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## Ornithological Literature

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## Ornithological Literature

Edited by Sara R. Morris

**BABY BIRD PORTRAITS BY GEORGE MIKSCH SUTTON.** By Paul A. Johnsgard. University of Oklahoma Press, Norman. 1998: 81 pp., 35 color plates. \$24, hardcover.—Watercolor is a difficult, very spontaneous medium, but one that lends itself to effects generally unachievable with oils—such as making a downy chick truly appear soft and fluffy. George Miksch Sutton was a master at achieving this effect. This small volume is a collection of 35 color plates (one of which is only found on the back of the dustjacket) from the collection of the Field Museum of Natural History in Chicago. Five of the birds shown are adults, a few are in juvenal plumage, but most are either downy chicks or juveniles that still retain some juvenal down. The newly-hatched curlew (the chick on the back of the dustjacket) is a wonderful portrait with a habitat background; the others are simple portraits without backgrounds. Reproduction of these portraits is exceptional—particularly since many of the paintings have been considerably enlarged from the original, thus potentially showing flaws in the artist's workmanship. I suspect that Sutton would have insisted that they not be enlarged. Instead of flaws, however, the enlargement truly reveals the artist's skill.

Is this merely a beautiful picture book? No way! Sutton painted with a purpose. He painted to document the natal and juvenal plumages and soft-part colors of these birds and he has succeeded. Sutton prided himself on painting birds directly from life—really directly from life, unlike others who painted them from fresh specimens “shortly after life.” While spending summers at the Edward S. George Reserve in Michigan, he studied development of plumages of several “sparrow” species, not only by monitoring nests, but also by raising young in captivity. Some of these paintings were published in Sutton's technical papers, others in popular articles published in Audubon magazine, but this is the first time they have been brought together in a publication. Dates and locations where the birds

were painted are given in an appendix, but no captions other than Sutton's penciled annotations are provided with the plates. Plates 9 and 10, of young male Northern Cardinals (*Cardinalis cardinalis*) are reversed relative to the information in the appendix and are apparently not of the birds described in the text.

Text provided with each plate is an anecdotal portrait of interesting life history information that draws on Johnsgard's personal experiences with the species as well as Sutton's writings and the work of others. The text nicely complements the artwork and is typical “Johnsgard”.—JEROME A. JACKSON.

**COLLINS ILLUSTRATED CHECKLIST: BIRDS OF SOUTHERN AFRICA.** By Ber van Perlo. Harper Collins, London. 1999: 320 pp., 84 color plates, numerous line drawings, 1228 range maps. \$35.00 (Paper).—When Ber van Perlo's “Illustrated Checklist” for eastern Africa appeared in 1995 it created a stir. For the first time color illustrations of all the region's birds were brought together in a single, compact book. For many, the checklist quickly became the book of choice to carry into the field. Unfortunately, some deficiencies became apparent just as fast. Telegraphic text and tiny illustrations were acceptable in a “checklist,” which made no pretence to be a fully-featured field guide. However, the text, illustrations and maps all contained significant sprinklings of errors—mainly minor—but misleading for the less experienced. Add a set of English names quite different to those commonly used in East Africa, and considerable confusion was (and continues to be) caused.

Now a southern African version has appeared, covering the region from Angola, Zambia, Malawi, and Mozambique south to the Cape. It looks and feels very similar to its sister volume and follows almost exactly the same format. A short introduction explains the book's coverage and the aspects (appearance, habits, habitat, occurrence and voice) that are

treated in the text. Color maps of the region's climate, topography, and vegetation are a nice touch here. A set of 84 color plates follows, each with concise text on the facing page that describes the species illustrated. Next are the maps, one per species, an appendix of names in English, Portuguese, and Afrikaans, a brief bibliography and indices of scientific and English names—and that's it. The whole takes up 320 pages and produces a compact and very pocketable volume.

