POINTS OF VIEW

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THE NEED TO COLLECT BIRDS IN THE NEOTROPICS

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In an effort to conserve their natural resources, the authorities of countries in the Neotropics have, understandably, set stringent limits to the number of birds that can be collected for scientific purposes. Part of the reason for the stringency of these regulations is an attempt to minimize the commerce in wild birds, and to curb the excesses of the pet trade. An unfortunate result of these regulations, however well intentioned they may be, is that both native and foreign ornithologists have great difficulties in obtaining permits to carry out scientific research that involves collecting of specimens in Neotropical countries. Intelligently crafted and soundly managed regulations concerning the scientific collecting of birds must be applauded and respected. However, to an alarming extent the authorities responsible for such regulations increasingly restrict, or even oppose, collecting on various grounds, and so do also many biologists (including ornithologists). Because I believe this opposition to be based on insufficient information I wish to address three issues in this editorial.

1. A frequently voiced accusation is: Ornithologists who collect birds for research actually engage in slaughter and endanger the survival of bird populations. This accusation is based on misinformation. Even if the collections of all scientists, worldwide and in a given year, added up to ten thousand specimens (which is much too high a number), this would be far fewer birds by several orders of magnitude than the combined numbers of birds of about ten million or more killed each year: (a) when captured for the pet trade, (b) when hunted (legally and illegally), (c) when killed by cars and trucks on roads, and (d) when eliminated by radical habitat-altering operations like logging forests, plowing grasslands, or destroying natural habitats for "development." Those who slaughter birds are not the few ornithologists who collect a few specimens, but the rest of us who buy birds to keep as pets, who hunt birds for "sport" or to destroy "vermin," who drive vehicles, and who allow logging and other destructive activities to continue unchecked. Note that none of these activities increases knowledge: once destroyed, those birds are lost forever. By contrast, scientifically and legally collected birds remain available, as museum specimens, for research and study. Furthermore, such collecting entails no risk to

the survival of bird populations. In fact the opposite is true, as increased knowledge of these birds will improve the chances of long term survival of the populations they come from.

2. A frequently heard question is: There are already large numbers of birds in museums, so why collect more? It is extremely important to remember, and to always keep in mind, that the specimens of Neotropical birds deposited in all museums of the world combined were obtained during more than two centuries of scientific work. These collections have permitted scientists to make an inventory of the biodiversity of birds, hence have given conservationists the necessary elements to establish baselines for conserving the fragments of this biodiversity that still exist. Especially important in this regard is the fact that many museum collections were made in areas and habitats that later were logged, plowed, or paved over. These collections show us, dramatically, how much biodiversity has been lost. As logging and development are not about to stop, given increasing human greed and increasing numbers of human beings, it is crucial to collect birds in areas that still remain more or less natural, even in parks and reserves, as even those are vulnerable to destruction. Once destroyed, these areas and their birds are gone forever. However, should any birds have been collected prior to the destruction of their habitat, the knowledge that these specimens represent is important for future conservation action. Basic knowledge of birds still depends on the collecting of selected specimens by responsible individuals working under responsible legislation. It is from such knowledge that conservation is possible.

3. An often heard comment: Collecting birds is a thing of the past, all that is needed nowadays is careful field observation. Many of the persons who voice this remark include ornithologists, especially perhaps non-professionals. They are mistaken. The field guides that they use to help them identify birds are largely based on the carefully collected, prepared, and labelled specimens in museums. Even though authors and artists who write and illustrate field guides have a vast knowledge of birds in the field, they rely on museum specimens for data on plumage, soft part colors, details of molt, and differences among individual birds due to age, sex, or geography. All the best field guides to Neotropical birds (for a listing, see Vuilleumier 1997) were prepared using museum collections. Here at the American Museum of Natural History I have seen artists spend days and weeks painting the plates for their future guide. No one will deny that good field guides are crucial for improved knowledge of ornithology and hence for better bird conservation in the Neotropics. No one should ignore or minimize the fundamental role that museum specimens of birds have played, and are still playing, in the preparation of these guides.

Modern bird collecting is quite different from the practice of earlier days. Every bird to be collected is unique and precious, and represents invaluable information that will add to knowledge. Each collected bird becomes a multiple specimen: study skin, skeleton, and tissue samples. The stomach and intestinal contents are preserved, and so are external and internal parasites. All of this is carefully labelled, identified, catalogued, and preserved with state of the art techniques. These specimens are divided among institutions, according to the regulations of the country where they were collected. Some specimens remain where they were collected, others go to other institutions. This division makes this material available to as wide a user base as possible, in the host country and elsewhere. In addition, the information from these multiple specimens is incorporated in inventories, check-

lists, and other databases. More and more frequently this information is also available on the Internet, not only throughout the Neotropics but worldwide. Not a scrap of information is thus lost.

Specimen information is indispensable for studies of systematics, phylogeny, relationships, feeding ecology, molt, parasite loads, and a host of other topics. In turn, these fundamental data are the indispensable basis for the dissemination of knowledge to a wider public, through field guides, brochures, pamphlets, posters, and films. This knowledge is the *sine qua non* basis for conservation. Thus I will argue: no collection, no conservation. Only an enlightened appreciation of the far-reaching value of scientifically collected birds will do. This understanding must be shared by the personnel of regulatory agencies in Neotropical countries (who must better realize how important collecting is), the ornithologists and other biologists who do not collect (who must become aware of the far-reaching significance of collecting), and the collectors themselves (who must be sure that, indeed, not a scrap of information is wasted, so that the information they have obtained is used maximally).

Particular Neotropical birds belong not only to particular Neotropical countries, but to the entire Neotropical Region. In an age of economic and financial interdependency and globalization, the scientific collecting of birds in, say, Argentina or Costa Rica, is no longer simply an Argentine or Costa Rican issue: it is Neotropical. Hence all Neotropical ornithologists, whether living in the Neotropics or elsewhere, must recognize that collecting for *bona fide* scientific purposes can only enhance the long term conservation of Neotropical birds, paradoxically as it may appear. After all, that pioneer Neotropical ornithologist, Frank M. Chapman, who was instrumental in creating a conservation organization that eventually led to the powerful Audubon movement, was also a collector of Neotropical birds. Without Chapman's fundamental collections we would know much less about Neotropical birds – and hence be much less able to protect them.

A good time and place to discuss the importance of collecting, the globalization of collecting, and the significance of collecting for conservation will be the next Neotropical Ornithological Congress in Monterey.

REFERENCES

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