

ORNITHOLOGICAL LITERATURE

CHECK-LIST OF BIRDS OF THE WORLD. Vol. 11. By Ernst Mayr and G. William Cottrell (eds.). Museum of Comparative Zoology, Cambridge, Massachusetts, 1986:xii + 638 pp. \$75.00.—When the late James Lee Peters published the first volume of his check-list of birds of the world in 1931, he could hardly have anticipated that the series would not be completed for 55 years. (Another volume is, in fact, planned, but it will be an index to the entire 15-volume work.) With the publication of the long-awaited Volume 11, a brief historical review is in order.

As is well known, Peters lived to see only the first 7 volumes (through 1951) of his check-list. He had asked the late John T. Zimmer, an expert on South American birds, to prepare the manuscript for Volume 8, covering the suborder Tyranni; Dr. Zimmer left only a partial manuscript at his death in 1957, and Volume 8 did not appear until 1979. At the time of Peters' sudden death in 1952, he had completed the manuscripts for the oscine families Alaudidae and Hirundinidae and part of the Campephagidae. The Museum of Comparative Zoology at Harvard University, which sponsored the series, appointed Ernst Mayr and James C. Greenway, Jr. as editors to continue Peters' work. After a hiatus of 8 years, Volume 9 appeared under this editorship in 1960, and Volume 15 followed in 1962. Editorship varied in subsequent volumes. The sequence of publication of these volumes, quite understandably, became a function of the availability of manuscripts rather than of the number of the volume. Responsibility for preparing the manuscripts for the passerine families and subfamilies (and for the nonpasserine orders and families in the revision of Volume 1) was given to numerous authors, most of whom were experts on the group in question. For widely distributed taxa, authorship was often divided on a geographic basis; this is true of the volume under review, in which, in general, Melvin A. Traylor, Jr. was responsible for African taxa within a family or subfamily, George E. Watson for Holarctic and Oriental taxa, and Ernst Mayr for Australasian taxa. Separation of authorship is not always clearcut, however; for example, both Watson and Mayr have initialed footnotes within the account of the single species "*Niltava*" *rufigastrea* (pp. 370, 372).

The format of Volume 11, which covers 6 families of the "Old World insect-eaters," is the same as in other recent volumes; there appears to be a useful increase in explanatory footnoting. A scan through the entire volume suggests that proofreading has been improved. The most conspicuous lapsus is the misspelling "SILVIIDAE" on the running heads of pp. 37–65, 85, and 111. A small block of index entries for names beginning with cha- has been misalphabetized on p. 596; I do not know whether there are similar lapsi elsewhere in the index, as I discovered this one only because I was looking up a particular cha- name. In the generic heading on p. 56, the name *Acrocephalus* is credited to Naumann, but the subgeneric heading for *Acrocephalus* on p. 61 is credited (correctly) to Naumann and Naumann.

The major change effected in Volume 11 has to do with classification. In the introduction to the first of the multi-authored volumes (Vol. 9), Mayr and Greenway stated that they had "pledged themselves at the XI International Ornithological Congress at Basel to follow a sequence [of passerine families] recommended by a special committee [of European ornithologists] appointed by the President of the Congress This is an arbitrary sequence, but not more so than other sequences proposed. It is essentially the sequence that had been used in the 19th century in most of the standard literature." Peters himself had been a strong adherent of the so-called Wetmore classification, which, while certainly just about as arbitrary as the "Basel sequence," was the sequence used in the 20th century in all of the standard literature of New World birds. Even some of the standard literature of Old World birds, such as Bannerman and Sclater's works on African birds, departed from the "crows last"

sequence. The standard 20th-century checklist of Palearctic birds, that of Vaurie (Bds. Palearctic Fauna Vol. 1, Witherby, 1959), follows the Wetmore sequence of passerine families, which the author believed to be "more satisfactory" than the Basel sequence, in spite of the fact that Vaurie was in general strongly influenced by Mayr. The convenience of the "Peters" checklist and its derivatives (such as the Morony, Bock, and Farrand list, Dept. Ornithol., Am. Mus. Nat. Hist., 1975) as a standard reference was such that its sequence was used for arranging collections, files, etc., even by many ornithologists who preferred the Wetmore sequence.

In their introduction to Volume 9, Mayr and Greenway stated presciently, "In view of the accelerating pace of the study of comparative avian anatomy, serology and ethology, it is to be hoped that definite improvements in this sequence will be found in due time." Those disciplines did indeed contribute toward changes in classification in the next several years. In 1959, however, when that statement was written, Mayr and Greenway could hardly have anticipated the advent of DNA hybridization as a method for deducing phylogenies and hence classifications, nor could they have anticipated the impact of discrepancies between morphological data (given first place on their list) and molecular data, currently one of the most stimulating problems in ornithological research. This clash is nowhere better illustrated than in the introduction to the revised edition of Volume 1 (1979), in which Mayr and Cottrell stated that the "analysis of amino acid replacements in macromolecules . . . has already demonstrated *conclusively* [italics added] that the Anseriformes is a side branch of the galliform birds," a strong statement strongly disputed by Olson and Feduccia (Smithsonian Contrib. Zool. 323:6, 1980) on the basis of both the fossil record and the morphology of recent taxa. In the introduction to Volume 11, Mayr and Cottrell wrote, "We do not doubt that the application of new molecular methods will in due time necessitate numbers of changes from the sequence and categorical ranks adopted by us." This statement signals their virtual abandonment of morphology, at least in principle, as the primary criterion for avian classification. This is further emphasized by the fact that several "new" (i.e., post-Basel) families or subfamilies in this volume, such as the Acanthizidae and the Eopsaltriidae, are described as being "reasonably well characterized by life history characters and general habitats, [but with] few (if any) diagnostic morphological characters." I consider one of the important lacunae in the present volume to be the absence of references, under the headings for the "new" family-level taxa, to any published attempts to define these groups. Oddly, in one of the references cited under the heading of "Family Eopsaltriidae," Officer (Australian Flycatchers, 1969) firmly states that the Australian "robins" are flycatchers of the family Muscipidae. For another example, there are two references cited under the heading for the "new" family Platysteiridae. Contrary to Traylor's note, Ames (Bonner Zool. Beitr. 26: 107-134, 1975) did *not* discuss the "position of family," and in the other reference cited (Wolters, Vogelarten der Erde, 3. Lief:235-236, 1977), the author merely lists genera and species under the heading Platysteirinae (as a subfamily of Laniidae!) without any diagnosis. In Traylor's own short note explaining in advance his classification of African flycatchers (Ibis 112:395-397, 1970), he merely listed the taxa to be included in what at that time was to be a subfamily Platysteirinae in a large or Hartertian family Muscipidae, and stated that their relationships are not with other "flycatchers" but with the bush-shrikes of the subfamily Malaconotinae. The nearest thing to a definition of the taxon consists of statements that this group of genera is homogeneous, consisting of small- to medium-sized "flycatchers," which are confined to Africa and Madagascar and are black and white or black, white, and chestnut *except for two brightly colored, aberrant species*. Without knowing what their "homogeneity" consists of, there is no way here of telling platysteirids from any other small- or medium-sized African or Madagascan "flycatchers" that happen to be black and white; black, white, and chestnut; or brightly colored.

