisks denote Virginia specialty birds, which are treated in a separate chapter. The chapter on other animals of Virginia lists butterflies, amphibians, reptiles, and mammals together with brief comments on status and distribution, and should be of interest to those with natural history in-

terests that go beyond birds. The book is, as is usual for this series, well designed, well edited, and user friendly. I found the site descriptions excellent for the areas of the state I know best, and assume the rest are equally good. I highly recommend this book to anyone planning to visit Virginia.—WILLIAM E. DAVIS, JR.

THE FOOD WEB OF A TROPICAL RAIN FOREST. Edited by Douglas P. Reagan and Robert B. Waide. Univ. of Chicago Press, Chicago, Illinois. 1996: 616 pp., black-and-white photographs with caption figs., numerous tables. \$39.95 (paper); \$110.00 (cloth).—This multi-authored volume represents an ambitious and successful attempt to provide a comprehensive analysis of the trophic dynamics of a single tropical rain forest. However, the rain forest chosen is El Verde, at an elevation between 300 and 500 meters on the northwest slope of the Luquillo Mountains on the island of Puerto Rico. Situated as it is, on an island, this forest is dramatically different in species richness and thus in trophic complexity from any mainland rain forest in Central or South America. Thus it becomes difficult to draw any generalizations from this otherwise model study. The book is divided into 14 chapters, of which one, authored by Robert B. Waide, is on birds. Birds therefore occupy about 7% of the total pages in the book, although birds are occasionally mentioned in other chapters.

Though birds exert significant influences at many points on the food web of El Verde, they are most influential as predators, particularly on lizards and frogs. Other trophic influences, such as nectarivory and frugivory are also important avian contributions to the overall trophic dynamics, especially with regard to dispersal of plants. The overall ecological importance of birds in part is due to the absence of many kinds of mammals that are important seed dispersers in mainland forests. Avian

species richness is far lower in El Verde than on mainland forests, a factor that permits greater ease of analysis but which makes the resulting analysis unique to this ecosystem. There are only 30 common species at El Verde, 8 of which are endemic to Puerto Rico and the Virgin Islands. This represents a strong distinction between El Verde compared with mainland communities, where rare species make up a major component of the avifauna. Biomass of birds at El Verde compares closely with that of mainland communities, however. Although there are fewer species, the number of birds per hectare is essentially equal to that found typically in mainland communities. Wintering migrant species (nine wood warbler species) have an important functional role in the El Verde as insectivores, though none is particularly abundant.

The chapter on birds represents an excellent attempt to understand the trophic dynamics of bird communities. This book, as a whole, is an important contribution to the study of Neotropical ecology.—JOHN C. KRICHER.

A GUIDE TO THE BIRDS OF THE GALAPAGOS ISLANDS. By Isabel Castro and Antonia Phillips, with a foreword by Peter R. Grant. Princeton Univ. Press, Princeton, New Jersey. 1996: 144 pp., 32 color plates plus 30 black-and-white illustrations, 1 map. \$24.95, cloth.—The Galapagos Archipelago is one of the most visited ecotourist destinations and it is timely that an updated bird guide becomes available. The Galapagos avifauna, though limited in diversity, is nonetheless unique in the ease by which most species can be observed and in its significance, particularly of the Geospizinae, to evolutionary biology. Most bird species that breed on the islands are not difficult to identify. Only one group, the Darwin's finches, poses significant field problems. This guide provides an adequate species account for each regularly occurring and many rarely occurring species, including status (migrant or resident), identification, distribution among islands (essential, as there is much by way of island to island differences), food, breeding behavior, and voice. It has interesting information on conservation status and it provides a useful though brief introduc-

tion to the islands, island ecosystems, climate, and conservation concerns.

Most field guides rely heavily on the plates and the quality of the color plates in this volume is weak. The species illustrated are not cross-referenced to the text, though the text does identify on which plate the species is illustrated. While most species are identifiable from the illustration on the plate, one longs for a good comparative plate of the Darwin's finches, accurately drawn, showing variability in bill size within a species. The illustrations provided on the plates are far short of this mark and will not be very useful in dealing with this group. Another problem with the plates is that very rare species are illustrated along with regularly occurring species. It may have been more useful to separate really rare species (such as ones for which there exists but a single record) from those which one sees almost daily. The black-and-white illustrations in the text are nonessential but pleasing.

The map of the islands does not include some of the more remote islands that, while they are not normally visited in most tours, are nonetheless mentioned in the text in various species accounts. The bibliography is useful in taking readers into the scientific literature. A bird species check-list is included.—JOHN C. KRICHER.

MIGRATORY SHORE AND UPLAND GAME BIRD MANAGEMENT IN NORTH AMERICA. 1994 (second printing 1995). T. C. Tacha and C. E. Braun. International Association of Fish and Wildlife Agencies, Washington, D.C. 223 pp., hardcover, 14 sepia-toned plates, numerous black-and-white photographs and range maps. Available free from the Caesar Kleberg Wildlife Research Institute, Campus Box 218, Texas A & M University-Kingsville, Kingsville, Texas 78363.—This volume is an update of the "Management of Migratory Shore and Upland Game Birds in North America (1977, International Association of Fish and Wildlife Agencies). It differs from that volume in that only game species have been included and the accounts have been written by primary authors (who selected their own coauthors) rather than by appointed committees. New art-

work by Don Radovich includes a full page sepia-toned portrait of each species in a preferred habitat. The artwork is pleasing and informative, adding much to the "class" of the book, although the color rendering differs substantially from the original artwork which I had an opportunity to see.

