Ethnoprimatology

A Practical Guide to Research at the Human–Nonhuman Primate Interface

Ethnoprimatology, the combining of primatological and anthropological practice and the viewing of humans and other primates as living in integrated and shared ecological and social spaces, has become an increasingly popular approach to primate studies in the twenty-first century.

Offering an insight into the investigation and documentation of human–nonhuman primate relations in the Anthropocene, this book guides the reader through the preparation, design, implementation, and analysis of an ethnoprimatological research project, offering practical examples of the vast array of methods and techniques at the chapter level. With contributions from the world’s leading experts in the field, *Ethnoprimatology* critically analyzes current primate conservation efforts, outlines their major research questions, theoretical bases and methods, and tackles the challenges and complexities involved in mixed-methods research.

Documenting the spectrum of current research in the field, it is an ideal volume for students and researchers in ethnoprimatology, primatology, anthropology, and conservation biology.

**Kerry M. Dore** is a Research Associate in the Department of Anthropology at the University of Texas at San Antonio and an Adjunct Instructor at Marist College and Eastern Kentucky University. Her research focuses on the interface between vervet monkeys and people in St. Kitts and the broader Caribbean.

**Erin P. Riley** is Professor of Anthropology at San Diego State University. Her research examines the impact of anthropogenic habitat alteration on macaque ecology and behavior, and cultural conceptions of primates, nature, and conservation.

**Agustín Fuentes** is Professor and Chair of Anthropology at the University of Notre Dame. His research focuses on cooperation and community in human evolution, ethnoprimatology and multispecies anthropology, evolutionary theory, and interdisciplinary approaches to human nature(s).
68. The Foragers of Point Hope: The Biology and Archaeology of Humans on the Edge of the Alaskan Arctic, Charles E. Hilton, Benjamin M. Auerbach, & Libby W. Cowgill (eds.) 978 1 107 02250 8
69. Bioarchaeology: Interpreting Behavior from the Human Skeleton, 2nd ed. Clark Spencer Larsen 978 0 521 83869 6 & 978 0 521 54748 2
70. Fossil Primates, Susan Cachel 978 1 107 00530 3
71. Demography and Evolutionary Ecology of Hadza Hunter-Gatherers, Nicholas Blurton Jones 978 1 107 06982 4
72. Skeletal Biology of the Ancient Rapanui (Easter Islanders), Vincent H. Stefan & George W. Gill 978 1 107 02366 6
73. The Dwarf and Mouse Lemurs of Madagascar: Biology, Behavior and Conservation, Biogeography of the Cheirogaleidae, Shawn M. Lehman, Ute Radespiel, & Elke Zimmermann 978 1 107 07559 7
74. The Missing Lemur Link: An Ancestral Step in the Evolution of Human Behaviour, Ivan Norscia & Elisabetta Palagi 978 1 107 01608 8
75. Studies in Forensic Biohistory: Anthropological Perspectives, Christopher M. Stojanowski & William N. Duncan 978 1 107 07354 8
Ethnoprimatology

A Practical Guide to Research at the Human–Nonhuman Primate Interface

Edited by

KERRY M. DORE
The University of Texas at San Antonio, Texas, USA

ERIN P. RILEY
San Diego State University, California, USA

AGUSTÍN FUENTES
University of Notre Dame, Indiana, USA
Contents

List of Contributors  xii
Methods  xv

1. Introduction: Doing Ethnoprimatology in the Anthropocene  1
Erin P. Riley, Agustín Fuentes, and Kerry M. Dore
1.1 Brief History of Ethnoprimatology  2
1.2 Layout of the Volume  4

Part I Characterizing the Interface  7

2. Introduction to Part I  9
Tracie McKinney
2.1 Nonhuman Primate-Oriented Methods  9
2.2 Human-Oriented Methods  11
2.3 Conclusion  12

Section I Behavioral Ecology  14

3. Habituation to Tourists: Protective or Harmful?  15
Jessica L. Westin
3.1 Introduction/Background  15
3.2 Methodology  16
3.3 Results/Interpretation  21
3.4 Discussion/Conclusion  24
3.5 Lessons from the Field  26

4. Assessing the Role of Exotic and Ornamental Plants in the Ecology of Gray Mouse Lemurs (Microcebus murinus) in Southeastern Madagascar  29
Krista Fish
4.1 Introduction/Background  29
4.2 Methodology  32
4.3 Results/Interpretation  34
4.4 Discussion/Conclusion  36
4.5 Lessons from the Field  37

