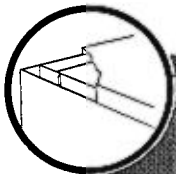
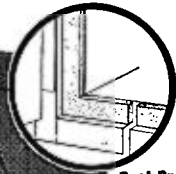


How many years would it take to replace your collection?
 Safe-guard your valuable specimens
PERMANENT SPECIMEN PRESERVATION

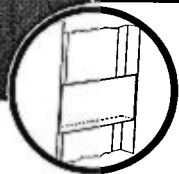
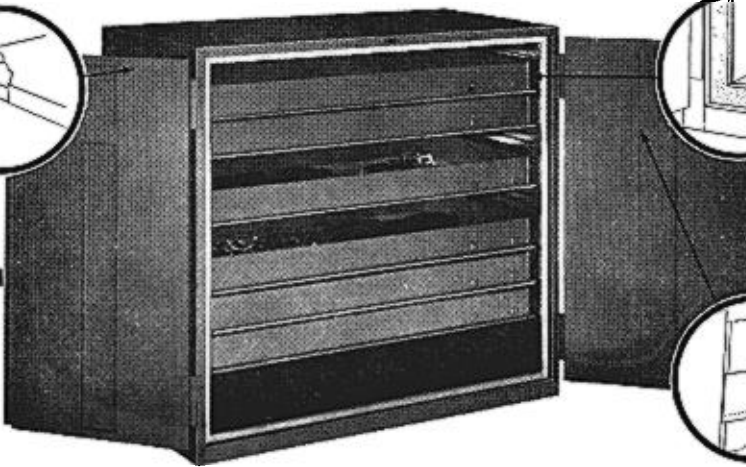
with *Lane* **ZOOLOGY AND ORNITHOLOGY
 SPECIMEN CABINETS**



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

Lane

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 _____

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).

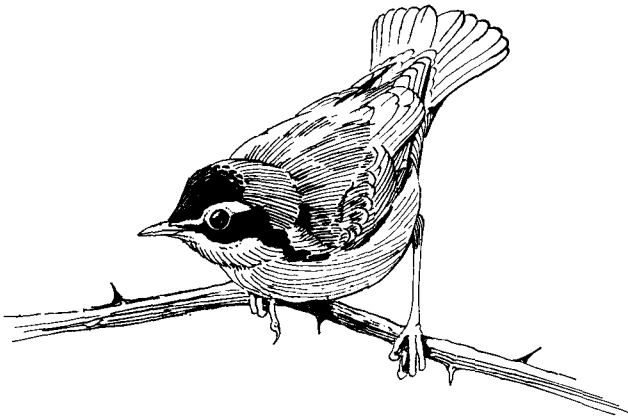
MONOGRAPH No. 3. *The Birds of Kentucky*, by Robert M. Mengel. Cloth bound, 581 pp., 4 color plates plus text figures and vignettes. Price \$10.00 (\$8.00 to AOU members).

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).



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**

OVERSEAS ORNITHOLOGICAL FIELD TRIPS

For 8 years we've been putting together bird observation trips in all 6 continents. They are slanted toward serious amateurs, and some tours have a side interest in botany and other forms of natural history. In fact, we try for an experience-in-depth of each country and its people. Tours are 3 weeks in length to utilize low-cost travel (2 weeks in North America), and are set up in pairs or chains of three or four.

We'd be grateful for the assistance of fellow A.O.U. members in developing meaningful itineraries, and in commending the trips to appropriate friends. Or if you enjoy field ornithology, and can find a region in which you are not already an expert, join us yourself!

We use the title "CROWDER NATURE TOURS," but the operation is not profit-seeking, and is slated to become a world association in 1969. Do let us put you on our mailing list. Here is the program for 1968:

EUROPE

Seven European tours this year permit many fine combinations, including a thrilling North-with-the-Spring adventure:

NORTH TOUR: No. Germany, Denmark, & the length of Sweden; June.

NORWAY: Our most popular tour, and magnificent; late June.

BRITAIN: The bird highlights; June.

