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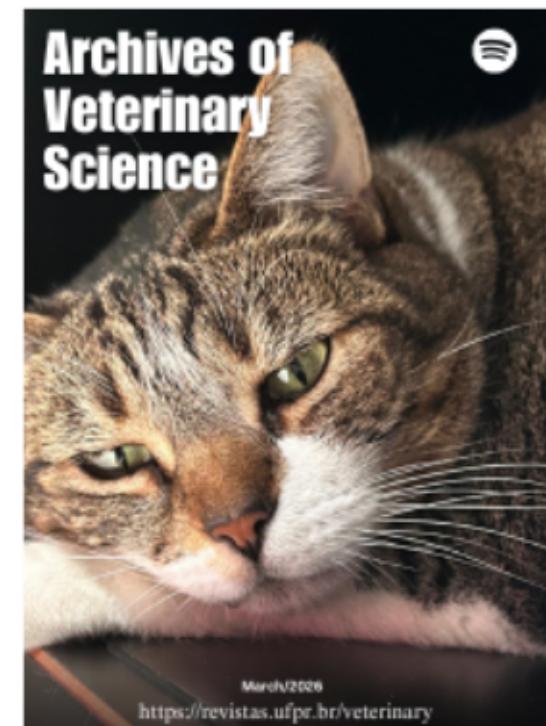
## Eimeria leuckarti in equids from properties in the Zona da Mata of Minas Gerais

Talita Oliveira Maciel Fontes  
Gabrielle Oliveira Soares  
Bárbara Cristina Félix Nogueira  
Artur Kanadani Campos

AUTHOR FOR CORRESPONDENCE

**Artur Kanadani Campos**  
artur.kanadani@ufv.br

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*Eimeria leuckarti* in equids from properties in the Zona da Mata of Minas Gerais  
Talita Oliveira Maciel Fontes<sup>1</sup>, Gabrielle Oliveira Soares<sup>2</sup>, Bárbara Cristina Félix Nogueira<sup>3</sup>, Artur  
Kanadani Campos<sup>4</sup>

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<sup>1</sup> Federal University of Viçosa, Av. P. H. Rolfs, s/n, 36570-900, Viçosa, MG, Brazil, ORCID 0000-0003-3962-602X

<sup>2</sup> ORCID 0009-0000-5316-4509

<sup>3</sup> ORCID 0000-0002-8440-4525

<sup>4</sup> ORCID 0000-0002-8158-2533

Author for correspondence: Artur Kanadani Campos – [artur.kanadani@ufv.br](mailto:artur.kanadani@ufv.br)

**Abstract:** Brazil has a significant population of equids, which makes the equine industry an important contribution on the national Gross Domestic Product (GDP). Parasitic diseases are prevalent, particularly those affecting the gastrointestinal tract, which can cause colic, diarrhea, and, in severe cases, result in fatality. Among these diseases, the protozoan *Eimeria leuckarti*, a parasite of the small intestine in horses, mules, and zebras, predominantly affects foals. When *E. leuckarti* causes clinical disease, symptoms such as acute and chronic diarrhea, abdominal pain, colic, and urticaria may occur, although it often presents asymptotically. The present study analyzed 247 foals from eight stud farms located in the Zona da Mata of Minas Gerais (ZMM) region, encompassing the cities of Coimbra, Guaraciaba, Ponte Nova, Ermálio, São Geraldo, Ubá, Teixeiras, and Viçosa. Data were collected through questionnaires administered to owners regarding the animals' production history and characteristics, and coproparasitological examinations were conducted using the Sheather technique at the Laboratory of Parasitology and Parasitic Diseases of the Veterinary Department of the Federal University of Viçosa. The collected data were organized into Microsoft Excel spreadsheets and subjected to statistical analysis using IBM SPSS Statistics software, version 25, applying Measures of Association tests and Yates-corrected Chi-Square tests, with a significance level set at  $p < 0.05$ . The prevalence of *E. leuckarti* in the ZMM region was 7.3%, and silage feeding was identified as a risk factor for eimeriosis in foals ( $p < 0.01$ ). Other factors, such as feed type, housing conditions, and fecal disposal, did not show statistically significant differences.

**Keywords:** Coccidiosis. Eimeriosis. Parasitic diseases.

## 1. Introduction

Brazil has an extensive equine herd, estimated at around 5.8 million animals, with Minas Gerais having the largest population, accounting for approximately 804,000 equids (IBGE, 2025). This sector creates around 3 million direct and indirect jobs and generates annual revenue of 30 billion reais (Lima, 2016). Historically, equids have played crucial roles in social, agricultural, sporting, leisure, and therapeutic activities (Nascimento and Nardi, 2021).

Currently, the breeding of horses for leisure, sports, and rural tourism has outpaced their traditional work roles (Tomljenovic, Boranic-Zivoder, and Corak, 2018). Horses bred for sports and leisure require more intensive care and a greater investment, mainly because of their participation in events and competitions (Lima, 2016). In this context, health management practices, sanitary care, such as deworming and vaccination, is essential to maintaining the herd's health (Guelpa, 2023).

Parasitism poses a significant challenge to equine breeding, affecting both horses kept in the field and those housed in stables, causing problems such as colic, diarrhea, and, in severe cases, death (Afonso, 2016). Although cyathostomins are the leading cause of gastrointestinal parasitosis in equines, coccidian protozoa, such as *Eimeria* spp., can also affect the digestive tract of these animals, especially foals (Bauer, 1988). *Eimeria leuckarti* is a cosmopolitan protozoan that parasitizes the small intestine of horses, mules, and zebras, but its detection is rare due to the high frequency of asymptomatic infections (Studzińska, Tomczuk, and Sadzikowski, 2008; Dubey and Bauer, 2018).

In the Zona da Mata of Minas Gerais (ZMM), the equine industry plays a significant role in the local economy and culture, contributing to the region's agricultural and sports activities. The health of equids directly affects their productivity and well-being. *Eimeria leuckarti* is an important etiological agent of coccidiosis in foals, potentially causing diarrhea and resulting in production losses. Understanding the prevalence of this parasite and the associated risk factors is essential for developing effective control and prevention strategies, thereby improving sanitary management practices, reducing economic losses, and enhancing animal welfare. This study aimed to determine the prevalence of *E. leuckarti* in equids in the ZMM and to identify the risk factors associated with infection. Fecal samples were collected from foals on various properties in the region and subjected to coproparasitological analysis to diagnose coccidiosis. Additionally, a questionnaire was administered to gather information on management practices and environmental conditions, and the data obtained were statistically analyzed to determine the prevalence and associated risk factors.

## 2. Materials and Methods

### 2.1. Ethics

This study was conducted with the approval of the Animal Use Ethics Committee (CEUA) of the Federal University of Viçosa (UFV), under protocol number 50554278388. The procedures were performed following the Code of Conduct for the Use of Animals in Teaching, Research, and Extension of the Department of Veterinary Medicine (DVT). A questionnaire was also administered to the owners or those responsible for the animals' maintenance to collect data on the association between risk factors and infection with the pathogen. The Human Research Ethics Committee (CEP) of the Federal University of Viçosa approved the questionnaire under protocol number 59014622.7.0000.5153.

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1



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