

## MEDIA REVIEW

### Of Neglect and Negligence: Conservation, Science, and the Fate of the Red Ape

Review of *The Neglected Ape* edited by R.D. Nadler, B.F.M. Galdikas, L.K. Sheeran, N. Rosen. New York, Plenum Press, 1995, 300 pp, \$85.00.

When Thomas Henry Huxley wrote *Evidence as to Man's Place in Nature*, the orangutan of Borneo and Sumatra was the "best-known" of the "man-like" great apes. Nearly 130 years later, however, an international conference convened at California State University under the appellation "Orangutans: The Neglected Ape." This title reflected the premise of the organizers that the orangutan (*Pongo pygmaeus*) has come to receive less attention from scientists, conservationists, and the public at large than have its pongid cousins, the chimpanzees and gorillas. The resulting book, *The Neglected Ape*, joins several other volumes [e.g., de Boer, 1982; Schwartz, 1988] in attempting to redress that situation by focusing entirely and predominantly on the orangutan. It compiles some of the presentations delivered at the 3-day international conference at California State University (Fullerton) in 1992, supplemented with the results of a Population and Habitat Viability Analysis (PHVA) workshop held in Medan (Sumatra), Indonesia in 1993.

The editors' thesis of "neglect" is not strictly a matter of a critical lack of research or data on orangutans. Although one contributor (J. Sugardjito) points out that scientific papers on orangutans are somewhat rarer than those on chimpanzees and gorillas, another contributor (H. Rijksen) argues that the orangutan "has certainly not been neglected by science." The orangutan remains the subject of long-term study at three field sites (at Ketambe in Sumatra, at Tanjung Puting in southern Borneo, and at Gunung Palung in western Borneo), and the editors list 34 locations under "orangutan field sites" in the index, which speaks well of a general scientific and conservation interest in this animal. Nevertheless, compelling evidence for a certain amount of analytical "neglect" can be found in a recent conference on the great apes: only one of the 21 papers appearing in *Great Ape Societies* [McGrew et al., 1996] focuses explicitly and primarily on the orangutan. Thus, in spite of a significant amount of research on the orangutan, it does seem to be the "poor relation" among the Pongidae, generally attracting less analytical attention from primatologists, anthropologists, and biologists than the available data warrant. Neglect appears even more manifest at the level of popular culture: the orangutan, with its ostensibly "far less exciting life" (J. van Hooff) has not captured the popular imagination to the degree that chimpanzees and gorillas have. That may appear to be a minor point in basic research, but several authors in the volume (G. Kaplan and L. Rogers; A. Rose) discuss how this public apathy may hinder efforts to organize and procure support for orangutan conservation.

The conferences generating this book brought together an eclectic group of scientists, zoo personnel, government officials, and "interested lay people" from

several continents. This diversity is certainly reflected in the content, subject, and style of the 27 papers by 54 contributors to this volume. To use a recently invoked dichotomy [McGrew et al., 1996], the content of *The Neglected Ape* generally focuses more on “applied” than “basic” primatology. A minority of the papers are organized explicitly around *analyses* of hypotheses of orangutan behavior, ecology, and phylogeny. Indeed, several of the papers are primarily utilitarian in nature, providing information on methods of drug immobilization (L. Hiong et al.), ovum collection from captive females (C. Asa et al.), DNA collection for PCR analysis (C. Muir et al.), and on the design and enrichment of zoo exhibits and enclosures (J. Mallinson and J. Carroll). The book’s primary orientation is toward immediate issues of conservation biology. This is reflected by the editor’s classification of 20 or so of the 27 constituent papers into sections dealing with conservation, population and habitat viability, and captive maintenance (an additional section being reserved for “social and cognitive behavior”).

Thus, this volume is foremost an up-to-date source of information on the conservation status of the orangutan and the ongoing efforts to preserve it and its habitat. It is in this respect that the book is particularly valuable, for orangutan numbers have deteriorated by 30–50% over just the last 10 years (and by 80% over the last 20 years), which constitutes a much greater decline in the Bornean subspecies than previously believed. Moreover, only 2% of original orangutan habitat is nominally protected, and some of these areas are seriously threatened. As a score of contributors makes abundantly clear in this book, the orangutan is likely to disappear from the planet early in the next century unless concerted action is taken.

