

*New name . . . new look . . . new scope!*

## **AMERICAN BIRDS**

*incorporating Audubon Field Notes*



The most widely read journal devoted exclusively to the ever-changing status of the birds of Canada and the U.S. General articles and regional summaries of the seasonal distribution, migration, abundance and rare occurrence of North American birds. Six issues per year, including the annual Christmas Bird Count, the Winter-Bird Population Studies, and the Breeding-Bird Census.

*One year—\$6.*

*Two years—\$11.*

*Single copies \$1.*

*Christmas Count issue, \$3.50.*

### **AMERICAN BIRDS**

*National Audubon Society, 1130 Fifth Avenue, New York 10028*

# **A CHECKLIST OF THE BIRDS OF ETHIOPIA**

**Emil K. Urban**

and

**Leslie H. Brown**

Hard cover U.S. \$5.20

Soft cover U.S. \$4.15

from Haile Sellassie I  
University Press,  
P.O. Box 1176 Addis Ababa  
Ethiopia

# The Auk

reaches 3,200 ornithologists and  
600 institutional libraries.

## Rates and Space Dimensions for Advertisements in THE AUK

Space	Dimensions	Per Year (4 issues)	Per Issue
4½" × 7½"	Full page	\$325	\$100
½ page	4½" × 3⅝"	200	60
⅓ page	4½" × 2⅝"	130	40
¼ page	4½" × 1⅜"	110	35

These are list prices; agencies receive the usual 15 per cent commission. This price list supersedes all previous price lists.

*Publication dates:* January 30, April 15, July 15, and October 15.

*Closing dates:* Six weeks in advance of publication date.

*Columns to page:* One, 26 picas wide.

*Column size:* 4½" × 7".

*Printing process:* Letterpress.

*Size of half-tone screen:* 120.

Address inquiries and space orders to:

**Burt L. Monroe, Jr., Treasurer, The American Ornithologists' Union,  
P. O. Box 23447, Anchorage, Kentucky 40223**

## Publications of the AOU

All AOU publications are sent postpaid. Order from  
Burt L. Monroe, Jr., Treasurer AOU, P. O. Box 23447,  
Anchorage, Kentucky 40223.

**The Proceedings of the XIIIth International Ornithological Congress.** Two volumes, clothbound, 1,250 pp. \$20.00 per two-volume set.

**1967 Directory of AOU Members.** Single copies, \$1.25. Two or more copies, \$1.00 each.

**Check-list of North American Birds.** Fifth Edition, 1957. Clothbound, 691 pages. \$8.00 per copy.

**Ten-year Indexes to the Auk.** 1901-1910, paperbound only, \$4.00. 1921-1930, paperbound only, \$4.00. 1931-1940, clothbound \$5.00, paperbound \$4.00. 1941-1950, clothbound \$10.00, paperbound \$8.00. 1951-1960, clothbound \$12.50, paperbound \$10.00.

**SEE NEXT PAGE FOR LATEST INFORMATION  
ABOUT ORNITHOLOGICAL MONOGRAPHS**

## ORNITHOLOGICAL MONOGRAPHS

MONOGRAPH No. 1. *A Distributional Study of the Birds of British Honduras*, by Stephen M. Russell. 195 pp., 2 color plates. Price \$4.50 (\$3.60 to AOU members).

MONOGRAPH No. 2. *A Comparative Study of Some Social Communications Patterns in the Pelecaniformes*, by Gerard Frederick van Tets. 88 pp., 49 text figures. Price \$2.00 (\$1.60 to AOU members).

MONOGRAPH No. 3. *The Birds of Kentucky*, by Robert M. Mengel. Cloth bound, 581 pp., 4 color plates plus text figures and vignettes. Price \$10.00 (\$8.00 to AOU members).

MONOGRAPH No. 4. *Evolution of Some Arctic Gulls (Larus): an Experimental Study of Isolating Mechanisms*, by Neal Griffith Smith. 99 pp., 62 text figures. Price \$2.50 (\$2.00 to AOU members).

MONOGRAPH No. 5. *A Comparative Life-history Study of Four Species of Woodpeckers*, by Louise de Kiriline Lawrence. 156 pp., 33 text figures. Price \$3.75 (\$3.00 to AOU members).

MONOGRAPH No. 6. *Adaptions for Locomotion and Feeding in the Anhinga and the Double-crested Cormorant*, by Oscar T. Owre. 138 pp., 56 text figures. Price \$3.50 (\$2.80 to AOU members).

MONOGRAPH No. 7. *A Distributional Survey of the Birds of Honduras*, by Burt L. Monroe, Jr. 458 pp., 2 color plates, 28 text figures. Price \$9.00 (\$7.20 to AOU members).

MONOGRAPH No. 8. *An Approach to the Study of Ecological Relationships of Grassland Birds*, by John A. Wiens. 93 pp., 30 text figures. Price \$2.50 (\$2.00 to AOU members).

