

at the end of each chapter. Overall, I thought the book provided a useful overview of each species and an introduction to farm animal behaviour at a level that might be helpful for the generalist (first year undergraduate veterinary, animal science or agriculture students, for example) but was rather too superficial for a specialist understanding of behaviour or welfare of specific farmed species.

In parts, the book provides good and comprehensive coverage of the history of use and management of the species, and veterinary aspects of animal welfare (the sick animal, injuries and disease caused by management and stereotypic behaviour). It does, however, focus predominantly on the physical or biological functioning aspects of animal management and welfare. There is rather less consideration given to more modern concepts of animal welfare that consider affective states and positive as well as negative emotional aspects of animal welfare. For example, the welfare aspects considered are focused on feeding, health and the impact of pain and suffering associated with mutilations and transport and little or no consideration is given to behaviours that might be indicative of positive emotions.

The addition of new material on animal behaviour is welcome, but rather uneven in its treatment. Efforts to integrate the new additions into the body of the text, and the writing style of the new material (which focus more on providing a short paragraph of each new study) are lacking somewhat, meaning that the interface between the older and newer material is very obvious. This is a shame as the book is a useful handbook for animal behaviour and it could have been more comprehensively updated. I also felt the book is a little uneven in its treatment of different species, for example, cattle are covered extensively, with more than 60 pages given to describing cattle behaviour and management in great detail, whereas only 15–20 pages are devoted to other species (sheep or chickens, for example). This means that the book might be very helpful to those interested in the behaviour of cattle, but rather less so to those with interests in other species — for example, intensive management or housing of sheep and goats, and dairy uses of these species, is barely mentioned.

Overall, this book is a good introductory text for the non-specialist to the field of applied animal behaviour and the behaviour of farmed animals. It serves as a useful encyclopaedia for the sorts of behavioural responses that might be seen in farmed animals and the types of management that are applied. It also provides a brief overview of how sick animals might behave and the normal behavioural and physiological responses that the veterinarian might expect to see in each species. Where it fails to live up to its title is in meeting the needs of the welfare assessment of each species, and it does not properly consider which behaviours might be used to understand the welfare needs and requirements of the species. I would recommend this book as a reference source for those requiring an overview of the behaviour of farmed species but suggest that those looking for a more in-depth understanding of behaviour and welfare of each species may need to look elsewhere.

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Studying Primates: How to Design, Conduct and Report Primatological Research

JM Setchell (2019). Published by Cambridge University Press, Shaftesbury Road, Cambridge CB2 8BS, UK. 362 pages Paperback (ISBN: 978-1108434270). Price £26.99.

Studying Primates: How to Design, Conduct and Report Primatological Research seeks to provide an accessible guide for graduate students and postdoctoral researchers in fields as diverse as anatomy, anthropology, biology, ecology, medicine, psychology, veterinary sciences and zoology. Across these fields the more than 500 species of primate, ranging from mouse lemurs (30 g) to huge gorillas (250 kg), can be studied in environments ranging from field sites, zoos and museums as well as from the literature. The variability in study aims, study species and study sites mean there are no standard protocols for studying primates. Nevertheless, asking good questions and conducting well-designed studies are essential to produce high-quality science. The focus of this guide is on research integrity and ethics throughout the research process, from developing research questions, designing and conducting projects and reporting results. The informal name of this book could be *How not to mess it up*, with a good helping of *Don't be a jerk*, which is surely a good motto for us all.

The book is divided into 25 concise chapters with information presented in bite-sized chunks making it accessible to students looking to dip in and out. At the end of each chapter is a summary and a current list of further reading covering sources. These range from journal articles to online resources and some excellent blogs that provide insights into life as a 'scientist/primatologist/fieldworker' that may inspire students to identify career paths they may not otherwise have been aware of. Helpfully, references are accompanied by a short description of the work and its relevance to the chapter. While this is not a book about animal welfare *per se*, there is a call for more compassion in science, both for the animals we study and the people who study them, that runs throughout the book.

Professor Setchell is President of the Primate Society of Great Britain, a learned charity which is open to primatologists across all fields and therefore is as well placed as anyone to understand the breadth of primatological research that such a guide needs to cover. With over 20 years of experience as a primatologist, working with students, collaborators, editing and writing for journals, Professor Setchell has had time to develop a profound insight into the key dos and don'ts of primatology research and, looking forward, the needs of the next generation of primatologists.

With this next generation of primatologists (to whom the book is dedicated) placed firmly at its core, the book starts with six chapters focused on scientific method, ethics, research integrity, inclusivity, understanding statistical evidence and communicating clearly. These set the tone of the book and the themes run throughout. Where material has been covered extensively elsewhere (eg 'how science

works') this book covers the key take-home messages and goes on to address the topic from a more ethical and inclusive perspective than has been the norm, extending basic principles to incorporate themes such as 'Common misconceptions about science', 'Coping when you are overwhelmed' and 'Imposter syndrome', among others. In the ethics chapter, students will find a comprehensive list of ethical considerations that must be taken across fields, with further reading provided for discipline-specific details. The 3Rs and their importance for working with primates in the wild as well as in captivity are highlighted. This is a positive step. Cross-fostering of ideas between disciplines where animals are studied in different contexts or for different purposes (eg laboratory compared with field) will promote better science as knowledge is more easily shared. In the section 'Collaborating effectively', students will find useful information on working with (and managing) supervisors. Readers will be heartened to read that most good writing starts out as bad writing, and there are a number of strategies presented for improving writing. I like the suggestion of starting to write the following section of a piece before stopping, to help get started again on the next writing session. So often we have to grab writing time in short bursts where we can fit them in. The section on pedantry is very welcome too and clearly informed by experience of marking students' essays and journal editing. Note to students: do not skip this section!

