

- Introduction to the theory of statistics. 3rd ed. McGraw-Hill, New York.
- OELKE, H. 1981. Limitations of the mapping method, p. 114–118. *In* C. J. Ralph and J. M. Scott [eds.], Estimating the numbers of terrestrial birds. *Stud. Avian Biol.* 6.
- RALPH, C. J., AND J. M. SCOTT [EDS.]. 1981. Estimating the numbers of terrestrial birds. *Stud. Avian Biol.* 6.
- ROBBINS, C. S. 1978. Census techniques for forest birds, p. 142–163. *In* R. M. DeGraff (tech. coord.), Proceedings of the workshop on management of southern forests for nongame birds. U.S. For. Serv. Gen. Tech. Rep. SE-14.
- SVENSSON, S. 1974. Interpersonal variation in species map evaluation in bird census work with the mapping method. *Acta Ornithol.* 14:322–338.
- TILGHMAN, N. G., AND D. H. RUSCH. 1981. Comparison of line-transect methods for estimating breeding bird densities in deciduous woodlots, p. 202–208. *In* C. J. Ralph and J. M. Scott [eds.], Estimating the numbers of terrestrial birds. *Stud. Avian Biol.* 6.

Denver Wildlife Research Center, U.S. Fish and Wildlife Service, 412 N.E. 16th Avenue, Gainesville, Florida 32601.
Received 17 January 1983. Final acceptance 4 February 1984.

The Condor 86:241
© The Cooper Ornithological Society 1984

RECENT PUBLICATION

Birds of Prey of Southern Africa/Their Identification and Life Histories.—Peter Steyn, illustrated by Graeme Arnot. 1982. David Phillip, Cape Town and Johannesburg. 309 p. \$39.50. Source: Buteo Books, P.O. Box 481, Vermillion, SD 57069. This slightly larger-than-field-guide size book presents in a useful form an abundant coverage of raptor field observations in southern Africa, which here includes not only the Republic of South Africa but also Namibia, Botswana, Zimbabwe and Mozambique as well as the southern parts of Angola and Zambia. Steyn did most of his field work in Zimbabwe and South Africa but with excursions into Namibia and Botswana.

Arnot's color plates are remarkably fine; more than just illustration, they are artistically painted with meticulous attention to detail. This is a considerable feat, for the 24 plates depicting 68 species of diurnal raptors and 12 owls have some 280 separate figures, often four of each species (adult and immature, perched and flying, and such aberrants as melanistic or pale forms). There are only two figures of the Banded Snake Eagle and Yellow-billed Kite, but seven of the Steppe Buzzard and eight of the Black Sparrowhawk. The perched birds are separately posed, leading to a better appreciation of each individual, and they are portrayed against a non-glare blue-gray background. Most of the 16 plates of perched raptors show eight or ten figures of four or five species on each. The eight plates of flying raptors are easily the best I have seen. The artist has shown soaring or flying eagles from below against a blue sky, while harriers and some hawks are shown from the side. The flying harriers and Chanting Goshawks are a stunning picture. Flying eagles and buzzards are good, but with some the tails are just not right, seemingly detached from the proper contour. But these plates by Arnot are really first rate and one wishes some of them were available as wall prints. Plate 16 would be a great day at Hawk Mountain, while the six owls of plate 23 are a work of art. Few artists can do a real eye-to-eye front view of a raptor, but the facing Bateleur on plate 2 is just right, and I wish it were a full plate. With over 280 figures of 80 species, it is no surprise that some are not correct in some details, but these are a remarkable set of raptor paintings, and I think incomparably better than those in Volume I of *Birds of Africa*. Most of the species are also shown in the 235 or so photographs, and 45 species have series of nest-side photos showing habitat, nest, eggs and stages of the young.

The text format includes English and Afrikaans names, scientific name and its derivation, identification (adult and immature), habitat, status and distribution, and general habits including much information on life history, nesting, food habits, etc. There are no measurements or technical descriptions but the identification includes diagnostic aspects of appearance, leg and eye-color, changes with physiologic state (e.g., in the Bateleur), as well as the feathering of both adults and immatures, particularly those aspects that may be seen in the field. The text coverage is interesting, often extensive, and it includes many recent findings.

