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Phylogenetic Affinities of an Endemic Cloud Forest Avian Relict: Sri Lanka Bush Warbler (*Elaphrornis palliseri*)

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Abstract

The endemic Sri Lanka Bush Warbler (*Elaphrornis palliseri*) is a unique entity among avifauna of Sri Lanka due to it being an elusive montane relict and being ecologically and evolutionary isolated in the central highlands. This species is the only member of its genus *Elaphornis* as well. However, the phylogenetic affinities of Sri Lanka Bush Warbler remained unresolved over two centuries. This study therefore was aimed at resolving the phylogenetic affinities of this elusive bird using two molecular markers; nuclear Ornithine decarboxylase (ODC) and mitochondrial Cytochrome b (Cytb). Both Bayesian inference and Maximum Likelihood estimation methods were performed to generate best estimated phylogenies. Sri Lanka Bush Warbler manifests its phylogenetic affinities immediately with two Grassbird species (Posterior Probability: 0.87); Bristled Grassbird (*Chaetornis striata*) and Broad-tailed Grassbird (*Schoenicola platyurus*) which are endemic to the Central and Northern regions in India respectively. Together these three species share their affinities with an Afrotropical basal species (Posterior Probability: 0.9); Fan-tailed Grassbird (*Schoenicola brevirostris*). Based on this resolved phylogeny, we identified Sri Lanka Bush Warbler as an Afrotropical avian remnant isolated in the tropical wet zone mountain massif in Sri Lanka, which is an atypical phenomenon as most of the Sri Lankan bird lineages show Oriental affinities.

Keywords: Sri Lanka Bush Warbler, Phylogeny, Affinities, Afrotropical, *Elaphrornis*