#### STUDIES IN AVIAN BIOLOGY

A Publication of the Cooper Ornithological Society

## Recently Published

ESTIMATING NUMBERS OF TERRESTRIAL BIRDS. EDITED BY C. JOHN RALPH AND J. MICHAEL SCOTT. OCTOBER 1981. 630 PP. STUDIES IN AVIAN BIOLOGY No. 6. This publication of the proceedings of a symposium held in October 1980 features more than 100 original contributions by participants from a number of countries. Included are a reader's guide, introductions and summaries to each of the several sections, and a comprehensive bibliography.

\$20.00

ANNUAL VARIATION OF DAILY ENERGY EXPENDITURE BY THE BLACK-BILLED MAGPIE: A STUDY OF THERMAL AND BEHAVIORAL ENERGETICS. By John N. Mugaas and James R. King. May 1981. 78 pp. Studies in Avian Biology No. 5. This analysis of energy expenditure by the Black-billed Magpie through one annual cycle in eastern Washington is the result of integrated field and laboratory study. Principal topics considered include the thermal environment and its influence on the biology of the magpie and energy budgeting in the annual cycle, followed by a discussion of these in relation to other aspects of the ecology and behavior of the species and a comparison with other species.

\$8.00

### Previous Issues

- THE AVIFAUNA OF THE SOUTH FARALLON ISLANDS, CALIFORNIA. BY DAVID F. DESANTE AND DAVID G. AINLEY. APRIL 1980. 104 PP. SAB No. 4. Based on over 11 years of daily observations by Point Reyes Bird Observatory personnel, this work summarizes all known data for the 346 species of birds occurring on or around the islands; 223 are freshwater or terrestrial forms, for a landmass of 0.41 km<sup>2</sup>, 32 km from the northern California coast ................................\$10.00

Orders should be prepaid, except for standing orders. Prices listed above include postage and handling. Make checks payable to *Cooper Ornithological Society*. Send orders to Allen Press, P.O. Box 368, Lawrence, Kansas 66044.

### (Continued from outside back cover)

| Female-Female Pairings in Caspian Terns MICHAEL R. CONOVER   | 346 |
|--|-----|
| First Observations of Brown Fat in Birds L. W. OLIPHANT  | 350 |
| Brood Parasitism of the Abert's Towhee: Timing, Frequency, and Effects DEBORAH M. FINCH                                    | 355 |
| Long-tailed Hermit Hummingbird Visits to Inflorescence Color Morphs of Heliconia irrasa  LUCINDA A. McDADE                 | 360 |
| SHORT COMMUNICATIONS   |     |
| A Shift in the Morph Ratio Cline in the Bananaquit on Grenada, West Indies JOSEPH M. WUNDERLE, JR.                         | 365 |
| Observations of Emperor Geese Feeding at Nelson Lagoon, Alaska<br>MARGARET R. PETERSEN                                     | 367 |
| Aerial Insect-catching by American Kestrels SERI G. RUDOLPH  | 368 |
| Diet, Capture Success, and Mode of Hunting by Female American Kestrels in Winter<br>MICHAEL W. COLLOPY and JAMES R. KOPLIN | 369 |
| Seed Manipulation by Clark's Nutcracker KENNETH G. BUNCH, GARY SULLIVAN, and DIANA F. TOMBACK                              | 372 |
| Diurnal Activity and Social Displays of Rhinoceros Auklets on Teuri Island, Japan ASA C. THORESEN                          | 373 |
| The Natal Pterylosis of Amphispiza Sparrows DENNIS MINSKY and CHARLES T. COLLINS   | 375 |
| Distribution and Migration of the Black Tern in Mexico<br>SARTOR O. WILLIAMS III   | 376 |
| Effect of Mate Loss on Song Performance in the Plain Titmouse L. SCOTT JOHNSON   | 378 |
| NEWS AND NOTES   | 381 |
| THE BULLETIN BOARD   | 382 |
| RECENT PUBLICATIONS 291 304 322 345  | 349 |

INFORMATION FOR CONTRIBUTORS. Instructions on the preparation and submission of articles and other material for this journal are given in *The Condor* 85:114–115 (February 1983). Contributors are urged to follow these instructions and the niceties of the journal's style. Doing so will hasten publication, save money and effort, and gratify the editorial staff.

