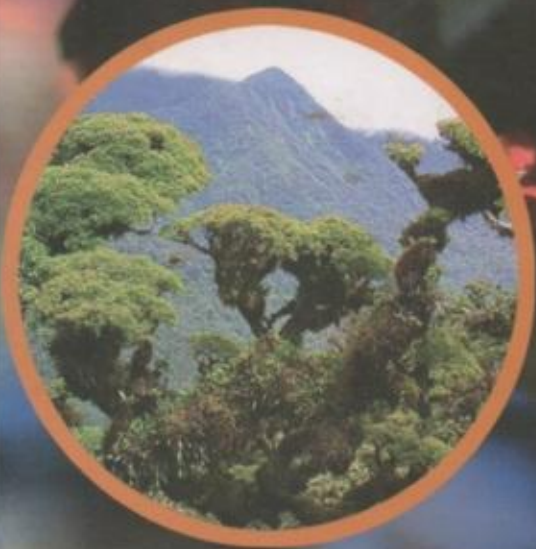


Biodiversity: The richness of Bolivia

State of knowledge and conservation



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Birds

(S.K. Herzog)

State of knowledge: The first ornithological studies in Bolivia were carried out in the 19th century. These studies consisted mainly of the collection and identification of specimens (e.g., Bridges 1847, d'Orbigny 1847, Sclater & Salvin 1879), although some authors also included observations regarding the natural history of the species (Boeck von Bannwarth 1884, Grant 1911). With the increase in the number of species collected and deposited, mainly in European and North American museums, the description of new Bolivian species for science also increased (e.g., Berlepsch 1907, Hellmayr 1917, Carriker 1931, Bond & Meyer de Schauensee 1939, Gyldenstolpe 1941). For the first time, Bond & Meyer de Schauensee (1942, 1943), based mainly on the extensive collections of M.A. Carriker Jr. in Bolivia between 1934 and 1938 (see Wiedenfeld 1997), compiled the scattered ornithological information in an annotated list of the whole Bolivian avifauna, totaling 940 species.

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In the second half of the 20th century, and especially in the last twenty years, the study of birds both in Bolivia and in almost the whole neotropical region, has greatly increased. The focus of the studies has also widened, to include among others, distribution and biogeography (Short 1975, Remsen et al. 1991), geographical variation (Partridge 1956, Remsen 1984), behavior (Willis 1960, Moynihan 1979, Fitzpatrick 1980) and population and community ecology (Remsen 1985, 1990). Lately, molecular genetics studies have also been carried out to reanalyze the systematics of various groups of neotropical birds (García-Moreno & Fjeldså 1999, Chesser 2000) and also macro-ecological studies, i.e. the analysis of ecological patterns at large spatial scales (Fjeldså et al. 1999, Rahbek & Graves 2000). Furthermore, the discovery of many new records for bird species on Bolivian territory continues (Parker et al. 1980, Parker & Remsen 1987, Herzog & Kessler 2000).

The knowledge of Bolivian birds has increased greatly in the last 20 years due especially to the efforts of J. Fjeldså (e.g., Fjeldså & Krabbe 1989, Fjeldså & Mayer 1996), T.A. Parker III (e.g., Parker et al. 1991, 1992) and J.V. Remsen Jr. (e.g., Remsen 1985, 1993). However, many other people have also contributed to ornithological knowledge in Bolivia; worth mentioning are, among others, the studies of: R. Brace in the Beni Biological Station (Brace et al. 1997), R.O. Clarke in the Amorbó National Park and Natural Area of Integrated Management (Clarke & Sagot 1996); S.E. Davis on southern migrants (e.g., Davis 1993) and in the Santa Cruz de la Sierra Botanical Gardens; F. Dupret in the protected areas in the Tarija department; A.B. Hennessey in the Pilón Lajas Biosphere Reserve and Indigenous Territory and in the Madidi National Park and Natural Area of Integrated Management (e.g., Hennessey 2002); Noel Kempff Mercado on avifauna in general (1985); and O. Rocha O. on the distribution and abundance of Andean flamingos (e.g., Rocha & Quiroga 1997). Furthermore, S. Mayer compiled, for the first time, a most valuable CD-ROM (Mayer 1996, 2000) containing the songs of almost 950 Bolivian bird species, which were recorded by more than 20 people. Beginning in 1995, S.K. Herzog and collaborators have carried out specific studies on the biogeography, composition and diversity of bird communities in the Bolivian Andes (e.g., Herzog et al. 1999; Herzog & Kessler 1997, 2002; Kessler et al. 2001; Herzog et al. 2002b). However, the ornithological "map" of Bolivia still has many gaps to fill.

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Species richness: More than forty years after the work of Bond & Meyer de Schauensee (1942, 1943), Kempff Mercado (1985) published the second annotated list of birds of Bolivia. This was followed by Remsen & Traylor (1989), who listed a total of 1,274 species, and later by Arribas et al. (1995) with 1,358 species. Recently, Asociación Armonía/BirdLife International (Bolivia) published the fifth edition of their "Lista anotada de las Aves de Bolivia" (Annotated List of the Birds of Bolivia), in which are included 1,398 species (Hennessey et al. 2003). It is expected that future