The book begins with an introductory chapter (K. M. Babcock) and ends with a summary chapter (Migratory Shore and Upland Game Bird Resources—Status and Trends, by T. C. Tacha, C. E. Braun, and R. E. Tomlinson). In between are chapters on fourteen species with one to five authors per account: Mourning Dove (*Zenaida macroura*), White-winged Dove (*Z. asiatica*), White-tipped Dove (*Lepototila verreauxi*), Band-tailed Pigeon (*Columba fasciata*), Sandhill Crane (*Grus canadensis*), American Woodcock (*Scolopax minor*), Common Snipe (*Gallinago gallinago*), American Coot (*Fulica americana*), Common Moorhen (*Gallinula chloropus*), Purple Gallinule (*Porphyryla martinica*), Clapper Rail (*Rallus longirostris*), King Rail (*R. elegans*), Virginia Rail (*R. limicola*), and Sora (*Porzana carolina*).

Each chapter stands on its own, being written in journal style and including an independent literature cited section. Chapters begin with a description of the species, a review of its behavioral ecology and habitats, its distribution and abundance, including discussion of census techniques and population trends, and data on hunting pressures and other sources of mortality. Each account includes a range map showing at least breeding and wintering distribution. Some accounts provide additional maps delimiting special management units (Mourning Doves), breeding bird survey and other census data, migration routes, and other information. Sections on management and research needs, included in each chapter, provide challenges for the next generation of wildlife biologists.

As its predecessor was, this volume will certainly be a valuable reference for game-bird biologists and managers, providing good reviews and useful bibliographies. Especially useful is the material related to the responses of populations to hunting pressures, habitat changes, and climate.—JEROME A. JACKSON.

THE RAVEN. By Derek Ratcliffe. T. & A. D. Poyser Ltd., England. 1997: xviii + 326 pp., 39 black-and-white photographs, 28 pen and ink illustrations (by Chris Rose), 18 figures, 27 tables, 5 appendices. \$39.50 (cloth).—To my knowledge there is no better book on the Northern Raven. This is a remarkably comprehensive treatment of the species, particularly for a book of its moderate length. It is also a great companion to the author's previous book, *The Peregrine Falcon*, first published in 1980 and now in its second edition (1993). In fact, Ratcliffe notes that "The two species were conveniently studied together . . . where there were Peregrines, there were nearly always Ravens, but rather more than half the Ravens lacked falcon neighbours." . . . "They were not harmonious neighbours and constant bickering between them was commonplace."

The book's focus is on the ravens of Britain and Ireland. Its foundation is the author's extensive personal experience. Ratcliffe's work with ravens began in 1945 and took him to over 500 nesting places at least once, and a few over 30 different years. Even so, he has drawn heavily on the works of others, citing 295 publications in the bibliography ranging from 1789 to 1996 (with one listed as in press). The result is an information packed synopsis of the current understanding of the biology of the raven.

The Preface (pp. xv–xviii) provides a brief history of raven studies, beginning with William Macgillivray (1837) who was among the first biologists to watch ravens from blinds. It is here that Ratcliffe notes that "The Raven is a bird whose ecology is closely tied up with human affairs and is perhaps more intimately entangled with the cultural life of earlier peoples than any other bird in the whole of history."

The Introduction (pp. 1–6) gives an insight into Ratcliffe's fascination with ravens and how his boyhood explorations of the surrounding hill country in Carlisle grew into a lifelong career of bird study. Chapter 1 (pp. 7–26) charts the raven's course in human history, including a brief section on the prehistoric evidence of ravens in Britain, and longer sections on the raven in myth and legend, and another which follows the raven's transition from scavenger friend in the Middle Ages to

predator foe. In the 1400s and 1500s ravens were widely protected for their services of cleaning filth from towns. Their fall from grace and subsequent persecution began around 1650 and bounties were initiated in many areas by the 1700s. After thousands of ravens were killed for bounties and the effectiveness of shooting and trapping declined, the use of poisons became more popular. Further declines resulted from the increasing popularity of egg-collecting beginning about 1850. In Britain, adequate legal protection did not come until enactment of the Wildlife and Countryside Act in 1981, and in Chapter 12 (Ravens in the Modern Scene) Ratcliffe provides evidence that even today the raven's recovery on the British grouse-moors appears to be held back by continued persecution from modern gamekeepers. The meat of this book fills chapters 2 through 12 (214 pages) which covers the raven's distribution and abundance (Chapter 3), foods and feeding habits (Chapter 4), social behavior (Chapter 5), movements (Chapter 6), associations with other animal species (Chapter 7), breeding biology (Chapters 8–10), territorialism and population regulation (Chapter 11), and how they fit into the modern scene (Chapter 12).

Initially I feared that, with his specific focus on Britain and Ireland, the ravens described by Ratcliffe might have little in common with the ones I have come to know in North America. Indeed, this book focuses a good deal of attention on habitats unfamiliar to me such as sheepwalks of the hill country and grouse-moors of Britain's eastern uplands. In particular, the association of sheep and ravens is an important one in the hills of Britain and Ireland with sheep's wool from carrion featured in 90% of the raven's food pellets in one study. Besides the standard sources of sheep carrion from stillborn lambs (some lamb predation), expelled afterbirths, and expected incidental adult mortality, Ratcliffe describes sheep that die from being "cast" or "couped" (rolled on their backs and unable to right themselves—p. 85), and sheep that die from falling off of ledges on which they were "crag-fast" (having descended partway down a cliff to a grassy ledge from which they could not escape—p. 82). He also describes (p. 72) their ability to follow hunters in apparent anticipation of feeding on the "gralloch" of Red

Deer (the discarded entrails). As I read, it was quickly apparent, however, that Ratcliffe's observations and descriptions are quite applicable to ravens of North America and the rest of the Northern Hemisphere. These are the same ravens that I know and their biology and behavior is essentially the same as the ones found throughout at least the northern parts of North America. This feeling was reinforced by 28 pen-and-ink illustrations contributed by Chris Rose. The coastal and mountainous scenery could be Newfoundland/Labrador or Alaska but the essence of the birds captures perfectly the ones I know best in New England. The one constant pattern throughout their range seems to be their ability to successfully exploit the diversity of food resources that are available in each particular area.

