Eimeria divinolimai sp. n. (APICOMPLEXA: EIMERIIDAE) IN THE RUFOUS CASIORNIS Casiornis rufus VIEILLOT, 1816 (PASSERIFORMES: TYRANNIDAE) IN BRAZIL*

BRUNO P. BERTO1; WALTER FLAUSINO2; ILDEMAR FERREIRA3; CARLOS WILSON G. LOPES2


Eimeria divinolimai sp. n. from the rufous casiornis, Casiornis rufus (Passeriformes: Tyrannidae) was described in Brazil. Oocysts are subspherical 17.84 ± 1.52 by 15.90 ± 0.99 μm (15.61-20.00 x 14.15-17.80). Shape-index (length/ width) of 1.12 ± 0.05 (1.01-1.20). Wall smooth and bilayered, being yellowish outer and darker inner, 2.13 ± 0.16 μm (2.00-2.38) thick. Micropyle and residuum are absent, but one subspherical polar granule is present. Sporocysts are ovoid ranging from 14.98 ± 0.85 by 7.50 ± 0.44 μm (13.81-1619 x 6.76-8.09), with smooth, thin and single-layered wall. Stieda body prominent, without substiedal body and with residuum granulated. Sporozoites with refractile body at one end.

KEY WORDS: Eimeria divinolimai, sporulated oocysts, rufous casiornis, Casiornis rufus.

INTRODUCTION

The rufous casiornis, Casiornis rufus Vieillot, 1816 is a native bird of South America. It is a tyrant flycatcher, adapted to dry forest and edge habitats where it is usually found in pairs (SMITH, 2007).

This species has a large range of 2,800,000 km². Its global distribution is limited to the countries of Argentina, Bolivia, Brazil, Paraguay, Peru and Uruguay. (BIRD LIFE INTERNATIONAL, 2007).

Coccidiosis in Passeriformes is rare when associated to parasites of the genus Eimeria. Only six species are recognized by Duszynski and Couch (2004). The objective of this paper was to describe a new species E. divinolimai from the rufous casiornis, C. rufus from Brazil.

MATERIAL AND METHODS

Samples

Fecal samples from two free range R. casiornis were collected at Três Marias dam in the State of Minas Gerais.
and they were placed into plastic vials containing potassium dichromate solution (K₂Cr₂O₇) at 2.5% 1:6 v/v and transported to Laboratório de Coccídios and Coccidiose, Projeto Sani-
dade Animal (Embrapa/UFRRJ), Departamento de Parasito-
logia Animal, Instituto de Veterinária from Universidade Fe-
deral Rural do Rio de Janeiro. To take place the sporulation
process, the fecal material was filtrated with double gauze
and placed on Petri dishes at room temperature (23-28°C) for
ten days until most oocysts are sporulated, 70% approximately.
Oocysts were recovered from the fecal samples by using
saturated sugar flotation technique according Duszinski and
Wilber (1997).

Morphology
Morphological observations and measurements were
performed by using a binocular microscope Carl Zeiss with
apochromatic oil immersion objective and ocular micrometer
K-15X PZO (Poland). Line drawings were prepared with a
binocular microscope Wild M-20 (Suisse) with drawing tube.

Photographies
Pictures were prepared by using a digital camera model
CD Mavica MVC-CD250 (Sony®, Japan) and a photographic
camera f-KAS Automatic-2 in a triocular microscopy (Zeiss
Jena, formerly Democratic Republic of Germany) with films
ISO 100 (21 DINA) (Kodak, Mexico).

RESULTS
Eimeria divinolimai n. sp.

Description
Oocysts (Figures 1 and 2) are subspherical 17.84 ± 1.52
by 15.90 ± 0.99 μm (15.61-20.00 x 14.15-17.80). Shape-index
(length/ width) of 1.12 ± 0.05 (1.01-1.20). Wall smooth and
bilayered, being yellowish outer and darker inner, 2.13 ± 0.16
μm (2.00-2.38) thick. Micropyle and residuum are absents,
but one subspherical polar granule is present. Sporocysts are
ovoid 14.98 ± 0.85 by 7.50 ± 0.44 μm (13.81-16.19 x 6.76-
Eimeria divinolimai sp. n. in the rufous casiornis Casiornis rufus Vieillot, 1816 in Brazil

8.09), with smooth, thin and single-layered wall. Stieda body prominent, without Substiedal body and with residuum granulated. Sporozoites with refractile body at one end.

**Taxonomic summary**

_Type host:_ the rufous casiornis, _Casiornis rufus_ (Passeriformes: Tyrannidae).

_Type material:_ oocysts in 10% formaldehyde-saline solution deposited at the Parasitology Collection, in the Department of Animal Parasitology, UFRJ, Seropédica, State of Rio de Janeiro, Brazil. Repository number is P-12/2007, including phototypes and line drawings.

_Type Locality:_ Três Marias, Minas Gerais, Brazil.

_Site of infection:_ unknown, oocysts recovered from feces.

_Etymology:_ The specific name is derived from the family name of a Brazilian parasitologist Dr. José Divino Lima.

**DISCUSSION**

The descriptions of the genus _Eimeria_ in Passeriformes order are scarce. Only six species were described and none of them in the family Tyrannidae, where _C. rufus_ is inserted. Moreover, of all hosts birds whose descriptions had been made only the common starling _Sturnus vulgaris_ (Sturnidae) which is sympatric of the _C. rufus_ (DUSZYNSKI; COUCH, 2004), in which was described _E. balozeti_ Yakimoff and Gousseff (1938). The oocysts are larger (19.52-30.60 x 17.08-26.60 μm) from those described in this paper and they do not present polar granule.

_Eimeria anili_ was described by Haldar et al. (1982), from Asian pied starling, _S. contra_ (Sturnidae). It is differentiated, mainly, for presenting micropyle. _Eimeria depuytoraci_ Cerná (1976) was described from Garden warbler _Sylvia borin_ and in the lesser whitethroat, _S. curruca_ (Sylviidae) in Prague. The oocysts are single-layered and their sporocysts are smaller (8 x 9μm).

_Eimeria malaccae_ Chakravarty and Kar (1944) was described from Chestnut munia, _Lonchura malacca_ (Estrildidae) and _E. paradisaeai_ Varghese (1977) was described from count raggi’s bird of Paradise _Paradisiae raggiana_ (Paradisiaeidae), and _E. saubenovae_ Dzerezhinskii and Kairullaev (1989) was described from Red-backed shrike _Lanius collurio_ (Laniidae). The oocysts of these species are larger in size and were different from those described in this paper.

All species described were observed out from the American continent and despite of geographic separation _E. divinolimai_ sp. n. was reported herein becomes the first species of _Eimeria_ described from birds of the family Tyrannidae.

**REFERENCES**


Received on June 21, 2007.

Accepted for publication on December 16, 2007.