5. The Looming Legacy of Deforestation for Red Colobus Monkeys in Kibale National Park  43
Krista M. Milich
5.1 Introduction/Background  43
5.2 Methodology  46
<table>
<thead>
<tr>
<th></th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3</td>
<td>Results/Interpretation</td>
</tr>
<tr>
<td>5.4</td>
<td>Discussion/Conclusion</td>
</tr>
<tr>
<td>5.5</td>
<td>Lessons from the Field</td>
</tr>
</tbody>
</table>

6. **Food, Feeding, and Foraging: Using Stable Isotope Analysis as a Methodology in the Study of Urban Primate Dietary Patterns**  
   Anne Kwiat  
   6.1 Introduction/Background | 56 |
   6.2 Methodology | 60 |
   6.3 Results/Interpretation | 62 |
   6.4 Discussion/Conclusion | 63 |
   6.5 Lessons from the Field | 67 |

   Amy R. Klegarth  
   7.1 Introduction/Background | 70 |
   7.2 Methodology | 72 |
   7.3 Results/Interpretation | 78 |
   7.4 Discussion/Conclusion | 81 |
   7.5 Lessons from the Field | 83 |

Section II Epidemiological Studies  

8. **An Ethnoprimateal Assessment of Human Impact on the Parasite Ecology of Silky Sifaka (*Propithecus candidus*)**  
   James E. Loudon, Erik R. Patel, Charles Faulkner, Robert Schopler, Rachel A. Kramer, Cathy V. Williams, and James P. Herrera  
   8.1 Introduction/Background | 89 |
   8.2 Methodology | 96 |
   8.3 Results/Interpretation | 97 |
   8.4 Discussion/Conclusion | 99 |
   8.5 Lessons from the Field | 105 |

9. **Characterizing Simian Foamy Virus Transmission in Bangladesh**  
   Lisa Jones-Engel  
   9.1 Introduction/Background | 111 |
   9.2 Methodology | 113 |
   9.3 Results/Interpretation | 116 |
   9.4 Discussion/Conclusion | 117 |
   9.5 Lessons from the Field | 118 |
### Section III Predator–Prey Studies

10. **How Do Pagai, Mentawai Island (Sumatra, Indonesia) Nonhuman Primate Characteristics Affect Hunters’ Prey Selection?** 122  
   Lisa M. Paciulli and Kristin Sabbi  
   10.1 Introduction/Background 122  
   10.2 Methodology 126  
   10.3 Results/Interpretation 128  
   10.4 Discussion/Conclusion 129  
   10.5 Lessons from the Field 130

### Section IV Human–Primate Conflict

11. **Flexibility in Javan Gibbon (*Hylobates moloch*) Response to Human Disturbance** 137  
    Melissa A. Reisland and Joanna E. Lambert  
    11.1 Introduction/Background 137  
    11.2 Methodology 140  
    11.3 Results/Interpretation 144  
    11.4 Discussion/Conclusion 149  
    11.5 Lessons from the Field 150

12. **Conflicted Primatologists: A Survey on Primatologists’ Views on Conflict and Resolution Between Human and Nonhuman Primates** 154  
    Mary Baker, Paula Pebsworth, and Sindhu Radhakrishna  
    12.1 Introduction/Background 154  
    12.2 Methodology 156  
    12.3 Results/Interpretation 157  
    12.4 Discussion/Conclusion 161  
    12.5 Lessons from the Field 163

### Part II Following the Data: Incorporating Ethnography

13. **Introduction to Part II** 171  
    John Knight

14. **Incorporating the Ethnographic Perspective: The Value, Process, and Responsibility of Working with Human Participants** 176  
    Nicholas Malone, Ally Palmer, and Alison Wade  
    14.1 Introduction/Background 176  
    14.2 Methodology 179  
    14.3 Results/Interpretation 181  
    14.4 Discussion/Conclusion 185  
    14.5 Lessons from the Field 186
Contents

15. Nonhuman Primates and “Others” in the Dzanga Sangha Reserve: The Role of Anthropology and Multispecies Approaches in Ethnoprimatology 190
   Melissa J. Remis and Carolyn A. Jost Robinson
   15.1 Introduction/Background 190
   15.2 Methodology 193
   15.3 Results/Interpretation 195
   15.4 Discussion/Conclusion 203
   15.5 Lessons from the Field 203