In the one short chapter devoted to ravens elsewhere in the world (Chapter 13, 8 pages), Ratcliffe cites the observation of Cramp and Perrins (1994) that the raven "is so wide-ranging that the concept of habitat is hardly applicable. It is one of the most widespread of all bird species in the northern hemisphere . . .". These are birds that can tolerate extreme cold near the Arctic to the desert heat of Death Valley, California, and in the New World range as far south as Nicaragua. In this chapter the ten currently recognized subspecies of Northern Raven are listed and mapped, followed by a brief description of the eight other species of ravens from around the world whose distributions are plotted on the same map (p. 244). This chapter is such a short and cursory treatment that it feels more like an appendix than part of the text. In fact, Appendix 1, which is a systematic listing of the distribution and description of raven flocks and roosts observed in Britain and Ireland, is a page longer.

The final chapter presents evidence, largely in anecdotal form, relating to the reported intelligence of ravens. This is followed by 4 appendices presenting information documenting raven flocks and roosts (appendix 1, 9 pages), describing the varied calls of the raven (appendix 2, 3 pages), detailing the physical appearance of the raven (appendix 3, 3 pages), and listing the scientific names of the 133 animal and 49 plant species referenced in the text (appendix 4, 3 pages). The 27 tables (33

pages) are packed with data on nest site selection, band recoveries, pesticide levels, brood sizes, and related information. Much of this may be of little direct use to readers from outside of Britain and Ireland, but it is consistent with Ratcliffe's apparent desire to present all that he has learned about the ravens of this region, and it provides a very useful point of reference for students of ravens elsewhere in the world.

Ratcliffe has chosen an easy to read, casual style centered around his personal experiences, but he has included numerous citations and lots of data. For me, this was a fun book to read, and I do not expect a more comprehensive book on the Northern Raven anytime soon. It will be my reference of choice for the species.—THOMAS W. FRENCH.

FARMING AND BIRDS IN EUROPE: THE COMMON AGRICULTURAL POLICY AND ITS IMPLICATIONS FOR BIRD CONSERVATION. Edited by Deborah J. Pain and Michael W. Pienkowski. Academic Press, London, England. 1997: 436 pp. \$99.95.—The Common Agricultural Policy (CAP) of the subtitle refers to the harmonized agricultural support system of the European Union (EU). The EU is indeed a curious political beast, at least to American eyes: imagine something akin to the progression of the Union as new states joined but compressed in time to about 25 years and with the new partners already well established nations with histories dating to pre-Columbian times! The changes and adapting needed would be large indeed, and this is manifest in the environmental policies of the EU. The EU originated in the 1958 European Economic Community (Germany, France, Italy, Belgium, Netherlands, and Luxembourg) but expanded in 1973 to include the United Kingdom, Ireland, and Denmark, later adding Greece in 1981 and Spain and Portugal in 1986 (when the EEC became the European Community). In 1995 when Austria, Sweden and Finland joined what had become the European Union, the largest free trade area in the world had mandatory transnational policies for agricultural and the environment (inter alia), as well

as a Birds Directive explicitly for bird conservation.

Farmland covers nearly half of the land surface of the EU and is the major land-use there. Much of the environmental concern arising from agricultural impacts on wildlife derives from the evolution of technological and policy developments that favor intensification and concentration of particular activities: where once a wise farmer managed both stock and small grains, now economics and technology demand specialization on the one or the other. In the UK, where the impetus in this direction began with the 1947 Agricultural Act, long before the CAP was conceived, this intensification is most pronounced, with 16% of all farms above 100 ha (247 acres), 33% of them above 50 ha, and with only 13% smaller than 5 ha. In contrast Greece, a newcomer to the EU, has 78% of its farms this small. One statistic from this book (from a review chapter by Clive Potter) dramatically captures the economic forces toward specialization: a farm family in the Netherlands (intensive highly specialized farming) averages 11 times the income of a Portuguese farm family still pursuing environment-friendly mixed farming!

The environmental consequences of systematic financial support for agricultural production have been striking. Fertilizer use in EU countries has increased 400-fold since 1950, machines used increased 45% between 1970 and 1988, and major restructuring—the amalgamation of small farms into fewer large ones—has progressed apace. What has accompanied this intensification of agriculture has been the wholesale removal of hedges, trees, small woods, ponds, and wetlands. Such habitat loss and fragmentation have resulted in the extinction of three species of flowering plant and at least three dragonfly species and one butterfly species in Britain alone. In Germany some 400 species of vascular plants have declined, with 40% of bird species and 50% of mammal species on the "Red List" of threatened and endangered species affected by such intensification. Such data—from a spread of countries across Europe—are the concerns of this book.

