

## BOOK REVIEWS

CHRISTOPHER W. THOMPSON, EDITOR

**The Known Birds of North and Middle America.** Part 2, Bombycillidae, Sylviidae to Sturnidae, Vireonidae.—A. R. Phillips, with contributions from D. D. Gibson, K. C. Parkes, M. A. Ramos, and A. M. Rea. 1991. Published by and available from the author (3540 S. Hillcrest Dr., No. 5, Denver, CO 80237; telephone 303-691-0113 or 740-9343). ISBN 0-9617402-1-3. liii + 249 pp., 5 color plates, 5 black-and-white figures. \$64.00 (includes postage).

The area covered by this work is the same as in Part 1 (1986:lvii), i.e., North America from Alaska eastward to Greenland and southward to Panama, plus Bermuda, Cuba (including the Isle of Pines), and presumably the Colombian islands of San Andrés and Providencia. By my count, some 128 species are recognized in this volume, with six allotted to the Bombycillidae (includes Ptiliogonatidae), 19 to the Sylviidae (includes *Peucedramus*), 53 Muscicapidae (47 in the Turdinae and 6 Muscicapinae), one Prunellidae, 12 Motacillidae, four Sturnidae (all introduced), and 33 Vireonidae (includes the Cyclarhidae and Vireolaniidae). In addition, some 322 subspecies are recognized (24 accepted provisionally), of which 45 are here described as new (12 other populations may be subspecifically recognizable but are not named). Finally, *Readytes* is erected as a monotypic genus for the Carolina Wren (*Thryothorus ludovicianus*), with the other species in this group presumably being assigned to *Pheugopedius* (see p. 155–167 in Part 1).

As in Part 1, the emphasis is on the taxonomic status and distribution of birds known to occur in North America. Taxa are treated at the familial and lower levels, with the focus on species and subspecies. Each family (plus the two subfamilies of Muscicapidae) is introduced with citations of works on taxonomy, life history, distribution, and related topics; however, no taxonomic diagnoses or descriptions are given for families per se. Keys are provided to the species of *Poliophtila*, *Turdus*, *Catharus*, Muscicapinae, *Motacilla*, *Anthus*, and Vireonidae (except *Hylophilus*), plus diagnoses are included for most subspecies. Figured in four of the color plates are seven taxa of thrushes, while the fifth illustrates the plumages of six Middle-American subspecies in the Warbling Vireo (*Vireosylva gilva*) complex—in which Phillips recognizes four species (see below).

As apparent above, Phillips' taxonomy differs to some extent from that currently accepted by the American Ornithologists' Union. At the upper levels, these differences include his sequence of families and treatments of the Sylviidae and Bombycillidae (above). Generically, he merges *Luscinia* into *Eriothacus*, *Ixoreus* and *Ridgwayia* into *Geocichla*, and *Hylocichla* into *Catharus*, and he splits *Vireosylva* from *Vireo*. Elevated to species level are *Ramphocaenus rufiventris* (as distinct from the South American *R. melanurus*), *Turdus*

*graysoni*, *Vireosylva amauronota*, *Hylophilus viridiflavus* (separate from the South American *H. flavipes*), and provisionally *Catharus bicknelli*, *C. griseiceps*, and *Vireosylva swainsoni*. At the species level, he merges *Turdus assimilis* with *T. phaeopygus*, and he uses *Sialia arctica* for *S. currucoides* and *Vireosylva virescens* for *V. olivacea*.

Distributional accounts typically feature sections on the resident, breeding, wintering, and migrational ranges of species and subspecies, with migration in Middle America (including Mexico) usually treated separately. Where appropriate, there are also sections on accidental, casual, occasional, dubious, and erroneous records of taxa, plus on changes known or suspected to have occurred in ranges. Comprehension of these accounts requires an understanding of Phillips' extensive repertoire of symbols, abbreviations, and terms, which are defined in the introductory section. In addition, readers need a fundamental grasp of the geography of North America, including the countries comprising Middle America and the states of Mexico. Mapped are the Mexican ranges of the Blue-gray Gnatcatcher, Solitary and Warbling vireo complexes, and Loggerhead Shrike, the latter species having otherwise been treated in Part 1 (p. 75–79).

Most of the above information is based on specimens examined by Phillips and other reliable workers, although photographic, tape-recorded, and sight records are used where appropriate. In spite of his emphasis on specimens, Phillips has extensively reviewed the "soft-record" literature in delineating the ranges of North American birds. Furthermore, he even provisionally includes one species here on the basis of a sight record, that being the Mugimaki Flycatcher (*Ficedula mugimaki*) in Alaska! As a consequence of his diligence, I believe Phillips' distributional summaries are the most reliable now available in a general reference on the birds of North America. While this is particularly true for subspecies, it also applies in many species as well. However, this and other information is not always presented in the most intelligible manner, given Phillips' penchant for space-saving shortcuts, use of quotes and question marks, and sometimes oblique references to information with which some readers may not be familiar.

