

SHORT COMMUNICATIONS

DIFFERENTIAL MIGRATION IN WESTERN SANDPIPERS WITH RESPECT TO BODY SIZE AND WING LENGTH

PATRICK D. O'HARA^{1,4}, GUILLERMO FERNÁNDEZ¹, BEN HAASE², HORACIO DE LA CUEVA³, AND DAVID B. LANK¹

¹*Centre for Wildlife Ecology, Department of Biological Sciences, Simon Fraser University, 8888 University Drive, Burnaby, British Columbia, V5A 1S6, Canada*

²*El Restaurante "Oystercatcher", Avenida General Enriquez Gallo s/n, Entre calles 47 y 50, Salinas (Guayas), Ecuador*

³*Centro de Investigación Científica y de Educación Superior de Ensenada, Km 107 Carretera Tijuana-Ensenada, Ensenada, Baja California, Mexico*

Manuscript received 7 September 2004; accepted 1 September 2005.

⁴Present address: Canadian Wildlife Service, c/o Institute of Ocean Sciences, Box 6000, 9860 West Saanich Rd., Sidney, British Columbia, V5A 1S6, Canada. E-mail: paddio@uvic.ca

Abstract. We examined differential migration in the Western Sandpiper (*Calidris mauri*) with respect to body size and wing chord allometry within sex and age categories. Culmen and wing chord data were collected as indices of structural body size at three sites that vary latitudinally: Ecuador, Panama, and Mexico. Within all sex and age categories, larger individuals (i.e., those with longer culmens and wing chords) and those with a disproportionately longer wing chord relative to the culmen migrated farther south. Our results, coupled with known molting schedules, indicate that i) immature sandpipers that grow disproportionately longer primary feathers on breeding grounds migrate farther during their first southward migration, and ii) adults that fly farther grow disproportionately longer primary feathers on the nonbreeding grounds. Although no single-factor hypothesis accounts for all aspects of age, sex, and size of Western Sandpiper distributions, costs associated with flight during migration play a significant role in determining differential nonbreeding latitudinal distributions.

Key words: body size, *Calidris mauri*, differential migration, latitudinal differences, nonbreeding distribution, Western Sandpiper, wing allometry.