

"Everything for the Wild Bird Enthusiast"

BOOKS FOR BIRD LOVERS

In Print: Write for free list of Books and Records
Out of Print: Books bought and sold. Want lists encouraged.

You will be quoted if or when available.

Bushnell Optical Equipment available at 25% discount.

702 Marshall St., Houston, Texas 77006

(713) 528-0139

POPULATION DYNAMICS

Alternative Models

By BERTRAM G. MURRAY, JR.

A Volume in PHYSIOLOGICAL ECOLOGY
A Series of Monographs, Texts, and Treatises
Series Editor T. T. KOZLOWSKI

CONTENTS: Introduction. Population Mathematics. Limitations to Population Growth. Population Dynamics and Natural Selection. Predation and Maximum Sustainable Yield. Competition. The Dynamics of Populations. Bibliography. Subject Index.

1979, 224 pp., \$21.00 ISBN: 0-12-511750-7

Future volumes in PHYSIOLOGICAL ECOLOGY are now available on a Continuation Order basis. Your Continuation Order authorizes us to ship

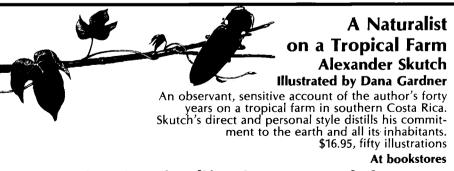
and bill each future volume in the series automatically, immediately upon publication. This order will remain in effect until cancelled.

Send payment with order and save postage and handling charge.

Prices are subject to change without notice.

ACADEMIC PRESS, INC.

A Subsidiary of Harcourt Brace Jovanovich, Publishers 111 FIFTH AVENUE, NEW YORK, N.Y. 10003 24-28 OVAL ROAD, LONDON NW1 7DX



University of California Press Berkeley 94720

Announcing Volume II of the highly acclaimed HANDBOOK OF THE BIRDS OF EUROPE, THE MIDDLE EAST, AND NORTH AFRICA

The Birds of the Western Palearctic

Volume II: Hawks to Bustards Edited by Stanley Cramp, K.E.L. Simmons, and others

From reviews of Volume I:

"A treasure trove of knowledge, and major addition to the well-furnished ornithological library." —American Birds

"A delight to use.... The western Palearctic handbook should be of interest to both professional and amateur ornithologists." — American Scientist

"Should be a useful reference work for decades....An excellent, authoritative work." — Library Journal

"This is a magnificent volume." -Choice

"This volume will, deservedly, have a very wide appeal."

The Quarterly Review of Biology

This new and authoritative reference work designed for both the professional scientist and amateur ornithologist takes account of the great advances that have been made in ornithological knowledge. The seven-volume Handbook will include:

- Descriptions of over 750 species of birds occurring in the Western Palearctic, of which about 600 are breeding species. Each breeding species will be described in full, with entries averaging about six pages of text and sections on field characters, habitat, distribution, mortality and longevity, and population (with maps showing the breeding and wintering areas), social pattern and behavior, breeding, food, voice, plumages, moults, measurements, weights, structure, and geographical variation. Regular migration and accidental species are treated under these headings where relevant. Volume II contains descriptions of 97 species.
- Illustrations of each species in the form of specially commissioned color plates, showing the full range of normal plumage together with more distant flight views.
- Color plates of eggs, black-and-white illustrations, and many text-figures showing such features as display postures, voice sonograms and melograms, and annual cycles.
- Bibliography, indexes, and glossaries of scientific terms for each volume.

Volume I: Ostrich to Ducks

1978 732 pp.; 350 line drawings; 72 color plates

\$85.00

Volume II: Hawks to Bustards

March 1980

702 pp.; 300 line drawings; 56 color plates

\$85.00



Prices and publication dates are subject to change.