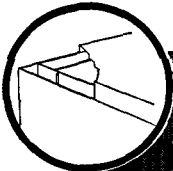
MONOGRAPH No. 9. *Mating Systems, Sexual Dimorphism, and the Role of Male North American Passerine Birds in the Nesting Cycle*, by Jared Verner and Mary F. Willson. 76 pp. 1969. Price \$2.50 (\$2.00 to AOU members).

Like all other AOU publications, *Ornithological Monographs* are shipped prepaid. Make checks payable to "The American Ornithologists' Union." For the convenience of those who wish to maintain complete sets of *Monographs* and to receive new numbers immediately upon issue, standing orders will be accepted.

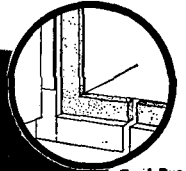
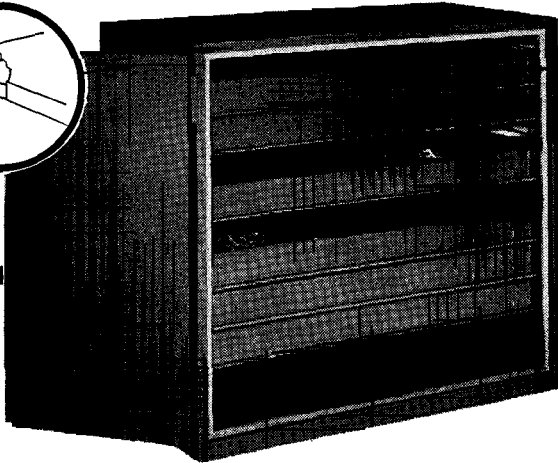
Order from: **Burt L. Monroe, Jr., Treasurer, American Ornithologists' Union, Box 23447, Anchorage, Kentucky 40223**

How many years would it take to replace your collection?  
**Safe-guard your valuable specimens**  
**PERMANENT SPECIMEN PRESERVATION**

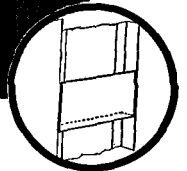
with *Lane* **ZOOLOGY AND ORNITHOLOGY**  
**SPECIMEN CABINETS**



**Double Wall Construction**



**Pest-Proof and Air Tight Seal**



**Fumigant Compartment**

- 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.

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

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

FOR ILLUSTRATED BROCHURE, WRITE



**SCIENCE EQUIPMENT CO.**  
 105 Chambers Street New York 7, N. Y.

Lane Science Equipment Co. Dept. D  
 105 Chambers Street, New York 7, N. Y.

Please send complete details on Lane Zoology and Ornithology Specimen Cabinets to:

Name \_\_\_\_\_ Title \_\_\_\_\_  
 Institution \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

# THE AUK

## A Quarterly Journal of Ornithology

### ORGAN OF THE AMERICAN ORNITHOLOGISTS' UNION

THE AUK is edited at the Florida State Museum, University of Florida, Gainesville, Florida 32601, by the following staff:

*Editor*, OLIVER L. AUSTIN, JR.; *Assistant Editor*, FLORENCE A. PETTIS

*Associate Editors*, JOHN W. HARDY (Reviews) and HERBERT W. KALE, II  
(Periodical Literature)

THE AUK welcomes original articles and short notes, not published elsewhere, containing significant new knowledge about birds, or new interpretation of existing knowledge. Address all articles and notes intended for publication and all books intended for review to the editor. For longer articles (ca. 10,000 words or over) a charge for all printed pages above 20 is assessed at actual costs, currently \$42.00 per page.

**SUGGESTIONS TO CONTRIBUTORS.**—Submit all MSS *in duplicate*. They must satisfy the following minimal requirements: *MSS should be typewritten, double-spaced (especially tables and "literature cited"), on one side of numbered sheets of standard (8½ × 11 in.) bond paper, with at least 1-inch margins all around. Tables (which should be unruled) and legends should be typed on separate sheets. Drawings should be in india ink on good board or drafting paper and lettered by lettering guide or the equivalent. Photographs should be clear, of good contrast, on glossy paper. Illustrations should allow (with particular regard to lettering) for reduction to their final width (usually 4½ in.). Illustrations larger than 8½ × 11 in. are not acceptable and should be reduced photographically to that size or smaller. Designate top of each illustration and identify (on the back with soft pencil) by author's name, title, and figure number.*

Titles should be short and descriptive. MSS should follow the conventions of form observed in articles, general notes, and reviews in THE AUK, with minor variations, since 1965. Avoid footnotes. If more than five works are cited, references in text should relate to a terminal list of "literature cited" (*include no titles not cited*). Where critical matter is cited from longer papers, indicate the pertinent pages, e.g. (Lack, 1947: 96-97). Citations in text should be parenthetical, e.g. (Lack, Darwin's finches, Cambridge, England, Cambridge University Press, 1947: 96-97) or (Auk, 79: 208, 1962). *Verify all citations from original sources unless impossible, in which case so indicate.* For abbreviations in a terminal list of references, authors should use forms stipulated by the Style Manual for Biological Journals (Washington, D. C., Amer. Inst. Biol. Sci., 1964). In other matters of form THE AUK frequently relies on the dicta of the GPO Style Manual.

