nique underscores the need for a concerted effort by avian nutritional ecologists to better define the components of nutritional condition, nutritional plasticity, and the physiological and behavioral consequences of undernutrition.

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Furthering Avian Conservation in Latin America

STUART D. STRAHL
Pickering Creek Environmental Center, 27370 Sharp Road, Easton, Maryland 21601, USA

The Neotropical realm is the most diverse in tropical forest avifauna, and one of the most depauperate in current avian research (James 1987). It also is in desperate need of avian conservation on both national and international levels. Recent estimates indicate that nearly one-eighth of Neotropical bird species are either threatened or endangered (Collar and Andrew 1988, World Resources Institute 1990). A number of authors have outlined both the urgent need for tropical field biologists and the training of Latin American students in ornithology and conservation (Short 1984, Mares 1986, James 1987, Duffy 1988). Additional, specific activities and programs can be undertaken by North American ornithologists to further the goals of conservation in developing countries.

James (1987:348) stated that "developed nations have long sent researchers to this region; it is now time for Latin Americans to become much more involved." Conservation efforts certainly need national participation, but I point out (as did Duffy 1988) that there is no lack of interest among Latin Americans in either Neotropical conservation or ornithology. At the III

and IV Neotropical Ornithologists' Congresses held in Cali in 1987 and Quito in 1991, over 300 papers were presented, the vast majority of which were given by Latin American scientists. Nearly *one-third* of these papers dealt with some aspect of avian conservation. Similarly, at meetings on the conservation of particular families (Psittacidae, Cracidae, Phoenicopteridae), three-quarters of the papers presented were authored by Latin nationals. The relative proportion of all conservation papers at AOU annual meetings, by contrast, has been well under 10% over the past five years.

Furthermore, as with other scientific disciplines, there appears to be a continuing lack of interest among North Americans in working actively on conservation in the Neotropics and/or in applying their ornithological data toward conservation-related goals. This is coupled with a general lack of understanding of how to apply such data (see Western 1991). More importantly, many North Americans working in the Neotropics do not incorporate nationals or national institutions in their research programs. Also, by our inaction, we demonstrate little interest in funding and/or training Latin American students and scientists. As a professional organization dedicated to the study of birds, the AOU must begin to develop a more conscious effort towards Latin American avian conservation before the time when Neotropical species are lost more rapidly than we investigate their biology.

What are the steps that can be taken by individual North American ornithologists working in the tropics to promote ornithology and conservation biology? The following are possibilities: (1) look for a Latin American counterpart for research and publications; (2) find contacts at national universities to provide access to students interested in learning techniques of ornithological field work; (3) hire nationals as field assistants or trainees; (4) present papers and talks at meetings and/or give informal presentations at universities in the country where studies are being conducted; (5) be alert as to how our results can fit into the particular country's framework for ornithology and avian conservation; (6) publish some subset of results in regional scientific and popular literature; (7) attempt to learn Spanish (or Portuguese) to be able to converse with nationals (absolute fluency in written Spanish or Portuguese, while desirable, is not required to comply with any of the above points, especially if one's counterparts are bilingual).

Note that some of these steps entail acquiring at least a superficial understanding of the critical problems and principles of the country in question, as well as a general overview of the national literature. Many North Americans refer to "Latin America" as a unified whole; it must be recognized that each country in the region is distinct in its scientific and governmental approach to conservation. Taking one or more of the first three steps can help our learning process regarding these differences (as well as facilitating the remaining four points).

Publishing in the country where field studies are conducted is frequently overlooked by North American ornithologists for a variety of reasons, including the language and stature of the publication. The former is less of a problem, as many national journals allow publication in English. Alternatively, one can coauthor papers in Spanish or Portuguese with a Latin American colleague. Many North American ornithologists working in the Neotropics shy away from publishing results in their host country because such publications may be "lost" to international readers. It should be kept in mind, however, that the form and content of these papers should be determined in part by the interest of the national ornithological community involved. These can be quite distinct from the quantitative trends in international journals, and can expand the breadth of one's published topics. Detailed or general natural-history data alone, for instance, are important contributions to national databases in Latin American countries for the conservation of species and their habitats (Strahl and Grajal 1991), although they may be unsuitable for many international journals.