An "illustrated checklist" obviously stands or falls by its plates and these are remarkably impressive. Having had the east African avifauna to practice on, the author seems really to have got into his stride. Individual birds still look somewhat tiny, as there are often 20 species or more crammed onto a plate. However, the colors are much more realistic than before and the birds look infinitely more alive. Within tight constraints, van Perlo has done an excellent job of capturing "jizz". Some subtly plumaged groups such as greenbuls and illadopses are still shown with color contrasts that are (to be polite) wildly optimistic; others, like the nightjars, are just too scaled-down to show the plumage properly; but the overall standard is high. Successfully capturing this entire avifauna single-handed is quite an achievement. Comprehensive coverage of different plumages and birds in flight perhaps is too much to expect of an illustrated checklist. Nevertheless, van Perlo manages to fit in quite a lot of both, which is a bonus. Some of these illustrations should be particularly useful—for instance, the confusing canaries in flight on plate 83.

The text gives only the briefest and most essential information for identification. The names come from "Birds of Africa" and Dowsett and Dowsett-Lemaire's list; birders from the region will find familiar southern names in brackets where appropriate. Habitat is succinctly described for all species, and voice for the vast majority. The notation of voice may seem idiosyncratic, if not downright peculiar, but it is actually done with considerable care and precision. The text indicates "uncommon" or "rare or vagrant" species (dropping the colored numbers on the plates used for the eastern African book), while the maps have three shades of grey to show relative abundance. I found these shad-

ings hard to differentiate, but practice might help. "Odd" records are indicated on the maps by crosses (which are not conspicuous and need some concentration to pick out). These are now distinguished from isolated populations, which appear as a star shape—a useful innovation. Although the maps show the whole southern third of the continent, ranges are only shaded in for the countries covered in the book, which I find distracting. It can take careful scrutiny to tell whether a place is out of range for the bird or just for the book.

The maps also show status for southern Africa's many migratory bird species. This complex 13-way classification no doubt reflects the messy reality but is not at all easy to assimilate at first reading. I may eventually be able to tell apart W(S) [winter visitor mainly, some stay in summer] and (SW) [mainly resident, partly all-year visitor] but I suspect it could take some time. Every map now has the species' name beneath it, not just its number, which is a vast improvement—no more tedious leafing back and forth from map to plate when you can't remember what, say, 69.16 refers to. Unfortunately, this to-ing and fro-ing is still necessary when the text opposite some plates overruns—a nuisance, but presumably unavoidable.

How accurate is the information? In contrast to the eastern African checklist, no obvious mistakes leapt off the page. This might be because I don't know these southern birds as well, but it does seem as though both author and publisher have paid more careful attention to the details this time around. There are a few little things—map 54.5 for example, is actually for the Black-winged Oriole (*Oriolus nigripennis*) not the Black-headed Oriole (*O. larvatus*) but they do seem very minor.

In eastern Africa, the illustrated checklist sprang into an open arena—there was, at the time, a dearth of decent bird identification guides for anywhere in the region. The situation is quite different down south where several first-class guides continue to slug it out, in continually improved and updated versions, for the birding market. Being already spoiled for choice, what might attract the southern African birder to van Perlo's book? For anyone whose birding interests resolutely stop at the Zambezi or the Angola border, probably not a

lot (though it is a compact alternative to carry to the field). However, van Perlo covers a geographic area some half as big again as other southern African guides. This wider scope takes in about a third more bird species, too (1227 in total, plus another 45 on plate 84, a mouth-watering little extra that crams in rain-forest species from Cabinda, Angola's tiny enclave between the two Congos). While there are already supplementary guides published for Zambia and Malawi, van Perlo's is the only single volume to cover these countries; for Angola and northern Mozambique, there's simply nothing else that is remotely up to date or portable, let alone illustrated in color. In fact, a lot of the Angolan birds have probably never been adequately illustrated before and it's exciting to see them depicted here. For any of these countries, this book is strongly recommended.

Perhaps only the most intrepid birder is likely to venture to some of these places at the moment, but clearly there are lots of wonderful species waiting to be seen. If nothing else, I am certainly going to enjoy this book as an armchair birder. If you have any interest in exploring the wonderful diversity of African birds, it is worth adding this colorful and inexpensive volume to your shelf.—LEON A. BENNUN.

**BIRDS OF AFRICA: FROM SEABIRDS TO SEED-EATERS.** By Chris and Tilde Stuart. The MIT Press, Cambridge, Mass. 1999: 176 pp., numerous color plates, two maps. \$29.95 (cloth).—According to its dust jacket, this attractive and readable book is 'neither a field guide nor a biological text'. Just what it actually *is* seems harder to define. Essentially "Birds of Africa" is a semi-popular, family-by-family overview of the continent's avifauna. For each group it gives an outline of diversity in the world and in Africa, general information about biology and behavior, and a few notes on conservation. Most accounts are a page or two long, and include some good-looking color photographs; scattered here and there are boxes of more detailed information on miscellaneous topics such as "Birds in the rainforest," "The mystery of the Congo peacock," "Threats to migrants" and so on.

