

Ornithology in Central and South America

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Attention has been focused recently on the conservation of tropical forest birds (Short 1984, Diamond and Lovejoy 1985), including those of the Neotropics (Buckley et al. 1985). However, Central and South America are more than forests; habitats are extensive and diverse, and the region supports abundant flora and fauna. Colombia alone has almost 1,700 species of birds (Hilty and Brown 1986). Because a sound conservation strategy must rely on a good data base, it is timely to review the data base currently available for Central and South American birds. I therefore present a brief synthesis to highlight the existing weaknesses.

I searched the "neotropical" portion of the Aves section of the Zoological Record from 1972 to 1983 for publications on Central and South American birds. Over this 12-yr period, only 2,391 or 2.6% of the total publications originated (i.e. where the work took place) from the region. This comprised 1.3–3.4% of the annual output of avian literature (Table 1). The comparable figure for the United States in 1983 was 1,348 publications, or 14.6% of that year's total. Clearly, there is a disproportionately smaller amount of research conducted on Central and South American birds, particularly when one considers the species diversity of the two regions. This almost certainly reflects a lack of people doing research (Short 1984, Mares 1986). However, the proportion of Central and South American literature increased significantly over the period examined ($r_s = 0.829$, $df = 10$, $P < 0.01$).

The research effort is not only low, but also distributed unevenly among the countries concerned (Table 2). Fully 866 publications or 42% of the total came from only three countries (Mexico, Brazil, and Argentina), while research in nine countries (Guyana, Bolivia, Uruguay, Belize, French Guiana, Paraguay, El Salvador, Honduras, and Nicaragua) contributed only 191 publications or 9.3% of the total. The paucity of research effort in Central America is only too apparent; the publication rate on Nicaraguan birds, for example, was one paper every four years! The reasons for this disparity of effort are probably numerous, but include factors such as access, political stability, and economics. It is clear that much greater research activity is needed in *all* countries if meaningful conservation measures are ever to be applied.

In a refreshingly optimistic review, Mares (1986) identified several primary factors related to the situation. Crucial among these was a lack of people trained at all levels relevant to conservation. The de-

TABLE 1. Annual number of ornithological publications from South and Central America cited in Zoological Record, as a percentage of the total.

Year	Total publications	Central and South America	%
1972	4,197	102	2.4
1973	7,312	93	1.3
1974	5,331	80	1.5
1975	9,049	156	1.7
1976	6,205	174	2.8
1977	7,084	197	2.8
1978	7,563	202	2.7
1979	7,865	235	3.0
1980	9,542	323	3.4
1981	8,862	237	2.7
1982	8,709	294	3.4
1983	9,240	298	3.2
Total	90,959	2,391	2.6

veloped nations have long sent researchers to this region; it is now time for Latin Americans to become much more involved. Without their participation, conservation efforts in the region are doomed to failure. Various suggestions have been made as to how this process can be facilitated (Short 1984, Mares 1986), including the implementation of a scholarship pro-

TABLE 2. Number of ornithological publications per country in Central and South America cited in Zoological Record from 1972 to 1983.

Country	Number of publications	%
Mexico	301	14.6
Brazil	286	13.9
Argentina	279	13.5
Peru	170	8.2
Chile	150	7.3
Colombia	150	7.3
Venezuela	133	6.4
Costa Rica	119	5.8
Panama	118	5.7
Surinam	63	3.1
Ecuador	59	2.9
Guatemala	43	2.1
Guyana	35	1.7
Bolivia	30	1.5
Uruguay	29	1.4
Belize	26	1.3
French Guiana	23	1.1
Paraguay	19	0.9
El Salvador	14	0.7
Honduras	12	0.6
Nicaragua	3	0.1

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gram for graduate education in disciplines central to resource management and conservation. This program should dramatically increase the number of students from both Latin and non-Latin countries conducting research in Central and South America. The scholarships should also, if necessary, provide the training for Latin American students at the educational institutions of the developed countries. The long-term benefits of such assistance will surely outweigh those provided by the "aid," mostly short-term, currently provided by developed nations.

This commentary was written while I was a University of Calgary Postdoctoral Fellow.

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