The book comprises 14 chapters, with a foreword from the EU Commissioner for Agriculture and Rural Development, Franz Fischler. The first four chapters are introduc-

tory in nature, the first being a scene-setting chapter by the editors and the second (by Clive Potter) an account of changes in farmland in Europe over the last 30 years. The major changes with environmental concern—intensification, specialization, and marginalization—are reviewed as to their origins and propagation within a system of CAP farm support. The chapter by Nigel Robson provides a fascinating historical analysis of the EU's Common Agricultural Policy and the evolution of its relationship to the Directive on the Environment. Robson is a gifted writer with the rare knack of being able to distill a welter of factual material into a coherent synthesis that yet does justice to the intrinsic complexity of the issues. This chapter should be included in the reading lists of every graduate course in resource policy or resource economics. The fourth chapter, by Graham Tucker, describes the importance of farmed landscapes in Europe for bird conservation priorities. Tucker's data synthesis shows that farmland is both the richest habitat for birds of all major European habitats and the one that has the largest proportion of species in trouble across Europe. Within farmland, arable and agriculturally improved grasslands hold the highest number of bird species, including five globally threatened species (Red-breasted Goose *Branta ruficollis*, Imperial Eagle *Aquila heliaca*, Lesser Kestrel *Falco naumanni*, Great Bustard *Otis tarda*, and Corncrake *Crex crex*). Across farmland as a whole, grass conversion, the indirect effects of pesticides, and abandonment of marginal farmland each threaten 30% or more of declining species, and crop improvement impacts another 27% or so. Other major agricultural threats include high stocking rates, drainage, irrigation, and crop specialization. Robson's and Tucker's chapters are probably the most significant in the book for North American readers, not so much for the details—the political and ecological particulars are too different from the U.S. and Canada to be directly applicable—but for the insight they provide into the general issues involved in balancing agricultural land use and bird conservation.

The second part of the book describes issues associated with particular habitats. Three of the chapters are detailed accounts of Spanish issues, covering respectively the ecology

of the Spanish dehesas (M. Díaz, P. Campos, and F. J. Pulido), and birds and farming in the pseudosteppes (F. Suárez, M. A. Naveso and E. De Juana). Dehesas are wood pastures or savannahs, typically grazed grasslands populated with holm oak, *Quercus ilex*, or cork oak, *Q. suber*, and provide feeding grounds for such spectacular species as the Spanish Imperial Eagle, Black Vulture, *Aegypius monachus*, and Black Stork, *Ciconia niger*. Pseudosteppes provide a dryland mosaic of habitats of cereal crops, dry legumes, and winter and short rotation fallows that support such rare species as the Great Bustard. Dehesas and pseudosteppes are rather marginal farming systems vulnerable to intensification, yet unprotected as to their conservation value. Similarly, low intensity, extensive grazing systems are economically marginal but have long been of significance for raptors in Spain (Chapter 5, by J. A. Donazar, M. A. Naveso, J. L. Tella, and D. Campión). The short to medium fallow rotations (5–7 years) in steppe areas provide a mosaic of winter stubbles and grassland that supports many small birds that in turn provide food for raptors; and free-ranging livestock, particularly sheep, provide carcasses for vultures. As in all the habitat chapters, the consequences for birds of the current CAP and of possible future changes in it are explicitly reviewed. For these grasslands, for example, favorable headage payments under the CAP have led to sheep being kept on the grasslands for longer, leading to over-grazing and increase in bare ground. In addition, increased use of pesticides on crops is reducing arthropod abundance and the abundance of passerines they once supported.

Chapter 6 is a further contribution by Dick Potts to the bird ecology of cereal ecosystems and continues his unrivaled, now 28-year-old study of the Gray Partridge *Perdix perdix*. He concludes that four elements of cereal intensification—use of herbicides, abandonment of undersowing to establish grass/legume leys, cessation of arable farming in hill regions, and summer use of foliar insecticides—have reduced insect abundance and increased chick starvation, with an 83% reduction in partridge numbers across Europe. His data notably show that even the 1992 reforms of the CAP—intended to ameliorate the environmental damage of production-oriented subsi-

dies while at the same time bringing the runaway financial costs of the CAP under control—have failed to redress the partridge's problems from intensification. Chapter 8 focuses on another cereal system, that of rice cultivation. Here Mauro Fasola and Xavier Ruíz discuss the possible role of rice production as a substitute for wetlands being drained with CAP subsidies. A chapter by Norbert Lefranc analyzes how intensification has induced landscape-level changes that appear to account for the precipitous decline of most shrike (*Lanius* sp.) populations in western Europe. The remaining two habitat chapters comprise another contribution by Albert Beintema to the ecology of grassland birds (here with coauthors Euan Dunn and David Stroud), and a chapter by Andy Evans reviewing the ecology of seed-eating species on mixed farmland in the United Kingdom. Evans shows that the loss of mixed farming may have been responsible for the major declines in populations of seed-eating birds in the UK: eight of these species have declined by 52–89% since the late 1960s. The editors provide a synthesis chapter, largely recapitulating the recurrent themes of the individual chapters. Here American proponents of the Farm Conservation Reserve Program will note the conclusion that set-aside (the EU's equivalent of the CRP) has substantial conservation potential that is being realized for some but not all species. The final chapter is a closing review by James Dixon on the future threats and opportunities of European agriculture. This chapter is less a review than a futurist's view of the CAP but at its core is the idea that agricultural policy must eventually turn from an emphasis on production to an emphasis on, and re-distribution of the benefits of the policy towards social and environmental purposes.

The scope of this book is more accurately captured by its subtitle than by its title and it is only the handful of ecological chapters that match expectations raised by the title. Only 6 of the European Union member nations are represented among the 23 authors, and 19 of these are from just 2 countries (Spain 10, United Kingdom 9). Five of the authors are from the same organization (the UK's Royal Society for the Protection of Birds), testament to the strength of the research and lob-

bying effort sustained financially and organizationally by the RSPB but not conducive to much diversity of views of the problem. (The book was in fact published for the RSPB by Academic Press). The narrow national base of authorship left me feeling dissatisfied with the book's lop-sided geographical coverage, with Spain, in particular, receiving disproportionate treatment for a European book. Although the bias is offset in part by the excellent review articles already mentioned, one wishes for contributions reflecting some of the fine land-use and farmland ecology studies performed in Sweden, Denmark, and Germany. The lack of a biogeographic perspective is also noticeably missing (though Potter does note the regional geography of farming in his review).