For bird weights and measurements use metric units. Other measurements should be in the form usual to the discipline of the paper as practiced in the United States. The 24-hour clock (08:00 and 20:30) and "continental" dating (1 July 1971) are preferred. Scientific and (if any) vernacular names of birds should be given upon first mention thereof and should follow the A.O.U. Check-list (1957) or the appropriate equivalent unless departures are explained and defended. Articles more than 10 pages long should include a summary that should not exceed 10 percent of the length of the article.

Proofs of all articles and notes will be sent to authors. Reprints of articles, notes, and other items are to be paid for by the author. These must be ordered from Allen Press Inc. on the blanks sent with the proof.

# CONTENTS

REDISCOVERY OF THE IMPERIAL SNIBE IN PERU. <i>John Terborgh and John S. Weske</i> .....	497
ADAPTATIONS OF HORNED LARKS ( <i>EREMOPHILA ALPESTRIS</i> ) TO HOT ENVIRONMENTS. <i>Charles H. Frost</i> .....	506
BREEDING SUCCESS AND TERRITORIAL BEHAVIOR OF MALE BOAT-TAILED GRACKLES. <i>O. B. Kok</i> .....	528
NORTH FLORIDA SANDHILL CRANE POPULATIONS. <i>Lovett E. Williams, Jr. and Robert W. Phillips</i> .....	541
PASSERINE FOOT-SCUTES. <i>George A. Clark, Jr.</i> .....	549
CHICK RAISING ABILITY IN ADÉLIE PENGUINS. <i>David G. Ainley and Roberto P. Schlatter</i> .....	559
DAILY AND ANNUAL TIME BUDGET OF THE YELLOW-BILLED MAGPIE. <i>Nicolaas A. M. Verbeek</i> .....	567
FOOD PARASITISM AND COMPETITION IN TWO TERNS. <i>Carl D. Hopkins and R. Haven Wiley</i> .....	583
GROWTH AND SURVIVAL OF ROSEATE AND COMMON TERN CHICKS. <i>Mary LeCroy and Charles T. Collins</i> .....	595
INTERSPECIFIC BIRD FLOCKS IN TROPICAL HIGHLAND PANAMA. <i>William H. Buskirk, George V. N. Powell, James F. Wittenberger, Ruth E. Buskirk, and Thomas U. Powell</i> .....	612
SONG VARIATION IN SYMPATRIC BLUE-WINGED AND GOLDEN-WINGED WARBLERS. <i>Frank B. Gill and Bertram G. Murray, Jr.</i> .....	625
CARE AND BEHAVIOR OF PENNED DOUBLE-CRESTED CORMORANTS. <i>Gordon G. DeLaRonde II and Yvonne A. Greichus</i> .....	644
NESTING SUCCESS OF THE RED-TAILED TROPICBIRD ON KURE ATOLL. <i>Robert R. Fleet</i> .....	651
<b>GENERAL NOTES</b>	
Common Eider and King Rail from the Dry Tortugas, Florida. <i>Clive A. Petrovic and James King, Jr.</i> .....	660
Electrophoretic study of Mallard serum proteins. <i>Richard C. Owen and Jack Bennett</i> .....	660
First Pomarine Jaeger specimen from Brazil. <i>Rodolfo Escalante</i> .....	663
Effect of water depth on diving times in the American Coot ( <i>Fulica americana</i> ). <i>John C. Batulis and Salvatore F. Bongiorno</i> .....	665
Wilson's Phalaropes forming feeding association with Shovelers. <i>W. Roy Siegfried and Bruce D. J. Batt</i> .....	667
Simultaneous migration of Sandhill Cranes in Florida. <i>Margaret Coon Bowman and Stewart L. Whitman</i> .....	668
Another probable hybrid of <i>Larus marinus</i> and <i>L. argentatus</i> . <i>Robert F. Andrie</i> .....	669
Ruffed Grouse primary molt chronology. <i>William P. Wenstrom, Phillip V. Vanderschaegen, and Gordon W. Gullion</i> .....	671
Discovery of the nest of the Kauai Creeper. <i>C. Robert Eddinger</i> .....	673
Tool-use by the New Caledonian Crow ( <i>Corvus moneduloides</i> ). <i>Ronald I. Orenstein</i> .....	674
More notes on interspecific cacique and oropendola colonies in Surinam. <i>F. Haverschmidt</i> .....	676
Nesting of Chuck-will's-widow on Andros Island, Bahamas. <i>Andrew Paterson</i> .....	676
Spotted Redshank in Connecticut. <i>Davis W. Finch and Noble S. Proctor</i> .....	677
Nest-building activity by Catbirds in fall. <i>Dorothy Hobson Luther</i> .....	677
REVIEWS. <i>Edited by John William Hardy</i> .....	678
PERIODICAL LITERATURE. <i>Edited by Herbert W. Kale II</i> .....	687
OBITUARIES .....	714
NOTES AND NEWS .....	715