Gastrointestinal parasites in wild felids of Serra dos Orgãos National Park, RJ, Brazil

Laís Verdan Dib[1], Cecília Cronemberger de Faria[2], Fabiane Pereira[2], Claudia Maria Antunes Uchôa Souto Maior[1], Otilio Machado Pereira Bastos[1], Maria Regina Reis Amendoeira[3], Alynne da Silva Barbosa[1]

1 - Universidade Federal Fluminense, Instituto Biomédico, R. Prof. Hernani Melo, 101, CEP: 24210-130, Niterói, RJ, Brasil.
2 – Instituto Chico Mendes de Conservação da Biodiversidade, Parque Nacional da Serra dos Órgãos, Teresópolis, Av. Rotariana, S/n, CEP: 25960-004, Teresópolis, RJ, Brasil.
3 - Fundação Oswaldo Cruz, Instituto Oswaldo Cruz, Av. Brasil, 4365, CEP: 21040-900, Rio de Janeiro, RJ, Brasil.

Abstract

Felines are important to the ecosystem because they make population control of several animals, since they are at the top of the food chain. Studies of gastrointestinal parasites in Felidae stool allow to understand the current state of the animal and environmental' health, and also help to comprehend the role played by wild animals in the spreading of parasites in nature. However, in the literature, especially in national one, are the researches about this issue still scarce. Therefore, this study aimed to research the evolving forms of gastrointestinal parasites in felids fecal samples as well as the circulating species of Felidae at Parque Nacional da Serra dos Órgãos (Parnaso) in Rio de Janeiro. To this end, from March 2013 to April 2015 stool with compatible morphology of wild felines' were collected on Parnaso's tracks, being the collecting points georeferenced. A total of 82 fecal samples was collected, 79 from the tracks, two of captured felines, and one of a necropsied animal. Fecal samples were submitted to guard hair trichological analysis, being these latter subjected to cuticular printing and medullary diafanization. Fecal material was also analyzed by Faust *et al*., Sheather modified, Ritchie modified, and Lutz parasitological techniques. Felidae species were identified in 39% of the samples analyzed, which were observed patterns of the southern tiger cat (*Leopardus guttulus*), ocelot (*Leopardus pardalis*), margay cat (*Leopardus wiedii*) and eyra cat (*Puma yagouaroundi*). After plotting the collecting points of the fecal samples in the Parnaso's maps with softwere Arcgis®, it can be seen that most of these samples were found on the Travessia track. Parasitic evolutive forms were evidenced in 86.6% of the fecal samples analyzed and a great diversity of parasites was diagnosed, including eggs and/or larvae of the nematodes, cestodes and trematodes eggs and coccidial oocysts. The frequency of helminths (86.6%) was higher than the protozoan (9.7%), highlighting the diagnosis of eggs of Diphyllobotrhiidae Family as the most detected structures (65.8%). Other parasites were also detected, like *Toxocara* sp. (43.9%), nematode larvae (30.5%), Hookworms (21.9%), *Capillaria* sp. (7.3%), *Trichuris* sp. (6.1%), *Physaloptera* sp. (4.9%), *Platynosomum* sp. (2.4%), non-sporulated coccidia oocysts (9.8%), and *Eimeria* sp. (1.2%). Feces analyzed had a greater frequency of polyparasitism (59.8%) than monoparasitism (26.8%). Parasitic associations ranged from two to five genus/species, and the most frequent association occurred between eggs of Diphyllobothriidae Family and *Toxocara* sp. By processing the feces, it was possible to analyze, at least somewhat, indirectly Parnaso's environment, which is able to maintain conditions that favor the transmission of parasites that naturally infect wild felines. Moreover, the absence of high-zoonotic-potential parasites, that circulates among domestic animals and humans, emphasizes the ecological balance of the ecosystem of Parnaso, showing that this is an appropriated conserved environment for wild felines to live.

Keywords: Free - living felids; Trichology, Helminths, Protozoa; Parnaso.