Traditional low intensity farmed landscapes have long been harbors of rich biodiversity, yet agricultural change is now the most frequent cause of European bird population declines. Graham Tucker's conclusion is striking: "... farmland bird habitats are now, quite simply, the foremost bird conservation priority in Europe." Why have traditional conservation measures failed European birds so badly? The problem is that conservation interest has focused essentially only on site-based measures such as designation of protected areas and the establishment of nature reserves. These fail for agricultural birds for three main reasons. First, most such species are widely dispersed in one or more stages of their annual cycle. Second, emphasis has been on protecting natural habitats, in part the result of the mistaken belief that agricultural habitats are of low conservation importance. Third, and in my view perhaps the most important, statutory protection of sites does not provide for the maintenance of the traditional, often low intensity, farming systems that many of the most important bird species depend on. Despite current emphasis on landscape approaches to conservation, this point is perhaps the one least developed in our present thinking about conservation biology on this side of the Atlantic. This book is a salutary reminder of the need to broaden our horizons if grassland and farmland birds are to receive effective conservation support.—RAYMOND J. O'CONNOR.

THE BIRDS OF THE CAPE VERDE ISLANDS: AN ANNOTATED CHECK-LIST. By Cornelis J. Hazevoet. B.O.U. Check-list No. 13. British Ornithologists' Union, Tring, Herts, UK. 1995: 192 pp. £ 17.00 cloth (ca. US\$ 26.00).—For anyone even remotely interested in distributional ornithology, the B.O.U. Check-lists are goldmines of information attractively presented, reasonably priced, and usually standards against which many avifaunal efforts can be measured. That for the Cape Verde Islands (hereafter, CVI) is no exception.

Following the Check-lists' recent trend of using a cover color photo of a bird typifying the area (in this case, a splendid Brown Booby in flight), after the usual front matter the book is divided into three major sections. First is the Introduction (pp. 15–80), covering history; geology and geography; climate; vegetation and habitat; breeding seasons; migration; conservation; zoogeography; endemics; and the history of CVI ornithological exploration. Eleven excellent black-and-white, geopolitical maps depict the ten main islands but none of the (unnumbered) islets. Second, and the heart of the book, is the Systematic List (pp. 81–147), treating 144 numbered "species" (see below why I put this term in quotes).

A 48-figure, 24-page, color section features habitats in the CVI and stunning photos of such birds as Cape Verde (CV) Cane Warbler, CV Swift, CV Little Shearwater, CV Kite, CV Shearwater, the whimsically translated Neglected Kestrel, Brown-necked Raven, Raso [sic] Lark, Iago Sparrow, and Hoopoe Lark. The Frontispiece was a letdown: a black-and-white photo of the nest and plain white egg of Fea's Petrel, even though probably the first ever published.

Several of the extremely useful Appendices (pp. 148–167) that have become hallmarks of B.O.U. Check-lists follow: omitted species; taxa named from CVI specimens; banded (ringed) birds recovered in the CVI; a table of CVI ornithological explorations (encapsulating information presented in the Introduction); a gazetteer with full latilong data; local names of CVI birds; and the inter-island distribution of CVI breeding species. A bibliography (pp. 168–174) closes the book.

What quickly sets this volume apart from other B.O.U. Checklists is Appendix 4 (pp. 153–157), "Species concepts and systemat-

ics." This somewhat surprising section is an unabashed *apologia* for the Phylogenetic Species Concept (PSC), of which Hazevoet is a principal protagonist. My first reaction was that its use was inappropriate in a faunal monograph. Subsequently, I concluded that he has perfect right to do so, even if I might not agree with it. Moreover, it is one of the best—if not the best—concise expositions of the PSC that I have read.

The upshot is that several CVI taxa that the Biological Species Concept (BSC) might consider allopatric races, Hazevoet treats as separate species and therefore CVI endemics. He splits them into 11 'landbirds' [*Ardea (purpurea) bournei*, *Milvus (milvus) fasciicauda*, *Buteo (buteo) bannermanni*, *Falco (tinnunculus) neglectus*, *F. (tinnunculus) alexandri*, *F. (peregrinus) madens*, *Apus (unicolor) alexandri*, *Tyto (alba) detorta*, *Alauda razae*, *Acrocephalus (rufescens) brevipennis*, and *Passer (motitensis) iagoensis*] and 3 seabirds [*Pterodroma feae*, *Calonectris (diomedea) edwardsi*, and *Puffinus (assimilis) boydi*]. Readers will note that a number of these are also widely regarded as distinct species under the BSC (e.g., Fea's Petrel, Raso Lark, and Iago Sparrow).

He sinks as not "diagnosably distinct" two seabird subspecies [*Pelagodroma marina eadesi* and *Fregata magnificens lowei*] and eight landbird races [*Coturnix c. inopinata*, *Cursorius cursor exsul*, *Halcyon leucocephala ac-teon*, *Eremopteryx n. nigriceps*, *Ammomanes c. cincturus*, *Alaemon alaudipes boavistae*, *Sylvia conspicillata orbitalis*, and *Sylvia atricapilla gularis*], considering them either ends of clines or only weakly morphologically differentiated. Neither is he keen on the very concept of subspecies ("It will, therefore, probably be better to abandon the 'subspecies' category altogether and look for other ways of describing intraspecific variation"), although he finds 'subspecies' (always pejoratively in quotes) useful, as do many of us, in deducing the origins of migrants and vagrants (in the present volume: Little Bittern, Black-crowned Night Heron, Intermediate Egret, Eurasian Spoonbill, Eurasian Teal, Eurasian Kestrel, Collared Pratincole, Little Ringed Plover, Dunlin, et mult. al.).