BALKANS: Seldom-visited Jugoslavia, Romania, Hungary areas; June.

U.S.S.R.: Fine coverage; late June.

ICELAND: Popular 2-wk. trip with Greenland extension; June or July.

JAPAN

Fine 3-week coverage of entire archipelago, Kyushu to Hokkaido, with expert local leadership. May. Optional continuation, under leadership, across Siberia to join the U.S.S.R. trip (see above).

AFRICA

We pioneered African bird trips and cover the continent in 6 fascinating regional tours, 3 of which go in 1968: South Africa in July, East Africa in August, Central Africa-Madagascar in September.

SOUTH PACIFIC

We pioneered this area, too. The 1968 program: MELANESIA from Fiji to New Guinea, Sept. AUSTRALIA, in two 3-wk. trips, Oct.

NEW ZEALAND, 3 weeks for birds, followed by 2-wk. botany trip; Nov.-Dec.

ALASKA

The 1967 tours were a success beyond expectations. In 1968 we do 3 successive 2-week trips, from Ketchikan to the Aleutians, Pribilofs, and Point Barrow. Start June 1, with a break at Fairbanks for the A.O.U. meeting.

LATIN AMERICA

We operate a regular program in Middle and South America: Seven routes in Mexico, several in Central America and the West Indies, and a fine South America program. Two especially fine areas—Yucatan (2 wks.) and Colombia (3 wks.)—are visited twice a year, in February and in August.

U.S.A.

We do a bit of species-chasing at home, too: Winter in Florida, spring in Arizona and on the Texas coast, and beginning in 1969, a north-with-spring series in the West.

OTHER PLACES

There is quite a program in India, Malaysia, Indonesia, and the Philippines; next departures in early 1969. And we haven't mentioned the Galapagos, Tierra del Fuego, or the proposed "re-enactment" of the Peterson-Fisher Wild America trip.

Unannounced tours and request tours that often materialize are a feature, too: What interests you?

ORVILLE CROWDER, Box 222-F, Harpers Ferry, W. Va. 25425

STEEL STORAGE UNITS FOR SCIENTIFIC SPECIMENS

- * Vertebrate Zoological
- * Entomological
- * Herbarium
- * Stainless Steel Specimen Tanks
- * Paleontology—Geology
- * Drying Case
- * Vial Cabinets
- * Map Case



STEEL FIXTURE MANUFACTURING CO.
P. O. Box 917 Topeka, Kansas 66601

Audubon . . .

**FIELD
NOTES**



Subscribe Today!

ONE YEAR \$ 5.00
TWO YEARS 9.00
THREE YEARS 13.00

[Single copies of April issue—
Christmas Bird Count \$3.00]

1130 FIFTH AVENUE • N. Y. 10028

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
Full page	4½" × 7½"	\$325	\$100
½ page	4½" × 3¾"	200	60
⅓ page	4½" × 2¾"	130	40
¼ page	4½" × 1¾ ¹⁶ "	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 Index to the Auk 1941-50. Clothbound \$10.00; paperbound \$8.00.

Other Ten-year Indexes to the Auk. Clothbound \$5.00; paperbound, \$4.00. Available as follows: 1911-20, and 1931-40 in either binding; 1901-1910 and 1921-1930, paperbound only.

**SEE SECOND PAGE OF ADVERTISING SECTION FOR
LATEST INFORMATION ABOUT ORNITHOLOGICAL
MONOGRAPHS**

Tropical Birds

A Modern Series of Books
for the Study of Birds
SOUTH OF THE BORDER

The Birds of Colombia, By R. Meyer de Schauensee. Describes 1567 species; illustrated in color and duotone; map endsheets; 446 pages Price \$10.00

Species of Birds of South America and Their Distribution, by R. Meyer de Schauensee. Ranges and English names; no descriptions; 600 pages. Price \$10.00

Birds of Surinam, by F. Haverschmidt. With 40 plates in color; 476 pages. Price \$37.50

SEND FOR COMPLETE CATALOG

LIVINGSTON PUBLISHING COMPANY

18-20 Hampstead Circle

Wynnewood, Pa. 19096

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 GLEN E. WOOLFENDEN
(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.