A review of the history of the classification of the "Old World Insect-eaters" within the "Peters" check-list may be useful. The Basel sequence (Mayr and Greenway, *Breviora* 58, 1956), reproduced exactly (including unitalicized generic names) except for material in square brackets, was as follows:

Muscicapidae

Turdinae (incl. *Zeledonia*) [the latter now believed to be a paruline, although this is mentioned nowhere in the "Peters" list]

Timaliinae (incl. *Chamaea*)

Paradoxornithinae

Poliophtilinae (incl. *Rhamphocaenus* [*sic* = *Ramphocaenus*] and *Microbates*)

Sylviinae (incl. *Regulus*, *Leptopoecile*, *Lophobasileus*)

Malurinae

Muscicapinae

Monarchinae

Pachycephalinae

The first "Peters" volume to include the "Old World Insect-eaters" was Volume 10 (1964). In general, the Basel taxa were recognized, although the sequence differed. Included were the Turdinae, Orthonychinae (split off from Timaliinae), Panurinae (=Paradoxornithinae of the Basel list), Picathartinae (also split off from Timaliinae), and Poliophtilinae.

Volume 12 (1967) dealt only marginally with the "Muscicapidae" (*sensu lato*), including the Pachycephalinae and, as a genus *incertae sedis*, the Piopio of New Zealand, *Turnagra*, subsequently shown to be related to the bowerbirds (Olson et al., *Notornis* 30:319–336, "1983" = 1984).

The remaining groups of "Old World insect-eaters" took almost 2 decades to complete, including as they do some of the most difficult genera of songbirds. While the authors were struggling with their manuscripts, the editors were deciding, particularly on the basis of the DNA hybridization studies of Charles Sibley, to abandon any pretense of adhering to the previously strongly defended Basel sequence. The Old World warblers and true flycatchers now revert to their previous status as the families Sylviidae and Muscicapidae rather than subfamilies of a giant family Muscicapidae; both families become even smaller than their namesakes in the Wetmore classification, as the warblers lose the genera that now comprise the Maluridae and Acanthizidae; the true flycatchers part with the Australian "robins" and their relatives, placed in the family Eopsaltriidae; and the monarchine and rhipidurine "flycatchers" become two subfamilies of the new family Monarchidae.

In view of the discrepancies in classification between this and previous volumes covering the oscines, I would strongly recommend to the editors of the "Peters" check-list series that in their final volume (index and presumably corrigenda), they offer a revised version of what they conceive to be the current optimum classification at least of the passerines, down to the level of tribes, with full documentation of the publications that led them to effect changes from the originally announced classification.

In my reviews of previous volumes of the "Peters" check-list, I have indicated how the classifications in those volumes differed from the 5th edition (1957) of the A.O.U. Check-list. The 6th edition (1983) adopted the then-fashionable giant family Muscicapidae for the whole "Old World insect-eater" complex, admitting subfamilies Sylviinae (including tribes Sylviini, Ramphocaenini, and Poliophtilini), Muscicapinae, Monarchinae, Turdinae, and Timaliinae. Of the species included in these groups, only *Regulus*, the Ramphocaenini, Poliophtilini, and Turdinae are any more than marginally North American. The only monarchine included is *Chasiempis* of the Hawaiian Islands, and the only nonintroduced timaline is the Wrentit, *Chamaea*. With the thrushes, babblers, and gnatcatchers (and their

relatives) having been covered in Volume 10, the overlap between the A.O.U. Check-list and Volume 11 of "Peters" is minimal. The only differences I noted involved treating *Cettia diphone* and *canturians* as conspecific rather than as allospecies of a superspecies as in the A.O.U. list, and the failure of Watson in "Peters" to recognize a subgenus *Corthylus* within *Regulus* for the rather distinctive Ruby-crowned Kinglet (*Regulus calendula*).

A few more technical comments can be offered on points that caught my eye as I paged through this volume. On p. 65, Watson states that the name *Sylvia montana*, used by various authors for the warbler currently called *Acrocephalus dumetorum* Blyth, is preoccupied by *Sylvia montana* Wilson, 1812, which Watson equates with *Motacilla virens* Gmelin, 1789 (i.e., the Black-throated Green Warbler). *Sylvia montana* Wilson is the "Blue Mountain Warbler," which has never been satisfactorily identified from either Wilson's plate or that of Audubon of allegedly the same species (Parkes, Nat. Hist. 94(4):88-91, 1985). Watson's identification of it as what is now called *Dendroica virens* is presumably based on the synonymy of Ridgway (U.S. Nat. Mus. Bull. 50, part 2:784, 1902), which assigned Wilson's plate to the Black-throated Green Warbler and Audubon's to Townsend's Warbler, but in both cases with a query. I know of no definitive identification of either Wilson's or Audubon's *Sylvia montana*, although Wilson's name does indeed preoccupy the (undated) use of the name for the *Acrocephalus* cited by Watson, even though it is a species inquirendum.

Article 59 of the International Code of Zoological Nomenclature states that a junior secondary homonym for which a substitute name was published prior to 1961 is permanently invalid. I happen to dislike this provision of the Code, as it forces us to use names invented by extreme "lumpers," but I also believe that if we subscribe to a code we follow *all* of it. The late H. G. Deignan, who favored a gigantic genus *Muscicapa*, published a list (Proc. Biol. Soc. Washington 60:165-168, 1947) of "untenable names in the Old World flycatchers" (i.e., secondary homonyms created by the wholesale lumping of genera into *Muscicapa*). Deignan's "*Muscicapa*" is divided among several genera in "Peters" 11, but according to the Code we must continue to use his pre-1961 substitute names even when the species or subspecies is removed from *Muscicapa*. This rule has not been followed by Watson, in a sampling of the secondary homonyms listed by Deignan. (I did not check all 17.)

Reviewers are usually permitted at least one personal observation. It is annoying to any worker to find that the author of a compilation like "Peters" has ignored published work upon which one has spent a great deal of time and effort. Watson overlooked my studies (Nemouria 4:36-40, 1971) of the genus *Cyornis* (which, unlike Watson, I do not lump with *Niltava*), in which I demonstrated that *C. lemprieri* of Palawan and adjacent islands of the Philippines is *not* a race of *C. banyumas*, but belongs in a superspecies with *C. herioti* of Luzon. Similarly, *C. hainana* does not belong near *C. herioti* and *C. pallipes*, but close to *C. rubeculoides*, as long ago pointed out by Delacour (Ois. et Rev. Fran. d'Ornithol. 2:433-435, 1932). In the species *C. rufigastrea*, the alleged Palawan subspecies *litoralis* Stresemann, admitted by Watson, is inseparable from *C. r. philippinensis*, and was in fact refuted by its describer (Stresemann and Meyer de Schauensee, Proc. Acad. Nat. Sci. Phila. 88:341, 1936).

All of these inevitable disagreements aside, the authors of this volume are to be congratulated in having produced an invaluable reference work, on a notoriously difficult group of passerines, under trying conditions (for example, Deignan had started work on the Old World warblers for this volume well before his death in 1968). I do want to reiterate my earlier statement that I believe the editors owe us an outline of their current concept of the classification of the Oscines, which cannot be deduced merely by thumbing through the various volumes of "Peters." (*Note added in proof.*—Vol. 16 has appeared since this review was written: It consists of a comprehensive index and a few corrections only.)—KENNETH C. PARKES.

THE SPARROWHAWK. by Ian Newton, illus. by Keith Brockie. T. & A. D. Poyser, Ltd., Waterhouses, England, 1986:396 pp., 24 black-and-white plates, 90 text figs., 63 tables in appendixes. \$35.00 (cloth).—Since Ian Newton published “Population Ecology of Raptors” in 1979, he has been considered one of the foremost authorities on birds of prey. His recent book entitled “The Sparrowhawk” solidifies this perception and demonstrates to those of us who conduct research on raptors what can be accomplished with foresight and long-term studies.

