

## Front Matter

Source: The Auk, 130(2)

Published By: American Ornithological Society

URL: <https://doi.org/10.1525/auk.2013.130.2.fm>

---

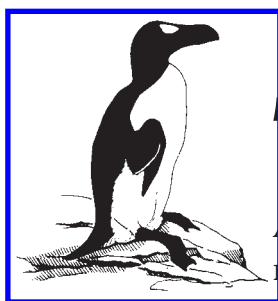
The BioOne Digital Library (<https://bioone.org/>) provides worldwide distribution for more than 580 journals and eBooks from BioOne's community of over 150 nonprofit societies, research institutions, and university presses in the biological, ecological, and environmental sciences. The BioOne Digital Library encompasses the flagship aggregation BioOne Complete (<https://bioone.org/subscribe>), the BioOne Complete Archive (<https://bioone.org/archive>), and the BioOne eBooks program offerings ESA eBook Collection (<https://bioone.org/esa-ebooks>) and CSIRO Publishing BioSelect Collection (<https://bioone.org/csiro-ebooks>).

Your use of this PDF, the BioOne Digital Library, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](http://www.bioone.org/terms-of-use).

Usage of BioOne Digital Library content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne is an innovative nonprofit that sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.



# The Auk

AN INTERNATIONAL JOURNAL OF ORNITHOLOGY

PUBLISHED BY THE AMERICAN ORNITHOLOGISTS' UNION

**Editor:** MICHAEL T. MURPHY, *Department of Biology,  
Portland State University, P.O. Box 751, Portland, Oregon 97207, USA*

**Phone:** (503) 725-8734 **FAX:** (503) 725-3888 **E-mail:** [murphym@pdx.edu](mailto:murphym@pdx.edu)

**Managing Editor:** MARK C. PENROSE **E-mail:** [managingeditor@aou.org](mailto:managingeditor@aou.org)

**Copy Editor:** RICHARD D. EARLES **E-mail:** [copyeditor@aou.org](mailto:copyeditor@aou.org)

## Associate Editors

- |   |   |
|---|---|
| W. TODD ARNOLD, <i>University of Minnesota</i>                            | JOHN T. KLIKA, <i>University of Washington</i>                          |
| MARC J. BECHARD, <i>Boise State University</i>                            | CATHERINE A. LINDELL, <i>Michigan State University</i>                  |
| LUKE BUTLER, <i>The College of New Jersey</i>                             | GERALD MAYR, <i>Forschungsinstitut Senckenberg</i>                      |
| BRUCE E. BYERS, <i>University of Massachusetts</i>                        | JENNIFER OWEN, <i>Michigan State University</i>                         |
| DONALD C. DEARBORN, <i>Bates College</i>                                  | JESKO PARTECKE, <i>Max-Planck-Institute for Ornithology</i>             |
| STEPHEN J. DINSMORE, <i>Iowa State University</i>                         | JOHN F. PIATT, <i>USGS Alaska Science Center</i>                        |
| JOHN P. DUMBACHER, <i>California Academy of Sciences</i>                  | JUAN C. REBOREDA, <i>Universidad de Buenos Aires</i>                    |
| CHRIS ELPHICK, <i>University of Connecticut</i>                           | CHRISTOPHER M. ROGERS, <i>Wichita State University</i>                  |
| SHARON GILL, <i>Western Michigan University</i>                           | JAMES J. ROPER, <i>Universidade de Vila Velha (UVV)</i>                 |
| TOM HAHN, <i>University of California Davis</i>                           | KENNETH SCHMIDT, <i>Texas Tech University</i>                           |
| COLLEEN M. HANDEL, <i>USGS-Biological Resources Division</i>              | KIM T. SCRIBNER, <i>Michigan State University</i>                       |
| GARY R. HEPP, <i>Auburn University</i>                                    | TERRY L. SHAFFER, <i>USGS Northern Prairie Wildlife Research Center</i> |
| DOUGLAS H. JOHNSON, <i>USGS Northern Prairie Wildlife Research Center</i> | PHILIP C. STOUFFER, <i>Louisiana State University</i>                   |
| JASON JONES, <i>Tetra Tech EC Inc.</i>                                    | ELAINA M. TUTTLE, <i>Indiana State University</i>                       |
| LEO JOSEPH, <i>Australian National Wildlife Collection</i>                | JORGE H. VEGA RIVERA, <i>Instituto de Biología, UNAM</i>                |
| MARCEL KLAASSEN, <i>Deakin University, Australia</i>                      |   |

## Book Review Editor

R. TODD ENGSTROM, *Tall Timbers Research Station, 13093 Henry Beadel Drive, Tallahassee, Florida 32312, USA*

## Memorials Editor

EDWARD H. BURTT, JR., *Department of Zoology, Ohio Wesleyan University, Delaware, Ohio 43015, USA*

## On the cover

**Cover:** (top) Photograph of a geolocator attached to a Fork-tailed Flycatcher (*Tyrannus savana*), a Neotropical austral migrant species studied by Jahn et al. (pages 223–229). (Bottom) A composite map of migratory paths of other species, as determined using geolocators, that represent findings from a sample of studies that are more fully described in McKinnon et al. (pages 211–222). Photograph of the Fork-tailed Flycatcher by Thiago Filadelfo. See page 212 in McKinnon et al. for photo credits of the other species.