The effectiveness of alternative conservation actions in various biological, political, and economic contexts is a source of continuous debate among conservationists. This has certainly been the case with orangutan conservation, where past policies—such as the “rehabilitation” of formerly captive individuals for a new existence in the wild—generated much controversy. The most noteworthy aspect of this book’s treatment of conservation (and, perhaps, of the book in general) is its assembly of the great diversity of methods and approaches that are being marshaled in an attempt to prevent orangutan extinction. As expected, the book provides the detailed results of censuses of orangutan populations in Sumatra (C. van Schaik et al.) and Borneo (H. Rijksen et al.). Other chapters describe specialized techniques that are being brought to bear on conservation problems. For example, M. Leighton et al. use VORTEX analysis of elaborate classical biogeographic models addressing the vulnerability of small populations of K-selected animals to stochastic processes and the importance of environmental variation on demography. Another chapter (T. Faust et al.) demonstrates the utility of a Geographic Information System (GIS) in assessing fragmentation of habitat (and thus subpopulations of orangutans). W.T.M. Smits et al. describe improved methods of orangutan rehabilitation (e.g., restricting introductions to forest areas devoid of natural populations of orangutans minimizes the potential transfer of diseases from rehabilitants to wild individuals). These papers generate some detailed recommendations specific to particular sites and local situations (e.g., maintaining and promoting canopy cover over the paved road currently bisecting the Gunung Leuser National Park in northern Sumatra). One chapter (K. Soemarna et al.) even presents the text of the conservation action plan adopted by the Indonesian government in light of the conclusion of the Medan PHVA Workshop. The economic, political, and public sector dimensions of conservation are also addressed in several papers. G. Kaplan and L. Rogers present a philosophically oriented history of human views of nature and our relation to it.

A. Rose examines how public perceptions of animals affect efforts to conserve them, but comes uncomfortably close to advocating the unwise position that scientists de-emphasize empirically and theoretically sound research conclusions that do not enhance the popular appeal of the orangutan or contribute to what Rose calls an “optimal” or “collective” reality that best promotes its preservation (for example, Rose writes: “To say that male orangutans practice rape makes them less endearing and more endangered”).

Of the numerous contributions on conservation in the book, perhaps the most memorable is Hermann Rijkssen’s offering. Drawing upon his two decades of work in orangutan research and conservation, Rijkssen reproaches what he calls the “large international conservation corporations,” whose “voracious financial appetites” dictate that, in the interest of self-perpetuation, they compromise their conservation goals, and instead, seek “ways to appease a contingency in the *exploitation* of nature, if only it can be covered with the euphemism of ‘sustainability’” (my italics). This is an essay remarkable for its outspokenness as well as its plain-spokenness. One clearly senses the frustration and disappointment with which Rijkssen writes not so much of “neglect” but of something more akin to criminal negligence. Although the proximate cause of Rijkssen’s ire is the failure of the Worldwide Fund for Nature (WWF) to participate in an attempted rescue operation of Sumatran orangutans in 1980s, his criticism is clearly more general and profound [and recalls other recent critiques, e.g., Adams and McShane, 1992]. The editors submit that Rijkssen “ends on a hopeful note,” but this was less apparent to me given that he concludes with the probably unrealistic proposition that “what the red ape most seriously needs is to be neglected by the majority of mankind.” Although most other authors of the conservation-oriented papers in the book also underscore the importance of augmenting local enforcement of laws protecting orangutan habitat, Rijkssen goes somewhat further in additionally rejecting a conservation strategy combining this protection with “sustainable land use” (since, he argues, the latter is based on the “unrealistic hope that people will show self-restraint” and, therefore, ultimately ends up “legalizing encroachment”). Given that the agencies involved are not likely, in the near future, to abandon all sustainable land use of protected areas (as J. Sugardjito’s article makes clear), it is difficult to find optimism in Rijkssen’s prognosis. We can only hope that the almost inevitable human economic development occurring around protected rain forest areas will be sufficiently restricted and moderated to permit viable orangutan populations to persist. But clearly, the success of this strategy very much remains to be seen.