The species accounts are informative and up to date, usually with such subheadings as

movements, breeding, taxonomy, and where appropriate, status broken down island by island. English names regrettably fail to meet a globally-unique standard, perpetuating such quintessentially Anglocentric names as "Night Heron," "Storm Petrel," "Gannet," "Teal," "Pochard," "Coot" and of course that old favorite, "Swallow"—a bit disappointing in a B.O.U. publication.

A close reading of the entire book was rewarding, and, amazingly, I noticed only a single (trivial) typo. I was disappointed that no measurements were given in discussions of any of his taxonomic diagnoses, and I would have preferred more detailed treatment of geostrophic and seasonal wind patterns, and of water temperatures and currents. Regrettably, there were neither bathymetric nor vegetative cover maps, both of which would have aided readers in interpreting distribution and abundance patterns.

Under each species account it would have made far better zoogeographic sense, especially to readers unfamiliar with the global ranges of treated species, to have had capsule descriptions of their complete ranges before details of their CVI distributions. Likewise, the useful term "vagrant" is probably debased when applied to species whose occurrence in a given area may merely be a function of numbers of observers and time afield—and not of true geographical vagrancy. For example, I suspect that in the CVI, Sooty Shearwater, Red-footed Booby, Black-crowned Night Heron, and Little Bittern, to name a few, fall into the former, not the true vagrant, category. "Expected but infrequently recorded" would be a more accurate (but longer) term.

One feature I applaud is the inclusion in the appropriate systematic locations of bracketed species that have occurred within the CVI area but only at sea, or which have never been found anywhere in the area but ought to occur. I might make the case for highlighting these in a collected Appendix rather than burying them in the text body, but either way it's useful information.

The CVI sit at sea some 300 miles (500 km) west of the bulge of West Africa, where many hurricanes form in September in the intertropical convergence zone, routinely reaching the Lesser Antilles [ca 1800 miles (2900 km)

west] and occasionally even the continental U.S. Thus, species present as migrants or vagrants in the CVI also need to be considered candidates for Western Hemisphere occurrence. In this regard, it is fascinating and occasionally eye-opening to consider the occurrence, frequency, and subspecific identity of the species in the CVI.

This is a splendid volume, chock full of information, beautifully presented, well-bound (it lies flat), and these days, a bargain at £17.00. I recommend it enthusiastically.—P. A. BUCKLEY.

THE BIRDS OF AFRICA, volume 5 [BOA5]. Edited by Emil K. Urban, C. Hilary Fry, and Stuart Keith. Academic Press, London. 1997: xix and 669 pp., 32 color plates, numerous line drawings and maps. \$149.00 (cloth).—This series, with its well-researched species accounts and with all species and distinctive subspecies illustrated, has become the standard work on African birds. In this volume, the authors of the species accounts are C. Erard, C. H. Fry, L. G. Grimes, M. P. S. Irwin, S. Keith, P. C. Lack, R. de Naurois, D. Pearson, A. Prigogine, A. Tye, and E. K. Urban; the color plates are by Martin Woodcock, and the line drawings of birds and nests are by Ian Willis.

The main text of BOA5 is 600 pages of species accounts for Turdidae thrushes (*Monticola*, *Zoothera*, and *Turdus*; the others were in BOA4), Sylviidae Old World warblers, Muscicapidae flycatchers, Monarchidae paradise flycatchers and monarchs, and Platysteiridae wattle-eyes and batises. Measurements of wing, tail, bill, and tarsus and body weights are reported by sex. Subspecies are compared and sometimes characterized by measurements. Maps show species distributions. Other material includes regional locality maps, family and genus descriptions, a list of song disks and cassettes and names of recordists as compiled by C. Chappuis, notes to correct previous volumes, lists of full References by region and by taxonomic group, and an index with scientific (genus, species, subspecies) and English species names.

The species accounts are generally accurate and informative, though some are long on de-

scription, feather by feather, and frugal on documentation in spite of the extensive References lists. BOA5 has 0–5 (to 11) references at the end of each species account and the text usually cites a few others. There has been so little fieldwork on many African songbirds that it is worth documenting what is known with more text citations. Why not include the sources of statements that many warblers are parasitized by *Prodotiscus* honey-guides, and certain warblers are parasitized by all three families of African brood parasites (cuckoos, honey-guides, and the Viduidae Cuckoo-finches)? In error, Winding Cisticola (*C. galactotes*), Pectoral-patch Cisticola (*C. brunnescens*), and Singing Cisticola (*C. cantans*) are said to be parasitized by Pin-tailed Whydahs (*Vidua macroura*). The error traces to breeding records in Ethiopia (R. E. Cheesman and W. L. Sclater, 1935. *Ibis* 13:594–622; 1936. 14:163–197) where the young brood parasites were originally identified as whydahs, but in fact were Cuckoo-finches (*Anomalospiza imberbis*), as reidentified in Cheesman's specimens in the Museum of Natural History at Tring and recognized by J. P. Chapin (1954 *Bull. Amer. Mus. Nat. Hist. Bull.* 75B) and H. Friedmann (1960 *U. S. National Museum Bull.* 223).

