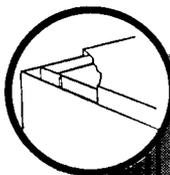
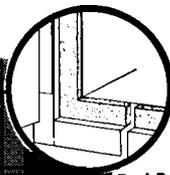
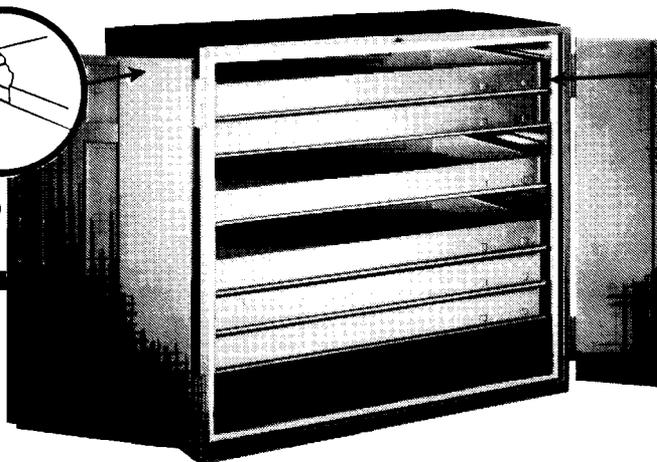


How many years would it take to replace your collection?
 Safe-guard your valuable specimens
PERMANENT SPECIMEN PRESERVATION

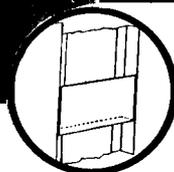
with *Lane* **ZOOLOGY AND ORNITHOLOGY
 SPECIMEN CABINETS**



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

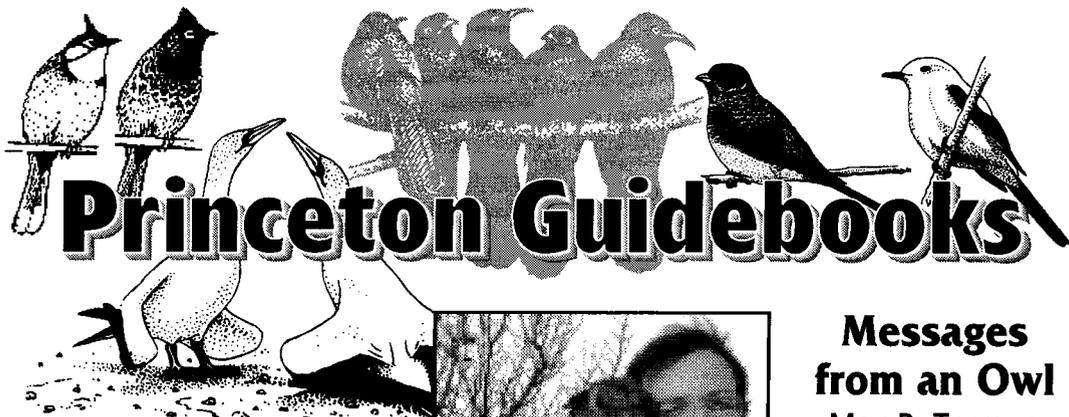
Lane

SCIENCE EQUIPMENT CORP.

225 WEST 34th Street New York, NY 10122
 (212) 563-0663 FAX: (212) 465-9440

Lane Science Equipment Corp. Dept. D
 225 W. 34th St., New York, N.Y. 10122
 Please send complete details on Lane Zoology and Ornithology Specimen Cabinets to:

Name _____ Title _____
 Institution _____
 Address _____
 City _____ Zone _____ State _____



Princeton Guidebooks

Where to Watch Birds in Africa

Nigel Wheatley

Where to Watch Birds in Africa is a field guide designed to help birders and general wildlife enthusiasts organize the most enriching trips possible throughout this great continent. From Morocco to Madagascar, this book presents over 200 bird-watching sites in detail and describes the species endemic to Africa. The traveler will find practical information on climate, transportation, accommodations, health, and safety as well as answers to a number of practical questions. Featuring over 100 maps and 50 line drawings, this book is not only a guide but also a handy reference.

Cloth: \$35.00 ISBN 0-691-02140-6

Not available from Princeton in the U.K. or the E.E.C.

The Princeton Field Guide to the Birds of Australia

Edited by Ken Simpson

Illustrated by Nicolas Day

In paintings of extraordinary beauty and precision, Nicolas Day captures the details of all 770 bird species in Australia. More than 2,000 color illustrations are accompanied by distribution maps, descriptive drawings, and essential field information edited by Ken Simpson.

Cloth: \$39.50 ISBN 0-691-02575-4

Available from Princeton in the U.S. and Canada only

Published outside North America as *Field Guide to the Birds of Australia*, fifth edition.