## Membership, Subscription, and Correspondence

*The Auk* (ISSN 0004-8038, e-ISSN 1938-4254) is published four times a year (January, April, July, October) by University of California Press, Journals and Digital Publishing, 2000 Center Street, Suite 303, Berkeley, CA 94704-1123, for the American Ornithologists' Union, 3575 Hempland Road, Lancaster, PA 17601. Periodicals postage paid at Berkeley, CA, and additional mailing offices. POSTMASTER: Send address changes to *The Auk*, University of California Press, Journals and Digital Publishing, 2000 Center Street, Suite 303, Berkeley, CA 94704-1223. E-mail: [customerservice@ucpressjournals.com](mailto:customerservice@ucpressjournals.com).

**Membership:** Persons interested in birds are invited to join the American Ornithologists' Union. Regular membership costs \$90 per year; student memberships are \$28. Membership is \$28 for persons in all countries *except* the United States, Canada, Israel, Japan, Australia, New Zealand, and the following Western European countries: Iceland, Norway, Sweden, Finland, Denmark, Germany, The Netherlands, Belgium, Luxembourg, France, the United Kingdom, Ireland, Switzerland, Austria, Italy, Spain, and Portugal. All members receive *The Auk*, *Ornithological Monographs*, and a bimonthly *Ornithological Newsletter*. A life membership is \$2,600, paid in one sum or four annual installments of \$650. All correspondence regarding membership, including dues payments and changes of address, should go to Ornithological Societies of North America, 5400 Bosque Blvd., Suite 680, Waco, TX 76710-4446, or [business@osnabirds.org](mailto:business@osnabirds.org). Gifts of any amount for the Endowment Fund are welcome and should be sent to AOU c/o Schneider Group, 5400 Bosque Blvd., Suite 680, Waco, Texas 76710. Gifts to the AOU are tax deductible to the extent permitted by law.

**Subscriptions:** See [www.ucpressjournals.com](http://www.ucpressjournals.com) for single issue and subscription orders, and claims information. Domestic claims for nonreceipt of issues should be made within 90 days of the mail date; overseas claims within 180 days. Mail dates can be checked at: <http://www.ucpressjournals.com/ucpress.asp?page=ReleaseSchedule>. UC Press does not begin accepting claims for an issue until thirty (30) days after the mail date.

**Advertising:** Inquiries about advertising can be sent to [adsales@ucpressjournals.com](mailto:adsales@ucpressjournals.com). For complete abstracting and indexing coverage for the journal, please visit <http://www.ucpressjournals.com>. All other inquiries can be directed to [customerservice@ucpressjournals.com](mailto:customerservice@ucpressjournals.com).

See last page for instructions to contributors, and copying and permissions notice.

Printed by The Sheridan Press on Forest Stewardship Council™-certified paper.

© 2013 American Ornithologists' Union. All rights reserved.



# The American Ornithologists' Union

---

## THE COUNCIL FOR 2012–2013

---

### Officers and Editors

**President:** SUSAN M. HAIG, *USGS Forest and Rangeland Ecosystem Science Center, 3200 SW Jefferson Way, Corvallis, Oregon 97331, USA* ([susan\\_haig@usgs.gov](mailto:susan_haig@usgs.gov))

**President-Elect:** SCOTT M. LANYON, *Department of Ecology, Evolution, and Behavior, University of Minnesota, St. Paul, Minnesota 55108-6097, USA* ([lanyo001@umn.edu](mailto:lanyo001@umn.edu))

**Secretary:** SARA R. MORRIS, *Department of Biology, Canisius College, Buffalo, New York 14208, USA* ([morriss@canisius.edu](mailto:morriss@canisius.edu))

**Treasurer:** JAMES R. HERKERT, *Illinois Department of Natural Resources, One Natural Resources Way, Springfield, Illinois 62702, USA* ([james.herkert@illinois.gov](mailto:james.herkert@illinois.gov))

**Editor of *The Auk*:** MICHAEL T. MURPHY, *Department of Biology, Portland State University, P.O. Box 751, Portland, Oregon 97207, USA* ([murphy@psdx.edu](mailto:murphy@psdx.edu))