OXFORD UNIVERSITY PRESS 200 Madison Avenue, New York, New York 10016

SOME ADAPTATIONS OF MARSH-NESTING BLACKBIRDS

GORDON H. ORIANS

The variety of social systems among the New World blackbirds (Family Icteridae) and the structural simplicity of their foraging environment provide excellent opportunities for testing theories about the adaptive significance of their behavior. Here Gordon Orians presents the results of his many years of research on how blackbirds utilize their marsh environments during the breeding season. These results stem from information he gathered on three species during ten breeding seasons in the Pacific Northwest, on Redwinged blackbirds during two breeding seasons in Costa Rica, and on three species during one breeding season in Argentina.

Monographs in Population Biology, 14

Illus. Cloth, \$18.00. Paper, \$7.95



WRITE FOR OUR POPULATION BIOLOGY AND ORNITHOLOGY BROCHURES.

PRINCETON UNIVERSITY PRESS

Princeton, New Jersey 08540

BIRD Bookshop

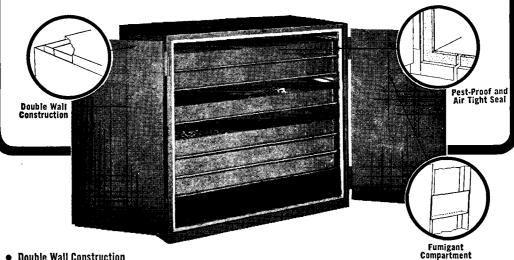
We can supply any natural history book in print; over 500 new bird and wildlife titles in stock; worldwide service; low postage rates; free 33-page booklist from the:

Bird Bookshop, Dept. 4, Scottish Ornithologists' Club, 21 Regent Terrace, Edinburgh, EH7 5BT, Scotland

How many years would it take to replace your collection?

Safe-guard your valuable specimens PERMANENT SPECIMEN PRESERVATION

ZOOLOGY AND ORNITHOLOGY SPECIMEN CABINETS



- Double Wall Construction
 - Pest-Proof and Air Tight Seal
 - Double Panel Door
 - Lift-Off Safe Type Hinge
 - Fumigant Compartment
 - 3-Point Locking Mechanism
 - Front and Back Air Tight Seals
 - Specimen Trays of Aluminum and Masonite. Lightweight, sturdy and easy to handle.

FOR ILLUSTRATED BROCHURE, WRITE



Skin Case #201 (illustrated) Holds large trays for larger specimens.

Skin Case # 202 (not illustrated) Divided for half-size trays for smaller specimens.

Dept. D ork 7, N. Y.	
Please send complete details on Lane Zoology and Ornithology Specimen Cabinets to:	
	Title
Zone	State
	s on Lane

THE AUK

A Quarterly Journal of Ornithology

PUBLISHED BY THE AMERICAN ORNITHOLOGISTS' UNION

Editor: John A. Wiens, Department of Biology, University of New Mexico, Albuquerque, New Mexico 87131

Assistant to the Editor: JEAN FERNER

Editorial Board: James R. King, Helmut C. Mueller, William L. Thompson, Richard L. Zusi

Associate Editors: WALTER BOCK (Reviews), HERBERT W. KALE, II (Periodical Literature)

THE AUK welcomes original reports dealing with the biology of birds, emphasizing the documentation, analysis, and interpretation of laboratory and field studies, theoretical or methodological developments, or reviews of existing information or ideas. Contributions are welcomed from throughout the world, but must be written in English.

SUGGESTIONS TO CONTRIBUTORS. Submit the typewritten original and two copies of the text, tables, illustrations, and all other material to the Editor. All typewritten material must be double-spaced on one side of numbered $8\frac{1}{2} \times 11$ inch $(21\frac{1}{2} \times 28 \text{ cm})$ good quality bond paper, with at least 1 inch $(2\frac{1}{2} \times 28 \text{ cm})$ margins. Originals typed on erasable, light weight, or mimeo bond will not be considered, but copies may be clear reproductions. Number pages through the Literature Cited. Avoid footnotes. The style of manuscripts should conform to general usage in recent issues. A cover page should contain the full title, a shortened version of the title (not to exceed 35 characters in length) for use as a running head, and your address at the time the research was conducted, followed by your present address, if different. The cover page should also include the name and full address of the individual to whom proof is to be sent.

