

THE JOURNAL OF RAPTOR RESEARCH

A QUARTERLY PUBLICATION OF THE RAPTOR RESEARCH FOUNDATION, INC.

(FOUNDED 1966)



EDITOR IN CHIEF
JOSEF K. SCHMUTZ

ASSOCIATE EDITORS

KEITH L. BILDSTEIN
SUSAN B. CHAPLIN
CHARLES J. HENNY
C. STUART HOUSTON

ROBERT E. KENWARD
EUDOXIO PAREDES-RUIZ
PATRICIA P. RABENOLD
PATRICK T. REDIG

EDITOR OF RRF KETTLE
PAUL F. STEBLEIN

CONTENTS FOR VOLUME 26, 1992

NUMBER 1

LETTER	1
REPRODUCTIVE PARAMETERS FOR FREE RANGING AMERICAN KESTRELS (<i>FALCO SPARVERIUS</i>) USING NEST BOXES IN MONTANA AND WYOMING. Anne Hoag Wheeler	6
OBSERVATIONS ON THE BEHAVIOR OF SURPLUS ADULTS IN A RED-SHOULDERED HAWK POPULATION. Michael D. McCrary, Peter H. Bloom and Marjorie J. Gibson	10
HOME RANGE, HABITAT USE AND BEHAVIOR OF PRAIRIE FALCONS WINTERING IN EAST-CENTRAL COLORADO. Gary Beauvais, James H. Enderson and Anthony J. Magro	13
NORTHWARD POST-FLEDGING MIGRATION OF CALIFORNIA BALD EAGLES. W. Grainger Hunt, Ronald E. Jackman, J. Mark Jenkins, Carl G. Thelander and Robert N. Lehman	19
DETERMINING SEX OF EASTERN SCREECH-OWLS USING DISCRIMINANT FUNCTION ANALYSIS. Dwight G. Smith and Stanley N. Wiemeyer	24
DIET SHIFTS OF BLACK-CHESTED EAGLES (<i>GERANOAETUS MELANOLEUCUS</i>) FROM NATIVE PREY TO EUROPEAN RABBITS IN CHILE. Eduardo F. Pavez, Christián A. González and Jaimie E. Jiménez	27
SHORT COMMUNICATIONS	
METHODS OF LOCATING GREAT HORNED OWL NESTS IN THE BOREAL FOREST. Christoph Rohner and Frank I. Doyle	33
FOOD HABITS OF THE SHORT-EARED OWL (<i>ASIO FLAMMEUS</i>) IN SOUTHERN SOUTH AMERICA. Jaime R. Rau, Marcelo C. Villagra, Marta L. Mora, David R. Martínez and María S. Tillería	35
GOLDEN EAGLES FEEDING ON FISH. Bryan T. Brown	36
GREATER YELLOW-HEADED VULTURE (<i>CATHARTES MELAMBROTUS</i>) LOCATES FOOD BY OLFACTION. Gary R. Graves	38
LETTERS	40
THESIS ABSTRACTS	44
NEWS AND REVIEWS	47

NUMBER 2

CARRYING CAPACITY FOR BALD EAGLES WINTERING ALONG A NORTHWESTERN RIVER. W. Grainger Hunt, Brenda S. Johnson and Ronald E. Jackman	49
--------------------------------------------------------------------------------------------------------------------------------------	----

DEMOGRAPHY OF WINTERING ROUGH-LEGGED HAWKS IN NEW JERSEY. Thomas Bosakowski and Dwight G. Smith	61
PREY USE BY EASTERN SCREECH-OWLS: SEASONAL VARIATION IN CENTRAL KENTUCKY AND A REVIEW OF PREVIOUS STUDIES. Gary Ritchison and Paul M. Cavanagh	66
SOCIAL HUNTING IN BROODS OF TWO AND FIVE AMERICAN KESTRELS AFTER FLEDGING. Daniel E. Varland and Thomas M. Loughin	74
DISTRIBUTION AND COLOR VARIATION OF GYRFALCONS IN RUSSIA. David H. Ellis, Catherine H. Ellis, Grey W. Pendleton, Andrei V. Panteleyev, Irena V. Rebrova and Yuri M. Markin	81
SHORT COMMUNICATIONS	
BARN OWL PREY IN SOUTHERN LA PAMPA, ARGENTINA. Sergio I. Tiranti	89
SPRING MIGRATION OF HONEY BUZZARDS (<i>PERNIS APIVORUS</i>) AT THE STRAITS OF MESSINA IN RELATION TO ATMOSPHERIC CONDITIONS. Nicolantonio Agostini	93
LONG-EARED OWLS USURP NEWLY CONSTRUCTED AMERICAN CROW NESTS. Brian D. Sullivan ..	97
LETTERS	99
NEWS	103