The decisions about species limits and subspecies include enough calls of judgment to keep field workers busy, and for others interested in biological species. BOA5 will be a useful baseline for fieldwork in recording songs and working out details of nesting and breeding behavior. To illustrate, one question involves Winding Cisticola or Black-backed Cisticola (*Cisticola galactotes*)—the two English names are appropriate as more than one species is probably involved. Calls and songs vary geographically, but no vocalizations in south-central Africa correspond with the watch-winding call in West Africa that gives the name “Winding Cisticola.” In northwestern Zimbabwe on the upper Zambezi River the local “Black-backed Cisticola” have never been heard with a winding call like those of West African birds, and the local “*C. galactotes*” in my photos look like *luapula* in northeastern Zambia. Also, in northwestern Zimbabwe a song (“dzitdzidzee”) more like the winding call of West African *C. galactotes* is given by Chirping Cisticola *C. pipiens* in

reedbeds alongside *C. (galactotes) luapula*. The case illustrates the need for more fieldwork and underscores the importance of BOA5 as a basis from which to expand our current information.

The BOA notes on song lead one to appreciate the conditions in which songs are criteria of species identity. Some forms of Bar-throated Apalis (*A. thoracica*) do not respond to each other's songs on playback, and several species may be involved. Songs also differ between distinctive geographic color forms of Yellow-breasted Apalis (*A. flavida*) and these may include more than one species. In contrast, Black-headed Apalis (*A. melanocephala*) songs vary geographically independently of the variation in plumage. Another complication in using song behavior as a species criterion is that two species (*A. alticola*) and Chapin's Apalis (*A. chapini*) may countersing with each other. On the other hand, the songs of some clearly divergent thrush species are similar or indistinguishable. Among the results that encourage us to record all these African songbirds wherever we find them, African Thrush (*Turdus pelios*) and Olive Thrush (*T. olivaceus*) differ in song, mostly phrases of 2 notes in *T. pelios* and 5–8 notes with alternating high and low notes followed by soft phrases in *T. olivaceus*. This helps clear up earlier reports of the species in the wrong areas.

BOA life history data will be of interest to tropical ecologists and behavioral biologists. In addition, the text can help guide systematic ornithologists. One bird of systematic interest is Oriole Warbler or Moho (*Hypergerus atriceps*); its plumage suggests an Asian bulbul, while the nest is like a sunbird or an East African Grey-capped Warbler (*Eminia lepida*), and a French name (not in BOA5) is Timalie à tête noire, indicating a babbler. Another theme involves the relationships and dispersal history of warblers in Africa and Asia. A possible Asian connection involves two “African tailorbirds” *Artisornis*, where one species is sometimes placed in *Apalis* and the other in *Prinia* (both have 10 rectrices). The two might be related to the Asian tailorbirds (*Orthotomus*), though other African warblers build tailorbird-like nests with the leaves stitched together: *Camaroptera* and some *Cisticola* also do this. *Prinia* may be paraphyletic in Africa

with more than one dispersal from Asia where other prinias occur. BOA5 comments give us a reality check on the geographic scale that is appropriate in avian systematics.

The Birds of Africa series continues to improve with information on natural history and systematic summaries, clear maps, and useful and attractive color plates. This volume brings together what is known for each species and points out where good field observations are needed. Everyone with an interest in African birds should have the series, or make it available in their institutional library.—ROBERT B. PAYNE.

WARBLERS OF EUROPE, ASIA AND NORTH AFRICA. By Kevin Baker. Princeton Univ. Press, Princeton, New Jersey. 1997: 400 pp., 48 color plates, 145 range maps, many black-and-white sketches. \$49.50.—The latest volume in the "Helm" series of family monographs covers a portion of the traditional subfamily Sylviinae. The geographical range is of the whole Palearctic, North Africa, and the rest of mainland Asia. One hundred forty five of the approximate 350+ species in the subfamily are treated.

The format of this series is now well known. A brief introduction is followed by the 48 colored plates accompanied by a small range map for each species. The main text treats the species accounts under the headings: Identification, Description, Geographical Variation, Molt, Voice, Habitat and Behaviour, Distribution, Measurements, and References. Individual accounts may be 3–4 pages long.

The birds of this subfamily present some of the most difficult identification problems in ornithology. Some genera consist of a series of L.B.J.s (Little Brown Jobs). The genus *Phylloscopus* is represented by 37 species, all of which will look like fall immature Pine Warblers (*Dendroica pinus*) to most readers of the Bulletin. The omission of sub-Saharan Africa means that only two species of the really difficult genus *Cisticola* are included and we are saved from having to face the 43 African species with their participial English names.

The text contains less information about the habitat and behavior of the birds than some of the other books in the series and is concen-

trated on identification and description. For a species picked at random, Greenish Warbler (*Phylloscopus trochiloides*), 30.5 column-inches are devoted to identification and Habitat and Behaviour are covered in 4 column-inches. In many cases the extensive identification space is devoted to comparing "Confusion Species," a real plus in these difficult genera. Identification by song is important in this group, but the Voice section of the text is not very helpful.

The author-artist has been quite successful with his color plates which are the best I have seen in this series of books. The figures of the few members of the genus *Sylvia* with which I have had experience and those whose museum specimens I examined all seemed to be accurate portrayals. The color reproduction may be a little too bright but the shapes and poses of the birds are good.

The range maps are somewhat better than in most of this series. They are still too small, but the shade of yellow makes better contrast with the white page and the base maps have enough detail to identify the area. Unfortunately in a few cases the base map did not print and the maps consist of a blue blob (winter range) and a yellow blob (breeding range) hanging in space.

As has been mentioned in reviews of other books in this series (c.f., Wilson Bull. 109: 366–367, 1977) it is unlikely that anyone would carry this on a trip abroad and since only one species, the Arctic Warbler (*Phylloscopus borealis*) occurs in North America (only western Alaska) the main reason for buying this book is to expand one's bookshelf devoted to Birds of the World. For that purpose this is a fine addition.—GEORGE A. HALL.