Messages from an Owl

Max R. Terman

Here is a delightfully told tale of the rescue and rearing of an orphaned owlet. "Stripey," a great horned owl who was discovered in a park in Kansas, was successfully released back to the wild—but the story doesn't

end there. Through the use of a radio tracking device, Max Terman was able to stay in touch with Stripey, who remains remarkably tame with him. There is a unique relationship and Terman describes it with great warmth and affection.

Cloth: \$24.95 ISBN 0-691-01105-2

New in paperback Birds of Europe with North Africa and the Middle East

Lars Jonsson

Translated by David Christie

"If I were absolutely forced to take only one field guide with me on a birding trip to Europe, this is the one I would choose. The illustrations are outstanding and almost negate the need for a text. Some are works of art that could be hung in a gallery. . . . The introductory pages should be required reading for all birders."

—Jeff Swinebroad, *Audubon Naturalist News*

Paper: \$29.95 ISBN 0-691-02648-3 Available July

Not available from Princeton in the U.K., E.E.C., or South Africa

PRINCETON UNIVERSITY PRESS

AVAILABLE AT FINE BOOKSTORES OR DIRECTLY FROM THE PUBLISHER: 800-777-4726

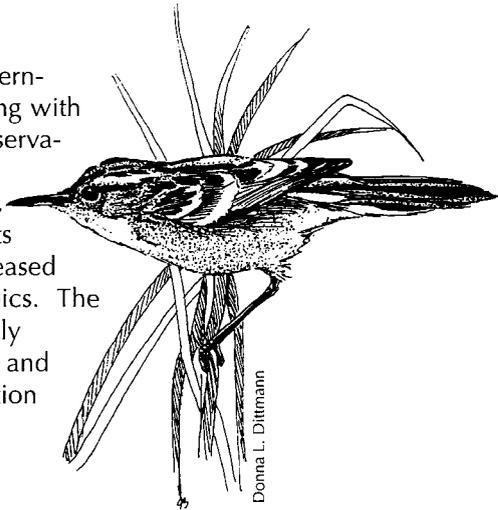
WORLD WIDE WEB SITE: [HTTP://AAUP.PUPRESS.PRINCETON.EDU/PUPRESS](http://AAUP.PUPRESS.PRINCETON.EDU/PUPRESS)

DIRECTORY OF NEOTROPICAL ORNITHOLOGY

Second Edition

Compiled by
Kenneth V. Rosenberg and
David A. Wiedenfeld

The *Directory of Neotropical Ornithology* is a listing of all individuals and organizations involved with birds in the neotropics. These include governmental and non-governmental organizations dealing with research, permits, and conservation of birds. In the eight years since the first edition, the number of ornithologists and organizations has increased dramatically in the neotropics. The new edition has been greatly expanded to include these, and now also includes information on field stations in seven countries. The *Directory* should be indispensable to all ornithologists and conservationists working in the neotropics.



Each copy is **\$7.50** plus 5% shipping and handling (\$2.00 minimum for U.S. orders, \$4.00 minimum for foreign orders). Please make checks in U.S. funds payable to "AOU" and send to :

Max C. Thompson
Assistant to the Treasurer, AOU
Department of Biology
Southwestern College
100 College Street
Winfield, Kansas 67156
USA



The American Ornithologists' Union

The Council for 1995-1996

Officers and Editors

President: RICHARD C. BANKS, *National Biological Service, MRC-111, National Museum of Natural History, Washington, D.C. 20560*

President-Elect: NED K. JOHNSON, *Museum of Vertebrate Zoology, University of California, Berkeley, California 94720*

Vice President: ELLEN D. KETTERSON, *Department of Biology, Indiana University, Bloomington, Indiana 47405*

Secretary: MARY VICTORIA McDONALD, *Department of Biology, University of Central Arkansas, Conway, Arkansas 72035*

Treasurer: FREDERICK H. SHELDON, *Museum of Natural Science, Foster Hall 119, Louisiana State University, Baton Rouge, Louisiana 70803*

Editor of *The Auk*: THOMAS E. MARTIN, *Montana Cooperative Wildlife Research Unit, University of Montana, Missoula, Montana 59812*

Editor of *Ornithological Monographs*: JOHN M. HAGAN III, *Manomet Bird Observatory, Manomet, Massachusetts 02345*

Elective Councilors and Living Past Presidents

1996: Fred Cooke, Scott M. Lanyon, Terry Root. 1997: James A. Kushlan, Martin L. Morton, Glenn E. Walsberg. 1998: Steven R. Beissinger, Frank B. Gill, Lloyd F. Kiff.

Past Presidents: Ernst Mayr (1957-59), Dean Amadon (1964-66), Harold F. Mayfield (1966-68), Robert W. Storer (1970-72), John T. Emlen (1975-76), Wesley E. Lanyon (1976-78), Harrison B. Tordoff (1978-80), Thomas R. Howell (1982-84), Frances C. James (1984-86), Charles G. Sibley (1986-88), Glen E. Woolfenden (1988-90), Brina Kessel (1992-94).