The general reference list is followed by specific bibliographies for each of the 80 species, and the more important references each give a figure for the number of works listed, leading to a rapid "snow-balling" of literature. For the Black Eagle, for example, 31 papers are listed, of which that by V. Gargett lists 80 more references. This bibliography is very useful, enabling one to build up an excellent file in short order. No text citations are made, however, so one must guess about the source of new information on sexual dichromatism in the White-headed Vulture until one digs into the literature.

The African continent faces seemingly insurmountable overpopulation problems with disastrous consequences for both mammals and birds as habitats disappear in the ever-spreading demand for more food for ever more humans. The effects on raptors are often complex, as shown in Steyn's accounts of the Cape Vulture (which needs hyenas) and the Bateleur. The big-game parks are now the principal habitat of many raptors, and perhaps South Africa's parks may be more stable than those in East Africa. The Bateleur is still "common" in the Kruger, and long may it fly!

A number of impressive raptors, still inhabit southern Africa, some still frequent and others rare. It is good to have such readable up-to-date accounts of the Lammergeyer, Bateleur, Gymnogone, Bat Hawk, Secretary Bird, Palm-nut Vulture and the great eagles, although these last are better portrayed in Steyn's earlier *Eagle Days*. In writing this book, Peter Steyn says that he has written the kind of book he would like to have had when he started out to study raptors several decades ago. I think raptorophiles will agree he has accomplished his mission and with distinction. Color plates, photographs, line sketches, and range maps.—Walter R. Spofford.

(55.16 mm vs. 52.48 mm) and wider (45.62 mm vs. 40.48 mm). Its water displacement volume (57.5 ml) was 35% greater than those of the other three eggs (42.6 ml) collected that year. Aging the embryos against a reference collection of embryos of American Kestrels (*Falco sparverius*) indicated that one embryo was about 22 days old and the other was about 24 days old. Two distinct yolks were present but that of the younger embryo was considerably more deteriorated and decomposed. Although the embryos had survived well into the fourth quarter of incubation, one had died and may have polluted the egg sufficiently to cause death of the second embryo. Romanoff and Romanoff (1972) found two peaks of mortality in twin chicken embryos, one about one-third of the way through incubation and the other near hatching. The second peak appeared to be related to difficulty in pipping caused by either rupture of the yolk sac or the inverted position.

We thank J. R. Parrish and G. R. Myers for collecting the egg and D. J. Hoffman for reviewing this note.

LITERATURE CITED

- BATT, B. D., J. A. COOPER, AND G. W. CORNWELL. 1975. The occurrence of twin waterfowl embryos. *Condor* 77:214.
- BERGER, A. J. 1953. Three cases of twin embryos in passerine birds. *Condor* 55:157-158.
- LOKEMOEN, J. T., AND D. E. SHARP. 1981. Occurrence of twin Gadwall embryos. *Condor* 83:273-274.
- ROMANOFF, A. L. AND A. J. ROMANOFF. 1972. Pathogenesis of the avian embryo. Wiley-Interscience, New York.
- SARVELLA, P. 1975. Multiple-yolked eggs from a parthenogenetic stock of chickens. *Poult. Sci.* 54:1467-1471.
- STURKIE, P. D. 1946. The production of twins in *Gallus domesticus*. *J. Exp. Zool.* 101:51-63.

Patuxent Wildlife Research Center, Laurel, Maryland 20708. Address of second author: Greenland Peregrine Falcon Survey, Box 29403, Columbus, Ohio 43229. Address of third author: Chemical Systems Lab, U.S. Army, Aberdeen Proving Grounds, Maryland 21010. Received 14 November 1983. Final acceptance 31 March 1984.

