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***Isospora pitiguari* n. sp. (Apicomplexa: Eimeriidae) from the rufous-browed peppershrike (Aves: Passeriformes: Vireonidae)
Cyclarhis gujanensis Gmelin, 1789**

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Abstract

In the current study, a new coccidian species (Protozoa: Apicomplexa: Eimeriidae), collected from the rufous-browed peppershrike *Cyclarhis gujanensis* Gmelin, 1789, is reported from Brazil. *Isospora pitiguari* n. sp. has oocysts, which are spherical to sub-spherical, 26.8 × 25.7 µm, with smooth, bilayered wall ~1.5 µm thick. Micropyle, oocyst residuum, and polar granule are absent. Sporocysts are rounded to slightly ovoidal, 14.4 × 11.6 µm. Stieda body flattened and substieda body prominent and rounded. Sporocyst residuum is composed of granules of different sizes. Sporozoites are vermiform with one refractile body and a nucleus. This is the first description of an isosporoid coccidium infecting a New World vireo.

Key words: taxonomy, morphology, coccidia, *Isospora*, oocysts, Passeriformes, Vireonidae, Marambaia Island, Rio de Janeiro, Brazil

Introduction

The rufous-browed peppershrike *Cyclarhis gujanensis* Gmelin, 1789 is a New World vireo. It is widespread and often common in woodland, forest edge, and cultivation with some tall trees from Mexico and Trinidad south to Argentina and Uruguay (Sick 1997; CBRO 2011; IUCN, 2013).

Boughton *et al.* (1938) recovered *Isospora*-like oocysts from feces of red-eyed vireos *Vireo olivaceus* Linnaeus, 1766. These oocysts were obtained from captured vireos in zoos, but no species were described or named. After this report, coccidia have never been reported from vireos. However, according Cicero & Johnson (2001) and CBRO (2011), this family is phylogenetically closely related to the Corvidae and Meliphagidae, into Parvorder Corvida, from which four distinct isosporoid species have been described to date (Berto *et al.*, 2011).

The current study describes the first coccidian species infecting the rufous-browed peppershrike *C. gujanensis*, a New World vireo, on Marambaia Island, Rio de Janeiro State, Brazil.

Material and methods

One rufous-browed peppershrike was captured using nets in Marambaia Island (23°04'S, 43°53'W). The bird was kept for 10–20 min in an individual cage and feces collected immediately after defecation. After identification of the bird species, the bird was released and the fecal samples were placed in plastic vials containing 2.5% potassium dichromate solution (K₂Cr₂O₇) 1:6 (v/v). Samples were sent to the Laboratório de Coccídios e Coccidioses,

possible that *I. pitiguari* is isolated on Marambaia Island along with its host *C. gujanensis* because the transmission between non-sympatric birds that inhabit distant continents, or islands is unlikely, as occurs with coccidia reported in Hawaii and American Samoa (Berto & Lopes, 2013). However, the Marambaia Island has a sand zone of around 40 km in extension (Marambaia Coastal Restinga), which is connected to the continent.

Finally, *I. pitiguari* is considered to be new to science, being the first description in a New World vireo.

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