NUMBER 3

PREFACE	106
FIDELITY TO NESTING TERRITORY AMONG EUROPEAN SPARROWHAWKS IN THREE AREAS. I. Newton and I. Wyllie	108
CAUSES AND CONSEQUENCES OF REVERSED SEXUAL SIZE DIMORPHISM IN RAPTORS: THE HEAD START HYPOTHESIS. Keith L. Bildstein	115
MOLT OF FLIGHT FEATHERS IN FERRUGINOUS AND SWAINSON'S HAWKS. Josef K. Schmutz	124
BEHAVIOR OF MIGRATING RAPTORS: DIFFERENCES BETWEEN SPRING AND FALL. Helmut C. Mueller and Daniel D. Berger	136
RAPTOR PREDATION ON ROCK PTARMIGAN (<i>LAGOPUS MUTUS</i>) IN THE CENTRAL CANADIAN ARCTIC. Richard C. Cotter, David A. Boag and Christopher C. Shank	146
THE EFFECT OF MAN-MADE PLATFORMS ON OSPREY REPRODUCTION AT LOON LAKE, SASKATCHEWAN. C. Stuart Houston and Frank Scott	152
A 24-YEAR STUDY OF BALD EAGLES ON BESNARD LAKE, SASKATCHEWAN. Jon M. Gerrard, Pauline N. Gerrard, P. Naomi Gerrard, Gary R. Bortolotti and Elston H. Dzus ..	159

THE <i>DHO-GAZA</i> WITH GREAT HORNED OWL LURE: AN ANALYSIS OF ITS EFFECTIVENESS IN CAPTURING RAPTORS. Peter H. Bloom, Judith L. Henckel, Edmund H. Henckel, Josef K. Schmutz, Brian Woodbridge, James R. Bryan, Richard L. Anderson, Phillip J. Detrich, Thomas L. Maechtle, James O. McKinley, Michael D. McCrary, Kimberly Titus and Philip F. Schempf	167
CONSERVATION BIOLOGY AND THE EVOLUTION OF A LAND ETHIC. Dale E. Gawlik	179
RAPTOR CONSERVATION IN VERACRUZ, MEXICO. Juan Esteban Martínez-Gómez	184
SHORT COMMUNICATIONS	
EYE COLOR OF COOPER'S HAWKS BREEDING IN WISCONSIN. Robert N. Rosenfield, John Bielefeldt and Kenneth R. Nolte	189
THE INFLUENCE OF GENDER AND HATCHING ORDER ON GROWTH IN HEN HARRIERS (<i>CIRCUS CYANEUS CYANEUS</i>). William C. Scharf	192
LETTERS	195
THESIS ABSTRACTS	211

¹This issue was jointly edited by Josef K. Schmutz and Keith L. Bildstein. Artwork was kindly provided by Deann L. De La Ronde, Mónica Herzig and Jonathan Wilde.

NUMBER 4

ENERGY REQUIREMENTS OF ADULT CAPE VULTURES (<i>GYPES COPROTHERES</i>). Joris Komen	213
ORGANOCHLORINES AND MERCURY IN OSPREY EGGS FROM THE EASTERN UNITED STATES. Daniel J. Audet, David S. Scott and Stanley N. Wiemeyer	219
KLEPTOPARASITISM AND CANNIBALISM IN A COLONY OF LESSER KESTRELS (<i>FALCO NAUMANNI</i>). Juan José Negro, José Antonio Donázar and Fernando Hiraldo	225
HOME RANGE AND ACTIVITY OF A PAIR OF BALD EAGLES BREEDING IN NORTHERN SASKATCHEWAN. Jon M. Gerrard, Alan R. Harmata and P. Naomi Gerrard	229
SEASONAL AND SEXUAL VARIATION IN THE DIET OF THE COMMON BUZZARD IN NORTHEASTERN SPAIN. Santi Mañosa and Pedro J. Cordero	235
DIET CHANGES IN BREEDING TAWNY OWLS (<i>STRIX ALUCO</i>). David A. Kirk	239
FORAGING ECOLOGY OF BALD EAGLES ON A REGULATED RIVER. W. Grainger Hunt, J. Mark Jenkins, Ronald E. Jackman, Carl G. Thelander and Arnold T. Gerstell	243
SHORT COMMUNICATIONS	
INCREASED PARENTAL CARE IN A WIDOWED MALE MARSH HARRIER (<i>CIRUS AERUGINOSUS</i>). Carmelo Fernández and Paz Azkona	257
BATS AS PREY OF STYGIAN OWLS IN SOUTHEASTERN BRAZIL. José C. Motta Junior and Valdir A. Taddei	259

