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Evolutionary and Ecological Characterization of the Laughingthrush of Sri Lanka

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The Ashy-headed Laughingthrush, an endemic bird to Sri Lanka, has been historically considered a laughingthrush in the genus *Garulax.* However, recent phylogenetic studies have suggested a new classification for the species under the genus *Argya* (true babblers). However, as the name suggests, the Ashy-headed laughingthrush shows remarkable morphological similarities to other laughingthrushes, despite the genetic signal showing evolutionary affinity to true babblers. This study attempted to address these seemingly divergent signals in the Ashy-headed Laughingthrush by reconstructing the molecular phylogeny of babblers and laughingthrushes of the Indo-Himalayan region and comparing it with key morphological, plumage features of the two groups. The phylogenetic relationships were reconstructed using the Bayesian inference using four mitochondrial and seven nuclear gene regions. Hierarchical clustering was performed to assess the phenotypic characters. The phylogenetic tree placed the Ashy-headed Laughingthrush with the genus *Argya*, with the *A. malcolmi* (Great Grey Babbler) of India being the sister taxa. Morphometrics and plumage placed Ashy-headed Laughingthrush with laughingthrushes in the phenotypic clustering. Therefore, a discordance is evident between phenotype and phylogeny. This discordance suggests a rapid phenotypic divergence from babblers and convergent patterns of evolution with laughingthrushes of the Indo-Himalayan region. Our findings agree with the recent placement of Ashy-headed Laughingthrush in *Argya* based on phylogenetic evidence despite seemingly divergent phenotypic signals. We think that the convergence of phenotypic evolution has historically confused the taxonomic delimitation of the Ashy-headed Laughingthrush of Sri Lanka.

Keywords: *babblers, convergent evolution, morphology, plumage, phylogeny*