In his 14-year study on Eurasian Sparrowhawks (*Accipiter nisus*) Newton has addressed most if not all of the ecological issues that are commonly investigated by raptor biologists. The book is organized into 25 chapters that discuss many topics including nesting habitat, population trends, foraging behavior, diet, reproduction, mortality, and pesticides. In each chapter, the data are presented and discussed in a readable fashion that both professional and amateur ornithologists will appreciate. Figures are used effectively throughout the text to illustrate trends and patterns in the data on sparrowhawks; in addition, exhaustive tables are provided in appendix form so that specific values and sample sizes can be referenced. I found this style very effective and thought it made the text very readable.

In the first three chapters, Newton introduces us to some general background concerning the methodologies of his study, sparrowhawk morphology and natural history, and various aspects of nesting habitat. In Chapter 4, data on the density and spacing of nests are presented. For example, he found that nesting areas in suitable woodlands typically were occupied from year to year, but that differences in the spacing of these nests existed between study areas. The average distance between nests was greater at higher elevations and in areas with greater soil productivity, which he points out influences prey distribution and abundance.

The foraging ranges of sparrowhawks were investigated using radio telemetry (Chapter 5). Range size was found to be smallest and centered on the nest site during the breeding season. Males tended to have ranges that were smaller than females, although the area used for hunting was inversely related to prey abundance. This relationship was clearly illustrated in a food provisioning experiment, in which females breeding on poor territories reduced their foraging range when they were given extra food.

Because sparrowhawks are woodland raptors, there is little information on their hunting behavior and success. In Chapter 7, Newton provides some additional information by describing several hunting techniques that he observed while monitoring telemetered hawks. Not surprisingly, birds comprised the vast majority of their diet (Chapter 8), with large numbers of fledglings taken in the spring and summer. During Newton's study, the prey taken by sparrowhawks varied with area, season, and year; however, the hawks tended to switch emphasis from species to species throughout their breeding season as the prey fledged their respective young.

The breeding season of sparrowhawks in Britain closely coincides with the availability of fledgling songbirds (Chapter 10). In this chapter, Newton documents how the timing of egg laying is affected by climatic factors (e.g., temperature and precipitation). An important contribution in the chapter is the discussion relating female body condition (i.e., weight) to nest attentiveness and clutch size, and how the male's ability to feed the female during this period—when she is dependent on him for food—largely determines the outcome of the breeding effort. Newton also experimentally demonstrated the importance of food supply and female body condition on nesting success by provisioning females with extra food. He found that provisioned birds maintained heavier body weights throughout the nesting season, laid earlier and larger clutches, and fledged more young than females that were limited to food provided by their mates.

Various aspects of the breeding cycle of sparrowhawks are described in detail in chapters 11–16, with each chapter addressing a particular period in the nesting season. The topics

covered include early stages of nesting (Chapter 11), eggs and incubation (Chapter 12), growth of young (Chapter 13), parental care (Chapter 14), postfledging period (Chapter 15), and trends in breeding success (Chapter 16). This information is presented in great detail and clearly represents a tremendous amount of work over an extended period of time. Anyone working with accipiters or woodland raptors in general will have a tremendous appreciation for the data presented in this section of the book.

The last third of the book covers a variety of topics including age and breeding (Chapter 18), molt (Chapter 19), dispersal (Chapter 20), territoriality (Chapter 21), migration (Chapter 22), mortality (Chapter 23), and effects of pesticides (Chapter 24). One of the most impressive data sets Newton presents is in Chapter 18, where he presents the lifetime reproductive success of 142 female sparrowhawks, and discusses the proximate and ultimate causes of the variation in production that he observed. Clearly, this epitomizes the insight that Newton has demonstrated time and again. His efforts, spanning a 14-year period, should be of particular interest to evolutionary biologists who recently have begun to estimate determinants of fitness using this parameter.

This book will prove to be a valuable reference for those interested in sparrowhawks in particular and biologists interested in raptors in general. I highly recommend it.—MICHAEL W. COLLOPY.

BACHMAN'S WARBLER: A SPECIES IN PERIL. By Paul B. Hamel. Smithsonian Institution Press, Washington, D.C., 1986:128 pp., 7 black-and-white illustrations, \$11.95 (paper).—This book is timely. The Bachman's Warbler (*Vermivora bachmanii*) may be extinct, and few people still living have seen it. Indeed, the subtitle of this book may be an understatement. The last nest was found in 1937, the last specimen taken in 1949, the last song recorded in 1958, and the last photo obtained in 1958, although sight records of single birds have continued up to 1980 in the southeastern United States and Cuba.

If you want to find out everything known about the Bachman's Warbler, this is the book for you. Hamel has gathered every possible scrap of information, including references in obscure publications and unpublished correspondence, and he has examined all the specimens in museums, but he has not been able to see the bird in life. Because so few ornithologists have studied this warbler, it is surprising that Hamel found more than 300 study skins in museums and more than 40 eggs.

This warbler has always been a bird of mystery. It was discovered near Charleston, South Carolina, in 1833, and then was not seen again for more than half a century. Later it flourished or was rediscovered in widely scattered swamplands from Missouri southward to Louisiana and eastward to Florida and Virginia, with maximum numbers in the years just before and after 1900.

What happened? This book does not settle that question. Although the references listed here number more than 500, important information about the behavior and requirements of the bird are lacking. The early observers who knew it best were interested mainly in specimens, and the later observers have seen only isolated individuals, often in unexpected situations. The bird was never studied intensively. This lack of knowledge has hindered efforts at preservation and restoration because it has allowed uncertainty about the exact nesting habitat (i.e., whether it was primeval or disturbed forest), although Hamel's case for partially opened forest is convincing to me. The witnesses agreed, however, that the bird bred in hardwood swamps of the South and placed its nest in low bushes.

This report includes an intriguing new suggestion by J. V. Remsen that giant cane (*Arundinaria gigantea*) may have been a key element in the nesting habitat. This plant was

mentioned in virtually all descriptions of nest sites but drew little attention. The dwindling numbers of Bachman's Warblers came at a time when the vast original "canebreaks" were vanishing from the southern wetlands. The soils were fertile for agriculture, and the human settlers virtually eliminated periodic fires and flooding, both favorable to the cane. If Bachman's Warbler was a bamboo specialist, it would be the first such bird named in the United States, although several have been identified in the Neotropics, most of them now very rare. This idea might explain the decline in the Bachman's Warbler when, superficially at least, there seems to be no shortage of wet deciduous forest in the South. The sharp bill and curved culmen of this warbler, unique among the *Vermivora*, suggest a special adaptation to a habitat or way of life.

As a narrow specialist, the Bachman's invites comparison with the Kirtland's Warbler (*Dendroica kirtlandii*), a species that is restricted in breeding season to extensive stands of one plant, jack pine (*Pinus banksiana*), which it does not use directly for nest placement nor for all its foraging, and that winters only in the West Indies. Both species tend to cluster in "colonies" for nesting. Hamel, however, does not take up this comparison nor does he pursue suggestive parallels with the well-studied Golden-winged (*Vermivora chrysoptera*) and Blue-winged warblers (*V. pinus*), which he recognizes as the species most closely related to the Bachman's, nor with the Swainson's Warbler (*Limnothlypis swainsonii*), which was often associated with the Bachman's in southeastern coastal regions.

