Alan F. Dixon

The Mandrill: A Case of Extreme Sexual Selection

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The mandrill (*Mandrillus leucophaeus*) is a fantastic beast, particularly the male with his brightly coloured snout and hindquarters, imposing shoulders and mane, and long, potentially dangerous, canines. Mandrills have long attracted the attention of naturalists and biologists, their imposing and unusual appearance exciting both interest and fear, with an early writer remarking on its “disgusting appearance” [Jardine, 1833] and Forbes [1894] commenting on how “these hideous and extraordinary animals live together in great companies, and are a terror to the natives.” As Dixon notes, Darwin was also fascinated by the bright colours of the male mandrill and hypothesised that these had evolved due to sexual selection.

Since these early commentaries much has been learnt about the mandrill from captive and wild studies – and this book is the first to pull together some fascinating studies from recent years. Dixon provides a thoughtful and extensive review of this literature, and, as the subtitle suggests, he frames much of his discussion around the role that sexual selection has played in the evolution of the mandrill and the genus *Mandrillus*. However, the book looks at far more than the evolution of sexual dimorphism, it also takes a close look at the evolution, biology, ecology, and natural history of the mandrill, the history of research into this extraordinary monkey, and what we still need to discover.

The book is divided into 3 sections, “Natural History,” “Reproduction,” and “Evolution and Sexual Selection,” followed by a short epilogue on “Conservation Status.” Under “Natural History,” Dixon explores the evolution of the species and its phylogeny, morphology, ecology, behaviour, and life history patterns. Some of the detail in these first chapters relates to sexual anatomy and behaviour, and thus leads to the section on “Reproduction,” which focuses in detail on reproductive seasonality and factors that affect reproductive success in both males and females. The section “Evolution and Sexual Selection” was the most interesting for me. Here Dixon looks at the reasons for the extreme sexual dimorphism of the mandrill and explores the (sometimes contradictory) studies that have looked at the relative importance of male competition and female choice on the evolution of its sexually selected characteristics.

Dixon writes clearly with a style that is both accessible and scientific, and the book is very well illustrated with a mix of anatomical diagrams, graphs, and colour plates. The book shows Dixon’s in-depth knowledge that is based on both his own studies and those of his students and colleagues working on the mandrill and its close relative, the drill (*M. sphinx*). Not surprisingly, given the paucity of information on wild mandrills, much of the focus is on work carried out in Gabon on captive semi-free-ranging animals (particularly that led by Joanna Setchell), but he also draws on other work on both captive and wild mandrills. At times, I would have liked more referencing of key observations, but this is a very minor problem. Given that there is so little pub-

lished on the drill, this book serves as the best summary you could find on work on this species as well as the mandrill. Throughout, Dixon's own research in comparative reproductive morphology allows him a rich interpretation of the mandrill's biology using an evolutionary perspective, and this also suggests many ideas for future comparative study.

This book will be vital reading for anyone planning to work on mandrills or drills. Not only does it bring together a wealth of information in a single volume, but it also suggests many areas that would be worthy of further study – both in *Mandrillus* and in other species.

Caroline Ross, London

References

- Forbes HO (1894). *Lloyd's Natural History*, vol, 1: A Handbook to the Primates. London, Lloyd.
Jardine W (1833). *The Naturalist's Library, Mammalia*, vol, 1: Monkeys. Edinburgh, Lizars.