

BOOK REVIEWS

Neoconservationism for Neotropical Primates: The Multinational Approach

Review of *Primates of the Americas: Strategies for Conservation and Sustained Use in Biomedical Research*, edited by P. Arámbulo III, F. Encarnación, J. Estupiñán, H. Samamé, C.R. Watson, and R.E. Weller. Columbus, OH, Battell Press, 1993, xv + 314 pp, published in English and Spanish, \$34.95.

Conservation issues are often portrayed and caricatured as conflicts among persons or philosophies that are at polar extremes—exploitationists vs. preservationists. This has been the case for conservation-related issues involving nonhuman primates, as well (pick your favorite extreme position on the following issues: source- vs. user-country, northern vs. southern hemisphere, untouchable primate reserves vs. managed use). One of the easily polarizing dimensions in primate conservation (and, as the volume under review points out, a nonstarter) is tension between the consumers of primates in biomedical research and strict conservationists. However, as with all debates that are cast in black and white, the strategy of adopting polar positions does not produce useful discussions of the most important issues and can stifle debate.

The volume edited by Arámbulo et al. represents examples of reasoned debate and dialogue about the important issues in the rich and fertile areas that lie between the polar extremes of primate conservation. The book describes the activities during the first meeting of the Regional Primatology Committee for the Americas, which has wisely selected as its acronym (CORP) a derivation of its Spanish, and not its English, name, Comité Regional de Primatología. The origin of this group is a testimony to the level of multinational and multidisciplinary cooperation in neotropical primate conservation and use. In 1986, a meeting was held in Iquitos, Peru, entitled “Workshop on Controlled Breeding of Primates in their Natural Habitat.” The participants in this workshop recommended the establishment of a Regional Committee for the Americas. In 1987, a ministerial-level meeting (Vth Inter-American Meeting on Animal Health) approved the recommendation of the Iquitos meeting and formed the Regional Primatology Committee for the Americas, with the Pan American Health Organization (PAHO) serving in an ex officio capacity. The charge that CORP lays out for itself is far-reaching, with the stated purpose of maintaining the political will of PAHO member countries to accomplish four goals: 1) safeguard the continued survival of neotropical primates in their existing ranges; 2) strengthen technical cooperation among countries with native populations of primates; 3) encourage the development of regional action plans to preserve ecosystems; and 4) improve the living conditions of humans within countries with native populations of nonhuman primates.

Primates of the Americas is the official proceedings of CORP-1, the first formal meeting of the group, held in Seattle in October, 1990. The book consists of 12 substantive contributions from a wide variety of authors. Bean counters will be interested in noting that six of the chapters are written by government officials in

environmental, agricultural, or health ministries, and the other six are from individuals in private conservation agencies or universities. Authors of chapters are also broadly distributed geographically, with six from North America, three from Peru, and one each from Brazil, Colombia, and Bolivia. However, even the bean counters will soon note some interesting trends in the content of the chapters. Contributions from the biomedical community (the “consumers of primates”) are just as likely to promote active conservation efforts as contributions from traditional conservation-oriented authors. Likewise, the strongest justifications for sustained and managed use of primates in biomedicine come from authors in source countries, while clear conservation themes ring from authors in consumer countries. That is the point of the book—what could be referred to as “neoconservationism.” Traditional boundaries and easily stereotyped positions have dissolved, and workers in private, governmental, and university settings appear to be moving in the same direction with regard to evaluating and protecting the status of neotropical primates.

Why have the boundaries between conservationists and consumers of primates in biomedical research broken down? Many of the chapters in the volume speak directly or indirectly to this issue, and several themes emerge. Perhaps the clearest theme is the recognition that pressure on native populations from the demand for primates in research has decreased over the last few decades. The cases of widespread live capture and exportation of squirrel monkeys from Peru and Colombia and cotton-top tamarins from northern Colombia are now historical footnotes in the story of primate conservation in South and Central America. Harvesting of primates for biomedical research in laboratories in the more-developed countries in the northern hemisphere will not likely occur again on the scale of the mid-1960s. Indeed, in the lead chapter by Mittermeier et al. that provides a broad perspective on conservation, the impact of live capture is low on the list of real and potential threats to animal populations. Clearly the greater threats, and the common “enemy” of primate populations, are those factors that contribute to ecosystem modification and habitat destruction.

What, then, are the specific contributions that this volume provides for the conservation and management of populations of neotropical primates? As mentioned above, the book begins with an essay by Mittermeier, Kinzey, and Mast on the general status of conservation in the New World. The chapter is a useful update of the kind of information Mittermeier has been providing the primatology and conservation community for a decade and a half. Historians of primate conservation will find the contributions from this group over the years as good benchmarks for assessing the rate of progress in meeting conservation goals. The two problem areas for primate conservation in the neotropics continue to be the Atlantic coastal forests of Brazil and the rain forests of Amazonia. A review of successes in these areas, along with cautionary statements, suggests that some progress has occurred in the last 10 years, but, alas, problems persist. A cautionary note is sounded regarding the potential deleterious impact of local harvesting and use of indigenous species such as *Callithrix* for biomedical research in Brazil.