In groping for an understanding of changes in abundance among migratory birds, biologists usually focus first on problems of the breeding ground, which may be near at hand, and neglect the wintering ground, where the birds spend the greater part of each year. The Bachman's Warbler is the only North American bird wintering exclusively in Cuba. Hamel finds no evidence that the bird occupies a narrow ecological niche in Cuba, but in modern times there has been much clearing of lowlands there for agriculture, and these are the regions we might expect it to favor. Over a longer sweep of time, as Hamel point out, Cuba and the nearby Bahama Islands presented an enormously larger land mass during the Wisconsin glacial period, when the Atlantic Ocean was hundreds of feet lower than at present.

In the years ahead we will be examining sight records warily. Rarity gives a great incentive for self-deception, and enthusiastic bird watchers will be cruising many southern swamps. My experience with the Kirtland's Warbler has sensitized me to this problem. Hardly a year passes without a dubious report, and two of the most convincing narrowly missed being placed mistakenly in the published literature through the good luck of a supplementary cue. In one instance three experienced amateurs had a stunned warbler in hand for comparison with pictures, but when it flew away, it left one feather. In the other instance, a bird was observed at arm's length on shipboard, but fortunately was recorded in a snapshot photo. Neither of these corrective facts might have sufficed for an obscure female *Vermivora*.

On the other hand, a ray of optimism flickers, because this little bird may be missed easily in southern woodlands. Its song is a buzzy trill too high in pitch for many aging human ears and easily ignored by the best of observers among the notes of the abundant Northern Parula (*Parula americana*). It is sufficiently like those of the Golden-winged and Blue-winged warblers that Hamel found these birds responding to playback of the Bachman's song.

More than half of the bulk of this book consists of a comprehensive bibliography, and a listing of published items by subject. Although the volume is slender, it will be used mainly for reference, and a subject index or a detailed table of contents would be useful. Also, a map or a table showing the places and years of occurrence of this bird would have been helpful. The format is unpretentious. The pages appear to have been printed directly from copy prepared on a word processor and the lines are not justified, but consequently, the price has been kept low.—HAROLD F. MAYFIELD.

ESKIMO CURLEW: A VANISHING SPECIES? By J. B. Gollop, T. W. Barry, and E. H. Iversen. Special Publication No. 17, Saskatchewan Natural History Society, Box 1121, Regina, Saskatchewan S4P 3B4, Canada, 1986:159 pp., 7 maps, 23 numbered text figs., 7 tables, 5 appendices. \$9.00 (Canadian).—One hundred years ago the Eskimo Curlew (*Numenius borealis*) decreased from being one of the commonest birds in North America to one of the rarest. Consequently its ecology is poorly known. The obvious question, posed in the foreword to this book, is why hasn't the Eskimo Curlew received more attention before from ornithologists. The authors intended to rectify this by compiling all available information on the Eskimo Curlew, including current status, distinctive field marks, life history, and former distribution, among other things. Largely by using quotations from hunters, collectors, and ornithologists who knew the species firsthand, they have put together a sketchy, although complete as possible, story of this species' decline. Many of the quotes come from the time just prior to and during the rapid decline of this curlew. The extent of literature review is truly impressive.

The first 41 pages of this book survey the current status, field identification, history, and natural history of the Eskimo Curlew. The introduction describes the purpose, design, basis of information, and structure of the book. The section on current status includes a table and comments on recent sightings. The species has been seen 25 times in the past 40 years; mostly as singletons or in pairs. Twenty-three birds seen in Texas in 1981 are encouraging, but analysis of the table does not indicate a steady increase over the years. Of particular interest is an account of the egg and skin collections of Eskimo Curlews in the Northwest Territories from 1862 to 1865 by Roderick Ross MacFarlane (to whom the book is dedicated) and of extensive searches for breeding Eskimo Curlews in the same area by one of the authors a century later. No new nests have been found.

The section on field identification contains pointers intended to encourage more careful examination of curlews and to facilitate accurate identification of the Eskimo Curlew. They include photographs and drawings of the Eskimo Curlew, Little Curlew (*N. minutus*), and Whimbrel (*N. phaeopus*), but the dark photograph of the last species hinders comparison. An important error is that the legend for the front views of curlews (Fig. 6) is incorrect. The sequence from left to right should read: Eskimo Curlew, Little Curlew, and Whimbrel. A photograph compares an Eskimo Curlew egg with those of the Whimbrel and Long-billed Curlew (*N. americanus*). The authors think that identifications of Eskimo Curlews were probably more reliable when the species was abundant. Of the three main field guides, the authors rate the one published by National Geographic as the most useful for identifying the curlew.

The next section on life history summarizes the annual cycle (breeding, migration, winter), habitat (shown also in photographs throughout the book), food and feeding habits, other behavior, and hunting and decline of the species. Maps show the Eskimo Curlew's distribution (sightings and probabilities) and migratory routes in North and South America. Another shows the North American range of the crowberry (*Empetrum nigrum*), an important food of the Eskimo Curlew.

The last 66 pages of the text detail the Eskimo Curlew's status, dates of occurrence, and distribution region by region throughout North and South America. It is mostly organized by seasons—breeding, fall migration, winter, and spring migration—followed by a short list of records of North American stragglers. This section would have been improved by moving the long quotations to the section on life history.

Additional tables and appendixes present the scientific names for Eskimo Curlews over the years, the common names used in different regions, and the dates and numbers of Eskimo Curlews encountered in Labrador (1770–1786) and on “big flight” years along the Massachusetts coast (1808–1888). This book is ornamented by a section on “Glimpses (short

telling quotes) of the Eskimo Curlew" and another on the "Last of the Curlews," a 1954 Canadian novel later turned into an animated children's movie.

Some minor problems in this book are lack of an index; no guidance in the text to find maps; and reliance, despite the authors' admission of insufficiency, on clutch collections to estimate annual abundances. A more significant shortcoming is that, while the authors do achieve their goal of compiling what is known about the natural history of the Eskimo Curlew, they did not attempt to synthesize that information and draw some conclusions about the Curlew's demise. Reading between the lines, it appears that constant ubiquitous hunting, facilitated by flock tenacity and habitat destruction have led to the near extinction of this bird. But other shorebird species were decimated a hundred years ago and have partly recovered. Why hasn't the Eskimo Curlew? Can understanding of the history of this once abundant, now rare bird help us foresee and forestall problems for other species?

I enjoyed this unusual and eclectic book. The story of the Eskimo Curlew is dramatic. The authors tell it with the records of hunters, collectors, and biologists as well as the creations of writers, photographers, and artists. I believe that not only biologists interested in shorebirds will find this book informative, but any biologist interested in populations and in conservation of species, particularly threatened ones, will find this book instructive and worth acquiring.—ELIZABETH P. MALLORY.

STATUS AND CONSERVATION OF THE WORLD'S SEABIRDS. By J. P. Croxall, P. G. H. Evans, and R. W. Schreiber (eds.). ICBP Technical Publication No. 2, ICBP, Cambridge, England, 1984:x + 778 pp., 111 figs. and maps, 92 tables. £24.90.—This volume resulted from the ICBP 18th World Conference in 1982, and should rank among the most useful books about birds to have appeared during recent years. The 80 authors, representing about 50 institutions, present the latest information on populations of the world's seabirds. The 95 pages of references—including many citations in languages other than English—and the information contained in numerous tables and figures should be of use to tourists interested in natural history, conservationists, resource managers, zoogeographers, ornithologists, and ecologists. All zoological libraries and anyone interested in birds or bird conservation should acquire a copy.