The chapters on 'Research integrity' and 'Inclusive science' provide a reminder of the context within which research occurs and the barriers to good quality science and scientists. The role of conscious and unconscious bias in establishing and maintaining the inequities of opportunity within science and academia are discussed, as are the main bases upon which discrimination occurs. These chapters, and their themes which permeate through the book, are certainly a novel and timely addition, giving this book scope beyond the standard research methods text. Advice and resources are provided for LGBTQIA+ people on dealing with potential prejudice (during fieldwork specifically, but the advice can be extended to other research contexts), travelling for research with children in tow, and issues around vaccinations for immunocompromised individuals. Hopefully these will go some way towards broadening access to the sciences by providing encouragement to those who feel otherwise excluded. Everyone should read these chapters. And to those who do not feel directly affected: be kind, be an ally.

There are a couple of chapters introducing primates and addressing why we might study them. This is bread and butter stuff. The chapters cover the basics for those new to primatology (what, where and why), and provide a good reading list for students who may wish to go into more depth. This includes the most recent comprehensive textbooks on primates as well as classics that have stood the test of time and can be found on primatologists' bookshelves the world over. Helpfully, books using now outdated taxonomical classifications are indicated.

The remainder of the book is about how to do research: from identifying a research question, reading journal articles and formulating hypotheses, to designing, funding, executing, analysing and reporting outcomes. On one level this is well-trodden territory, but it is great for students of primatology to now have a book that covers this material with subject-relevant examples. It also provides up-to-date information on referencing software, journal updates and other technological tools available to students. Recent developments including pre-registration, open access publishing and open data are also covered providing food for thought for researchers looking for an update. Although the examples used are specific to primatology, the content will be useful to researchers and students across the life sciences. A common gripe about classes in research methods (which are often run with students from diverse programmes within the sciences) is the lack of 'relevant' examples for their own discipline. This book is written specifically for students of primatology, framing examples in terms that students will understand and connect with. Key skills, such as using Boolean operators to refine literature searches, are presented with common terms from primatology. The list of 'Common problems with methods and how to solve them' gives a degree of insight into the range of methods primatologists may need to call upon over time (and the value of knowing when to specialise and when to collaborate).

The chapters on statistics provide an overview of current statistical approaches. There is a menu of approaches to choose from, listing their pros and cons. Again, this is a list of what is out there and current rather than how to do them. These chapters flag up common misconceptions and errors in a concise way that should lead students through the process of identifying appropriate analyses for their own studies. The reader is encouraged to think beyond null hypothesis testing, the mainstay of undergraduate statistics for so many, to consider model selection or Bayesian inference. Less *P*-values, more understanding of statistical power, effect sizes and confidence intervals. Again, concepts are presented in clear concise language, and it should be encouraging for students and more established researchers alike to read that they will undoubtedly need statistical advice from experts at some point. Fear is probably the biggest barrier to students' learning and the advice clearly comes from experience. Know where you are going before you start. Collect your data in the format needed for analysis. Ask for help when needed. The further reading lists avoid some of the denser statistical sources and the descriptions will help students focus their reading.

Not since primatology emerged as a field of study in its own right have so many postgraduate research plans been scuppered at the last minute, as in 2020 with the coronavirus pandemic. Students and researchers the world over found their research projects put on hold or, as in the case of our BSc and MSc students keen to graduate on time, needing to resort to 'Plan B' desk-based projects. With field-based

primatology research the main focus of this book, it is not surprising that there is limited coverage of systematic reviews and meta-analyses other than to acknowledge that these are under-represented in primatology. This is also the case in the field of animal welfare. Hopefully, a positive outcome of the interruption created by the pandemic is time to reflect on the current state of knowledge. We may see more reviews, systematic reviews and meta-analyses published in the following years. The book makes a nice distinction between the different types of literature-based research study, and there is room to expand on these. Students will find a number of good online resources if they are planning such studies. Some of my students are currently using <https://metaanalysis.zajitschek.net/> by Suzi Zajitschek at LJMU, which is aimed at postgraduate students and is user-friendly. Many others are available.

There is inevitably plenty that the book does not cover. It does not attempt to address primate studies outside the life sciences, nor humans as primates other than as observers of non-human primates. This is not a book aimed at social scientists. The use of terms such as ‘wild primates’ and

‘captive primates’ is troublesome. While we are often forced to use short hand in science writing, in a progressive book for the next generation of primatologists I hope at least that the second edition will amend this to better reflect the need to acknowledge all wild animals as separate from the contexts within which humans place them.

With the growth of primatology as a topic taught in universities, both at undergraduate and postgraduate levels, this book will undoubtedly provide a core text for students learning about research methods, either for the first time, or for refining knowledge. Given the breadth of scope within an otherwise seemingly niche topic, I will be recommending this book as a companion guide for postgraduate students and colleagues in the life sciences. It touches on all the relevant aspects of training to become, and continuing to work as, an effective scientist. It is up-to-date, accessible and concise and a very welcome addition to the literature.

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