

FEATURE ARTICLES

**GEOGRAPHIC VARIATION IN MITOCHONDRIAL DNA SEQUENCES OF AN
AMAZONIAN NONPASSERINE: THE BLACK-SPOTTED BARBET COMPLEX**

JESSICA K. ARMENTA^{1,3}, JASON D. WECKSTEIN¹, AND DANIEL F. LANE²

¹*Department of Biological Sciences and Museum of Natural Science, 119 Foster Hall, Louisiana State University, Baton Rouge, Louisiana, 70803-3216*

²*Museum of Natural Science, 119 Foster Hall, Louisiana State University, Baton Rouge, Louisiana, 70803-3216*

Manuscript received 20 June 2004; accepted 25 February 2005.

³Present address: Department of Biological Sciences, P.O. Box 413, Lapham Hall, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, 53201. E-mail: koeder2@uwm.edu

Abstract. We reconstructed the phylogeny and estimated mitochondrial DNA diversity to assess levels of divergence and population structure in the Black-spotted Barbet complex. This complex consists of three Amazonian taxa: *Capito niger*, *C. auratus*, and *C. brunneipectus*. Sequence divergence between these taxa is relatively high and all are monophyletic, which is consistent with the classification of these taxa as distinct species. Within *C. auratus*, a relatively deep split in the gene tree yields two reciprocally monophyletic groups separated by the Amazon, Solimões, and Ucayali Rivers. Apparently, these rivers serve as an effective barrier to mtDNA gene flow between these populations of *C. auratus*. Carotenoid plumage coloration did not contain phylogenetic information for this group and several subspecies of *C. auratus* named on the basis of such coloration were not monophyletic based on mtDNA comparisons. However, mtDNA variation suggests that *C. auratus* contains at least two evolutionarily significant units which might indicate two geographically separate species-level taxa.

Key words: Amazon, barbet, Capitoninae, carotenoid coloration, cryptic species, river barriers.