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 ($8\frac{1}{2} \times 11$ in.) bond paper, with at least one 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 $4\frac{1}{2}$ in.). 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 5 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 Univ. Press, 1947: 96-97) or (Auk, 79: 208-233, 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 1968) 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 per cent 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

THE NEST AND EGGS OF THE ANIANIAU. <i>Andrew J. Berger, C. Robert Eddinger, and Shelia C. Frings</i>	183
AN ENDANGERED OSPREY POPULATION: ESTIMATES OF MORTALITY AND PRODUCTION. <i>Charles J. Henny and Howard M. Wight</i>	188
A COMPARATIVE STUDY OF THE LE CONTE'S AND SHARP-TAILED SPARROWS. <i>Bert-ram G. Murray, Jr.</i>	199
VARIATION IN THE EGGS OF THE SHAG (<i>PHALACROCORAX ARISTOTELIS</i>). <i>J. C. Coulson, G. R. Potts, and Jean Horobin</i>	232
SHAPES OF BIRDS' EGGS: EXTANT NORTH AMERICAN FAMILIES. <i>F. W. Preston</i> ..	246
THE SOUTHERN RACES OF THE WHITE-THROATED SPADEBILL (<i>PLATYRINCHUS MYS-TACEUS</i>). <i>Lester L. Short</i>	265
FOODS OF ROCK AND WILLOW PTARMIGAN IN CENTRAL ALASKA WITH COMMENTS ON INTERSPECIFIC COMPETITION. <i>Robert B. Weeden</i>	271
NESTING COLONIES OF ROSS' GOOSE. <i>John P. Ryder</i>	282
AVIAN DISTRIBUTION IN CENTRAL AMERICA. <i>Thomas R. Howell</i>	293
A STUDY OF NONFAT WEIGHTS IN MIGRATING SWAINSON'S THRUSHES (<i>HYLO-CICHLA USTULATA</i>). <i>George I. Child</i>	327
GENERAL NOTES	
Indian House Sparrow attacks grass snake. <i>S. N. Sen Gupta</i>	339
Laysan Albatrosses swallow indigestible matter. <i>Karl W. Kenyon and Eugene Kridler</i> ..	339
Arteries in the heart region of the Greater Shearwater. <i>Robert E. Gobeil</i>	343
First record of Smith's Longspur in Connecticut. <i>Walter Bulmer</i>	345
New records of wood warblers in New Mexico. <i>Dale A. Zimmerman</i>	346
Siberian Crane longevity. <i>Malcolm Davis</i>	347
A test to determine if Bobwhite Quail hunt crickets by sound. <i>J. J. Whitesell and T. J. Walker</i>	348
Swimming ability of Willow Warbler. <i>Erwin R. Scherner</i>	350
Apparent hybridization between Snow Bunting and McKay's Bunting on St. Lawrence Island, Alaska. <i>Spencer G. Sealy</i>	350
Extra toes on a Sooty Tern chick. <i>Oliver L. Austin, Jr.</i>	352
Red Crossbill breeding in Minnesota. <i>Oscar W. Johnson</i>	352
Notes on fossil hawks (Accipitridae). <i>Joel Cracraft</i>	353
A Black-capped Chickadee variant. <i>Richard J. Low</i>	354
Diving times of the Least Grebe and Masked Duck. <i>Donald A. Jenni</i>	355
White-tailed Tropic-bird, an addition to the Philippine avifauna. <i>Pierce Brodkorb, Rodolfo B. Gonzalez, and Domingo Empeso</i>	357
Survival of Ruffed Grouse eggs after 24-hour abandonment. <i>Richard S. Stott and R. B. Brander</i>	357
Pygmy Owl attacks California Quail. <i>Thomas G. Balgooyen</i>	358
REVIEWS. <i>Edited by John William Hardy</i>	359
PERIODICAL LITERATURE. <i>Edited by Glen E. Woolfenden</i>	372
NOTES AND NEWS	391