Does it work? Sort of. Rather than the families appearing in taxonomic order, they are clustered under other headings: "Terrestrial birds," "Hole nesters," "Sandgrouse, doves and fruit-eaters," "Coucals and brood-parasites" and even "LBJs" (a dumping ground for larks, bulbuls and all the warblers, among others). There's nothing wrong with this in principle, but it does make for a rather confusing and jumbled arrangement; some families could equally well belong in several categories, the headings mix in feeding, nesting, habitat, and identification (LBJs is hardly an ecological label!), and of course evolutionary relationships are obscured.

The family accounts themselves are clear and interesting. The authors have done their homework well, but in a few paragraphs they can only give a bare outline of each family's characteristics. Details would have to be found elsewhere. Sometimes this is a little frustrating—for instance we are told (p. 60) that there are only five true partridges in Africa, but what, beyond the name, makes a true partridge? I found the prose style a little flat and monotonous, though certainly readable enough. It is pleasantly jargon-free and enlivened on occasion by the authors' own observations and anecdotes. The numerous color photographs are all well reproduced and pleasing to the eye, but only sometimes link directly to the species mentioned in text. Some families, like the broadbills, pittas, and painted-snipes, don't seem to merit a picture at all. The authors have decided to cover the entire African continent, rather than the Afrotropics *per se*, which means that Palearctic families such as wrens, accentors, wall-creeper, and waxwings (which only creep in to extreme North Africa) have their own accounts. Perhaps it would have been better instead to expand the treatment of some large Afrotropical groups, such as warblers and flycatchers, which receive only cursory treatment.

The text boxes deal with an idiosyncratic range of topics but are informative, if you can find them. They are not indexed anywhere, so tracking them down is not easy. The text gives no references and no scientific names, but near the back there is a short list of suggested reading and a long list of all the birds of Africa. It's not clear what the African list is

based on. The names seem to come from the treatment by Sibley and Monroe, but the arrangement of families certainly does not, and contains some oddities: tribe and subfamily labels are scattered about randomly and inconsistently; the monarchs and batises are thrown in with the Muscicapidae and so on. The English names here do not match those in the text and pictures, which is very confusing. None of the three warblers captioned on p. 127 appears in the species list, for example (the captions give their southern African names instead), and the reader will also search in vain for the two *Pycnonotus* bulbuls illustrated on p. 122.

There are other places where the authors don't quite get it right. The introduction states that birds evolved from pterodactyls—not a widely held view! The Sokoke Pipit (p. 125) is not restricted to coastal Kenya (it occurs in Tanzania too). The box on “Threats to migrants” concentrates misleadingly on just those from the western Palaearctic, ignoring the eastern flyway whose birds show different migratory behavior and timing. The threat codes that are shown in the species list are based on a categorization and classification that has been obsolete since 1994.

Despite these small shortcomings, the book succeeds in what seems to be its main aim: giving an agreeable and attractively illustrated overview of Africa's avifauna. Any Africa-based birder who is starting to move beyond species identification and develop a wider interest would find it accessible and useful. More experienced ornithologists might find that it does not repay their investment.—LEON A. BENNUN.

**HARMONY AND CONFLICT IN THE LIVING WORLD.** By Alexander F. Skutch. University of Oklahoma Press, Norman, Oklahoma. 2000: 288 pp., 18 b&w illustrations. \$24.95 (cloth).—Paradoxes in nature are the focus of Alexander Skutch's latest book, particularly how harmony, critical to the internal health of organisms, gives way to strife in those organisms' external relations. This set of connected essays touches upon aspects of incongruities of nature, how organ-

isms exemplify these incongruities, and our attitudes toward these incongruities.

As advertised, this is a thought-provoking book, and Skutch wrestles with the paradox of carnivorous plants and the loss of instinct during the growth of intelligence. He also examines unpopular approaches to understanding paradoxes, such as teleology, anthropomorphism, and group selection. Throughout, he emphasizes cooperation and harmonization, attributes he feels are long-overlooked and overshadowed by exploitation and conflict.