16. Sacred Monkeys? An Ethnographic Perspective on Macaque Sacredness in Balinese Hinduism 206
   Jeffrey V. Peterson and Erin P. Riley
   16.1 Introduction/Background 206
   16.2 Methodology 208
   16.3 Results/Interpretation 212
   16.4 Discussion/Conclusion 214
   16.5 Lessons from the Field 215

17. Navigating the Methodological Landscape: Ethnographic Data Expose the Nuances of “the Monkey Problem” in St. Kitts, West Indies 219
   Kerry M. Dore
   17.1 Introduction/Background 219
   17.2 Methodology 222
   17.3 Results/Interpretation 225
   17.4 Discussion/Conclusion 227
   17.5 Lessons from the Field 228

18. An Ethnoprimatological Approach to Assessing the Sustainability of Nonhuman Primate Subsistence Hunting of Indigenous Waiwai in the Konasheen Community Owned Conservation Concession, Guyana 232
   Christopher A. Shaffer, Elisha Marawanaru, and Charakura Yukuma
   18.1 Introduction/Background 232
   18.2 Methodology 234
   18.3 Results/Interpretation 239
   18.4 Discussion/Conclusion 243
   18.5 Lessons from the Field 246

Part III Implications for Conservation 251

19. Introduction to Part III 253
   Carolyn A. Jost Robinson
## Contents

  - Amanda L. Ellwanger, Erin P. Riley, Kefeng Niu, and Chia L. Tan
    - 20.1 Introduction/Background 257
    - 20.2 Methodology 259
    - 20.3 Results/Interpretation 262
    - 20.4 Discussion/Conclusion 265
    - 20.5 Lessons from the Field 265

- **21. Culture, Conflict, and Conservation: Living with Nonhuman Primates in Northeastern India** 271
  - Sindhu Radhakrishna
    - 21.1 Introduction/Background 271
    - 21.2 Methodology 275
    - 21.3 Results/Interpretation 276
    - 21.4 Discussion/Conclusion 279
    - 21.5 Lessons from the Field 280

- **22. The Conservation Implications of Seasonal Endangered Lemur Hunting** 284
  - Cortni Borgerson
    - 22.1 Introduction/Background 284
    - 22.2 Methodology 286
    - 22.3 Results/Interpretation 288
    - 22.4 Discussion/Conclusion 292
    - 22.5 Lessons from the Field 293

- **23. Ethnoprimatology Matters: Integration, Innovation, and Intellectual Generosity** 297
  - Agustín Fuentes, Erin P. Riley, and Kerry M. Dore
    - 23.1 Where are We and Where Should We Go? 297

- **Index** 302
Contributors

Mary Baker
Department of Anthropology, Rhode Island College, Providence, RI, USA

Cortni Borgerson
Department of Environmental Health, Harvard University, T.H. Chan School of Public Health, Boston, MA, USA

Kerry M. Dore
Department of Anthropology, The University of Texas at San Antonio, TX, USA

Amanda L. Ellwanger
Department of Anthropology, The University of Texas at San Antonio, TX, USA

Charles Faulkner
College of Veterinary and Comparative Medicine, Lincoln Memorial University, Harrogate, TN, USA

Krista Fish
Department of Anthropology, Colorado College, Colorado Springs, CO, USA

Agustín Fuentes
Department of Anthropology, University of Notre Dame, Notre Dame, IN, USA

James P. Herrera
Department of Mammalogy, American Museum of Natural History, New York, USA

Lisa Jones-Engel
Center for Studies in Demography and Ecology and Department of Anthropology, University of Washington, Seattle, WA, USA

Carolyn A. Jost Robinson
Department of Anthropology, University of North Carolina, Wilmington, NC, USA

Amy R. Klegarth
Department of Anthropology, University of Washington, Seattle, WA, USA

John Knight
School of History and Anthropology, Queen’s University Belfast, Belfast, UK

Rachel A. Kramer
World Wildlife Fund, Washington, DC, USA

Anne Kwiatt
Lester E. Fisher Center for the Study and Conservation of Apes, Chicago, IL, USA
Joanna E. Lambert
Department of Anthropology, University of Colorado Boulder, Boulder, CO, USA

James E. Loudon
Department of Anthropology, East Carolina University, Greenville, NC, USA