The "Editors Introduction" provides a world map and species table that allows one to locate information on any of the 282 seabird species addressed. The species treated do not include birds of inland seas or marshes (e.g., Ciconiiformes; some terns, cormorants, and pelicans) nor nearshore "seabirds" such as sea ducks, grebes, loons or waders, and as one might expect in a volume such as this, the depth of treatment varies from chapter to chapter. For example, the status of seabirds in the Falkland Islands is discussed in 22 pages, compared to 14 pages for the whole of the USSR and 11 pages for China. This, of course, could not really be avoided, and to have what information is presented, for many areas which we rarely hear (or read) about, represents a commendable effort. Only the western Canadian Arctic, a part of Antarctica, the east coast of South America, and the west coast of "mainland" Mexico are not covered in the volume; all or most of the "seabird" areas of the world, however, are included.

For those geographic areas treated, 38 chapters contain a review of the available information on population trends, present population sizes, breeding localities, conservation-management problems, and recommendations for management and further work. Four additional chapters discuss conservation issues in general, including effects of feral animals, human exploitation, fisheries conflicts, and breeding habitat destruction; four others discuss specific examples of these problems.

The last chapter, contributed by the "ICBP Seabird Specialist Group," might appear to

be a summary of the priorities for seabird conservation and associated research discussed in the preceding chapters. In many ways it is, but it suffers from an apparent avoidance of political issues. Among the preceding chapters, three were written almost entirely about the tremendous, negative direct impacts that gill netting has had or is having on populations of diving seabirds, to say nothing of indirect effects, as this activity alters nearshore marine communities. In addition, virtually every other chapter that treated a species of diving seabird also identified gill netting as a problem. Nevertheless, the summary recommendation (p. 775) identified only two species of penguins, and a few seabird colonies in eastern Canada as being affected enough that concern would be justified! Truly, this is not the case (as many chapters illustrate) and the mortality caused by gill netting flies in the face of several international treaties. (The Migratory Bird Treaty between the U.S. and several other countries is one example.) Another case of how summary recommendations seemed to have avoided "rocking the boat" is in regard to Antarctica. Various chapters identify dramatic changes in seabird colonies caused by human activity, and also identify other, near-certain changes that will result from proposed development, all of which are already "prohibited" by international treaty. Although most of the recommendations contained in this chapter seem to me to be well founded, the cursory treatment of these two subjects is perplexing, especially because the chapter contains a section on needs for further "Legal Protection."—DAVID G. AINLEY.

BIRDS OF NEW ZEALAND AND OUTLYING ISLANDS. By M. F. Soper. Whitcoulls Publishers, Christchurch, New Zealand (obtainable in the U.S. from International Specialized Book Services, Inc., 5602 NE Hassalo St., Portland, Oregon 97213), 1984:216 pp., 196 color photographs by the author, 2 range maps. \$29.95 (U.S.).—This is a welcome addition to New Zealand's books on birds, in this case another by Dr. M. F. Soper, a proficient writer and skilled bird photographer. The book covers 305 species including extralimnals on outlying islands as far north as Norfolk and Raoul and as far south as Macquarie. Two full-page, labeled maps preceding the introduction to the book show the extent of the area covered.

The text is in sections, each constituting an order of birds. Within the sections each family of birds is first described in a box, then followed by an individual listing of each species with pertinent comments on its habitat, appearance, and behavior. The boxing of each family of birds prior to the listing of its species is a helpful feature.

I have one criticism of the book's organization. The 196 photographs, all in full color and superb, are in eight clusters, none included in the pagination. In each cluster there may be anywhere from one to eight photographs per page. Although the photographs are numbered from 1 to 196, and referred to from the text, I found no easy way of knowing in which cluster to search for the number I wanted. To see the picture of the particular species, I had to locate the cluster and then turn the pages in the cluster for the number.

Of moderate size (6 × 9 in.), this book makes a fine companion to "The New Guide to the Birds of New Zealand" by R. A. Falla, R. B. Sibson, and E. G. Turbott (Collins, 1979). Anyone taking a trip to New Zealand, or to the islands in its vicinity, should include both books, as their texts and illustrations supplement each other nicely.—OLIN SEWALL PETTINGILL, JR.

BIRDS OF THE CAYMAN ISLANDS. By Patricia Bradley, with photography by Yves-Jacques Rey-Millet. Published by P. E. Bradley, Box 1326, George Town, Grand Cayman, Cayman

Islands, British West Indies, 1985:245 pp., 72 color photographic illustrations, 7 maps, quarto, no price listed but less than \$30.00 U.S.—The three Cayman Islands lie in the Caribbean 240 km south of Cuba and 280 km northwest of Jamaica (the smaller Cayman Brac [38 km²] and Little Cayman [25 km²] are ca 120 km east of the larger Grand Cayman [263 km²]). They are low (maximum elevation 44 m) islands of coralline limestone astride a submerged ridge northwest of the 6000-m deep Cayman trench. Their isolated location has contributed to their importance ornithologically. They comprise a landfall and wintering site for ca 120 North American migrants and are home to 45 breeding species, several of which winter elsewhere (e.g., Least Tern [*Sterna antillarum*], Black-whiskered Vireo [*Vireo altiloquus*], and Gray Kingbird [*Tyrannus dominicensis*]).

Many of the permanent residents exhibit in combination a variety of adaptive responses to remote island life (e.g., simplified song, short-rounded wings, small clutch size, large beaks) in comparison to close relatives on the mainland or Cuba. Not all endemics, however, follow the ecogeographic “rule” of overall larger body size. In fact the West Indian Woodpecker (*Melanerpes superciliosus*), Northern Flicker (*Colaptes auratus*), and Yucatan Vireo (*Vireo magister*) and Thick-billed (*V. crassirostris*) vireos, to mention a few, are substantially smaller than congeners on other islands or on the mainland.

Now Patricia Bradley has made these and other interesting Cayman birds accessible to the general public with an attractively executed field guide that provides succinct baseline information for a meaningful birding-research reconnaissance of the Islands. The book begins with a Foreword by Prince Philip in which he endorses both birding and nature conservation. Next, in the Preface, Oscar Owre entreates the user to observe birds carefully and thoughtfully in the Caymans. In the first part of the Introduction the author lists goals which have resulted in the present publication. Following in this section are brief summaries for the Caymans of climate, geography, geological history, origins of the avifauna (following James Bond), breeding birds, endemic subspecies (there are 16), nonbreeding birds, and the four local habitat zones, and birds and plants characteristic of each. Also included are a short essay on status of conservation in the Islands stressing the need for continued vigilance, a figure showing topography of a bird, and a glossary of bird-related terms.

The species accounts, including 57 unnumbered pages of excellent color photographs of resident birds, provide descriptions of diagnostic field characters for all breeding, migrant and transient species having more than casual or accidental occurrence in the Islands. Range, preferred Cayman habitat (complementing data in an earlier section on ecosystems and habitat zones), and habits (e.g., foraging, summering, flying, length of breeding season, clutch size, a phonetic rendition of a typical vocalization, and abundance and distribution of each form in the Caymans) are also covered.

The first of two appendices lists 29 rarities (among them a Swallow-Tanager [*Tersina viridis*])! not mentioned in the main text, recommended supplemental field guides, and another checklist of breeding birds with the Cayman Islands on which they breed. A selected bibliography of books and papers closing this appendix is a useful feature.

Appendix II addresses “birding” in the Caymans with advice on garb, tips on travel, and a reminder to observers that species new to the islands are always a possibility. The author cautions about care in walking in areas of pinnacled limestone and coastal ironshore—appropriate admonitions I feel, and I speak from experience on Grand Cayman in this regard. Novices should also have been made aware that several species of toxic shrubs and trees (e.g., maidenplum [*Comcladia integrifolia*] and manchineel [*Hippomane mancinella*]) are common on Grand Cayman—a discovery I made with some uncomfortable results in 1971.

