

FEATURE ARTICLES

SEASONAL DISTRIBUTION, ABUNDANCE, AND NESTING OF PUNA, ANDEAN, AND CHILEAN FLAMINGOS

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Abstract. Of the world's five flamingo species, the rarest and least known are the Puna Flamingo (*Phoenicoparrus jamesi*) and the Andean Flamingo (*P. andinus*). These two species coexist with the more common Chilean Flamingo (*Phoenicopterus chilensis*) throughout much of their range. We conducted four simultaneous surveys from 1997 to 2001 (two in summer and two in winter) to estimate the distribution and abundance of all three species in Argentina, Bolivia, Chile, and Peru, at a regional scale. Of 224 wetlands surveyed, 179 had flamingos; 63% of these were in the high Andes (above 4000 m), 25% were in the puna (3000 to 4000 m), and the remainder were in lowlands (below 3000 m). Maximum counts were 64 000 Puna Flamingos (summer 1998), 34 000 Andean Flamingos (summer 1997), and 83 000 Chilean Flamingos (winter 1998). In summer, Puna Flamingos congregated at wetlands in the high Andes, with 50% of the population in just three lakes: Colorada, Grande, and Vilama. Andean Flamingos were more uniformly distributed across a broader elevational range (2500 m), and Chilean Flamingos showed a heterogeneous distribution pattern. In winter, all species moved to lower latitudes within the high Andes and to lower altitudes on the central plains of Argentina. The most important nesting wetlands were Colorada, in Bolivia, for the Puna Flamingo, Surire and Atacama, in Chile, for the Andean Flamingo, and Surire for the Chilean Flamingo. We recommend continued monitoring through simultaneous summer surveys, and a conservation strategy that considers the large spatial and temporal scales at which these species operate,

including their seasonal migrations.

Key words: *altiplano, Andes, flamingos, Phoenicoparrus andinus, Phoenicoparrus jamesi, Phoenicopterus chilensis, salt lakes.*