In addition to the above, this work also includes an extensive introduction where Phillips details his views on how studies of birds should and should not be conducted—with most of the cited examples being of the latter kind. I suspect many people will not bother to read this section, especially those of us that are targets of the author's barbs. Others may read and dismiss it as the ramblings of a man who has spent too much time listening to his own opinions. However, vitriol aside, I believe that this commentary contains a great deal of "meat" and therefore deserves serious consid-

eration by the ornithological community. For example, I fully agree with Phillips' call for specimen documentation as the standard basis for serious (scientific) studies of avian distribution, supplemented by properly curated and identified photographs and tape recordings. This is not a cry for the wholesale return to the days of "shotgun" ornithology, but a plea for the recognition of the unassailable superiority of specimens in documenting the occurrence of organisms.

As for avian taxonomy, Phillips presents a decidedly jaundiced view of the contributions of geneticists, cladists, statisticians, and other non-classical practitioners of the art. In part, this may be a reaction to similar views expressed by the latter toward classical taxonomists. Regardless of who holds them, I regard attitudes such as these as elitist, unjustified, and an obstacle to finding consensus among those with differing views on avian taxonomy. Surely, no objective person truly believes that any one taxonomic approach supercedes all others, so why the silly posturing? However, I do agree with Phillips on the need for more rigor not only in studies on avian taxonomy, but in other areas as well. As his examples clearly show, sloppy work is being published on birds to the detriment of science in general and ornithology in particular.

In its relevance to avian taxonomy, the approach exemplified by Phillips has been a significant force in the past and may well remain so into the future. Nonetheless, its usefulness can be enhanced by improving the methodology and adopting new techniques, while still retaining its original focus. For example, I believe that information on infraspecific variation in plumage and mensural characters does indeed contribute to our understanding of biological diversity, as Phillips argues. However, I would like to see more quantification of characters and greater application of statistical and analytical procedures in such studies. In addition, the use of computers could be expanded to digitize and plot variation in these and other characters (e.g., in a geographic information system). Such plots could highlight "peaks" and "valleys" in variation, which could be designated by flexible nomenclature as opposed to the cumbersome system that is now in place.

Realistically, I am not optimistic that any meeting of the minds will soon occur on such issues as how (or if) infraspecific variation in birds should be treated taxonomically. Given this, the dwindling few of us interested in this topic will have to pursue it as best we can, including the "old-fashioned" way practiced by Allan Phillips. In this regard, Phillips is as good as any at this approach and far better than most. Beyond this, Phillips has set the highest standards his treatment of the ranges and status of North American birds, both in the present volume and in past works. In these areas, I place him on a par with Baird, Ridgway, and Wetmore among American ornithologists. Furthermore, he is an accomplished field biologist, including in his knowledge of habitat use and behavior in birds. His success stems from an attention to detail, openness to the possibilities, ability to learn from the past (including his mistakes), unswerving dedication to his concept of science, and an elephant-like memory. Above all, he believes that facts should prevail over everything else, which has led to his rejection of the notion that

one should cultivate people to get one's ideas accepted! On the other hand, Phillips does have his biases, which may sometimes color his conclusions and at times undermine his objectivity. However, Phillips' biases probably fall within the norm, although no doubt magnified by his sometimes-caustic criticisms of other people. However, his criticisms are often valid. Besides, can a person that quotes Marcus Antonius really be that bad?

In summary, this volume provides accurate and detailed accounts of the distributions and status of birds in seven families in North America. In addition, it gives keys, diagnoses, maps, figures, and related information on the species and subspecies recognized by Phillips, including 45 of the latter described herein (plus a new genus). Finally, it contains a sampling of Phillips' views about ornithology and how it should be practiced (and has been mis-practiced), with cogent arguments for improvement. In spite of its sometimes causticity, this book is a "must" for people with serious and abiding interests in the distribution and species/subspecies taxonomy of North American birds.—JOHN P. HUBBARD, 2016 Valle Rio, Santa Fe, NM 87501.

**The Ostrich Communal Nesting System.**—B. C. R. Bertram. 1992. Princeton University Press, 196 p.

Ostriches (*Struthio camelus*) engage in a fascinating combination of cooperative and competitive behaviors. Their mating system is one of "criss-cross polygamy" in which several "minor" hens lay eggs in nests that are otherwise attended by a single "major" hen and a male. Major hens openly allow minor hens to lay in their nests, yet discriminate against their eggs and roll them disproportionately out of the nest. Chicks crèche together, eventually forming one large flock cared for by only two adults. Who gains the dubious distinction of caring for everyone's offspring is unknown.