Each Article should be preceded by an Abstract not exceeding 5% of the length of the paper. The Abstract should recapitulate the findings of the paper, not describe the work done. Acknowledgments should follow the text and precede the Literature Cited. Scientific and English names of birds always should be given where first mentioned in the text, and should follow the A.O.U. Check-list of North American Birds and supplements or the appropriate equivalent unless departures are explained and defended. Metric units should be used in all measurements. In general, abbreviations of statistical terms and mensural units should conform with the Council of Biology Editors (CBE) Style Manual. Use the 24-hour clock (0800 and 2030) and "continental" dating (1 July 1971).

Tables, which must not duplicate material in either the text or illustrations, are typewritten (doublespaced throughout!) separately from the text. Each table should contain a short but complete heading, and must not contain vertical rulings.

Illustrations (including labels of coordinates) should be on $8\frac{1}{2} \times 11$ inch $(21\frac{1}{2} \times 28 \text{ cm})$ sheets, and must be mailed flat. The name of the author and the figure number should be penciled on the back of each figure. Legends should be typed consecutively (double-spaced) on a separate page. Drawings should be drafted with undiluted india ink, and be large enough to permit $\frac{1}{3}$ to $\frac{1}{2}$ reduction to the size that they will appear in print. Graphs may be drafted on coordinate paper ruled with light blue lines; do not use coordinate paper ruled with green lines. Use mechanical lettering, pressure transfer letters, or calligraphy; typewritten lettering is not acceptable. Lettering should be large enough to be easily readable after 50% reduction of the figure, but not overly large. Lettering style should be uniform among all figures for a manuscript, as should the size of lettering following reduction. Photographs should be glossy prints of good contrast and sharpness, and should be approximately the same size as they will appear in print. Letters and arrows on photographs are best applied by pressure-sensitive materials.

In articles containing more than five references, the citations are listed (double-spaced!) in a Literature Cited section following the text and Acknowledgments. For five or fewer references, cite them in the text following these examples: Sauer (1972, Auk 39: 717), or (Sauer 1972, Auk 39: 717). Text citations should include author and year (e.g. Darwin 1858), or, if more than two authors are involved, the first author and year (Jones et al. 1947). If critical matter is cited or quoted directly from longer works, indicate the pertinent pages (e.g. MacArthur 1972: 204–207). Citations of two or more works on the same topic should be cited in chronological order (e.g. Meanley 1971, Dyer 1975). For abbreviations and forms of titles of serial publications, follow the BIOSIS List of Serials. Consult recent issues of The Auk and the CBE Style Manual for additional details.

A more detailed set of instructions for contributors appeared in The Auk, Vol. 94, No. 1 (January 1977), copies of which are available from the Editor.

ORNITHOLOGICAL MONOGRAPHS

Order from Glen E. Woolfenden, Assistant to the Treasurer A.O.U., Department of Biology, University of South Florida, Tampa, Florida 33620. All orders must be prepaid and include a \$0.50 handling charge. Prices to AOU members are given in parentheses.