The Condor 86:353
© The Cooper Ornithological Society 1984

RECENT PUBLICATIONS

Birds New to Britain and Ireland.—J. T. R. Sharrock, ed. and P. J. Grant. 1983. T & A D Poyser, Calton, England. 263 p., with 16 unnumbered pages of photographs. \$25.00. Source: Buteo Books, P.O. Box 481, Vermillion, SD 57069. The first-record accounts of 83 species new to Britain and Ireland since 1946, are reprinted here from the pages of *British Birds*. The original accounts are thoroughly updated by addition of current status, distribution maps, and supplements to the original descriptions, including comparative field marks among similar species with emphasis on points not covered in the originals. The accounts attain an excellent standard of skillful and thorough field observation and reporting of information. Black-and-white drawings, paintings and field sketches. Charming essays by British naturalists. Generalized range maps of breeding distribution. Editor's introduction and summary. References, index.—J. Tate.

Scans Key to Birdwatching.—Virginia C. Holmgren. 1983. Timber Press. 176 p. Paper cover. \$12.95. Source: Timber Press, P.O. Box 1631, Beaverton, OR 97075. Considerable knowledge and long field experience are evident in this oversize paperback on bird identification. Written by a Westerner, the "similar species" section of many species descriptions provides valuable perspective. From the overly enlarged cover photograph to the poorly registered color plates, however, the production of the book detracts from its value. A beginning birdwatcher might well gain new

information about birds, but would need another field guide in order to provide acceptable illustrations and range maps.—J. Tate.

A.B.A. Checklist: Birds of Continental United States and Canada: Second Edition.—ABA Checklist Committee, G. Stuart Keith, Chairman. 1982. 90 p. Paper cover. \$8.25 ABA members, \$9.00 non-members; plus \$2.25 handling. Source: American Birding Association, Inc., P.O. Box 4335, Austin, TX 78765. The body of the text is a checklist of birds in North America north of Mexico. For lists, it provides a space to check off each species and a short line (presumably for indicating where the bird was seen), printed in large, clear type. Cooperation with the AOU Committee on Classification and Nomenclature has brought the present checklist into close harmony with the latest AOU *Check-list*. The ABA booklet includes a "Summary of Records of Accidental and Other Species" (p. 56-80), a complete listing, with references of all occurrences of accidental species in North America. The ABA Committee persists, however, in accepting questionable sight records with little regard for self-discipline. A clear statement of how the process of documentation and sight-record verification works (see *Birds New to Britain and Ireland*, reviewed below, for an outstanding example of this process) would go far toward bringing the ABA checklist into wider acceptance. References, blank pages for supplements and notes.—J. Tate.

The symposium will be held at the University on 11–12 October 1984. Registration is \$40 through September 28, \$50 after that. For further information contact Nancy Dopkins, 1207 Seminole Hwy., Madison, WI 53711; (608) 262-2746.

SMITHSONIAN FOREIGN CURRENCY GRANTS

The Smithsonian Foreign Currency Program, a national research grants program, offers opportunities for support of research in Burma, Guinea, India, and Pakistan in several fields, including systematic and environmental biology. Grants in the local currencies of the above-listed countries are awarded to American institutions for the research of senior scientists. Collaborative programs involving host country institutions are welcome. Awards are determined on the basis of competitive scholarly review. The deadline for submission is November 1 annually. For further information write: Foreign Currency Program, Office of Fellowships and Grants, Smithsonian Institution, Washington, DC 20560, or call (202) 287-3321.