**Editor of *Ornithological Monographs*:** MICHAEL L. MORRISON, *Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas 77843, USA* ([mlmorrison@ag.tamu.edu](mailto:mlmorrison@ag.tamu.edu))

**Executive Director:** SCOTT GILLIHAN, *5405 Villa View Drive, Farmington, New Mexico 87402, USA* ([executivedirector@aou.org](mailto:executivedirector@aou.org))

---

### Elective Councilors and Living Past Presidents

2013: Ronald L. Mumme, Jennifer C. Owen, Ernesto Ruelas Inzunza, Brett K. Sandercock. 2014: Irby J. Lovette, Scott K. Robinson, Kenneth V. Rosenberg, Kevin Winker. 2015: Daniel R. Ardia, Maria Del Coro Arizmendi, Rebecca T. Kimball, Jorge L. Perez-Eman.

Past Presidents: Wesley E. Lanyon (1976–78), Frances C. James (1984–86), Brina Kessel (1992–94), Richard C. Banks (1994–96), Frank B. Gill (1998–00), John W. Fitzpatrick (2000–02), Fred Cooke (2002–04), James A. Kushlan (2004–06), Erica H. Dunn (2006–08), Edward H. Burt, Jr. (2008–10), John Faaborg (2010–2012).

---

### 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* publishes an original color painting on the cover of each issue; authors are encouraged to submit copies of suitable artwork. Contributions are welcomed from throughout the world but must be written in English. Submissions must be made online through ScholarOne at <http://mc.manuscriptcentral.com/ucpress-auk>. For instructions, please visit [www.aou.org/auk/authors.php](http://www.aou.org/auk/authors.php). Paying close attention to detail will help expedite the processing of your manuscript. For assistance with the ScholarOne system, please contact the Managing Editor ([managingeditor@aou.org](mailto:managingeditor@aou.org)). Individuals with limited or no access to online submission should contact the Editor directly.

**Copying and permissions notice:** Authorization to copy article content beyond fair use (as specified in Sections 107 and 108 of the U.S. Copyright Law) for internal or personal use, or the internal or personal use of specific clients, is granted by The Regents of the University of California on behalf of the American Ornithologists' Union for libraries and other users, provided that they are registered with and pay the specified fee through the Copyright Clearance Center (CCC), [www.copyright.com](http://www.copyright.com). To reach the CCC's Customer Service Department, phone 978-750-8400 or write to [info@copyright.com](mailto:info@copyright.com). For permission to distribute electronically, republish, resell, or repurpose material, use the CCC's Rightslink service, available on JSTOR at <http://www.jstor.org/r/ucal/auk>. Submit all other permissions and licensing inquiries through University of California Press's Rights and Permissions website, [www.ucpressjournals.com/reprintInfo.asp](http://www.ucpressjournals.com/reprintInfo.asp), or via e-mail: [journalspermissions@ucpress.edu](mailto:journalspermissions@ucpress.edu).

**Abstracting and indexing:** Articles appearing in *The Auk* are abstracted and indexed in the following select databases: Abstracts on Hygiene and Communicable Diseases, AgBiotech News and Information, Agroforestry Abstracts (Online Edition), Animal Behavior Abstracts, Animal Breeding Abstracts, Aquatic Sciences & Fisheries Abstracts, Biocontrol News and Information, Biological Abstracts, Biological & Agricultural Index (Apr. 1983– ), BioOne Abstracts and Indexes, BIOSIS Previews, Biotechnology & Bioengineering Abstracts, C A B Abstracts, Crop Physiology Abstracts, Current Contents: Agriculture Biology & Environmental Sciences, Current Index to Statistics (Online Edition), Ecology Abstracts (Bethesda), Elsevier BIOBASE (vol.113, 1996– ), EMBiology, Environment Index (1974– ), Environmental Sciences and Pollution Management, Forestry Abstracts, General Science Index (Jan. 2002– ), Genetics Abstracts, Geobase, GeoRef, Grasslands and Forage Abstracts, Helminthological Abstracts, Horticultural Science Abstracts, Index Veterinarius, Nutrition Abstracts and Reviews, Oceanic Abstracts, Ornamental Horticulture, Plant Genetic Resources Abstracts, Poultry Abstracts, Protozoological Abstracts, Psychological Abstracts, PsycINFO (1972– ), Recent Ornithological Literature, Referativnyi Zhurnal, Review of Agricultural Entomology, Review of Medical and Veterinary Entomology, Review of Medical and Veterinary Mycology, Science Citation Index, Scopus (1982–1987, 1994, 1996– ), Soils and Fertilizers, Veterinary Bulletin, Weed Abstracts, Wildlife and Ecological Studies Worldwide, Zoological Record. For complete abstracting and indexing information, please visit <http://www.ucpressjournals.com>.