DEMOGRAPHY OF THE NORTHERN SPOTTED OWL. Edited by Forsman, E. D., S. DeStefano, M. G. Raphael, and R. J. Gutierrez. 1996. Studies in Avian Biology 17:1–122. \$20.00 (available from Cooper Ornithological Society, % Western Foundation of Vertebrate Zoology, 439 Calle San Pablo, Camarillo, California 93010.—The Northern Spotted Owl (*Strix occidentalis caurina*) is perhaps the best known symbol of problems

and conflict resulting from the effects of exploitation of natural resources on endangered species. This old growth species from the Pacific Northwest has been both the instrument used to draw attention to the disappearance of old growth forests and the instrument used to attack the Endangered Species Act. In recent years the battle has become more refined such that, as Gutierrez et al. note in their chapter on the history of demographic studies of this bird, "demographic information and population models have become 'weapons of choice' among competing advocacy groups."

The controversies surrounding Spotted Owls and old growth revealed a serious lack of data on the population dynamics of the species, thus stimulating several mark-recapture studies during 1985–1990. This volume includes papers presented at a 1993 workshop held in Fort Collins, Colorado, with additional papers added on background and techniques and synthesis of results to create a more complete publication. The individual papers are presented in journal format, with a single literature cited section at the end. An appendix defines symbols and technical terms used. Studies included in this volume encompass the work of agency and university biologists, with the notable withdrawal of data from three forest industry studies. Data from 11 studies (1 in northern California, 2 in Washington, and 8 in Oregon) are included, all of which were collected using similar protocols that are discussed in the chapter by A. B. Franklin et al. Thus it is argued that the resulting data can be compared and combined. The combined effort in these studies resulted in 6059 owls banded, a sample size rivaling those enjoyed by those studying some songbirds. These resulted in over 6500 captures/recaptures of birds initially captured as territorial adults. Thus, sample sizes were large enough to allow demographic inferences from capture-recapture analyses.

From analyses of these combined data sets, K. P. Burnham et al. conclude that (1) annual survival of females captured as adults has declined significantly over time and that a similar trend for males is suggested, the population of resident females is declining on most of the 11 areas, and the rate of population decline is accelerating. Raphael et al., in the final chapter, suggest that these declines are a result

of "extensive loss and fragmentation of an estimated 80% of late-seral stage forest within the last 40 years."

There's a lot of conservation history within these pages, a lot of evidence of the contentious nature of recent Spotted Owl history, and it seems in reading this volume that considerable thought went into every word. It seems as if every step of the studies—from field work to analyses to interpretation—was in need of justification and subjected to incredible scrutiny. It's as if the words might end up in court. And well they might.—JEROME A. JACKSON.

SHRIKES, A GUIDE TO THE SHRIKES OF THE WORLD. By Norbert Lefranc, illus. by Tim Worfolk. Yale University Press, New Haven, Connecticut. 1997: 192 pp., 16 color plates with caption figs., 33 range maps, more than 20 unnumbered text figures. \$35.00 (cloth).—The Laniidae are the only passerine family that is strongly adapted for predation. Most members of this unique family impale or wedge prey. This potentially serves two functions: one is to form a storage site, or "larder" where food can be stockpiled; the other is to anchor down prey items too big to swallow whole, such that smaller pieces can be pulled off and eaten.

This book is a thorough treatment of our current knowledge about this fascinating family. It begins with an excellent overview of the taxonomy of this group. Until quite recently, as many as 74 species were placed in this family, including bush-shrikes, tchagras, gonoleks and helmet-shrikes. This initial section gives a superb account of the history and logic behind narrowing down the family to 30 species in just three genera: 26 species of *Lanius*; two of *Corvinella*, and two of *Eurocephalus*. It also provides extremely helpful discussions of species problems within the genus *Lanius*.

Following the taxonomic considerations is a well-written, detailed, and useful overview of the biology (ecology, behavior, conservation biology) of each of the family's three genera. Oddly, on page 41, after the end of these two introductory chapters, there suddenly appears a section entitled "Style and Layout of

the Book". One wonders why it is located part way through the book, instead of at the beginning where it seems to belong.

Following these introductory sections are the individual species accounts. The coverage is broad and careful; where information is lacking, this is pointed out. The material is up-to-date, and there is an impressive bibliography of more than 600 references. Given all this, I was surprised to find the claim that it is impossible to tell male from female Loggerhead Shrikes based on plumage. At least in the population I worked on in central Washington State, adult males were consistently bluer gray, with females being somewhat browner in color. However, this is a minor quibble. Overall the species accounts are a superb resource, presenting well-organized information on behavior, ecology, migration patterns, and conservation biology of every shrike species.

One of the real strengths of the book is the set of 16 color plates by Tim Worfolk. These outstanding plates depict 140 individuals, and include adult males, adult females, and juveniles of all 30 species, as well as many distinct

racess and even a few hybrids. In addition, among the many line drawings are half a dozen detailed diagrams of wings and/or tails showing subtle interspecific differences between species (for birds in the hand).

Typographical errors were remarkably few and of the modern kind, i.e., those that pass through spell-checks. Thus one finds a redundant "closely" (p. 29); on instead of in (p. 103); nest cap for nest cup (p. 115); and the like. The most serious of these was "invertebrates" where clearly what was meant was vertebrates (page 15).

A very nice feature is a list of "Useful Addresses" where anyone newly infected with the "shrike virus" can write to contact others similarly infected, although it is perhaps a bit surprising that no email addresses are included in this list.

This delightful book represents a solid contribution to our understanding of the biology and problems of conservation of this fascinating family. I recommend this beautifully illustrated and informative book to anyone interested in shrikes, or indeed anyone who enjoys well-written accounts of avian natural history.—SUSAN M. SMITH.