The introductory essay outlines the major and minor paradoxes that will be explored throughout the book. Here, Skutch presents his argument that the integument surrounding living things forms a physical and psychological boundary that allows organisms to be removed from their environment and other organisms. Interactions inside this boundary are cooperative and harmonious, while those outside are primarily those of conflict. This principle of harmonization is denoted as the driving force of evolution, as opposed to the “dreadful embroilment into which the living world is plunged by the manifold interactions of evolutions products”. Harmonization occasionally prevails over conflict in the natural world, and the author gives many examples of cooperation among animals, including how morality plays a role in human relations.

Tackling both the species concept and the idea of selfish genes, the author considers explanations whereby individual actions promote the propagation of its species, or at least its deme rather than just its own lineage. In this light, genes, rather than being selfish, appear to be altruistic. Explanations for birds singing a variety of songs in different parts of its territory (pure enjoyment or sexual selection on repertoire size) or feeding a hetero-specific nestling (being moved by the chick's pleas) are proffered as alternatives to harsher explanations.

The following essays explore in depth how contrasting impulses can coexist in animals. Hunger, fear, and sexual rivalry are precursors to hostility that arise from ultimate harmonious impulses such as aggregating for food or mates. In the exploration of how domestication influences this two-fold nature, particularly in humans, the author maintains that



friendly or integrative attitudes are more fundamental characters of animal life rather than hostile or disruptive ones. Skutch presents a diagram of animal nature (including humans) whereby basal attributes are harmonious and creative, secondary nature attributes are aggressive and selfish (as a consequence of natural selection in the predator-prey arena), and tertiary nature attributes are a mix of the primary and secondary and are influenced by society.

The next essays present a multitude of examples of mutual aid and cooperation in natural systems, including mutual protection in birds and mammals (warning behaviors, calls, safety in aggregation). As students of biology can list many examples of exploitation, the author emphasizes cooperation (mainly passive among plants, although he does mention tree/mycorrhizae symbioses), particularly among the vertebrates he knows so well. Examples here focus on work on highly social birds (Groove-billed Anis [*Crotophaga sulcirostris*], Australian Wood-swallows [family Artamidae], White-cheeked Colies) to describe the apparent lack of compromise between social and anti-social tendencies. Cooperative behaviors observed include preening in pigeons, parrots, anis, and Marbled Wood-Quails (*Odontophorus gujanensis*), various social feeding scenarios, such as mixed woodland feeding flocks, mate-feeding, and literature references of companion-feeding of injured birds (pelicans, boobies, crows, frigatebirds, wood-swallows). This diverse list is grist for Skutch's mill—that cooperation is widespread and should receive as much attention in any evolutionary philosophy as competition. The chapter closes with an optimistic view of humans, labeling our spiritual and intellectual development, despite the restrictions of our flexible but insulating integument, as most unpredictable—the greatest paradox.

I found the essay on carnivorous plants to be more of a treatise on the more than 450 plants that have adopted this way of life—a lot of detail and without the stimulating quality of the other chapters. This chapter stood apart from the rest of the essays; its inclusion, while providing details on the perplexing paradox of these plants, detracted from the collection as a whole. I was glad to get back on more philosophical ground in the following

chapter addressing what Skutch refers to as “biological heresies”.

The essay addressing these heresies was particularly insightful and interesting, with the author outlining unconventional points of view. He suggests that cries of anthropomorphism when interpreting animal behavior are due to a disconnect between recognizing morphological and behavioral evolution. Recognizing psychic similarities, Skutch argues, is just an extension of recognizing morphological similarities. Arguments against teleology, Skutch argues, stem from a misunderstanding between ends and purposes. Ends are often the result of processes, which is subtly different from attributing purpose to actions. Skutch argues most strongly for the acceptance of group selection and against the primacy of individual selection. He suggests that the latter exaggerates the self-sufficiency of the individual, neglects social interactions, and underestimates the complexity of evolution, using mate choice in birds, particularly in species with bi-parental care, and cooperative breeding, as examples. These viewpoints raise interesting questions about how we view evolutionary topics as well as how we pursue truth.