A section entitled “Phototips” by Yves-Jacques Rey-Millet, the principal photographer, follows Appendix II. This is an important feature because the writer concentrates on pho-

tographic equipment and techniques suited to the tropical island environment, which is characterized by high humidity, heat, harsh quality of sunlight, and dipteran pests.

Typographical errors are few, mostly words capitalized that should not have been or extra words missed in proofreading. It should be noted, however, that *Icterus leucopteryx bairdi* is misspelled *bardi* on p. 201, and *bairdii* on p. 20.

In the species accounts no mention is made under "Range in the Caribbean" of the occurrence of the Caribbean Dove (*Leptotila jamaicensis*) and the Jamaican Oriole (*Icterus leucopteryx*) on Isla San Andres or of the Thick-billed Vireo on Isla Providencia. In addition, missing for Grand Cayman are a specimen record of the Black-whiskered Vireo (*V. a. altiloquus*) (see Barlow, J. C., Bull. Brit. Ornithol. Club 98:144-146, 1978) and an autumn record of the Bay-breasted Warbler (*Dendroica castanea*) (Johnston et al., Quart. J. Florida Acad. Sci. 34:152, 1971).

Overall this is an excellent little book filled with pertinent information about Cayman Island birds and as such is an important addition to the ornithological literature of the Caribbean. I wish I'd had this guide in 1974 during my field studies on Grand Cayman. I recommend it.—JON C. BARLOW.

THE BIRDS OF WALLACEA (Sulawesi, The Moluccas & Lesser Sunda Islands, Indonesia). By C. M. N. White and Murray D. Bruce. British Ornithologists' Union Check-list No. 7, 1986:524 pp. £33 (£35 overseas).—The island region between the Asiatic (Sunda) shelf and the Australian (Sahul) shelf has long been a source of controversy among zoogeographers. Two solutions for the treatment of the fauna of this area have been proposed. According to one, a north-south line called Weber's Line, is drawn through the islands. This line separates the western islands (with their prevailing Malaysian fauna) from the eastern islands (with their prevailing Australo-Papuan fauna), and is said to be the border between the Oriental (Indo-Malayan) and the Australian regions. The other solution is to combine all the islands between the two shelves into a separate biogeographic region, designated by Dickerson et al. (1928) as Wallacea. It includes four rather different island regions, (1) the Philippines, (2) Sulawesi (Celebes) and adjacent islands, (3) the Lesser Sunda Islands, and (4) the Moluccas. The Philippines are often excluded from Wallacea, although definitely included by Dickerson et al. when they coined the term.

The other three regions up until now have been rather poorly dealt with by avian faunists, and we ornithologists owe a great debt of gratitude to the late C. M. N. White and to Murray D. Bruce for having now given us an excellent avifauna of this region, based on an exhaustive study of the literature and the collections existing in European and American museums. Being an island region, it is very rich in endemics; indeed there is hardly an island that does not have its peculiar bird, including many endemic genera, particularly on Sulawesi.

With usually only small series available from any one island, Wallacea was a favorite area for subspecies describers (including this reviewer). White and Bruce critically review all those for which they could get enough material and reject a considerable number of them. Unfortunately they do not list the names they consider as synonyms. From the tentative nature of many of their conclusions, it is evident that a great deal of work is still to be done in this region.

The systematic list of the 524-page volume covers 347 pages; the remaining 177 pages are devoted to a long introduction, consisting of a discussion of the geography (five detailed maps), vegetation, biogeography, migration, and history of exploration. Particularly valuable is the detailed analysis of the zoogeography, with a discussion of endemism (lists of endemics) and routes of colonization. A 57-page bibliography gives a gratifyingly complete record of

the literature of the area. Five appendices record contents of recent collections, a gazetteer of the islands, a list of uncertain records, and a listing of all 676 species on the basis of their status (breeding, visitor, rare, etc.).

The publication establishes an indispensable and very reliable foundation for all ornithological research in this area. Murray Bruce deserves our thanks for having undertaken the laborious task of completing a manuscript left unfinished by White at the time of his death and actually largely rewriting it. With good faunas already in existence for all the surrounding regions (Malaysia, Philippines, New Guinea, Australia), the white area (Wallacea) in the faunal maps is now filled most satisfactorily. —ERNST MAYR.

EASTERN BIRDS OF PREY. By Neal Clark. Thorndike Press, Thorndike, Maine, 1983:174 pp., black-and-white photographs. \$7.95 (paper).—From the author's introduction: "The purpose of this book is to enlighten and inform readers about the more common diurnal and nocturnal birds of prey found east of the Mississippi River. More than a field guide, this is a collection of background history, natural history, and anecdotes to be read before and immediately after a trip to the woods, and should especially come in handy once a bird has been identified." I have no idea what is meant by "background history" of a bird, but if you wish accurate "natural history" this is not your book. "Anecdotes" abound, many of questionable veracity, and many quoted out of context and misleading to the neophyte.

I cannot recommend this book to anyone. Misleading and undocumented statements and factual errors abound, beginning with the first sentence of the first species account: "The cosmopolitan osprey, or fish hawk, is the only hawk-like bird that dives into the water." At least three species of fish eagles (*Haliaeetus* spp.) plunge into the water after fish (Brown and Amadon, *Eagles, hawks and falcons of the world*. McGraw-Hill, New York, 1968). The paragraph continues: "It is found on every land mass on earth except New Zealand and Antarctica. Only a decade ago, however, it was in serious trouble, hovering near the brink of extinction." It is true that the Osprey (*Pandion haliaetus*) is accidental in Greenland and occurs in winter in South America but I would not recommend either locality for one wishing to add the species to his or her list. Numbers were considerably reduced in much of North America but the species was hardly near the brink of extinction.

According to Clark, the Sharp-shinned Hawk (*Accipiter striatus*) "... is considered endangered in Ontario." In contrast, Peck and James (*Breeding birds of Ontario: Nidology and distribution*, Vol. 1, Royal Ontario Museum, Toronto, Ontario, 1983) state that: "The Sharp-shinned Hawk is the commonest of the three accipiters in Ontario . . ." Clark states that the hurricane of 1938 greatly contributed to the overall decline of the sharp-shin in New England, "for scores of known nesting sites were razed by the infamous storm. The species has not yet fully recovered." On the other hand, the Northern Goshawk (*A. gentilis*) "has actually benefitted [sic] by mankind since the 1940's." The causes are that it "... feeds lower on the food chain (mammals and game birds, etc.) . . . and, more importantly there's been a gradual spread in New England of mature forest land . . ." I find it most curious that trees are lacking for one species but not for the other. Goshawk populations have increased, at least the southern limits of their range, but the reasons are obscure. Sharp-shinned Hawk populations may have decreased slightly in the last few years but we lack evidence to document any change.

I could go on for pages, listing errors and misinformation, but I will close with an example of a misleading anecdote contributed by Jack Swedberg, a photographer: "... There was one occasion when she [a female Goshawk] really let me have it. She came in and sank her talons into my forehead. She hit me so hard—she was coming at me around 60 miles an

hour [!] and weighed probably two pounds—that she knocked me off my feet.” Clark fails to hint, let alone state, that this was nest defense. This, and other lurid anecdotes presented for the species may help to keep children out of the forests and loaded shotguns in the hands of those who must venture into the wild. The only virtues of this book are the price and the few excellent photographs among the many of indifferent quality. —HELMUT C. MUELLER.