Nicholas Malone
Department of Anthropology, University of Auckland, Auckland, New Zealand

Elisha Marawanaru
Masakenari Village, Konashen Indigenous District, Guyana

Tracie McKinney
Faculty of Computing, Engineering and Science, University of South Wales, Pontypridd, UK

Krista M. Milich
Department of Anthropology, The University of Texas, Austin, TX, USA

Kefeng Niu
Fanjingshan National Nature Reserve Admistration, Tangren, China, and Life Sciences and Systems Biology, University of Turin, Torino, Italy

Lisa M. Paciulli
Department of Biological Sciences, North Carolina State University, Raleigh, NC, USA

Ally Palmer
Department of Anthropology, University College London, London, UK

Erik R. Patel
Duke Lemur Center, Durham, NC, USA

Paula Pebsworth
Department of Anthropology, The University of Texas at San Antonio, TX, USA

Jeffrey V. Peterson
Department of Anthropology, University of Notre Dame, Notre Dame, IN, USA

Sindhu Radhakrishna
School of Natural Sciences and Engineering, National Institute of Advanced Studies, Indian Institute of Science Campus, Bengaluru, India

Melissa A. Reisland
Department of Anthropology, University of Colorado Boulder, Boulder, CO, USA

Melissa J. Remis
Department of Anthropology, Purdue University, West Lafayette, IN, USA

Erin P. Riley
Department of Anthropology, San Diego University, San Diego, CA, USA
<table>
<thead>
<tr>
<th>Contributors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kristin Sabbi</strong></td>
</tr>
<tr>
<td>Department of Anthropology, University of New Mexico, Albuquerque, NM, USA</td>
</tr>
<tr>
<td><strong>Robert Schopler</strong></td>
</tr>
<tr>
<td>Duke Lemur Center, Durham, NC, USA</td>
</tr>
<tr>
<td><strong>Christopher A. Shaffer</strong></td>
</tr>
<tr>
<td>Department of Anthropology, Grand Valley State University, Allendale, MI, USA</td>
</tr>
<tr>
<td><strong>Chia L. Tan</strong></td>
</tr>
<tr>
<td>San Diego Zoo Institute for Conservation Research, San Diego, CA, USA</td>
</tr>
<tr>
<td><strong>Alison Wade</strong></td>
</tr>
<tr>
<td>Department of Anthropology, University of Auckland, Auckland, New Zealand</td>
</tr>
<tr>
<td><strong>Jessica L. Westin</strong></td>
</tr>
<tr>
<td>Math/Science Department, Kirkwood Community College, Cedar Rapids, IA, USA</td>
</tr>
<tr>
<td><strong>Cathy V. Williams</strong></td>
</tr>
<tr>
<td>Duke Lemur Center, Durham, NC, USA</td>
</tr>
<tr>
<td><strong>Charakura Yukuma</strong></td>
</tr>
<tr>
<td>Masakenari Village, Konashen Indigenous District, Guyana</td>
</tr>
</tbody>
</table>
Methods

Chapter 3
NHP behavioral assessments, NHP health assessments, NHP parasitological assessments; meteorological assessments; transects; phenological monitoring; biological sample collection, storage, and shipment

Chapter 4
NHP behavioral assessments; transects; phenological monitoring; camera trapping

Chapter 5
NHP behavioral assessments; NHP hormonal assessments; biological sample collection, storage, and shipment

Chapter 6
Isotopic analysis; biological sample collection, storage, and shipment

Chapter 7
Geospatial assessments (GPS tracking and spatial statistics)

Chapter 8
NHP parasitological assessments; questionnaires; biological sample collection, storage, and shipment

Chapter 9
Questionnaires; biological sample collation, storage, and shipment
Chapter 10
Interviews

Chapter 11
NHP behavioral assessments

Chapter 12
Questionnaires

Chapter 14
Interviews; participant observation; cultural mapping; ethological observations of animals; ecological monitoring of habitats; discourse analysis of contemporary and historical texts; archival research; free-listing exercises

Chapter 15
Interviews; participant observation; transects

Chapter 16
Interviews; questionnaires

Chapter 17
Participant observation; archival research; historical analyses

Chapter 18
Interviews; participant observation; hunter follows; transects; geospatial assessments; NHP censusing
Chapter 20
Interviews; human behavioral assessments; geospatial analyses

Chapter 21
Interviews; surveys

Chapter 22
Interviews; participant observation