FOOD-STRESSED GREAT HORNED OWL KILLS ADULT GOSHAWK: EXCEPTIONAL OBSERVATION OR COMMUNITY PROCESS? Christoph Rohner and Frank I. Doyle	261
NESTING ASSOCIATION BETWEEN THE WOODPIGEON (<i>COLUMBA PALUMBUS</i>) AND THE HOBBY (<i>FALCO SUBBUTEO</i>). Giuseppe Bogliani, Eugenio Tiso and Francesco Barbieri	263
LETTERS	266
THESIS ABSTRACT	270
NEWS AND REVIEWS	271

THE RAPTOR RESEARCH FOUNDATION, INC.
(FOUNDED 1966)

OFFICERS

PRESIDENT: RICHARD J. CLARK
VICE-PRESIDENT: MICHAEL W. COLLOPY

SECRETARY: BETSY HANCOCK
TREASURER: JIM FITZPATRICK

BOARD OF DIRECTORS

EASTERN DIRECTOR: KEITH L. BILDSTEIN
CENTRAL DIRECTOR: THOMAS NICHOLLS
MOUNTAIN & PACIFIC DIRECTOR:
STEPHEN W. HOFFMAN
CANADIAN DIRECTOR: PAUL C. JAMES
INTERNATIONAL DIRECTOR #1:
FABIAN M. JAKSIC

INTERNATIONAL DIRECTOR #2:
EDUARDO E. INIGO-ELIAS
DIRECTOR AT LARGE #1: MICHAEL W. COLLOPY
DIRECTOR AT LARGE #2: ROBERT E. KENWARD
DIRECTOR AT LARGE #3: JEFFREY L. LINGER
DIRECTOR AT LARGE #4: DAVID M. BIRD
DIRECTOR AT LARGE #5: PAUL F. STEBLEIN
DIRECTOR AT LARGE #6: GARY E. DUKE

EDITORIAL STAFF

JOURNAL EDITOR: JOSEF K. SCHMUTZ, Department of Biology, University of Saskatchewan, Saskatoon, SK., Canada, S7N 0W0

ASSOCIATE EDITORS

KEITH L. BILDSTEIN
SUSAN B. CHAPLIN
CHARLES J. HENNY
C. STUART HOUSTON

ROBERT E. KENWARD
EUDOXIO PAREDES-RUIZ
PATRICIA P. RABENOLD
PATRICK T. REDIG

EDITOR OF RRF KETTLE: PAUL F. STEBLEIN

The Journal of Raptor Research is distributed quarterly to all current members. Original manuscripts dealing with the biology and conservation of diurnal and nocturnal birds of prey are welcomed from throughout the world, but must be written in English. Submissions can be in the form of research articles, letters to the editor, thesis abstracts and book reviews. Contributors should submit a typewritten original and three copies to the Editor. All submissions must be typewritten and double-spaced on one side of 215 by 280 mm (8½ × 11 in.) or standard international, white, bond paper, with 25 mm (1 in.) margins. The cover page should contain a title, the author's full name(s) and address(es). Name and address should be centered on the cover page. If the current address is different, indicate this via a footnote. Submit the current address on a separate page placed after the literature cited section. A short version of the title, not exceeding 35 characters, should be provided for a running head. An abstract of about 250 words should accompany all research articles on a separate page.

Tables, one to a page, should be double spaced throughout and be assigned consecutive Arabic numerals. Collect all figure legends on a separate page. Each illustration should be centered on a single page and be no smaller than final size and no larger than twice final size. The name of the author(s) and figure number, assigned consecutively using Arabic numerals, should be pencilled on the back of each figure.

