

Identification of *Isospora sporophilae* (Apicomplexa: Eimeriidae) from the vulnerable buffy-fronted seedeater *Sporophila frontalis* (Passeriformes: Thraupidae) in the Itatiaia National Park, Brazil

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The buffy-fronted seedeater *Sporophila frontalis* (Verreaux, 1869) is a granivory passerine of the family Thraupidae. It is generally observed in bamboos in areas of Atlantic forest of the Rio de Janeiro, São Paulo and Paraná. This species has a declining population and is currently categorized as Vulnerable by the International Union for Conservation of Nature and Natural Resources (IUCN). This IUCN classification makes *S. frontalis* a priority for conservation, and in this sense, the identification of its parasites becomes quite relevant. In Passeriformes, the coccidian parasites of the genus *Isospora* Schneider, 1881 can be considered the most relevant. To date, only three coccidian species have been described from *S. frontalis*, although many other coccidian species had been described and reported from passerines of the same genus and family. In this context, the aim of this study was to examine the feces from buffy-fronted seedeaters captured in the Itatiaia National Park in southeastern Brazil to determine what coccidian parasites were present. An expedition was conducted in the Itatiaia National Park, a protected area with a high degree of vulnerability in the Southeastern Brazil. A total of five *S. frontalis* were captured with mist nets. The birds were kept in individual boxes and feces collected immediately after defecation. After identification of the species, the bird was photographed and released and stool samples were placed in centrifuge tubes containing a potassium dichromate 2.5% solution at 1:6 (v/v). Field-collecting permits were issued to B.P. Berto (SISBIO/ICMBio: 49605-1; CEUA/UFRRJ/ICBS: 008/2015). Samples were carried to the Laboratório de Biologia de Coccídios, UFRRJ. Samples were incubated at room temperature for 10 days. Oocysts were isolated by flotation in Sheather's solution and examined microscopically. Morphological observations, photomicrographs and measurements were made using an optical microscope coupled to a digital camera. Five *S. frontalis* were captured and examined and all of them were positive for *Isospora sporophilae* Carvalho-filho, Meireles, Ribeiro, Lopes, 2005. Its oocysts are sub-spherical, $22.0 \times 20.9 \mu\text{m}$, with smooth, bilayered wall, $\sim 1.1 \mu\text{m}$ thick. Micropyle and oocyst residuum are absent, but splinter-like or comma-like polar bodies are present. Sporocysts ovoidal, $14.9 \times 9.5 \mu\text{m}$. The Stieda body is flattened and delicate. Sub-Stieda body is small, rounded to rectangular. Sporocyst residuum is present, consisting of scattered spherules. Sporozoites are vermiform with one posterior refractile body and a centrally located nucleus. *Isospora sporophilae* was originally described from double-collared seedeaters *Sporophila caerulescens* (Vieillot, 1823) recovered from the trafficking of wild animals and kept in quarantine in a Center for Triage of Wild Animals in the Municipality of Seropédica, Rio de Janeiro. In this sense, this report in the Itatiaia National Park emphasize the importance of the trafficking of wild animals in the dispersal of parasites, both in the captivity and in their reintroduction. In conclusion, the present study identifies *I. sporophilae* from the vulnerable species *S. frontalis* in the Itatiaia National Park, which become new host and locality.

Keywords: Coccidia, oocysts, diagnostic, Taxonomy, Ecology, Parque Nacional do Itatiaia