Determining the functional significance of these behaviors in a bird that stands 2.5 m high, weighs up to 150 kg, and can run up to 70 km hr<sup>-1</sup> (which is faster than a lot of birds fly) is a challenge by anybody's standards, but perhaps seemed natural for Brian Bertram, who had recently completed a study of African lions. This book is the result of his efforts, covering three years between 1977 and 1979.

Not having been present outside the breeding season, Bertram did not study crèching behavior. He does, however, contribute substantially to knowledge of the breeding system of Ostriches using a combination of observations on recognizable individuals, time-lapse photography, and marking eggs whose maternity was distinguishable by subtle surface characteristics.

Bertram's most important contribution concerns the flexibility of female behavior. For example, minor hens come in several flavors. Some are "pure" minor hens that lay eggs in several nests but have no nests of their own. Others are former major hens whose nests have been destroyed, future major hens who have not yet begun nests of their own and, at least in one case, a current major hen with an active nest. Up to at least five minor hens may lay in a nest, each contributing three eggs on average. Eventually, nests consist of between 15 and 36 eggs, about half of which are laid by

minor hens. However, all eggs are not treated equally. Nearly one-quarter are pushed by the major hen out of the central nest area to an outer ring, where they are not incubated and never hatch. Virtually all ejected eggs are from minor hens. Bertram devotes considerable attention to how this feat is accomplished, concluding that major hens probably use a combination of surface appearance, shape and size to identify their own eggs.

This is not only interesting but, given the initial acceptance of eggs laid by minor hens, paradoxical. Bertram considers two hypotheses for why major hens initially accept these additional eggs: kin selection and protection against predation through dilution. Evidence for either hypothesis is slight. A model is proposed suggesting that the high probability of nest predation may limit the length of time over which a major hen can profitably lay eggs and hence restrict the number of eggs she should lay in a nest, but no attempt is made to calculate confidence limits or otherwise estimate the reliability of the resulting "index of probable reproductive output" for major hens. The solution to why females accept eggs laid by minor hens is unlikely to emerge until offspring of known parentage are marked and followed, and even then it's not going to be easy.

What about males in this bizarre system? All but young males appear to initiate nests. Breeding males mate with up to eight different females, including their own mates, minor females laying in their nest, and minor females laying elsewhere. It's not surprising that males mate with whatever females they can, but why they allow females with which they have not mated to lay in their nests is again unknown.

Bertram documents basic natural history information on territory and home range size, incubation, and nest destruction. He also is a clever field biologist and elucidates the advantages of grouping through increased vigilance and the costs and benefits of laying white eggs in a hot environment rampant with hungry predators. Ultimately, however, the book is a disappointment for two reasons. First, the logistical problems are simply too great for even the most energetic of researchers to rigorously answer the interesting questions about this system. There is a great story here somewhere, but except for a few bits here and some

pieces there, even Bertram is unable to make much of it. I have always thought *Ostriches* would be great to study, but this book convinced me otherwise. There is a lot to be said for studying animals in one's own backyard that can be captured and marked in good numbers without a small army of armed assistants.

In the face of such insurmountable difficulties, Bertram resorts to pluralistic bet-hedging. His list of factors important to the evolution of the communal nesting system of *Ostriches*, discussed in the final chapter, encompasses virtually everything imaginable including large size, skewed sex ratio, predation, food, and climate. About the only items he misses are sunspots and El Niño events. The answer is probably in his list somewhere, but we are not much closer to defining what it is now than we were before Bertram's work.

My second disappointment was more subjective. As far as I could tell, the enthusiasm with which Bertram may have approached this study when he performed it over 10 years ago is long gone. This may happen to all of us eventually, but herein lies the lesson: if you're going to write a book, do it before rather than after the excitement wanes. Bertram's boredom (or perhaps frustration over the unknowns of the system) shows in two ways. First, there's little here to excite one about behavioral ecology or even the African savannah; the least I want from a book about a study done in a place as biologically exciting as Africa is to come away with a longing to visit. Second, Bertram fails to read up on the recent literature about the subjects he focuses on. Surely the summary of his work on vigilance and group size, originally published in 1980, would have benefited from consideration of more recent work on the subject, while the final chapter contains a remarkably perfunctory discussion of communal nesting.

*The Ostrich Communal Nesting System* reveals a lot about this intriguing species, but it's not an exciting book, and only barely begins to successfully resolve why they, and not a lot of other species, have such a bizarre social system. This question—admittedly the hardest one for any species with unique behavior—remains for some future superhuman field worker to answer.—WALTER D. KOENIG, Hastings Reservation, University of California, Carmel Valley, CA 93924.