How does one make contacts and develop knowledge of national priorities? Cooperbrand (1985) included lists of scientists, government institutions, private institutions, and private conservation groups, along with their interest and activities. International conservation organizations characteristically have detailed lists of contacts in each country, as do members of at least two AOU committees (Conservation, Pan American Affairs). Additionally, visiting local conservation groups while in the country usually can provide a quick overview of national policies and priorities. These offices usually are located in the capital city through which most of us enter the country, requiring only an extra half-day for a visit. Most of these groups have at least one individual who speaks English for those whose Spanish or Portuguese is rusty, and often have literature in English on conservation problems. Furthermore, assistants can be located through these institutions or groups, as well as through national or expatriate scientists living in the country.

Finally, as North American ornithologists we need to expand the facilities for training and internships for Latin American students in the United States. Several institutions and universities already have exchange programs for Latin Americans, but more are needed. In addition, we must give our support to regional and national Master's training programs in conservation and management in the Neotropics, such as those in Costa Rica, Peru, Venezuela, Argentina, and Mexico, among others. Sabbatical leaves are possible at many of these institutions, providing excellent low-cost opportunities for research and productive input.

James (1987) outlined the need for training and student support. I echo his suggestion and point out several benefits of supporting Latin American students in ornithology and conservation. First, support given to *in situ* student projects can be much more cost effective than support given to North Americans, especially if they are enrolled in a regional program (rather than in the United States). For instance, the cost of undergraduate thesis projects in conservation funded by Wildlife Conservation International (WCI) in the Tropical Andes has averaged just over $1,400 from 1987–1992 ($n = 77$ projects). Second, Latin American students often have a better idea than North American students of how to maximize scientific and conservation results in their own country, which may lead to more effective application of research efforts relating to conservation action. Third, because they are more familiar with local people and conditions, in-country students can safely perform research in regions that may be hazardous to North American scientists. Lastly, even this minimal amount of support can provide an important career stepping stone for a national scientist. Over 90% of the graduated grantees funded by WCI have found employment in a conservation-related field.

What can the AOU do as an institution? The suggestions of Short (1984), James (1987) and Duffy (1988) all are valid. Essential low-cost steps that can and should be taken include: (1) appropriate foreign-language summaries for the *Auk*; (2) increased distribution of Recent Ornithological Literature and the *Ornithological Newsletter*; (3) distribution of Banks' (1989) *Grants, Awards and Prizes in Ornithology* to selected institutions in each Neotropical country; (4) annual travel-award competitions for Latin American students to AOU and other meetings; (5) publicized opportunities for AOU members to provide individual low-cost gift subscriptions to selected Latin American institutions; and (6) continued moral support for conservation institutions in the region. Also, to encourage participation by its members, the AOU might develop an annual award for outstanding achievements by ornithologists working in the field of applied avian or conservation-related research.

Above and beyond these activities, however, the AOU should provide endorsements to Neotropical conservation activities. Regional and national workshops on endangered species and/or species groups are important means of promoting conservation activities in the Neotropics, and several have occurred over the last five years. Many national and international organizations are working actively on avian conservation in Latin America, and most welcome scientific support.

In this era of "doom and gloom" regarding the future of Neotropical ecosystems, it is easy for researchers and organizations to become discouraged about what they can do individually to "make a difference" in conservation. While many areas and species surely will be lost in coming decades, significant battles are being fought and won to preserve others. The stakes are high and the time to act is now in a determined and concerted manner. If we truly are interested in conservation, we must identify and at least morally support major conservation movements and applied ornithological research in Latin America.

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