Names for birds should follow the A.O.U. Checklist of North American Birds (6th ed., 1983) or another authoritative source for other regions. Subspecific identification should be cited only when pertinent to the material presented. Metric units should be used for all measurements. Use the 24-hour clock (e.g., 0830 H and 2030 H) and "continental" dating (e.g., 1 January 1990).

Refer to a recent issue of the journal for details in format. Explicit instructions and publication policy are outlined in "Information for contributors," *J. Raptor Res.*, Vol. 24(1-2), which is available from the editor.

1993 ANNUAL MEETING

The Raptor Research Foundation, Inc. 1993 annual meeting will be held on 3-7 November at the Marriott City Center Hotel in Charlotte, North Carolina. Details about the meeting and a call for papers will be mailed to Foundation members in the summer, and can be obtained from Keith Bildstein or Laurie Goodrich, Scientific Program Chairpersons, Hawk Mountain Sanctuary, Rural Route 2, Box 191, Kempton, PA 19529-9449 U.S.A., Voice (215) 756-6961, FAX (215) 756-4468. For further information about the meeting or the associated symposium "Raptors Adapting to Human Environment" and art show, contact Robert Gefaell, Local Committee Chairperson, P.O. Box 16443, Charlotte, NC 28297 U.S.A., Tel. (704) 334-8078 or (704) 875-6521 (Carolina Raptor Center).

RAPTOR RESEARCH REPORTS

- #1, R.R. Olendorff. 1971. *Falconiform Reproduction: A Review Part 1. The Pre-nestling Period*. \$10.00 members, \$12.50 non-members.
- #2, F.N. Hamerstrom, B.E. Harrell and R.R. Olendorff [Editors]. 1974. *Management of Raptors. Proceedings of the Conference on Raptor Conservation Techniques, Fort Collins, CO, 22-24 March 1973*. \$10.00 members, \$12.50 non-members.
- #3, J.R. Murphy, C.M. White and B.E. Harrell [Editors]. 1975. *Population Status of Raptors. Proceedings of the Conference on Raptor Conservation Techniques, Fort Collins, CO, 22-24 March 1973. (Part 6)*. \$10.00 members, \$12.50 non-members.
- #4, R.R. Olendorff, A. Miller and R. Lehman [Editors]. 1981. *Suggested Practices for Raptor Protection on Powerlines: State of the Art in 1981*. \$5.00 members, \$20.00 non-members.
- #5, S.E. Senner, C.M. White and J.R. Parrish [Editors]. 1986. *Raptor Research Conservation in the Next Fifty Years. Proceedings of a Conference held at Hawk Mountain Sanctuary, Kempton, PA, 14 October 1984*. \$3.50 members, \$4.50 non-members.
- #6, D.M. Bird, and R. Bowman [Editors]. 1987. *The Ancestral Kestrel. Proceedings of a Symposium on Kestrel Species, St. Louis, MO, 1 December 1983*. \$10.00 members, \$12.50 non-members.
- #7, R.R. Olendorff [Editor]. 1989. *The Raptor Research Foundation, Inc. Bibliographic Index (1967-1986)*. \$2.50 members, \$5.00 non-members.
- #8, R.R. Olendorff, D.D. Bibles, M.T. Dean, J.R. Haugh and M.N. Kochert. 1989. *Raptor Habitat Management under the U.S. Bureau of Land Management Multiple-Use Mandate*. \$5.00 members, \$6.50 non-members.

Add \$2.50 for postage and handling, and \$1.00 each for additional reports.

BOOKS

- Biology and Management of Bald Eagles and Ospreys. Proceedings of the First International Symposium, Montreal, Canada.*
D.M. Bird [Editor]. 1983.
\$15.00 members, \$18.00 non-members plus \$5.00 shipping.

JOURNAL BACK ISSUES

Journal Back Issues are available. For details write: Jim Fitzpatrick, Treasurer, Raptor Research Foundation, Inc., Carpenter St. Croix Valley Nature Center, 12805 St. Croix Trail, Hastings, MN 55033.

The *Journal of Raptor Research* has been selected for abstracting/indexing by several organizations. Articles appearing in the *Journal* are covered in *Current Contents/Agriculture, Biology and Environmental Sciences*, *Ecological Review*, *Science Citation Index*, *Wildlife Review* and *Zoological Record*.