In the essay on conservation, Skutch presents a strategy for conservation that promotes biocompatibility over biodiversity, whereby more destructive, less contributing, or less connected species would not warrant protection. Fans of predatory vertebrates may wince at the outline of this approach. This point of view certainly flies in the face of present conservation practices and thinking and requires, as the author rightly points out, a detailed understanding of the ecosystems with which we are dealing.

The final chapter explores the relationship between instinct and intelligence and how the transfer from the former to the latter has been complicated and difficult. For humans, controlling ourselves is difficult and nascent intelligence needs spirituality to rise above the conflict. In this essay and the epilogue, the author reiterates his point about how the integument enables external conflict, but he ends on a hopeful note for humanity—the most successful product of evolution and harmonization. If spiritual and intellectual devel-

opment can override conflict among humans, the species can survive.

I recommend this book for students of ecology, behavior, and evolution, particularly in its impassioned treatment of ideas out of the mainstream. Alternative viewpoints are the stuff of scientific inquiry; Skutch provides much of the former based upon a lifetime of practicing the latter.—THOMAS GOOD.

#### HOPE IS THE THING WITH FEATHERS.

By Christopher Cokinos. Jeremy P. Tarcher/Putnam, New York, New York. 2000: 360 pp. \$24.95 (cloth).—In *Hope Is the Thing With Feathers*, author Christopher Cokinos presents intriguing accounts of the lives and deaths of six extinct species (or races) of North American birds. As may be surmised from the title, which is taken from an Emily Dickinson poem, this is not a scientific work; rather, it is written for a lay audience. Information is presented on the basic natural history of each species (such as it is known), the historical context surrounding its extinction, and the specific events that led to its decline and ultimate extinction. Cokinos also includes his personal experience, such as a sighting of a similar species or a trip to the site of the death of the last known individual, as well as his reactions to the loss of species. The historical portions are engagingly well written and the text is interspersed with some fascinating photographs and plates, many rarely or never before published.

The book is divided into major sections on each species, each with one to three chapters. In the first chapter on the Carolina Parakeet (*Conuropsis carolinensis*), the author describes his sighting of a pair of escaped Black-hooded Conures (presumably *Nandayus nenday*), brilliant green and out of place over a Kansas marsh in autumn. In his subsequent reading on this species, he learned that there had in fact been bright green, tropical looking psittacids in Kansas, and in the winter even. He details how this realization and his fascination with species gone forever set him off on the 10 years of research that resulted in *Hope Is the Thing With Feathers*. Similar personal narratives are interwoven into the chapters on the Ivory-billed Woodpecker (*Cam-*

*pephilus principalis*), Heath Hen (*Tympanuchus cupido*), Passenger Pigeon (*Ectopistes migratorius*), Labrador Duck (*Camptorhynchus labradorius*), and Great Auk (*Pinguinus impennis*).

In the introduction (p. 3), Cokinos points out that “Perhaps unlike a professional historian and more like the poet I have been, I found myself drawn to the oddments, the margins, so that a cookbook’s reference to Passenger Pigeon pie looms as importantly in this book as, say, logging statistics. A settler’s account of how Carolina Parakeets in sycamores reminded him of Christmas trees in Germany—that matters to memory as much as facts of biology.” A strength of the book is the manner in which Cokinos is able to interestingly present both the seemingly insignificant, such as the observations of early settlers, and the most current biological theory and knowledge (including a competent discussion of the generalized extinction process for the lay reader, with distinction between proximate and ultimate causes). I also enjoyed the stories of efforts by early conservationists and ornithologists, such as the search for Ivory-billed Woodpeckers at the Singer Tract in Louisiana by Arthur Allen, Peter Paul Kellogg, James Tanner, and George Sutton.

Excepting a reference to the use of rifles by early specimen collectors (the shotgun was the weapon of choice), I found few inaccuracies and have few criticisms. Mention is made of a stop to record Wild Turkeys (*Meleagris gallopavo*) at “the Stoddard plantation” in Georgia by the team mentioned above. Presumably this was the plantation of Herbert Stoddard, the great quail and turkey biologist, and it seems odd, particularly in the context of this story, that no more detail was offered on such a gathering of great ornithologists. Also, I occasionally found some of the accounts of the author’s personal experiences as well as some of the philosophical reflections to be a bit long and tedious.