# THE CONDOR

| JOURNAL OF THE COOPER ORNITHOLOGICAL SOCIETY  Volume 85, Number 3  Issued 14 September 1983  Editor: PETER STETTENHEIM  Associate Editors:  RUSSELL P. BALDA  CHARLES R. BLEM  MICHAEL D. KERN  GARY D. SCHNELL  SUSAN M. SMITH  Assistant Editor:  HELEN CURCIO  SUZANNE NOTHNAGLE  CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets  ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R.  BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island,  Alaska  G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds  MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii  PATRICK J. GOULD  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii  G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G.  BRADY  292  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea  MARY LECROY and W. S. PECKOVER  297  Pellets of Cape Cormorants as Indicators of Diet  DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae)  R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets | THE COM   | JOR                                      |     |
|--|---|--|-----|
| Issued 14 September 1983  Editor: PETER STETTENHEIM  Associate Editors:  RUSSELL P. BALDA  CHARLES R. BLEM  MICHAEL D. KERN  GARY D. SCHNELL  SUSAN M. SMITH  Assistant Editor:  HELEN CURCIO  SUZANNE NOTHNAGLE  CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets  ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R.  BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska  G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds  MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii  PATRICK J. GOULD  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii  G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G.  BRADY  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea  MARY LECROY and W. S. PECKOVER  297  Pellets of Cape Cormorants as Indicators of Diet  DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae)  R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets  | JOURNAL OF THE COOPER O   | DRNITHOLOGICAL SOCIETY                   |     |
| Editor: PETER STETTENHEIM  Associate Editors:  RUSSELL P. BALDA  MICHAEL D. KERN  GARY D. SCHNELL  SUSAN M. SMITH  Assistant Editor:  HELEN CURCIO  SUZANNE NOTHNAGLE  CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii PATRICK J. GOULD  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY  292  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER  297  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets  | Volume 85, Number 3   |  |     |
| Associate Editors:  RUSSELL P. BALDA  MICHAEL D. KERN  GARY D. SCHNELL  SUSAN M. SMITH  Assistant Editor:  HELEN CURCIO  SUZANNE NOTHNAGLE  CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii PATRICK J. GOULD  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY  292  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER  297  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets   | Issued 14 September 1983  |  |     |
| RUSSELL P. BALDA  MICHAEL D. KERN  GARY D. SCHNELL  SUSAN M. SMITH  Assistant Editor:  HELEN CURCIO  SUZANNE NOTHNAGLE  CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii PATRICK J. GOULD  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets   | Editor: PETER STETTENHEIM   |  |     |
| MICHAEL D. KERN  GARY D. SCHNELL  SUSAN M. SMITH  Assistant Editor:  HELEN CURCIO  SUZANNE NOTHNAGLE  CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii PATRICK J. GOULD  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets   | Associate Editors:  |  |     |
| GARY D. SCHNELL  Assistant Editor:  HELEN CURCIO  SUZANNE NOTHNAGLE  CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii PATRICK J. GOULD  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets  | RUSSELL P. BALDA  | CHARLES R. BLEM                          |     |
| Assistant Editor: HELEN CURCIO SUZANNE NOTHNAGLE  CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD 265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON 274  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY 281  Seabirds between Alaska and Hawaii PATRICK J. GOULD 286  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY 292  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER 297  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON 305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ 308  A Review of Duetting, Sociality and Speciation in Some African Barbets  | MIC   | CHAEL D. KERN                            |     |
| CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii PATRICK J. GOULD  286  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY  292  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER  297  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets  | GARY D. SCHNELL   | SUSAN M. SMITH                           |     |
| CONTENTS  Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD  265  Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY  Seabirds between Alaska and Hawaii PATRICK J. GOULD  286  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY  292  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER  297  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON  305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ  308  A Review of Duetting, Sociality and Speciation in Some African Barbets  | Assistant Editor:   | Editorial Assistant:                     |     |
| Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD   | HELEN CURCIO  | SUZANNE NOTHNA                           | GLE |
| Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD   |   | 2  |     |
| Nest Sites and Eggs of Kittlitz's and Marbled Murrelets ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD   | CONTENTS  |  |     |
| ROBERT H. DAY, KAREN L. OAKLEY, and DAVID R. BARNARD   | CONTENTS  | and the second                           |     |
| Patterns of Colony Attendance and Censusing of Auklets at Buldir Island, Alaska G. VERNON BYRD, ROBERT H. DAY, and ERIC P. KNUDTSON 274  The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY 281  Seabirds between Alaska and Hawaii PATRICK J. GOULD 286  Breeding Biology of Wedge-tailed Shearwaters at Kilauea Point, Hawaii G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY 292  Birds of the Kimbe Bay Area, West New Britain, Papua New Guinea MARY LECROY and W. S. PECKOVER 297  Pellets of Cape Cormorants as Indicators of Diet DAVID CAMERON DUFFY and L. J. B. LAURENSON 305  Song Features as Species Discriminants in American Warblers (Parulidae) R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ 308  A Review of Duetting, Sociality and Speciation in Some African Barbets  | ROBERT H. DAY, KAREN L  | OAKLEY, and DAVID R.                     | 265 |
| The Role of the Feet in Behavioral Thermoregulation of Hummingbirds MIKLOS D. F. UDVARDY   | Patterns of Colony Attendance and<br>Alaska                         | d Censusing of Auklets at Buldir Island, |     |
| Seabirds between Alaska and Hawaii PATRICK J. GOULD  | The Role of the Feet in Behavioral Thermoregulation of Hummingbirds |  |     |
| G. VERNON BYRD, DANIEL I. MORIARTY, and BARRY G. BRADY   | Seabirds between Alaska and Haw                                     | aii                                      |     |
| MARY LECROY and W. S. PECKOVER   | G. VERNON BYRD, DANIEI  | LI. MORIARTY, and BARRY G.               | 292 |
| DAVID CAMERON DUFFY and L. J. B. LAURENSON   |   |  | 297 |
| R. E. LEMON, J. STRUGER, and M. J. LECHOWICZ   |   |  | 305 |
|  |   |  | 308 |
| LESTER L. SHORT and JENNIFER F. M. HORNE   | (Capitonidae)   |  | 323 |

(Continued on inside back cover)

A. ALLAN DEGEN, BERRY PINSHOW, and PHILIP U. ALKON 333

Summer Water Turnover Rates in Free-living Chukars and Sand Partridges

Paralytic Shellfish Poisoning: Effects on Breeding Terns

in the Negev Desert