The chapters that make the most interesting and valuable contributions include two that address issues of managed use from a practical or theoretical perspective. Moya, Encarnación, Aquino, Tapia, Ique, and Puertas review a decade or more of projects in Peru on sustained harvest or croppings of *Saguinus* and *Aotus*. While additional data and more carefully controlled studies are needed to assess the impact of these croppings, several tentative conclusions can be drawn from these projects. First, while there is a short-term decrease in local primate density following a harvest, longer-term (i.e., 5 year) population trends suggest minimal

negative consequences of small harvests and possibly even modest increases in primate density following harvest. Second, and perhaps most important, is the caveat that these conclusions hold only for the harvesting of primates with a minimal disturbance of habitat. Harvest of primates accompanied by removal of trees or conversion to agricultural plots is a recipe for dramatic reductions in population density.

The essay by Panayotou and Arámbulo is perhaps the intellectually most stimulating chapter in the entire volume. The central focus of the work is a discussion of primate populations in a way that most of us are not familiar with: the language of primates as renewable resources. The theoretical point raised in the chapter concerns the appropriate model to use for guiding the utilization of the resource. Two models are contrasted. The first, Maximum Sustainable Yield (MSY), describes a model in which populations (or population densities) are maintained at some constant level, and annual harvests (or mean annual harvests) remove only the annual growth yield, or increases in the population. This model assumes that populations are at levels that encourage maximum growth rates, a questionable assumption for some species, given low population numbers and marginal habitat quality. The alternative management objective discussed by Panayotou and Arámbulo is one of Maximum Economic Yield (MEY). This model takes into account the costs associated with harvest and marketing of the resource, in addition to the "value" of the resource being harvested. Since harvesting costs per unit (i.e., monkey) rise as populations decline, the model proposes the maintenance of primate populations at higher levels than the MSY model. Further, the MEY model assumes that there are real costs incurred in the harvesting which, in the case of primate populations, would include salary and equipment for harvesters, costs associated with transport, maintenance during quarantine, and the ultimate selling of the resource. These are costs, then, that would be incurred primarily in the source country. The MEY perspective has a host of unknown parameter estimates, including economic ones such as the real costs of harvesting and the true value of the resource. Unknown biological parameters relevant to the model include population growth estimates at different population densities and carrying capacities of habitats. Nonetheless, the perspective provides an important reorientation in our thinking about primate population management, since it meets the conservation goal of maintaining populations at higher densities than other models. It also raises the important socioeconomic issue of resources for local human communities that would provide a living wage and an alternative to primate poaching. Further, this approach also includes a stimulus for habitat and primate conservation from the local level, since livelihoods are dependent on the continued existence of the forests and their nonhuman primate denizens.

The remaining chapters in the book cover a wide variety of issues. There is a series of reports on primate conservation on a regional basis in South America. Paulo, Rodriguez, and Zeballos each provide a summary of conservation threats relevant to nonhuman primates in Brazil, Colombia, and Bolivia, respectively. Liebow provides a nice primer on the concept and workings of "debt for nature" swaps. He outlines examples of the use of this strategy in Bolivia, Costa Rica, and Ecuador. While the areas thus far in debt for nature exchanges have not been specifically targeted toward high priority primate areas, the inference that this may be a useful technique for some of these areas is clear. Chapters by Wolfe and Whitney portray the perspective of North American biomedical research, emphasizing the importance of primate conservation for human health and special issues in captive breeding. Arámbulo and Ruíz outline the history and on-going activities of PAHO/WHO in primate conservation, and many of these themes are also raised

in Castillo's chapter. The last chapter in the book outlines a regional action plan for neotropical primate conservation. Encarnación and Samamé's ambitious plan includes recommendations on parks and reserves, information transfer, captive breeding, education, and economic issues.

Structurally, the book is published like a volume of proceedings. The typesetting and fonts are readable, and the number of typographic errors are few, given the norm for photo-ready copy. Chapter formats are inconsistent from chapter to chapter, and some resemble lecture notes more than prose. There are a number of important pieces of information contained at the end of the book, including a list of participants and the proposed constitution for CORP. All chapters, forewords, and supplemental materials are printed in both English and Spanish, making it more likely that the volume will have an impact in Latin American countries.

I would be remiss in my review if I did not reveal that the quality of the contributions varies considerably. Some are highly personal reflective essays, while others are scholarly pieces of work. Some repeat information that is well known or out of date, while others provide state of the art synthesis and analysis of important issues. However, and in the final analysis, perhaps the most lasting contribution of this volume is a demonstration that conservationists, biomedical researchers, and government officials have begun to take steps to insure the survival of primate populations in the New World. The names and affiliations of each of these constituencies are listed in the book, and they serve as a reminder to everyone that we all have a stake in the continued existence of primate diversity in the neotropics.

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