BIRDS OF THE TEXAS COASTAL BEND: ABUNDANCE AND DISTRIBUTION. By John H. Rappole and Gene W. Blacklock. The W. L. Moody, Jr. Natural History Series No. 7, Texas A&M Univ. Press, College Station, Texas, 1985:126 pp., 14 color plates, 1 black-and-white plate, 5 maps, 7 numbered black-and-white drawings. \$19.50. — Although the Coastal Bend region of south Texas encompasses only nine small counties along the northwest coast of the Gulf of Mexico, with 495 recorded species it is the richest bird country north of the tropics in North America. Because of its geographic position, over 80% of the continent's migrating species pass through the area on their way to and from their wintering grounds. Consequently, only Texas as a whole and the state of California have higher species counts than the Coastal Bend of Texas. It is no wonder that this region is visited annually by thousands of birders on vacation or on “listing” missions, several commercial birding tours, and numerous university ornithology classes on field trips. It is only surprising that such a reference book has not been previously published.

As the title suggests, this volume is designed to present more detailed information on the distribution, abundance, and seasonality of birds in south Texas than is available in current field guides or existing state natural history references. It is not intended as a substitute for identification guides, nor does it contain details of the natural history of each species. In the latter sense, the book differs from most regional or state reference works.

The book is divided into a Preface and seven chapters. The Preface includes an interesting historical account of the contributions of many ornithologists and birders to the avifaunal information about the region. After a short introductory chapter, which describes the general climatic and topographic features of south Texas, the authors describe in the second chapter 14 major ecological communities. The description of each habitat type is accompanied by lists of the characteristic plant and avian species. Plant associations or topographic features typical of each habitat are also illustrated with high-quality color photographs. However, one plate (Plate 2) is obviously mislabeled. A beautiful sunset on the Laguna Madre, a lagoon that separates Padre Island from the mainland, is mistakenly titled as a photograph of the Gulf of Mexico.

The third chapter consists of brief but reasonably thorough accounts of all bird species in the region. This section, which constitutes the bulk of the volume, contains notes on the general status, seasonal occurrence, periods of abundance, breeding periods, and habitat preferences of known specimens. Few sight records are included, but, unfortunately, to obtain information on specimen records the reader must turn to the Appendix, a minor inconvenience. Not all species described in the species accounts, however, are listed in the Appendix. Whereas some species known only from sight records (e.g., Barrow's Goldeneye [*Bucephala islandica*]) are listed in the Appendix with the notation “none” indicating that there are no known specimens; other species (e.g., Harlequin Duck [*Histrionicus histrionicus*]) are omitted. Some specimen records published after 1980 are not included in the specimen documentation.

The final four chapters are relatively short and include brief accounts of bird migration, conservation problems, seasonal checklists (a graphic presentation of occurrence), and locations of major habitat types. Of these, the most useful chapter to most people who are unfamiliar with the area is the latter, which includes instructions for driving to good bird

watching localities in each habitat type. The extensive bibliography provides an index to most papers that document the distribution of birds and history of ornithology in south Texas.

I recommend this book to anyone who intends to study or observe birds in the Texas Coastal Bend. This useful text will assist both birders and professional ornithologists in the exploration and enjoyment of coastal south Texas.—BRIAN R. CHAPMAN.

CONNIE HAGAR: THE LIFE HISTORY OF A TEXAS BIRDWATCHER. By Karen Harden McCracken. Texas A&M Univ. Press, College Station, Texas, 1986:296 pp., 1 black-and-white photograph. \$18.95.—Perhaps, some might argue that a biography of a birdwatcher should not be reviewed in a professional journal. But, Connie Hagar was no ordinary birdwatcher. And the book contains more than the remarkable story of an interesting human being; it also contains a wealth of information about the bird life in the Texas coastal region.

Connie Hagar, born to the genteel life of music lessons and tea parties, forsook her social position to become a full-time birdwatcher. Encouraged and supported by an incredibly understanding husband, Jack, Mrs. Hagar made daily trips to observe birds for over 35 years. She documented her observations in a journal and meticulously reported her unusual sightings to prominent ornithologists. As a result of her communications, which included two papers published in "The Wilson Bulletin" and one in "The Auk," she and Jack entertained at their Rockport Cottages literally every important person in the field of ornithology during the 1950s and 1960s. Their small motel became a haven for birdwatchers, ornithologists, and naturalists from all over North America.

The biography is written on two levels. On one level the author portrays the life of Connie Hagar, her love of nature, and her many attempts to share her knowledge with others. On the other level, the book describes the birds that Mrs. Hagar observed and wrote about. Because she saw at one time or another every resident, transient, or accidental species in the Texas Coastal Bend, there is much space devoted to accounts of various species. It is difficult to decide which level is more interesting and they are skillfully blended to make the book both interesting and informative.

The book contains a forward by Roger Tory Peterson, a frequent visitor at the Hagar Cottages. In the forward, Peterson says that "we owe a debt of gratitude" to the author of this book "for putting on record the life story of a remarkable woman who had many friends." I agree.—BRIAN R. CHAPMAN.

THE PRESERVATION OF SPECIES. By Bryan G. Norton (ed.). Princeton Univ. Press, Princeton, New Jersey, 1986:305 pp., 3 tables. \$29.50.—In 1981 the Center for Philosophy and Public Policy assembled an interdisciplinary group of biologists, social scientists, attorneys, resource managers, and philosophers and "encouraged them to think broadly, abstractly, and 'philosophically'" about the problem of reduced biological diversity. "The Preservation of Species" is the result of that endeavor. The book presents no new data, nor does it offer a recipe for "solving" the problem; rather it simply, but effectively, presents 11 disparate viewpoints on the issue.

The three biologist-contributors to the volume (T. E. Lovejoy, L. B. Slobodkin, G. J. Vermeij) each provide reasonable, general summaries of (1) the rate of species extinction, (2) the characteristics that make some species more prone to extinction than others, and (3) the link between biological diversity and the quality of human life. Although each of the chapters is well written, there is not much here that most practicing ecologists do not already know. Similarly, a chapter by social scientist S. R. Kellert sheds little new light on what is

needed to effect changes in the way the world's human population perceives the problem of decreasing diversity. These four chapters, along with two modest essays by T. L. Leitzell and R. L. Carlton on management and logistical aspects of the problems, and a lengthy contribution by A. Randall on species triage in an economic setting, however, do provide the necessary backbone upon which the four philosopher-contributors (J. B. Callicott, B. G. Norton, D. H. Regan, E. Soba) hang the meat of this offering: the value (anthropocentric and intrinsic) of biological diversity. I especially enjoyed these four chapters, not only because of their insightful didactics, but also because of the juxtaposition of their arguments. The latter, especially, challenged me to reformulate my thoughts on the issue, while the former enabled me to do so with newfound logic.

The four philosophical chapters provide a broad spectrum of views on the value of individual species, both natural and unnatural (i.e., domestic), and they pose a number of thought-provoking, hypothetical "last person" questions that address our options regarding biological diversity in a less-than-perfect world. For example: Should our attention be focused on saving individual organisms, species, or ecosystems? Should we admit the need for triage; and, if so, what criteria should we use? In our attempts to maintain biological diversity in a changing world, how much emphasis should be placed on stability? And what, if anything, should be stabilized? Should we attempt to stabilize the number of individuals in a population, the number of populations in an ecosystem, or the number of ecosystems? How important is the supposed dichotomy between what is natural and what is artificial? Does the rarity of an object increase its value regardless of its naturalness? Should our own extinction be viewed as a necessary preamble for the evolution of a more intelligent group of organisms? These and other questions create fertile grounds for philosophical discourse on the issue, and the book will make for fine reading in graduate seminars.