Other contributions address theoretical aspects of orangutan biology. Relative to the other pongids, study of the orangutan is of great importance partly because of an extraordinary constellation of bio-behavioral attributes: its asociality, extreme intelligence, lack of sexual swellings among females (as in gorillas and humans), an unusually high rate of “forced copulations” of females by some males, and the apparent existence of two distinct male reproductive strategies based on hormonally and socially mediated bimaturism in body size, secondary sexual characteristics, and behavior. We are far from understanding how this remarkable set of characteristics co-evolved, along with the orangutan’s ecology. There is little doubt that detailed study of the orangutan will shed much light on the evolutionary biology of the other great apes and humans as well as illuminate general principles of behavioral evolution.

Several contributions in the volume address one or more of these issues. B. Galdikas’s paper is the richest, empirically and analytically, of all the theoretically oriented treatments of orangutan behavior. She develops the argument that

the social life of wild adolescent females in Borneo is substantive enough to reject the traditional labels “solitary” and even “semi-solitary” in favor of “social.” This conclusion complements recent research emerging from northern Sumatra [van Schaik and van Hooff, 1996; van Schaik and Fox, 1996], which also proposes that the previous emphasis on the “solitary” nature of orangutans has obscured some subtle but significant patterns of social affiliation. This issue clearly deserves greater empirical attention given its potential importance in clarifying our understanding of the evolution of sociality. The other contributions are shorter reports or summaries of current information. Van Hooff briefly analyzes hypotheses for the evolution of dimorphic male reproductive strategies, finally arguing in favor of intersexual selection as the driving force behind this system. S. Utami and T. Mitra Setia present a case study describing for the first time the replacement of the resident, breeding adult male orangutan of an area by another male. R. Nadler provides experimental data on the sexual behavior of captive orangutans, which address directly the issue of “forced copulations” observed in the wild. Orangutan cognition is addressed in two articles focusing on “ex-captive” orangutans at Tanjung Puting, the first being a primarily qualitative assessment of tool use and imitation (A. Russon and B. Galdikas), and a second, more quantitative description of the results of a sign language experiment (G. Shapiro and B. Galdikas).

Although these papers address one or more of the compelling features of orangutan biology, all are essentially too limited in length and scope to constitute comprehensive reviews or analyses of hypotheses. Ultimately, explanations of the salient aspects of orangutan biology—say, for example, dimorphic reproductive strategies among males—will require integration of disparate sets of data (e.g., morphology, development, genetics, physiology, ecology, behavior). Although the present volume does not offer an initial attempt at a challenging integrative analyses of this kind, it does provide some data that will ultimately contribute to achieving this goal.

Several timely issues are not represented in this volume. For example, there is no substantive treatment of orangutan feeding ecology [sensu Rodman, 1988; Leighton, 1993], although some of the conservation-oriented papers present some relevant information. Likewise, a detailed comparison of the behavioral biology and ecology of the Sumatran and Bornean subspecies is generally lacking. Intraspecific variation in the great apes is currently of great scientific interest, particularly in the orangutan where, in contrast to chimpanzees and gorillas, the magnitude of genetic differences between the subspecies does not seem to correspond with the observed degree of morphological and ecological variation [Uchida, 1996].

Technically, the book is generally well edited, with generous use of tables, figures, and black-and-white photographs to enhance presentation. Curiously, however, the editors consistently assign the wrong Latin trinomials to the Bornean and Sumatran subspecies of orangutans in the index.

In conclusion, this collection of papers is a welcome addition to the primate literature in part because it helps redress the “neglect” this ape has experienced relative to other great apes. The volume will be of particular and greater interest to individuals actively involved in conservation and conservation-related activities, not just of orangutans, but of primates and mammals in general. By compiling current views, data, and recommendations of an extremely diverse array of persons working on disparate aspects of what is fundamentally a globally organized conservation effort, the book furthers one of the primary goals of the conference: attempting to prevent what one author refers to as the “imminent extinction of our close relative,” the red ape of Asia.

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