Genetic and morphological data support placement of Myrmotherula gularis (Spix) in the monotypic genus Rhopias Cabanis and Heine (Aves: Passeriformes: Thamnophilidae)

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Abstract

Recent DNA-based phylogenetic analyses of the family Thamnophilidae have shown that the genus Myrmotherula is polyphyletic. Traditional plumage-based taxonomy has been misleading in terms of identifying independently evolving lineages within the complex. Here, we integrate a molecular phylogeny with morphometric information and ancestral reconstruction of syringeal character states of the Musculi vocales ventrales, to investigate the taxonomic position of M. gularis, a species for which phylogenetic affinities have long been uncertain. We show that M. gularis represents a long branch in the tribe Thamnophilini that is not closely related to any other member of the Myrmotherula complex. Its relationships within the tribe remain uncertain because of the lack of phylogenetic resolution at the base of the tribe. M. gularis shares a derived character state of the M. vocalis ventralis with Taraba, Hypoedaleus, and Mackenziaena, which supports a close relationship between M. gularis and the large antshrikes. M. gularis can be diagnosed from Myrmotherula and Epinecrophylla by this condition of its M. vocalis ventralis, and from Isleria by plumage and other morphological traits. The phylogenetic and morphological distinctiveness of M. gularis does not warrant merging it into any other genus. We propose that this species be placed in a monotypic genus, for which the available name Rhopias applies.

Key words: Antwren, Musculus vocalis ventralis, phylogeny, syrinx, Atlantic Forest

Introduction

The genus Myrmotherula Sclater, 1858, as traditionally recognized, was one of the most species-rich avian genera in the New World (Meyer de Schauensee, 1966; Sibley & Monroe, 1990; Zimmer & Isler, 2003). The traditional plumage-based taxonomy of the genus was considered problematic by earlier authors (i.e., Cory & Hellmayr, 1924; Peters, 1951), and several subsequent studies indicated that Myrmotherula is polyphyletic (Hackett & Rosenberg, 1990; Gonzaga, 2001; Irrestedt et al., 2004; Brumfield et al., 2007; Bravo et al., 2012). Recently, the genus Epinecrophylla Isler and Brumfield, 2006 (Isler et al., 2006) was described for eight species referred to as the “stipple-throated” antwrens, and the genus Isleria Bravo, Chesser and Brumfield, 2012 was erected for M. hauwelli Sclater and M. guttata Vieillot.

Despite the description of these two new genera, taxonomic problems in the Myrmotherula complex (sensu Zimmer & Isler, 2003) remain. The phylogenetic position of M. gularis (Spix, 1825) is unclear, but earlier analyses