Although the book is thick with references to Charles Darwin, Paul Ehrlich, Aldo Leopold, and Norman Myers, the most common thread throughout the contributions is our obscene lack of information regarding the biological diversity of our planet. There is a growing realization among ecologists that we simply do not possess the information necessary to make reasonable recommendations for the conservation of biological diversity (cf. Mares, *Science* 233:734-739, 1986). Thankfully, "The Preservation of Species" is not only an *insightful* book, it is an *inciteful* one as well. We can only hope that the current offering, along with other recent efforts such as E. O. Wilson's "Biophilia" (Harvard Univ. Press, Cambridge, Massachusetts, 1984), will be read widely, and that the scientific community and responsible governments both will respond to the urgent need to collect data on the ecosphere's biological diversity.—K.L.B.

DISTRIBUTIONAL CHECKLIST OF NORTH AMERICAN BIRDS. VOLUME I. UNITED STATES AND CANADA. By David DeSante and Peter Pyle, illus. by F. P. Bennett, Jr. and Keith Hansen. Artemisia Press, Lee Vining, California, 1986:xiii + 422 pp., 51 black-and-white drawings, colored cover. \$30.00.—It was one of the Gilbert and Sullivan characters, I believe, who sang a song called "I've got a little list." Most birders that I know, even some hard-core professionals, keep some sort of bird lists. Many people have several such lists, often of esoteric nature. But the mechanical effort of keeping such lists can get to be overwhelming. This elaborate and attractive publication gives us a list to end all lists and also makes the keeping of lists easier.

The authors offer three objectives for their work: provide a compendium of state and province bird lists developed from uniform criteria; provide a convenient means for bird-watchers to keep their North American and state life lists; and most importantly, provide up-to-date status and abundance classifications for the birds on these lists.

The book is in the form of a giant matrix with over 60,000 cells (66 geographical units \times nearly 1000 species). Of course about half of these cells contain no information. In the introduction the authors tell us that as of 28 February 1985 there were "28,031 potential 'ticks'" (cells containing information). The area covered is continental North America north of the Mexican border, including the Hawaiian Islands, but excluding Greenland. For each species in each state list a terse coded status is given. Thus in Wisconsin the American Black Duck (*Anas rubripes*) is fS, uW (fairly common in summer, uncommon in winter). The code symbols are fully explained in the introduction and the abundance categories are defined carefully and quantitatively. Above this information in the cell is a blank space that can be used as the owner of the book desires.

The distributional information is probably as accurate as can be attained at the time of the closing date of the publication. The authors assembled the first drafts of the state lists from the 1957 A.O.U. Check-list and then against the 1983 list when it became available. These preliminary lists were then circulated to at least two reviewers from each state who carefully checked the status. Over 150 people were involved in this process. The revised lists were then checked against current information in "American Birds." For each state, a list of problem species was then recirculated to the local reviewers for final consideration. There may be some instances where one might disagree with the status classification given, but as bird distributions and populations are not static things, such disagreements are inevitable as time passes and the present number of these should be small. It is intended that the classifications are representative of the time period 1975–1984. Species that have been unrecorded in the last 50 years or species that have not bred for the last 10 years are so indicated.

There are indeed two lists: "Native Populations" and "Introduced Populations." The rationale for this separation is rather vague. In West Virginia, as in much of the Middle West, the European Starling (*Sturnus vulgaris*) and the House Finch (*Carpodacus mexicanus*) have about the same status as the Northern Cardinal (*Cardinalis cardinalis*). All three entered the state from ranges outside the state, unaided by man. That the first two have come within the memory of those living and the last came shortly after the retreat of the Pleistocene glaciers makes little difference. Indeed, the starling is now a very important component of the avian community, particularly in the winter.

Each new segment of the book is graced by an attractive black-and-white sketch by F. P. Bennett, Jr. or Keith Hansen of one of the birds in the segment. Some of these show poses not usually shown as, for example, the head-on view of a Whip-poor-will (*Caprimulgis vociferous*) chasing a moth.

Volume II, which will cover the rest of the area of the 1983 A.O.U. Check-list, Mexico, Central America, and the West Indies, is still to come.—GEORGE A. HALL.

AUDUBON READER: THE BEST WRITINGS OF JOHN JAMES AUDUBON. By Scott Russell Sanders (ed.). Indiana Univ. Press, Bloomington, Indiana, 1986:245 pp. \$29.95 (cloth), \$9.95 (paper).—This collection of John James Audubon's writings includes 15 selections drawn from his 60 "Episodes," 16 of the approximately 500 bird descriptions from the "Ornithological Biography," and selections from his letters and journals. Audubon's "Episodes" are interludes scattered among the species discussions of the "Ornithological Biography," which were meant to describe American "scenery and manners" and to relieve the boredom he imagined his mostly wealthy readers might experience while reading the bird descriptions. Editor Sanders' main purpose is to show that Audubon's writing is worthy of consideration as good literature. In his excellent introduction to the collection, he compares Audubon's work favorably with the most influential nineteenth century authors, among

them Washington Irving, James Fenimore Cooper, Herman Melville, and Henry David Thoreau. Sanders emphasizes Audubon's place in the "distinguished American band of roving nature reporters" including him with Mark Catesby, the Bartrams, Alexander Wilson, Thoreau, John Muir, and Aldo Leopold. He admires Audubon's colorful language and his "fearless, passionate, indefatigable presence" in his works. Sanders reminds us that Audubon was more than a marvelous artist and scientist, and that he deserves recognition as an accomplished literary figure as well. The selections he presents show the variety of Audubon's experiences and Audubon's growing concern for man's impact on the abundance of wildlife present at the time. Sanders also explores the impact of Audubon's editors, especially the destructive censorship of his granddaughter, Maria, on his published work. Although many of the selections are familiar to readers of Audubon, Sanders succeeds in putting them in a fascinating new light.—ALBERT R. BUCKELEW, JR.

BRIEFLY NOTED

PROCEEDINGS OF THE BIRD AND MAN SYMPOSIUM HELD IN JOHANNESBURG 10–15 APRIL 1983. By L. John Bunning (ed.). The Witwatersrand Birds Club, P. O. Box 72091, Parkview 2122, Johannesburg, South Africa, 1985:361 pp. \$32.00 U.S.—Thirty-one papers, 8 posters, and a "keynote" lecture on The Effect of Man on the British Avifauna by C. M. Perrins were given at this symposium. Unfortunately, 9 of the papers are represented in this volume only by a brief Summary. The topics range widely and, while most of the papers deal with African birds, there were a few participants from the U.S. and Australia.—G.A.H.

A REVIEW OF THE PROBLEM OF LEAD POISONING IN WATERFOWL. By Glen C. Sanderson and Frank C. Bellrose. Special Publication No. 4, Illinois Natural History Survey, Champaign, Illinois, 1986:34 pp. (No price given.)—G.A.H.

BIRD DAMAGE TO RIPENING FIELD CORN INCREASES IN THE UNITED STATES FROM 1971 TO 1981. By Jerome F. Besser and Daniel J. Brady. Fish and Wildlife Leaflet 7, U.S. Fish and Wildlife Service, Washington, D.C. (obtainable from Superintendent of Documents), 1986: 6 pp. (No charge.)—G.A.H.

CHECKLIST OF THE BIRDS OF BELIZE. By D. Scott Wood, Robert C. Leberman, and Dora Weyer. Carnegie Museum of Natural History Special Publication No. 12, Pittsburgh, Pennsylvania, 1986:22 pp. \$2.00.—Lists 470 species known for the region in "checklist" format and gives a coded status of each in 6 ecological areas.—G.A.H.