Instructions to Contributors

The Auk publishes original reports on the biology of birds. Appropriate topics include documentation, analysis, and interpretation of laboratory and field studies, theoretical or methodological developments, and reviews of information or ideas. Authors are encouraged to write papers from the perspective of general concepts and theories, and to consider the relevance of their findings to taxa in addition to birds. *The Auk* strives to publish a color frontispiece with each lead article; authors are encouraged to submit suitable color illustrations. Contributions are welcome from throughout the world but must be written in English. Submit five copies of each manuscript complete with tables, figure legends, and figures (retain original figures until notified) to the Editor. Include a copy of the manuscript on a 3.5-inch diskette (WordPerfect preferred, but identify the software). Double-space all written material (including tables and figure legends) on standardized stationery. Number pages through the figure legends. Submit tables separately from the text; type figure legends consecutively on a separate sheet. Manuscripts should conform to general usage in the most recent issue of the journal. The title page should contain: (1) full title; (2) authors' names and addresses; (3) left and right running heads (<36 characters each); and (4) name, mailing address, and e-mail address of author to whom correspondence should be sent. Detailed instructions to contributors are available in *Auk* 113(3): 731-733; copies may be obtained from the Editor. Paying close attention to these instructions will hasten the processing of your manuscript and gratify the editorial staff.

Contents (continued)



MORPHOLOGICAL ASPECTS OF AVIAN TAIL MOVEMENTS: A FUNCTIONAL APPROACH IN HIRUNDINES. <i>Eulalia Moreno and Anders Pape Møller</i>	647
MITOCHONDRIAL DNA SEQUENCE VARIATION AMONG THE SUBSPECIES OF SARUS CRANE (<i>GRUS ANTIGONE</i>). <i>Timothy C. Wood and Carey Krajewski</i>	655
MATE REPLACEMENT IS COSTLY TO MALES IN THE MULTIBROODED HOUSE SPARROW: AN EXPERIMENTAL STUDY. <i>José P. Veiga</i>	664
IN MEMORIAM: ANDREW J. BERGER, 1915-1995. <i>Jerome A. Jackson</i>	672
IN MEMORIAM: ROBERT A. McCABE, 1914-1995. <i>John T. Emlen, Jr. and Thomas R. McCabe</i> ..	674
IN MEMORIAM: HERBERT W. KALE II, 1931-1995. <i>James A. Kushlan</i>	677
IN MEMORIAM: ROBERT EARL STEWART, SR., 1913-1993. <i>Chandler S. Robbins and M. Brooke Meanley</i>	680
IN MEMORIAM: GUSTAV A. SWANSON, 1910-1995. <i>Ronald A. Ryder</i>	682
IN MEMORIAM: THOMAS A. IMHOF, 1920-1995. <i>Jerome A. Jackson</i>	684
IN MEMORIAM: IRVEN O. BUSS, 1908-1993. <i>Richard E. Johnson</i>	685
IN MEMORIAM: JOSEPH R. MURPHY, 1925-1992. <i>Clayton M. White</i>	686
SHORT COMMUNICATIONS AND COMMENTARIES	
Metabolism and temperature regulation of kiwis (Apterygidae). <i>Brian K. McNab</i>	687
Pair-bond dissolution in Mallards. <i>Michael P. Losito and Guy A. Baldassarre</i>	692
Distinctive song of highland form <i>maculicollis</i> of the Red-winged Tinamou (<i>Rhynchotus rufescens</i>): Evidence for species rank. <i>Sjoerd Maijer</i>	695
Vegetation cover, kleptoparasitism by diurnal gulls, and timing of arrival of nocturnal Rhinoceros Auklets. <i>Masamine Miyazaki</i>	698
Occurrence of egg-capping in birds' nests. <i>Nicolaas A. M. Verbeek</i>	703
Influence of lunar cycle on laying dates of European Nightjars (<i>Caprimulgus europaeus</i>). <i>C. M. Perrins and H. Q. P. Crick</i>	705
Why the Yungas Tody-Tyrant (<i>Hemitriccus spodiops</i>) is a <i>Snethlagea</i> , and why it matters. <i>Mario Cohn-Haft</i>	709
Characterization of an orange variant of the Bananaquit (<i>Coereba flaveola</i>) on La Désirade, Guadeloupe, French West Indies. <i>Jocelyn Hudon, Henri Ouellet, Édouard Bénito-Espinal, and Alan H. Brush</i>	715
Is singing costly? <i>Abbot S. Gaunt, Theresa L. Bucher, Sandra L. L. Gaunt, and Luis F. Baptista</i>	718
Energy expenditure during singing: A reply to Gaunt et al. <i>Laurie S. Eberhardt</i>	721
Erratum: Murray (1994). <i>Bertram G. Murray, Jr.</i>	724
ANNOUNCEMENT	725
REVIEWS. <i>Edited by Robert M. Zink</i>	726
INFORMATION FOR CONTRIBUTORS TO <i>THE AUK</i>	731