Cokinos suggests that “we must redefine hope from wish to work”. In his book *Deep Enough for Ivorybills*, James Kilgo (1988, Algonquin Books of Chapel Hill, Chapel Hill, North Carolina) relates how, as a child in the 1950s his family would travel to the beach and en route, cross the wide floodplains of South Carolina’s rivers. Referring to the ex-

tensive bottomland hardwood forests, his father would say "I bet there're still Ivorybills in there." We all hope that an Ivory-billed Woodpecker or a Bachman's Warbler (*Vermivora bachmanii*) will again turn up, but since they almost certainly will not, the message of Cokinos' book is that we must do more than hope; we must act to prevent the extinction of the species we still have. An important step in this process is remembering the species and learning from the mistakes that led to their extinction. In this capacity, *Hope Is the Thing With Feathers* will be an important and, hopefully, enduring book.—JOHN C. KILGO.

**STURKIE'S AVIAN PHYSIOLOGY.** Edited by G. Causey Whittow. Fifth ed. Academic Press, New York. 2000: 685 pp., numerous tables and b&w illustrations, index. \$ 99.95 (cloth).—This is the first edition of *Avian Physiology* that Paul D. Sturkie, Professor Emeritus at Rutgers University, neither edited nor wrote any of the contents. In its many editions, *Avian Physiology* has been a standard reference on the topic for ornithologists; this edition will be no exception. Many of the chapters are written by new authors and the material differs considerably from the previous edition. There are new chapters on flight, incubation, and development and growth. There are also some chapters missing, most obvious are the ones on metabolism and on the integument. Some of the information on metabolism has been incorporated into other chapters but most of it is no longer included; the same is true for the material on the integument. Wild birds are covered as well as domestic species, although for some topics much more is known about domestic species.

The flow of the book is similar to previous editions: sensory and central nervous system, motor control, musculature, respiration, excretion, gastrointestinal, flight, endocrinology, reproduction, and immunophysiology. Each chapter is independent and has its own figures, tables, and references. Putting the references at the end of each chapter makes it faster to look up a citation and much easier to scan a list of relevant citations. The quality and usefulness of the illustrations are good and ap-

propriate. There were two features of the book that I found to be unsatisfactory. The most important is that most of the chapters seem to have been written in 1995; I found few 1995 literature references and none after that date. For a book with a publication date of 2000, that seems to be an extraordinary delay in publication. The second is the elimination of information that was present in the previous edition. This was probably an editorial decision to keep the book's length from becoming too long but the result is that having copies of both editions is almost a necessity. Although the book is intended to be used as a text for avian physiology courses, it makes an excellent single-volume reference of the subject. For most ornithologists and ornithology graduate students, it will be a valuable resource.—ROBERT C. BEASON.

**STARLINGS AND MYNAS.** By Chris Feare and Adrian Craig. Princeton University Press, Princeton, New Jersey. 1999: 285 pp., 32 color plates and distribution maps, bibliography, index \$39.50 (cloth).—This book is a comprehensive guide to all 114 species of the starling family (Sturnidae). Well-written introductory chapters include a general introduction to each genus, and current information on phylogenetic relationships among the genera. Although some species, such as the common starling, are well known around the world thanks to introductions, others are fairly rare. This means that classification of this family is continuing to change. In fact, Feare and Craig offer a revised intra-family classification based on current behavioral data. The general descriptions of habitat, social behavior, and mating behavior drive home the authors' point that this Old World family is very diverse. Starlings occupy habitats from rain forests to deserts, and grasslands to forest canopies. Their social and mating systems are also varied; some species are considered relatively solitary breeders, others are gregarious, and still others live in large colonies and breed cooperatively.

There is a very interesting section on "Starlings and Man". The most common of these birds are well known to people because of their interesting vocalizations and their ability



to successfully nest in man made structures. Interestingly, starlings are known as both pests and beneficial organisms for some of their other habits. For example, many species are flexible enough to be able to take advantage of transient food sources such as locust swarms. Unfortunately they are also good at finding seasonally available agricultural food sources such as cherries, grapes, and olives. From a conservation standpoint, an important aspect of human impact on this family is the many introductions of starlings that have occurred. Some species were introduced into areas as agents of biological control and some for aesthetic reasons. Research in some regions of introduction demonstrate that these birds can take a toll on populations of native species that do not successfully compete for nesting sites and other resources. On the other hand, at least 5 species of starlings are known to have become extinct, 7 are globally threatened, and an additional 15 are near-threatened. The major cause of these threats is loss of habitat and capture of birds for aviculture.