The Condor 86:355
© The Cooper Ornithological Society 1984

RECENT PUBLICATIONS

Breeding Birds of the Baraboo Hills, Wisconsin: Their History, Distribution and Ecology.—Michael J. Mossman and Kenneth I. Lange. 1982. Department of Natural Resources and Wisconsin Society for Ornithology, P.O. Box 7921, Madison, WI 53707. 196 p. **Illinois Birds: Wood Warblers.**—Jean W. Graber, R. R. Graber, and E. L. Kirk. 1983. Illinois Natural History Survey, Biological Notes No. 118, State of Illinois Department of Natural Resources, Champaign, IL. 144 p. In an age of overpriced publications these modest paperbacks stand out as object lessons in unpretentious quality. Compact, straightforward works, these bulletins are abundantly illustrated with maps and graphs. Each provides information on breeding and migration phenologies, followed by detailed species accounts. Both present their ornithological information within a well-developed ecological and historical framework. Because it deals exclusively with the wood warblers, the account by Graber et al. presents more complete discussions of the behavior and ecology of individual species than do Mossman and Lange. However, the latter augment their species accounts with a community-oriented discussion of bird associations by habitat type and detailed descriptions of the geology, vegetation and history of human occupation of their ecologically varied study area. Both bulletins are remarkable for the abundance of illustrative material and for the quality of photographic reproduction.—M. F. Lawton.

West Virginia Birds.—George A. Hall. 1983. Special Publication of the Carnegie Museum of Natural History, Number 7. 180 p. \$20.00. Source: Carnegie Museum of Natural History, 4400 Forbes Ave., Pittsburgh, PA 15213. Subtitled "Distribution and Ecology of West Virginia Birds,"

ERRATA

In "The systematic position of the Cocos Flycatcher" by W. E. Lanyon (*Condor* 86:42–47), the following changes should be made:

Page 42, first sentence of the last paragraph: "Thus far I have examined the skulls of 87 genera and the syringes of 89 genera of the 90 genera of tyrant flycatchers . . ."

Page 43, legend for Figure 1, magnifications should be: *Nesotriccus ridgwayi*, 7× and 10×; *Phaeomyias murina*, 10×; *Capsiempis flaveola*, 7×; *Empidonax euleri*, 8×; *Nemotriccus fuscatus*, 8×; *Myiozetetes similis*, 5×; and *Myiarchus tuberculifer*, 7×.

Page 44, paragraph 3: the fluvicoline form of the trabecular plate is indicated by arrows in photographs 5 and 6 of Figure 1.

Page 45, legend for Figure 2, all magnifications should be 13× except for *Myiarchus swainsoni*, which should be 8×.

In "Basal metabolic rate . . . in the Wandering Albatross" by C. R. Brown and N. J. Adams (*Condor* 86:182–186), the metabolic rate of the Laysan Albatross should be changed from 119 to 199 kJ kg⁻¹ day⁻¹ (p. 185, column 2, line 11), and the reference by Withers should give the name of the journal as: *J. Appl. Physiol.: Respirat. Environ. Exercise Physiol.* (p. 186, column 2, line 26).

this book is the long-awaited authoritative work on the subject. It is strong on the birds known to have lived in the state, less so on their distribution and ecology. The major ecological communities of the state are outlined on the first seven pages. A standard physiographic-environmental description (also seven pages) follows. Brief coverage is given to the environmental changes made by man. The four-page history of ornithology in the state is interesting, and apparently well-researched. A table is used to reference early published catalogs of birds. The bulk of the book consists of the species accounts. Gazetteer, list of uncited literature, literature cited, and index. Color frontispiece and 16 line drawings by George Miksch Sutton. Twelve distribution maps, 21 photographic plates.—J. Tate.

Breeding Records of Land Birds in Oaxaca, Mexico.—J. Stuart Rowley. 1984. Proceedings of the Western Foundation of Vertebrate Zoology, Vol. 2, No. 3, Los Angeles. 151 p. paper cover. \$12.00. Source: WFVZ, 100 Glendon Ave., Los Angeles, CA 90024. Following a business career, Rowley (1908–1968) became a competent observer and collector of Mexican birds. His last manuscript, uncompleted before his death, was compiled and updated by Jack C. Von Bloeker, Jr., editor of the WFVZ publications, with Laurence C. Binford and Lloyd F. Kiff as editorial consultants. It presents new information about the breeding habits of 151 species of birds, mainly upland and forest-dwelling species. These include 13 species whose nests, eggs, and/or young have apparently not been previously reported. The accounts are interestingly written and they have the ring of authenticity that comes from long experience in the field. They constitute a valuable contribution to the knowledge of Middle American birds. Photographs, references.