- No. 1. A Distributional Study of the Birds of British Honduras, by Stephen M. Russell. 1964. \$7.00 (\$5.50).
- No. 2. A Comparative Study of Some Social Communication Patterns in the Pelecaniformes, by Gerard Frederick van Tets. 1965. \$3.50 (\$2.50).
- No. 3. The Birds of Kentucky, by Robert M. Mengel. 1965. \$15.00 (\$12.50).
- No. 5. A Comparative Life-history Study of Four Species of Woodpeckers, by Louise de Kiriline Lawrence. 1967, \$6.00 (\$4.50).
- No. 6. Adaptations for Locomotion and Feeding in the Anhinga and the Double-crested Cormorant, by Oscar T. Owre. 1967. \$6.00 (\$4.50).
- No. 7. A Distributional Survey of the Birds of Honduras, by Burt L. Monroe, Jr. 1968. \$14.00 (\$11.00).
- No. 9. Mating Systems, Sexual Dimorphism, and the Role of Male North American Passerine Birds in the Nesting Cycle, by Jared Verner and Mary F. Willson. 1969. \$4.00 (\$3.00).
- No. 10. The Behavior of Spotted Antbirds, by Edwin O. Willis. 1972. \$9.00 (\$7.50).
- No. 11. Behavior, Mimetic Songs and Song Dialects, and Relationships of the Parasitic Indigobirds (Vidua) of Africa, by Robert B. Payne. 1973. \$12.50 (\$10.00).
- No. 12. Intra-island Variation in the Mascarene White-eye Zosterops borbonica, by Frank B. Gill. 1973. \$3.50 (\$2.50).
- No. 13. Evolutionary Trends in the Neotropical Ovenbirds and Woodhewers, by Alan Feduccia. 1973. \$3.50 (\$2.50).
- No. 14. A Symposium on the House Sparrow (Passer domesticus) and European Tree Sparrow (P. montanus) in North America, S. Charles Kendeigh. 1973. \$6.00 (\$4.50).
- No. 15. Functional Anatomy and Adaptive Evolution of the Feeding Apparatus in the Hawaiian Honeycreeper Genus Loxops (Drepanididae), by Lawrence P. Richards and Walter J. Bock. 1973. \$9.00 (\$7.50).
- No. 16. The Red-tailed Tropicbird on Kure Atoll, by Robert R. Fleet. 1974. \$5.50 (\$4.50).
- No. 17. Comparative Behavior of the American Avocet and the Black-necked Stilt (Recurvirostridae), by Robert Bruce Hamilton. 1975. \$7.50 (\$6.00).
- No. 18. Breeding Biology and Behavior of the Oldsquaw (Clangula hyemalis L.), by Robert M. Alison. 1975. \$3.50 (\$2.50).
- No. 19. Bird Populations of Aspen Forests in Western North America, by J. A. Douglas Flack. 1976. \$7.50 (\$6.00).
- No. 20. Sexual Size Dimorphism in Hawks and Owls of North America, by Noel F. R. Snyder and James W. Wiley. 1976. \$7.00 (\$6.00).
- No. 21. Social Organization and Behavior of the Acorn Woodpecker in Central Coastal California, by Michael H. MacRoberts and Barbara R. MacRoberts. 1976. \$7.50 (\$6.00).
- No. 22, Maintenance Behavior and Communication in the Brown Pelican, by Ralph W. Schreiber. viii + 78 pp., 38 text figures. 1977. Price \$6.50 (\$5.00 to AOU members).
- No. 23. Species Relationships in the Avian Genus Aimophila, by Larry L. Wolf. viii + 220 pp., 17 text figures + 10 plates, long-play phono disc album. 1977. Price \$12.00 (\$10.50 to AOU members).
- No. 24. Land Bird Communities of Grand Bahama Island: The Structure and Dynamics of an Avifauna, by John T. Emlen. xi + 129 pp., 38 text figures, appendix. 1977. Price \$9.00 (\$8.00 to AOU members).
- No. 25. Systematics of Smaller Asian Night Birds Based on Voice, by Joe T. Marshall. viii + 58 pp., frontispiece, 15 plates, phono disc supplement, appendices I-III. 1978. Price \$7.00 (\$6.00 to AOU members).
- No. 26. Ecology and Behavior of the Prairie Warbler Dendroica discolor, by Val Nolan, Jr. xx + 595 pp., color frontispiece, 42 text figures, 8 appendices. 1978. Price \$29.50.
- No. 27. Ecology and Evolution of Lek Mating Behavior in the Long-tailed Hermit Hummingbird, by F. Gary Stiles and Larry L. Wolf. viii + 78 pp., 26 text figures. 1979. Price \$8.50 (\$7.50 to AOU members).