The bulk of this book (212 pages) is devoted to color plates, distribution maps, and descriptions of each species. The illustrations are wonderful, beautifully capturing even the iridescent plumage colors of these birds. Where appropriate, individual illustrations of males, females, and individuals of subspecies are depicted. The detailed species accounts include field identification and basic description, measurements, voice, distribution and population notes, habitat, and information on feeding, breeding, and other behavior.

Overall this book piques one's interest in this diverse group of birds, and will be a useful addition to the library of ornithologist and world-traveller alike.—MARTA HERSEK.

**BIRDING IN THE AMERICAN WEST.** By Kevin J. Zimmer. Cornell University Press, Ithaca, New York. 2000: 402 pp., numerous black-and-white photos and illustrations. \$25.00 (paper), \$49.95 (cloth).—As the author says, this book is “intended as a companion handbook to aid in finding and identifying birds in the American West.” The coverage includes all of the western United States from “the eastern boundaries of the Dakotas,

Nebraska, Kansas, Oklahoma, and Texas westward, including Alaska”. It does not include Hawaii.

The first three chapters give some general, but useful, discussions of how to find and identify birds and how to keep useful field notes on them. If I were to give one single piece of advice to a beginning birder, I would tell them to keep a log of all field trips. Zimmer's chapter on notes is a useful description of how to do this correctly. A record of locations, weather, time spent, and numbers of each species can, over time, become extremely useful. For old guys like me, such records also serve as reminders of bird trips and other adventures that we remember with difficulty or imperfectly. Furthermore, one of the rarest of data sets is a long record of the birds of any given location kept by a careful observer skilled in keeping notes and who has been in the field a lot. Zimmer's general sections on finding and identifying birds may not be as useful to an experienced birder, but I learned a number of good things.

In the remaining chapters (and the bulk of the text), the book deals with specific identification problems. This includes how to separate the species of loons, dowitchers, hawks, the difficult gulls, finches, thrashers, hummingbirds and many more such problems. I found the parts on identification extremely useful and accurate. Most birders will find something here to add to their techniques for separating difficult birds. Personally, I never seem to have time to really check out the criteria for separating birds like Pacific Loons (*Gavia pacifica*) from Arctic Loons (*G. arctica*) and Common Loons (*G. immer*). Zimmer's book helped me out with these and several other “toughies”.

Zimmer's coverage on bird finding will not replace publications on birds in specific locations (e.g., ABA Lane Birdfinding guides and the like), but appeared to be useful in at least a general sort of way. In a few instances in which I had first-hand knowledge of bird occurrence (e.g., western Montana), I found the “finding” part slightly misleading (although not in any way that severely detracts from the text or in eventually finding specific birds). On the other hand, if I had read this book before my most recent Texas trip, I would have known exactly where to find Nel-

son's Sharp-tailed Sparrow (*Ammodramus nelsoni*). Zimmer gave both locality and habitat precisely.

The line illustrations are clear, helpful, and very professionally presented. The photos show what is claimed and are very useful. The paperback version seems sturdy and should survive extensive fieldwork. The author should be congratulated as he has produced a book that has succeeded in being informative, readable, and helpful. I recommend it to anyone birding in the western states.—C. R. BLEM.

**TAKING WING: *ARCHAEOPTERYX* AND THE EVOLUTION OF BIRD FLIGHT.** By Pat Shipman. Simon and Schuster, New York, New York. 1998: 336 pp., 77 numbered text figs., bibliography, index. \$25.00 (hard-bound).—This is a book that should be of value to all ornithologists, paleontologists, evolutionists, and indeed anyone who is just plain interested in fossils and how scientific ideas are formulated, re-formulated, argued, and re-argued over and over again, as new evidence emerges and old data is reevaluated. The story of *Archaeopteryx* is a timeless classic.

