

FEATURE ARTICLES

**MITOCHONDRIAL DNA PHYLOGEOGRAPHY OF THE BAY WREN
COMPLEX**

MARIBEL A. GONZÁLEZ,¹ JESSICA R. EBERHARD,^{1,2} IRBY J. LOVETTE,^{1,3}
STORRS L. OLSON⁴ AND ELDREDGE BERMINGHAM^{1,5}

¹*Smithsonian Tropical Research Institute, Naos Laboratories, Apartado 2072, Balboa, Republic of Panama*

²*Department of Biological Sciences and Museum of Natural History, Louisiana State University, Baton Rouge, LA 70803*

³*Cornell Laboratory of Ornithology, 159 Sapsucker Woods Rd, Ithaca, NY 14850*

⁴*Division of Birds, MRC 116, National Museum of Natural History, Smithsonian Institution, Washington DC, 20560*

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⁵Corresponding author. E-mail: eb@naos.si.edu

Abstract. The Bay Wren (*Thryothorus nigricapillus*) is distributed from Costa Rica to Ecuador and includes seven described subspecies, five of which occur in the Caribbean lowlands of Panama. The subspecies vary in plumage characters, with particularly striking differences between Bay Wrens from western Panama (to the north), and eastern Panama (to the south). We surveyed mitochondrial DNA (mtDNA) sequence variation from a geographically broad sample of Bay Wrens and compared the phylogeographic structure of mtDNA diversity with previously described patterns of morphological variation. The mtDNA-based phylogeographic reconstructions revealed a basal split separating populations in far eastern Panama and South America from those in central Panama through Costa Rica. These two clades are concordant with previous morphology-based groupings of *T. nigricapillus* subspecies into the “*castaneus* group” (*costaricensis*, *odicus*, *castaneus*, and *reditus*) and the “*nigricapillus* group” (*schottii*, *connectens* and *nigricapillus*). Morphological intergradation between the two groups takes place in central Panama, but all intergrades possess the mtDNA haplotype of the *castaneus* group, suggesting that mitochondrial gene flow is introgressing from west to east. In spite of the marked body size and plumage variation present among subspecies of the *castaneus* group, mtDNA variation within this group was low. At a deeper phylogenetic level, the mtDNA data support recognition of the Riverside Wren, *T. semibadius*, as a full species. This taxon has sometimes been considered conspecific with *T. nigricapillus*, but the high mtDNA divergence between these species is consistent with previous suggestions that the morphological similarity results from convergence in plumage traits.

Key words: Bay Wren, Panama isthmus, phylogeny, phylogeography, plumage, speciation, *Thryothorus nigricapillus*.