

FEATURE ARTICLES

MITOCHONDRIAL DNA VARIATION, SPECIES LIMITS, AND RAPID EVOLUTION OF PLUMAGE COLORATION AND SIZE IN THE SAVANNAH SPARROW

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Abstract. We compared sequences from two mitochondrial DNA (mtDNA) genes (ND2, ND3) in Savannah Sparrows (*Passerculus sandwichensis*; $n = 112$) sampled from Baja California (five sites), coastal Sonora and the continental range (eight sites). Populations from Baja California, San Diego and Sonora formed a clade within which there was no phylogeographic structure; this clade merits species status (*Passerculus rostratus*). The other clade, consisting of phenotypically “typical” savannah sparrows, should be classified as *P. sandwichensis*. Among the typical sparrows, there was no phylogeographic structure, although two major clades were discovered. Representatives of each of the two main clades occurred at most sampling localities, excluding Suisan Bay, California and Sable Island, Nova Scotia, Canada. Haplotypes found on Sable Island, representing the “Ipswich Sparrow,” were not distinctive, thereby failing to support species status for this taxon. On Isla San Benito, a single haplotype was found, which also occurred in other Mexican localities. The results for Sable Island and Isla San Benito show that size and plumage coloration can evolve rapidly.

Key words: islands, mitochondrial DNA, phylogeography, species limits, subspecies.