Written for a general audience, **TAKING WING** is definitely a good read. The book opens with a fascinating description of the discoveries of the specimens (seven partial skeletons, the most recent having been found in 1992, and an isolated feather) known to science as *Archaeopteryx*, which at approximately 150 million years old was (in the 1860s, when first recognized) and is still the oldest known undisputed bird (or more technically, we might say “bird-like form”, or a member of the Avialae, since not everyone considers it a true member of the Aves). In the 1860s Thomas Henry Huxley proposed, on the basis of his studies of *Archaeopteryx*, that birds and dinosaurs are closely related, and indeed the bulk of evidence, as recounted by Shipman, has only strengthened that assessment over the intervening years. Demonstrating just how close birds and small dinosaurs are in their gross overall morphology, a couple of *Archaeopteryx* skeletons were originally misidentified as the small dinosaur *Compsognathus*, and the first *Archaeopteryx* specimen

found (in 1855) was classified as a pterodactyl until finally recognized for what it was by John Ostrom of Yale in 1970.

In the course of her book, Shipman adroitly discusses various aspects of both avian and non-avian flight mechanics (including pterosaurs, bats, insects, and “gliding” animals such as “flying” fish, gliding lizards, and “flying” squirrels), functional morphology, and comparative anatomy. She addresses the classic question of whether bird flight started from the ground (running, flapping, and ultimately flying) or from a height (gliding and then flying). She also covers behavioral attributes, such as nesting behaviors in dinosaurs and birds, and physiological considerations—for instance, the question of “warm-blooded” dinosaurs. Perhaps most importantly, Shipman works through the maze of cladistic analyses pertaining to avian relationships with a minimum of jargon and a sense of balance. She briefly details the various theories of avian ancestry: Are the closest relatives of birds found among primitive pseudosuchians (primitive or “ancestral” archosaurs), theropod dinosaurs, crocodylomorphs, or possibly some other form? As Shipman points out, the proponents of either a primitive pseudosuchian or crocodylomorph hypothesis have criticized the detailed cladistic analyses of the dinosaur-avian proponents, but they themselves have failed to counter with comparably detailed analyses supporting their own hypotheses. As **TAKING WING** was completed the weight of evidence supported a close dinosaur-avian relationship. Simplistically, terrestrial bipedal theropod dinosaurs, covered with insulating “feathers”, chasing small prey with their forelimbs, ultimately evolved into flying birds with flapping wings.

Scientific discoveries do not stop, and so new fossils have been found bearing on the origin of birds and flight since Shipman completed her book—and, on the whole, they strengthen the close affinity of theropod dinosaurs and birds. It now seems established that theropods commonly bore feathers during at least some stages of their lives. Among new discoveries, we might mention the Chinese forms *Sinornithosaurus millenii* and *Protarchaeopteryx robusta*, both considered in some ways intermediate between dinosaurs and birds; and *Beipiaosaurus inexpectus* and *Cau-*

*dipteryx zoui*, dinosaurs with feathers (or are they birds?). And then there is the tawdry tale of the premature announcement, under the auspices of the National Geographic Society (the same group that previously announced the discovery of a 225 million-year-old fossil dubbed *Protoavis* that, as it turned out, was based on such scrappy material its affinities, much less any possible birdlike features, are ambiguous at best—accordingly, most experts have virtually ignored *Protoavis*), of the new 125 million-year-old fossil “bird” from China dubbed *Archaeoraptor liaoningensis* in late 1999. *Archaeoraptor* was hailed as having the shoulder girdle and breast bone of a modern bird but a dinosaur-like tail. By early 2000, retractions were being issued stating that the specimen, which had been purchased on the open fossil market, is actually a natural (that is, it was not purposefully faked) composite of at least two different individuals: an early

toothed bird (which is new to science) and the tail of a dromaeosaurid (a group within the theropods) dinosaur. Perhaps one of the lessons of this minor scandal is that early birds and certain early dinosaurs are, as Huxley espoused just after Darwin published *On the Origin of Species*, almost indistinguishable. Final conclusion: The dinosaurs never really went extinct; we know them as birds and all the ornithologists of the world are really dinosaurologists. This thought should warm the heart of any paleontologist, including the one writing this review.

What about the question: Could *Archaeopteryx* fly? Over the years, some researchers have questioned whether it could actually fly or possibly just glide down from a high perch. Shipman concludes that not only did *Archaeopteryx* fly, but it could take off from the ground. In this sense it was a true bird that could “take wing”.—ROBERT M. SCHOCH.